SECTION C1: BLOCK 0 ROUTINE

C1.1 DESCRIPTION

The Block 0 Routine provides facilities whereby up to 64 programs may be filed on Magnetic Tape or Disc and called down, updated or copied at will. The routine itself is stored at the head of the file and is called into store by a small program, input via Bootstrap, from either the Disc or Magnetic Tape Bootstrap Loops.

The facilities provided in the Block 0 Routine are as follows:-

1. Call down and enter the program specified on the handswitches.
2. Write program from cores to Magnetic Tape.
3. Copy from Magnetic Tape or Disc to Magnetic Tape or Disc and alter block 0.
4. Update program in file.
5. Write block 0.
6. Copy from Magnetic Tape to Disc and set up block 0.
7. Clear Core Store parities.
8. Clear all interrupts.

C1.2 OPERATING INSTRUCTIONS

1. Call down and enter program

Read in Block 0 Routine from the Disc or Magnetic Tape Bootstrap Loop (Entries *7074 Disc, *7077 Tape).

The routine waits for H/S 0 = 0 and then searches for the title block whose number is specified on H/S 1 to 6. Each block is checked and any block with an incorrect checksum will not be passed until Engineer's Demand has been pressed.

When the title block is located, the title is printed and the program blocks read into store. Base registers r1 to r5 are then set, V-lines 0*6, 1*6 and 2*6 cleared and the program entered.

2. Write program to Magnetic Tape

Prepare a steering tape as follows:-

```
T
Title
[1/1]
R1
(0) = *7073
/Starting address / Ending address
/Entry address    / 0
/r1               / r2
/r3               / r4
/r5               / 0

>I2*7077
```

where the entry point must be a *7 address.

Feed in steering tape by entering at 1*7077 or 1*7074 (depending on whether tape or disc loop is used) and pressing H/S 0. The title is then read in and entry made to ATAR 4. Clear handswithces and set H/S 7 = 1. The steering tape causes entry to the routine at 2*7077 which then forms the title and checksum, searches for the first vacant block on tape and writes the program followed by 4 terminating blocks.

Each block written is checked and any error detected causes a loop stop. Changing H/S 0 causes the program to continue, interpreting H/S 6 and 7 as follows:-

7	6	
0	0	Repeat
0	1	Ignore fault
1	x	Terminate

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3. Copy from Magnetic Tape or Disc to Magnetic Tape or Disc

Enter at 3*7077 with tapes pre-positioned.

Handswith settings:

7 6 5 4 3 2 1 0	
0 x x x x x x x	Wait. Set B5 = No. of blocks to be copied. Pre-set by program to 512.
1 x r r r w w w	Copy from deck r to deck w. N.B. Deck 7 is taken to denote the Disc File.

Errors:

As in 'Write Program to Magnetic Tape' for errors in writing to tape. Reading errors ~~can be ignored by setting H/S 1.~~ are repeated until Engineer demand is set.

4. Update a File

a) Without steering tape

Feed in the appropriate compiler.
Feed in the new program.
Call down Block 0 Routine.
Set test No. on the handswitches.
Enter at 9*7074 (Disc) or 9*7077 (Tape).

The routine waits for H/S 0 = 0 and then locates the title block, and prints the title. The tape is then updated and the end of the updating process is signalled by ~~the~~ printing: 'END'

on the Engineer's Teleprinter.

b) With steering tape

Test No to be set on H/S initially

As 'Write Program to Magnetic Tape' but with entry at 4*7074 (Disc) or 4*7077 (Tape).

5. Write Block 0 to Disc and Magnetic Tape

Load ATAR 4, Block 0 Disc and Block 0 Tape. Enter at 10*7077. The routine then writes up Block 0 Disc and Block 0 Tape.
Completion of the operation is signalled by *7077 in B127. Press H/S 7 to terminate.

6. Copy from Magnetic Tape to Disc

Call down Block 0 Disc from Magnetic Tape. Tape is copied to the Disc up to and including the terminating blocks.

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R Thaley

Atlas 2 Timeshared Test - Magnetic Tape 1''

There are at present 4 tests available, although others are being added and will be described later.

The 4 tests are

0	Automatic Test
1	Transfer Test
2	Codeword Digits Test
3	Search Test

All these tests use the same standard subroutines to perform operations on the tape. The operations available are

0	Search forwards a number of blocks	SF
1	Search backwards a number of blocks	SB
2	Read forwards one block	RF
3	Read reverse one block	RB
4	Write one block	W
5	Spare	
6	Search forwards on fast	
7	Search backwards on fast	

The tests also use standard error checking and print routines so that the descriptions of the print out apply to all the tests. All except the Search Test also use standard fault action.

A Mode is a series of operations which a deck completes on one channel before freeing that channel for any other deck to use.

All the tests use the decks which are engaged and the same series of operations is performed with each deck.

Transfer Test

This test performs the mode selected by means of the handkeys, continuously.

Automatic Test 4·2 only

This is the test entered when decks are engaged without using the handkeys to select another test. It performs the following series of operations with each deck engaged, repeating the series of operations as long as the deck remains engaged, and no disastrous faults occur, which cause the deck to be disengaged by the program.

1	Each pattern 0 to 7 is used for Modes 0 to 3 in turn
2	Mode 0 is repeated 19 times using the random pattern E54
3	Each pattern 0 to 7 is used for Modes 0 to 3 in turn again, as in 1
4	The Codeword Digits test is performed

Codeword Digits Test

The test sets each of the 3-19 digits of the codeword in turn and for each setting does mode 0 using pattern 0.

Search Test

This test does a continuous search operation along the tape until no block mark interrupts are detected, using the normal checking routines to test blockmarks and block addresses.

There are a number of things common to all the tests which will be described after the handkey control section.

Handkey Controls

1. Set Handkey 0 to print 1 data error only.
2. All other handkey settings are only acted upon when engineer's demand is pressed. They are as follows:

7	6	5	4	3	2	1	
0	0	0	0	1	1	0	A special mode or pattern follows
0	0	0	0	1	1	1	A transfer length follows
0	0	0	1	b	b	b	pattern bbb
0	0	1	0	b	b	b	mode bbb (0 to 5 only)
0	0	1	0	1	1	0	set cycle mode
0	0	1	0	1	1	1	clear cycle mode
0	0	1	1	0	0	0	Automatic Test
0	0	1	1	0	0	1	Transfer Test
0	0	1	1	0	1	0	A special test follows or a channel inhibition

Some of the above settings merely indicate that the next setting has a different meaning. To cancel such a setting so that the next setting again has the meaning given above, set all 0's and press engineer's demand. The second settings are:

a) after 0000110

7	6	5	4	3	2	1	
0	b	b	b	b	b	b	Special mode bbbbbb
1	b	b	b	b	b	b	Special pattern bbbbbb

b) after 0000111

keys 1, 2 indicate transfer length 1 = 512 word
2 = 512 word random
3 = 64 word

and if 3 is set on 1, 2 keys 3 - 5 = No. of blocklets

c) after 0011010

keys 1, 2 indicate 2 = Codeword digits test
3 = Search test
1 = Channel inhibition

and, if 1 set on keys 1, 2; key 7= 1 for inhibit, 0 for free key 6, 5 give the channel.

Handkey control (continued)

Some of the settings given above need further explanation. Lists are given below of available modes and patterns. In the event of a special mode being selected a third depression of engineer's demand is required, the value of n being set on keys 1 - 4 in binary. This setting is explained in the description of available modes. Cycle Mode is the mode of operation of the program whereby it repeats a mode for which an error occurs, without further printing, until the mode has no errors, when program carries on normally. The program normally performs one mode with a deck on one channel, and then switches the deck to the 'other' channel for the next operation. If, however, a channel is inhibited then the channel not inhibited on that co-ordinator is used all the time. It follows that two channels on one co-ordinator cannot be inhibited.

It should be noted that no handkey control of modes or patterns is possible during the Automatic Test, but cycle mode, transfer length and channel inhibition can be selected.

The program uses standard transfer areas for each channel as indicated by the error printing, but these standard areas are not, or course, used in the Codeword Digits Test.

Modes available

Modes are described below using the code letters given in the table of available operations above. Special Modes indicated by a letter E, are distinguished from ordinary modes by the fact that each operation in the the mode is carried out n times before going on to the next operation. The present values of n corresponding to handkey settings are:

Handkeys	n
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	16
9	32
10	64
11	128
12	256
13	512
14	1024
15	2048

Mode	Operation
0	W, RB, RF
1	W, RB, SF
2	W, SB, RF
3	W, RB, SB
4	W, RB
5	W, SB, RF, SB
E1	Wn, SBn
E2	RFn, RBn
E3	RFn, SBn
E4	Wn, RBn
E5	Wn, RBn, RFn, SBn
E6	Wn, RBn, RFn
E7	SFn
OTHERS	Wn, RBn, RFn

Since tapes are not prepared by being written to before use, patterns are not checked with modes E2, E3.

Patterns Available

The patterns available fall into four groups.

a) 0 - 7 and E0 - E39 Each half-word the same

No.	Pattern in octal
0	0000 0000
1	7777 7777
2	0000 7777
3	7777 0000
4	2525 2525
5	5252 5252
E0	0000 0001
E1	0000 0002
and En a single digit in position n up to	
E22	2000 0000
E23	4000 0000

Patterns 6, 7 and E24 to E39 are not allocated, and in common with all patterns not allocated give all 0's if selected.

b) E40 - E47 Each word the same

No.	Pattern in octal
E40	0000 0000 0000 7777
E41	0000 0000 7777 0000
E42	0000 7777 0000 0000
E43	7777 0000 0000 0000

E44 - E47 are not allocated.

c) E48 - E54 Each half-word formed from previous one

No.	First half-word	subsequent half-words
E48	7776 7774	-0004 0004
E49	0000 0001	shifted one place to right
E50	7777 7776	shifted one place to right

E51 - E53 are not allocated.

d) E54 - E59 Random patterns

E54	Random 50/50
E55	Random 75% 1's
E56	Random 25% 1's
E57	Random 50/50

E58 and E59 are not allocated.

e) E60 - E63 not allocated

Checks performed

The subroutines which perform the requested operations check the operation of the V-store. They also check that addresses are sequential. Any faults which are detected lead to a fault print out as desribed below. When an operation has been completed, the transfer area is checked against a comparison area which has been prepared to look like the transfer area after the operation is completed. A check is also done to see that the codewords used are unaltered.

Fault Action

The following action is taken in the event of the given types of fault.

1. No Blockmark interrupts or
   Deck Failure or
   End of Tape or
   Start didn't set
   The deck is disengaged until re-engaged.

2. Write not sent in time
   The tape is backspaced and the operation repeated.

3. Wrong type blockmark except on read
   The operation is repeated.

Print-out

There are two types of print-out.

1. Statistics

   After the first 1023 operations on each deck and subsequently after each 1024 operations.

   DECK DD (BBBB) DDDD OPERATIONS
   DDDD BM FAULTS
   DDDD ADDRESS FAULTS
   DDDD CS FAULTS
   DDDD OTHER FAULTS
   where D = decimal number
   B = binary number

2. Fault Print-out

   DECK DD (BBBB) ON CHANNEL D - DDDD OPS.
   DECK DD (BBBB) LAST SELECTED
   'OPERATION'
   MODE D PATTERN DD
   BLOCK ADDRESS DDDD (00000) EXPECTED, ADDRESS DDDD (00000) READ
   'FAULTS'
   CODEWORD CHANGED
   (0000 0000)
   (0000 0000)
   (0000 0000)
   (0000 0000)

CODEWORD 0 (0000 0000) 64/NULL/STOP
(0000 0000)
(0000 0000) (0000 0000) (0000 0000) (0000 0000)
(0000 0000) (0000 0000) (0000 0000) (0000 0000)
CODEWORD 1 (0000 0000) 64/NULL/STOP
(0000 0000)
(0000 0000) (0000 0000) (0000 0000) (0000 0000)
(0000 0000) (0000 0000) (0000 0000) (0000 0000)

This is the full print which will not usually occur.

(0000) indicates an octal number.

Words in inverted commas indicate that that is not the word printed out but the type of printout. The pairs of octal words under codeword changed are the original and present codewords. The octal word to the right of the numbered codewords are the codewords. The octal words under the numbered codewords are the line numbers of the data error found, within the block or blocklet, and the sets of four octal numbers on one line are, on successive lines, the expected pattern and the pattern actually found. The words to the right of the numbered codewords give the 'action digits' present.

The possible faults are:

1	Recover Read not set
2*	Deck disengaged
3*	Deck wouldn't disengage
4	Codeword extraction incorrect
5+	Wrong type blockmark
6+	Too late to write
7	CS 1st 12 not set
8+	Write didn't set
9+	Read didn't set
10+	Recover Read didn't reset
11*	Start didn't set
12	Wrong address
13	CS 2nd 12 not set
14	Parity Fail
15	CS fail 1st 12
16	Not enough CW interrupts
17	Too many CW interrupts
18*	EOT
19*	Deck Fail
20*	NO B-M interrupts
21	CS Fail 2nd 12
22	Deck Modified
23	Fast Digit Error
24	Write inhibited
25	Deck Moving before started
26	Deck at end
27	Parity didn't reset
28	Write didn't reset
29	Read didn't reset
30	Blockmark passed didn't reset
31	Codeword overdue set
32	Wrong Direction

* Deck disengaged and 'Halted until deck re-engaged' printed.

\+ 'Operation Not Complete' printed and data check omitted.

Search Test Print-out

When the Search Test finds no blockmark interrupts, the last address is printed

LAST ADDRESS DDDD (00000)

The tape is then rewound and the test repeated.

R. THORLEY

Handkey Control of 1'' tape Timeshared Tests

The handkey control has been described in the general description, but a few more details and examples, to be read in conjunction with that description are expected to be helpful.

The Control System

The handkey settings which are activated by engineer's demand cause control digits to be set. The program sets from these digits the appropriate digits to control the operation of each deck at the completion of each mode. The control digits set by the handkeys are never destroyed by the program without handkey instructions, but some of the digits set are ignored by some of the tests. Thus, if control digits are set by the handkeys, and then a test run which ignores the digits set, when a test which obeys the digits originally set is run, they still apply. A further implication of the control system being organised in this way is that if a particular method of running the tests is required, all the necessary control digits can be set from the handkeys, before that particular test is entered. This point is illustrated by example 3, below.

The Automatic Test ignores settings of mode or pattern.

The Codeword Digits Test ignores settings of mode, pattern or transfer length.

The Search Test ignores all settings except transfer length, test number and channel inhibition.

Initial Control Settings

The control digits are all zeros when the program is entered or re-entered at *735 and the settings resulting are then

512 word length
Automatic Test
Cycle Mode not set
No Channels inhibited
Mode 0
Pattern 0
n for Special Modes = 1

Examples of Handkey Control

In the examples given below the stated requirements and the machine actions given are those which differ from the action taking place before the first handkey setting. All handkey settings are followed by a depression of engineer's demand. In all the examples apart from example 3, the program is considered to have been entered at *735 and decks are engaged running the automatic test, engineer's demand not having been depressed.

Example 1

REQUIRED: To do Mode 1 Pattern 3 continuously.

METHOD 1

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 1 0 0 0 1	Mode 1	None
0 0 0 1 0 1 1	Pattern 3	None
0 0 1 1 0 0 1	Transfer Test	Does Mode 1 Pattern 3 continuously

METHOD 2

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 1 1 0 0 1	Transfer Test	Does Mode 0 Pattern 0 continuously
0 0 1 0 0 0 1	Mode 1	Does Mode 1
0 0 0 1 0 1 1	Pattern 3	Does Pattern 3

Method 1 thus results in the program changing directly from Automatic to the desired test. Method 2 goes through intermediate stages.

Example 2

REQUIRED: To write 2048 blocks of all zeros and on completion of writing, rewind and recommence i.e. Mode E1, length 2048.

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 0 0 1	Mode E1	None
0 0 0 1 1 1 0	n = 2,048	None
0 0 1 1 0 0 1	Transfer Test	Does Mode E1, Pattern 0, length = 2,048 continuously

Example 3

In this example it is assumed that n = 32 has already been set, and the machine is doing Mode E1, pattern 1 continuously.

REQUIRED: To write 32 blocks of all 0's and on completion read them all backwards and repeat i.e. Mode E4, pattern 1.

METHOD 1

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 1 0 0	Mode E4	Mode E4 *
0 0 0 1 0 0 0	n = 16	n = 16

This method is incorrect due to the required setting of n having been omitted. The program assumes that the next setting, after that for a special mode, will be a setting of n. The result is that the last setting is taken to mean n = 16, and the required result is not obtained.

METHOD 2

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 1 0 0	Mode E4	Does Mode E4 *
0 0 0 1 0 0 1	n = 32	None
0 0 0 1 0 0 0	Pattern 0	Pattern 0 *

METHOD 3

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 1 0 0	Mode E4	Mode E4 *
0 0 0 0 0 0 0	Revert to first settings	None
0 0 0 1 0 0 0	Pattern 0	Pattern 0 *

* It should be noted that control changes only occur on completion of a mode, so a delay will usually precede the change. For large values of n, the delay will be so long that it will be better to re-enter the program.

Example 4

This is a further example of the use of revert to first settings. Suppose from entry on automatic, special mode 2 is required with length 3, the settings are.

METHOD 1

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 0 1 0	Mode E2	None
0 0 0 0 0 1 0	n = 3	None
0 0 1 1 0 0 1	Transfer Test	Mode E2, length = 3

but suppose a mistake is made in the first setting, 0000111 being set, the mistake can be corrected as shown below.

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 0 0 0 0 0	Revert to first settings	None
0 0 0 0 1 1 0	Special Mode follows	None
0 0 0 0 0 1 0	Mode E2	None
0 0 0 0 0 1 0	n = 3	None
0 0 1 1 0 0 1	Transfer Test	Mode E2, length = 3

Any such error can be similarly corrected, but if it resulted in a change of control digits, they have to be reset.

Example 5

REQUIRED: Mode 1, Pattern E42 on channel 1 only (Decks 0 to 7) repeating faulty modes without printing.

SETTING 7 6 5 4 3 2 1	MEANING	CHANGE IN MACHINE ACTION
0 0 1 0 0 0 1	Mode 1	None
0 0 0 0 1 1 0	Special pattern follows	None
1 1 0 1 0 1 0	Pattern E42	None
0 0 1 1 0 1 0	Channel inhibition follows	None
1 0 0 0 0 0 1	Inhibit channel 0	Channel 0 inhibited
0 0 1 0 1 1 0	Cycle Mode	Cycle Mode
0 0 1 1 0 0 1	Transfer Test	Does Mode 1, pattern E42 continuously

RThurlay

TAPE CONTROL

56CLA Those that apply to CLB and also 57 should be made same

	Circuit	ED	OD	Length	Output Name	Reason
1.	566/22/M2	56.2 E2.	56.01 C5.	P.F.D.	CLKA13	
2.	565/20/M3	56.3 B1.	56.01 F3.	2 ms.	CHVA1	Time allowed to Interrupt program to deal with Block Address interrupt; by which time write must be set
3.	565/20/M8	56.3 D1.	56.01 H3.	$\frac{1}{2}$ ms	CHVA3	2.+ 3. = 2$\frac{1}{2}$ms. Time when write inf will commence after Leading Block Mark is read.
4.	564/29/M2	56.4 C2.		P.F.D.	TATOA1	
5.	565/40/M8	56.4 K2		250mμsec	NULLFASE2	Sufficient time for Codeword Buffer to be reset and set from Control $\frac{1}{2}$ Adder. Used only in NULL mode.
6.	565/40/M3	56.4 L3		250mμsec	NULL10	Sufficient time for control $\frac{1}{2}$ Adder to be set up. Used only in NULL mode.
7.	564/29/M8	56.4 N2		100mμsec	RFASE	Defines time between reset and set of either Codeword word or Buffer registers (KRA-KDSA or RA-TWA respectively)
8.	565/41/M8+ 565/41/M2	56.4 L7		2x175 mμsec	DMP2	Allows setting time for request before examining NULLAB
9.	565/41/M5	56.5 C3		75 mμsec	KRAB	Defines the time between reset and set of Codeword Buffer KRA and KAS.
10.	564/34/M3	56.5 L1		400mμsec	GTPTYA	Time for inf to go to Distributor Generate Parity and send it back to tape coordinator.
11.	566/3/M3	56.6 J7		$\frac{1}{2}$μs	MGK2	Defines length of Write Strobes for Character and Clock to tape decks.
12.	565/1/M2	56.7 C7-K7		100	TMNG03	Delay line oscillator times defined by process going on. 04, 05 made 175 each to give Character Adder time to operate: 00 mode 175 to allow statisization of Checksum registers.
	M5			175	04	
	M8			175	05	
	565/2/M2			175	TMNG00	
	M5			100	01	
	M8			100	02	

DISTRIBUTOR DELAYS

	Circuit	ED	OD	Length	Output Name	Reason
1.	503/33/M5) 503/33/M8)	50.8 D1	50.02C2	175 175	DHU1 DHU2	To allow CM*G to settle in worst clash case; same length as 2.
2.	503/40/M5) 503/40/M8)	50.8 D3	50.02B1	175 175	MGQ1 MGQ2	To allow CM*G to settle in worst clash case; same length as 1.
3.	503/41/M2) 504/47/M8)	50.8 G2	50.02B2	200	MGQ5	To allow correct stack selection to have been made after GMGAD or GCRAD has been selected before inspection by CSFR both for magnetics and machine.
4.	503/34/M8	50.8 M3	50.02D6	175	1DSLVRQ	Output for slave going from empty to full; should not appear until DSLVRQ pulse has disappeared.
5.	503/34/M5	50.8 L7	50.02H4	100	RQC14	Length such that STRTCR is a pulse of correct length to start core stores.
6.	503/41/M5	50.9 B5	50.03D6	75	RPH4	Length to form 100 μs GPRTY.
7.	503/41/M8	50.9 H6	50.03C6	n100		To inhibit testing parity on Peripheral V store and Engineers Teleprinter and to remove snigs on GPRTY when Buffer selection changing.
8.	503/45/M8	50.10 M6	50.02G8	n100	CE43	To reset called.
9.	503/45/M2	50.10 H7	50.02G7	175	CE29	Length to define start pulse to core stores; Same as 5.
10.	503/45/M5	50.11 C2	50.02J5	n100	CE2	Don't know
11.	503/34/M2	50.11 C3	50.02K5	50	RQC17	To define 100 musec pulse at output.
12.	503/38/M8	50.11 B4	50.02M5	100	ENDV	To allow time for buffer to be set before details about request lost by CLRQC Should not be so long that sample magnetics, ENDV2, is so late that the sum of MGQ1+MGQ2 is greater than minimum the time to produce another request.
13.	503/38/M2	50.11 M5	50.02J7	P.F.D.	RD3	
14.	503/40/M2	50.11 H6	50.02L2	100	2RQVC	Defines the timing of Read VC inf on DS after VRDST
15.	502/26/M8	50.11 F7	50.02L2	n200	1RQVDC	Now reduntant as OBFREE declared free at correct time. I think
16.	504/48/M3	50.12 M1		200	CLWBFF	To hold write gates open after buffer reset. Must be held for 100 after start writes to store.
17.	503/33/M2	50.12 H3		135	ENDB	Reading: to prevent reseting buffer until data passed through to B & C. Also to reset data ready stats. Writing: Together with 19 to define STRTL STRT to stores. Parity must be correct by backedge of STRTL/W pulses.

Cont'd...

DISTRIBUTOR DELAYS (Cont'd.)

	Circuit	ED	OD	Length	Output Name	Reason
18.	503/39/M2	50.12 H4		175	STRTWD	To line V write strobe VWS with write data on highway to Peripheral V store.
19.	503/38/M5	50.12 G4		135	$\overline{WT7}$	To define with 17 the length of STRTS.
20.	503/39/M5	50.12 F5		175	$\overline{WT4}$	To delay HOLD until Read highway is clear. Also to define length of HOLD after backedge of WPH. HOLD should remain there until GWC gates to store are closed.
21.	503/39/M8	50.12 N6		175	7RQFX	To catch and HOLD inf from Tape Reader and fixed store sufficiently long for it to be statisized in correct destination buffer.
22.	502/22/M2	50.12 F2		75	$\overline{RD3}$	P.F.D.
23.	502/22/M5	50.12 G2		100	$\overline{RD6}$	Delay to allow time for DATA Ready's from store to disappear before reseting appropriate stats.
24.	502/22/M8	50.9 D4		175	$\overline{MGRDD}$	To delay MGRD going down until "Normal" distributor buffer is loaded even though an early Address Accepted is sent to tape coordinator.

CENTRAL MACHINE

	Circuit	ED	OD	Length	Output Name	Reason
1.	518/42/M3	51.1 D2		180	DRSTIN	To allow Inst. to Reset in PIE and start decoding instruction. Also allows settling of LOOK Flip flop.
2.	509/1/M8	51.1 K2		>200	RESTART	Engineers Int. E3 must have disappeared before RSTIN of RESTART .°. must be longer than 19/34/M8 ER not critical
3a.	514/6/M2	51.1 G3		n100		To allow manual instruction to be set in PIE see note 1.
3b.	518/45/M2	51.1 E4		n100		
4.	519/3/M2	51.1 J3			P'	To allow initial decoding of instruction. No decoding * looks critical Special Proceed should not be so early as to change I/ME flip flop or M/E before JTH waveforms finished.
5.	519/38/M5	51.1 N3		n100		Reset ≡ In fastest case when waiting for APB Free the back edge of this pulse must be after (NEQVLO) OP1.
6.	519/26/M3	51.1 L5		n100		Pulse forming delay (P.F.D.)
7.	519/36/M2	51.1 J5		100	PLUS ONE	To allow control half adder buffer to be set. JTH5, 6, 7 must not overlap JTHB otherwise leak through. In this machine much more sensible to move JTHB forward to RSTIN time then this delay (7) could be removed and improve tolerance on 4.
8.	519/43/M5	51.1 D5		n100	RESET KIN	P.F.D.
9.	518/45/M	51.1 N5		n100		P.F.D.
10.	519/7/M2	51.1 K6		100		Part of LOOK sampling delay. To be as long as possible consistent with not changing I/ME flip flop too late and giving in sufficient time for Instruction Address decoding on control change. There is also possible trouble with changing to I before PLUS ONE finished but this doesn't look as bad as note 4.
11.	519/34/M8	51.1 M7		200		Slack gate to hold E3 while JT strobing Engineers Interrupt address into AI See Note 2.
12.	519/29/M3	51.1 L7		n100		P.F.D.

* Worst case appears to be use of BA≠122 on 51.9 D7 to make JTE

Cont'd...

CENTRAL MACHINE (CONT'D)

	Circuit	ED	OD	Length	Output Name	Reason
13.	519/46/M3	51.1 E7		200	SHUT PI GATES	Set strobe to PIE should last 50 after reset providing data at that time is correct.
14.	519/40/M2	51.1 J8		100	SET I	Primarily to make sure that I/ME flip flop doesn't change before JTH7,6 have finished. See also 10.
15.	508/1/M2	51.2 D1		100		Delay setting IN' until CS.(AA) complete.
16.	518/41/M3	51.2 D2				Delay to allow Address decoding; AG(1 + &11) is critical. Critical path is when either of M/E and I/ME is switched.
17.	519/31/M2	51.2 B3		100		Delay to allow Fast B register or Central V store to be written to before starting delay 16.
18.	519/44/M8	51.4 M7		200		Delay to line up Inf from Distributor with Read Strobe.
19.	519/42/M3	51.5 J3		200		Delay to line up Inf from Distributor with Read Strobe.

Tape Coordinator Overall Priority.

	Circuit.	E.D.	Length.	Output Wf.	Reason.
1.	567/33/M8	56.17D6	P.F.D.	$\overline{\text{CPCT2}}$	
2.	567/33/M2 +567/33/M5	56.17G6	175+175	CPC2	Settling time for decision to be made between requests. Also defines time which next queued request starts. Must give new address sufficient time to be properly decoded in Distributor before releasing CSFR. Via NMRQ.
3.	567/34/M5	56.17L6	175 mμsec.	$\overline{\text{CPC7}}$	Defines time to stop gating Address to Distributor. After Address Accepted, $\overline{\text{CLRQM}}$.
4.	567/34/M8	56.17H7	P.F.D.	$\overline{\text{CPC8}}$	
5.	567/34/M2	56.17F7	175 mμsec	$\overline{\text{CPC6}}$	To allow 4 to control set of Buffer 3.

Peripheral Coord.

	Monitor.	E.D.	O.D.	Length.	Output Name.	Reason.
1.	583/25/M3	58.1B3	58.00B2	800	VAW12	Defines V Store Strobe for 1", ½" tape and Disc file. Strobe is used directly to load codewords for 1" tape. . must not be longer than minimum Core Access Cycle. (Addresses > octal 140)
2.	583/25/M8	58.1B3	58.00B1	3000	VAW10	Defines V Store Strobe for all other peripherals (V address < octal 140)
3.	583/26/M8	58.1J3	58.00C2	75	VAW2	Defines time after reholding WV that strobing WV ceases.
4.	583/26/M2	58.1E6	58.00B3	P.F.D.	VAR7	
5.	583/26/M5	58.1H8	58.00C3	75	VAR10	Defines time between reset of V address register and set
6.	584/40/M8	58.4D1	58.00G1	250	RACSD	Allow time for Control ½ Adder (.AU) to be set up before examining output.
7.	583/27/M2	58.4D2	58.00F1	n100	$\overline{\text{TRACS}}$	Line up information from Distributor with Read Strobe RDS
8.	584/31/M8	58.4C3	58.00F1	75	$\overline{\text{ACSD}}$	Define time between reholding AU and AL and finishing strobing.
9.	584/33/M3	58.4H3	58.00H2	6 μsec	ROWG	Time for Put out LAM to go out to peripheral; LAM to be reset and disappear from peripheral coord input.
10.	584/33/M	58.4L3	58.00J3	1 μsec	PTC1	Resets all Peripheral Coord Request Stats. Allows time for worst case in peripheral priority chain.
11.	584/31/M2	58.4D5	58.00E2	175mμsec	SEVEN	Used as elements in binary ODD/EVEN. Delays + EF+PI must be longer than $\overline{\text{CSAA}}$. Note what $\overline{\text{CSAA}}$ is.
12.	584/31/M5	D6	58.00F2	175mμsec	SODD.	
13.	584/40/M3	58.4H6	58.00G1	300mμsec	RACSD2	Defines Time Write to Store information from PC is on main Distributor High Way.

Fast Channels IBM and Disc.

	Circuit.	E.D.	Length.	Output Name.	Reason.
1.	599/36/M5	59.3B1	175	BFPC10	Settling delays for decision to be made between requests before inspecting BFPNAB.
2.	599/36/M8	59.3C1	175	BFPC11	
3.	599/35/M2	59.3E2	P.F.D.	BFPC14	
4.	599/35/M8	59.3F4	n100	$\overline{\text{BFRDD}}$	Line up Inf from Distributor with Read Strobe.
5.	599/27/M2	59.3H2	100	$\overline{\text{BFCD1}}$*	Tappings give necessary control wfms with nominal 100 μsec separations.
	599/27/M5	H3	100	$\overline{\text{BFCD2}}$*	
	599/27/M8	H4	100	$\overline{\text{BFCD3}}$*	

R Thornley

DISTRIBUTOR

Name	Mnemonic	Derivatives	Notes
AC	Address Core	1,2 ACn	
AG	Address General	NAG (0.23)	
AGLS	AG Less Significant		Uscd by Engineers teleprinter.
AGSL	AG Slave		
AGSS	AG Sacred Store		
AGVC	AG "V" Control		
AGVP	AG "V" Peripheral		Actually Fast op.
AWHU	Acc.Write Hold up		
BEP	Buffer Engineers Printer.		
BFFAGVP	Buffer AGVP		See AGVP
BFFBL	Buffer B code Left		
BFFBR	Buffer B code Right		
BFFC	Buffer Core	BFFC A-D	
BFFM	Buffer Magnetics		
BFFVP	Buffer V Peripheral		
BFWT	Buffer Write		
BSTW	Buffer Start Write		
CBSY	Core Busy	CBSY A-D	
CE	Call Early	CEn	
CLBFF	Clear Buffer	CLBFF1-3	
CLMP	Clamp	CLMP B-D	
CLRQC	Clear Rq Computer		
CLRQM	Clear Rq Magnetics		
CLWBFF	Clear Write Buffer		
CRDY	Core Ready		
CS(AA)	Core Store Address Accepted		
CSFR	Core Store Free		
DHU	Division Hold Up.		
DS	Distributor Stat	Dsn	

Name	Mnemonic	Derivatives	Notes
DSLVRQ	Data Slave Rq.		
DTRDY	Data Ready	DTRDY A-D	
DTSTSLV	Data Test Start Slave.		
EAA	Early Address Accepted. PEAA BEAA		
EABF	Early All Buffers Free.		
ENDB	End Buffer	ENDBn	
GAGVP	Gate Address V Periph.		
GBAS	Gate Base	GBASn	
GBSAD	Gate Base Address		
GCA	Gate Core Address	GCAA-Dn	
GCAS	Gate Core Address Slave	GCASn	
GCRAD	Gate Computer Address		
GMGAD	Gate Magnetics Address		
GMTA	Gate Magnetics Address	GMTAn	
GPRTY	Gate Parity	GPRTY 1,2	1 and 2 are unrelated to GPRTY
GRC	Gate Read Core	GRCA-Dn	
GWC	Gate Write Core	GWC A-Dn	
HLAM	Hold LAM	HLAMn	
HLDVF	Hold "V" Fixed		
IJ	Interrupt Jump	IJn	
JSAK	Select Address Control		
JSAP	Select Address Operand		
LDBFF	Load Buffer	LDBFF 1-3	
MCYC	Memory Cycle	MCYC A-D	
MGQ	Magnetics RQ	nMGQ	
MPRTYLO	Mirror Parity Low		
MPRTYH1	Mirror Parity High		
MRSL	Machine Rq Slave		
M*G	Machine Gating	M*G+	

Name	Mnemonic	Derivatives	Notes
NBFFB	No Buffers Busy		
NCYC	Not Cycling	NCYCA-D 1,2	
PCB	Peripheral Coordinator	B type BPcB	
PCR	Peripheral Coordinator	Read BPCR	
PCWST	Peripheral Coordinator Write Strobe		
RD	Read Distributor	RD1-6	
RDGT	Read Gate		
RDSTRB	Read Strobe		
READ		V Periph. Rq.	
RQC	Rq Control	RQCn	
RQFX	Rq Fixed Store		Also Engineers Tape Reader.
RQVC	Rq 'V' Central		
RVF	Read "V" Fixed	RVFn	Used by Engineers Tape Reader.
RVFF	Read "V" Fixed "F"	RVFFn	Used by Fixed Op.
SLVO	Slave Only		Includes Fast Op.
SLVU	Slave Use		Instruction to be put in Slave.
STRT	Start	STRTA-D 1,2	
STRTCR	Start Core Rq.		
STRTL	Start Left		
STRTR	Start Right		
SVLI	Sacred Violation Lockout Inst.		Sacred Violation Misleading
SVLO	Sacred Violation Lockout Op.		
TP	Tape	TP RDY BSY STT	Engineers Tape Reader
VAR	V Address Read		
VAW	'V' Address Write		
VBAS	"V" Base	VBASn	Base Address Register.
VCRD	"V" Central Read	nVCRDn	

Name	Mnemonic	Derivatives	Notes
VCWT	"V" Control Write	nVCWTn	
VHG) VHIG)	"V" High	nVHG VHIGn	Upper Limit of Region.
VLK	"V" Lock	IVLKSS	Used by various lockout regions.
VLIM) VLM)	"V" Limit	VLIMn nVLM	Limit Address Register.
VLOW) VLW)	"V" Low	VLOWn nVLW	Lower limit of Region
VM	"V" Machine	VMn.n	
VPREAD	V Peripheral Read		
VWS	"V" Write Strobe		
WEP	Write Engineers Printer		
WMG	Write Magnetics	WMGn	
WPH	Write Phase	1WPH	
WT	Write	WT 4,7	
XJ	Extracode Jump	XJn	

TAPE COORDINATOR

Name	Mnemonic	Derivatives	Notes
ADD	Adder Data	ADDn	Data Adder Input
ADDR	Adder Register		
ADS	Adder Stats	ADSn	Check Sum Adder Input
BGPLS	Beginning Pulse	BGPLSA,B	
BMAPS	Block Mark Passed		
BS	Base	BSn BSA, BR,W	
CHV	Check "V"	CHVn	
CLK	Clock	CLKA,Bn	Used for Character Reading Logic.
CLPTY	Clear Parity	CLPTY a,B	
CRY	Carry	CRY A,B R, Wn	
CTR	Cease Transfer	CTRA,Bn	
GSB	Gate Select Backward		
GSF	Gate Select Forward		
GSR	Gate Selected Request	GSRn	
HSM	Hold Sum	St HSMn	
K	Kontrol	KA,Bn	
KD	Kontrol Data		Address Strobe
KDF	Kontrol Data Fixed	KDFA,B	
KDR	Kontrol Data Reset	KDRA,B	
KDS	Kontrol Data Set	KDSA,B	
KGL			
KLD	Kontrol less (Significant) Data		
MGK	Magnetic Klock	MGKn	
MGLV	Magnetics Level	MGLV A,Bn	
MGTA	Magnetics Address	MGTAn	
MKBM	Marking Block Mark	MKBMA,B	
MP	Magnetic Phase	MPS MPPS	
MSC	Miscellaneous	MSCn	
MX	Mix		

Name	Mnemonic	Derivatives	Notes
PHS	Phase	PHSn	
R	Reset	RA,Bn	
RD	Read Distributor	RDn	
RMV	Read Magnetics V	1,2 RMVn	
RQCH	Rq Check	RGCHA,Bn	
RQED	Rq Edge	RQEDA,Bn	
RQLG	Rq Logic	RQLGn	
RQMK	Rq Marking	RQMKA,B	
RQRD	Rq Read	RQRDA,Bn	
RQWT	Rq Write	RQWTA,Bn	
RRQSTAT	Reset Request Stat		
SM	Sum	SMn	
SRAS	Switch Read A Stats	SRASn	Select Check Sums
SRBS	Switch Read B Stats	SRBSn	Select Check Sums
STMPTY	Set Empty	STMPTYA,B	
STR	Strobe, Reset	STRA,Bn	
STT	Strobe T (Register)	STTA,Bn	
STTW	Strobe Transfer Write	STTWA,Bn	
SWAS	Switch Write A stats	SWASn	Select Check Sums
SWBS	Switch Write B stats	SWBSn	Select Check Sums
SWCS	Switch Write Changeover Stats	SWCS A,Bn	
TADD	Transfer Adder Data	STADDn	
TATOA1	Transfer A to A1		
TBTOB1	Transfer B to B1		
TMNG	Timing	TMNGn	
TRAS	Transfer to Read A Stats	TRASn	Set Check Sums
TRBS	Transfer to Read B Stats	TRBSn	Set Check Sums
TRK	Track	TRK A,Bn	

Name	Mnemonic	Derivatives	Notes
TSL	Tape Select	TSLnn	
TSM	Transfer Sum	STTSMn	
TWAS	Transfer to Write	A Stats TWASn	Set Check Sums
TWBS	Transfer to Write	B Stats TWBSn	Set Check Sums
VDG	V Digit	VDGn A,B	
WS	Write Stats	WSA,Bn	

PERIPHERAL COORDINATOR

Name	Mnemonic	Derivatives	Notes
ACAC	AC Address Control		
ACAP	AC Address Priority		
ACD	AC Direct		
ACE	AC Even		
ACH	Autonomous Control Hold	STACHn	
ACLM	AC less to most		
AL	Autonomous Lower	ALn	
ACO	AC Odd		
ACS	Autonomous Control Set	STACSn	
AP	Autonomous Priority		
APT	Autonomous Peripheral Transfer	nAPTn	
ARD	Autonomous Read		
AU	Autonomous Upper	AUn	
AUC	Autonomous Carry	AUCn	
AUCT	Autonomous Carry Test	AUCTn	
AUF	Autonomous Form	AUFn	
AUM	Autonomous Mix	AUMn	
AUS	Autonomous Sum	AUSn	
BPR	Bottom Peripheral Read	BPRn	
CAPT	Carry Antonomous Peripheral Transfer		
CONTR	Control Read	CONTRn	
CONTW	Control Write	CONTWn	
KDPC	Kontrol Data Peripheral Coordinator		
OWG	Open Write Gate		
P	Peripheral		
PTR	Peripheral Transfer Rq.		
PW7	Peripheral Write	PW7n	
SLAM	Set LAM		
VA	"V" Address	nVAn	
VAR	"V" Address Read	VARn	
VAW	"V" Address Write	VAWn	

I.B.M. AND DISC FILE FAST CHANNELS

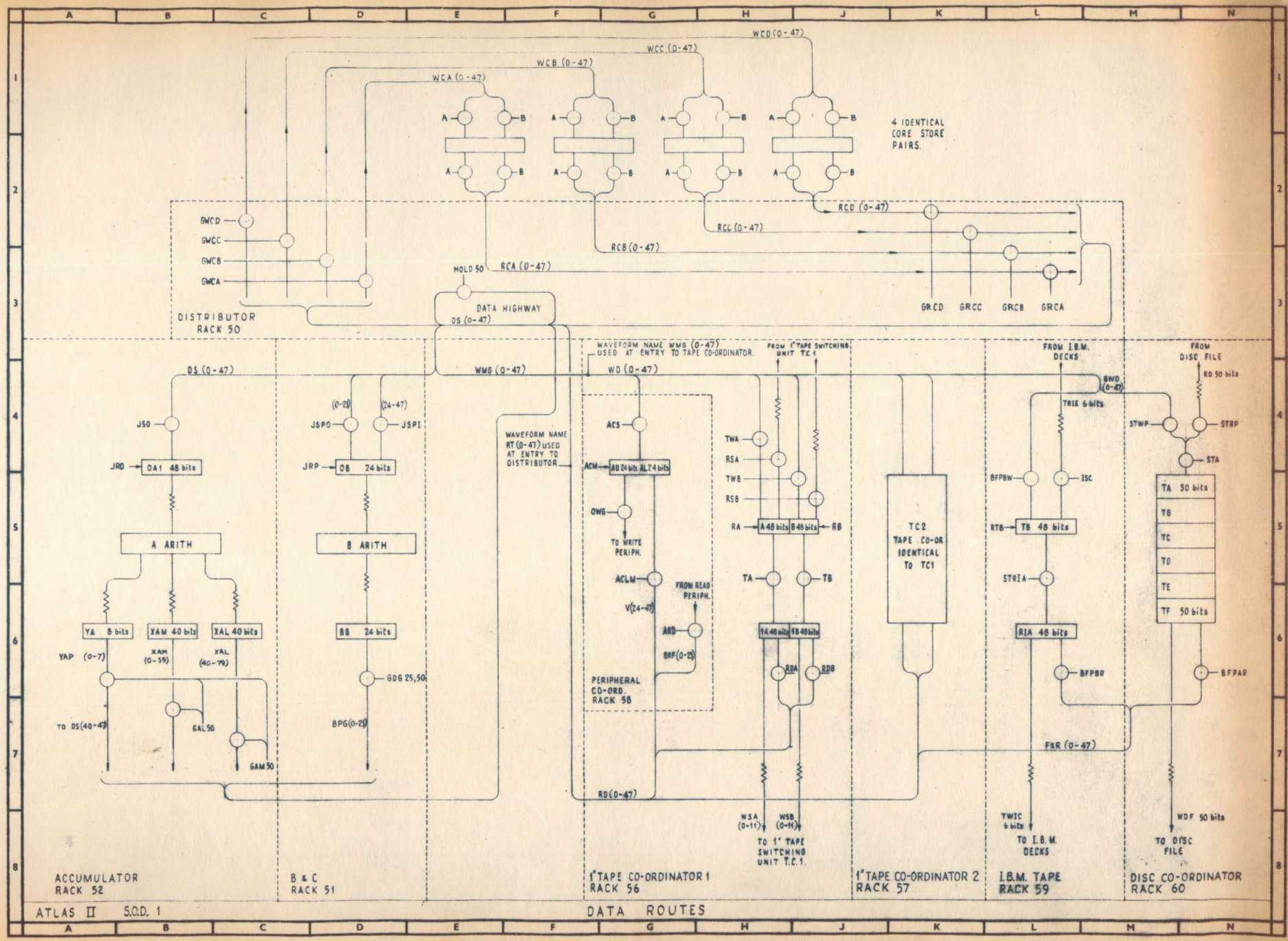
Most Names are prefaced by BF (Bfast.)

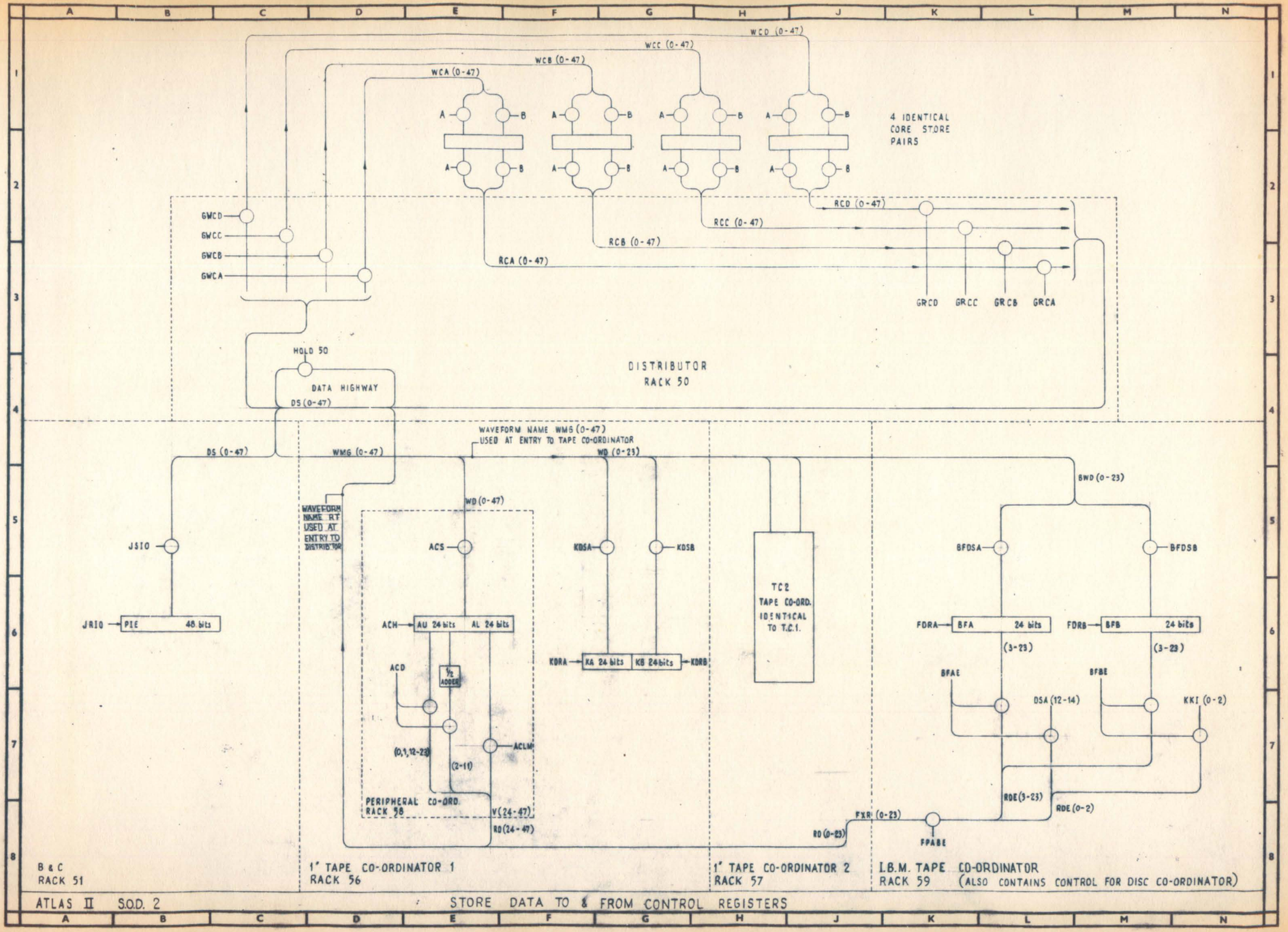
Name	Mnemonics	Derivatives	Notes
BFAE) BFBE)	Error/End		
BFARW) BFBRW)	Read Write		
BFC	Carry	BFCn	
BFCD	Control Delay	BFCDn	
BFDR	Data Reset	BFDRA,B	
BFDS	Data Set	BFDSA,B	
BFLOD	Load	BFLODA,B	
BFPAA	Peripheral Address Accepted	BF(Rq)AA	
BFPC	Peripheral Control	BFPCn	
BFPCGD	Peripheral Control Gate Data.		
BFPCZI	BFPC Zero Int.		
BFPCZR	BFPC Zero Rq.		
BFPDPH	Peripheral Data Phase		
BFPNAB	Peripheral NULL AB		
BFS	Sum	BFSn	
BWD	Write Distributor	BWDn	
FALA) FBLA)	Lateral		Failure Rqs.
FALN	Longitudinal		
FXR	Fast Extension Read	FXRn	
FXRQ	Fast Extension Rq	FXRQ 0,1	
KDFX	Kontrol Data Fast Extension	KDFXn	
RDE	Read Distributor Error/ End	RDEn	
RDFX	Read Distributor Fast Extension.		

OVERALL PRIORITY

Most names prefaced by CP or Coordinator Priority.

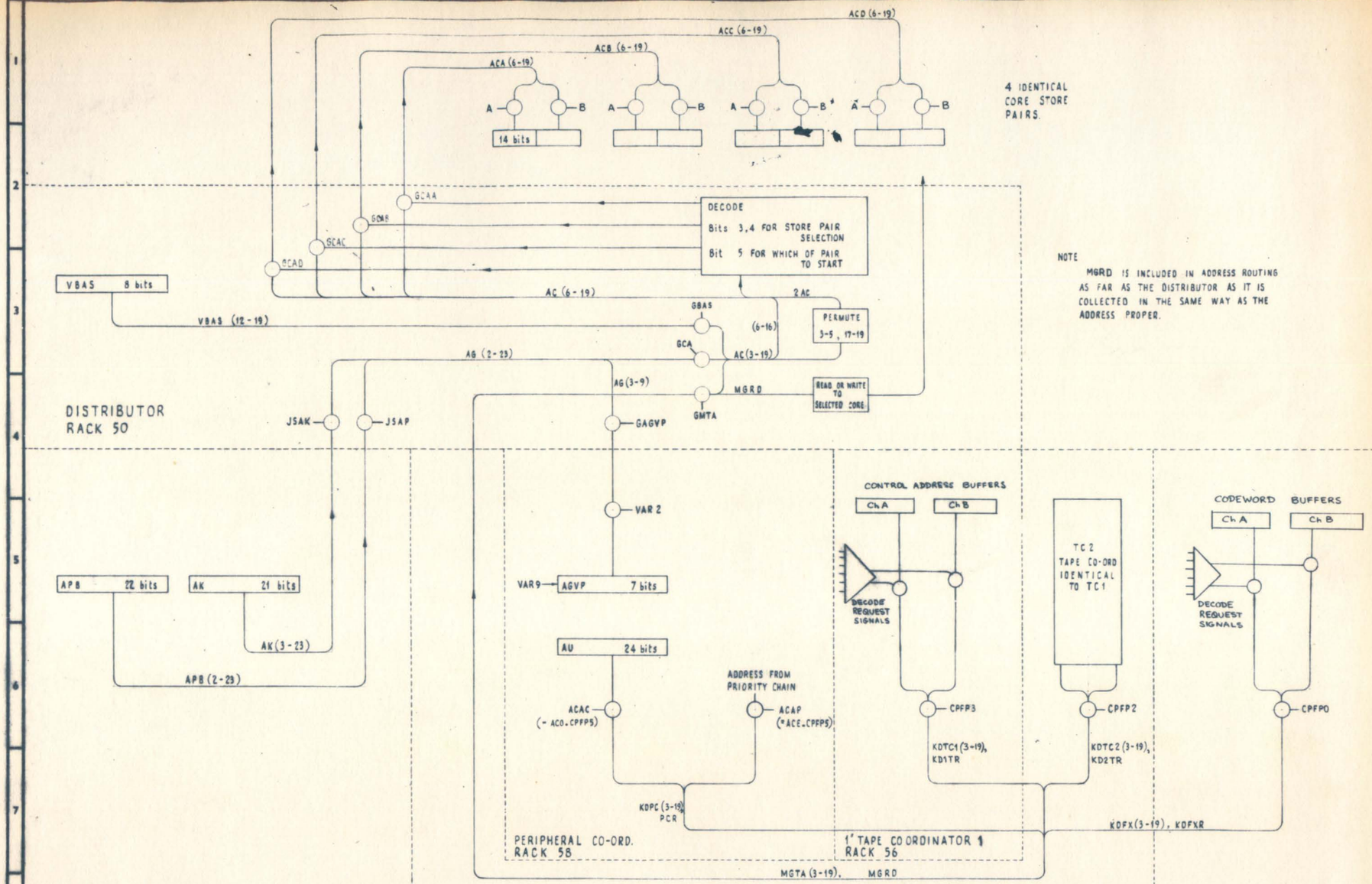
Name	Mnemonic	Derivatives	Notes
CLRQM	Clear Rq Magnetics		
CPAA	Address Accepted		
CPC	Control	CPCn	
CPCE	Control Empty	CPCEn	
CPCEE	Control Early Empty		
CPCF	Control Full	CPCFn	
CPFP	First Priority	CPFPn	
MQPS	Magnetics Preliminary Start		
MGQ	Magnetics Request		
NMRQ	Next Magnetics Request.		


WCD (0-47)
WCC (0-47)
WCB (0-47)
WCA (0-47)
4 IDENTICAL CORE STORE PAIRS.
GWCD
GWCC
GWCB
GWCA
DISTRIBUTOR RACK 50
HOLD 50
RCA (0-47)
RCB (0-47)
RCC (0-47)
RCD (0-47)
GRCD
GRCC
GRCB
GRCA
DATA HIGHWAY
DS (0-47)
WMG (0-47)
WAVEFORM NAME WMG (0-47) USED AT ENTRY TO TAPE CO-ORDINATOR.
WD (0-47)
FROM 1" TAPE SWITCHING UNIT T.C.1
FROM I.B.M. DECKS
FROM DISC FILE
RD 50 bits
BWD (0-47)
TRIE 6 bits
STWP
STRP
STA
JS0
JSP0
JSP1
(0-23)
(24-47)
JR0
JRP
OA1 48 bits
OB 24 bits
WAVEFORM NAME RT (0-47) USED AT ENTRY TO DISTRIBUTOR
ACS
ACM
AB 24 bits AL 24 bits
OWG
TO WRITE PERIPH.
ACLM
FROM READ PERIPH.
V(24-47)
ARD
BRP(0-23)
PERIPHERAL CO-ORD. RACK 58
TWA
RSA
TWB
RSB
RA
A 48 bits
B 48 bits
RB
TA
TB
1A 48 bits
1B 48 bits
RDA
RDB
TC2 TAPE CO-OR IDENTICAL TO TC1
BFPBW
ISC
RTB
TB 48 bits
STRIA
RIA 48 bits
BFPBR
TA 50 bits
TB
TC
TD
TE
TF 50 bits
BFPAR
A ARITH
B ARITH
YA 8 bits
XAM 40 bits
XAL 40 bits
YAP (0-7)
XAM (0-39)
XAL (40-79)
TO DS(40-47)
GAL 50
GAM 50
BB 24 bits
GDG 25,50
BPG(0-23)
FXR (0-47)
RD(0-47)
WSA (0-11)
WSB (0-11)
TO 1" TAPE SWITCHING UNIT T.C.1.
TWIC 6 bits
TO I.B.M. DECKS
WDF 50 bits
TO DISC FILE
ACCUMULATOR RACK 52
B & C RACK 51
1" TAPE CO-ORDINATOR 1 RACK 56
1" TAPE CO-ORDINATOR 2 RACK 57
I.B.M. TAPE RACK 59
DISC CO-ORDINATOR RACK 60
ATLAS II S.O.D. 1
DATA ROUTES



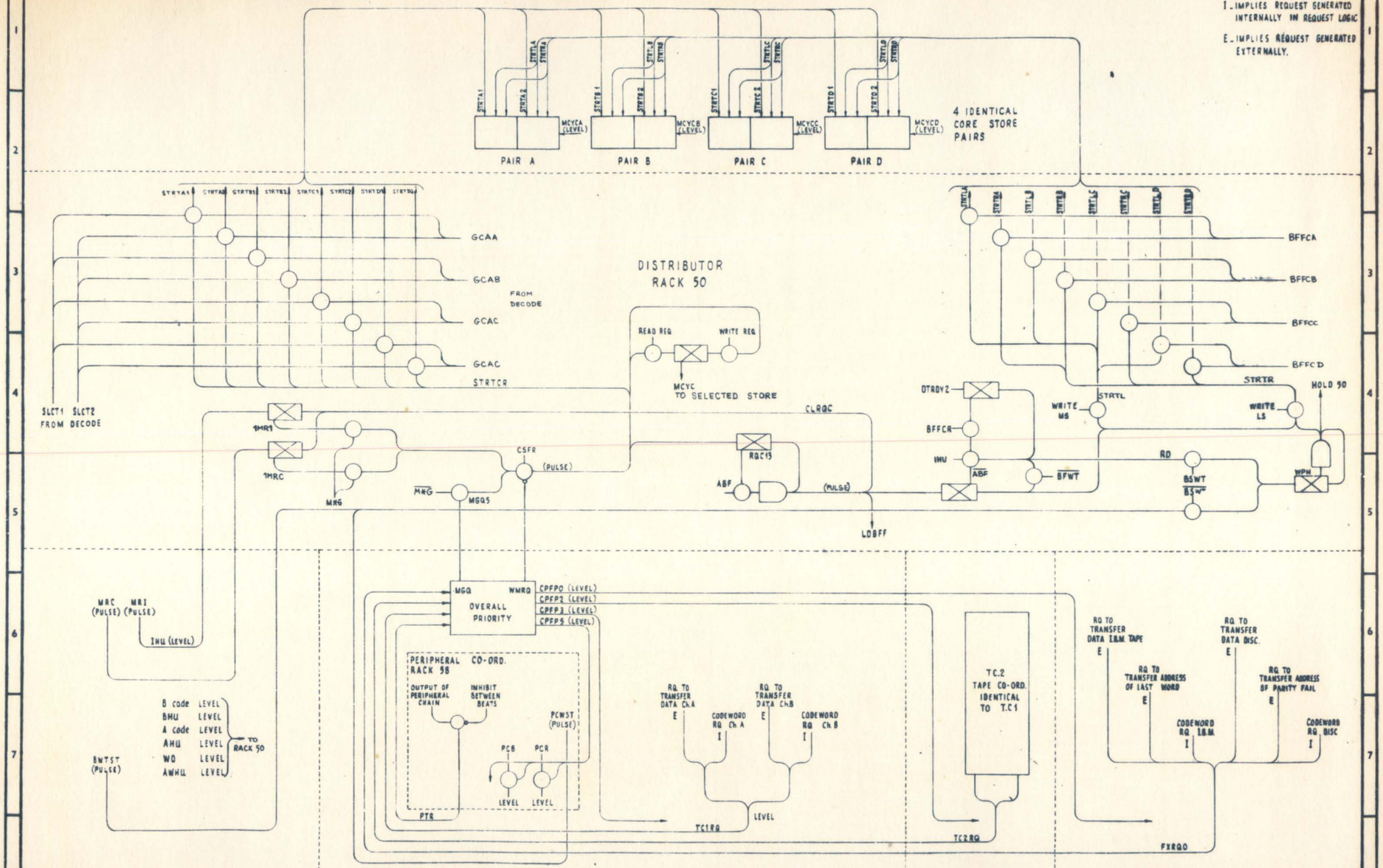
ATLAS II S.O.D. 2

STORE DATA TO & FROM CONTROL REGISTERS



STORE ADDRESS ROUTES

NOTE.
I. IMPLIES REQUEST GENERATED INTERNALLY IN REQUEST LOGIC
E. IMPLIES REQUEST GENERATED EXTERNALLY.



B & C
RACK 51

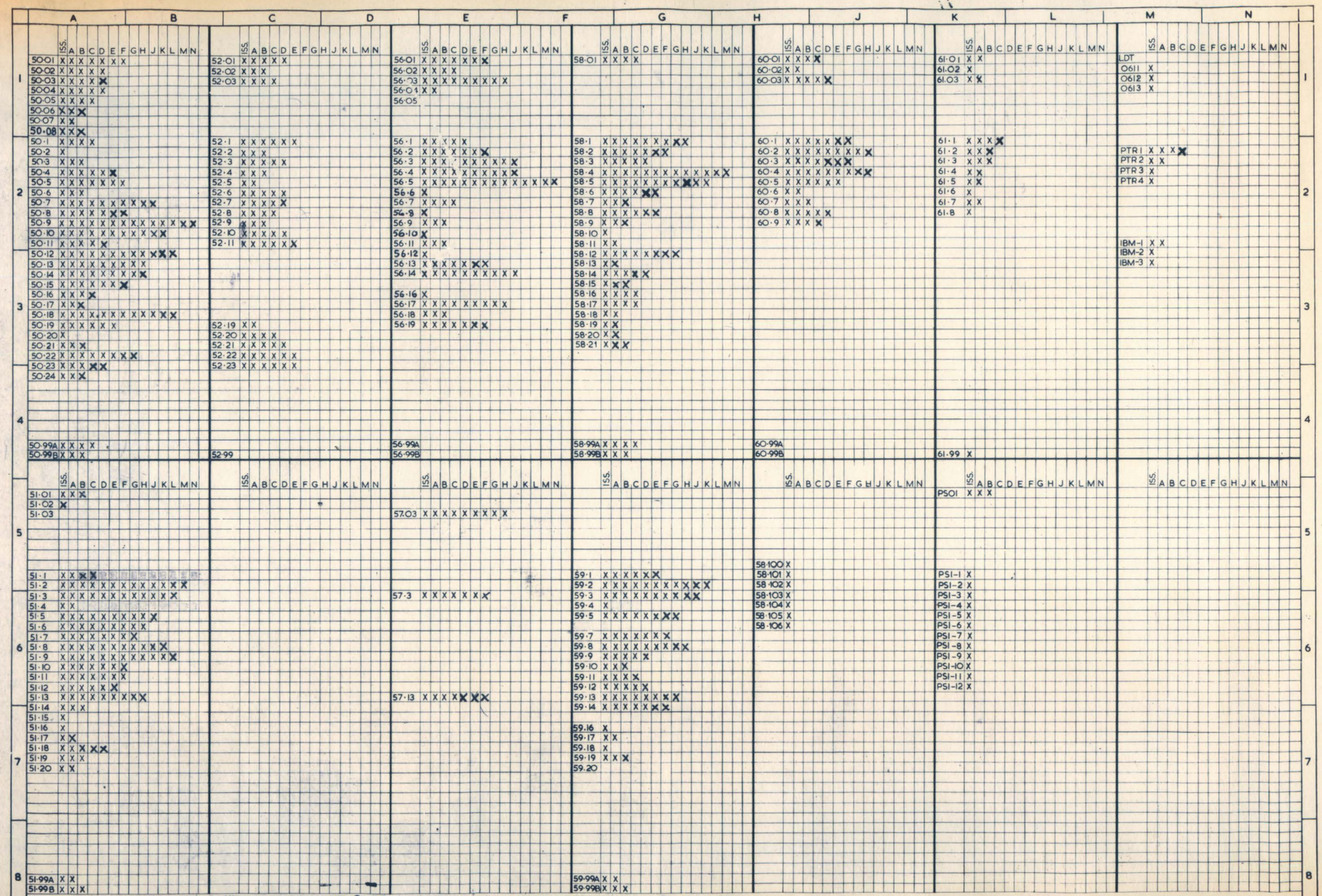
1" TAPE CO-ORDINATOR
RACK 56

1" TAPE CO-ORDINATOR
RACK 57

I.B.M. TAPE AND DISC
RACK 59

ATLAS II S.O.D. 4

CONTROL SIGNALS TO DISTRIBUTOR & CORE STORES



16·12·64
25·3·65
14·4·65
26·4·65

10·5·65
20·5·65
24·5·65

20·7·65
21·7·65

10·8·65
2·9·65

ATLAS 2

LAST CROSS SHOWS CURRENT ISSUE

Read FWD

In the transfer of a block, after the first 2 data stripes are placed in RAS, STTRDA is reset by the differentiated trailing edge of CHVII, and remains so for the rest of the transfer.

There is no °/p to adder from RAS whilst STTRDA set. However °ts reset °/p is gated with RQREDA (which is produced @ the same time as RQRDA4) and RQ200 resulting (depending on the Base 4 count) produces SRAS0 RAS0 → ADDER via ADS
SRAS1 RAS1 → " " "

During PHS 15 Stripe from tape by-passes Adder 2ADD → ADDR

34 ADDR → WAS by TWAS0,1 (depending on Base 4) each stripe overwriting the last.
also stripe → 48 bit buffer A

> The Base 4 printer is gated with PHS34 and RQR1 (= RDNGA. RQRDA4) indicating a genuine Read Request, not a checkread operation following a write Request.

67 Adder °/p → ADDR latch register which is held by PHS711 (this is the current checksum) The previous stripe which by-passed the adder to WAS is not held in ADDR.

910 ADDR → RAS
Reset the first (∴ second also) Request stat.

After PHS..11 The adder °/p and Request Registers are UNLATCHED, and the logic is ready for another request.

We get a read request per stripe

Tape Interrupts - Group 5 line *60000020 Digit 29.

After selecting a deck further reference to the associated V store must be delayed by 4 orders (8 μs)

STARTING A TRANSFER: Set d.42 - at least 1 order must then be obeyed before setting READ or WRITE

1st TAPE ADDRESSES

8189
1
2
⋮
4999
8190
5001
⋮

WRITE TO PERIPHERAL V-STORE WV

LINE 144 TC1 CHA 146 TC2 CHA
145 TC1 CHB 147 TC2 CHB

SET FAST WIND 24	RESET FAST WIND 25	RESET DECK INTERRUPT 26	RESET ENGAGE 27	SET REVERSE 28	SET FORWARD 29	RESET BLOCK MARK PASSED F/F 30	RESET BLOCK INTERRUPT, SET CHECKSUM DIGITS TO ERROR 31	RESET PARITY FAIL 32	SET RECOVER READ 33	RESET CODEWORD INTERRUPT 34	NOT USED 35	SET READ, RESET RECOVER READ 36	SET WRITE 37	RESET READ AND WRITE 38	SET FALSE BLOCK MARK 39	SET START 40	FALSE CLOCKS 41	COPY NEXT CODEWORD FROM CORESTORE; CLEAR VARIOUS FLIP-FLOPS 42	SEND FALSE BLOCK MARK AS IF FROM DECK 43	RESET CODEWORD OVERDUE 44	SET TIMER 45

(as if from deck after addressing)

TO SELECTED DECK VIA TAPE SWITCHING UNIT

RSTPTYA 56.9L8

KRAM 56.03A7, A8 56.14M1

RCVERA TO READ PERIPHERAL V-STORE DIGIT 34, AND TO PEAK SENSER BIAS PACKAGES

RDNGA TO READ PERIPHERAL V-STORE DIGIT 36 56.01D5

RESET KEY

CTRA 56.04B3

START TO SELECTED DECK VIA T.S.U.

VDG41A 56.01B6

BGPLSA 56.01D5 56.03P6,3B

VDG43A 56.01A3

VDG44A

VDG45A 56.01F4

DECK NOT RUNNING FAST

BMA 56.01B3

STOP TO SELECTED DECK VIA T.S.U.

BLOCK MARK

RSTKGLA 56.10L6

END-OF-TAPE

RESET KEY

P200LMO P201LMO 52.01

BLOCK MARK INTEGRATOR

VDG43A 56.01J2

BMA 56.01H2, B6

TEBMA

LEBMA

BLOCK MARK FROM TAPE

BMAPS TO READ PERIPHERAL V-STORE, DIGIT 37

EDGE REQUEST: INITIATES FINAL CHECKSUM COMPARISON

CTRA

RESET KEY

WRTA

WETA

DECK FORWARD

2ms

0.5ms

CHVA3 56.01E6

MRKNGA 56.01K3

VDG45A 56.01K2

CHVA10

WFx FOR x SEE 56.01A7, A8

TO READ PERIPHERAL V-STORE DIGIT 28

CHVA4

DECK MODIFIED

MRKNGA 56.01G4, 67, G8

56.01D5

WRTNGA

(1) TO SELECTED DECK VIA T.S.U.;
(2) TO READ PERIPHERAL V-STORE DIGIT 35;
(3) TO PEAK SENSER BIAS PACKAGES

RGEDA

RDNGA 56.01F2

WRTNGA 56.01K3

56.2

56.3

CLOCK TRACK 1 FROM TAPE

CLKA5 GATE READING BUFFERS 56.03B4

CLKA19

CLKA2

CLKA18

CLKA12

CLKA11

CLKA13

CLOCK TRACK 0 FROM TAPE

WP144

VDG41A 56.01J2

CLKA15

BGPLSA 56.01J2

56.03C4 GATE READING BUFFERS

CLKA25

CLKA27

56.01B3 BMA

CLBS4A CLEAR BASE-4

CLOCK

CLKA16

RGRDA READ REQUEST

CHVA3 56.01B3

MGK54

MGK50

MGK7 56.01J6

MGKS1

MGK54

11μS OSCILLATOR

0.5μs

MAGNETICS TEST MODE KEY

MGK56

R&CHA38

MGK1

6R&G REQUEST LOGIC TEST FACILITY

MGK5 56.01F8

MGK7 56.01F6

MGK9

MGK6 56.01F7, H7

MGK8

RESET KEY

56.01K7 MGK6

MRKNGA 56.01K3

MGK61 WRITE REQUEST

CD

MGK61 WRITE STROBE TO DECK

56.01K7 MGK6

MGK6 56.01K7

MGK15

MGK5 56.01J6

MGK15 TIMING PULSE TO CLOCK TRACK

MRKNGA 56.01K3

MGK32 PULSE TO BLOCK MARK TRACK

MKBMA 56.02

FOR CHANNEL A

56.6

WRITE TO PERIPHERAL V-STORE WV

LINE 140 TC1 CHA
141 TC1 CHB
142 TC2 CHA
143 TC2 CHB

CONNECTS DECK INDICATED BY THREE ADDRESS BITS 27-29 TO CHANNEL

Deck must be engaged

27
28
29

TSL4
TSL5
TSL6

DECODER

CHANNEL A T.S.U.

CHANNEL B T.S.U.

SELECTED DECK

SELECTED DECK

56.1

READ FROM PERIPHERAL V-STORE

LINE 144 TC1 CHA 146 TC2 CHA
145 TC1 CHB 147 TC2 CHB

DIGIT
24 DECK NOT MODIFIED
25 DECK NOT RUNNING FAST
26 DECK NOT PERMITTED TO WRITE
27 DECK NOT STOPPED
28 LESS THAN 2mS ELAPSED SINCE LAST BLOCKMARK
29 DECK SET TO MOVE BACKWARD
30 DECK NOT AT END OF TAPE (READ ONLY WHEN DECK ENGAGED AND SELECTED)
31 CODEWORD OVERDUE
32 PARITY TEST FAILED
33 CHECKSUM TEST FAILED (12 MOST SIGNIFICANT DIGITS)
34 RECOVER READ SET
35 WRITING SET
36 READING SET
37 NOT PASSED ONE BLOCKMARK
38 READING BLOCK ADDRESS OR DATA
39 CHECKSUM TEST FAILED (12 LEAST SIGNIFICANT DIGITS)

DISENGAGED DIGITS

GROUPED IN PERIPHERAL V-STORE INDEPENDENTLY OF WHICH DECK IS SELECTED

LINE	127	130	137
DIGIT 24	TC1 DECK 0	TC1 DECK 6	TC2 DECK 0
25	1	7	1
26	2		2
27	3	TC2 DECK 6	3
28	4	7	4
29	5		5

LINE 140 TC1 CHA 142 TC2 CHA
141 TC1 CHB 143 TC2 CHB

DIGIT 24, 25, 26 NEXT POSITION FROM WHICH CODEWORD IS TO BE TAKEN (CANNOT BE SET DIRECTLY)

27 – 39 (ONLY AFTER BLOCK ADDRESS INTERRUPT) ONES COMPLEMENT OF BLOCK ADDRESS

BLOCK ADDRESS INTERRUPTS

LINE 135 DIGIT 24 TC1 CHA
25 TC1 CHB
26 TC2 CHA
27 TC2 CHB

CODEWORD INTERRUPTS

LINE 135 DIGIT 28 TC1 CHA
29 TC1 CHB
30 TC2 CHA
31 TC2 CHB

DECK INTERRUPTS

(DECK MUST BE ENGAGED AND SELECTED)

LINE 125 DIGIT 24 TC1 CHA
25 TC1 CHB
26 TC2 CHA
27 TC2 CHB

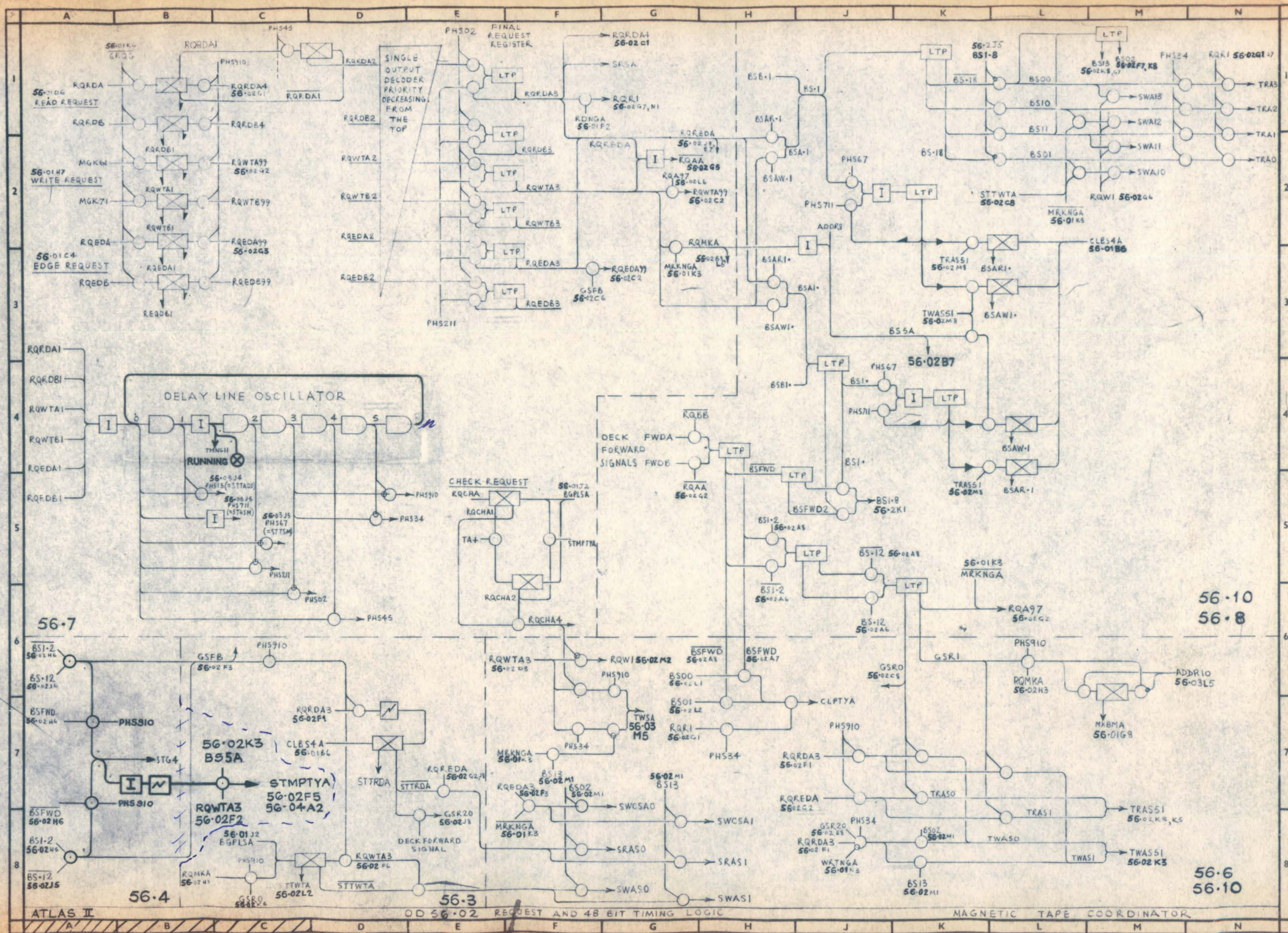
NOTE TC1 = RACK 56
TC2 = RACK 57

ATLAS 2 O.D. 56.01 PERIPHERAL V-STORE AND DECK SIGNALS MAGNETIC TAPE CO-ORDINATOR

Edge Request compares formed with originate checksum.

Check Request writes the checksum to tape.

STG4 indicates that the 4th stripe has been transferred.



SINGLE OUTPUT DECODER PRIORITY DECREASING FROM THE TOP
FINAL REQUEST REGISTER
READ REQUEST
WRITE REQUEST
EDGE REQUEST
DELAY LINE OSCILLATOR
RUNNING
CHECK REQUEST
DECK FORWARD SIGNALS
DECK FORWARD SIGNAL
56·02K3
BS5A
STMPTYA
56·02F5
56·04A2
RQWTA3
56·02F2
56·02B7
56·7
56·4
56·3
56·10
56·8
56·6
56·10
ATLAS II
OD 56·02 REQUEST AND 48 BIT TIMING LOGIC
MAGNETIC TAPE COORDINATOR

READ CHECKSUM FWD Stripes added to current C.S. and re-written in appropriate RAS register. These answers are also OVERWRITTEN repeatedly into WAS so that WAS contains the 2 stripe checksum @ the end.

At edge request contents of RAS = twice checksum → Adder. Contents of WAS complemented, shifted 1 place left and → other adder I/P.

Adder O/P tested for zero (all 1's) - success resetting 2 Checksum failure bistables.

READ CHECKSUM ~~BWD~~

(held low inhibiting GSR 20)

Checksum → WAS and RAS, but it is overwritten in RAS as data is read.

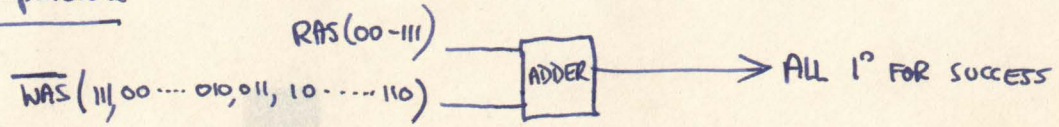
Comparison as before.

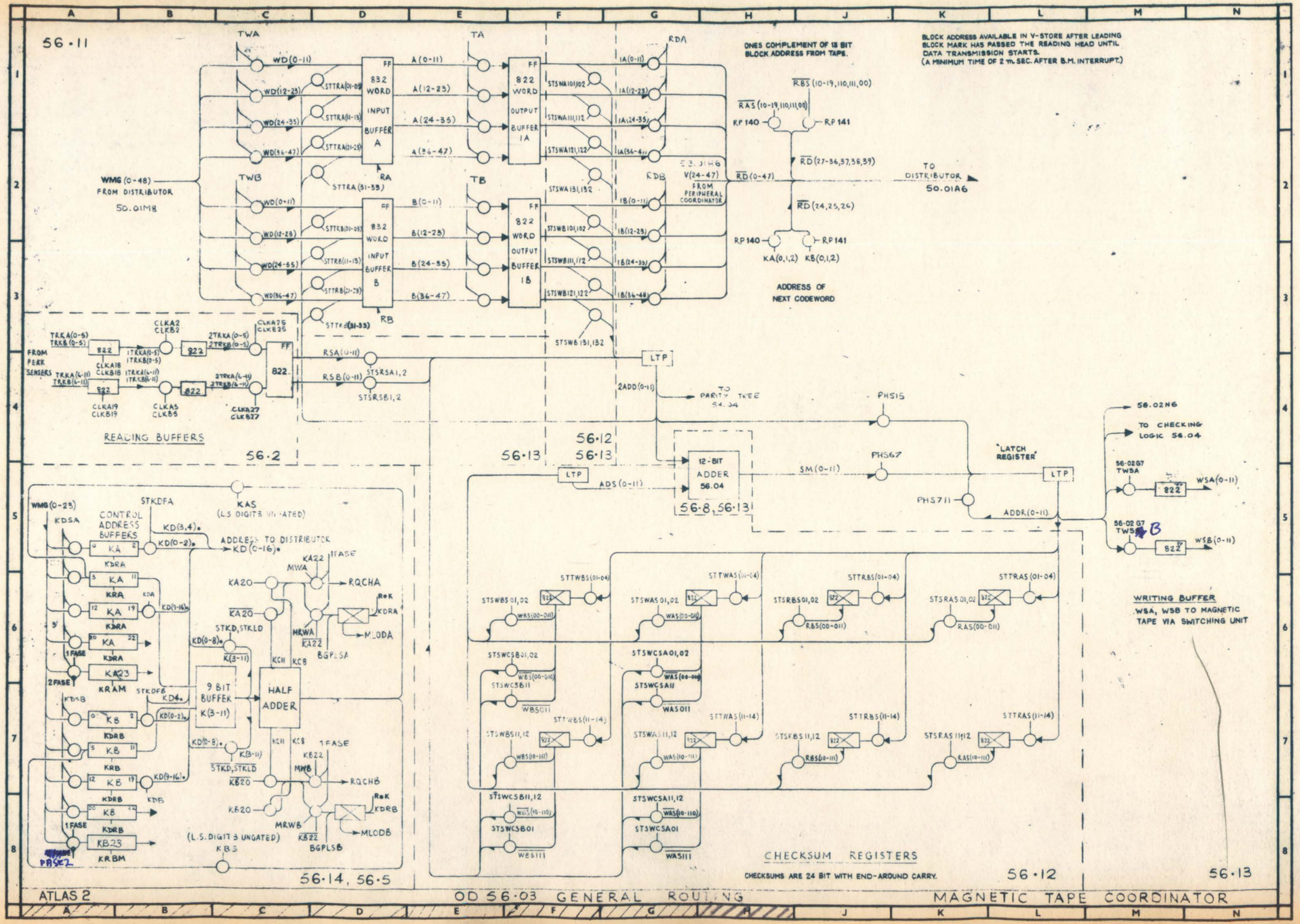
WRITE Checksum Read written info 3msec later → RAS, Read Request comes up, but because it is part of the write ~~transfer~~ strobe → A INHIBITED. (Since Strobe gated with RD NOT A)

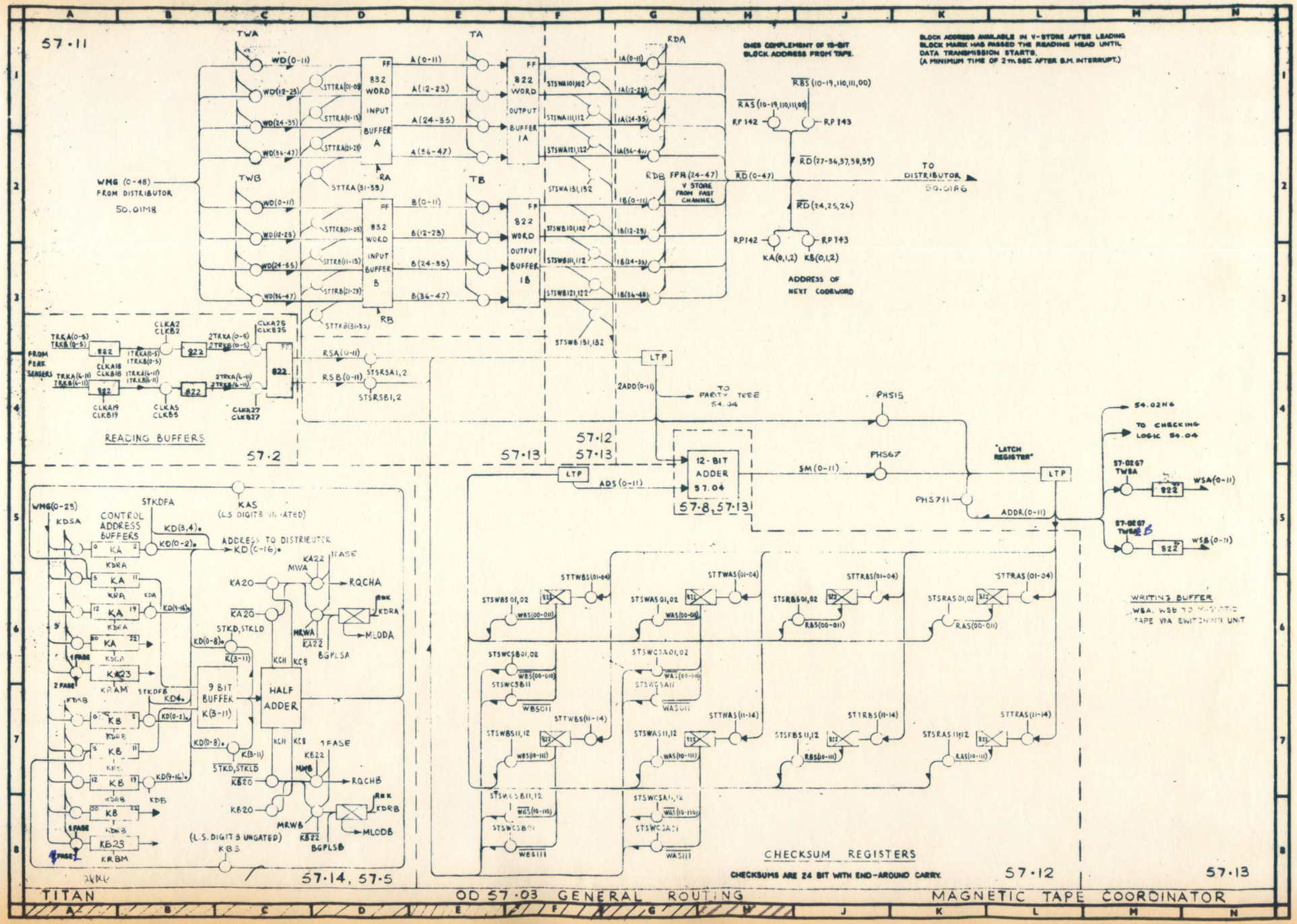
2 CHECKSUMS thus built up in RAS and WAS. @ end of block WAS written on tape, read back, and added into RAS. Then compare as before.

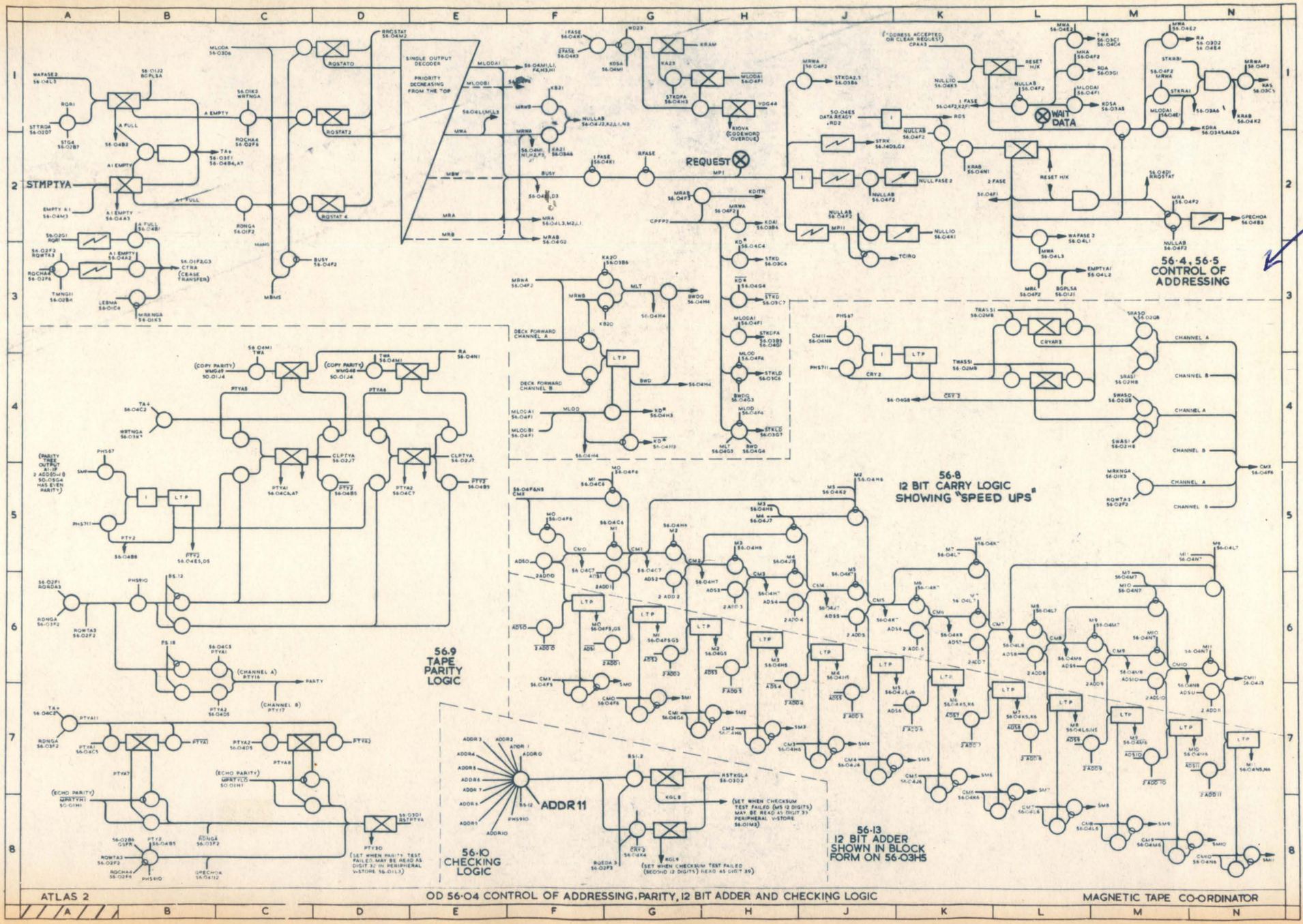
CARRY is stored as a 13th bit - thus end around carry over 24 bits.

24 bit Checksum Comparison




56·11
TWA
WD(0-11)
WD(12-23)
WD(24-35)
WD(36-47)
STTRA(01-09)
STTRA(11-19)
STTRA(21-29)
STTRA(31-33)
832 WORD INPUT BUFFER A
RA
A(0-11)
A(12-23)
A(24-35)
A(36-47)
TA
822 WORD OUTPUT BUFFER 1A
STSWA101,102
STSWA111,112
STSWA121,122
STSWA131,132
RDA
1A(0-11)
1A(12-23)
1A(24-35)
1A(36-47)
TWB
WD(0-11)
WD(12-23)
WD(24-35)
WD(36-47)
STTRB(01-09)
STTRB(11-19)
STTRB(21-29)
STTRB(31-33)
832 WORD INPUT BUFFER B
RB
B(0-11)
B(12-23)
B(24-35)
B(36-47)
TB
822 WORD OUTPUT BUFFER 1B
STSWB101,102
STSWB111,112
STSWB121,122
STSWB131,132
RDB
1B(0-11)
1B(12-23)
1B(24-35)
1B(36-47)
WMG (0-48)
FROM DISTRIBUTOR
50.01M8
E3.01H6
V(24-47)
FROM PERIPHERAL COORDINATOR
ONES COMPLEMENT OF 15 BIT BLOCK ADDRESS FROM TAPE.
BLOCK ADDRESS AVAILABLE IN V-STORE AFTER LEADING BLOCK MARK HAS PASSED THE READING HEAD UNTIL DATA TRANSMISSION STARTS.
(A MINIMUM TIME OF 2 m. SEC. AFTER B.M. INTERRUPT.)
RBS (10-19,110,111,00)
RAS (10-19,110,111,00)
RP 140
RP 141
RD (27-36,37,38,39)
RD (0-47)
TO DISTRIBUTOR
50.01A6
RD (24,25,26)
KA(0,1,2)
KB(0,1,2)
ADDRESS OF NEXT CODEWORD
FROM PERK SENSERS
TRKA(0-5)
TRKB(0-5)
TRKA(6-11)
TRKB(6-11)
822
CLKA2 CLKB2
CLKA18 CLKB18
CLKA19 CLKB19
CLKA5 CLKB5
CLKA26 CLKB26
CLKA27 CLKB27
1TRKA(0-5)
1TRKB(0-5)
1TRKA(6-11)
1TRKB(6-11)
2TRKA(0-5)
2TRKB(0-5)
2TRKA(6-11)
2TRKB(6-11)
FF
RSA(0-11)
RSB(0-11)
STSRSA1,2
STSRSB1,2
READING BUFFERS
56·2
LTP
2ADD(0-11)
TO PARITY TREE 54.34
PHS15
PHS67
PHS71
12-BIT ADDER 56.04
56·8, 56·13
SM(0-11)
ADS(0-11)
'LATCH REGISTER'
ADDR(0-11)
56·12
56·13
58.02N6
TO CHECKING LOGIC 56.04
56·02G7 TWSA
56·02G7 TWSB
WSA(0-11)
WSB(0-11)
WRITING BUFFER
WSA, WSB TO MAGNETIC TAPE VIA SWITCHING UNIT
WMG(0-23)
KDSA
CONTROL ADDRESS BUFFERS
KA
KDRA
KRA
KRAM
KB
KDRB
KRB
KRBM
STKDFA
KAS
(L.S. DIGITS UNGATED)
KD(3,4)•
KD(0-2)•
ADDRESS TO DISTRIBUTOR
KD(0-16)•
KD(1-16)•
KD(0-8)•
KD(9-16)•
KA20
KA22
MWA
MRWA
RQCHA
RQCHB
MRWB
MLODA
MLODB
BGPLSA
BGPLSB
RDA
RDB
STKD,STKLD
9 BIT BUFFER K(3-11)
HALF ADDER
K(3-11)
KB3
(L.S. DIGIT 3 UNGATED)
1FASE
2FASE
56·14, 56·5
STTWBS(01-04)
STTWAS(01-04)
STTRBS(01-04)
STTRAS(01-04)
STSWBS01,02
STSWAS01,02
STSRBS01,02
STSRAS01,02
WBS(00-01)
WAS(00-01)
RBS(00-01)
RAS(00-01)
STSWCSB01,02
STSWCSA01,02
STSWCSB11
STSWCSA11
WBS(00-01)
WAS(00-01)
WBS011
WAS011
STTWBS(11-14)
STTWAS(11-14)
STTRBS(11-14)
STTRAS(11-14)
STSWBS11,12
STSWAS11,12
STSRBS11,12
STSRAS11,12
WBS(10-11)
WAS(10-11)
RBS(10-11)
RAS(10-11)
STSWCSB11,12
STSWCSA11,12
STSWCSB01
STSWCSA01
WBS(10-11)
WAS(10-11)
WBS111
WAS111
CHECKSUM REGISTERS
CHECKSUMS ARE 24 BIT WITH END-AROUND CARRY.
56·12
56·13
ATLAS 2
OD 56·03 GENERAL ROUTING
MAGNETIC TAPE COORDINATOR

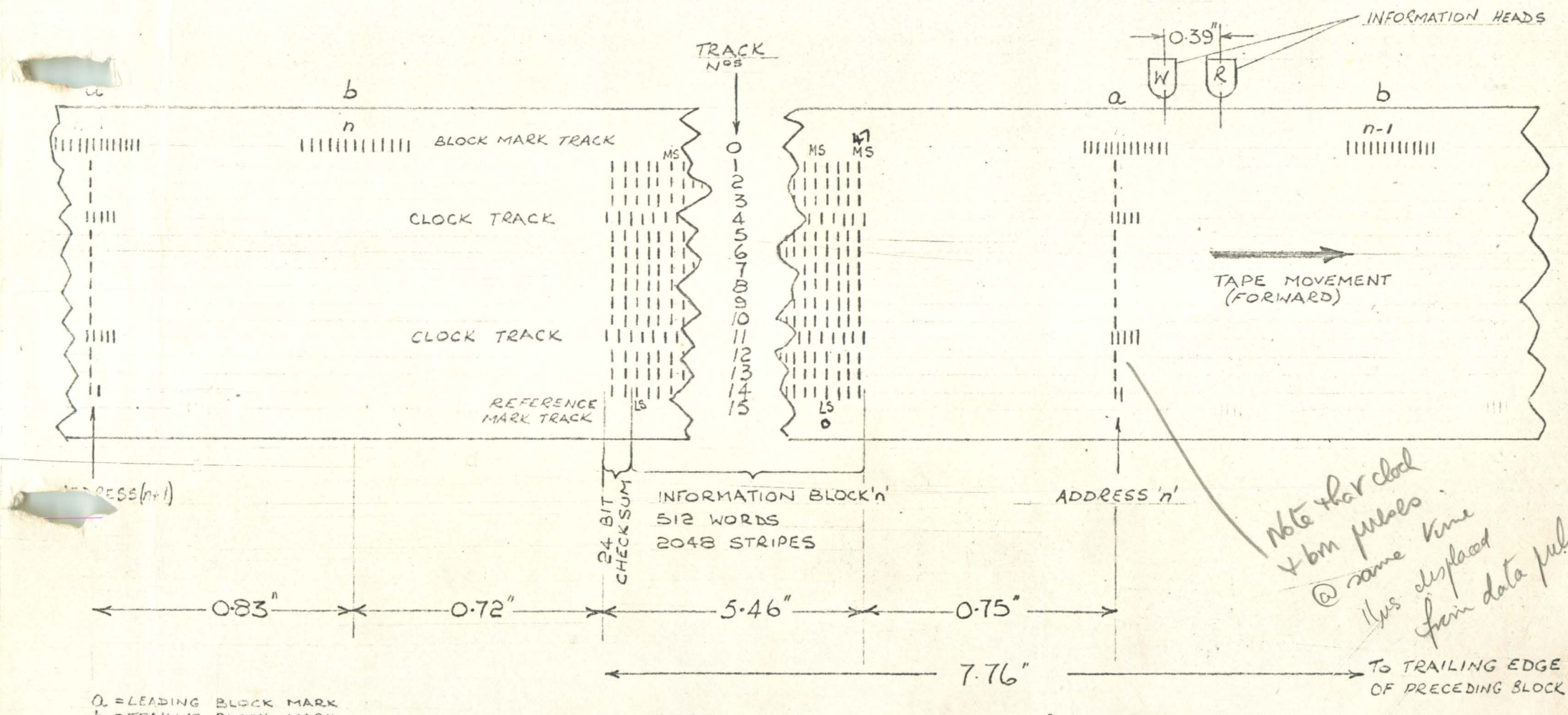

57·11
TWA
TA
RDA
WMG (0-48) FROM DISTRIBUTOR 50.01M8
832 WORD INPUT BUFFER A
822 WORD OUTPUT BUFFER 1A
TWB
TB
832 WORD INPUT BUFFER B
822 WORD OUTPUT BUFFER 1B
RDB FPR(24-47) V STORE FROM FAST CHANNEL
ONES COMPLEMENT OF 15-BIT BLOCK ADDRESS FROM TAPE.
BLOCK ADDRESS AVAILABLE IN V-STORE AFTER LEADING BLOCK MARK HAS PASSED THE READING HEAD UNTIL DATA TRANSMISSION STARTS. (A MINIMUM TIME OF 2 m. SEC AFTER B.M. INTERRUPT.)
RBS (10-19,110,111,00)
RAS (10-19,110,111,00)
RP 142
RP 143
RD (27-36,37,38,39)
RD (0-47)
TO DISTRIBUTOR 50.01A6
RD (24,25,26)
KA(0,1,2)
KB(0,1,2)
ADDRESS OF NEXT CODEWORD
FROM PEAK SENSERS
READING BUFFERS
57·2
57·12
57·13
LTP
2ADD(0-11)
TO PARITY TREE 54.34
PHS15
12-BIT ADDER 57.04
57·8, 57·13
ADS(0-11)
SM(0-11)
PHS67
"LATCH REGISTER"
PHS711
ADDR(0-11)
54.02N6
TO CHECKING LOGIC 54.04
WSA(0-11)
WSB(0-11)
WRITING BUFFER
WSA, WSB TO MAGNETIC TAPE VIA SWITCHING UNIT
WMG(0-23)
KDSA
CONTROL ADDRESS BUFFERS
STKDFA
KAS (L.S. DIGIT B UNGATED)
ADDRESS TO DISTRIBUTOR KD(0-16)
9 BIT BUFFER K(3-11)
HALF ADDER
RQCHA
RQCHB
MLODA
MLODB
BGPLSA
BGPLSB
(L.S. DIGIT B UNGATED) KBS
57·14, 57·5
CHECKSUM REGISTERS
CHECKSUMS ARE 24 BIT WITH END-AROUND CARRY.
57·12
57·13
TITAN
OD 57·03 GENERAL ROUTING
MAGNETIC TAPE COORDINATOR



Codeword overdue logic

ATLAS MAGNETIC TAPE — INFORMATION LAYOUT

NOTE
WIDTH OF TAPE = 1"
TAPE SHOWN OXIDE UPPERMOST
DRAWING NOT TO SCALE

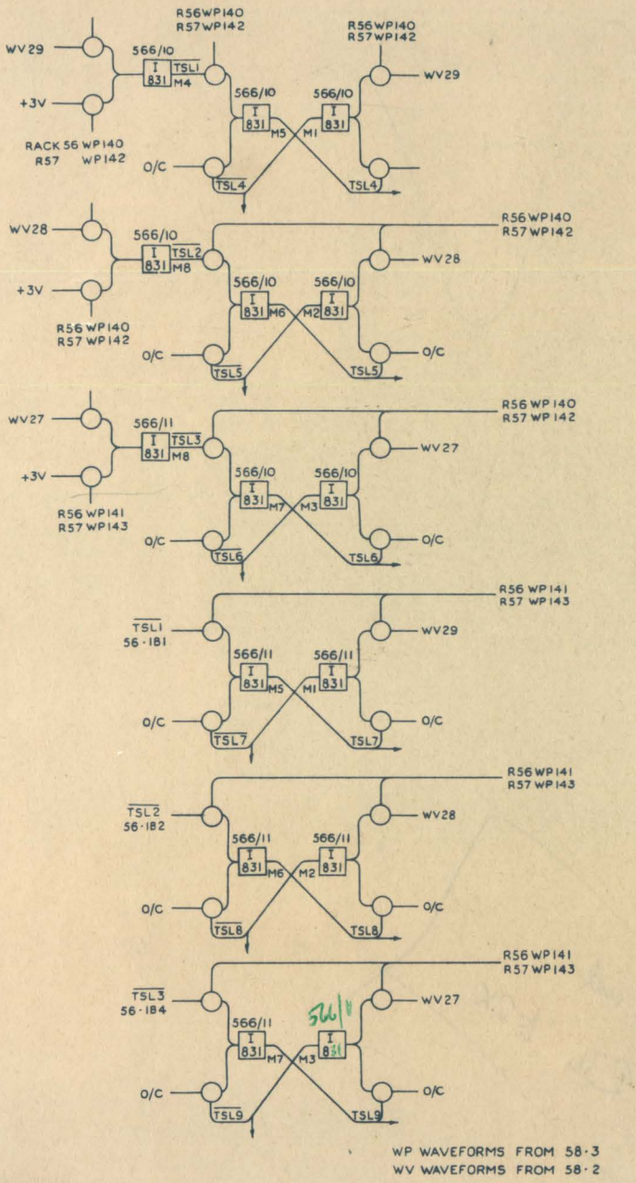


a = LEADING BLOCK MARK
b = TRAILING BLOCK MARK

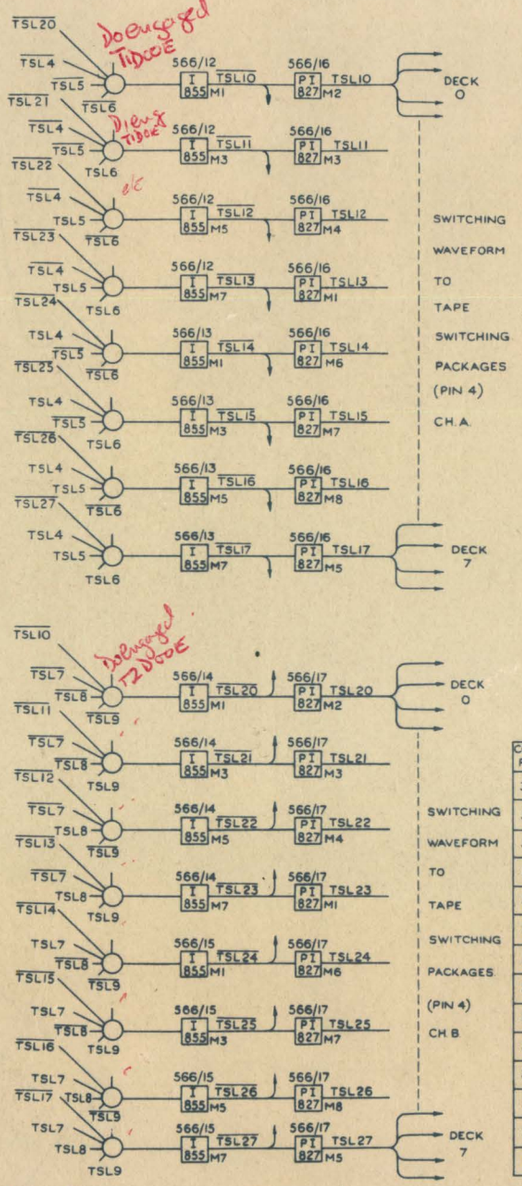
FIGURE 1.1

820 x

8 17



WP WAVEFORMS FROM 58·3
WV WAVEFORMS FROM 58·2



(TIDNE is a deDisengaged signal From 56.19 E5)

TSU PACKAGE LAYOUT

TAPE DECK	CHANNEL A SWITCHING WAVEFORM	CHANNEL A BOX/958 PACKAGES I II III IV	CHANNEL B SWITCHING WAVEFORM	CHANNEL B BOX/958 PACKAGES I II III IV
0	TSL10	568/1,25	TSL 20	568/2, 26
		569/1, 25		569/2, 26
1	TSL 11	568/4,28	TSL 21	568/5, 29
		569/4,28		569/5, 29
2	TSL 12	568/7, 31	TSL 22	568/8, 32
		569/7, 31		569/8, 32
3	TSL 13	568/10, 34	TSL 3	568/11, 35
		569/10, 34		569/11, 35
4	TSL 14	568/13, 37	TSL 24	568/14, 38
		569/13, 37		569/14, 38
5	TSL 15	568/16, 40	TSL 25	568/17, 41
		569/16, 40		569/17, 41
6	TSL 16	568/19, 43	TSL 26	568/20, 44
		569/19, 43		569/20, 44
7	TSL 17	568/22, 46	TSL 27	568/23, 47
		569/22, 46		569/23, 47

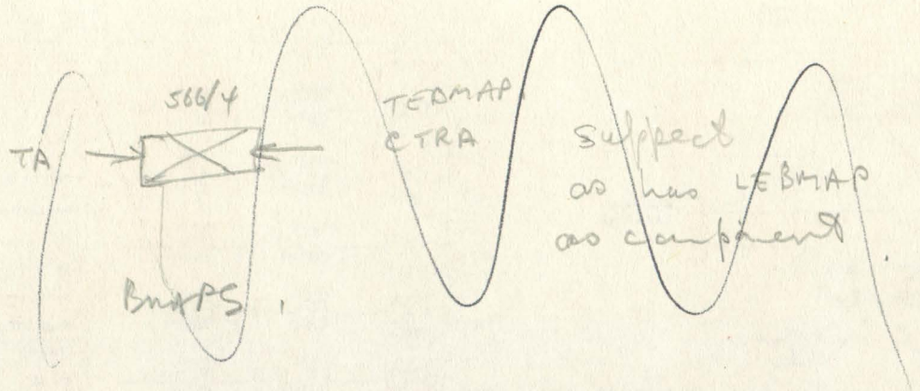
THE SINGLE RACK TSU, CONNECTING 8 DECKS TO EITHER OF 2 CHANNELS, CONSISTS OF 16 GROUPS OF 4 PACKAGES. EACH GROUP IS THE SWITCH FOR ONE DECK ON ONE CHANNEL, AS DETAILED IN THE TABLE BELOW. (ENGAGE IS SEPARATE – SEE ED 56.19)

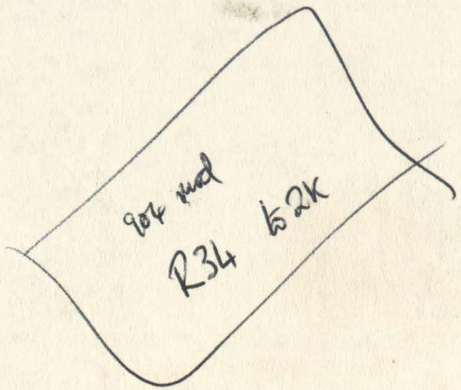
COMP PIN	DECK PIN	PACKAGE I	PACKAGE II	PACKAGE III	PACKAGE IV
32	5	TRKBM	TRKC1	TRK5	TRK2
31	6	TRK11	TRK8	TRK4	TRK1
30	7	TRK10	TRK7	TRK3	TRKO
29	8	TRK9	TRK6	TRKCo	TRKBRF
28	9	SPARE DISC CLOCK	SPARE MAG REQ	SPARE PTYAS	SPARE BDNGA
27	10	DKMDFY	DKEND	WV26 * RESET TRACK INT	WV27 * RESET ON LINE
26	11	WRTNG *	WV 24 * SET FAST	SPARE * PTYFAS9/10	START TO DECK *
25	12	DKATSP	WV 25 * RESET FAST	DKSTPD	STOP TO DECK *
24	13	DECK INTERRUPT	DKFST	DKFPST	SET WV28 REV *
23	14	SPARE KA/EA	DKPMT	DKFWD	SET WV29 FWD *
22	15	$\overline{MGK32}$ v $\overline{MGK34}$ *	$\overline{MGK19}$ v $\overline{MGK28}$ *	$\overline{WS5}$. *	$\overline{WS2}$. *
21	16	$\overline{WS11}$. *	$\overline{WS8}$. *	$\overline{WS4}$. *	$\overline{WS1}$. *
20	17	$\overline{WS10}$. *	$\overline{WS7}$. *	$\overline{WS3}$. *	$\overline{WS0}$. *
19	18	$\overline{WS9}$. *	$\overline{WS6}$. *	$\overline{MGK16}$ v $\overline{MGK26}$ *	SPARE TAt

(* +16·5V CONNECTED VIA 33KΩ TO THE COMP PIN SHOWN)

Deck Interrupts 5
58·12 E6

ATLAS 2 — ED 56·1 SWITCHING UNIT — MAGNETIC TAPE CO-ORDINATOR

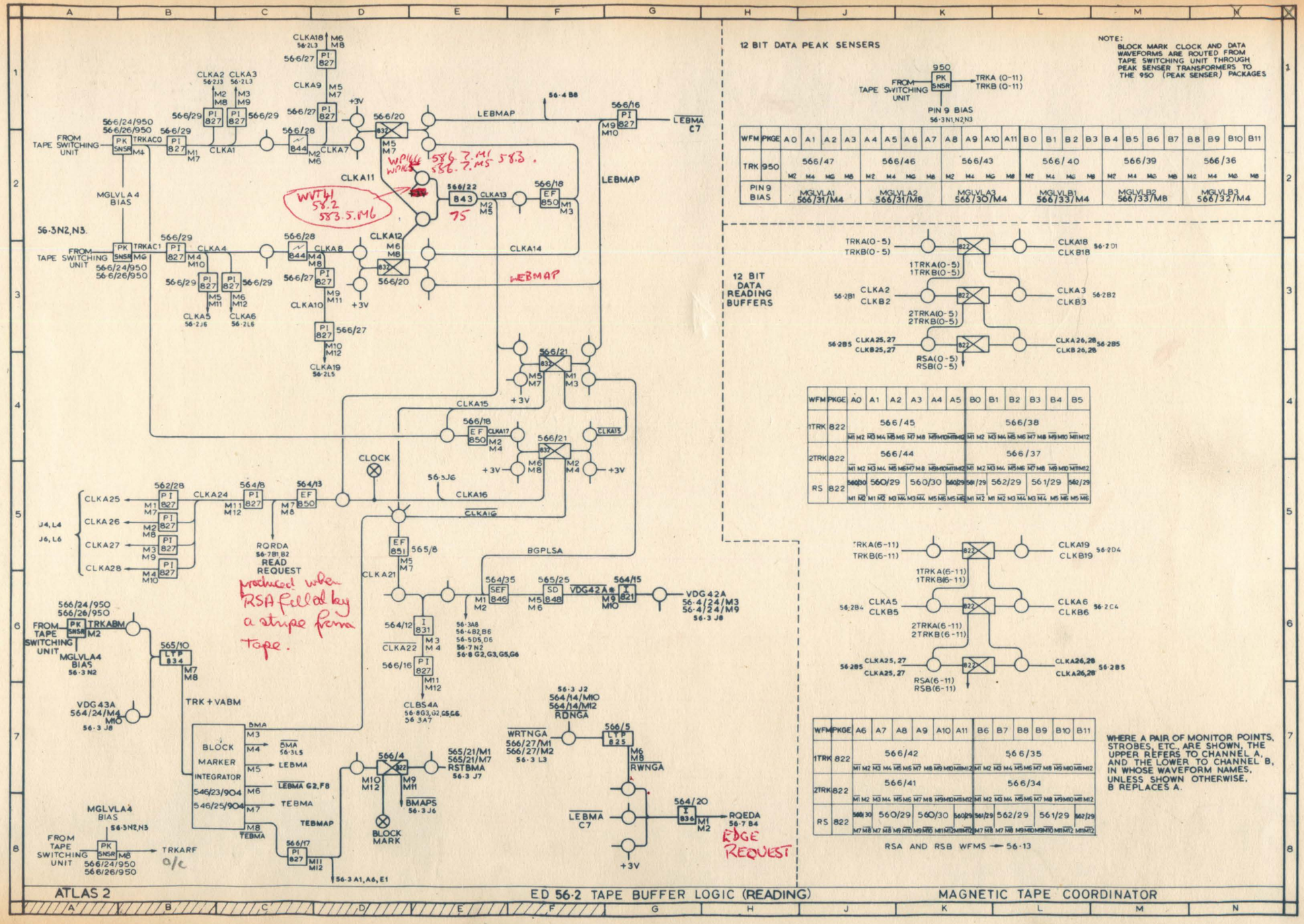

566/4
TA
BMAPS
TEBMAP
CTRA
suspect
as has TEBMAP
as component


904 mod
R34 ≤ 2K

R Thorley

ALDERMASTON ATLAS 2 ONE INCH TAPE COORDINATOR DELAYS.

DRAWING NUMBER	WAVEFORM NAME	MEASURED DELAY IN NANOSECONDS. CH 0	CH 1	CH 2	CH 3
56.2 E2	CLKA13	98	88	140	100
56.3 B1	CHVA1	2000	1950	2000	2010
D1	CHVA3	500	510	490	510
56.4 C2	TATOA1	84	80	90	82
K2	NULLFASE2	280	280		
L7	DMP1	80		86	
M7	DMP2	94		88	
M3	NULL10	280	280		
N2	RFASE	78		94	
56.5 D3	KRAB	116	118		
L1	GTPTYA	310	310	315	350
56.6 J7	MGK2	500	500		
56.7 C7	TMNG00-	172	168		
D7	01-	100	98		
G7	02	94		92	
H7	03	92		94	
J7	04	174	174		
K7	05	174	174		
56.17 C6	CPCT2-		105		
F7	6-		74		
G6	1		126		
H6	2		150		
H7	8-		82		
L6	7-		86		



ATLAS 2 | ED 56-2 TAPE BUFFER LOGIC (READING) | MAGNETIC TAPE COORDINATOR

Start Read is reset after 2nd stripe transferred.

Reading BWD inhibits GSR20 after 2 stripes ∴ C.S. in WAS not spoilt

After BMA the deck continues to run for 3.5 msec till the block address has been read, stopping in the gap.

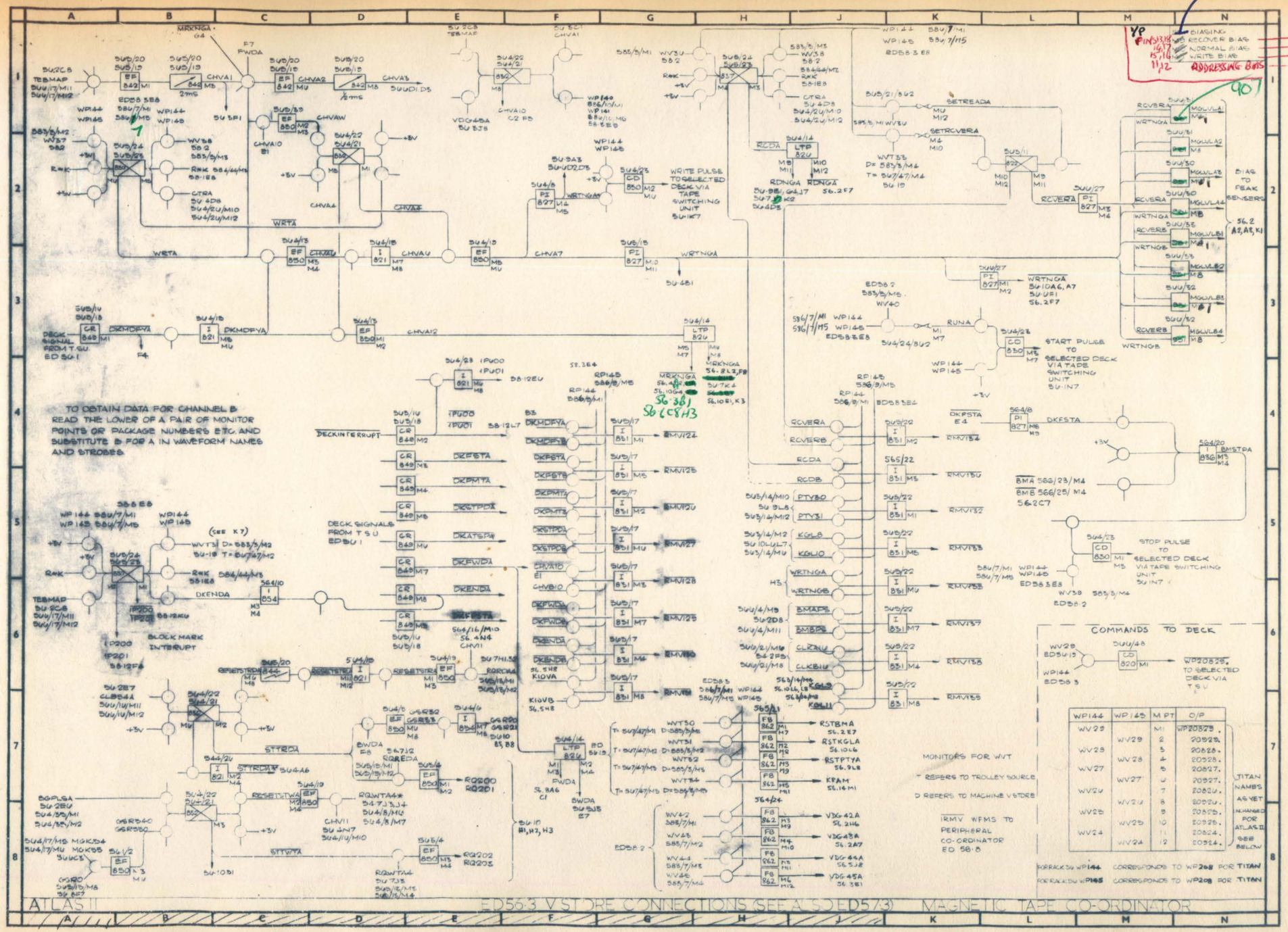
2 msec to decide whether to write. WRTA and WRTNGA set and deck current turned on, after ½ msec writing of the block is started.

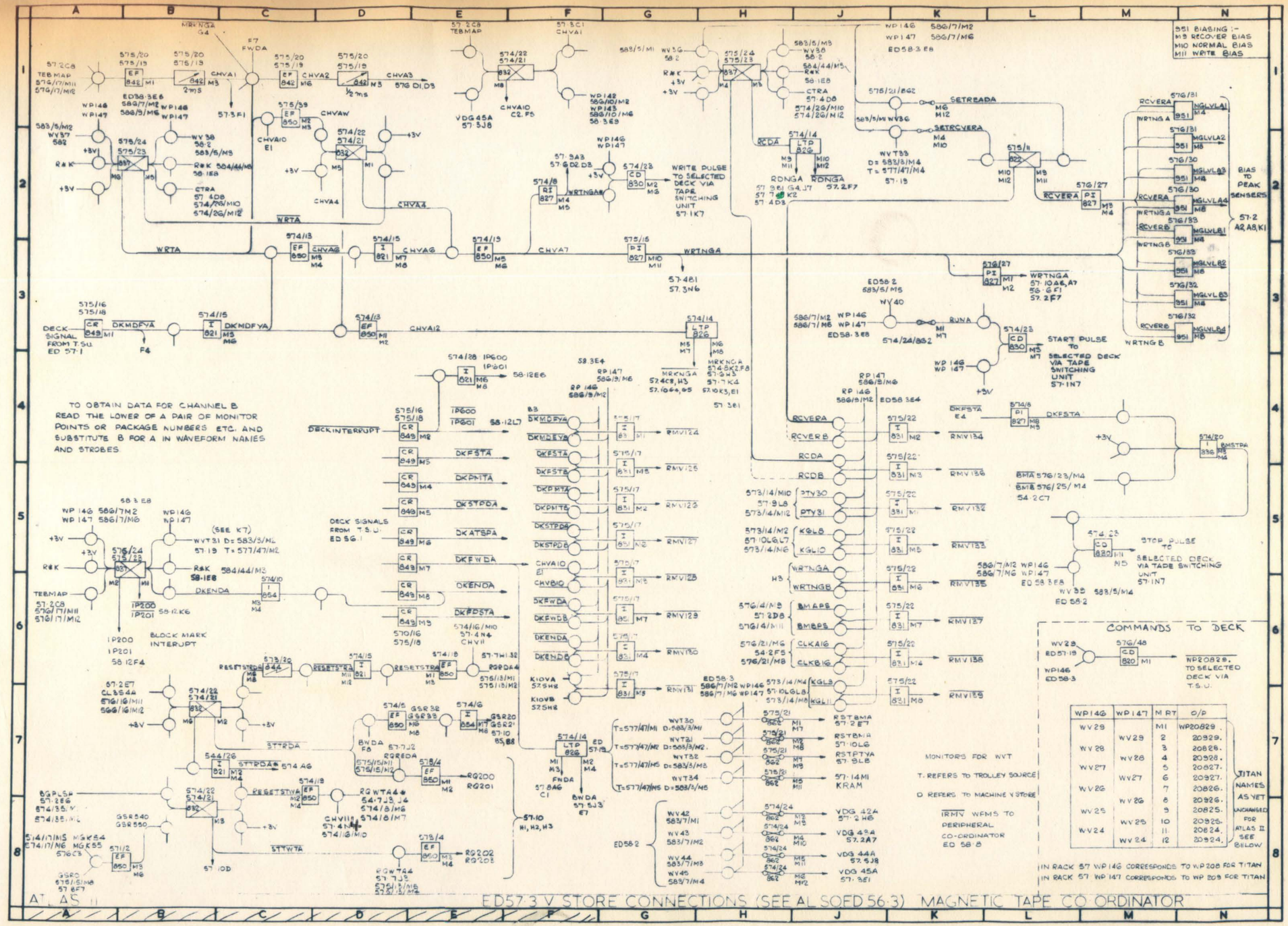
WRTNGA = CHVA4 + (WRTA . MODIFIED)

No output WAS / RAS (Checksum Register) → PSS is obtained when STA WTA STTRDA is set (ie during the transfer of 1st 2 stripes)

When writing a block first a non significant stripe is written, then clock, then data (this 1st stripe is not read.)

CHVA3 not required when addressing hence the inhibit on bwd. writing is removed.


TO OBTAIN DATA FOR CHANNEL B READ THE LOWER OF A PAIR OF MONITOR POINTS OR PACKAGE NUMBERS ETC. AND SUBSTITUTE B FOR A IN WAVEFORM NAMES AND STROBES.
DECK INTERRUPT
DECK SIGNALS FROM T.S.U. ED 5U:1
BLOCK MARK INTERUPT
COMMANDS TO DECK
WP20828 TO SELECTED DECK VIA T.S.U.
MONITORS FOR WVT
* REFERS TO TROLLEY SOURCE
D REFERS TO MACHINE V.S.TORE
IRMV WFMS TO PERIPHERAL CO-ORDINATOR ED 58:8
WP144 WP145 M PT O/P
WV29 MI WP20829.
WV29 2 20829.
WV28 3 20828.
WV28 4 20528.
WV27 5 20827.
WV27 6 20927.
WV26 7 20826.
WV26 8 20926.
WV25 9 20825.
WV25 10 20925.
WV24 11 20824.
WV24 12 20924.
TITAN NAMES AS YET UNCHANGED FOR ATLAS II SEE BELOW
FOR RACK 5U WP144 CORRESPONDS TO WP208 FOR TITAN
FOR RACK 5U WP145 CORRESPONDS TO WP208 FOR TITAN
ATLAS II
ED56:3 V.S.TORE CONNECTIONS (SEE ALSO ED57:3)
MAGNETIC TAPE CO-ORDINATOR



AT, AS II

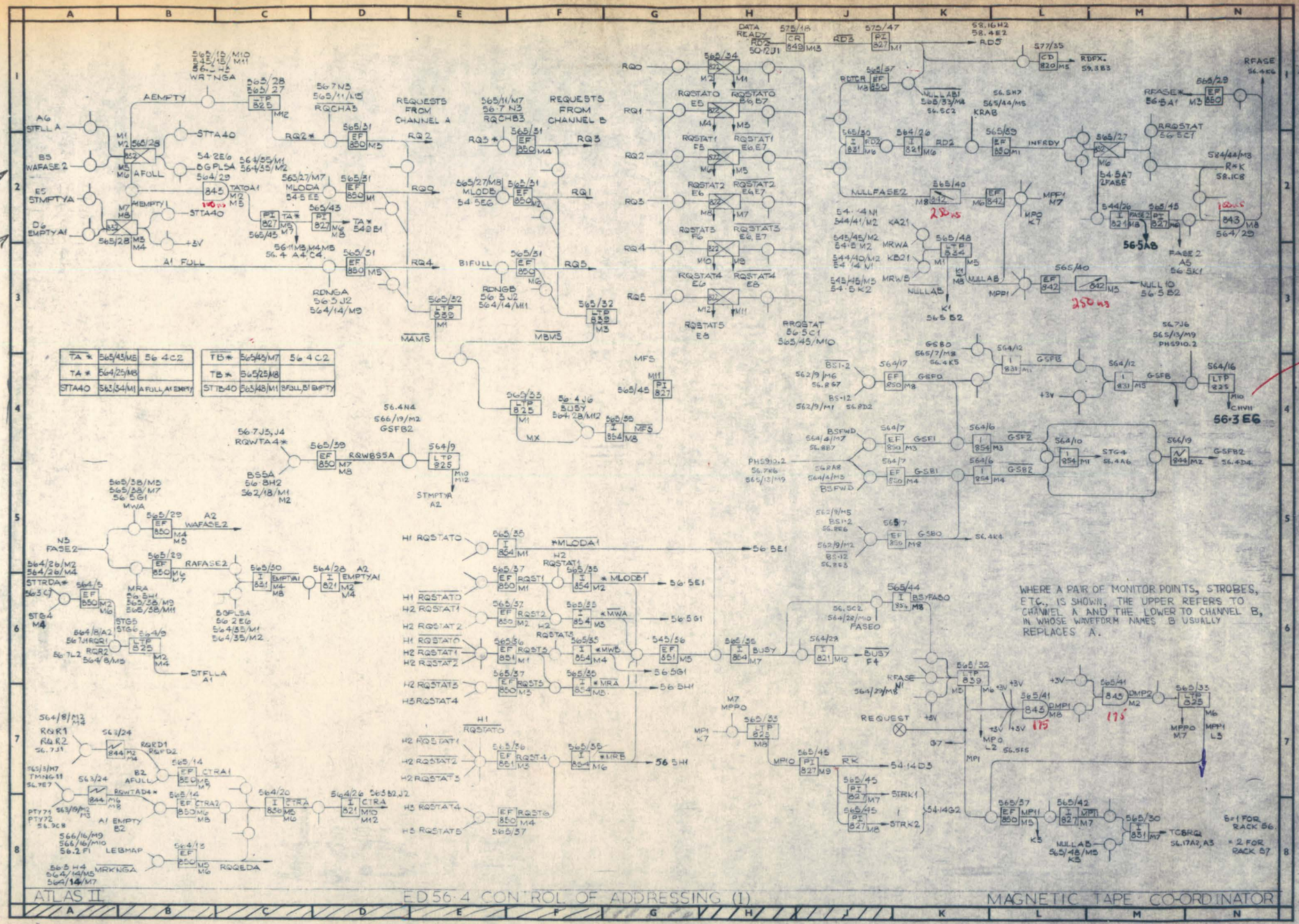
ED57-3 V STORE CONNECTIONS (SEE ALSO ED 56-3) MAGNETIC TAPE CO-ORDINATOR

The CTRA caused by WEBMAP is inhibited by MARKING

CHVII Resets STTRDA after zero stripes of Block Address in RAS, C.S. Register, or any 2 stripes read in either dim.

REQUEST LAMP lit when a { load codeword / write / or read } Request is being organized in Phase 0

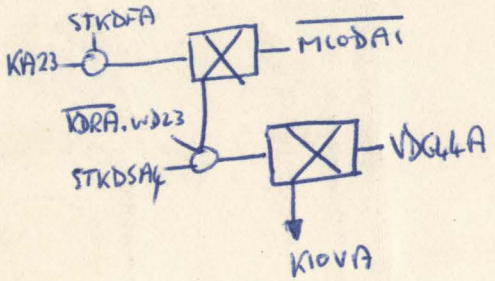
TCSRQ is the Request to the OVERALL PRIORITY LOGIC

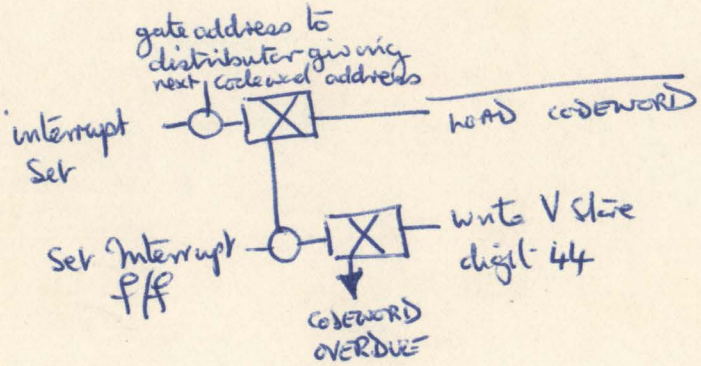

REQUESTS FROM CHANNEL A
REQUESTS FROM CHANNEL B
RQ0
RQ1
RQ2
RQ3
RQ4
RQ5
MAMS
MBMS
MFS
RQSTAT1 E6,E7
RQSTAT2 E6,E7
RQSTAT3 E6, E7
RQSTAT4 E6
RQSTAT5 E6
RQRQSTAT 56.5C1
AEMPTY
AFULL
BEMPTY
BFULL
A1 FULL
STTA40
RDNGA
RDNGB
WRTNGA
RQCHA3
RQCHB3
MLODA
MLODB
BUSY
MWA
MWB
MRA
RQWTA4*
RQWBS5A
GSFB2
STMPTYA
RQR1
RQR2
RQRD1
RQRD2
CTRA1
CTRA2
CTRA
RQWTAD4*
LEBMAP
MRKNGA
RQGEDA
DATA READY
RD2
RD3
RD5
RDFX.
RDRTR
NULLABI
NULLFASE2
INFRDY
RRQSTAT
RFASE*
RFASE
KRAB
MPP1
MPP0
NULLAB
NULL10
FASE2
KA21
KB21
MRWA
MRWB
K1
K7
250 ns
175
56.5A8
56.5K1
56.5B2
GSBO
GSFB
GSFO
GSFI
GSBI
GSF2
GSB2
GSB0
STG4
GSFB2
CHVII
56.3E6
2nd stage
BSFWD
BS1-2
BS1-12
PHS910.2
BUSYFASO
FASE0
REQUEST
RK
STRK1
STRK2
DMP1
DMP2
MPI
MPO
TCBRQ1
WHERE A PAIR OF MONITOR POINTS, STROBES, ETC., IS SHOWN, THE UPPER REFERS TO CHANNEL A AND THE LOWER TO CHANNEL B, IN WHOSE WAVEFORM NAMES B USUALLY REPLACES A.
8=1 FOR RACK 56
=2 FOR RACK 57
ATLAS II
ED56·4 CONTROL OF ADDRESSING (I)
MAGNETIC TAPE CO-ORDINATOR

WAIT DATA lit when ready to gate core store wds. to or from coordinator, or codeword to address register in "phase 1". The "phase 0" request having been dealt with.

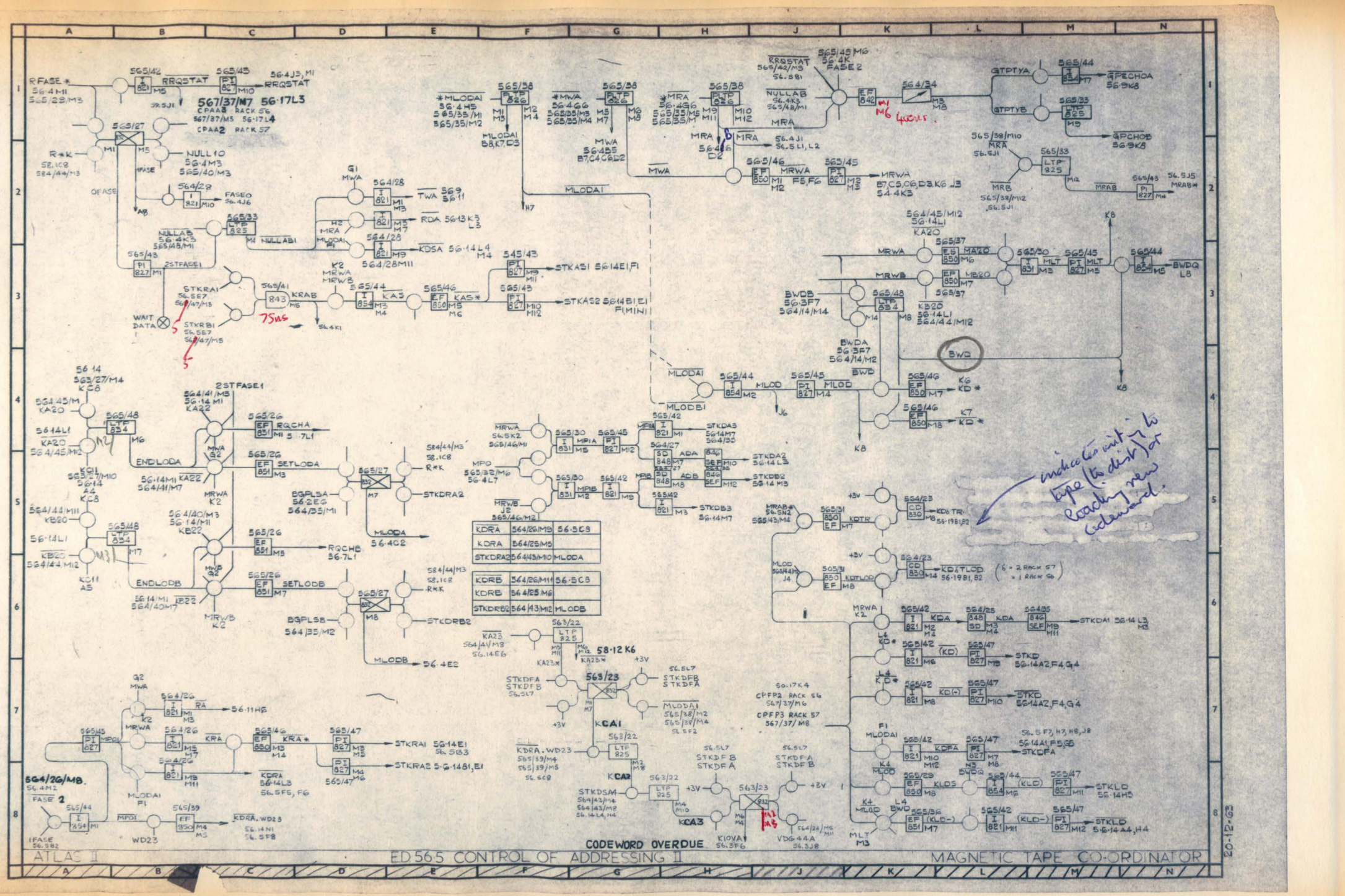
CPFP2 Starts co-ordinator request logic, MCCA having been sent to distributor.

CODEWORD OVERDUE





Note $\overline{KD*}$ are the inverse of KD*

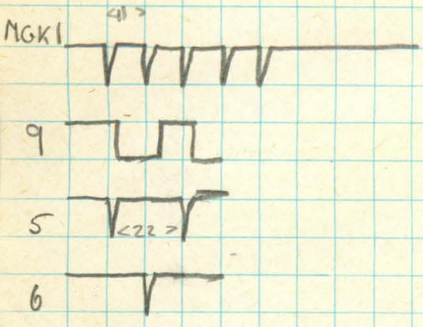

RFASE*
R*K
OFASE
NULL10
NULLAB
STKRA1
STKRB1
WAIT DATA
75ms
ENDLODA
ENDLODB
SETLODA
SETLODB
RQCHA
RQCHB
BGPLSA
BGPLSB
STKDRA2
STKDRB2
MLODA
MLODB
MLODA1
MLODB1
RRQSTAT
NULLAB
MRA
MRB
MRWA
MRWB
MWA
MPO
MPIA
MPIB
GTPTYA
GTPTYB
GPECHOA
GPECHOB
BWDA
BWDB
BWD
MLOD
MRAB*
KDTR
KDTLOD
KDRA
KDRB
KDRA.WD23
KDFA
KDFB
KLDS
KLD
STKDA1
STKDA2
STKDA3
STKDB2
STKDB3
STKD
STKDFA
STKDFB
STKLD
STKRA1
STKRA2
STKDSA1
KCA1
KCA2
KCA3
KDRA
KDRB
STKDRA2
STKDRB2
CODEWORD OVERDUE
ATLAS II
ED 565 CONTROL OF ADDRESSING II
MAGNETIC TAPE CO-ORDINATOR
20-12-63

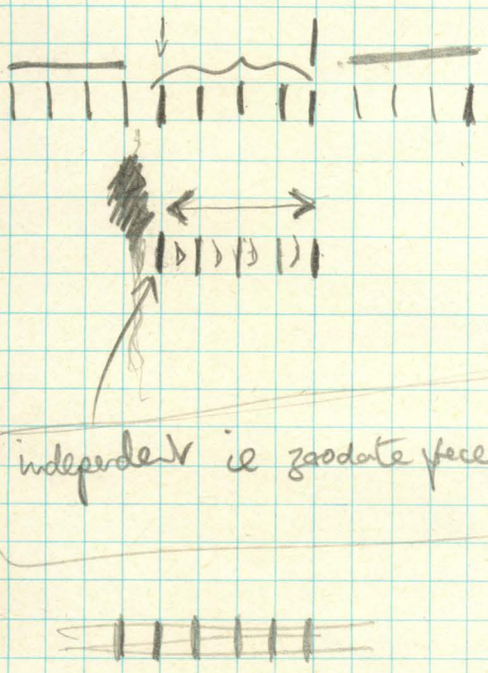
AEXT and AEXTK are an unused facility for an external device whose clock rate is different from the T.C., but which uses the T.C. channel for i/p & o/p.

WRITE REQUEST and WRITE STROBE TO DECK refer to different stripes.

[A nonsense stripe is written by the first write request but no clock, thus will not be read.]

To erase when about to address:- MGK12 and MARKING NOT SET thus no WRITE STROBE → deck or WRITE REQUEST
However write permit, marked present and write f/f set giving WRITING.

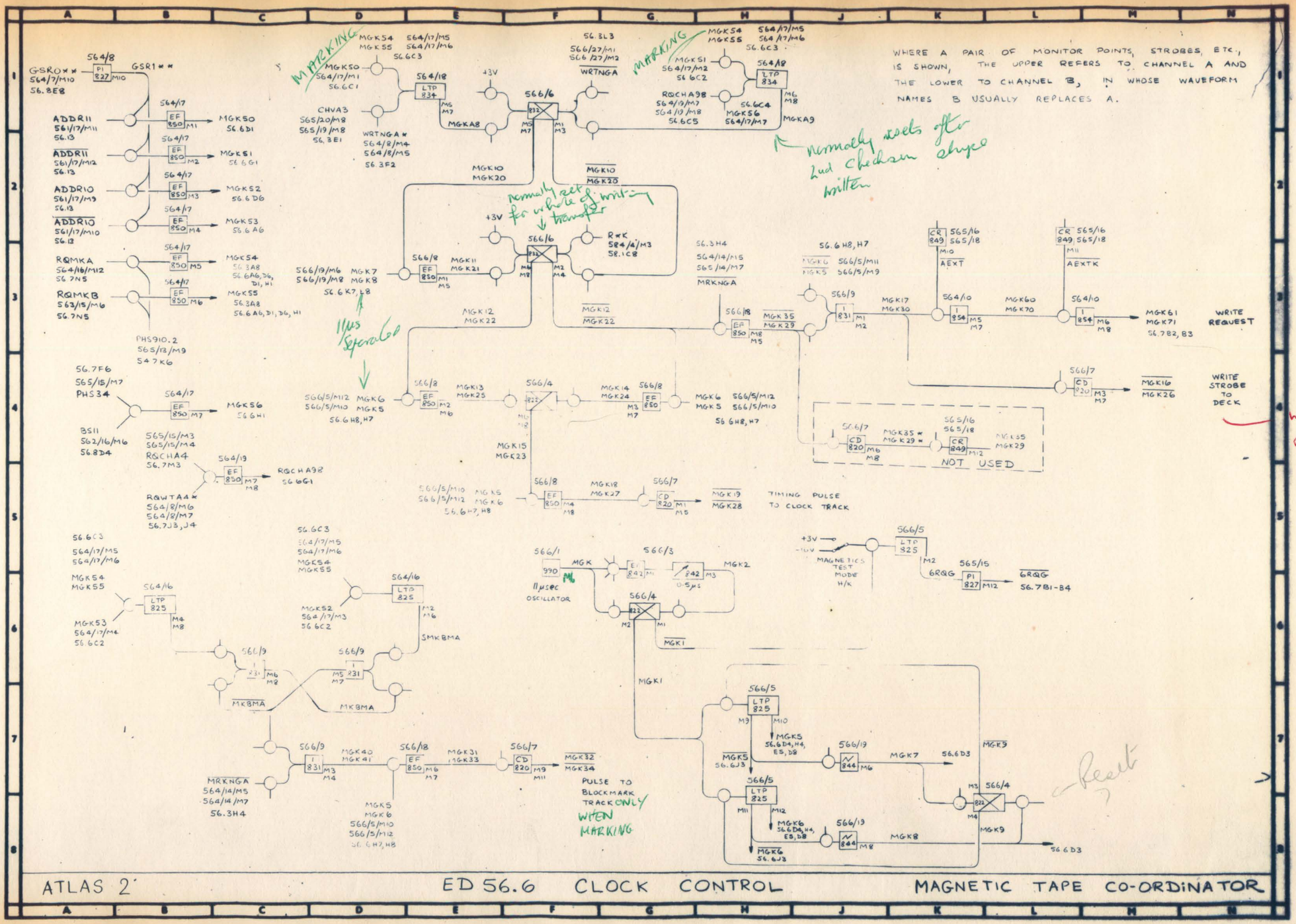




D10

du clock.

independent ie zoodate proceed it at 1st clock.



which records onto tape contents of WSA for previous request

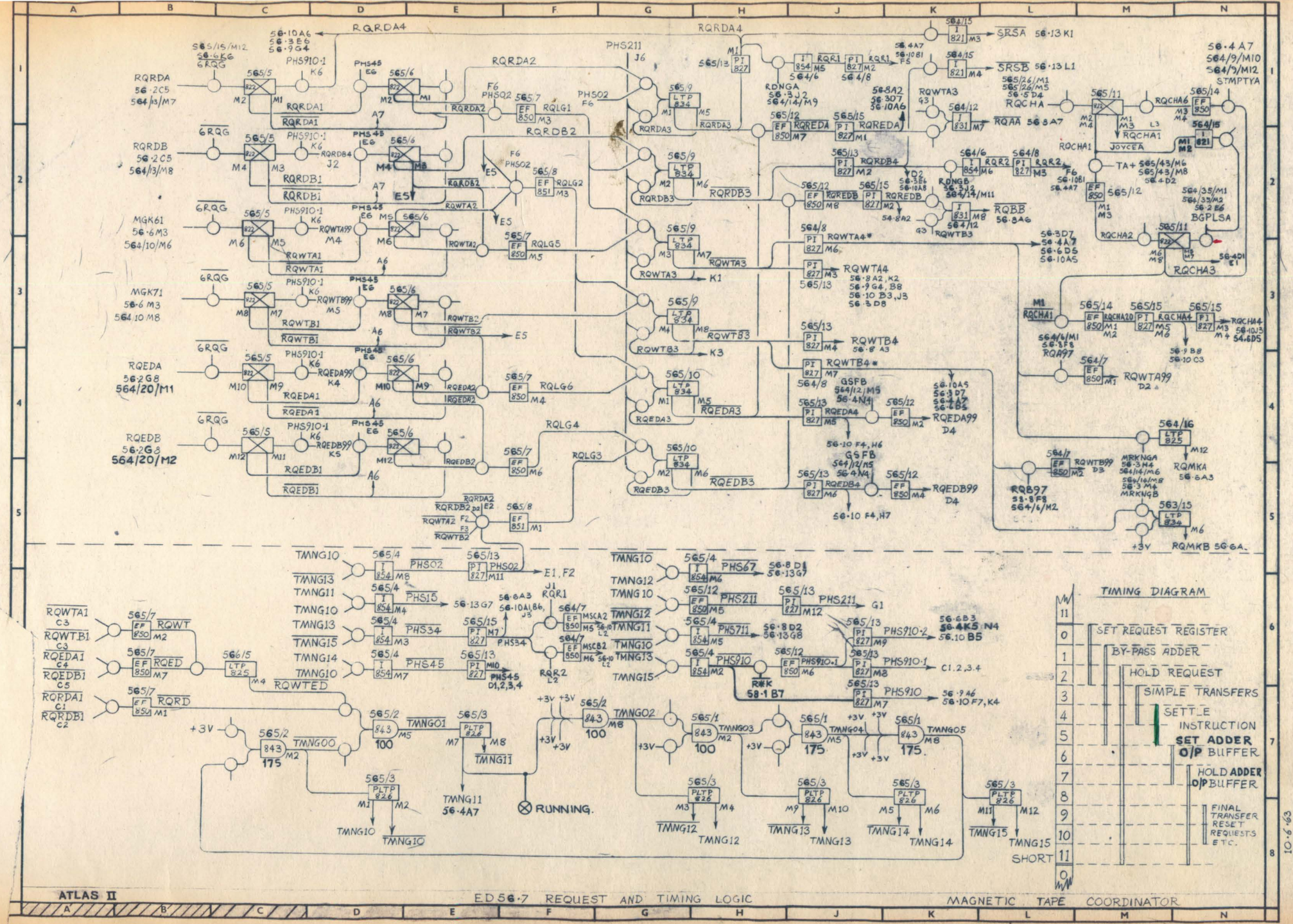
reset ?

RUNNING bit when the required read or write transfer or checksum comparison is being performed.

@ the end of the first timing clock cycle the stat is still set so it goes again.

SRSA strobes first stripes to IADD

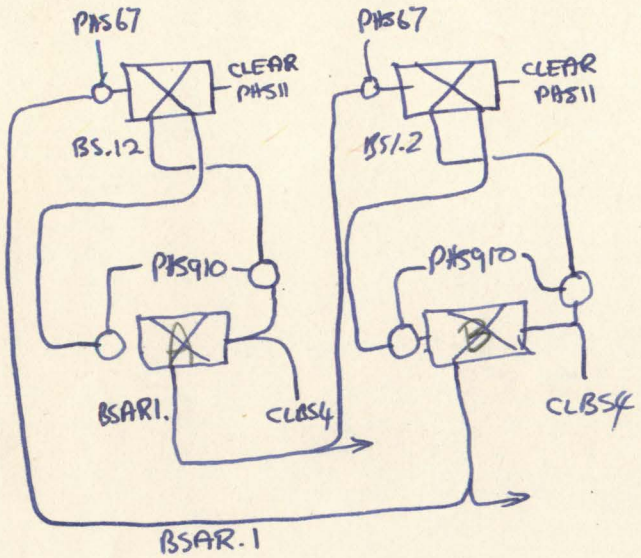
Each request takes 2 cycles of the clock to complete - during the first cycle only PHS45 is effective - the actual transfer occuring during the 2nd cycle. When requests QUE up, the clock cycles continuously and the requests overlap :- (PHS45 of the 2nd cycle of requestn is used for requestn+1.)


RQRDA4
RQRDA2
RQRDB2
RQRDA1
RQRDB1
RQWTA2
RQWTA1
RQWTB2
RQWTB1
RQEDA2
RQEDA1
RQEDB2
RQEDB1
RQLG1
RQLG2
RQLG5
RQLG6
RQLG4
RQLG3
RQRDA3
RQRDB3
RQWTA3
RQWTB3
RQEDA3
RQEDB3
RQWTA4
RQWTB4
RQEDA4
RQEDB4
RQEDA99
RQEDB99
RQWTA99
RQWTB99
RQAA
RQBB
RQB97
RQCHA3
RQMKA
RQMKB
SRSA
SRSB
RQWTA
RQWTB
RQED
RQRD
RQWTED
TMNG00
TMNG01
TMNG02
TMNG03
TMNG04
TMNG05
TMNG10
TMNG11
TMNG12
TMNG13
TMNG14
TMNG15
RUNNING.
SHORT
TIMING DIAGRAM
SET REQUEST REGISTER
BY-PASS ADDER
HOLD REQUEST
SIMPLE TRANSFERS
SETT_E INSTRUCTION
SET ADDER O/P BUFFER
HOLD ADDER O/P BUFFER
FINAL TRANSFER RESET REQUESTS ETC.
ATLAS II
ED56·7 REQUEST AND TIMING LOGIC
MAGNETIC TAPE COORDINATOR
10·6·63

FIRST DIGIT *

DIGITS FWD	DIGITS BWD	BSAR1.	BSAR.1	BS1.8 FWD	BS1.8 BWD	POINTER FWD	POINTER BWD	BS02 F	BS02 B	BS13 F	BS13 B	GSR0 F	GSR0 B	GSR1 F	GSR1 B	STG4 F	STG4 B
*47-36	35-24	0	0	0	1	BS00	10	1	0	0	1	1	0	0	1	0	0
35-24	47-36	1	0	1	0	10	00	0	1	1	0	0	1	1	0	0	1
23-12	11-0*	1	1	1	0	11	01	1	0	0	1	1	0	0	1	0	0
11-0	23-12	0	1	0	1	01	11	0	1	1	0	0	1	1	0	1	0

Base 4 is a 2 digit register where O/P is fed back through a buffer to the I/P.



BUFFER

COONTER.

Contents of relavent counter changed @ PHS 9/0 of any stripe

Counter + Buffer cctry unaffected by disn

Write / Read / Either-disn.

Base 4 counters always reset to $\bar{A}\,\bar{B}$ @ start

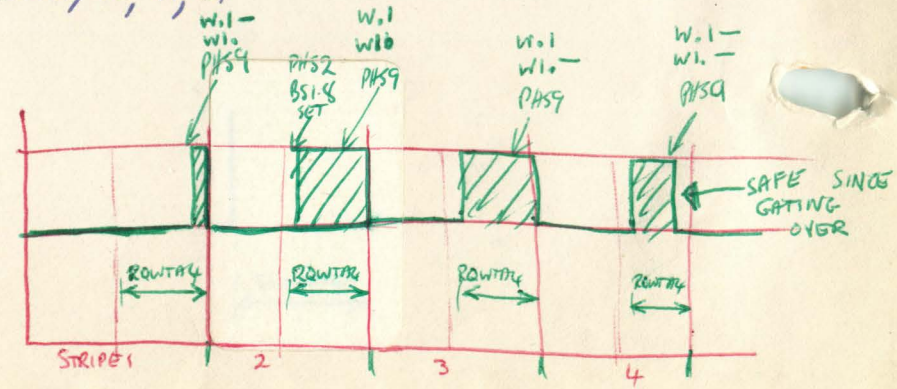
Thus:—

Stripe	BS1.2	BS.12	gives
1	0	0	$A\,\bar{B}$
2	1	0	$A\,B$
3	1	1	$\bar{A}\,B$
4	0	1	$\bar{A}\,\bar{B}$

Both phases of BS.18 and BS1.8 combine to give the "jointers" BS.00, 10, 11, 01

Counters return to BS00 after every stripe

$BS00 = (\overline{BSAW1_0} + \overline{RQWTAY4}) \cdot (\overline{BSAW_01} + \overline{RQWTAY4})$



$$RQAA = RQREDA + RQWTA3$$

$$BSFWD = (FWDA \cdot \overline{RQBB}) + (FWDB \cdot \overline{RQAA})$$

$$\overline{GSR12} = (BS1.2 \cdot \overline{BSFWD}) + (\overline{BS1.2} \cdot \overline{BSFWD})$$

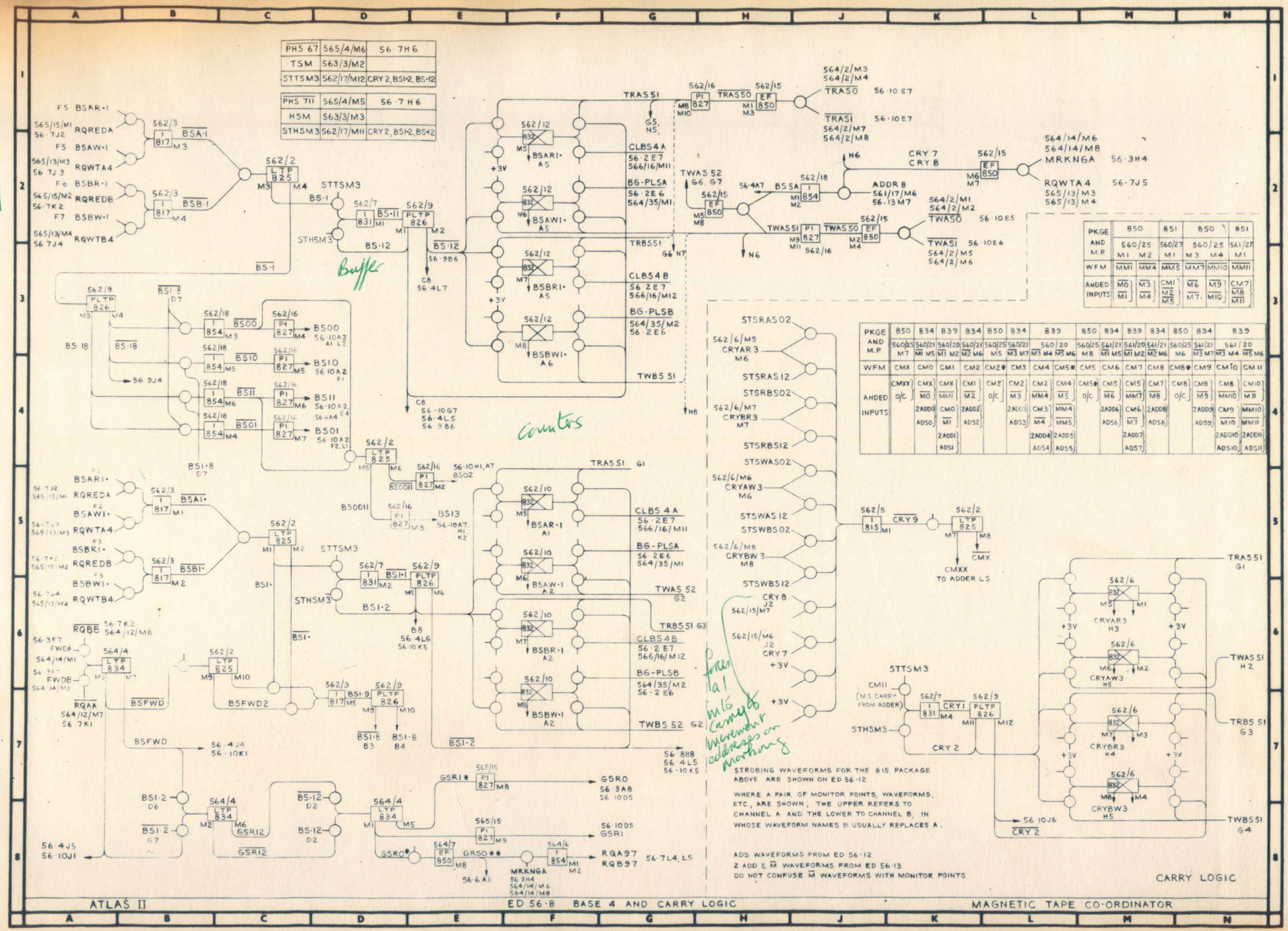
$$GSR12 = (\overline{BS1.2} + \overline{BSFWD}) \cdot (BS1.2 + BSFWD)$$

$$\overline{RQA97} = (\overline{MRKNGA}) \cdot (\overline{GSRD*})$$

$$\overline{RQA97} = (MRKNGA) \cdot [(\overline{BS.12} \cdot GSR12) + (BS.12 \cdot \overline{GSR12})]$$

$$= (\quad) \cdot [(BSFWD \cdot [(BS1.2 \cdot \overline{BS.12}) + (\overline{BS1.2} \cdot BS.12)]) + [(\overline{BSFWD} \cdot [\overline{BS1.2} \cdot \overline{BS.12}) + (\overline{BS1.2} \cdot BS.12)]]$$

Stripe2 Stripe3 Stripe1 Stripe4



ATLAS II — ED 56·8 BASE 4 AND CARRY LOGIC — MAGNETIC TAPE CO-ORDINATOR

READ PARITY CLPRTYA clears PTYA1,2 in PH534 of the first stripe, depending on diam.

When stripe applied to adder also to parity tree, where its parity appears as SMP, which is gated to PTY2 at PH567

[PTY2 is an extension of the adder o/p buffer]

At PH5910 PTY2 → PTYA1 or 2 depending on Base 4 :- First or Second stripe → PTYA1
3rd or 4th " → PTYA2

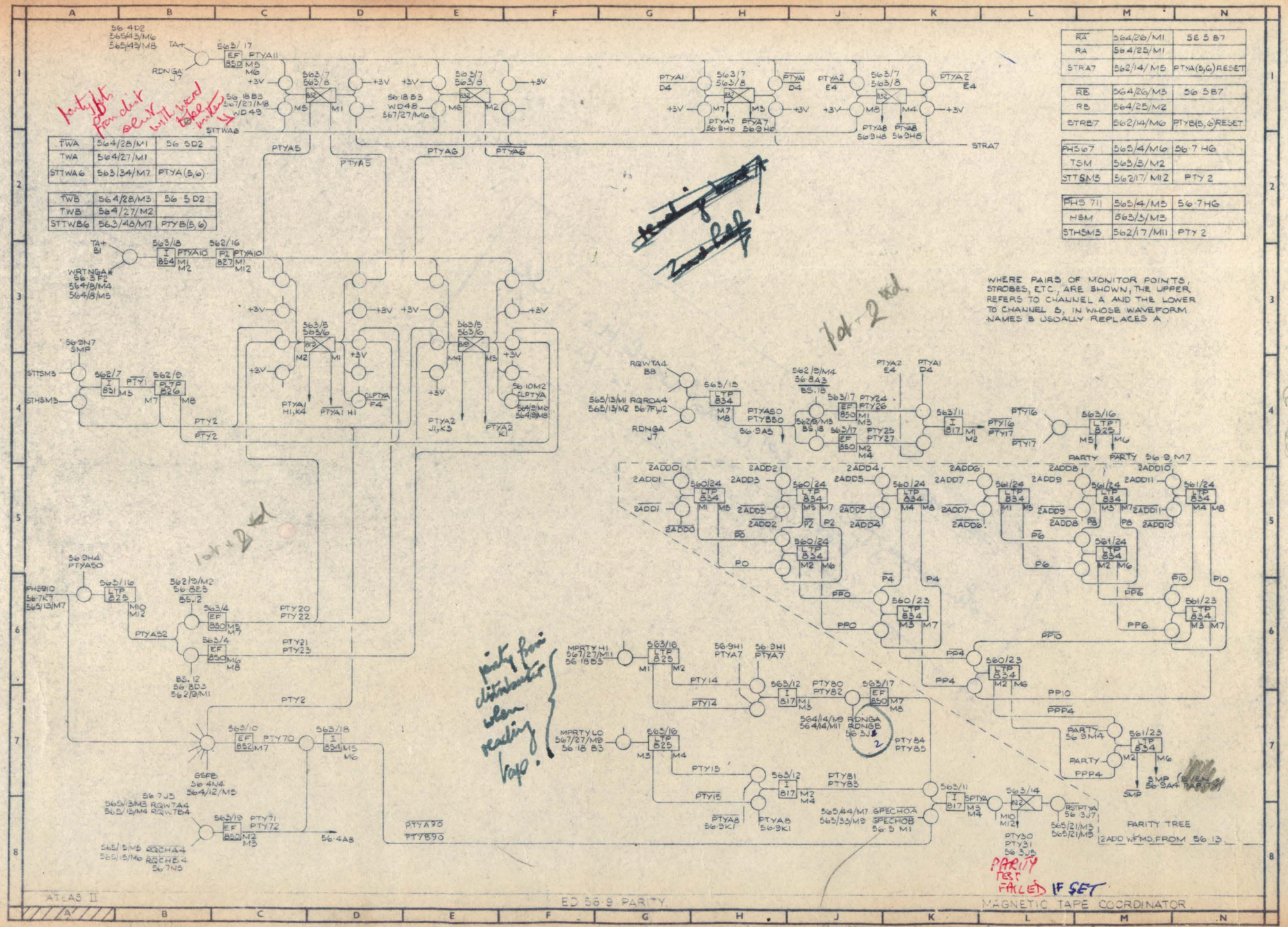
[The o/p of PTYA1,2 is gated into the parity tree so that the parity of the 2nd and 4th stripes takes account of the 1st and 3rd]

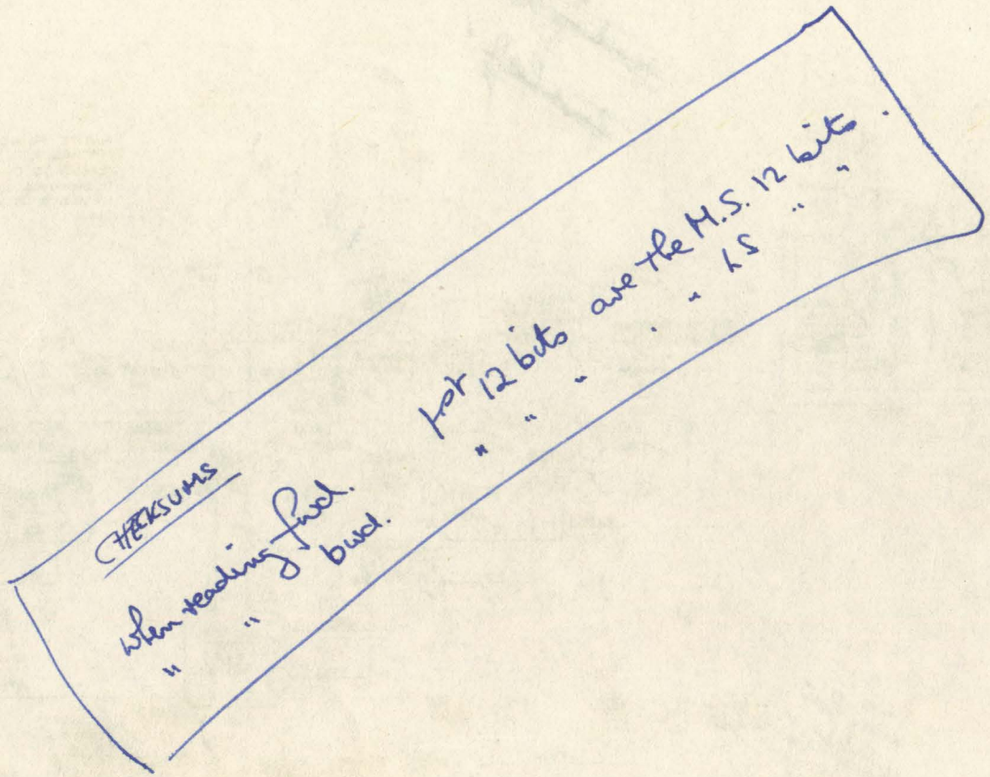
When the word is transferred A→1A, both PTYA1 and PTYA2 ⟶ PTYA7 and PTYA8 which thus contain the ½ word parities.

Word then transfered 1A → Distributer where the parity of each ½ word is generated and returned to the coord. as MPRTYLO and HI. This is compared with PTYA 7 & 8, Non Equivalence setting the V-store digit to error.

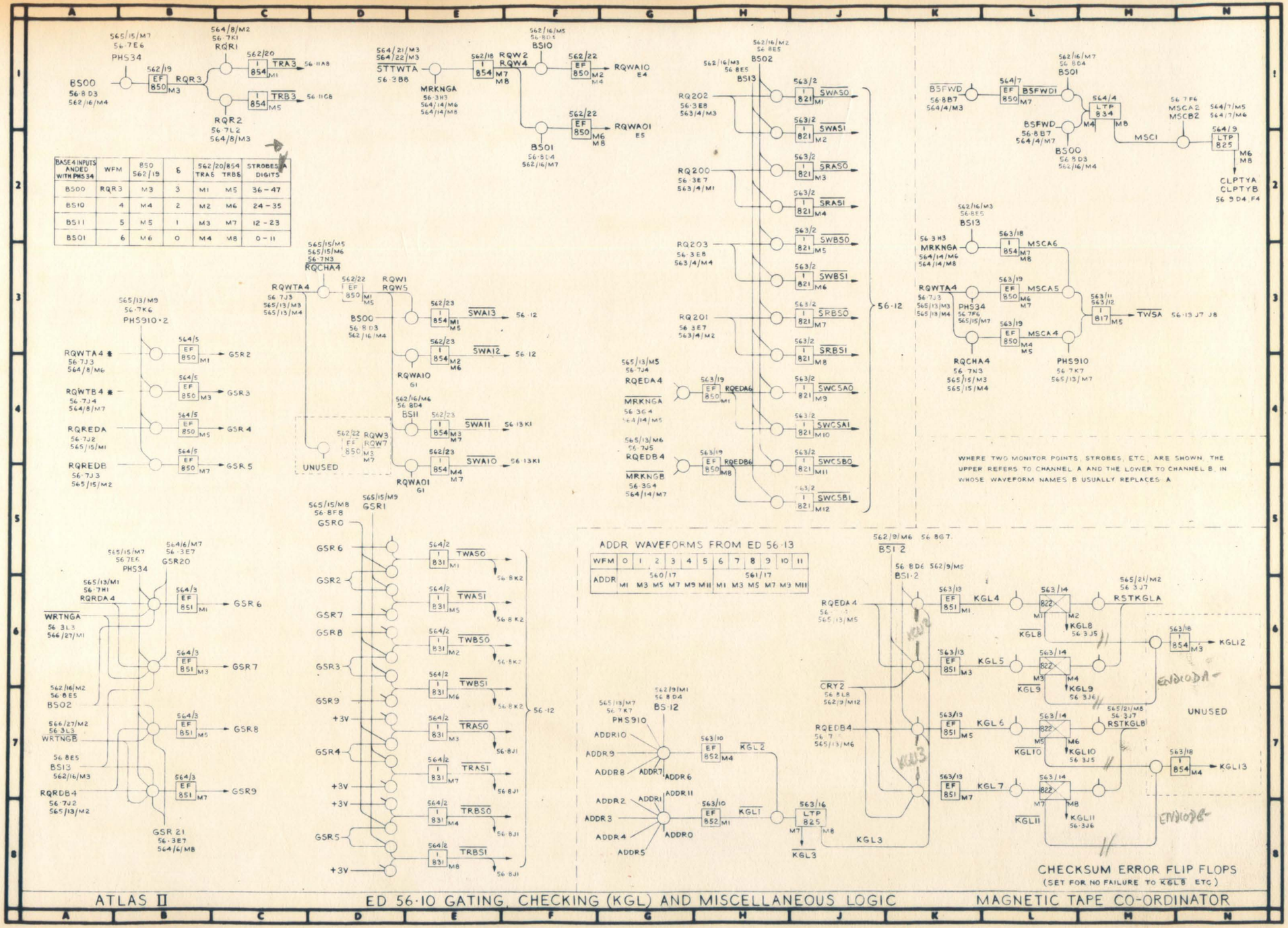
WRITE PARITY

When buffer A cleared ready for incoming word, PTYA5 and 6 are cleared.
When word → A The distributer generated parity bits WMG 48,49 → PTYA5, 6
" " → 1A The parity bits → PTYA1,2
The word in stripes is applied to the parity tree, and the appropriate PTYA1,2 is gated in as well.
Considering the first 2 stripes:-
After the transfer of the second stripe PTYA1 contains the 25 bit parity of the first ½ word. (ie including its own parity bit, ∴ is zero for no error. This parity is also formed in the latch register PTY2. @ PH5910 of the second stripe PTY2 is gated with GSR1 (which says 2nd stripe being transfered) and with RQWTA4. If PTY2 is a 1, V store set to failure.
A similar process occurs for the 2nd pair of stripes.


TWA | 564/28/M1 | 56·5D2
TWA | 564/27/M1
STTWA6 | 563/34/M7 | PTYA(5,6)
TWB | 564/28/M3 | 56·5D2
TWB | 564/27/M2
STTWB6 | 563/48/M7 | PTYB(5,6)
RA | 564/26/M1 | 56·5B7
RA | 564/25/M1
STRA7 | 562/14/M5 | PTYA(5,6) RESET
RB | 564/26/M3 | 56·5B7
RB | 564/25/M2
STRB7 | 562/14/M6 | PTYB(5,6) RESET
PHS67 | 565/4/M6 | 56·7HG
TSM | 563/3/M2
STTSM3 | 562/17/M12 | PTY 2
PHS 711 | 565/4/M5 | 56·7HG
HSM | 563/3/M3
STHSM3 | 562/17/M11 | PTY 2
WHERE PAIRS OF MONITOR POINTS, STROBES, ETC., ARE SHOWN, THE UPPER REFERS TO CHANNEL A AND THE LOWER TO CHANNEL B, IN WHOSE WAVEFORM NAMES B USUALLY REPLACES A
PARITY TREE
2ADD WFMS FROM 56·13
PARITY TEST FAILED IF SET
ATLAS II
ED 56·9 PARITY
MAGNETIC TAPE COORDINATOR

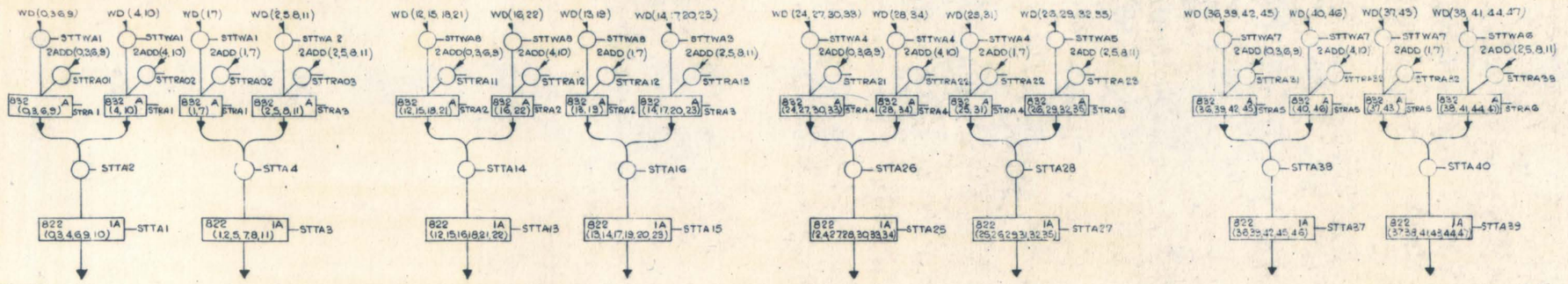


0 X
1 X
2 X
3 X
4 X
5 X



BASE 4 INPUTS ANDED WITH PHS 34	WFM	BS0 562/19	δ	562/20/854 TRA6	TRB6	STROBES A DIGITS
BS00	RQR3	M3	3	M1	M5	36 – 47
BS10	4	M4	2	M2	M6	24 – 35
BS11	5	M5	1	M3	M7	12 – 23
BS01	6	M6	0	M4	M8	0 – 11

WD WAVEFORMS FROM E.D. 56.1884



2 ADD WAVEFORMS FROM 56-18
1A AND 1B WAVEFORMS → 56-18 A1 AND 56-12

CHANNEL A

WFM	PKGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
A	832	560/40												561/40												562/40												563/40											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8		
		560/38												561/38												562/38												563/38											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8		
		560/36												561/36												562/36												563/36											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3'17			M4M8		
		560/39												561/39												562/39												563/39											
1A	822	M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12	
		560/37												561/37												562/37												563/37											
		M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12			

CHANNEL B : (REPLACE A BY B IN STROBE NAMES)

WFM	PKGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
B	832	560/46												561/46												562/46												563/46											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8		
		560/44												561/44												562/44												563/44											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8		
		560/42												561/42												562/42												563/42											
		M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8			M1M5			M2M6			M3M7			M4M8		
		560/45												561/45												562/45												563/45											
1B	822	M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12		M1M2			M3M4	M5M6		M7M8			M9M10	M11M12	
		560/43												561/43												562/43												563/43											
		M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12				M1M2	M3M4		M5M6		M7M8	M9M10		M11M12			

$\overline{TA*}$	563/43/M5	56-4C2	
TA	564/25/M7	A → 1A	
STTA 1	560/34/M4		1A(0,3,4,6,9,10)
2	M3		
3	M2		1A(1,2,5,7,8,11)
4	M1		
STTA 13	561/34/M4		1A(12,15,16,18,21,22)
14	M3		
15	M2		1A(13,14,17,19,20,23)
16	M1		
STTA 25	562/34/M4		1A(24,27,28,30,33,34)
26	M3		
27	M2		1A(25,26,29,31,32,35)
28	M1		
STTA 37	563/34/M4		1A(36,39,40,42,45,46)
38	M3		
39	M2		1A(37,38,41,43,44,47)
40	M1		

$\overline{TB*}$	565/43/M7	56-4C2	
TB	565/25/M7	B → 1B	
STTB 1	560/48/M4		1B(0,3,4,6,9,10)
2	M3		
3	M2		1B(1,2,5,7,8,11)
4	M1		
STTB 13	561/48/M4		B(12,15,16,18,21,22)
14	M3		
15	M2		B(13,14,17,19,20,23)
16	M1		
STTB 25	562/48/M4		1B(24,27,28,30,33,34)
26	M3		
27	M2		1B(25,26,29,31,32,35)
28	M1		
STTB 37	563/48/M4		B(36,39,40,42,45,46)
38	M3		
39	M2		B(37,38,41,43,44,47)
40	M1		

$\overline{TRAO}$	562/20/M4	56-1082	
TRAO	562/21/M4	2ADD(0-11) → WORD I/P BUFFER A	
STTRAO 1	560/34/M6	A	(0,3,6,9)
2	560/34/M6	A	(1,4,7,10)
3	562/27/M5	A	(2,5,8,11)
$\overline{TRA1}$	562/20/M3	56-1082	
TRA1	562/21/M3	2ADD(0-11) → WORD I/P BUFFER A	
STTRA1 1	561/34/M6	A	(12,15,18,21)
2	561/34/M5	A	(13,16,19,22)
3	562/27/M6	A	(14,17,20,23)
$\overline{TRA2}$	562/20/M2	56-1082	
TRA2	562/21/M2	2ADD(0-11) → WORD I/P BUFFER A	
STTRA2 1	562/34/M6	A	(24,27,30,33)
2	562/34/M5	A	(25,28,31,34)
3	562/27/M7	A	(26,29,32,35)
$\overline{TRA3}$	562/20/M1	56-1082	
TRA3	562/21/M1	2ADD(0-11) → WORD I/P BUFFER A	
STTRA3 1	563/34/M6	A	(36,39,42,45)
2	563/34/M5	A	(37,40,43,46)
3	562/27/M8	A	(38,41,44,47)

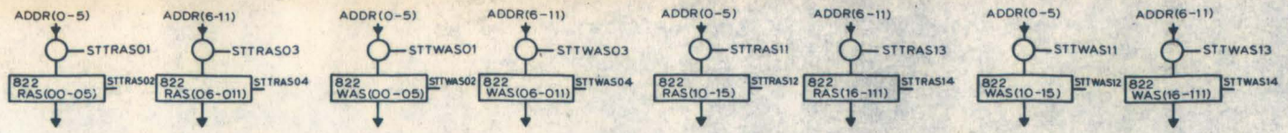
$\overline{TRBO}$	562/20/M8	56-1082	
TRBO	562/21/M8	2ADD(0-11) → WORD I/P BUFFER B	
STTRBO 1	560/48/M6	B	(0,3,6,9)
2	560/48/M5	B	(1,4,7,10)
3	562/27/M9	B	(2,5,8,11)
$\overline{TRB1}$	562/20/M7	56-1082	
TRB1	562/21/M7	2ADD(0-11) → WORD I/P BUFFER B	
STTRB1 1	561/48/M6	B	(12,15,18,21)
2	561/48/M5	B	(13,16,19,22)
3	562/27/M10	B	(14,17,20,23)
$\overline{TRB2}$	562/20/M6	56-1082	
TRB2	562/21/M6	2ADD(0-11) → WORD I/P BUFFER B	
STTRB2 1	562/48/M6	B	(24,27,30,33)
2	562/48/M5	B	(25,28,31,34)
3	562/27/M11	B	(26,29,32,35)
$\overline{TRB3}$	562/20/M5	56-1082	
TRB3	562/21/M5	2ADD(0-11) → WORD I/P BUFFER B	
STTRB3 1	563/48/M6	B	(36,39,42,45)
2	563/48/M5	B	(37,40,43,46)
3	562/27/M12	B	(38,41,44,47)

$\overline{TWA}$	564/28/M1	56-5D2	
TWA	564/27/M1	WD → WORD I/P BUFFER A	
STTWA 1	560/34/M8	A	(0,3,4,6,7,9,10)
2	560/34/M7	A	(2,5,8,11)
3	561/34/M7	A	(14,17,20,23)
4	562/34/M8	A	(24,25,27,28,30,31,33,34)
5	562/34/M7	A	(26,29,32,35)
6	563/34/M7	A	(38,41,44,47)
7	563/34/M8	A	(36,37,39,40,42,43,45,46)
8	561/34/M8	A	(12,13,15,16,18,19,21,22)

$\overline{TWB}$	564/28/M3	56-5D2	
TWB	564/27/M2	WD → WORD I/P BUFFER B	
STTWB 1	560/48/M8	B	(0,1,3,4,6,7,9,10)
2	560/48/M7	B	(2,5,8,11)
3	561/48/M7	B	(14,17,20,23)
4	562/48/M8	B	(24,25,27,28,30,31,33,34)
5	562/48/M7	B	(26,29,32,35)
6	563/48/M7	B	(38,41,44,47)
7	563/48/M8	B	(36,37,39,40,42,43,45,46)
8	561/48/M8	B	(12,13,15,16,18,19,21,22)

$\overline{RA}$	564/26/M1	56-587	
RA	564/25/M1	WORD I/P BUFFER A RESET	
STRA 1	560/34/M9	A	(0,1,3,4,6,7,9,10)
2	561/34/M9	A	(12,13,15,16,18,19,21,22)
3	562/27/M1	A	(2,5,8,11,14,17,20,23)
4	562/34/M9	A	(24,25,27,28,30,31,33,34)
5	563/34/M9	A	(36,37,39,40,42,43,45,46)
6	562/27/M2	A	(26,29,32,35,38,41,44,47)

$\overline{RB}$	564/26/M3	56-587	
RB	564/25/M2	WORD I/P BUFFER B RESET	
STRB 1	560/48/M9	B	(0,1,3,4,6,7,9,10)
2	561/48/M9	B	(12,13,15,16,18,19,21,22)
3	562/27/M3	B	(2,5,8,11,14,17,20,23)
4	562/48/M9	B	(24,25,27,28,30,31,33,34)
5	563/48/M9	B	(36,37,39,40,42,43,45,46)
6	562/27/M6	B	(26,29,32,35,38,41,44,47)



ADDR WAVEFORMS FROM 54·13
RAS AND RBS WAVEFORMS → 54·13 G4

CHECKSUM REGISTERS.

WFM.	PKGE.	00	01	02	03	04	05	06	07	08	09	010	011
RAS	822	540/6						541/6					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12
WAS	822	540/8						541/8					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

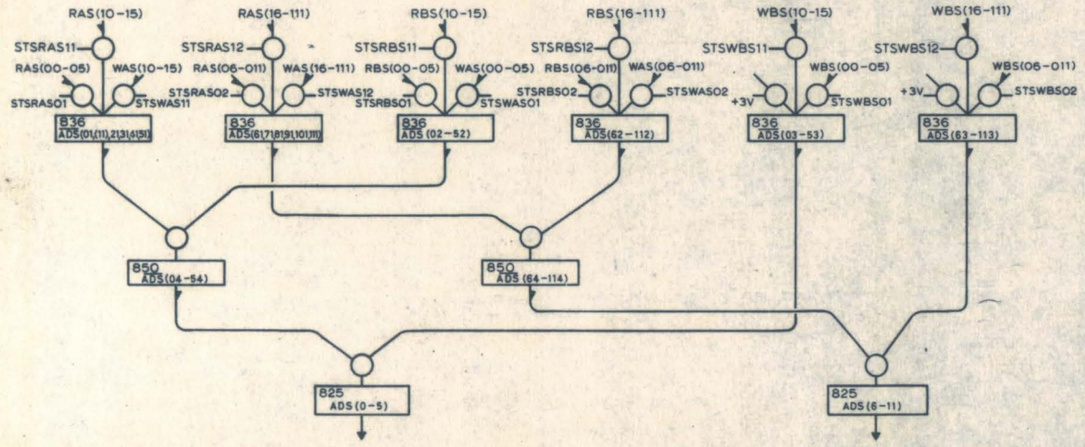
WFM.	PKGE.	10	11	12	13	14	15	16	17	18	19	110	111
RAS	822	540/7						541/7					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12
WAS	822	540/9						541/9					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

WFM.	PKGE.	00	01	02	03	04	05	06	07	08	09	010	011
RBS	822	540/10						541/10					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12
WBS	822	540/12						541/12					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

BASE 4 COUNT EVEN (i.e. BS02 present)

WFM.	PKGE.	10	11	12	13	14	15	16	17	18	19	110	111
RBS	822	540/11						541/11					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12
WBS	822	540/13						541/13					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

BASE 4 ODD



TWAS0	544/2/M1	54·10D5	
TWAS0	544/1/M1		
STTWAS01	542/8/M5	WAS(00-05)	
2	542/8/M6		
3	542/8/M7	WAS(06-011)	
4	542/8/M8		
TWAS1	544/2/M5	54·10D6	
TWAS1	544/1/M2		
STTWAS11	542/8/M1	WAS(10-15)	
2	542/8/M2		
3	542/8/M3	WAS(16-111)	
4	542/8/M4		
TRAS0	544/2/M3	54·10D7	
TRAS0	544/1/M5		
STTRAS01	542/4/M1	RAS(00-05)	
2	542/4/M2		
3	542/4/M3	RAS(06-011)	
4	542/4/M4		
TRAS1	544/2/M7	54·10D7	
TRAS1	544/1/M6		
STTRAS11	542/8/M9	RAS(10-15)	
2	542/8/M10		
3	542/8/M11	RAS(16-111)	
4	542/8/M12		

TWBS0	544/2/M2	54·10D6	
TWBS0	544/1/M3		
STTWBS01	542/11/M1	WBS(00-05)	
2	542/11/M2		
3	542/11/M3	WBS(06-011)	
4	542/11/M4		
TWBS1	544/2/M6	54·10D6	
TWBS1	544/1/M4		
STTWBS11	542/14/M1	WBS(10-15)	
2	542/14/M2		
3	542/14/M3	WBS(16-111)	
4	542/14/M4		
TRBS0	544/2/M4	54·10D8	
TRBS0	544/1/M7		
STTRBS01	542/11/M9	RBS(00-05)	
2	542/11/M10		
3	542/11/M11	RBS(06-011)	
4	542/11/M12		
TRBS1	544/2/M8	54·10D8	
TRBS1	544/1/M8		
STTRBS11	542/11/M5	RBS(10-15)	
2	542/11/M6		
3	542/11/M7	RBS(16-111)	
4	542/11/M8		

SWAS0	543/2/M1	54·10H1	
SWAS0	543/1/M1		
STSWAS01	542/4/M7	ADS(02-52)	
2	542/4/M8	ADS(62-112)	
SWAS1	543/2/M2	54·10H2	
SWAS1	543/1/M2		
STSWAS11	542/4/M5	ADS(01-51)	
2	542/4/M6	ADS(61-111)	
SRAS0	543/2/M3	54·10H2	
SRAS0	543/1/M3		
STSRAS01	542/4/M9	ADS(01-51)	
2	542/4/M10	ADS(61-111)	
SRAS1	543/2/M4	54·10H2	
SRAS1	543/1/M4		
STSRAS11	542/4/M11	ADS(01-51)	
2	542/4/M12	ADS(61-111)	

SWBS0	543/2/M5	54·10H3	
SWBS0	543/1/M5		
STSWBS01	542/1/M5	ADS(03-53)	
2	542/1/M6	ADS(63-113)	
SWBS1	543/2/M6	54·10H3	
SWBS1	543/1/M6		
STSWBS11	542/1/M7	ADS(03-53)	
2	542/1/M8	ADS(63-113)	
SRBS0	543/2/M7	54·10H3	
SRBS0	543/1/M7		
STSRBS01	542/1/M1	ADS(02-52)	
2	542/1/M2	ADS(62-112)	
SRBS1	543/2/M8	54·10H3	
SRBS1	543/1/M8		
STSRBS11	542/1/M3	ADS(02-52)	
2	542/1/M4	ADS(62-112)	

SWCSA0	543/2/M9	54·10H4	
SWCSA0	543/3/M5		
STSWCSA01	542/48/M12	1ADD(03-113)	
2	542/34/M12		
SWCSA1	543/2/M10	54·10H4	
SWCSA1	543/3/M6		
STSWCSA11	540/31/M8	1ADD(05-115)	
2	540/31/M9		

SWCSB0	543/2/M11	54·10H5	
SWCSB0	543/3/M7		
STSWCSB01	543/48/M12	1ADD(04-114)	
2	543/34/M12		
SWCSB1	543/2/M12	54·10H5	
SWCSB1	543/3/M8		
STSWCSB11	540/31/M10	1ADD(05-115)	
2	540/31/M11		

WFM.	PKGE.	01	(11)	21	31	41	51	61	71	81	91	101	111
ADS	836	540/5						541/5					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

WFM.	PKGE.	02	12	22	32	42	52	62	72	82	92	102	112
ADS	836	540/4						541/4					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

WFM.	PKGE.	03	13	23	33	43	53	63	73	83	93	103	113
ADS	836	540/3						541/3					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

WFM.	PKGE.	04	14	24	34	44	54	64	74	84	94	104	114
ADS	850	540/2						541/2					
		M1	M2	M4	M5	M7	M8	M1	M2	M4	M5	M7	M8

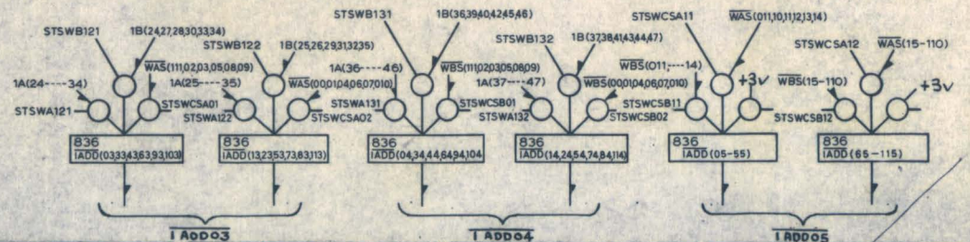
WFM.	PKGE.	0	1	2	3	4	5	6	7	8	9	10	11
ADS	825	540/1						541/1					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

WFM.	PKGE.	03	13	23	33	43	53	63	73	83	93	103	113
1ADD	836	542/47											
		M1			M2	M3		M4			M5	M6	
		542/35											
		M1	M2			M3		M4	M5				M6

WFM.	PKGE.	04	14	24	34	44	54	64	74	84	94	104	114
1ADD	836	543/47											
		M1			M2	M3		M4			M5	M6	
		543/35											
		M1	M2			M3		M4	M5				M6

WFM.	PKGE.	05	15	25	35	45	55	65	75	85	95	105	115
1ADD	836	541/31						542/31					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

1A AND 1B WAVEFORMS FROM 54·11.



SWA12	542/23/M2	54·10D4	
SWA12	542/24/M2		
STSWA121	548/48/M10	1ADD(03-113)	
2	542/34/M10		

1 ADD03

SWA13	542/23/M1	54·10D3	
SWA13	542/24/M1		
STSWA131	543/48/M10	1ADD(04-114)	
2	543/34/M10		

1 ADD04

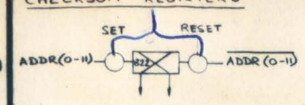
SWB12	542/23/M6	54·10D4	
SWB12	542/24/M6		
STSWB121	542/48/M11	1ADD(03-113)	
2	542/34/M11		

SWB13	542/23/M5	54·10D3	
SWB13	542/24/M5		
STSWB131	543/48/M11	1ADD(04-114)	
2	543/34/M11		

1 ADD05

28-6-63

CHECKSUM REGISTERS



THE CHECKSUM REGISTERS ARE SET BY BOTH PHASES OF THE LATCH REGISTER ADDR, THE SET AND RESET STROBES BEING LOGICALLY EQUIVALENT

BASE-4 COUNT EVEN

WFM	00	01	02	03	04	05	SET STROBE	RESET STROBE	06	07	08	09	010	011	SET STROBE	RESET STROBE
RAS	560/6						STTRAS01	STTRAS02	561/6						STTRAS03	STTRAS04
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
RBS	560/10						STTRBS01	STTRBS02	561/10						STTRBS03	STTRBS04
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
WAS	560/8						STTWAS01	STTWAS02	561/8						STTWAS03	STTWAS04
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
WBS	560/12						STTWBS01	STTWBS02	561/12						STTWBS03	STTWBS04
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		

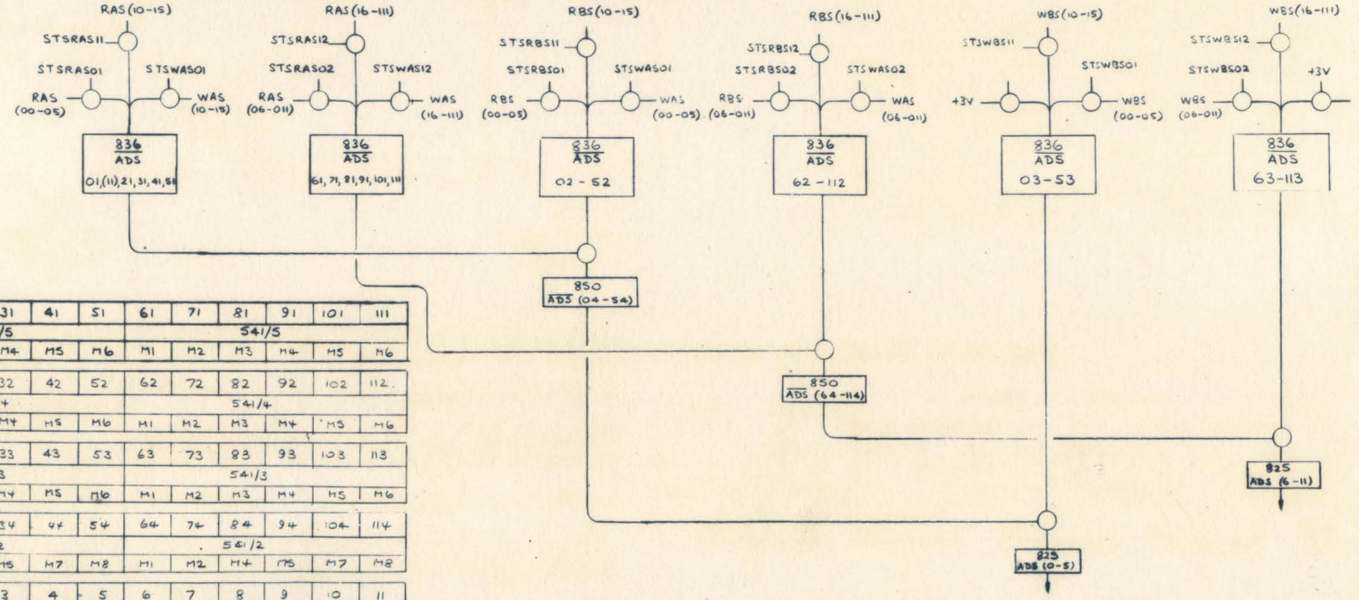
BASE-4 COUNT ODD

WFM	10	11	12	13	14	15	SET STROBE	RESET STROBE	16	17	18	19	110	111	SET STROBE	RESET STROBE
RAS	560/7						STTRAS11	STTRAS12	561/7						STTRAS13	STTRAS14
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
RBS	560/11						STTRBS11	STTRBS12	561/11						STTRBS13	STTRBS14
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
WAS	560/9						STTWAS11	STTWAS12	561/9						STTWAS13	STTWAS14
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		
WBS	560/13						STTWBS11	STTWBS12	561/13						STTWBS13	STTWBS14
	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12			M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12		

TRAS0	564/2/M9	56.10D7
TRAS0	564/1/M5	
STTRAS01 02 03 04	562/4/M1 M2 M3 M4	RAS(00-011)
TRBS0	564/2/M4	56.10D8
TRBS0	564/1/M7	
STTRBS01 02 03 04	562/11/M9 M10 M11 M12	RBS(00-011)
TWAS0	564/2/M1	56.10D5
TWAS0	564/1/M1	
STTWAS01 02 03 04	562/8/M5 M6 M7 M8	WAS(00-011)
TWBS0	564/2/M2	56.10D6
TWBS0	564/1/M3	
STTWBS01 02 03 04	562/11/M1 M2 M3 M4	WBS(00-011)

TRAS1	564/2/M7	56.10D7
TRAS1	564/1/M6	"
STTRAS11 12 13 14	562/8/M9 M10 M11 M12	RAS(10-111)
TRBS1	564/2/M8	56.10D8
TRBS1	564/1/M8	
STTRBS11 12 13 14	562/11/M5 M6 M7 M8	RBS(10-111)
TWAS1	564/2/M5	56.10D6
TWAS1	564/1/M2	
STTWAS11 12 13 14	562/8/M1 M2 M3 M4	WAS(10-111)
TWBS1	564/2/M6	56.10D6
TWBS1	564/1/M4	
STTWBS11 12 13 14	562/14/M1 M2 M3 M4	WBS(10-111)

GATING CHECKSUMS TO THE 12-BIT ADDER



WFM	PKGE	01	(11)	21	31	41	51	61	71	81	91	101	111
ADS	836	540/5						541/5					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
WFM	PKGE	02	12	22	32	42	52	62	72	82	92	102	112
ADS	836	540/4						541/4					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
WFM	PKGE	03	13	23	33	43	53	63	73	83	93	103	113
ADS	836	540/3						541/3					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
WFM	PKGE	04	14	24	34	44	54	64	74	84	94	104	114
ADS	850	540/2						541/2					
		M1	M2	M4	M5	M7	M8	M1	M2	M4	M5	M7	M8
WFM	PGKE	0	1	2	3	4	5	6	7	8	9	10	11
ADS	825	540/1						541/1					
		M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

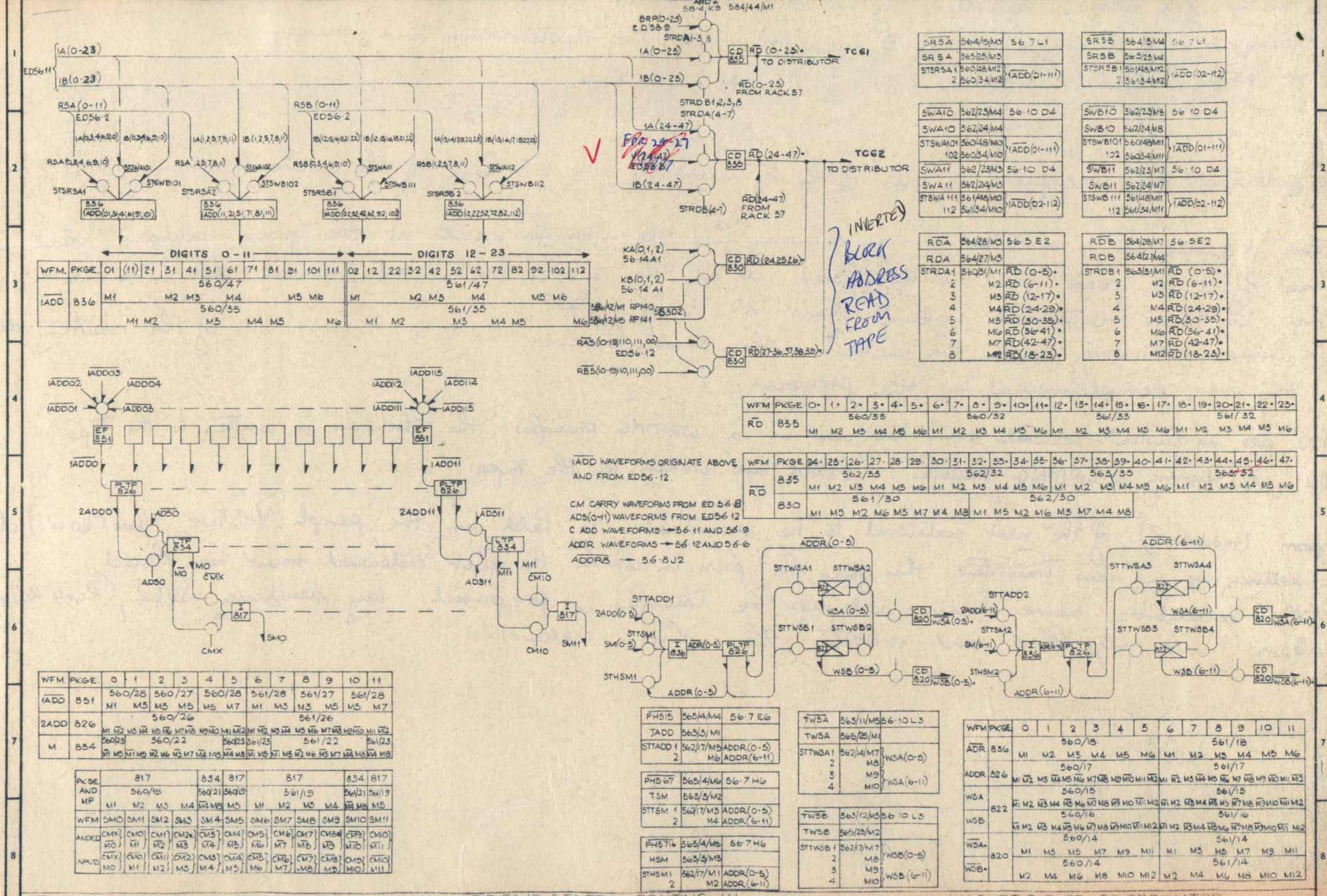
SRAS0	563/2/M3	56.10H2
SRAS0	563/1/M3	
STSRAS01 02	562/4/M9 M10	$\overline{ADS}$ (01-111)
SRBS0	563/2/M7	56.10H3
SRBS0	563/1/M7	
STSRBS01 02	562/1/M1 M2	$\overline{ADS}$(02-112)
SWAS0	563/2/M1	56.10H1
SWAS0	563/1/M1	
STSWAS01 02	562/4/M7 M8	$\overline{ADS}$ (02-112)
SWBS0	563/2/M5	56.10H3
SWBS0	563/1/M5	
STSWBS01 02	562/1/M5 M6	$\overline{ADS}$ (03-113)

SRAS1	563/2/M4	56.10H2
SRAS1	563/1/M4	
STSRAS11 12	562/4/M11 M12	$\overline{ADS}$ (01-111)
SRBS1	563/2/M8	56.10H3
SRBS1	563/1/M8	
STSRBS11 12	562/1/M3 M4	$\overline{ADS}$ (02-112)
SWAS1	563/2/M2	56.10H2
SWAS1	563/1/M2	
STSWAS11 12	562/4/M5 M6	$\overline{ADS}$ (01-111)
SWBS1	563/2/M6	56.10H3
SWBS1	563/1/M6	
STSWBS11 12	562/1/M7 M8	$\overline{ADS}$ (03-113)

Reading the Block Address into V-line x5000140.

The 2 non zero stripes of the address from tape go into the sections of bufferA pointed at by BS11 and BS01, and also into the Read Checksum register thus:-

The zero stripes are read in first, STTRDA assuring that they arrive unaffected by anything already in, after which CHV11 resets STTRDA. The second 2 stripes are then put into RAS, having the zero stripes added en route.
After the B.M. Interrupt the address is read, and the interrupt routine compares the address with that required, and takes appropriate action.


ATLAS II
ED 56-13 GENERAL ROUTING III
MAGNETIC TAPE COORDINATOR
DIGITS 0 - 11
DIGITS 12 - 23
INVERTED BLOCK ADDRESS READ FROM TAPE
TO DISTRIBUTOR
TO DISTRIBUTOR
FROM RACK 57
FROM RACK 57
IADD WAVEFORMS ORIGINATE ABOVE AND FROM ED56-12.
CM CARRY WAVEFORMS FROM ED 56-8
ADS(0-11) WAVEFORMS FROM ED56 12
C ADD WAVE FORMS → 56-11 AND 56-9
ADDR WAVEFORMS → 56-12 AND 56-6
ADDR8 → 56-8J2

Codewords

The transfer of a block is controlled by 1 or more codewords, there are 8 for each channel, and they are automatically sequenced during a transfer to define the core store destinations and sources.

Codewords occupy Registers $N-32+8i+j$ $\quad N$ = Store Size

i = Ch. no. $\quad 0 \leq i \leq 3$

$0 \leq j \leq 7$

The codeword only occupies 24 bits of the ½ word in the L.S. half of the store location (ie 47→24 unused)

When a codeword is extracted, if tape moving fwd. the transfer starts at the given address which is increased by 1 as each word is transferred until the L.S. 9 (or 6) bits become zero. The next codeword is then extracted unless digit 22 says STOP.

If the tape is moving bwd. the action is the same, however the L.S. 9 (or 6) bits of the starting address must be ones complemented by the program.

If KA22 set no further codewords extracted, and in a WRITING transfer the Checksum is written to the tape

If KA21 set during a WRITING transfer ZEROS are written to the tape

The posn. (modulo 8) of the next codeword to be examined is held in the periph. V-store line (140+i) digits 24-26. When setting up a new transfer this gives the posn. in which the first codeword must be placed.

When the codewords have been set up the transfer is prepared by sending WV42, (line 464+i) which clears misc. flip flops and extracts the first codeword.

$\overline{\text{1ADD}}$ WAVEFORM FORMATION

$\overline{\text{1ADD}}$	01	(11)	21	31	41	51	61	71	81	91	101	111
836	M1			M2	M3		M4			M5	M6	
560/47 (PACKAGE I)												
560/35 (PACKAGE II)	M1	M2		M3			M4	M5				M6
INPUTS TO PKGE.I AND STROBE — $\overline{\text{STSRSA1}}$	RSA0			RSA3	RSA4		RSA6			RSA9	RSA10	
$\overline{\text{STSWA101}}$	1A0			1A3	1A4		1A6			1A9	1A10	
$\overline{\text{STSWB101}}$	1B0			1B3	1B4		1B6			1B9	1B10	
INPUTS TO PKGE.II AND STROBE — $\overline{\text{STSRSA2}}$		RSA1	RSA2			RSA5		RSA7	RSA8			RSA11
$\overline{\text{STSWA102}}$		1A1	1A2			1A5		1A7	1A8			1A11
$\overline{\text{STSWB102}}$		1B1	1B2			1B5		1B7	1B8			1B11

$\overline{\text{1ADD}}$	02	12	22	32	42	52	62	72	82	92	102	112
836	M1			M2	M3		M4			M5	M6	
561/47 (PACKAGE I)												
561/35 (PACKAGE II)	M1	M2		M3			M4	M5				M6
$\overline{\text{STSRSB1}}$	RSB0			RSB3	RSB4		RSB6			RSB9	RSB10	
$\overline{\text{STSWB111}}$	1B12			1B15	1B16		1B18			1B21	1B22	
$\overline{\text{STSWA111}}$	1A12			1A15	1A16		1A18			1A2	1A22	
$\overline{\text{STSRSB2}}$		RSB1	RSB2			RSB5		RSB7	RSB8			RSB11
$\overline{\text{STSWB112}}$		1B13	1B14			1B17		1B19	1B20			1B23
$\overline{\text{STSWA112}}$		1A13	1A14			1A17		1A19	1A20			1A23

$\overline{\text{1ADD}}$	03	13	23	33	43	53	63	73	83	93	103	113
836	M1			M2	M3		M4			M5	M6	
562/47 (PACKAGE I)												
562/35 (PACKAGE II)	M1	M2		M3			M4	M5				M6
INPUTS TO PKGE.I AND STROBE — $\overline{\text{STSWCSA01}}$	WAS111			WAS02	WAS03		WAS05			WAS08	WAS09	
$\overline{\text{STSWBI21}}$	1B24			1B27	1B28		1B30			1B33	1B34	
$\overline{\text{STSWA121}}$	1A24			1A27	1A28		1A30			1A33	1A34	
INPUTS TO PKGE.II AND STROBE — $\overline{\text{STSWCSA02}}$		WAS00	WAS01			WAS04		WAS06	WAS07			WAS010
$\overline{\text{STSWB122}}$		1B25	1B26			1B29		1B31	1B32			1B35
$\overline{\text{STSWA122}}$		1A25	1A26			1A29		1A31	1A32			1A35

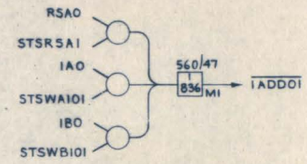
$\overline{\text{1ADD}}$	04	14	24	34	44	54	64	74	84	94	104	114
	M1			M2	M3		M4			M5	M6	
563/47 (PACKAGE I)												
563/35 (PACKAGE II)	M1	M2		M3			M4	M5				M6
$\overline{\text{STSWCSB01}}$	WBS111			WBS02	WBS03		WBS05			WBS08	WBS09	
$\overline{\text{STSWBI31}}$	1B36			1B39	1B40		1B42			1B45	1B46	
$\overline{\text{STSWA131}}$	1A36			1A39	1A40		1A42			1A45	1A46	
$\overline{\text{STSWCSB02}}$		WBS00	WBS01			WBS04		WBS06	WBS07			WBS010
$\overline{\text{STSWBI32}}$		1B37	1B38			1B41		1B43	1B44			1B47
$\overline{\text{STSWA132}}$		1A37	1A38			1A41		1A43	1A44			1A47

$\overline{\text{1ADD}}$	05	15	25	35	45	55	65	75	85	95	105	115
836	M1	M2	561/31 M3	M4	M5	M6	M1	M2	562/31 M3	M4	M5	M6
+3V												
INPUTS AND STROBE — $\overline{\text{STSWCSA11}}$	WAS011	WAS10	WAS11	WAS12	WAS13	WAS14						
$\overline{\text{STSWCSB11}}$	WBS011	WBS10	WBS11	WBS12	WBS13	WBS14						
+3V												
$\overline{\text{STSWCSA12}}$							WAS15	WAS16	WAS17	WAS18	WAS19	WAS110
$\overline{\text{STSWCSB12}}$							WBS15	WBS16	WBS17	WBS18	WBS19	WBS110

1A AND 1B WAVEFORMS FROM ED 56-11

RSA AND RSB WAVEFORMS FROM ED 56-2

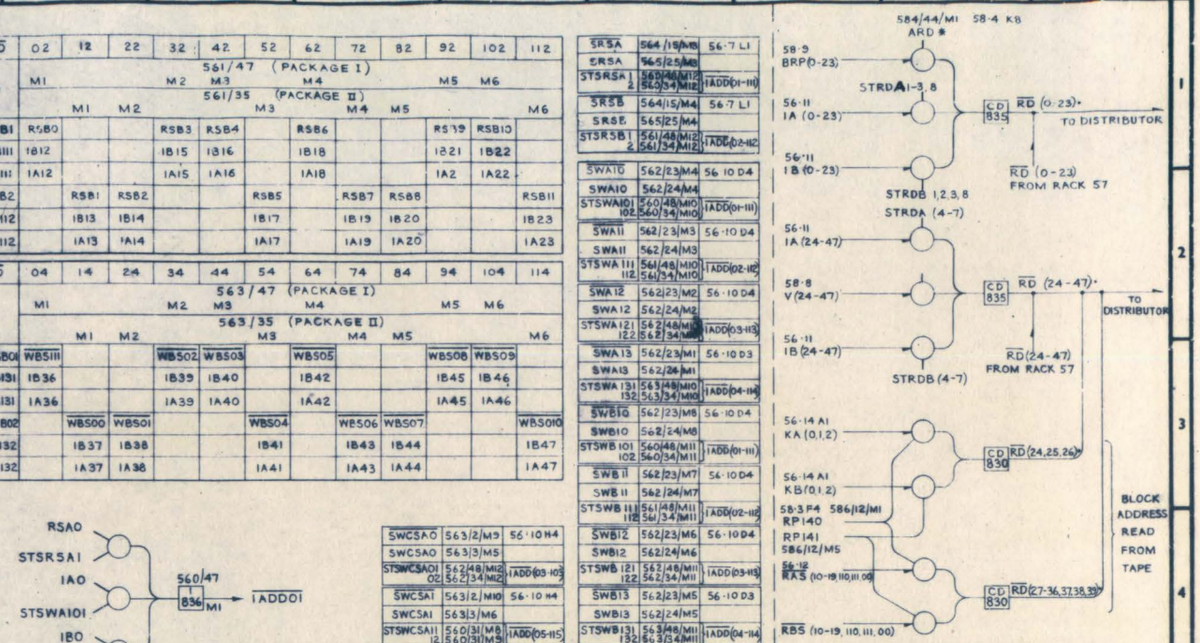
$\overline{\text{WAS}}$ AND $\overline{\text{WBS}}$ WAVEFORMS FROM ED 56-12



EXAMPLE OF FORMATION

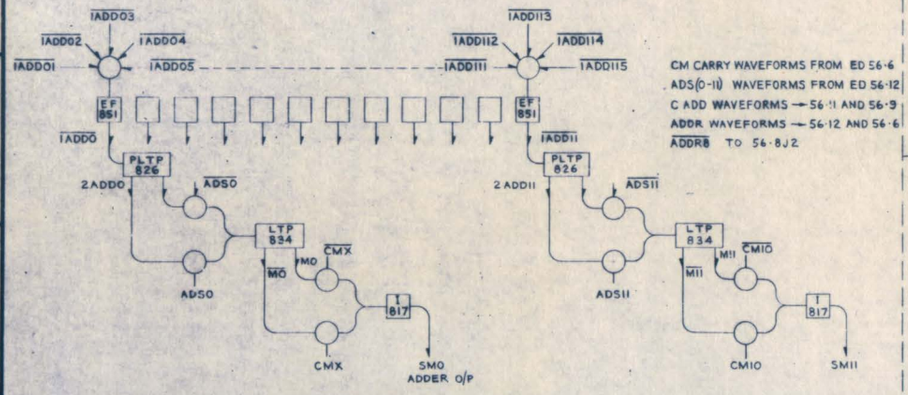
$\overline{\text{SWCSA0}}$	563/2/M9	56-10 H4
$\overline{\text{SWCSA0}}$	563/3/M5	
$\overline{\text{STSWCSA01}}$ 02	562/48/M12 562/34/M12	$\overline{\text{1ADD}}$(03-103)
$\overline{\text{SWCSA1}}$	563/2/M10	56-10 H4
$\overline{\text{SWCSA1}}$	563/3/M6	
$\overline{\text{STSWCSA11}}$ 12	560/31/M8 560/31/M9	$\overline{\text{1ADD}}$(05-115)
$\overline{\text{SWCSB0}}$	563/2/M11	56-10 H5
$\overline{\text{SWCSB0}}$	563/3/M7	
$\overline{\text{STSWCSB01}}$ 02	563/48/M12 563/34/M12	$\overline{\text{1ADD}}$(04-114)
$\overline{\text{SWCSB1}}$	563/2/M12	56-10 H5
$\overline{\text{SWCSB1}}$	563/3/M8	
$\overline{\text{STSWCSB11}}$ 12	560/31/M10 560/31/M11	$\overline{\text{1ADD}}$(05-115)

$\overline{\text{SRSA}}$	564/15/M8	56-7 L1
$\overline{\text{ERSA}}$	565/25/M8	
$\overline{\text{STSRSA}}$ 1 2	561/48/M12 563/34/M12	$\overline{\text{1ADD}}$(01-111)
$\overline{\text{SRSB}}$	564/15/M4	56-7 L1
$\overline{\text{SRSB}}$	565/25/M4	
$\overline{\text{STSRSB1}}$ 2	561/48/M12 561/34/M12	$\overline{\text{1ADD}}$(02-112)
$\overline{\text{SWA10}}$	562/23/M4	56-10 D4
SWA10	562/24/M4	
$\overline{\text{STSWA101}}$ 102	560/48/M10 560/34/M10	$\overline{\text{1ADD}}$(01-111)
$\overline{\text{SWA11}}$	562/23/M3	56-10 D4
SWA11	562/24/M3	
$\overline{\text{STSWA111}}$ 112	561/48/M10 561/34/M10	$\overline{\text{1ADD}}$(02-112)
$\overline{\text{SWA12}}$	562/23/M2	56-10 D4
SWA12	562/24/M2	
$\overline{\text{STSWA121}}$ 122	562/48/M10 562/34/M10	$\overline{\text{1ADD}}$(03-113)
$\overline{\text{SWA13}}$	562/23/M1	56-10 D3
SWA13	562/24/M1	
$\overline{\text{STSWA131}}$ 132	563/48/M10 563/34/M10	$\overline{\text{1ADD}}$(04-114)
$\overline{\text{SWB10}}$	562/23/M8	56-10 D4
SWB10	562/24/M8	
$\overline{\text{STSWB101}}$ 102	560/48/M11 560/34/M11	$\overline{\text{1ADD}}$(01-111)
$\overline{\text{SWB11}}$	562/23/M7	56-10 D4
SWB11	562/24/M7	
$\overline{\text{STSWB111}}$ 112	561/48/M11 561/34/M11	$\overline{\text{1ADD}}$(02-112)
$\overline{\text{SWB12}}$	562/23/M6	56-10 D4
SWB12	562/24/M6	
$\overline{\text{STSWB121}}$ 122	562/48/M11 562/34/M11	$\overline{\text{1ADD}}$(03-113)
$\overline{\text{SWB13}}$	562/23/M5	56-10 D3
SWB13	562/24/M5	
$\overline{\text{STSWB131}}$ 132	563/48/M11 563/34/M11	$\overline{\text{1ADD}}$(04-114)



$\overline{\text{RDA}}$	564/28/M5	56-5 E2
RDA	564/27/M4	
STRDA1	560/31/M1	RD (0-5)*
2	M2	RD (6-11)*
3	M3	RD (12-17)*
4	M4	RD (24-29)*
5	M5	RD (30-35)*
6	M6	RD (36-41)*
7	M7	RD (42-47)*
8	M12	RD (18-23)*

$\overline{\text{RDB}}$	564/28/M7	56-5 E2
RDB	564/27/M4	
STRDB1	563/31/M1	RD (0-5)*
2	M2	RD (6-11)*
3	M3	RD (12-17)*
4	M4	RD (24-29)*
5	M5	RD (30-35)*
6	M6	RD (36-41)*
7	M7	RD (42-47)*
8	M12	RD (18-23)*



CM CARRY WAVEFORMS FROM ED 56-6

ADS(0-11) WAVEFORMS FROM ED 56-12

C ADD WAVEFORMS → 56-11 AND 56-9

ADDR WAVEFORMS → 56-12 AND 56-6

$\overline{\text{ADDR8}}$ TO 56-8 J2

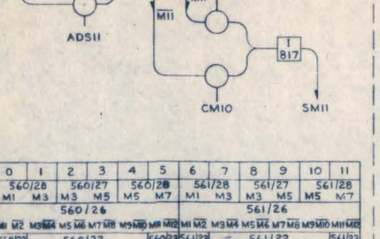
PACKAGE	817				834	817						834	817
AND MP	560/19				560/21 M8	560/19 M5	561/19					561/21 M4	561/19 M5
	M1	M2	M3	M4			M1	M2	M3	M4			
WFM	SM0	SM1	SM2	SM3	SM4	SM5	SM6	SM7	SM8	SM9	SM10	SM11	
ANDED INPUTS	CMX M0	CM01	CM11 M2	CM21 M3	CM31 M4	CM41 M5	CM5 M6	CM6 M7	CM7 M8	CM8 M9	CM9 M10	CM10 M11	
	CMX M0	CM01	CM11 M2	CM21 M3	CM31 M4	CM41 M5	CM5 M6	CM6 M7	CM7 M8	CM8 M9	CM9 M10	CM10 M11	

WFM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11
1ADD	851	560/28 M1	M3	560/27 M3	M5	560/28 M5	M7	561/28 M1	M3	561/27 M3	M5	561/28 M5	M7
2 ADD	826	560/26						561/26					
M	834	560/23		560/22			560/23	561/23		561/22			561/23

PHS15	565/4/M4	56-7 E6
TADD	563/3/M1	
STTADD 1 2	562/17/M5 M6	ADDR(0-5) ADDR(6-11)

PHS67	565/4/M6	56-7 H6
TSM	563/3/M2	
STTSM 1 2	562/17/M3 M4	ADDR(0-5) ADDR(6-11)

PHS711	565/4/M5	56-7 H6
HSM	563/3/M3	
STHSM 1 2	562/17/M1 M2	ADDR(0-5) ADDR(6-11)



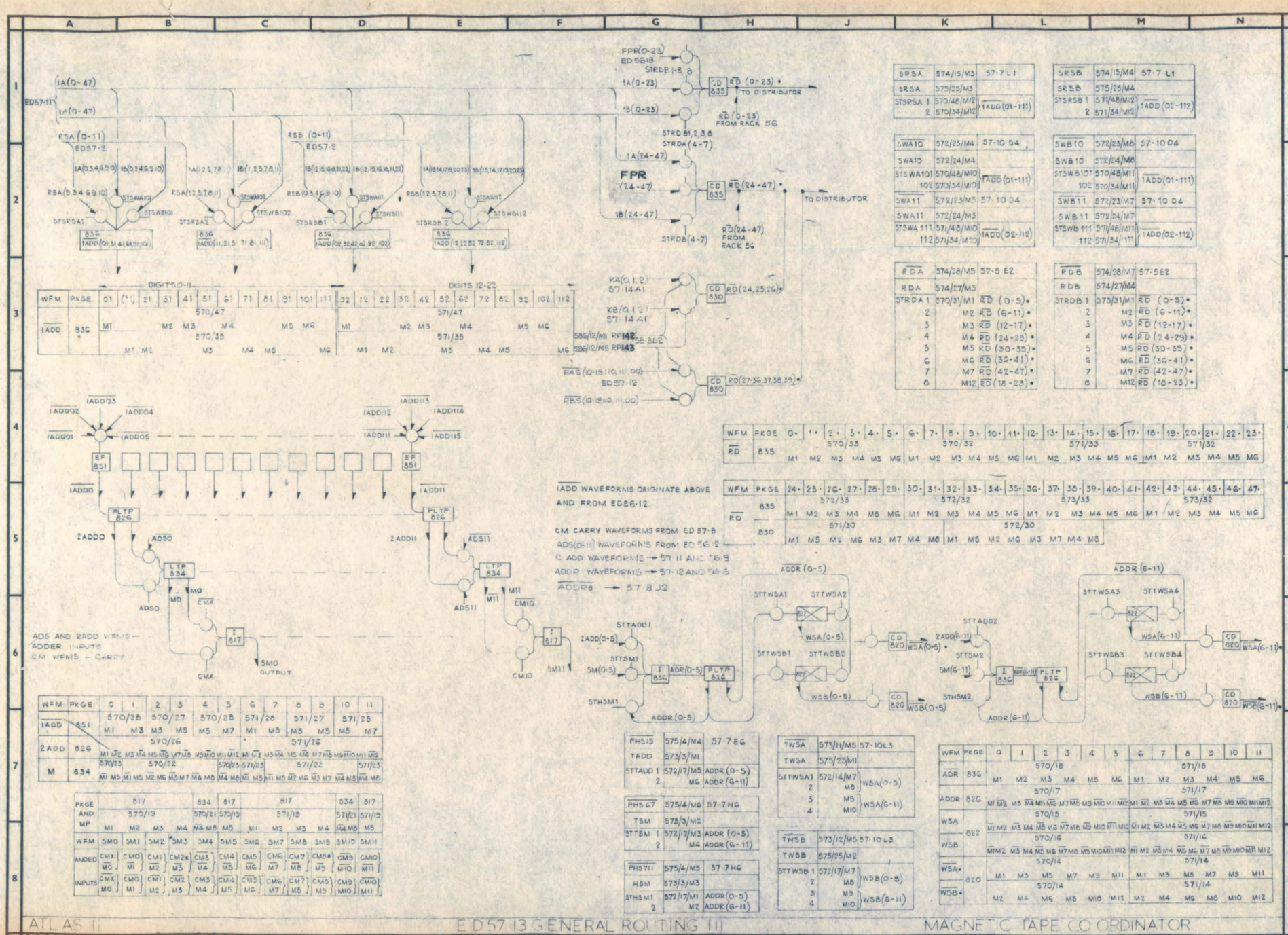
TWSA	563/11/M5	56-10 L3
TWSA	565/25/M1	
STTWSA 1 2 3 4	562/14/M7 M8 M9 M10	WSB(0-5) WSB(6-11)

TWSB	563/12/M5	56-10 L3
TWSB	565/25/M2	
STTWSB 1 2 3 4	562/17/M7 M8 M9 M10	WSB(0-5) WSB(6-11)

WFM	PKGE	0	1	2	3	4	5	6	7	8	9	10	11
ADR	836	M1	M2	560/18 M3	M4	M5	M6	M1	M2	561/18 M3	M4	M5	M6
ADDR	826	560/17								561/17			
WSA	822	560/15								561/15			
WSB		560/16								561/16			
WSA	820	M1	M3	560/14 M5	M7	M9	M11	M1	M3	561/14 M5	M7	M9	M11
WSB		M2	M4	560/14 M6	M8	M10	M12	M2	M4	561/14 M6	M8	M10	M12

WFM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
RD	835	M1	M2	560/33 M3	M4	M5	M6	M1	M2	560/32 M3	M4	M5	M6	M1	M2	561/33 M3	M4	M5	M6	M1	M2	561/32 M3	M4	M5	M6

WFM	PACKAGE	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
RD	835	M1	M2	562/33 M3	M4	M5	M6	M1	M2	562/32 M3	M4	M5	M6	M1	M2	563/33 M3	M4	M5	M6	M1	M2	563/32 M3	M4	M5	M6
	830	M1	M5	M2	561/30 M6	M3	M7	M4	M8	M1	M5	M2	562/30 M6	M3	M7	M4	M8								


ATLAS II
ED57.13 GENERAL ROUTING III
MAGNETIC TAPE COORDINATOR
ADS AND 2ADD WFMS — ADDER INPUTS
CM WFMS — CARRY
IADD WAVEFORMS ORIGINATE ABOVE AND FROM ED56.12
CM CARRY WAVEFORMS FROM ED 57.8
ADS(0-11) WAVEFORMS FROM ED 56.12
C ADD WAVEFORMS → 57.11 AND 56.9
ADDR WAVEFORMS → 57.12 AND 56.6
ADDR8 → 57.8 J2
DIGITS 0-11
DIGITS 12-23
TO DISTRIBUTOR
RD (0-23) FROM RACK 56
RD (24-47) FROM RACK 56
FPR (24-47)
ADDR (0-5)
ADDR (6-11)

1ADD WAVEFORM FORMATION

1ADD	01	(11)	21	31	41	51	61	71	81	91	101	111
836	MI			M2	M3	M4				M5	M6	
570/47 (PACKAGE I)												
570/35 (PACKAGE II)		M1	M2		M3		M4	M5				M6
INPUTS TO PKGE I AND STROBE STSRSA1	RSA0			RSA3	RSA4		RSA6			RSA9	RSA10	
STSWAI01	IA0			IA3	IA4		IA6			IA9	IA10	
STSWBI01	IB0			IB3	IB4		IB6			IB9	IB10	
INPUTS TO PKGE II AND STROBE STSRSA2		RSA1	RSA2			RSA5		RSA7	RSA8			RSA11
STSWAI02		IA1	IA2			IA5		IA7	IA8			IA11
STSWBI02		IB1	IB2			IB5		IB7	IB8			IB11

1ADD	02	12	22	32	42	52	62	72	82	92	102	112
836	MI			M2	M3	M4				M5	M6	
571/47 (PACKAGE I)												
571/35 (PACKAGE II)		M1	M2		M3		M4	M5				M6
STSRSB1	RSB0			RSB3	RSB4		RSB6			RSB9	RSB10	
STSWBII1	IB12			IB15	IB16		IB18			IB21	IB22	
STSWAII1	IA12			IA15	IA16		IA18			IA21	IA22	
STSRSB2		RSB1	RSB2			RSB5		RSB7	RSB8			RSB11
STSWBII2		IB13	IB14			IB17		IB19	IB20			IB23
STSWAI12		IA13	IA14			IA17		IA19	IA20			IA23

1ADD	03	13	23	33	43	53	63	73	83	93	103	113
836	MI			M2	M3	M4				M5	M6	
572/47 (PACKAGE I)												
572/35 (PACKAGE II)		M1	M2		M3		M4	M5				M6
INPUTS TO PKGE I AND STROBE STSWCSA01	WAS111			WAS02	WAS03		WAS05			WAS08	WAS09	
STSWBI21	IB24			IB27	IB28		IB30			IB33	IB34	
STSWAI21	IA24			IA27	IA28		IA30			IA33	IA34	
INPUTS TO PKGE II AND STROBE STSWCSA02		WAS00	WAS01			WAS04		WAS06	WAS07			WAS010
STSWBI22		IB25	IB26			IB29		IB31	IB32			IB35
STSWAI22		IA25	IA26			IA29		IA31	IA32			IA35

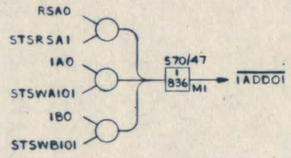
1ADD	04	14	24	34	44	54	64	74	84	94	104	114
836	MI			M2	M3	M4				M5	M6	
573/47 (PACKAGE I)												
573/35 (PACKAGE II)		M1	M2		M3		M4	M5				M6
STSWCSB01	WBS11			WBS02	WBS03		WBS05			WBS08	WBS09	
STSWBI31	IB36			IB39	IB40		IB42			IB45	IB46	
STSWAI31	IA36			IA39	IA40		IA42			IA45	IA46	
STSWCSB02		WBS00	WBS01			WBS04		WBS06	WBS07			WBS010
STSWBI32		IB37	IB38			IB41		IB43	IB44			IB47
STSWAI32		IA37	IA38			IA41		IA43	IA44			IA47

1ADD	05	15	25	35	45	55	65	75	85	95	105	115
836	MI	M2	571/31 M3	M4	M5	M6	MI	M2	572/31 M3	M4	M5	M6
+3V												
INPUTS AND STROBE STSWCSAII	WAS011	WAS10	WAS11	WAS12	WAS13	WAS14						
STSWCSBII	WBS011	WBS10	WBS11	WBS12	WBS13	WBS14						
+3V												
STSWCSAI2							WAS15	WAS16	WAS17	WAS18	WAS19	WAS110
STSWCSBI2							WBS15	WBS16	WBS17	WBS18	WBS19	WBS110

IA AND IB WAVEFORMS FROM ED 57-11

RSA AND RSB WAVEFORMS FROM ED 57-2

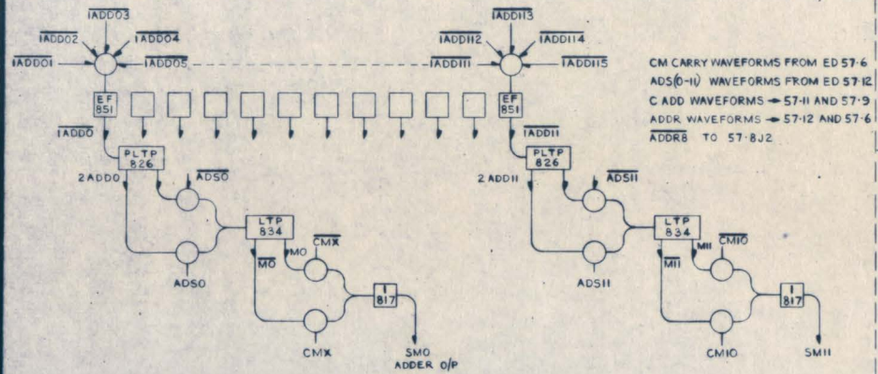
WAS AND WBS WAVEFORMS FROM ED 57-12



EXAMPLE OF FORMATION

SRSA	574/15/M8	57-7 LI	
SRSA	575/25/M3		
STSRSA1 2	570/48/MI2 570/34/MI2	1ADD(01-111)	
SRSB	574/15/M4	57-7 LI	
SRSB	575/25/M4		
STSRSB1 2	571/48/MI2 571/34/MI2	1ADD(02-112)	
SWAI0	572/23/M4	57-10 D4	
SWAI0	572/24/M4		
STSWAI01 102	570/48/MI0 570/34/MI0	1ADD(01-111)	
SWAII	572/23/M3	57-10 D4	
SWAII	572/24/M3		
STSWA III 112	571/48/MI0 571/34/MI0	1ADD(02-112)	
SWAI2	572/23/M2	57-10 D4	
SWAI2	572/24/M2		
STSWAI21 122	572/48/MI0 572/34/MI0	1ADD(03-113)	
SWAI3	572/23/MI	57-10 D3	
SWAI3	572/24/MI		
STSWA I3I 132	573/48/MI0 573/34/MI0	1ADD(04-114)	
SWBI0	572/23/M8	57-10 D4	
SWBI0	572/24/M8		
STSWBI01 102	570/48/MII 570/34/MII	1ADD(01-111)	
SWBII	572/23/M7	57-10 D4	
SWBII	572/24/M7		
STSWB III 112	571/48/MII 571/34/MII	1ADD(02-112)	
SWBI2	572/23/M6	57-10 D4	
SWBI2	572/24/M6		
STSWB I2I 122	572/48/MII 572/34/MII	1ADD(03-113)	
SWBI3	572/23/M5	57-10 D3	
SWBI3	572/24/M5		
STSWBI31 132	573/48/MII 573/34/MII	1ADD(04-114)	

SWCSA0	573/2/M9	56-10 H4	
SWCSA0	573/3/M5		
STSWCSA01 02	572/48/MI2 572/34/MI2	1ADD(03-113)	
SWCSAI	573/2/MI0	57-10 H4	
SWCSAI	573/3/M6		
STSWCSAII 12	570/31/M8 570/31/M9	1ADD(05-115)	
SWCSB0	573/2/MII	57-10 H5	
SWCSB0	573/3/M7		
STSWCSB01 02	573/48/MI2 573/34/MI2	1ADD(04-114)	
SWCSBI	573/2/MI2	57-10 H5	
SWCSBI	573/3/M8		
STSWCSBII 12	570/31/MI0 570/31/MII	1ADD(05-115)	



CM CARRY WAVEFORMS FROM ED 57-6

ADS(0-11) WAVEFORMS FROM ED 57-12

C ADD WAVEFORMS → 57-11 AND 57-9

ADDR WAVEFORMS → 57-12 AND 57-6

ADDR8 TO 57-8J2

PACKAGE AND MP	817 570/19 M1	M2	M3	M4	834 570/21 M4 M8	817 570/19 M5	817 571/19 M1	M2	M3	M4	834 571/21 M4 M8	817 571/19 M5
WFM	SM0	SMI	SM2	SM3	SM4	SM5	SM6	SM7	SM8	SM9	SMI0	SMII
ANDED INPUTS	CMX MO	CM0 MI	CMI M2	CM2 M3	CM3 M4	CM4 M5	CM5 M6	CM6 M7	CM7 M8	CM8 M9	CM9 MIO	CM10 MII
	CMX MO	CM0 MI	CMI M2	CM2 M3	CM3 M4	CM4 M5	CM5 M6	CM6 M7	CM7 M8	CM8 M9	CM9 MIO	CM10 MII

WFM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11
1ADD	851	570/28 MI M3		570/27 M3 M5		570/28 M5 M7		571/28 MI M3		571/27 M3 M5		571/28 M5 M7	
2 ADD	826	570/26 MI M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12						571/26 MI M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12					
M	834	570/23 MI M5		570/22 M1 M5 M2 M6 M3 M7 M4 M8				570/23 M4 M8		571/23 MI M5		571/22 M1 M5 M2 M6 M3 M7 M4 M8	571/23 M4 M8

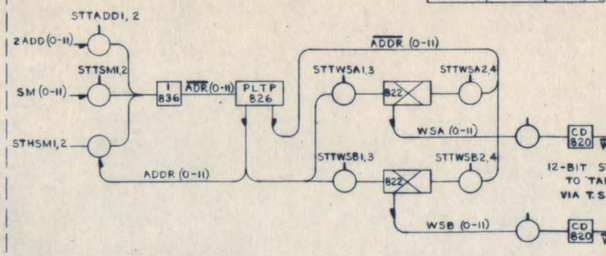
PHS15	575/4/M4	57-7 E6	
TADD	573/3/MI		
STTADD 1 2	572/17/M5 M6	ADDR(0-5) ADDR(6-11)	

PHS 6-7	575/4/M6	57-7 H6	
TSM	573/3/M2		
STTSM 1 2	572/17/M3 M4	ADDR(0-5) ADDR(6-11)	

PHS7II	575/4/M5	57-7 H6	
HSM	573/3/M3		
STHSM1 2	572/17/MI M2	ADDR(0-5) ADDR(6-11)	

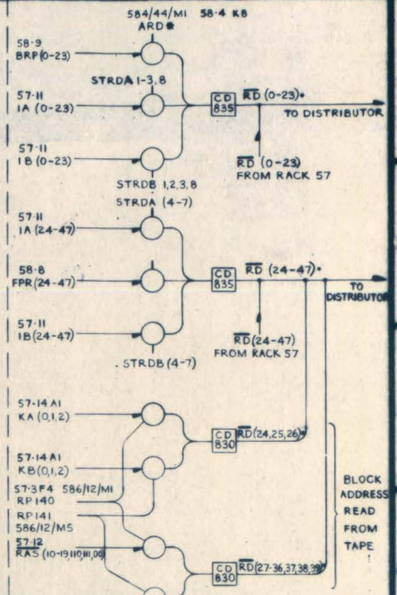
TWSA	573/11/M5	57-10 L3	
TWSA	575/25/MI		
STTWSA1 2 3 4	572/14/M7 M8 M9 MI0	WSB(0-5) WSB(6-11)	

TWSB	573/12/M5	57-10 L3	
TWSB	575/25/M2		
STTWSB1 2 3 4	572/17/M7 M8 M9 MI0	WSB(0-5) WSB(6-11)	



WFM	PKGE	0	1	2	3	4	5	6	7	8	9	10	11
ADR	836	570/18 MI M2 M3 M4 M5 M6						MI M2 M3 M4 M5 M6				571/18	
ADDR	826	570/17										571/17	
WSA	822	570/15										571/15	
WSB		570/16										571/16	
WSA- WSB-	820	MI M3 M5 M7 M9 MII								MI M3 M5 M7 M9 MII		570/14 MI M3 M5 M7 M9 MII	
		M2 M4 M6 M8 M10 M12								M2 M4 M6 M8 M10 M12		571/14	

WFM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11
RD	835	570/33 MI M2 M3 M4 M5 M6						MI M2 M3 M4 M5 M6				571/33 MI M2 M3 M4 M5 M6	
		570/32										571/32	
RD	835	572/33 MI M2 M3 M4 M5 M6						MI M2 M3 M4 M5 M6				573/33 MI M2 M3 M4 M5 M6	
		572/32										573/32	
	830	571/30 MI M5 M2 M6 M3 M7 M4 M8						MI M5 M2 M6 M3 M7 M4 M8					
		562/30											



RDA	574/28/M5	57-5 E2	
RDA	574/27/M3		
STRDA1	570/3/MI	RD (0-5)*	
2	M2	RD (6-11)*	
3	M3	RD (12-17)*	
4	M4	RD (24-29)*	
5	M5	RD (30-35)*	
6	M6	RD (36-41)*	
7	M7	RD (42-47)*	
8	MI2	RD (18-23)*	

RDB	574/28/M7	57-5 E2	
RDB	574/27/M4		
STRDB1	573/3/MI	RD (0-5)*	
2	M2	RD (6-11)*	
3	M3	RD (12-17)*	
4	M4	RD (24-29)*	
5	M5	RD (30-35)*	
6	M6	RD (36-41)*	
7	M7	RD (42-47)*	
8	MI2	RD (18-23)*	

$STRK2 = \overline{MP1} + \overline{MP0}$

$= MP0 + MP1$

$= (\overline{BUSY} + \overline{FASE0} + RWK + \overline{FASE2}_{delayed\,100}) + (\overline{RFASE} \cdot (FASE0.BUSY)_{delayed\,350})$

address accepted

(in data Ready $\cdot$ $IFASE \cdot \overline{2FASE} \cdot (MCODA + MRWD)$)

	BLOCK LENGTH	PHASE OF DIGITS 3 - 8	PHASE OF DIGITS 9 - 11	STROBES
FWD	512	DIRECT	DIRECT	STKD
	64			STKLD
BWD	512	COMPLIMENT	COMPLIMENT	STKD — STKLD —
	64	COMPLIMENT	DIRECT	STKD — STKLD

Rules for address presented to distributor

When the first codeword has been extracted from store, full words are transferred, starting at the specified store address, the hardware increments the address as each word is transferred until the next address to be used is an exact multiple of 64 or 512, depending on digit 20. @ this point if d20 is a 1 and d22 is a 0, the next codeword is extracted from store from the address specified by digits 2-0. A codeword L.A.M interrupt occurs which the Supervisor must put out, updating codewords if required, and the transfer of more info. proceeds autonomously.

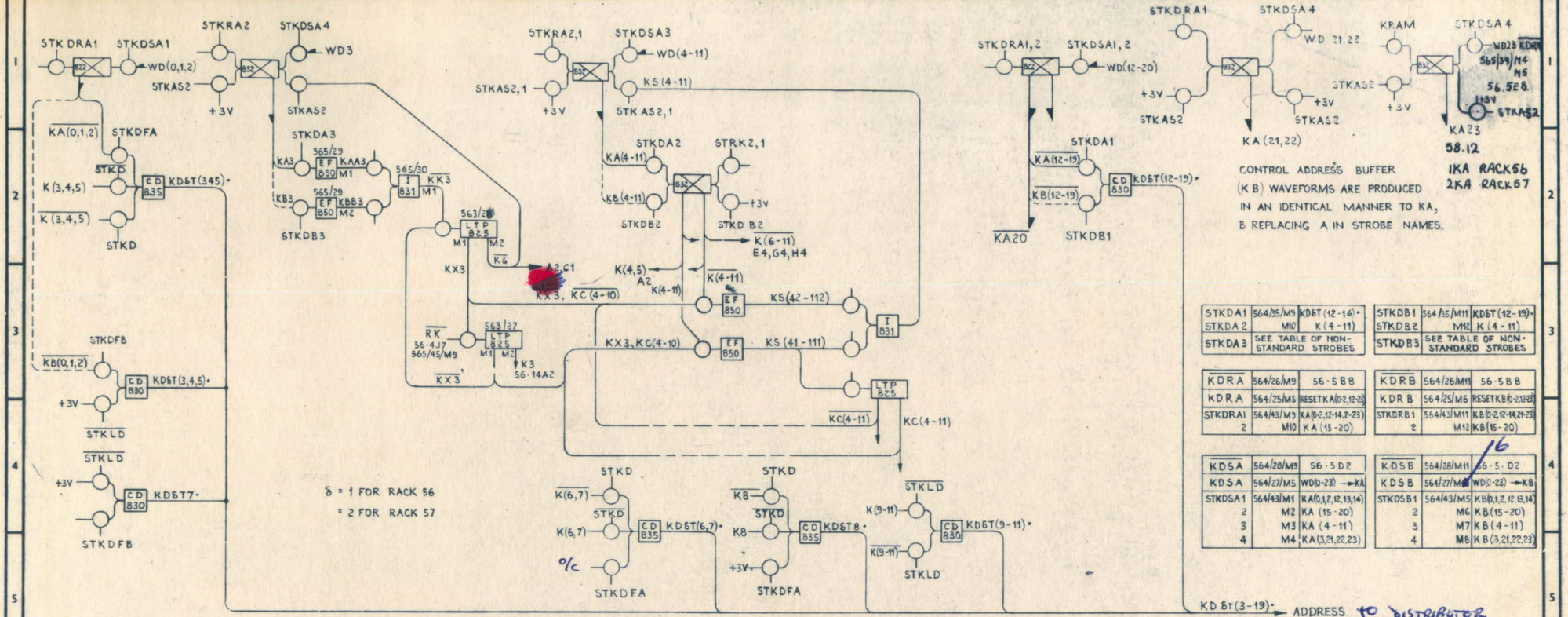
If d23=0 and d22=0 no interrupt occurs and the next specified codeword is extracted and the transfer proceeds automatically. This assumes that several codewords have been set up beforehand.

Tape Codewords

x	j	12	11	10	9	8	7	6	5	4	3	
8	0-7	1	1	1	1	1	1	1	δ	δ	δ	TC2 B
16	0-7	1	1	1	1	1	1	0	δ	δ	δ	TC2 A
24	0-7	1	1	1	1	1	0	1	δ	δ	δ	TC1 B
32	0-7	1	1	1	1	1	0	0	δ	δ	δ	TC1 A

x gives the base of the table
j the no. of words allocated for the table

The address of a particular store location is N − x + j
(where N is store size ie Highest C.S. address + 1)



STKDA1 STKDA2	564/35/M9 M10	KD&T(12-16)• K(4-11)	
STKDA3	SEE TABLE OF NON-STANDARD STROBES		

STKDB1 STKDB2	564/35/M11 M12	KD&T(12-19)• K(4-11)
STKDB3	SEE TABLE OF NON-STANDARD STROBES	

KDRA	564/26/M9	56·5B8
KDRA	564/25/M5	RESETKA(0-2,12-23)
STKDRA1 2	564/43/M3 M10	KA(0-2,12-14,21-23) KA(15-20)

KDRB	564/26/M11	56·5B8
KDRB	564/25/M6	RESETKB(0-2,12-23)
STKDRB1 2	564/43/M11 M12	KB(0-2,12-14,21-23) KB(15-20)

KDSA	564/28/M9	56·5D2
KDSA	564/27/M5	WD(0-23) → KA
STKDSA1 2 3 4	564/43/M1 M2 M3 M4	KA(0,1,2,12,13,14) KA(15-20) KA(4-11) KA(3,21,22,23)

KDSB	564/28/M11	56·5D2
KDSB	564/27/M6	WD(0-23) → KB
STKDSB1 2 3 4	564/43/M5 M6 M7 M8	KB(0,1,2,12,13,14) KB(15-20) KB(4-11) KB(3,21,22,23)

WFM	PKGF	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
KA	822(a)	564/48 (a)			564/41(b)	564/39 (b)				564/37 (b)				564/48(a)			564/45(a)							564/41(b)	
	832(b)	M1 M2 M3 M4 M5 M6			M1 M5	M1 M5 M2 M3 M7 M4 M8				M1 M5 M2 M6 M3 M7 M4 M8				M1 M5 M2 M6 M3 M7 M4 M8			M1 M5 M2 M6 M3 M7 M4 M8							M1 M5 M2 M6 M3 M7 M4 M8	
KB	822(a)	564/47			564/40(b)	564/38 (b)				564/36 (a)				564/47(a)			564/44 (a)							564/40(b)	
	832(b)	M1 M2 M3 M4 M5 M6			M1 M5	M1 M5 M2 M3 M7 M4 M8				M1 M5 M2 M6 M3 M7 M4 M8				M1 M5 M2 M6 M3 M7 M4 M8			M1 M5 M2 M6 M3 M7 M4 M8							M1 M5 M2 M6 M3 M7 M4 M8	
KD&T•	835				563/26 M1 M2 M3 M4 M5 M6																				
	830				563/25 M1 M2 M3			M4	563/25	M5 M6 M7				563/25 M1 M5 M2 M6 M3 M7 M4 M8											

WFM	PKGE	4	5	6	7	8	9	10	11
K	832	564/33 M1 M5 M2 M6 M3 M7 M4 M8				564/32 M1 M5 M2 M6 M3 M7 M4 M8			
		41 42 51 52 61 62 71 72				81 82 91 92 101 102 111 112			
KS	850	564/31 M2 M1 M4 M3 M6 M5 M8 M7				564/30 M2 M1 M4 M3 M6 M5 M8 M7			
		4	5	6	7	8	9	10	11
KS	831	563/29 M1 M2 M3 M4 M5 M6 M7 M8							
KC	825	563/28 M3 M4 M5 M6 M7 M8 M9 M10				563/27 M3 M4 M5 M6 M7 M8 M9 M10			

KA(0,1,2) → 56·13 G3
KA 20 → 56·5 A4
KA 20 → 56·5 K3
KA 21 → 56·4 K2
KA 22 → 56·5 B4, B5
KA 23 → 58·12 K6
KA 23 → 58·12 H4

KCB → 56·5A4, A5
KC11 → 56·5A5, A6

	KA 20	KA 21	KA 22	KA 23
1	64 MODE	NO STORE TRANSFER (NULL)	STOP TRANSFER AT END OF THIS BLOCKLET OR BLOCK AND DO NOT LOAD NEW CODEWORD.	INTERRUPT WHEN THIS CODEWORD IS EXAMINED.
0	512 MODE		EXAMINE NEXT CODEWORD AT END OF THIS BLOCKLET	

DIGITS KA 0,1,2 SELECT NEXT CODEWORD BEING DIGITS 3, 4, 5 OF THE LOCATION OF THE NEXT CODEWORD (from the list of 8)

DIGITS KA 3-11 ADDRESS

NON-STANDARD STROBES:

STROBE		REGISTER STROBED	STROBE CROSS REF
STKAS 1 2	565/43/M9 M10	KA(1-11) KA(3-7, 1-23)	56·5F2 56·5F3
STKBS 1 2	565/43/M11 M12	KB(8-1) KB(3-7, 21-23)	56·5F2 56·5F3
STKD	565/47/M9	KD&T(3-8)•	56·5L6
STKD	565/47/M10		56·5L7
STKLA3	565/42/M1	KA3 → KAA3	56·5H5
STKDB3	565/42/M3	KB3 → KBB3	
STKDFA	565/47/M7	KD&T(3-7)•	56·5L7
STKDFB	565/47/M8	KD&T(3-7)•	
STKLD	565/47/M11	KD&T(9-11)•	56·5L7
STKLD	565/47/M12	KD&T(9-11)•	
STKRA 1 2	565/47/M3 M4	KB(8-11)• KB(3-7)	56·5D7
STKRB 1 2	565/47/M5 M6	KB(8-11) KB(3-7)	
STRK 1 2	565/45/M7 M8	K(4-7) K(8-11)	56·4J8

being stacked to distributor by KDFA then next codeword captured

STROBE	FUNCTION	FORMATION
CLKA 2 CLKA 3	DOUBLE GATE FROM THE FIRST TO THE SECOND TAPE READING BUFFER; DIGITS (0–5)	TRKACO [CLOCK TRACK 0 FROM DECK]
CLKA 5 CLKA 6	DOUBLE GATE FROM THE FIRST TO THE SECOND TAPE READING BUFFER; DIGITS (6–11)	TRKACI [CLOCK TRACK 1 FROM DECK]
CLKA 18	RESETS FIRST TAPE READING BUFFER; DIGITS (0–5)	TRKACO [DIFFERENTIATED]
CLKA 19	RESETS FIRST TAPE READING BUFFER; DIGITS (6–11)	TRKACI [DIFFERENTIATED]
* HSM	*HOLDS ADDER OUTPUT BUFFER (LTP "HOLDING REGISTER")	$\overline{PHS711}$
CLKA 25,27 CLKA 26 28	DOUBLE GATES FROM SECOND TO FINAL READING BUFFER	RQRDA
KAS	STROBES HALF ADDER O/P BACK TO CONTROL ADDRESS REGISTER	$\{\overline{FASE2}.IFASE.[(MRA+MWA)+MLODAI]+[(MRB+MWB)+MLODBI]$ DELAYED$\}$ $\cdot(MRA+MWA)$
* $\overline{KD}$	SELECTS 6 L.S. BITS OF ADDRESS BUFFER, DIGITS (0–5), INVERSELY TO DISTRIBUTOR	BUSY. ALRQ. $\overline{IFASE}$. $\overline{MLODAI}$. $\overline{MLODBI}$. BWD
* KD	SELECTS 6 L.S. BITS OF ADDRESS BUFFER, DIGITS (0–5), DIRECTLY TO DISTRIBUTOR	BUSY. ALRQ. $\overline{IFASE}$. $\overline{MLODAI}$. $\overline{MLODBI}$. $\overline{BWD}$
KDA	GATES CONTROL ADDRESS REGISTER TO A 9 BIT BUFFER, ALSO SELECTS CONTROL ADDRESS DIGITS (9–16) TO DISTRIBUTOR	BUSY. ALRQ. $\overline{IFASE}$. (MRA+MWA)
KDFA	GATES FROM ADDRESS REGISTER TO DISTRIBUTOR GIVING ADDRESS OF NEXT CODEWORD	BUSY. ALRQ. $\overline{IFASE}$. MLODAI
KDRA	CLEARS ADDRESS REGISTER READY FOR RECEPTION OF NEW CONTROL ADDRESS (EXCEPTING INTERRUPT DIGIT 23 AND THE 9 BIT COUNTING SECTION)	$\overline{FASE2}$. IFASE. MLODAI
KDSA	GATES COMPLETE 24 BIT CONTROL ADDRESS TO REGISTER	IFASE. $\overline{NULLAB}$. MLODAI
KLD	SELECTS 3 M.S. BITS OF ADDRESS BUFFER, DIGITS (6–8) INVERSELY TO DISTRIBUTOR	$\{\overline{KA20}.(MRA+MWA)]+[\overline{KB20}.(MRB+MWB)]\}\cdot$BUSY. ALRQ. $\overline{IFASE}$. $\overline{MLODAI}$. $\overline{MLODBI}$. $\overline{BWD}$
$\overline{KLD}$	SELECTS 3 M.S. BITS OF ADDRESS BUFFER, DIGITS (6–8) DIRECTLY TO DISTRIBUTOR	$\{[\overline{KA20}.(MRA+MWA)]+[\overline{KB20}.(MRB+MWB)]\}\cdot$BUSY. ALRQ. $\overline{IFASE}$. $\overline{MLODAI}$. $\overline{MLODBI}$. BWD
KRA	CLEARS 9 BITS OF ADDRESS REGISTER TO RECEIVE INCREMENTED ADDRESS	$\overline{FASE2}$. IFASE. [(MRA+MWA)+MLODAI]
KRAM KRBM	CLEARS INTERRUPT (DIGIT 23) FLIP FLOP OF CONTROL ADDRESS REGISTER	WV34. WP144 WV34. WP145 (CHANNEL B)
RA	RESETS 48 BIT WORD I/P BUFFER A	$\overline{FASE2}$. IFASE. MWA
RDA	GATES 48 BIT WORD O/P BUFFER IA TO DISTRIBUTOR	IFASE. $\overline{NULLAB}$. MRA
RK STRK	CLEARS 9 BIT CONTROL ADDRESS COUNTING REGISTER	{(BUSY. ALRQ. $\overline{IFASE}$)+[(FASE 2 + R*K) DELAYED] LEADING EDGE DIFFERENTIATED}
SRASO	OPENS GATES FROM FIRST READ CHECKSUM REGISTERS TO ADDER	BS02. $\overline{STTRDA}$. RQREDA
SRASI	OPENS GATES FROM LAST READ CHECKSUM REGISTERS TO ADDER	BS13. $\overline{STTRDA}$. RQREDA
SRSA	GATES FROM TAPE READING BUFFER TO ADDER ETC.	RQRDA4
SWA 10	GATES FROM WORD O/P BUFFER IA TO ADDER DIGITS 0–11	RQWTA4. BS01. (STTWTA + $\overline{MRKNGA}$). $\overline{RQCHA4}$
SWA 11	12–23	RQWTA4. BS11. $\overline{RQCHA4}$
SWA 12	24–35	RQWTA4. $\overline{RQCHA4}$. BS10. (STTWTA + $\overline{MRKNGA}$)
SWA 13	36–47	RQWTA4. $\overline{RQCHA4}$. BS00

STROBE	FUNCTION	FORMATION
SWASO	GATES FROM FIRST WRITE CHECKSUM REGISTER TO ADDER	BS02. $\overline{STTWTA}$. RQWTA4
SWASI	GATES FROM LAST WRITE CHECKSUM REGISTER TO ADDER	BS13. $\overline{STTWTA}$. RQWTA4
SWCSAO SWCSAI	OPEN COMPLEMENTING GATES FROM WRITE CHECKSUM REGISTERS TO ADDER	BS02. RQEDA4. $\overline{MRKNGA}$ BS13. RQEDA4. $\overline{MRKNGA}$
TA *	DOUBLE GATES FROM BUFFER A TO IA	(A FULL. AI EMPTY) DELAYED
* TADD	BY-PASS ADDER	$\overline{PHS15}$
TRA0	OPENS GATES FROM 12 BIT ADDER DIGITS 0–11	RQRDA4. RDNGA. BS01. PHS34
TRA1	I/P BUFFER (2 ADD) TO 48 BIT 12–23	RQRDA4. RDNGA. BS11. PHS34
TRA2	WORD I/P BUFFER A 24–35	RQRDA4. RDNGA. BS10. PHS34
TRA3	36–47	RQRDA4. RDNGA. BS00. PHS34
TRASO	GATES FROM 12 BIT ADDER O/P BUFFER (ADDR) TO FIRST READ CHECKSUM REGISTER	PHS910. RQREDA. GSRO
TRASI	GATES FROM 12 BIT ADDER OP BUFFER (ADDR) TO LAST READ CHECKSUM REGISTER	PHS910. RQREDA. GSRI
* TSM	SETS ADDER O/P BUFFER (LTP "HOLDING REGISTER")	$\overline{PHS67}$
TWA	GATES FROM DISTRIBUTOR TO 48 BIT WORD I/P BUFFER A	IFASE. $\overline{NULLAB}$. MWA
TWASO	GATES FROM 12 BIT ADDER O/P BUFFER TO FIRST WRITE CHECKSUM REGISTER	(PHS34. RQRDA4. $\overline{WRTNGA}$. BS02. ($\overline{STTRDA}$. $\overline{BWDA}$)) + (GSRO. PHS910. RQWTA4)
TWASI	GATES FROM 12 BIT ADDER O/P BUFFER TO LAST WRITE CHECKSUM REGISTER	(PHS34. RQRDA4. $\overline{WRTNGA}$. BS13. ($\overline{STTRDA}$. $\overline{BWDA}$)) + (GSRI. PHS910. RQWTA4)
TWSA	GATES TO 12 BIT TAPE WRITING BUFFER FROM ADDER O/P BUFFER	RQWTA4. PHS910. ($\overline{MRKNGA}$. $\overline{BS13}$) + RQWTA4. RQCHA4. PHS910

NOTES :-

STROBES ARE ONLY SHOWN FOR CHANNEL A. CHANNEL B STROBES ARE IDENTICALLY FORMED.

WAVEFORMS MARKED * ARE LOGICALLY INVERTED BEFORE GATING.

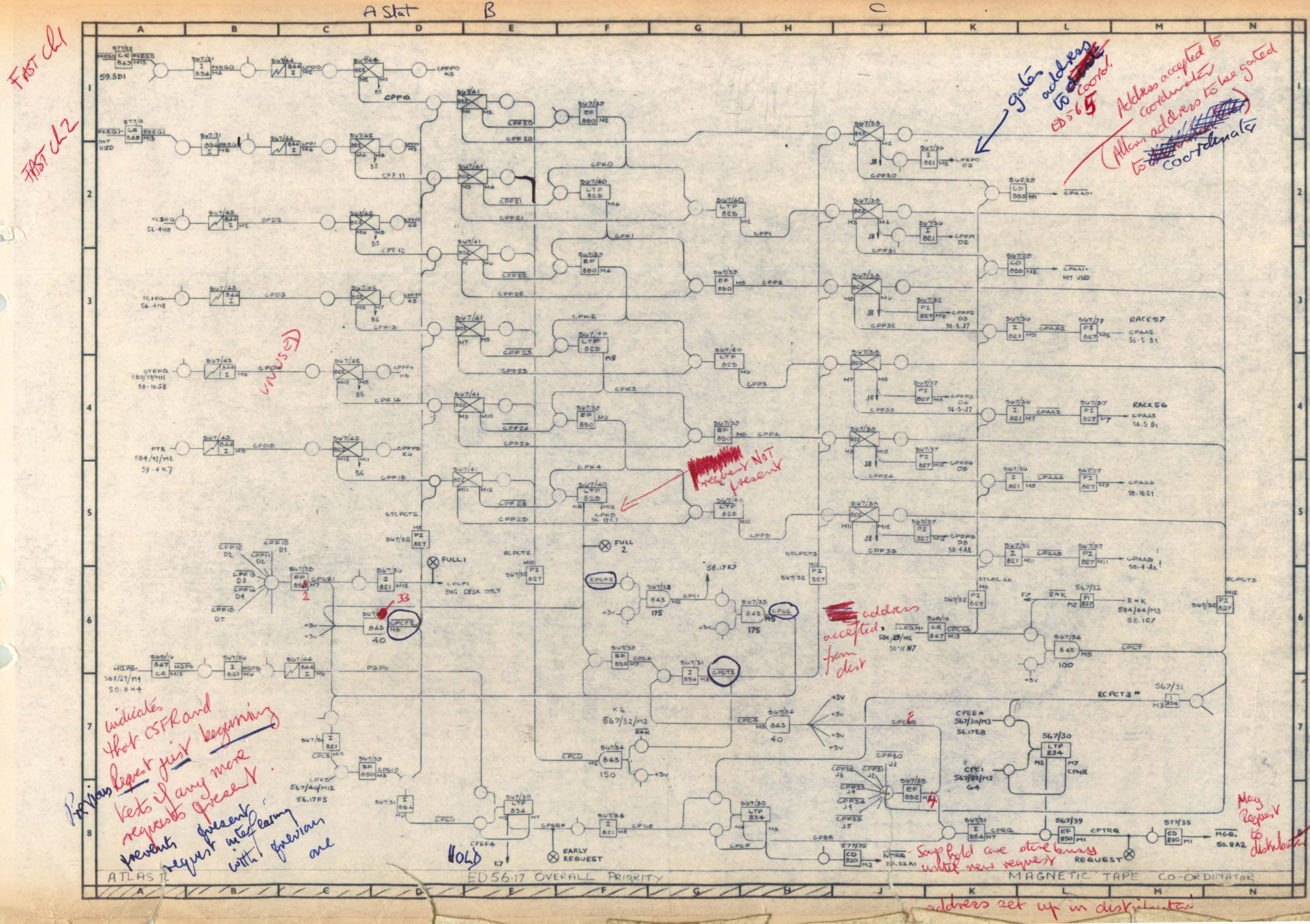
ALL OTHERS GATE IN THE PHASE SHOWN

ATLAS II — ED 56·16 RACK56 STROBE DICTIONARY — MAGNETIC TAPE CO-ORDINATOR

325	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
330	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
335	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
340	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
345	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
350	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
355	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
360	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
365	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
370	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
375	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
380	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
385	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
390	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
395	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
400	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
405	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
410	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
415	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
420	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
425	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
430	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
435	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
440	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
445	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
450	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
455	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
460	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
465	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
470	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
475	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
480	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000

When the C Stat is set, the corresponding A Stat is reset, other A Stats being left undisturbed. $A_{n-0} \cdot \overline{MGQ}$ is produced → distributor as the magnetic request, AND one of CPFP0-5 is sent to the appropriate coordinator to start its request logic

HOLD CPEF4 = CPC2 ∨ CPCT2 ∨ CPCF2 (ie Hold present if B Stat Set (CPCF2) or being set (CPCT2) and up to 350 nsec after it has been cleared (CPC2))



A Stat
B
C
FAST Ch1
FAST Ch2
FXREQ0
FXREQ1
NOT USED
59.3D1
TC2RQ
56.4N8
TC1RQ
56.4N8
STREQ
580/19/M11
58.16G8
PTR
584/41/M2
59.4K7
UNUSED
CPF10
CPF11
CPF12
CPF13
CPF14
CPF15
CPF20
CPF21
CPF22
CPF23
CPF24
CPF25
CPK0
CPK1
CPK2
CPK3
CPK4
CPP1
CPP2
CPP3
CPP4
CPP5
CPF30
CPF31
CPF32
CPF33
CPF34
CPF35
CPFP0
CPFP1
CPFP2
CPFP3
CPFP4
CPFP5
CPAA0
CPAA1
NOT USED
CPAA2
56.5 B1
RACK57
CPAA3
56.5 B1
RACK56
CPAA4
58.16G1
CPAA5
58.4.A2
gates address to coord. ED56.5
Address accepted to coordinator
(Allows address to be gated to coordinator)
request NOT present
STCPCT2
RCPCT2
STCPCT3
STCPCAA
RCPCT3
FULL 1
CPCF1
ENG. DESK ONLY
FULL 2
56.17K7
CPCF2
CPC1
CPC2
CPCT2
CPCT3
CPC4
address accepted, from dist
CLRQM
501/29/M6
50.11 N7
CPCAA
R*K
584/44/M3
58.1C7
CPC7
MQPS
501/29/M4
50.8H4
MQPS
P2PS
K6
567/32/M2
CPC5
CPC6
CPC8
CPC9
CPC10
CPC11
CPK5
567/40/M12
56.17F5
CPEE
567/30/M3
56.17E8
CPC1
567/33/M2
G4
CPNR
CPEF4
K7
EARLY REQUEST
CPEE
CPCP
NMRQ
50.22A1
CPRQ
CPTRQ
REQUEST
MGQ.
50.8A2
HOLD
indicates that CSFR and request just beginning
tests if any more requests present
Previous request
prevents present request interfering with previous one
Stays hold case store busy until new request
May Request to distributor
address set up in distributor
ATLAS II
ED 56.17 OVERALL PRIORITY
MAGNETIC TAPE CO-ORDINATOR

P&T failed on store AA:

Tape parity on write. Read back digits 6 and sometimes 0 dropping → 1°

Cured by 67/2 '828 → 826 (slower back edge on 828)

May be that if previous dist. access was a write to store

Hold may be holding a 1 too long and WD would

still contain a 1 when the next read strobe

comes along

A

R745.2
E18

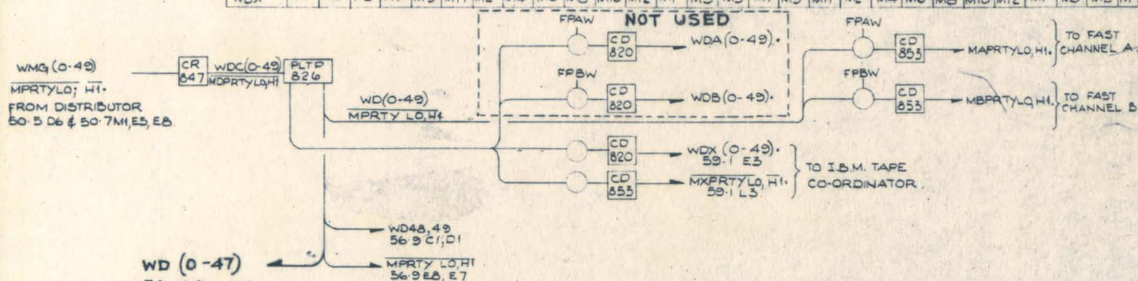
	127	109	0	*000376

Z
I#32

	101	107	100	(34/41)
	127	107	0	*000376
	172	107	0	112
	225	126	0	(12)
	121	107	0	20
	121	108	0	1
10)	121	109	0	256
	121	110	0	256

T RETRIEVER DISENGAGED

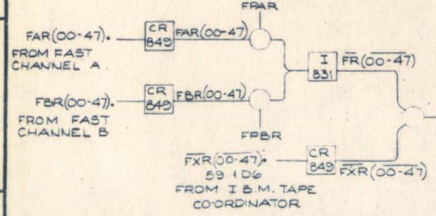
DIGIT / WAVEFORM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	MSPRTY LO	MSPRTY HI
820 853(PARITY)	502/15								503/15				504/15								505/15				506/15						507/15						508/15						509/15						506/20			
WMQ	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M3	M4	$\overline{M5}$	$\overline{M6}$
847	567/3												567/9												567/15												567/21												$\frac{567}{3}$	$\frac{567}{9}$	$\frac{567}{15}$	$\frac{567}{21}$
WDC	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M3	M5	$\overline{M3}$	$\overline{M13}$
826	567/2								567/5				567/8								567/11				567/14						567/17						567/20						567/23						567/27			
$\overline{WD}$	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M5	M7	M10	M12
WD	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M6	M8	M9	M11
820 853(PARITY)	567/1						567/6						567/7						567/12						567/13						567/18						567/19						567/24						567/28			
WDA	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M5	M6	M7	M8
820 853(PARITY)	567/1						567/6						567/7						567/12						567/13						567/18						567/19						567/24						567/29			
WDB	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M5	M6	M7	M8
820 853(PARITY)	567/4												567/10												567/16												567/22												567/28			
WDX	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M2	$\overline{M3}$	$\overline{M4}$



FPAW	581/21/M7	58·16 G3
FPAW	580/20/M4	FAST A WRITE
STFPAW1	567/25/M5	WD(0-5)
STFPAW2	M6	WD(6-11)
STFPAW3	M7	WD(12-17)
STFPAW4	M8	WD(18-23)
STFPAW5	M9	WD(24-29)
STFPAW6	M10	WD(30-35)
STFPAW7	M11	WD(36-41)
STFPAW8	M12	WD(42-47)

FPBW	580/21/M11	58·16 E5
FPBW	580/20/M7	FAST B WRITE
STFPBW1	561/26/M5	WD(0-5)
STFPBW2	M6	WD(6-11)
STFPBW3	M7	WD(12-17)
STFPBW4	M8	WD(18-23)
STFPBW5	M9	WD(24-29)
STFPBW6	M10	WD(30-35)
STFPBW7	M11	WD(36-41)
STFPBW8	M12	WD(42-47)

DIGIT / WAVEFORM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
849	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$
FAR	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4	M7	M7	M10	M10	M1	M1	M4	M4
849	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$
FBR	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5	M8	M8	M11	M11	M2	M2	M5	M5
835	598/34								598/35				598/36								598/37				598/38								598/39								598/40								598/41			
FXR	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4
849	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{1}$	$\frac{577}{2}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{5}$	$\frac{577}{6}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{9}$	$\frac{577}{10}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{13}$	$\frac{577}{14}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{17}$	$\frac{577}{18}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$	$\frac{577}{21}$	$\frac{577}{22}$
$\overline{FXR}$	M3	M3	M6	M6	M9	M9	M12	M12	M3	M3	M6	M6	M9	M9	M12	M12	M3	M3	M6	M6	M8	M9	M12	M12	M3	M3	M6	M6	M9	M9	M12	M12	M3	M3	M6	M6	M9	M9	M12	M12	M3	M3	M6	M6	M9	M9	M12	M12	M3	M3	M6	M6
831	577/3								577/7				577/11								577/15												577/19								577/23											
$\overline{FR}$	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6
854	577/4								577/8				577/12								577/16												577/20								577/24											
FPR	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4

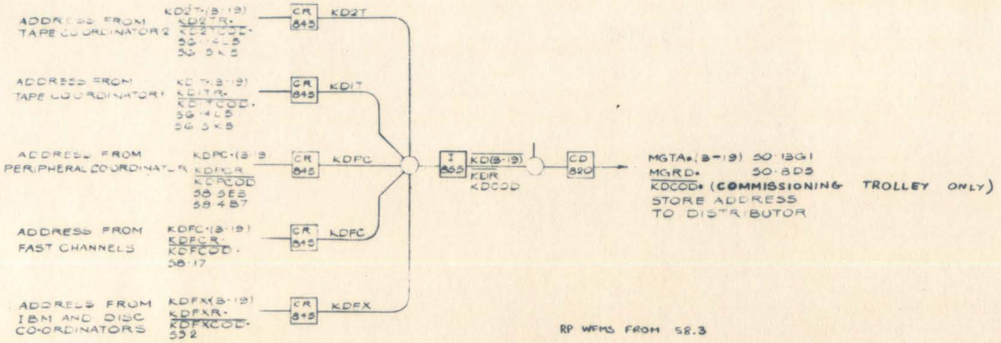


FPAR	560/21/M3	58 16 F3
FPAR	580/20/M3	FAST A READ
STFPAR1	577/25/M1	FAR(00-07)
STFPAR2	M2	FAR(08-15)
STFPAR3	M3	FAR(16-23)
STFPAR4	M4	FAR(24-31)
STFPAR5	M5	FAR(32-39)
STFPAR6	M6	FAR(40-47)

FPBR	580/21/M9	58 16 F5
FPBR	580/20/M6	FAST B READ
STFPBR1	577/25/M7	FBR(00-07)
STFPBR2	M8	FBR(08-15)
STFPBR3	M9	FBR(16-23)
STFPBR4	M10	FBR(24-31)
STFPBR5	M11	FBR(32-39)
STFPBR6	M12	FBR(40-47)

X = IBM + DISC

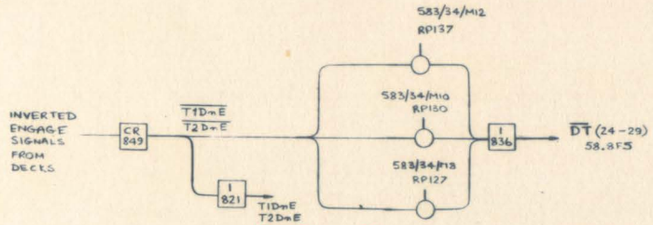
ATLAS II — E.D. 56·18 FAST CHANNEL & I.B.M./DISC COORDINATOR READ & WRITE HIGHWAY & MAIN WRITE HIGHWAY. TAPE COORDINATOR



DIGIT / WAVEFORM	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	R	COD
845	577/40												577/34					577/40	577/34
KD2T	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M2	M4	M6	M8	M10	M13	$\overline{M13}$
845	577/46												577/38					577/46	577/38
KD1T	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M2	M4	M6	M8	M10	$\overline{M13}$	$\overline{M13}$
845	577/47												577/39					577/47	577/39
KDPC	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M3	M5	M7	M9	M13	$\overline{M12}$
845	577/48												577/39					577/48	577/39
KDFC	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M2	M4	M6	M8	M10	M13	$\overline{M12}$
835	599/11						598/24						599/2					599/48	596/48
KDFX	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M7	$\overline{M8}$
845	577/41												577/38					577/41	577/38
KDFX	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M3	M5	M7	M9	M13	$\overline{M12}$
855 (ALL IN BOX 577)	/43	/44	/45	/43	/44	/45	/43	/44	/45	/43	/44	/45	/36	/37	/36	/37	/36	/36	/37
KD	$\overline{M1}$	$\overline{M1}$	$\overline{M1}$	$\overline{M3}$	$\overline{M3}$	$\overline{M3}$	$\overline{M5}$	$\overline{M5}$	$\overline{M5}$	$\overline{M7}$	$\overline{M7}$	$\overline{M7}$	$\overline{M1}$	$\overline{M1}$	$\overline{M3}$	$\overline{M3}$	$\overline{M3}$	$\overline{M7}$	M7
820	577/42												577/33						
MGTA	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M2	M4	M6	M8	M10		

820 MGRD																		577/38 M11	
820 KDCOD																			577/35 $\overline{M9}$

RP WFMS FROM 58.3



58.1 F1 .. F8

WFM / n	00	01	02	03	04	05	06	07
849	577/29							
$\overline{T1D↔E}$	M1	M2	M3	M4	M5	M6	M7	M8
849	577/28							
$\overline{T2D↔E}$	M1	M2	M3	M4	M5	M6	M7	M8
821	577/33							
T1D↔E	M1	M2	M3	M4	M5	M6	M7	M8
821	577/32							
T2D↔E	M1	M2	M3	M4	M5	M6	M7	M8

WFM	24	25	26	27	28	29
836 $\overline{DT}$	577/30					
	M1	M2	M3	M4	M5	M6
STROBED BY RP137	$\overline{T2D00E}$	$\overline{T2D01E}$	$\overline{T2D02E}$	$\overline{T2D03E}$	$\overline{T2D04E}$	$\overline{T2D05E}$
STROBED BY RP130	$\overline{T1D06E}$	$\overline{T1D07E}$	+3V	$\overline{T2D06E}$	$\overline{T2D07E}$	+3V
STROBED BY RP127	$\overline{T1D00E}$	$\overline{T1D01E}$	$\overline{T1D02E}$	$\overline{T1D03E}$	$\overline{T1D04E}$	$\overline{T1D05E}$

} INPUTS STROBED BY RP WFS. (RP WFS. FROM 58.3)

when Auto fast set (and not in low tape region) and changedir or stop is sent the tape will slow down for .75sec before stopping.

Hence rule:-

ALWAYS CHANGE TAPE DIRECTION ON SLOW + ALLOW 5 m sec FOR THIS TO TAKE PLACE BEFORE SETTING FAST.

WRITE = $\overline{\text{FAST}} \cdot \overline{\text{MGRESET}} \cdot$ WRITING $\cdot$ [MODIFIED + (FWD $\cdot$ No B.A. STOP DELAYED 3·5ms)]

IRRELAVENT WHEN MODIFIED

INFO CLAMP + RESET = DECK RESET + [$\overline{\text{WRITE}} \cdot \overline{\text{WRITING}}$ DELAYED 3·5 ms $\cdot$ ($\overline{\text{WRITING}}$ DELAYED 10 ms + $\overline{\text{START PULSE}}$)]

The Stop signal takes effect after a 3·5 ms delay unless a start signal is given during this period.

Stop signal inhibited in coordinator when deck on fast.

The Stop signal to the deck causes the tape to move for 3½ msec if already stopped.

The deck not stopped signal begins to read zero @ the beginning of the 3·5 ms delay.

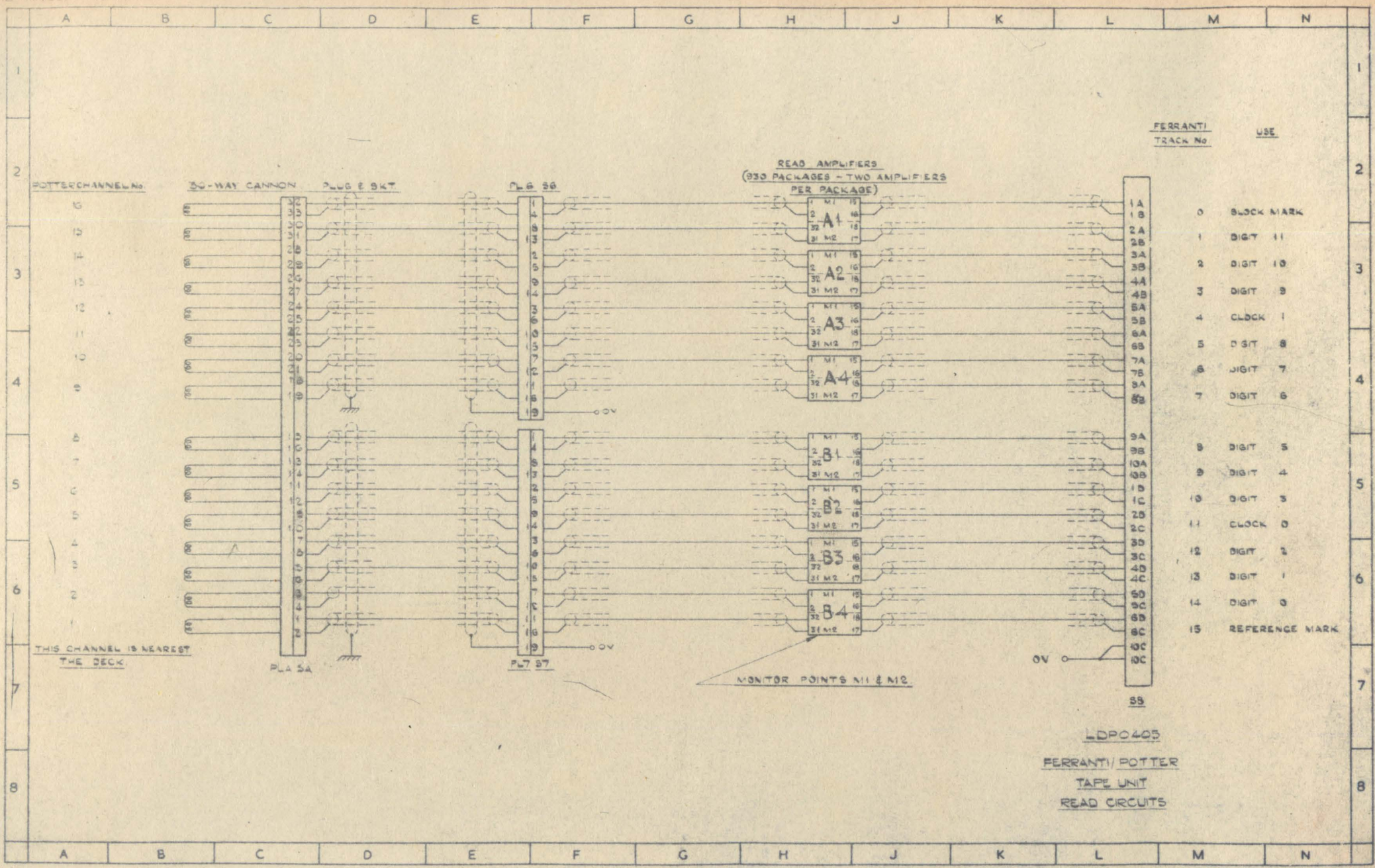
The tape dirn. will not change in the 3·5 ms following the time a b.m stop is sent to the deck. Thus after a b.m. the change of dirn. indication will be delayed.

When MODIFIED it is not desirable to set WRITE when tape dirn changing.

FAST WIND should only be selected either @ the same time as START or when START already set so that the tape accelerates gradually.

After resetting fast, @ least 1 sec (20 blocks) must elapse before Stop or Reverse sent ("the mechanism may become confused")

930 med. 33/32 24/32 R23/24 (for 102)

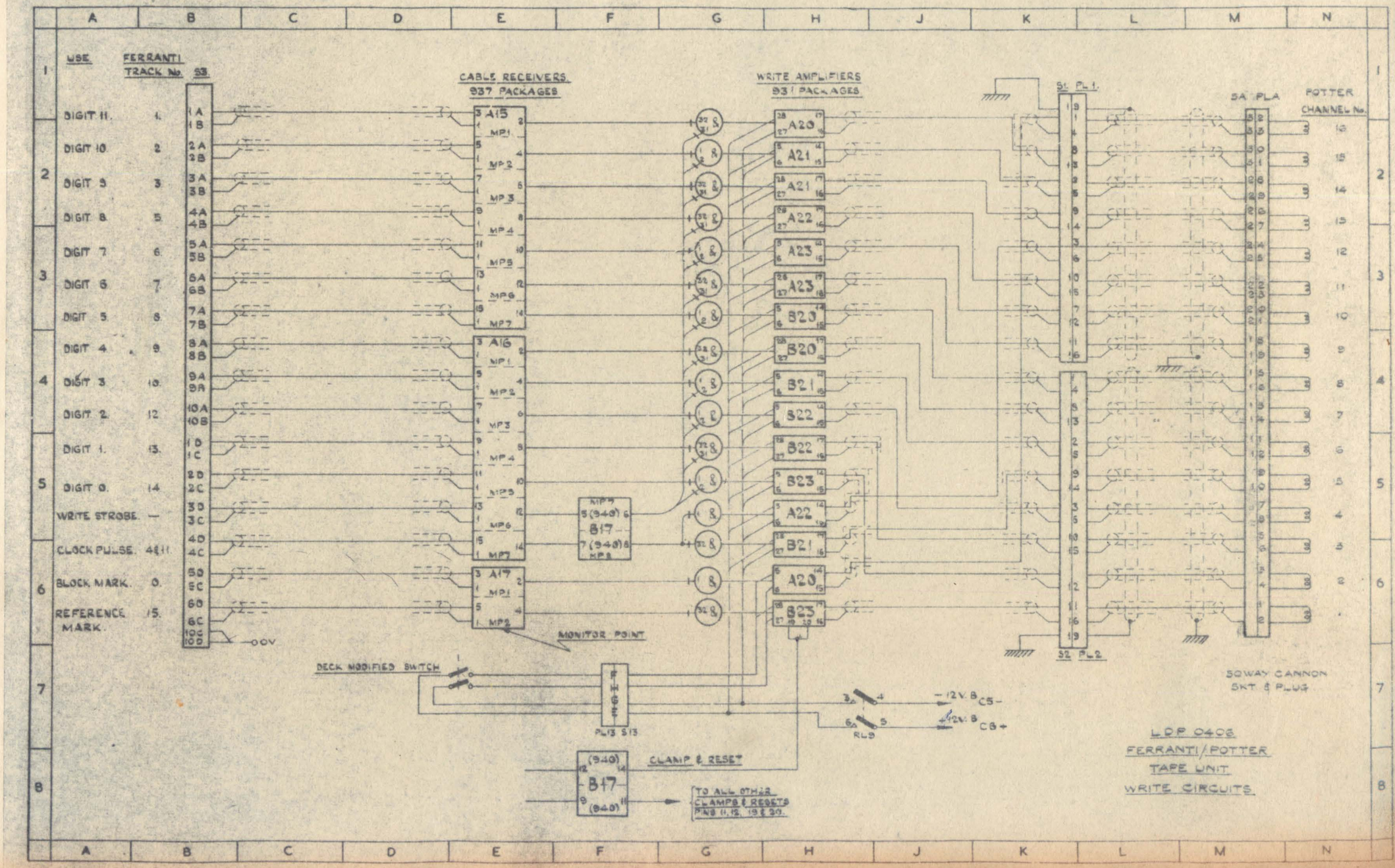


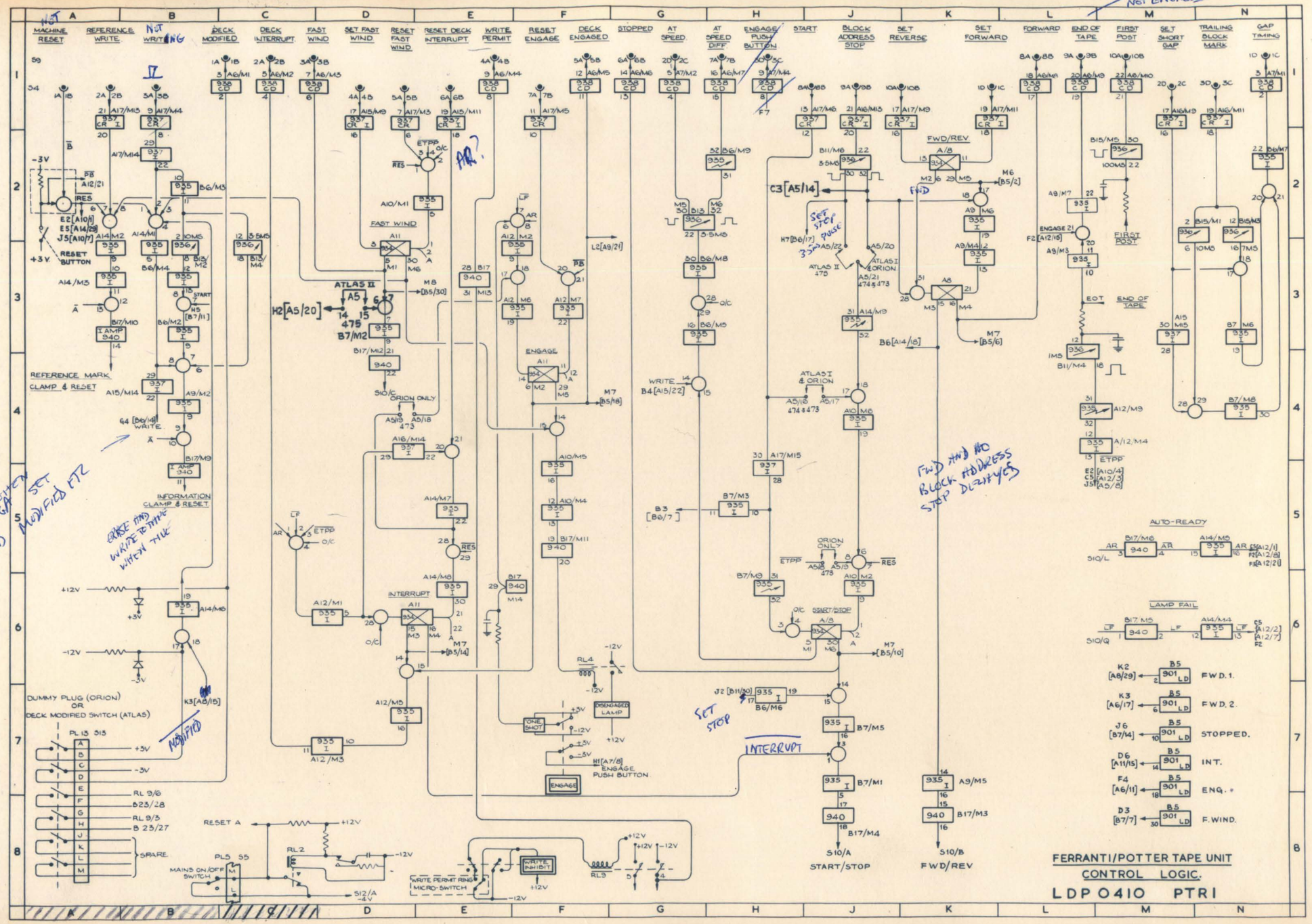
LDP0405

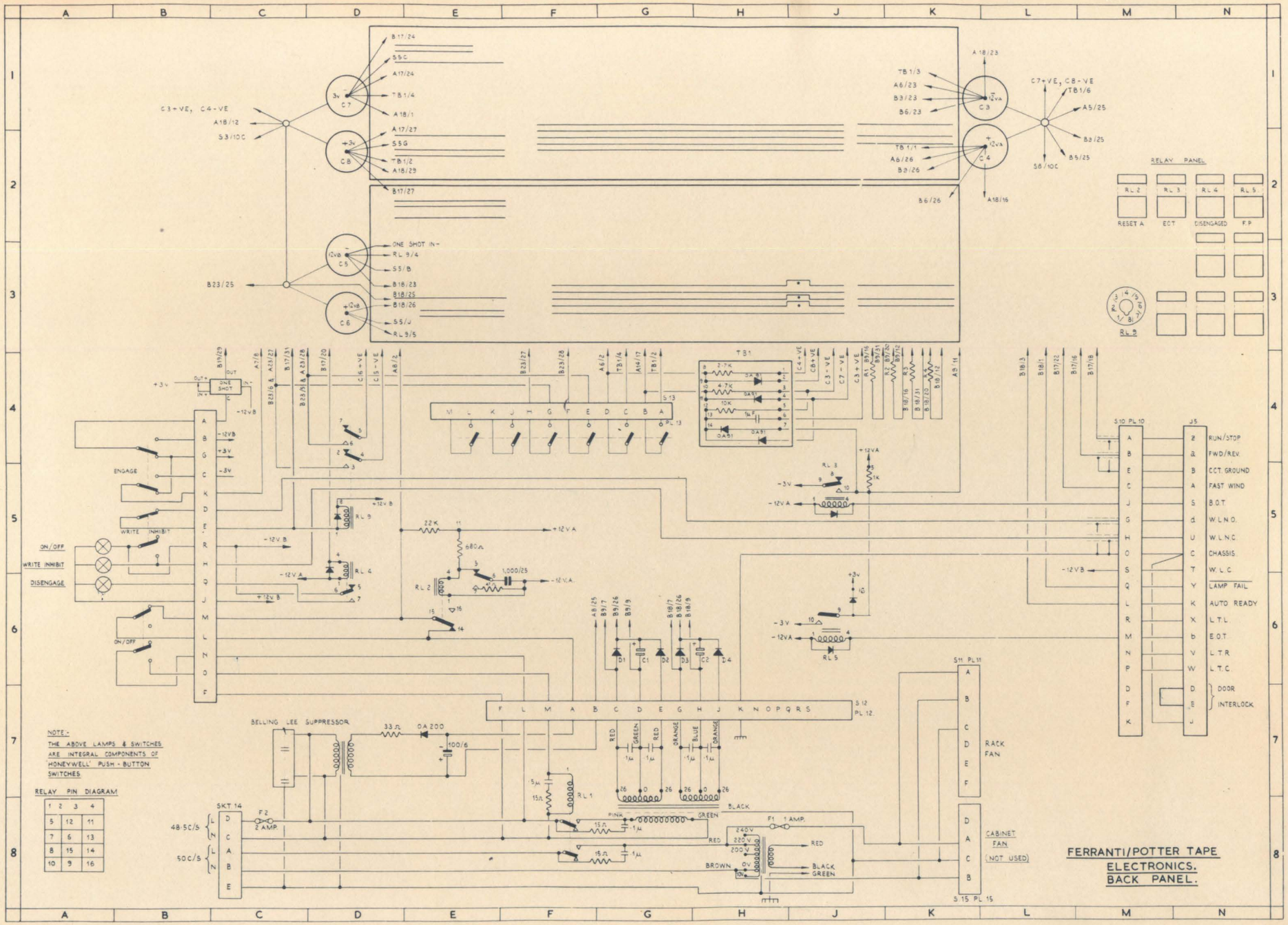
FERRANTI/POTTER

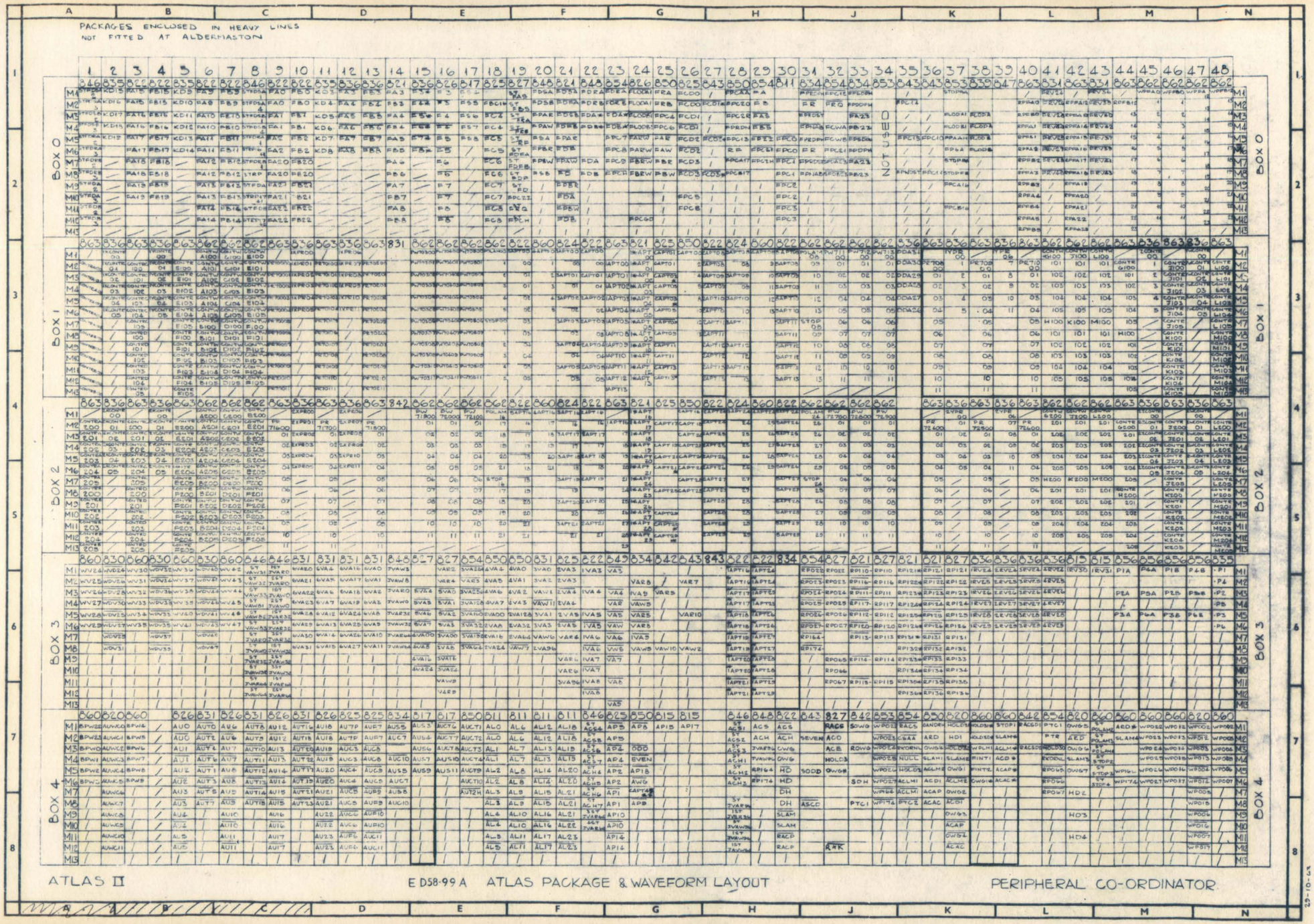
TAPE UNIT

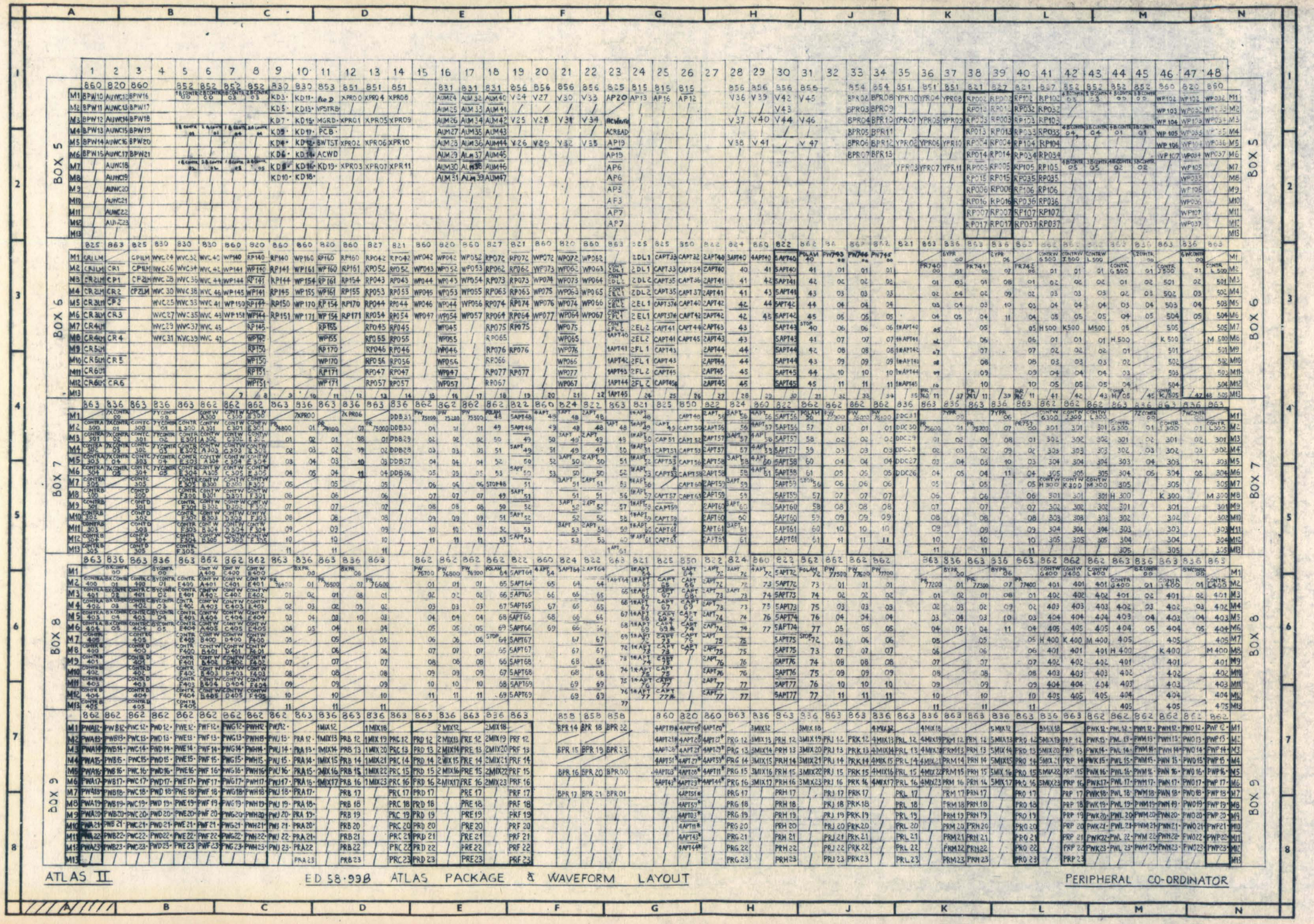
READ CIRCUITS

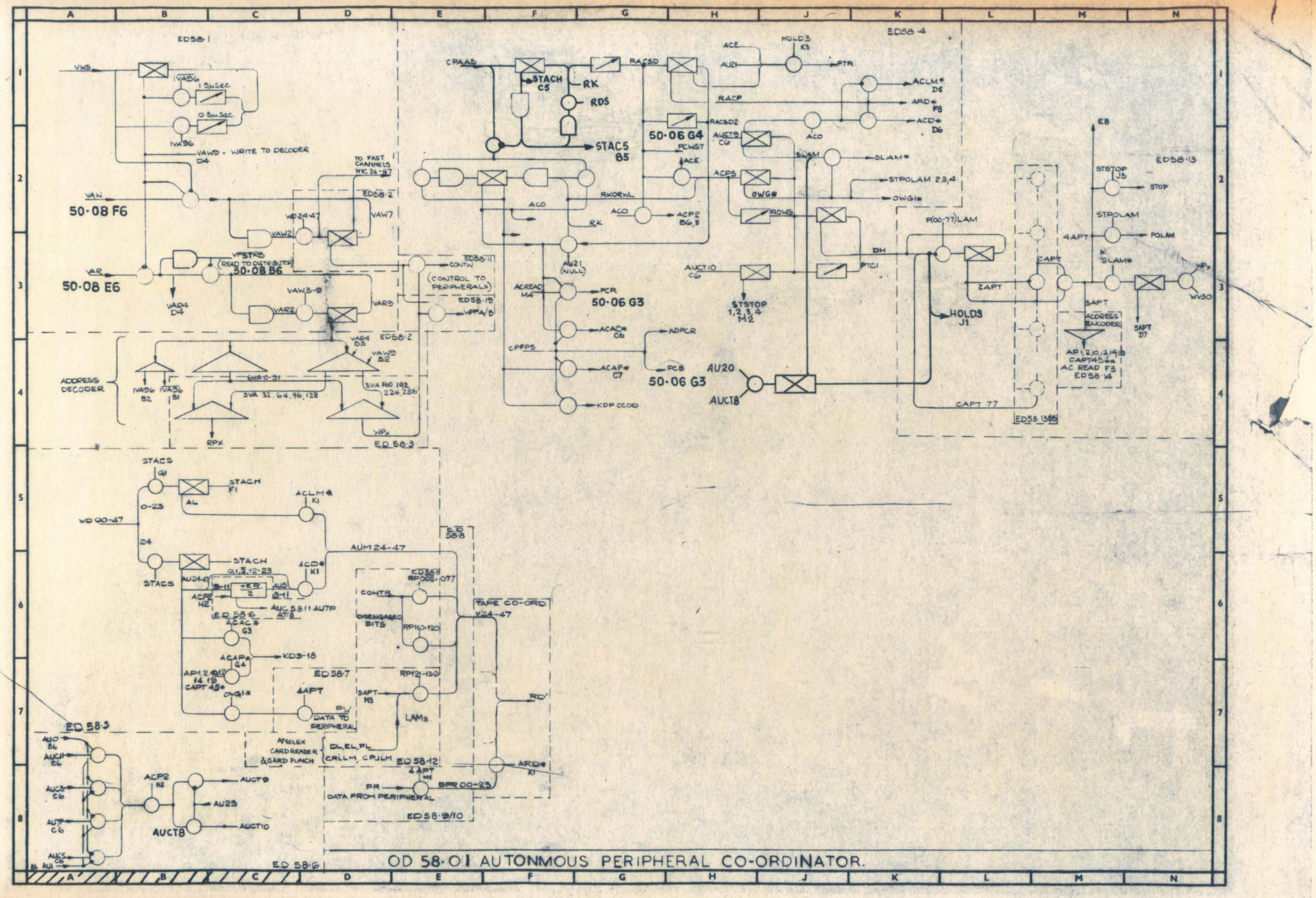

USE
FERRANTI TRACK No. 33
DIGIT 11. 1.
DIGIT 10 2
DIGIT 9 3
DIGIT 8 5
DIGIT 7 6
DIGIT 6 7
DIGIT 5 8
DIGIT 4 9
DIGIT 3 10.
DIGIT 2. 12
DIGIT 1. 13.
DIGIT 0. 14
WRITE STROBE. —
CLOCK PULSE. 4&11
BLOCK MARK. 0.
REFERENCE MARK. 15.
0OV
CABLE RECEIVERS 937 PACKAGES
A15
A16
A17
MP1
MP2
MP3
MP4
MP5
MP6
MP7
MP8
B17
MONITOR POINT
DECK MODIFIED SWITCH
PL13 S13
WRITE AMPLIFIERS 931 PACKAGES
A20
A21
A22
A23
B20
B21
B22
B23
S1 PL1
S2 PL2
5A PLA
POTTER CHANNEL No.
50WAY CANNON SKT & PLUG
RL9
−12V.B CS−
+12V.B CS+
CLAMP & RESET
(940)
TO ALL 6TH±2 CLAMPS & RESETS PINS 11, 12, 19 & 20.
LDP 0408
FERRANTI/POTTER
TAPE UNIT
WRITE CIRCUITS


MACHINE RESET
REFERENCE WRITE
NOT WRITING
DECK MODIFIED
DECK INTERRUPT
FAST WIND
SET FAST WIND
RESET FAST WIND
RESET DECK INTERRUPT
WRITE PERMIT
RESET ENGAGE
DECK ENGAGED
STOPPED
AT SPEED
AT SPEED DIFF
ENGAGE PUSH BUTTON
START
BLOCK ADDRESS STOP
SET REVERSE
SET FORWARD
FORWARD
END OF TAPE
FIRST POST
SET SHORT GAP
TRAILING BLOCK MARK
GAP TIMING
NOT EOT OR NOT ENGAGED
FWD/REV
REFERENCE MARK CLAMP & RESET
INFORMATION CLAMP & RESET
FAST WIND
INTERRUPT
ENGAGE
ORION ONLY
ATLAS I & ORION
ATLAS II
ATLAS I ORION
EOT
END OF TAPE
FIRST POST
ETPP
WRITE
DISENGAGED LAMP
ENGAGE PUSH BUTTON
ONE SHOT
RESET BUTTON
DUMMY PLUG (ORION) OR DECK MODIFIED SWITCH (ATLAS)
MAINS ON/OFF SWITCH
WRITE PERMIT RING MICRO-SWITCH
WRITE INHIBIT
AUTO-READY
LAMP FAIL
S10/A START/STOP
S10/B FWD/REV
FERRANTI/POTTER TAPE UNIT
CONTROL LOGIC.
LDP 0410 PTR1

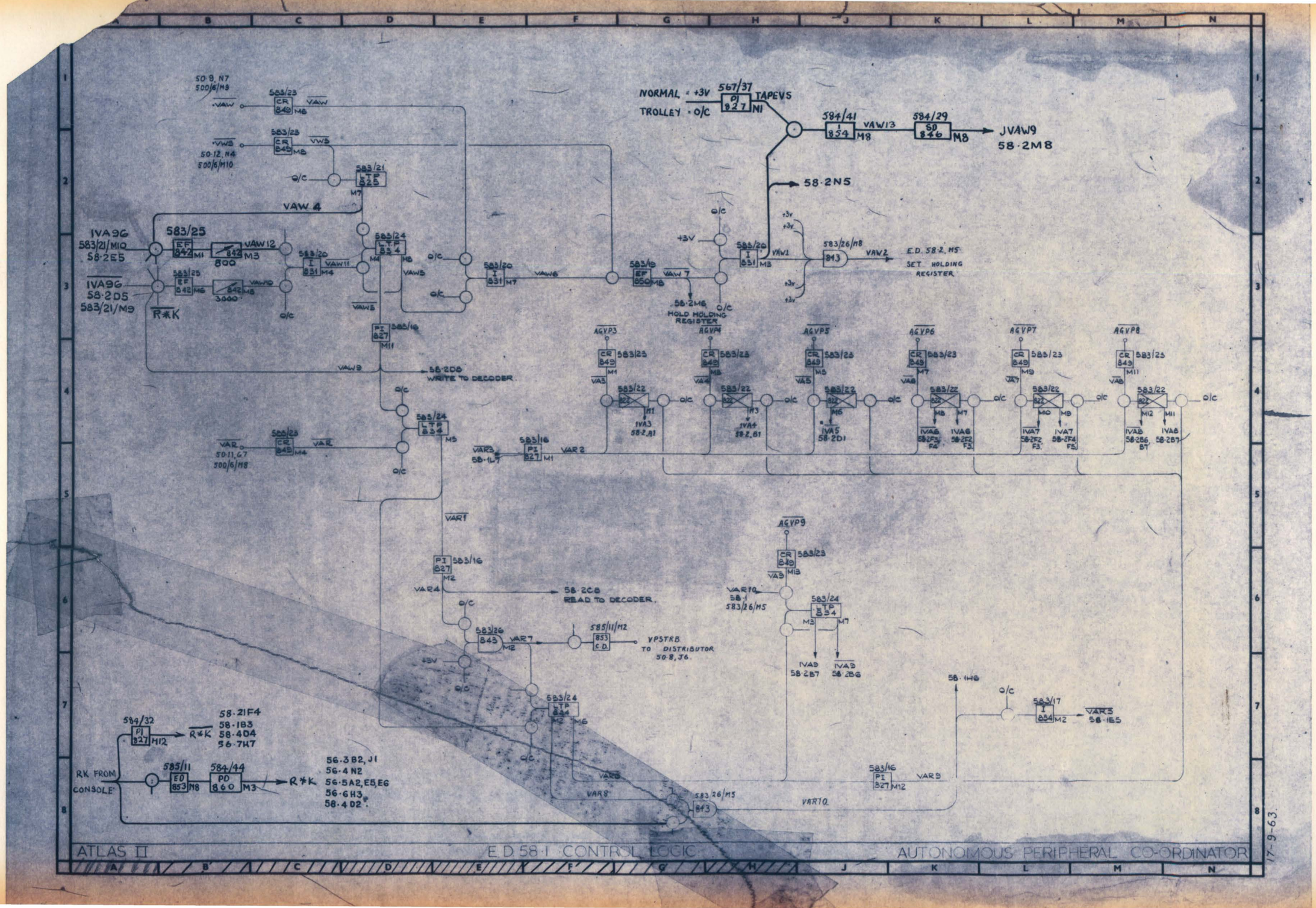

FERRANTI/POTTER TAPE ELECTRONICS.
BACK PANEL.
RELAY PANEL
RL 2
RL 3
RL 4
RL 5
RESET A
EOT
DISENGAGED
F.P
RL 9
ENGAGE
WRITE INHIBIT
ON/OFF
WRITE INHIBIT
DISENGAGE
ON/OFF
NOTE:-
THE ABOVE LAMPS & SWITCHES ARE INTEGRAL COMPONENTS OF HONEYWELL PUSH-BUTTON SWITCHES
RELAY PIN DIAGRAM
1 2 3 4
5 12 11
7 6 13
8 15 14
10 9 16
BELLING LEE SUPPRESSOR
SKT 14
48·5C/S
50C/S
F2 2 AMP.
F1 1 AMP.
240V
220V
200
0V
RACK FAN
CABINET FAN
(NOT USED)
S10 PL 10
S11 PL 11
S12 PL 12
S13 PL 13
S15 PL 15
J5
RUN/STOP
FWD/REV.
CCT. GROUND
FAST WIND
B.O.T.
W.L.N.O.
W.L.N.C.
CHASSIS
W.L.C.
LAMP FAIL
AUTO READY
L.T.L.
E.O.T.
L.T.R.
L.T.C.
DOOR INTERLOCK

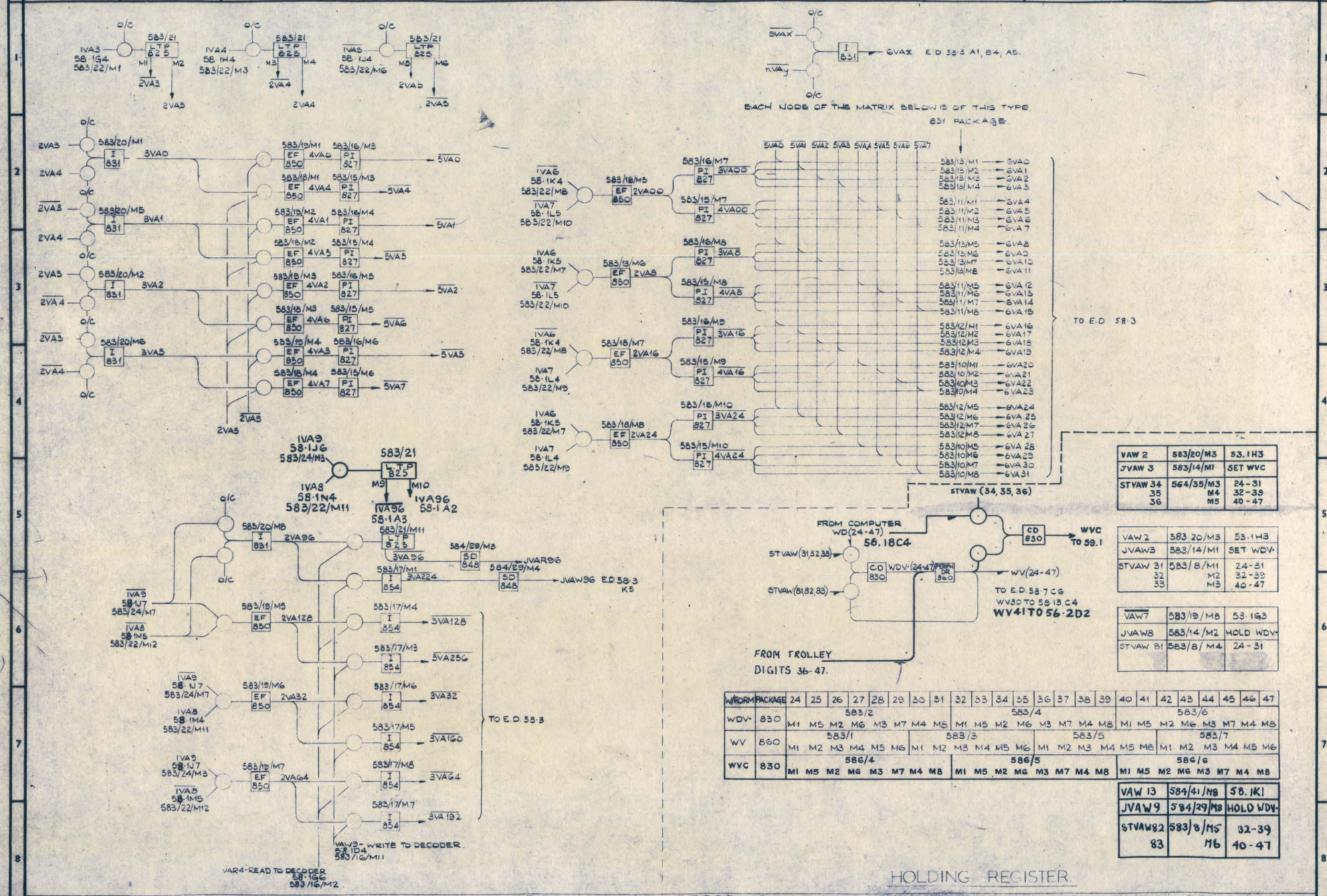

PACKAGES ENCLOSED IN HEAVY LINES
NOT FITTED AT ALDERMASTON
BOX 0
BOX 1
BOX 2
BOX 3
BOX 4
OUTSIDE
ATLAS II
ED58-99A ATLAS PACKAGE & WAVEFORM LAYOUT
PERIPHERAL CO-ORDINATOR


ATLAS II
ED 58·938 ATLAS PACKAGE & WAVEFORM LAYOUT
PERIPHERAL CO-ORDINATOR



OD 58·01 AUTONMOUS PERIPHERAL CO-ORDINATOR.


NORMAL = +3V
TROLLEY = O/C
567/37 TAPEVS
584/41 VAW13
584/29
JVAW9 58·2M8
58·2N5
VAW 4
583/25
IVA9G 583/21/M10 58·2E5
IVA9G 58·2D5 583/21/M9
R*K
VAW12
VAW11
VAW10
VAW5
VAW6
VAW7
VAW1
VAW2
E.D. 58·2, M5 SET HOLDING REGISTER
58·2M6 HOLD HOLDING REGISTER
VAW9
58·2D6 WRITE TO DECODER.
VAR
VAR1
VAR2
VAR3
VAR4
VAR5
VAR7
VAR8
VAR9
VAR10
58·2C8 READ TO DECODER.
VPSTRB TO DISTRIBUTOR 50·8, J6.
AGVP3
AGVP4
AGVP5
AGVP6
AGVP7
AGVP8
AGVP9
IVA3 58·2A1
IVA4 58·2B1
IVA5 58·2D1
IVA6 58·2F3, F4
IVA7 58·2F2, F3
IVA7 58·2F4, F5
IVA8 58·2B6, B7
IVA8 58·2B7
IVA9 58·2B7
IVA9 58·2B6
58·1H6
583/17 VAR5 58·1E5
584/32 58·21F4 58·18B 58·40A 56·7H7
584/44 56·3B2, J1 56·4N2 56·5A2, E5, E6 56·6H3 58·4D2
RK FROM CONSOLE
R*K
ATLAS II
E.D 58·1 CONTROL LOGIC
AUTONOMOUS PERIPHERAL CO-ORDINATOR
17-9-63.



VAW 2	583/20/M3	53.1H3
JVAW 3	583/14/M1	SET WVC
STVAW 34	564/35/M3	24-31
35	M4	32-39
36	M5	40-47

VAW 2	583 20/M3	53.1H3
JVAW3	583/14/M1	SET WDV·
STVAW 31	583/8/M1	24-31
32	M2	32-39
33	M3	40-47

VAW7	583/19/M8	53·1G3
JVAW8	583/14/M2	HOLD WDV·
STVAW 81	583/8/M4	24-31

W/FORM	PACKAGE	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
WDV·	830	583/2								583/4								583/6							
		M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8
WV	860	583/1								583/3						583/5				583/7					
		M1	M2	M3	M4	M5	M6			M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
WVC	830	586/4								586/5								586/6							
		M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8

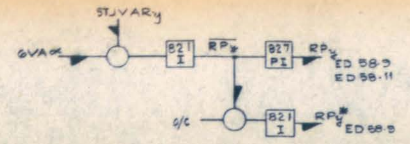
VAW 13	584/41/M8	58.1K1
JVAW9	584/29/M8	HOLD WDV·
STVAW82	583/8/M5	32-39
83	M6	40-47

17-9-63

HOLDING REGISTER.

ATLAS II — E.D 58·2 PRIMARY DECODING — AUTONOMOUS PERIPHERAL CO-ORDINATOR.

A	B	C	D	E	F	G	H	J	K	L	M	N



$\overline{3VA128}$	583/17/M4	58·2E6
JVAR0	583/14/M3	
ST JVAR0	583/8/M7	$\overline{RP}$(002-007)
1ST JVAR0	583/9/M1	$\overline{RP}$(012-017)
2STJVAR0	583/9/M2	$\overline{RP}$(032-037)
3STJVAR0	584/22/M11	RP(022-027)

$\overline{3VA32}$	583/17/M6	58·2 E7
JVAR32	583/14/M5	
STJVAR32	583/8/M9	$\overline{RP}$(042-047)
1STJVAR32	583/9/M5	RP(052-057)
2STJVAR32	583/9/M6	RP(072-077)
3STJVAR32	583/9/M7	RP(062-067)

$\overline{3VA64}$	583/17/M8	58·2 E7
JVAR64	583/14/M7	
STJVAR64	583/8/M11	$\overline{RP}$(102-107)
1STJVAR64	583/9/M11	RP(121-126)
2STJVAR64	583/9/M12	RP(131-135)
3ST JVAR64	584/22/M9	$\overline{RP}$(116-120, 127,130,137)
4STJVAR64	584/22/M10	RP(110-120)

$\overline{3VA96}$	583/21/M11	58·2.D5
JVAR96	584/29/M3	58·2 E3
STJVAR96	584/28/M8	$\overline{RP}$(160-171)
1STJVAR96	584/28/M9	RP(140-151)

TAPE ENGAGE LINES

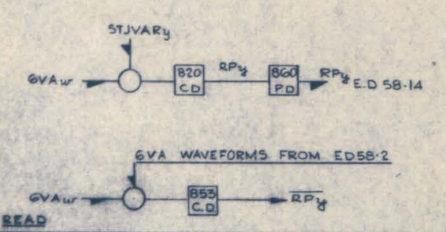
WFORM & P'KAGE	127	130	137
	583/33		
$\overline{RP}$ 821	M8	M10	M12
	583/34		
RP 827	M8	M10	M12
6VA	23	24	31
STROBE	3STJVAR64		

WFORM & P'KAGE	002	003	004	005	006	007	012	013	014	015	016	017	022	023	024	025	026	027
	585/38						585/38						854 583/31					
$\overline{RP}$ 821	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M2	M3	M4	M5	M6
	585/39						585/39						583/32					
RP 827	M1	M3	M5	M7	M9	M11	M2	M4	M2	M8	M10	M12	M1	M2	M3	M4	M5	M6
RPx 821																		
6VA	2	3	4	5	6	7	10	11	12	13	14	15	18	19	20	21	22	23
STROBE	STJVAR0						1STJVAR0						3STVAR0					

WFORM & P'KAGE	032	033	034	035	036	037	042	043	044	045	046	047	052	053	054	055	056	057	062	063	064	065	066	067
	585/40						586/14						586/14						586/19			854 584/41		
$\overline{RP}$ 821	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M2	M4	M6	M5	M6	M7
	585/41						586/13						586/13						586/18			583/32		
RP 827	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M2	M4	M6	M9	M10	M11
RPx 821																								
6VA	26	27	28	29	30	31	2	3	4	5	6	7	10	11	12	13	14	15	18	19	20	21	22	23
STROBE	2STJVAR0						STJVAR32						1STJVAR32						3STVAR32					

WFORM & P'KAGE	072	073	074	075	076	077	102	103	104	105	106	107	110	111	112	113	114	115	116	117	120
	586/19						585/40						583/33								
$\overline{RP}$ 821	M1	M3	M5	M7	M9	M1	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M2	M4	M6
	586/18						585/41						583/34								
RP 827	M1	M3	M5	M7	M8	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M2	M4	M6
RPx 821																					
6VA	26	27	28	29	30	31	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STROBE	2STJVAR32						STJVAR64						4STJVAR64						3STJVAR64		

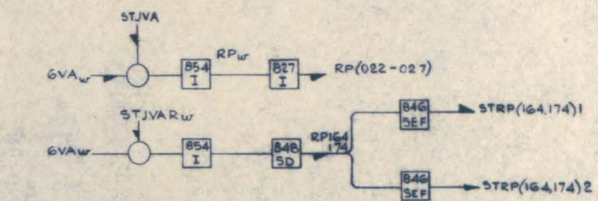
WFORM & P'KAGE	121	122	123	124	125	126	127	131	132	133	134	135	136
	583/36							583/36					
$\overline{RP}$ 821	M1	M2	M3	M4	M5	M6		M7	M8	M9	M10	M11	M12
	583/37							583/37					
RP 827	M1	M2	M3	M4	M5	M6		M7	M8	M9	M10	M11	M12
	583/35							583/35					
RPx 821	M1	M2	M3	M4	M5	M6		M7	M8	M9	M10	M11	M12
6VA	17	18	19	20	21	22		25	26	27	28	29	30
STROBE	1STJVAR64							2STJVAR64					

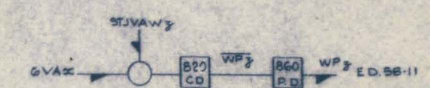


READ

WAVEFORM & P'KAGE	144	146	154	166	145	147	140	142	155	157	141	143	175	176
	586/8						586/11						585/11	
$\overline{RP}$ 820	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M3	M4
	586/9						586/12							
RP 860	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6		
6VA	0	1	12	22	5	7	0	2	13	23	1	3	29	30
STROBE	1STJVAR96						STJVAR96						1STJVAR96	

WAVEFORM & P'KAGE.	164	174
	583/31	
$\overline{RP}$ 854	M7	M8
	854/29	
RP 848	M5	M6
	580/8	
STRP1 846	M6	M10
STRP2 846	M8	M11
OVA	20	28
STROBE	STJVAR296	





$\overline{3VA256}$	583/17/M6	58·2E6
JVAW0	583/14/M4	
STJVAW0	583/8/M8	$\overline{WP}$(002-007)
1STJVAW0	583/9/M3	$\overline{WP}$(012-017)
2STJVAW0	583/9/M4	$\overline{WP}$(032-037)
3STJVAW0	584/28/M12	$\overline{WP}$(022-027)

$\overline{3VA160}$	583/17/M5	58·2.E7
JVAW32	583/14/M6	
STJVAW32	583/8/M10	$\overline{WP}$(042-047)
1STJVAW32	583/9/M8	$\overline{WP}$(052-057)
2STJVAW32	583/9/M9	$\overline{WP}$(072-077)
3STJVAW32	583/9/M10	$\overline{WP}$(062-067)

$\overline{3VA192}$	583/17/M7	58·2 E8
JVAW64	583/14/M8	
STJVAW64	583/8/M12	$\overline{WP}$(102-107)

$\overline{3VA224}$	588/17/M1	58·2 D5
JVAW96	584/29/M4	58·2 F6
STJVAW96	584/28/M10	$\overline{WP}$(160-171)
1STJVAW96	584/28/M11	$\overline{WP}$(140-151)

WFORM & P'KAGE	002	003	004	005	006	007	012	013	014	015	016	017	022	023	024	025	026	027
	584/47						584/47						(853) 584/34					
WP 820	M1	M3	M5	M7	M8	M11	M2	M4	M6	M8	M10	M12	M1	M2	M3	M4	M5	M6
	584/46						584/48						584/45					
WP 860	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
6VA	2	3	4	5	6	7	10	11	12	13	14	15	18	19	20	21	22	23
STROBE	STJVAW0						1STJVAW0						3STJVAW0					

WFORM & P'KAGE	032	033	034	035	036	037	042	043	044	045	046	047	052	053	054	055	056	057	052	063	064	065	066	067
	585/47						586/16						586/16						586/21.					
WP 820	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
	585/48						586/15						586/17						586/22					
WP 860	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
6VA	26	27	28	29	30	31	2	3	4	5	6	7	10	11	12	13	14	15	18	19	20	21	22	23
STROBE	2STJVAW0						STJVAW3						. ST JVAW32						3STJVAW32					

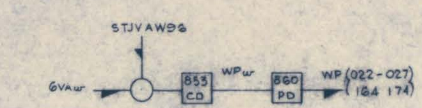
WFORM & P'KAGE	072	073	074	075	076	077	102	103	104	105	106	107
	586/21						585/47					
WP 820	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11
	586/20						585/46					
WP 860	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
6VA	26	27	28	29	30	31	2	3	4	5	6	7
STROBE	2STJVAW32						STJVAW64					

WFORM & P'KAGE	110	111	112	113	114	115	116	117	120	121	122	123	124	125	126	127	131	132	133	134	135	136
WP 820																						
WP 860																						
6VA																						
STROBE																						

6 VA WAVEFORMS FROM ED 58-2

WAVE FORM & PACKAGE	144	146	154	166	145	147	140	142	155	167	141	143
	586/8						586/11					
$\overline{WP}$ 820	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
	586/7						586/10					
WP 860	M1	M2			M5	M6	M1	M2			M5	M6
6VA	4	6	12	22	5	7	0	2	13	23	1	3
STROBE	1STJVAW96						STJVAW96					

WAVEFORM & P'KAGE	164	174
	584/34	
WP 853	M7	M8
	584/44	
WP 860	M5	M6
6VA	20	28
	STJVAW96	

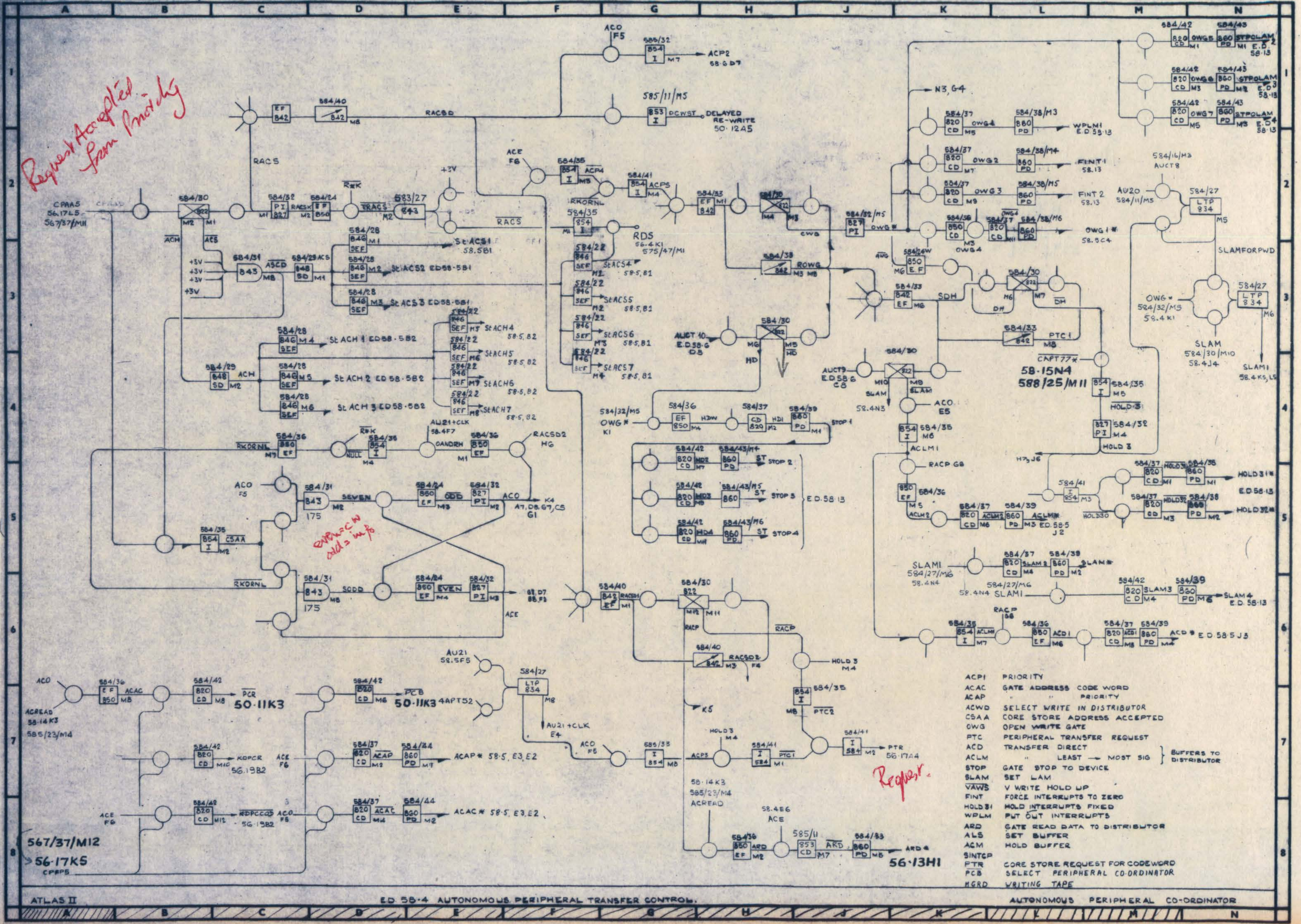


WRITE

ATLAS II

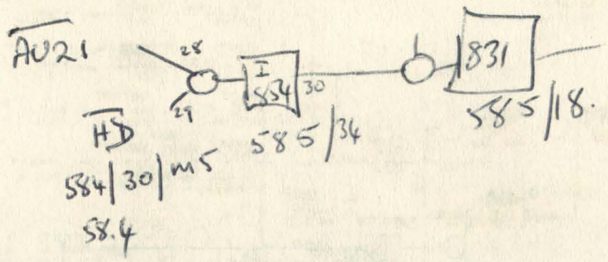
ED58·3 DECODER OUTPUTS

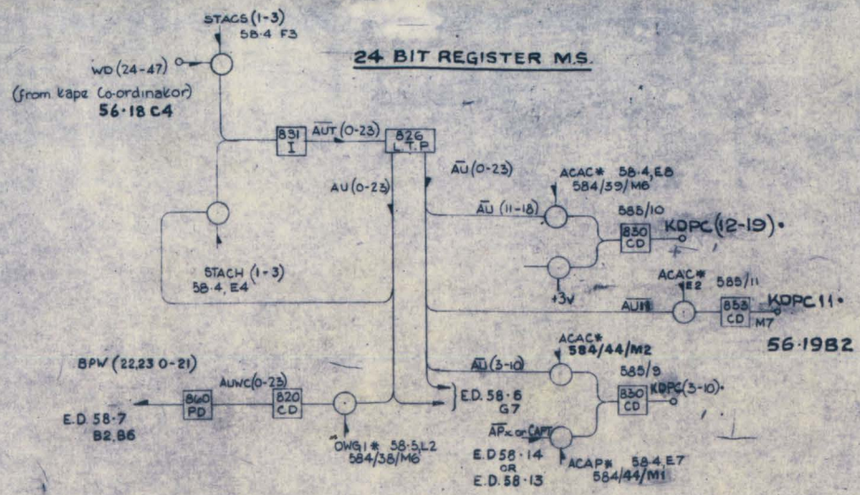
AUTONOMOUS PERIPHERAL CO-ORDINATOR

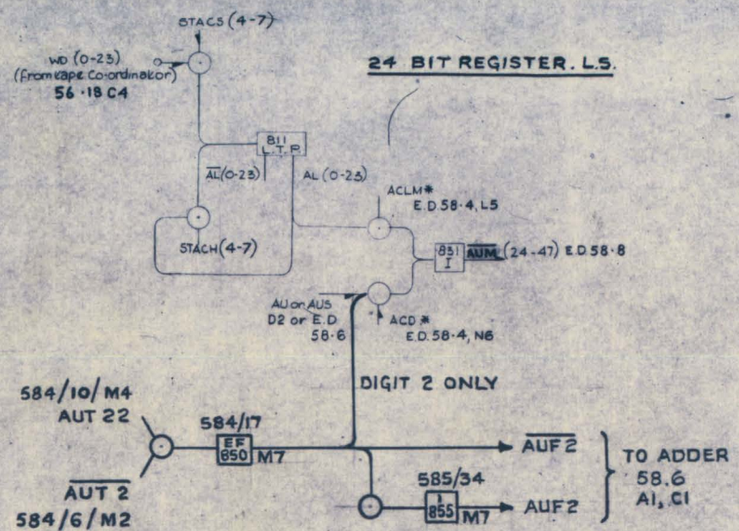


Request Accepted from Priority
CPAAS 56.17L5 567/37/M11
RACS
RACSD
ACH
ACS
ASCD
TRACS
St ACS1 58.5B1
St ACS2 ED58·5B1
St ACS3 ED58·5B1
St ACH 1 ED58·5B2
St ACH 2 ED 58·5B2
St ACH 3 ED58·5B2
StACH4 58·5, B2
StACH5 58·5, B2
StACH6 58·5, B2
StACH7 58·5, B2
StACS4 58·5, B1
StACS5 58·5, B1
StACS6 58·5, B1
StACS7 58·5, B1
ACO F5
ACP2 58·G D7
585/11/M5
DCWST DELAYED RE-WRITE 50·12A5
ACE F6
ACP4
ACPS
RKORNL
RDS 56·4K1 575/47/M1
OWG ✱
ROWG
SDH
AUCT 10 E.D.58·6 D8
HD
AUCT9 E.D.58·6 C8
SLAM 58.4N3
ACO E5
ACLM1
RACP G8
N3, G4
WPLM1 E.D 58·13
FINT 1 58.13
FINT 2 58.13
OWG 1 ✱ 58.5C4
STPOLAM 2 E.D. 58·13
STPOLAM 3 E.D. 58·13
STPOLAM 4 E.D. 58·13
584/16/M3 AUCT8
AU20 584/11/M5
SLAMFORPWD
OWG ✱ 584/32/M5 58.4K1
SLAM 584/30/M10 58.4J4
SLAM1 58.4K5, L5
PTC1
CAPT77✱
58·15N4
588/25/M11
HOLD 3
H7, J6
HOLD 31✱ E.D.58·13
HOLD 32✱
HOLD30
ACLM✱ E.D. 58·5 J2
SLAM1 584/27/M6 58.4N4
SLAM✱
SLAM4 E.D. 58·13
RACP G8
ACD✱ E.D 58·5 J3
584/32/M5 OWG✱ K1
HDW
HD1
STOP 1
STOP 2
STOP 3
STOP 4
E.D.58·13
AU21+CLK 58.4F7
OANDRH
RACSD2 H6
SEVEN
ODD
ACO K4 A7, D8, G7, C5 G1
CSAA
even=CW odd=info
SODD
EVEN
58.D7 58.F3
ACE
RACSD1
RACP
RACSD2 F4
HOLD 3 M4
PTC2
K5
AU21 58.5F5
4APT52
AU21+CLK E4
ACP3
PTR 56·17A4
Reqest.
58·14K3 585/23/M4 ACREAD
58.4E6 ACE
ARD
ARD✱
56·13H1
ACO
ACAC
ACREAD 58·14K3 585/23/M4
PCR 50·11K3
PCB 50·11K3
KDPCR 56.19B2
KDPCCQD 56·19B2
ACAP✱ 58·5, E3, E2
ACAC✱ 58·5, E3, E2
567/37/M12
56·17K5
CPPPS
ACP1 PRIORITY
ACAC GATE ADDRESS CODE WORD
ACAP " " PRIORITY
ACWD SELECT WRITE IN DISTRIBUTOR
CSAA CORE STORE ADDRESS ACCEPTED
OWG OPEN WRITE GATE
PTC PERIPHERAL TRANSFER REQUEST
ACD TRANSFER DIRECT
ACLM " LEAST → MOST SIG
BUFFERS TO DISTRIBUTOR
STOP GATE STOP TO DEVICE
SLAM SET LAM
VAWS V WRITE HOLD UP
FINT FORCE INTERRUPTS TO ZERO
HOLD 31 HOLD INTERRUPTS FIXED
WPLM PUT OUT INTERRUPTS
ARD GATE READ DATA TO DISTRIBUTOR
ALS SET BUFFER
ACM HOLD BUFFER
SINTCP
PTR CORE STORE REQUEST FOR CODEWORD
PCB SELECT PERIPHERAL CO-ORDINATOR
HGRD WRITING TAPE
ATLAS II
ED 58·4 AUTONOMOUS PERIPHERAL TRANSFER CONTROL.
AUTONOMOUS PERIPHERAL CO-ORDINATOR

Mod für telegraphische Schaltung

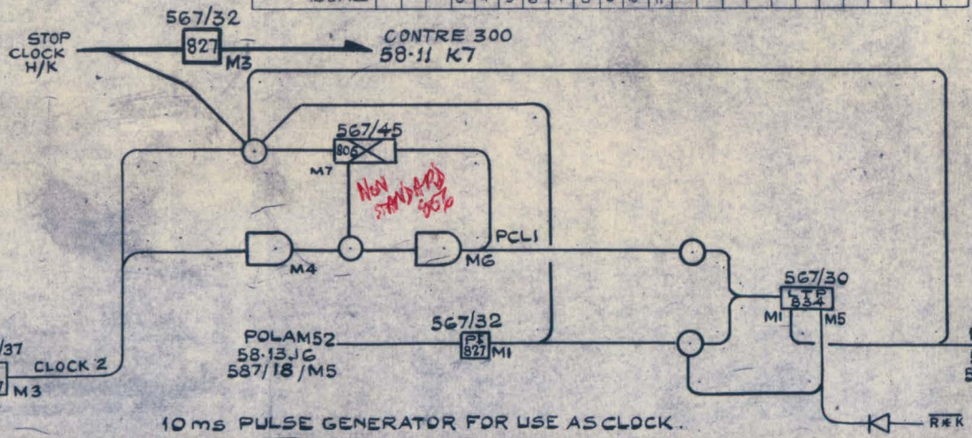


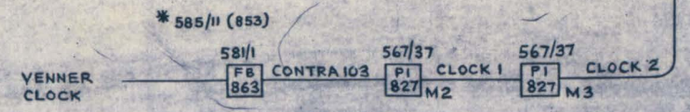




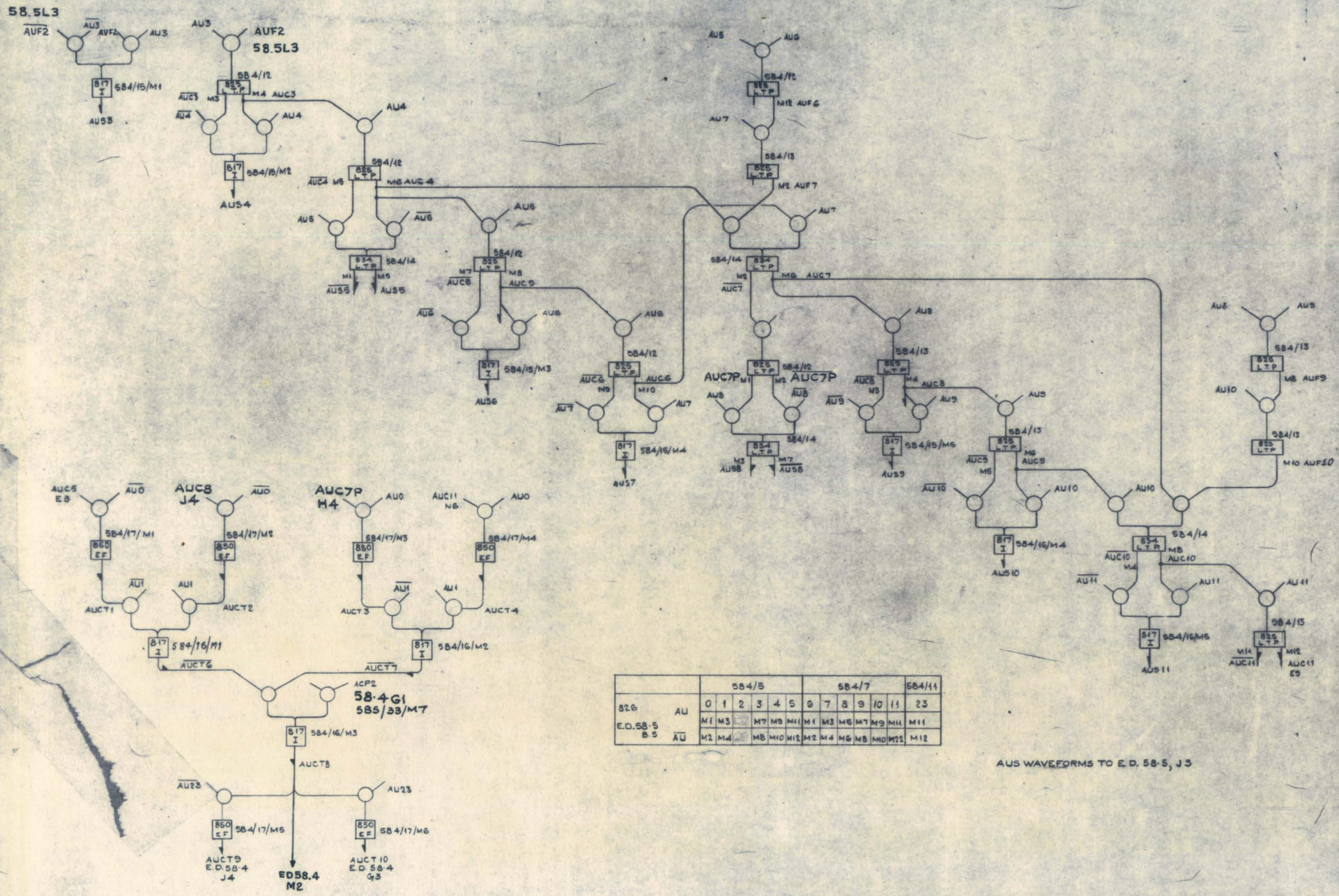
WD	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
831 AUT	584/6								584/8								584/10							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8
STROBES	STAC.S1	584, E3		584/28/M1					STAC.S2	58·4, D3		584/28/M2					STAC.S3	58·4 D3		584/28/M3				
	STAC.H1	584, D3		584/28/M4					STAC.H2	58·4, D4		584/28/M5					STAC.H3	58·4, D4		584/28/M6				
826 AU	584/5								584/7								584/9				584/11			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	M1	M5	M3	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11
AU	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
830 KDPC.	585/9								*	585/10														
				3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
				M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1				
AP	584/23 E.D 58·14																							
				13	14	12	1	2	10	CAPT 45/6	+3v													
				M6	M12	SPW 45/M1	M7	M5	M10	SPW 45/M7														
820 AUWC	584/2								585/2															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
860 BPW	584/1								584/3				585/1				585/3							
	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6

WD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	584/18								584/19				584/20						584/21					
811 AL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
AL	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11
STROBES	STAC.S4	584, F8		584/22/M1			STAC.S5	58·4 F3		584/22/M2			STAC.S6	58·4 F3		584/22/M5			STAC.S7	58·4 F4		584/22/M4		
	STAC.H4	58·4 E3		584/22/M3			STAC.H5	58·4 E4		584/22/M6			STAC.H6	58·4 E4		584/22/M7			STAC.H7	58·4 E4		584/22/M8		
	585/16								585/17								585/18							
831 AUM	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	M1	M5	M2	M6	M3	M7	M4	M8	1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8
INPUT AU	0	1	2										12	13	14	15	Sak	17	18	19	20	21	22	23
INPUT AUS				3	4	5	6	7	8	9	10	11												





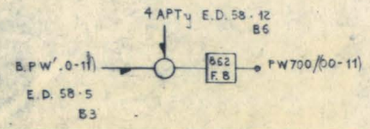
17-9-63



		584/5						584/7						584/11
826	AU	0	1	2	3	4	5	6	7	8	9	10	11	23
E.D.58·5 B·5		M1	M3		M7	M9	M11	M1	M3	M5	M7	M9	M11	M11
	$\overline{AU}$	M2	M4		M8	M10	M12	M2	M4	M6	M8	M10	M12	M12

AUS WAVEFORMS TO E.D. 58·5, J3

10-9-63

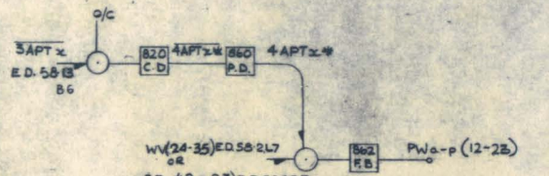


12 BIT WRITE . TO PERIPHERALS

862 PW	00	01	02	03	04	05	06	07	08	09	10	11
703	581/15											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 03 E.D. 58·13, B6											
704	581/16											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 04 E.D. 58·13, C6											
705	581/17											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 05 E. D. 58·13, C6											
711	581/32											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 11 E. D. 58.13, D6											
712	581/33											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 12 E.D 58. 13, D6											
713	581/34											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 13 E.D. 58. 13, D6											
719	582/15											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 19 E.D. 58. 13, E6											
720	582/16											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 20 E D 58. 13, E6											
721	582/17											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 21 E.D. 58. 13, E6											
BPW	00	01	02	03	04	05	06	07	08	09	10	11

862 PW	00	01	02	03	04	05	06	07	08	09	10	11
727	582/32											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 27 E.D. 58·13, F6											
728	582/33											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 28 E. D. 58·13, F6											
729	582/34											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 29 E.D 58·13, F6											
751	587/15											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 51 E.D 58. 13, J6.											
752	587/16											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 52 E.D 58. 13, K6											
753	587/17											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 53 E.D 58. 13, K 6											
759	587/32											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 59 E.D 58. 13, L6											
760	587/33											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 60 E.D 58. 13, L6											
761	587/34											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 61 E.D 58. 13, L6											
BPW	00	01	02	03	04	05	06	07	08	09	10	11

862	00	01	02	03	04	05	06	07	08	09	10	11
767	588/15											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 67 E.D 58·13, M6											
768	588/16											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 68 E.D 58·13, M6											
769	588/17											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 69 E. D. 58·13, M6											
775	588/32											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 75 E.D 58·13, N6											
776	588/33											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 76 E.D 58. 13, N6											
777	588/34											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 77 E.D. 58. 13, N6											
743	586/32											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 43 E.D 58·13 M6											
744	583/33											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 44 E.D. 58·13 M6											
745	586/34											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 45 E.D 58·13 M6											
BPW	00	01	02	03	04	05	06	07	08	09	10	11



	4 APT *	19	21	28	51	03	45	20	27	29	50	11	44
860	4APT x*	589/25						589/27					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
820	4APT x*	589/26											
		M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12

24 BIT EXTENSION

862 PW	12	13	14	15	16	17	18	19	20	21	22	23
589/1 a	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
860 STROBE	WP067 ED 58·3 G7 584/41/M7											
860 INPUTS	583/5/M1-6						583/5/M1-6					
WV. ED 58.2. L7	30	31	32	33	34	35	36	37	38	39	40	41
589/2 b	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	WP066 ED 58·3 G7 584/41/M6											
INPUTS	583/5/M1-6						583/5/M1-6					
WV. ED58·2 L7	30	31	32	33	34	35	36	37	38	39	40	41
589/3 c	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	WP065 ED 58·3 G7 584/41/M5											
INPUTS	583/5/M1-6						583/5/M1-6					
WV ED 58·2 L7	30	31	32	33	34	35	36	37	38	39	40	41
589/4 d	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT 19 * 589/25/M1											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5 E7	12	13	14	15	16	17	18	19	20	21	22	23
589/5 e	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 20 * 589/27/M1											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED58·5 E7	12	13	14	15	16	17	18	19	20	21	22	23

862 PW	12	13	14	15	16	17	18	19	20	21	22	23
589/6 f	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
860 STROBE	4 APT. 21 * 589/25/M2											
860 INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/7 g	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 27 * 589/27/M2											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/8 h	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 28 * 589/25/M3											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/9 j	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 29 * 589/27/M3											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/45 k	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 51 * 589/25/M4											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23

862 PW	12	13	14	15	16	17	18	19	20	21	22	23
589/44 l	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
860 STROBE	4 APT 59 * 589/27/M4											
860 INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/45 m	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 03 * 589/25/M5											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/46 n	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 11 * 589/27/M5											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/47 o	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 43 * 589/25/M6											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23
589/48 p	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
STROBE	4 APT. 44 * 589/27/M6											
INPUTS	585/1/M3-6				585/3/M1-6						584/1/M1-2	
BPW. ED 58·5	12	13	14	15	16	17	18	19	20	21	22	23

3 $\overline{\text{APT}}$ WAVEFORMS FROM E.D. 58·13

26-8-63

856 V	24	25	26	27	28	29
	585/19			585/20		
	M1	M3	M5	M1	M3	M5
INPUTS	1BCONTRO0 581/1/M1	1BCONTRO1 581/1/M2	1BCONTRO2 581/1/M3	1BCONTRO3 581/1/M4	1BCONTRO4 581/1/M5	1BCONTRO5 581/1/M6
	B3	B3	B3	C3	C3	D3
	2BCONTRO0 581/2/M1	2BCONTRO1 581/2/M2	2BCONTRO2 581/2/M3	2BCONTRO3 581/2/M4	2BCONTRO4 581/2/M5	2BCONTRO5 581/2/M6
	F3	F3	F3	G3	G3	G3
	3BCONTRO0 581/3/M1	3BCONTRO1 581/3/M2	3BCONTRO2 581/3/M3	3BCONTRO3 581/3/M4	3BCONTRO4 581/3/M5	3BCONTRO5 581/3/M6
	B5	B5	B5	C5	C5	D5
	4BCONTRO0 581/4/M1	4BCONTRO1 581/4/M2	4BCONTRO2 581/4/M3	4BCONTRO3 581/4/M4	4BCONTRO4 581/4/M5	4BCONTRO5 581/4/M6
	F5	F5	F5	G5	G5	G5
	O/C	O/C	O/C	O/C	O/C	O/C
	O/C	O/C	O/C	O/C	O/C	O/C
	FRV24 580/41/M1	FRV25 580/41/M2	FRV26 580/41/M3	FRV27 580/41/M4	FRV28 580/41/M5	FRV29 580/41/M6
	AUM24 585/16/M1	AUM25 585/16/M2	AUM26 585/16/M3	AUM27 585/16/M4	AUM28 585/16/M5	AUM29 585/16/M7

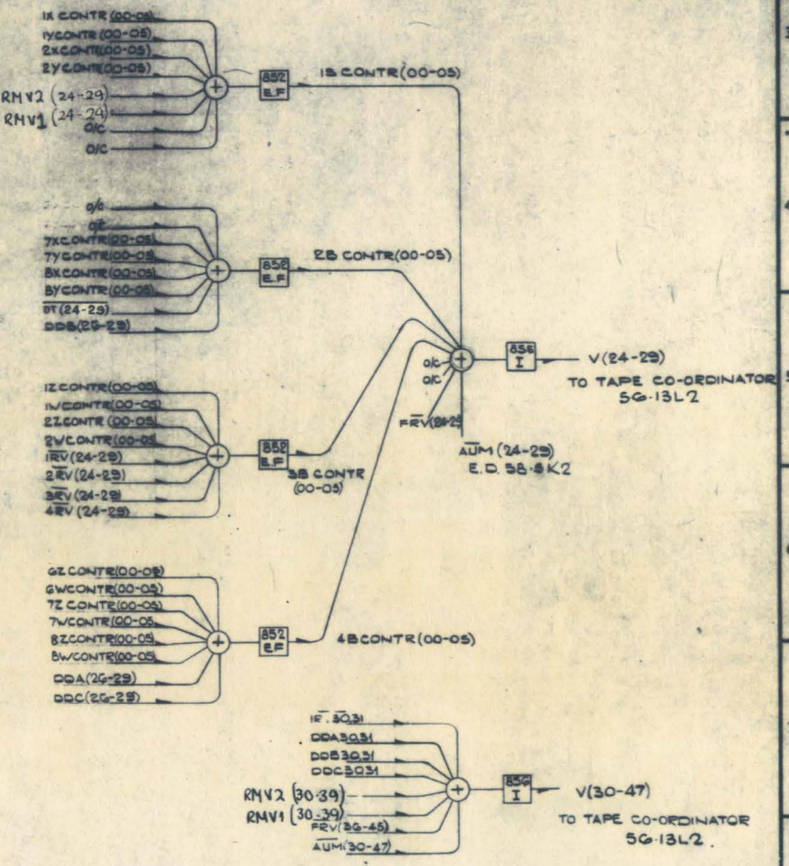
856 V	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	585/21			585/22			585/28			585/29			585/30			585/31		
	M1	M3	M5	M1	M3	M5	M1	M3	M5	M1	M3	M5	M1	M3	M5	M1	M3	M5
INPUTS	IRV30	IRV31	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	DDA30 581/35/M1	DDA31 581/35/M3	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	DDB30 581/14/M1	DDB31 581/14/M3	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	DDC30 581/35/M2	DDC31 581/35/M4	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	RMV230 575/17/M1	RMV231 575/17/M3	RMV232 575/12/M1	RMV233 575/22/M3	RMV234 575/12/M2	RMV235 575/12/M4	RMV236 575/22/M2	RMV237 575/22/M4	RMV238 575/12/M3	RMV239 575/12/M5	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	RMV130 565/17/M1	RMV131 565/17/M3	RMV132 565/22/M1	RMV133 565/22/M3	RMV134 565/22/M2	RMV135 565/22/M4	RMV136 565/22/M2	RMV137 565/22/M4	RMV138 565/22/M3	RMV139 565/22/M5	O/C	O/C	O/C	O/C	O/C	O/C	O/C	O/C
	O/C	O/C	O/C	O/C	O/C	O/C	FRV30 580/43/M1	FRV31 580/43/M3	FRV32 580/43/M2	FRV33 580/43/M4	FRV40 580/43/M5	FRV41 580/43/M6	FRV42 580/41/M1	FRV43 580/41/M3	FRV44 580/41/M2	FRV45 580/41/M4	O/C	O/C
	AUM30 585/16/M1	AUM31 585/16/M3	AUM32 585/17/M1	AUM33 585/17/M3	AUM34 585/17/M2	AUM35 585/17/M4	AUM36 585/17/M2	AUM37 585/17/M4	AUM38 585/17/M3	AUM39 585/17/M5	AUM40 585/16/M5	AUM41 585/16/M6	AUM42 585/18/M2	AUM43 585/18/M4	AUM44 585/18/M3	AUM45 585/18/M5	AUM46 585/18/M6	AUM47 585/18/M8

852 1B CONTR	00	01	02	03	04	05
	585/5			585/7		
	M1	M4	M7	M1	M4	M7
INPUTS	1BCONTRO0 581/2/M1	1BCONTRO1 581/2/M2	1BCONTRO2 581/2/M3	1BCONTRO3 581/2/M4	1BCONTRO4 581/2/M5	1BCONTRO5 581/2/M6
	1YCONTRO0 581/4/M1	1YCONTRO1 581/4/M2	1YCONTRO2 581/4/M3	1YCONTRO3 581/4/M4	1YCONTRO4 581/4/M5	1YCONTRO5 581/4/M6
	2XCONTRO0 582/2/M1	2XCONTRO1 582/2/M2	2XCONTRO2 582/2/M3	2XCONTRO3 582/2/M4	2XCONTRO4 582/2/M5	2XCONTRO5 582/2/M6
	2YCONTRO0 582/4/M1	2YCONTRO1 582/4/M2	2YCONTRO2 582/4/M3	2YCONTRO3 582/4/M4	2YCONTRO4 582/4/M5	2YCONTRO5 582/4/M6
	RMV224 575/17/M1	RMV225 575/17/M3	RMV226 575/17/M2	RMV227 575/17/M4	RMV228 575/17/M3	RMV229 575/17/M1
	RMV124 565/17/M1	RMV125 565/17/M3	RMV126 565/17/M2	RMV127 565/17/M4	RMV128 565/17/M3	RMV129 565/17/M1
	O/C	O/C	O/C	O/C	O/C	O/C
	O/C	O/C	O/C	O/C	O/C	O/C

852 2B CONTR	00	01	02	03	04	05
	585/6			585/8		
	M1	M4	M7	M1	M4	M7
INPUTS	O/C	O/C	O/C	O/C	O/C	O/C
	O/C	O/C	O/C	O/C	O/C	O/C
	1XCONTRO0 587/2/M1	1XCONTRO1 587/2/M3	1XCONTRO2 587/2/M2	1XCONTRO3 587/2/M4	1XCONTRO4 587/2/M6	1XCONTRO5 587/2/M5
	1YCONTRO0 587/4/M1	1YCONTRO1 587/4/M3	1YCONTRO2 587/4/M2	1YCONTRO3 587/4/M4	1YCONTRO4 587/4/M6	1YCONTRO5 587/4/M5
	2XCONTRO0 588/2/M1	2XCONTRO1 588/2/M3	2XCONTRO2 588/2/M2	2XCONTRO3 588/2/M4	2XCONTRO4 588/2/M6	2XCONTRO5 588/2/M5
	2YCONTRO0 588/4/M1	2YCONTRO1 588/4/M3	2YCONTRO2 588/4/M2	2YCONTRO3 588/4/M4	2YCONTRO4 588/4/M6	2YCONTRO5 588/4/M5
	DT24 577/30/M1	DT25 577/30/M3	DT26 577/30/M2	DT27 577/30/M4	DT28 577/30/M6	DT29 577/30/M5
	O/C	O/C	DDB26 587/14/M5	DDB27 587/14/M7	DDB28 587/14/M6	DDB29 587/14/M8

852 3B CONTR	00	01	02	03	04	05
	585/45			585/43		
	M1	M4	M7	M1	M4	M7
INPUTS	1ZCONTRO0 581/45/M1	1ZCONTRO1 581/45/M2	1ZCONTRO2 581/45/M3	1ZCONTRO3 581/45/M4	1ZCONTRO4 581/45/M5	1ZCONTRO5 581/45/M6
	1WCONTRO0 581/47/M1	1WCONTRO1 581/47/M2	1WCONTRO2 581/47/M3	1WCONTRO3 581/47/M4	1WCONTRO4 581/47/M5	1WCONTRO5 581/47/M6
	2ZCONTRO0 582/45/M1	2ZCONTRO1 582/45/M2	2ZCONTRO2 582/45/M3	2ZCONTRO3 582/45/M4	2ZCONTRO4 582/45/M5	2ZCONTRO5 582/45/M6
	2WCONTRO0 582/47/M1	2WCONTRO1 582/47/M2	2WCONTRO2 582/47/M3	2WCONTRO3 582/47/M4	2WCONTRO4 582/47/M5	2WCONTRO5 582/47/M6
	IRV28 583/38/M1	IRV25 583/38/M2	IRV26 583/38/M3	IRV27 583/38/M4	IRV28 583/38/M5	IRV29 583/38/M6
	2RV24 583/39/M1	2RV25 583/39/M3	2RV26 583/39/M2	2RV27 583/39/M4	2RV28 583/39/M6	2RV29 583/39/M5
	3RV24 583/40/M1	3RV25 583/40/M2	3RV26 583/40/M3	3RV27 583/40/M4	3RV28 583/40/M5	3RV29 583/40/M6
	4RV24 583/41/M1	4RV25 583/41/M2	4RV26 583/41/M3	4RV27 583/41/M4	4RV28 583/41/M5	4RV29 583/41/M6

852 4B CONTR	00	01	02	03	04	05
	585/44			585/42		
	M1	M4	M7	M1	M4	M7
INPUTS	2ZCONTRO0 586/45/M1	2ZCONTRO1 586/45/M3	2ZCONTRO2 586/45/M2	2ZCONTRO3 586/45/M4	2ZCONTRO4 586/45/M6	2ZCONTRO5 586/45/M5
	2WCONTRO0 586/47/M1	2WCONTRO1 586/47/M3	2WCONTRO2 586/47/M2	2WCONTRO3 586/47/M4	2WCONTRO4 586/47/M6	2WCONTRO5 586/47/M5
	7ZCONTRO0 587/45/M1	7ZCONTRO1 587/45/M3	7ZCONTRO2 587/45/M2	7ZCONTRO3 587/45/M4	7ZCONTRO4 587/45/M6	7ZCONTRO5 587/45/M5
	7WCONTRO0 587/47/M1	7WCONTRO1 587/47/M3	7WCONTRO2 587/47/M2	7WCONTRO3 587/47/M4	7WCONTRO4 587/47/M6	7WCONTRO5 587/47/M5
	8ZCONTRO0 588/45/M1	8ZCONTRO1 588/45/M3	8ZCONTRO2 588/45/M2	8ZCONTRO3 588/45/M4	8ZCONTRO4 588/45/M6	8ZCONTRO5 588/45/M5
	8WCONTRO0 588/47/M1	8WCONTRO1 588/47/M3	8WCONTRO2 588/47/M2	8WCONTRO3 588/47/M4	8WCONTRO4 588/47/M6	8WCONTRO5 588/47/M5
	O/C	O/C	DDA26 581/35/M2	DDA27 581/35/M4	DDA28 581/35/M6	DDA29 581/35/M5
	O/C	O/C	DDC26 587/35/M2	DDC27 587/35/M4	DDC28 587/35/M6	DDC29 587/35/M5



1X/1Y/2X/2Y CONTR (00-05) WAVEFORMS FROM E.D 58.11

RV WAVEFORMS FROM E.D 58.12

1X CONTROL FROM 58.21

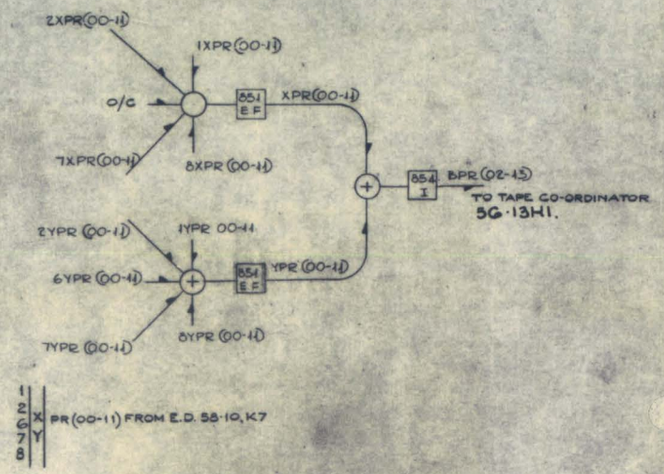
DD WAVEFORMS FROM E.D. 58.11

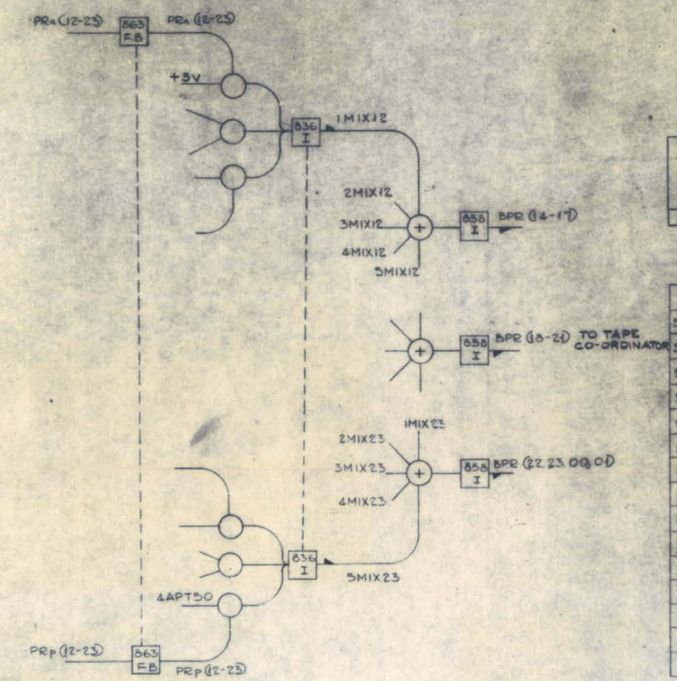
AUM WAVEFORMS FROM E.D. 58.5, K2

FRV WAVEFORMS FROM E.D. 58.16

DT WAVEFORMS FROM E.D. 56.18

17-9-63





WAVEFORM		02	03	04	05	06	07	08	09	10	11	12	13
854	BPR	585/33						585/34					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
851	XPR	585/12				585/13			585/14				
		00	01	02	03	04	05	06	07	08	09	10	11
		M1	M3	M5	M7	M1	M3	M5	M7	M1	M3	M5	M7
851	YPR	585/35				585/36			585/37				
		00	01	02	03	04	05	06	07	08	09	10	11
		M1	M3	M5	M7	M1	M3	M5	M7	M1	M3	M5	M7
		00	01	02	03	04	05	06	07	08	09	10	11
836	1XPR	E.D 58-10 581/10						E.D 58-10 581/12					
836	2XPR	E.D 58-10 582/10						E.D 58-10 582/12					
836	7XPR	E.D 58-10 587/10						E.D 58-10 587/12					
836	8XPR	E.D 58-10 588/10						E.D 58-10 588/12					
836	1YPR	E.D 58-10 581/37						E.D 58-10 581/39					
836	2YPR	E.D 58-10 582/37						E.D 58-10 582/39					
836	6YPR	E.D 58-10 586/37						E.D 58-10 586/39					
836	7YPR	E.D 58-10 587/37						E.D 58-10 587/39					
836	8YPR	E.D 58-10 588/37						E.D 58-10 588/39					

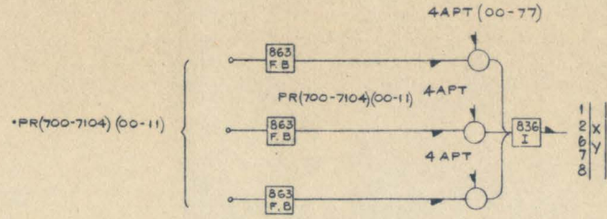
858	BPR	14	15	16	17	18	19	20	21	22	23	00	01
		589/21				589/22				589/23			
		M1	M3	M5	M7	M1	M3	M5	M7	M1	M3	M5	M7
(1-5) MIX		12	13	14	15	16	17	18	19	20	21	22	23

863		12	13	14	15	16	17	18	19	20	21	22	23
589/10	PRa	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/12	PRb	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/14	PRc	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/15	PRd	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/17	PRe	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/19	PRf	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/28	PRg	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/30	PRh	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/32	PRj	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/33	PRk	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/35	PRL	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/37	PRm	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/38	PRn	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/40	PRo	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
589/42	PRp	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13

836		12	13	14	15	16	17	18	19	20	21	22	23
1MIX		588/11						589/13					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
INPUT PR		a 11 b 12 c 13	C 13 b 13 b 14 c 14	C 14 b 15 b 16 c 15	C 15 b 16 b 17 c 16	B 16 C 17 b 17 c 17	C 17 b 17 b 18 c 18	a 18 b 19 c 19	C 19 b 20 b 21 c 20	b 20 b 21 b 22 c 21	C 21 b 22 b 23 c 22	A 22 b 23 b 00 c 23	C 23 b 00 b 01 c 00
STROBES	PRa STROBE:	4APT 16				58-13		582/20/M1					
	PRb STROBE:	4APT 17				E.D 58-13		582/20/M2					
	PRc STROBE:	4APT 18				E.D 58-13		582/20/M3					
2MIX		589/16						589/18					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
INPUT PR		a 18 b 19 c 20	C 15 b 13 c 14	C 14 b 15 c 15	C 15 b 16 c 16	C 16 b 17 c 17	C 17 b 17 b 18 c 18	a 18 b 19 c 19	C 19 b 20 c 20	b 20 b 21 c 21	C 21 b 22 c 22	A 22 b 23 c 23	C 23 b 00 c 01
STROBES	PRd STROBE:	4APT 24				E.D 58-13		582/29/M1					
	PRe STROBE:	4APT 25				E.D 58-13		582/29/M2					
	PRf STROBE:	4APT 26				E.D 58-13		582/29/M3					
3MIX		589/29						589/31					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
INPUT PR		a 10 b 11 c 12	C 11 b 12 c 13	B 12 C 13 b 13 c 14	C 13 b 14 c 15	C 14 b 15 c 16	C 15 b 16 c 17	a 18 b 19 c 18	C 19 b 18 c 19	b 20 b 21 c 20	C 21 b 22 c 21	A 22 b 23 c 22	C 23 b 00 c 23
STROBES	PRg STROBE:	+3V											
	PRh STROBE:	4APT 45				E.D 58-13		587/20/M1					
	PRj STROBE:	4APT 56				E.D 58-13		587/20/M2					
4MIX		589/34						589/36					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
INPUT PR		a 12 b 13 c 12	C 13 b 14 c 13	B 14 C 15 b 15 c 14	C 15 b 16 c 15	C 16 b 17 c 16	C 17 b 17 b 18 c 17	a 18 b 19 c 18	C 19 b 20 c 19	b 20 b 21 c 20	C 21 b 22 c 21	A 22 b 23 c 22	C 23 b 00 c 23
STROBES	PRk STROBE:	4APT 40				E.D 58-13		586/29/M1					
	PRL STROBE:	4APT 41				E.D 58-13		586/29/M2					
	PRm STROBE:	4APT 00				E.D 58-13		581/20/M1					
5MIX		589/38						589/41					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
INPUT PR		a 12 b 13 c 12	C 13 b 14 c 13	B 14 C 15 b 15 c 14	C 15 b 16 c 15	C 16 b 17 c 16	C 17 b 17 b 18 c 17	a 18 b 19 c 18	C 19 b 20 c 19	b 20 b 21 c 20	C 21 b 22 c 21	A 22 b 23 c 22	C 23 b 00 c 23
STROBES	PRm STROBE:	4APT 50				E.D 58-13		587/20/M3					
	PRo STROBE:	4APT 08				E.D 58-13		581/29/M1					
	PRp STROBE:	4APT 58				E.D 58-13		587/29/M3					

836	PR	00	01	02	03	04	05
581/10	1X	M1	M2	M3	M4	M5	M6
863 581/9	4APT00	PR70000 M2	PR70001 M3	PR70002 M4	PR70003 M5	PR70004 M6	PR70005 M7
581/11	4APT01	PR70100 M2	PR70101 M3	PR70102 M4	PR70103 M5	PR70104 M6	PR70105 M7
581/13	4APT02	PR70200 M2	PR70201 M3	PR70202 M4	PR70203 M5	PR70204 M6	PR70205 M7
581/37	1Y	M1	M2	M3	M4	M5	M6
863 581/36	4APT08	PR70800 M2	PR70801 M3	PR70802 M4	PR70803 M5	PR70804 M6	PR70805 M7
581/38	4APT09	PR70900 M2	PR70901 M3	PR70902 M4	PR70903 M5	PR70904 M6	PR70905 M7
581/40	4APT10	PR71000 M2	PR71001 M3	PR71002 M4	PR71003 M5	PR71004 M6	PR71005 M7
582/10	2X	M1	M2	M3	M4	M5	M6
863 582/9	4APT16	PR71600 M2	PR71601 M3	PR71602 M4	PR71603 M5	PR71604 M6	PR71605 M7
582/11	4APT17	PR71700 M2	PR71701 M3	PR71702 M4	PR71703 M5	PR71704 M6	PR71705 M7
582/13	4APT18	PR71800 M2	PR71801 M3	PR71802 M4	PR71803 M5	PR71804 M6	PR71805 M7
582/37	2Y	M1	M2	M3	M4	M5	M6
863 582/36	4APT24	PR72400 M2	PR72401 M3	PR72402 M4	PR72403 M5	PR72404 M6	PR72405 M7
582/38	4APT25	PR72500 M2	PR72501 M3	PR72502 M4	PR72503 M5	PR72504 M6	PR72505 M7
582/40	4APT26	PR72600 M2	PR72601 M3	PR72602 M4	PR72603 M5	PR72604 M6	PR72605 M7
586/37	6Y	M1	M2	M3	M4	M5	M6
863 586/36	4APT40	PR74000 M2	PR74001 M3	PR74002 M4	PR74003 M5	PR74004 M6	PR74005 M7
586/38	4APT41	PR74100 M2	PR74101 M3	PR74102 M4	PR74103 M5	PR74104 M6	PR74105 M7
586/40	4APT42	PR74200 M2	PR74201 M3	PR74202 M4	PR74203 M5	PR74204 M6	PR74205 M7
587/10	7X	M1	M2	M3	M4	M5	M6
863 587/9	4APT48	PR74800 M2	PR74801 M3	PR74802 M4	PR74803 M5	PR74804 M6	PR74805 M7
587/11	4APT49	PR74900 M2	PR74901 M3	PR74902 M4	PR74903 M5	PR74904 M6	PR74905 M7
587/13	4APT50	PR75000 M2	PR75001 M3	PR75002 M4	PR75003 M5	PR75004 M6	PR75005 M7
587/37	7Y	M1	M2	M3	M4	M5	M6
863 587/36	4APT56	PR75600 M2	PR75601 M3	PR75602 M4	PR75603 M5	PR75604 M6	PR75605 M7
587/38	4APT57	PR75700 M2	PR75701 M3	PR75702 M4	PR75703 M5	PR75704 M6	PR75705 M7
587/40	4APT58	PR75800 M2	PR75801 M3	PR75802 M4	PR75803 M5	PR75804 M6	PR75805 M7
588/10	8X	M1	M2	M3	M4	M5	M6
863 588/9	4APT64	PR76400 M2	PR76401 M3	PR76402 M4	PR76403 M5	PR76404 M6	PR76405 M7
588/11	4APT65	PR76500 M2	PR76501 M3	PR76502 M4	PR76503 M5	PR76504 M6	PR76505 M7
588/13	4APT66	PR76600 M2	PR76601 M3	PR76602 M4	PR76603 M5	PR76604 M6	PR76605 M7
588/37	8Y	M1	M2	M3	M4	M5	M6
863 588/36	4APT72	PR77200 M2	PR77201 M3	PR77202 M4	PR77203 M5	PR77204 M6	PR77205 M7
588/38	4APT73	PR77300 M2	PR77301 M3	PR77302 M4	PR77303 M5	PR77304 M6	PR77305 M7
588/40	4APT74	PR77400 M2	PR77401 M3	PR77402 M4	PR77403 M5	PR77404 M6	PR77405 M7

836	PR	06	07	08	09	10	11
581/12	1X	M1	M2	M3	M4	M5	M6
863 581/9	4APT00	PR70006 M8	PR70007 M9	PR70008 M10	PR70009 M11	PR70010 M12	PR70011 M13
581/11	4APT01	PR70106 M8	PR70107 M9	PR70108 M10	PR70109 M11	PR70110 M12	PR70111 M13
581/13	4APT02	PR70206 M8	PR70207 M9	PR70208 M10	PR70209 M11	PR70210 M12	PR70211 M13
581/39	1Y	M1	M2	M3	M4	M5	M6
863 581/36	4APT08	PR70806 M8	PR70807 M9	PR70808 M10	PR70809 M11	PR70810 M12	PR70811 M13
581/38	4APT09	PR70906 M8	PR70907 M9	PR70908 M10	PR70909 M11	PR70910 M12	PR70911 M13
581/40	4APT10	PR71006 M8	PR71007 M9	PR71008 M10	PR71009 M11	PR71010 M12	PR71011 M13
582/12	2X	M1	M2	M3	M4	M5	M6
863 582/9	4APT16	PR71606 M8	PR71607 M9	PR71608 M10	PR71609 M11	PR71610 M12	PR71611 M13
582/11	4APT17	PR71706 M8	PR71707 M9	PR71708 M10	PR71709 M11	PR71710 M12	PR71711 M13
582/13	4APT18	PR71806 M8	PR71807 M9	PR71808 M10	PR71809 M11	PR71810 M12	PR71811 M13
582/39	2Y	M1	M2	M3	M4	M5	M6
863 582/36	4APT24	PR72406 M8	PR72407 M9	PR72408 M10	PR72409 M11	PR72410 M12	PR72411 M13
582/38	4APT25	PR72506 M8	PR72507 M9	PR72508 M10	PR72509 M11	PR72510 M12	PR72511 M13
582/40	4APT26	PR72606 M8	PR72607 M9	PR72608 M10	PR72609 M11	PR72610 M12	PR72611 M13
586/39	6Y	M1	M2	M3	M4	M5	M6
863 586/36	4APT40	PR74006 M8	PR74007 M9	PR74008 M10	PR74009 M11	PR74010 M12	PR74011 M13
586/38	4APT41	PR74106 M8	PR74107 M9	PR74108 M10	PR74109 M11	PR74110 M12	PR74111
586/40	4APT42	PR74206 M8	PR74207 M9	PR74208 M10	PR74209 M11	PR74210 M12	PR74211 M13
587/12	7X	M1	M2	M3	M4	M5	M6
863 857/9	4APT48	PR74806 M8	PR74807 M9	PR74808 M10	PR74809 M11	PR74810 M12	PR74811 M13
587/11	4APT49	PR74906 M8	PR74907 M9	PR74908 M10	PR74909 M11	PR74910 M12	PR74811 M13
587/13	4APT50	PR75006 M8	PR75007 M9	PR75008 M10	PR75009 M11	PR75010 M12	PR75011 M13
587/39	7Y	M1	M2	M3	M4	M5	M6
863 587/36	4APT56	PR75606 M8	PR75607 M9	PR75608 M10	PR75609 M11	PR75610 M12	PR75611 M13
587/38	4APT57	PR75706 M8	PR75707 M9	PR75708 M10	PR75709 M11	PR75710 M12	PR75711 M13
587/40	4APT58	PR75806 M8	PR75807 M9	PR75808 M10	PR75809 M11	PR75810 M12	PR75811 M13
588/12	8X	M1	M2	M3	M4	M5	M6
863 588/9	4APT64	PR76406 M8	PR76407 M9	PR76408 M10	PR76409 M11	PR76410 M12	PR76411 M13
588/11	4APT65	PR76506 M8	PR76507 M9	PR76508 M10	PR76509 M11	PR76510 M12	PR76511 M13
588/13	4APT66	PR76606 M8	PR76607 M9	PR76608 M10	PR76609 M11	PR76610 M12	PR76611 M13
588/39	8Y	M1	M2	M3	M4	M5	M6
863 588/36	4APT72	PR77206 M8	PR77207 M9	PR77208 M10	PR77209 M11	PR77210 M12	PR77211 M13
588/38	4APT73	PR77306 M8	PR77307 M9	PR77308 M10	PR77309 M11	PR77310 M12	PR77311 M13
588/40	4APT74	PR77406 M8	PR77407 M9	PR77408 M10	PR77409 M11	PR77410 M12	PR77411 M13



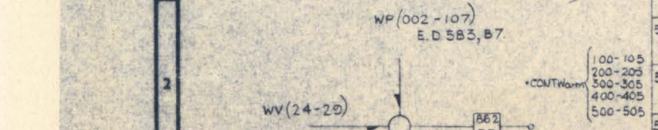
4 APT WAVEFORMS FROM

E.D. 58-13, B6

TO E.D. 58-9, A3

20-3-63

ATLAS II. E.D. 58-10 READ INFORMATION FROM PERIPHERALS. AUTONOMOUS PERIPHERAL CO-ORDINATOR



WRITE

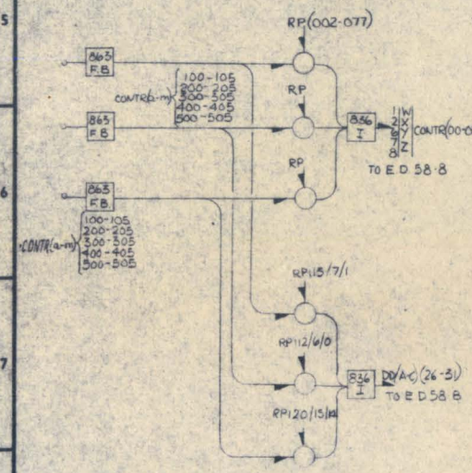
862 CONTW		100	101	102	103	104	105
581/6	a	M1	M2	M3	M4	M5	M6
STROBE		WP077 E.D.583,H7					
581/6	b	M7	M8	M9	M10	M11	M12
STROBE		WP076 E.D.58-3, H7					
581/7	c	M1	M2	M3	M4	M5	M6
STROBE		WP075 E.D.583, H7					
581/7	d	M7	M8	M9	M10	M11	M12
STROBE		WP074 E.D.583, H7					
581/8	e	M1	M2	M3	M4	M5	M6
STROBE		WP073 E.D.58-3, H7					
581/8	f	M7	M8	M9	M10	M11	M12
STROBE		WP072 E.D.58-3, H7					
581/41	g	M1	M2	M3	M4	M5	M6
STROBE		WP057 E.D.58-3, E7					
581/41	h	M7	M8	M9	M10	M11	M12
STROBE		WP036 E.D.58-3, E7					
581/42	j	M1	M2	M3	M4	M5	M6
STROBE		WP035 E.D.58-3, E7					
581/42	k	M7	M8	M9	M10	M11	M12
STROBE		WP054 E.D.58-3, E7					
581/43	l	M1	M2	M3	M4	M5	M6
STROBE		WP033 E.D.58-3, D7					
581/43	m	M7	M8	M9	M10	M11	M12
STROBE		WP052 E.D.583, D7					
WV		24	25	26	27	28	29

862 CONTW		200	201	202	203	204	205
582/6	a	M1	M2	M3	M4	M5	M6
STROBE		WP064 E.D 58-3,					
582/6	b	M7	M8	M9	M10	M11	M12
STROBE		WP063 E.D. 583,					
582/7	c	M1	M2	M3	M4	M5	M6
STROBE		WP062 E.D.58-3,					
582/7	d	M7	M8	M9	M10	M11	M12
STROBE		WP064, E.D 58-3, G7					
582/8	e	M1	M2	M3	M4	M5	M6
STROBE		WP063 E.D.583, G7					
582/8	f	M7	M8	M9	M10	M11	M12
STROBE		WP062 E.D. 58-3, G7					
582/41	g	M1	M2	M3	M4	M5	M6
STROBE		WP027 E. D. 58-3,					
582/41	h	M7	M8	M9	M10	M11	M12
STROBE		WP026 E.D. 56-3,					
582/42	j	M1	M2	M3	M4	M5	M6
STROBE		WP025 E.D. 58-3,					
582/42	k	M7	M8	M9	M10	M11	M12
STROBE		WP024 E.D.58-3,					
582/43	l	M1	M2	M3	M4	M5	M6
STROBE		WP023 E.D. 58-3,					
582/43	m	M7	M8	M9	M10	M11	M12
STROBE		WP022 E.D. 58-3,					
WV		24	25	26	27	28	29

862 CONTW		300	301	302	303	304	305
587/6	a	M1	M2	M3	M4	M5	M6
STROBE		WP057 E.D.58-3, G7					
587/6	b	M7	M8	M9	M10	M11	M12
STROBE		WP056 E.D.583, G7					
587/7	c	M1	M2	M3	M4	M5	M6
STROBE		WP055 E.D.58-3, G7					
587/7	d	M7	M8	M9	M10	M11	M12
STROBE		WP054 E.D.58-3, F7					
587/8	e	M1	M2	M3	M4	M5	M6
STROBE		WP053 E.D.583, F7					
587/8	f	M7	M8	M9	M10	M11	M12
STROBE		WP052 E.D.58-3, F7					
587/41	g	M1	M2	M3	M4	M5	M6
STROBE		WP017 E.D. 58-3, D7					
587/41	h	M7	M8	M9	M10	M11	M12
STROBE		WP016 E.D.58-3, D7					
587/42	j	M1	M2	M3	M4	M5	M6
STROBE		WP015 E.D. 58-3, D7					
587/42	k	M7	M8	M9	M10	M11	M12
STROBE		WP014 E.D. 58-3, C7					
587/43	l	M1	M2	M3	M4	M5	M6
STROBE		WP013 E.D. 58-5, C7					
587/43	m	M7	M8	M9	M10	M11	M12
STROBE		WP012 E.D58-3, C7					
WV		24	25	26	27	28	29

862 CONTW		400	401	402	403	404	405
588/6	a	M1	M2	M3	M4	M5	M6
STROBE		WP047 E.D58-3, F7					
588/6	b	M7	M8	M9	M10	M11	M12
STROBE		WP046 E.D.583, F7					
588/7	c	M1	M2	M3	M4	M5	M6
STROBE		WP045 E.D.583, F7					
588/7	d	M7	M8	M9	M10	M11	M12
STROBE		WP044 E.D.583, E7					
588/8	e	M1	M2	M3	M4	M5	M6
STROBE		WP043 E.D.583, E7					
588/8	f	M7	M8	M9	M10	M11	M12
STROBE		WP042 E.D.583, E7					
588/41	g	M1	M2	M3	M4	M5	M6
STROBE		WP007 E.D.583, C7					
588/41	h	M7	M8	M9	M10	M11	M12
STROBE		WP006 E.D 58-3, C7					
588/42	j	M1	M2	M3	M4	M5	M6
STROBE		WP005 E.D 58-3, C7					
588/42	k	M7	M8	M9	M10	M11	M12
STROBE		WP004 E.D 58-3, C7					
588/43	l	M1	M2	M3	M4	M5	M6
STROBE		WP003 E.D 58-3, B7					
588/43	m	M7	M8	M9	M10	M11	M12
STROBE		WP002 E.D.58-3, B7					
WV		24	25	26	27	28	29

862 CONTW		500	501	502	503	504	505
586/41	g	M1	M2	M3	M4	M5	M6
STROBE		WP107 E.D.583, J7					
586/41	h	M7	M8	M9	M10	M11	M12
STROBE		WP106 E.D 58-3, J7					
586/42	j	M1	M2	M3	M4	M5	M6
STROBE		WP105 E.D 58-3, J7					
586/42	k	M7	M8	M9	M10	M11	M12
STROBE		WP104 E.D 583, J7					
586/43	l	M1	M2	M3	M4	M5	M6
STROBE		WP103, E.D. 58-3, J7					
586/43	m	M7	M8	M9	M10	M11	M12
STROBE		WP102 E.D. 583, J7					
WV		24	25	26	27	28	29



READ

836 CONTR		00	01	02	03	04	05
581/2	1X	M1	M2	M3	M4	M5	M6
863a-581/1	RP077	a100 M8	a101 M9	a102 M10	a103 M11	a104 M12	a105 M13
b-581/1	RP076	b100 M4	b101 M5	b102 M6	b103 M7	b104 M8	b105 M9
c-581/3	RP075	c100 M2	c101 M3	c102 M4	c103 M5	c104 M6	c105 M7
581/4	1Y	M1	M2	M3	M4	M5	M6
863d-581/3	RP074	d100 M8	d101 M9	d102 M10	d103 M11	d104 M12	d105 M13
e-581/5	RP073	e100 M6	e101 M7	e102 M8	e103 M9	e104 M10	e105 M11
f-581/5	RP072	f100 M4	f101 M5	f102 M6	f103 M7	f104 M8	f105 M9
581/45	1Z	M1	M2	M3	M4	M5	M6
863g-581/44	RP037	g100 M2	g101 M3	g102 M4	g103 M5	g104 M6	g105 M7
h-581/44	RP036	h100 M8	h101 M9	h102 M10	h103 M11	h104 M12	h105 M13
j-581/46	RP035	j100 M6	j101 M7	j102 M8	j103 M9	j104 M10	j105 M11
581/47	1W	M1	M2	M3	M4	M5	M6
865x-581/46	RP034	k100 M8	k101 M9	k102 M10	k103 M11	k104 M12	k105 M13
l-581/48	RP033	l100 M6	l101 M7	l102 M8	l103 M9	l104 M10	l105 M11
m-581/48	RP032	m100 M6	m101 M7	m102 M8	m103 M9	m104 M10	m105 M11
582/2	2X	M1	M2	M3	M4	M5	M6
863a-582/1	RP067	a200 M2	a201 M3	a202 M4	a203 M5	a204 M6	a205 M7
b-582/1	RP066	b200 M8	b201 M9	b202 M10	b203 M11	b204 M12	b205 M13
c-582/3	RP065	c200 M2	c201 M3	c202 M4	c203 M5	c204 M6	c205 M7
582/4	2Y	M1	M2	M3	M4	M5	M6
863d-582/3	RP064	d200 M8	d201 M9	d202 M10	d203 M11	d204 M12	d205 M13
e-582/5	RP063	e200 M6	e201 M7	e202 M8	e203 M9	e204 M10	e205 M11
f-582/5	RP062	f200 M4	f201 M5	f202 M6	f203 M7	f204 M8	f205 M9
582/45	2Z	M1	M2	M3	M4	M5	M6
863g-582/44	RP027	g200 M2	g201 M3	g202 M4	g203 M5	g204 M6	g205 M7
h-582/44	RP026	h200 M8	h201 M9	h202 M10	h203 M11	h204 M12	h205 M13
j-582/46	RP025	j200 M6	j201 M7	j202 M8	j203 M9	j204 M10	j205 M11
582/47	2W	M1	M2	M3	M4	M5	M6
863k-582/46	RP024	k200 M8	k201 M9	k202 M10	k203 M11	k204 M12	k205 M13
l-582/48	RP023	l200 M6	l201 M7	l202 M8	l203 M9	l204 M10	l205 M11
m-582/48	RP022	m200 M8	m201 M9	m202 M10	m203 M11	m204 M12	m205 M13

836 CONTR		00	01	02	03	04	05
586/45	6Z	M1	M2	M3	M4	M5	M6
863g-586/44	RP107	g500 M2	g501 M3	g502 M4	g503 M5	g504 M6	g505 M7
h-586/44	RP106	h500 M8	h501 M9	h502 M10	h503 M11	h504 M12	h505 M13
J-586/46	RP105	j500 M6	j501 M7	j502 M8	j503 M9	j504 M10	j505 M11
586/47	6W	M1	M2	M3	M4	M5	M6
863k-586/46	RP104	k500 M8	k501 M9	k502 M10	k503 M11	k504 M12	k505 M13
l-586/48	RP103	l500 M6	l501 M7	l502 M8	l503 M9	l504 M10	l505 M11
m-586/48	RP102	m500 M8	m501 M9	m502 M10	m503 M11	m504 M12	m505 M13
587/2	7X	M1	M2	M3	M4	M5	M6
863a-587/1	RP057	a300 M2	a301 M3	a302 M4	a303 M5	a304 M6	a305 M7
b-587/1	RP056	b300 M8	b301 M9	b302 M10	b303 M11	b304 M12	b305 M13
c-587/3	RP055	c300 M2	c301 M3	c302 M4	c303 M5	c304 M6	c305 M7
587/4	7Y	M1	M2	M3	M4	M5	M6
863d-587/3	RP054	d300 M8	d301 M9	d302 M10	d303 M11	d304 M12	d305 M13
e-587/5	RP053	e300 M6	e301 M7	e302 M8	e303 M9	e304 M10	e305 M11
f-587/5	RP052	f300 M4	f301 M5	f302 M6	f303 M7	f304 M8	f305 M9
587/45	7Z	M1	M2	M3	M4	M5	M6
863g-587/44	RP017	g300 M2	g301 M3	g302 M4	g303 M5	g304 M6	g305 M7
h-587/44	RP016	h300 M8	h301 M9	h302 M10	h303 M11	h304 M12	h305 M13
J-587/46	RP015	j300 M6	j301 M7	j302 M8	j303 M9	j304 M10	j305 M11
587/47	7W	M1	M2	M3	M4	M5	M6
863k-587/46	RP014	k300 M8	k301 M9	k302 M10	k303 M11	k304 M12	k305 M13
l-587/48	RP013	l300 M6	l301 M7	l302 M8	l303 M9	l304 M10	l305 M11
m-587/48	RP012	m300 M8	m301 M9	m302 M10	m303 M11	m304 M12	m305 M13
588/2	8X	M1	M2	M3	M4	M5	M6
863a-588/1	RP047	a400 M2	a401 M3	a402 M4	a403 M5	a404 M6	a405 M7
b-588/1	RP046	b400 M8	b401 M9	b402 M10	b403 M11	b404 M12	b405 M13
c-588/3	RP045	c400 M6	c401 M7	c402 M8	c403 M9	c404 M10	c405 M11
588/4	8Y	M1	M2	M3	M4	M5	M6
863d-588/3	RP044	d400 M8	d401 M9	d402 M10	d403 M11	d404 M12	d405 M13
e-588/5	RP043	e400 M6	e401 M7	e402 M8	e403 M9	e404 M10	e405 M11
f-588/5	RP042	f400 M4	f401 M5	f402 M6	f403 M7	f404 M8	f405 M9

836 CONTR		00	01	02	03	04	05
588/45	8Z	M1	M2	M3	M4	M5	M6
863g-588/44	RP007	g400 M2	g401 M3	g402 M4	g403 M5	g404 M6	g405 M7
h-588/44	RP006	h400 M8	h401 M9	h402 M10	h403 M11	h404 M12	h405 M13
J-588/46	RP005	j400 M6	j401 M7	j402 M8	j403 M9	j404 M10	j405 M11
588/47	8W	M1	M2	M3	M4	M5	M6
863k-588/46	RP004	k400 M8	k401 M9	k402 M10	k403 M11	k404 M12	k405 M13
l-588/48	RP003	l400 M6	l401 M7	l402 M8	l403 M9	l404 M10	l405 M11
m-588/48	RP002	m400 M4	m401 M5	m402 M6	m403 M7	m404 M8	m405 M9

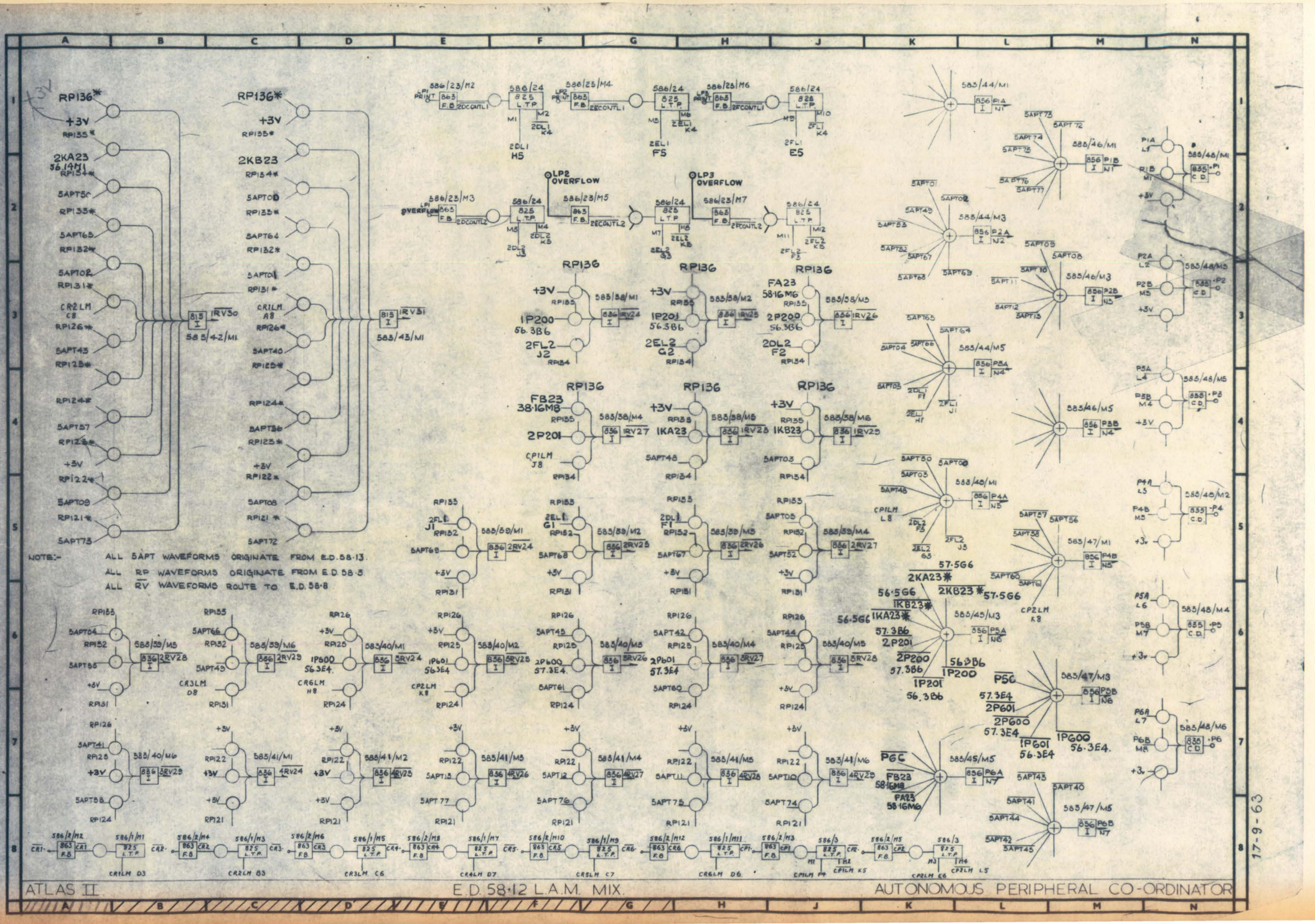
836							
581/35	DDA	26	27	28	29	30	31
	RP113	CONTR H100	CONTR L100	CONTR K100	CONTR J100	CONTR H100	CONTR G100
	RP112	CONTR H200	CONTR L200	CONTR K200	CONTR J200	CONTR H200	CONTR G200
	RP120	CONTR H500	CONTR L500	CONTR K500	CONTR J500	CONTR H500	CONTR G500
836	DDB	26	27	28	29	30	31
587/14	RP117	CONTR F100	CONTR E100	CONTR D100	CONTR C100	CONTR B100	CONTR A100
	RP116	CONTR F200	CONTR E200	CONTR D200	CONTR C200	CONTR B200	CONTR A200
	RP115	CONTR F300	CONTR E300	CONTR D300	CONTR 300	CONTR B300	CONTR A300
836	DDC	26	27	28	29	30	31
587/35	RP111	CONTR M300	CONTR L300	CONTR K300	CONTR J300	CONTR H300	CONTR G300
	RP110	CONTR M400	CONTR L400	CONTR K400	CONTR J400	CONTR H400	CONTR G400
	RP114	CONTR F400	CONTR E400	CONTR D400	CONTR C400	CONTR B400	CONTR A400
		M6	M5	M4	M3	M2	M1

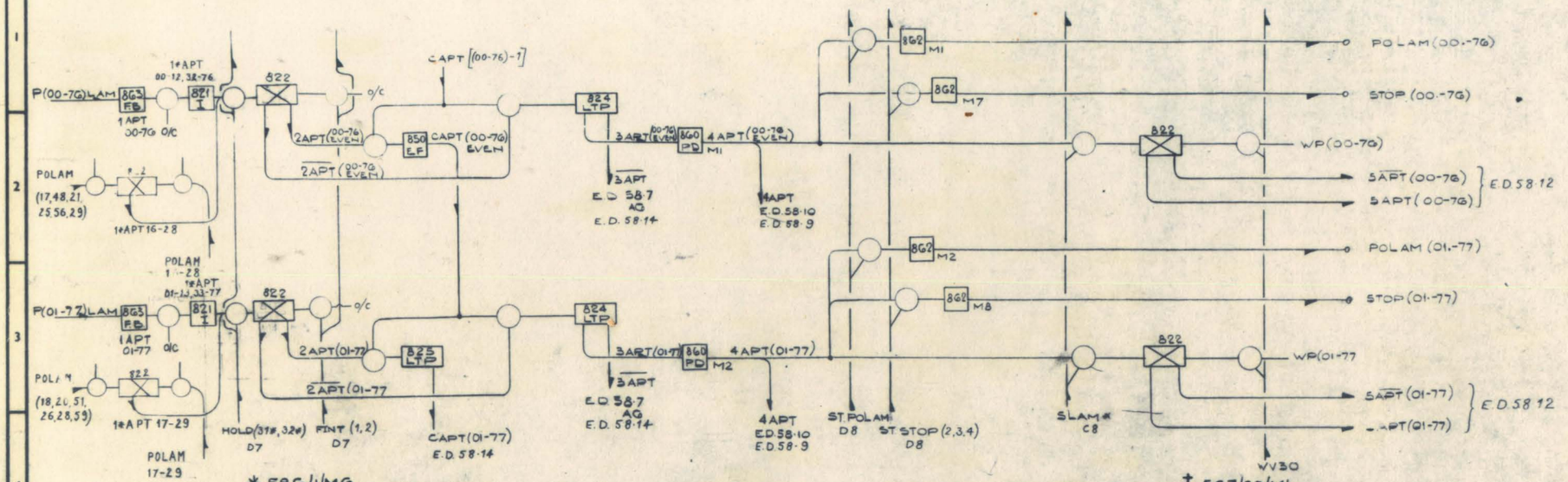
RP WAVEFORMS FROM

E.D.58-3, B5

17-9-63

ATLAS II — E.D 581 I READ & WRITE CONTROL DIGITS — AUTONOMOUS PERIPHERAL CO-ORDINATOR


ATLAS II
E.D. 58·12 L.A.M. MIX.
AUTONOMOUS PERIPHERAL CO-ORDINATOR
17-9-63
NOTE:- ALL 5APT WAVEFORMS ORIGINATE FROM E.D.58.13.
ALL RP WAVEFORMS ORIGINATE FROM E.D.58.5
ALL RV WAVEFORMS ROUTE TO E.D.58.8
RP136*
+3V
RP135*
2KA23
58.14M1
RP134*
5APT50
RP133*
5APT65
RP132*
5APT02
RP131*
CR2LM C8
RP126*
5APT43
RP125*
RP124*
5APT57
RP123*
+3V
RP122*
5APT09
RP121*
5APT73
815 I IRV30
583/42/M1
2KB23
5APT01
CR1LM A8
5APT40
5APT56
5APT08
5APT72
815 I IRV31
583/43/M1
LP2 OVERFLOW
LP3 OVERFLOW
586/23/M2
586/24 825 L.T.P.
586/25/M4
586/23/M3
586/23/M5
586/23/M7
2DL1 H5
2EL1 F5
2FL1 E5
2DL2 J3
2EL2 K3
2FL2 F3
2EL3 G3
RP136
+3V
RP135
1P200 56.3B6
2FL2 J2
RP134
583/38/M1
1P201 56.3B6
2EL2 G2
583/38/M2
FA23 58.16M6
2P200 56.3B6
2DL2 F2
583/38/M3
FB23 38.16M8
2P201
CP1LM J8
583/38/M4
IKA23
5APT48
583/38/M5
IKB23
5APT03
583/38/M6
RP133
2FL1 J1
5APT69
583/39/M1
2EL1 G1
5APT68
583/39/M2
5APT67
583/39/M3
5APT05
5APT52
583/39/M4
5APT04
5APT66
5APT03
5APT65
5APT64
5APT63
5APT62
5APT61
5APT60
5APT59
5APT58
5APT57
5APT56
5APT55
5APT54
5APT53
5APT52
5APT51
5APT50
5APT49
5APT48
RP126
IP600 56.3E4.
CR6LM H8
583/40/M1
IP601 56.3E4
CP2LM K8
583/40/M2
2P600 57.3E4.
583/40/M3
2P601 57.3E4
583/40/M4
5APT42
5APT44
583/40/M5
5APT41
583/40/M6
RP122
+3V
RP121
5APT58
583/41/M1
583/41/M2
5APT13
583/41/M3
5APT12
583/41/M4
5APT11
583/41/M5
5APT10
583/41/M6
5APT77
5APT76
5APT75
5APT74
CR1LM D3
CR2LM B3
CR3LM C6
CR4LM D7
CR5LM C7
CR6LM D6
CP1LM F4
CP1LM K5
CP2LM L5
CP2LM E6
583/44/M1
583/46/M1
583/44/M3
583/46/M3
583/44/M5
583/46/M5
583/45/M3
583/47/M1
583/45/M5
583/47/M3
583/47/M5
P1A L1
P1B M1
P2A L2
P2B M3
P3A L4
P3B M4
P4A L5
P4B M5
P5A L6
P5B M7
P6A L7
P6B M8
583/48/M1
583/48/M2
583/48/M3
583/48/M4
583/48/M5
583/48/M6
+3V



* 58G/1/M6

‡ 5G7/30/M1

n	00 01 02 03 04 05 06	08 09 10 11 12 13 14	16 17 18 19 20 21 22	24 25 26 27 28 29 30	32 33 34 35 36 37 38	40 41 42 43 44 45 46	48 49 50 51 52 53 54	56 57 58 59 60 61 62	64 65 66 67 68 69 70	72 73 74 75 76 77 78
8G3 1APTn	581/23 M2 M3 M5 M6 M6 M12	M8 M9 M10 M11 M12 M13	582/23 M2 M3 M4 M5 M6 M7	M8 M9 M10 M7 M12 M13		58G/23 M8 M9 M10 M11 M12 M13	587/23 M2 M3 M4 M5 ‡ M7	M8 M9 M10 M11 M12 M13		588/23 M2 M3 M4 M5 M6 M7	M8 M9 M10 M11 M12 M13
1# APTn 821(00-13, 32-77) 822 (16-29)	581/24 M1 M2 * M4 M5 M6 /	M7 M8 M9 M10 M11 M12 /	583/28 M2 M4 M6 M8 M10 M12 /	583/29 M2 M4 M6 M8 M10 M10 /	58G/35 M3 M2 M3 M4 M5 M6 /		587/24 M7 M8 M9 M10 M11 M12			588/24
822	581/22	581/27	582/22	582/27	58G/27		587/22	587/27	588/22	588/27
2APTn	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /		M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /	M1 M3 M5 M7 M9 M11 /
2APTn	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /		M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /
850/825 CAPTn	581 581 581 581 581 581 581 / 2G 25 2G 25 2G 2G 25	581 581 581 581 581 581 581 / 2G 25 2G 25 2G 2G 25	580 582 582 582 582 582 582 / 2G 25 2G 25 2G 2G 25	582 582 582 582 582 582 582 / 2G 25 2G 25 2G 2G 25	582 582 582 582 582 582 582 / 2G 25 2G 25 2G 2G 25	586 586 586 586 586 586 586 / 2G 25 2G 25 2G 2G 25	586 586 586 586 586 586 586 / 2G 25 2G 25 2G 2G 25	587 587 587 587 587 587 587 / 2G 25 2G 25 2G 2G 25	587 587 587 587 587 587 587 / 2G 25 2G 25 2G 2G 25	588 588 588 588 588 588 588 / 2G 25 2G 25 2G 2G 25
CAPTn	M1 M2 M2 M4 M5 M6 M6 / M1 M3 M5 M7 M9 M11	M5 M6 M8 M8 M10 M7 M8 / M1 M3 M5 M7 M9 M11	M1 M2 M2 M4 M3 M4 M6 / M1 M3 M5 M7 M9 M11	M5 M6 M6 M10 M7 M8 M12 / M1 M3 M5 M7 M9 M11	M1 M2 M2 M4 M3 M4 M6 / M1 M3 M5 M7 M9 M11	M5 M6 M6 M10 M7 M8 M12 / M1 M3 M5 M7 M9 M11	M1 M2 M2 M4 M3 M4 M6 / M1 M3 M5 M7 M9 M11	M5 M6 M6 M10 M7 M8 M12 / M1 M3 M5 M7 M9 M11	M1 M2 M2 M4 M3 M4 M6 / M1 M3 M5 M7 M9 M11	M5 M6 M6 M10 M7 M8 M12 / M1 M3 M5 M7 M9 M11
824 3APTn	581/21 M1 M3 M5 M7 M9 M11 /	581/28 M1 M3 M5 M7 M9 M11 /	582/21 M1 M3 M5 M7 M9 M11 /	582/28 M1 M3 M5 M7 M9 M11 /		58G/28 M1 M3 M5 M7 M9 M11 /	587/21 M1 M3 M5 M7 M9 M11 /	587/28 M1 M3 M5 M7 M8 M11 /	588/21 M1 M3 M5 M7 M9 M11 /	588/28 M1 M3 M5 M7 M8 M11 /
3APTn	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /		M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /
860 4APTn	581/20 M1 M2 M3 M4 M5 M6 /	581/29 M1 M2 M3 M4 M5 M6 /	582/20 M1 M2 M3 M4 M5 M6 /	582/29 M1 M2 M3 M4 M5 M6 /		58G/29 M1 M2 M3 M4 M5 M6 /	587/20 M1 M2 M3 M4 M5 M6 /	587/29 M1 M2 M3 M4 M5 M6 /	588/20 M1 M2 M3 M4 M5 M6 /	588/29 M1 M2 M3 M4 M5 M6 /
8G2 POLAMn	581/18 M1 M2 M3 M4 M5 M6 /	581/31 M1 M2 M3 M4 M5 M6 /	582/18 M1 M2 M3 M4 M5 M6 /	582/31 M1 M2 M3 M4 M5 M6 /		58G/31 M1 M2 M3 M4 M5 M6 /	587/18 M1 M2 M3 M4 M5 M6 /	587/31 M1 M2 M3 M4 M5 M6 /	588/18 M1 M2 M3 M4 M5 M6 /	588/31 M1 M2 M3 M4 M5 M6 /
8G2 STOPn	581/18 M7 M8 M9 M10 M11 M12 /	581/31 M7 M8 M9 M10 M11 M12 /	582/18 M7 M8 M9 M10 M11 M12 /	582/31 M7 M8 M9 M10 M11 M12 /		58G/31 M7 M8 M9 M10 M11 M12 /	587/18 M7 M8 M9 M10 M11 M12 /	587/31 M7 M8 M9 M10 M11 M12 /	588/18 M7 M8 M9 M10 M11 M12 /	588/31 M7 M8 M9 M10 M11 M12 /
822 5APTn	581/19 M1 M3 M5 M7 M9 M11 /	581/30 M1 M3 M5 M7 M9 M11 /	582/19 M1 M3 M5 M7 M9 M11 /	582/30 M1 M3 M5 M7 M9 M11 /		58G/30 M1 M3 M5 M7 M9 M11 /	587/19 M1 M3 M5 M7 M9 M11 /	587/30 M1 M3 M5 M7 M8 M11 /	588/19 M1 M3 M5 M7 M9 M11 /	588/30 M1 M3 M5 M7 M9 M11 /
5APTn	M2 M1 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /		M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /	M2 M4 M6 M8 M10 M12 /

FINT 1 584/38/M4 58·4L2 | FINT 2 584/38/M5 58·4L2

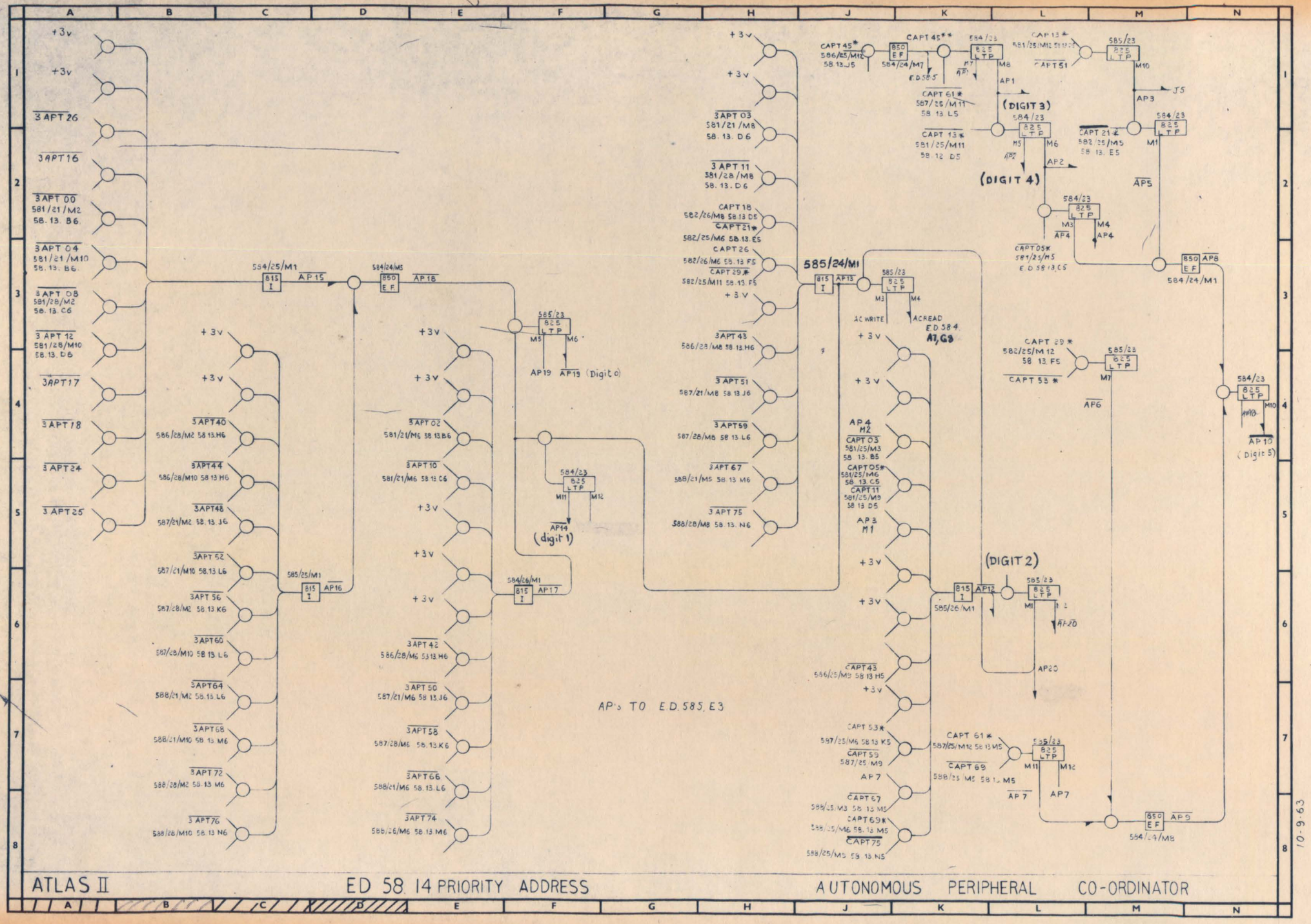
HOLD 31* 584/38/M1 58·4N5 | HOLD 32* 584/38/M1 58·4 N5

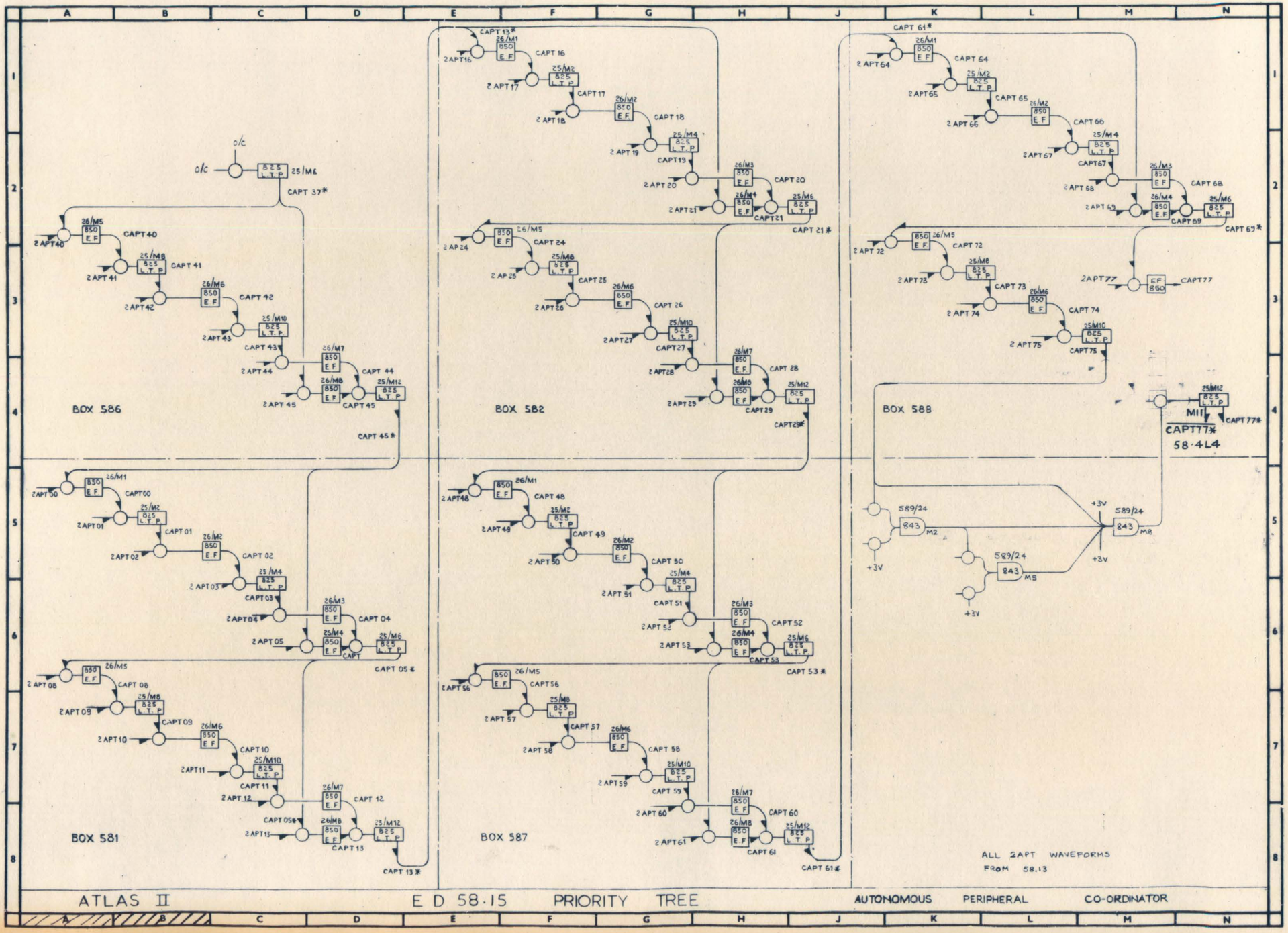
ST. POLAM 2 584/43/M1 58·4N1 | ST POLAM 3 584/43/M2 58·4 N1 | ST POLAM 4 584/43/M3 58·4N1

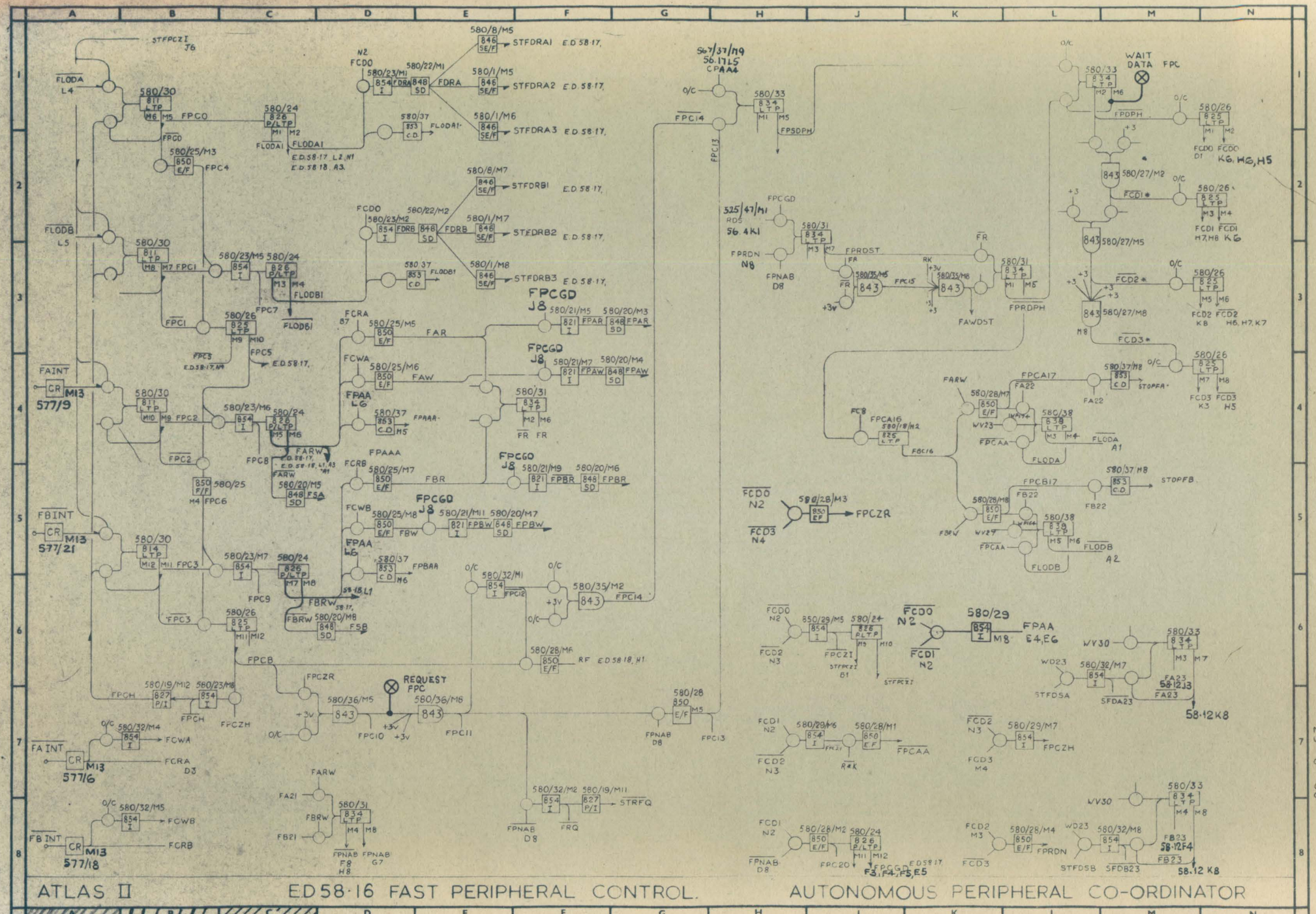
SLAM* 584/39/M2 58·4L5 | SLAM 4 584/39/M6 58·4M6

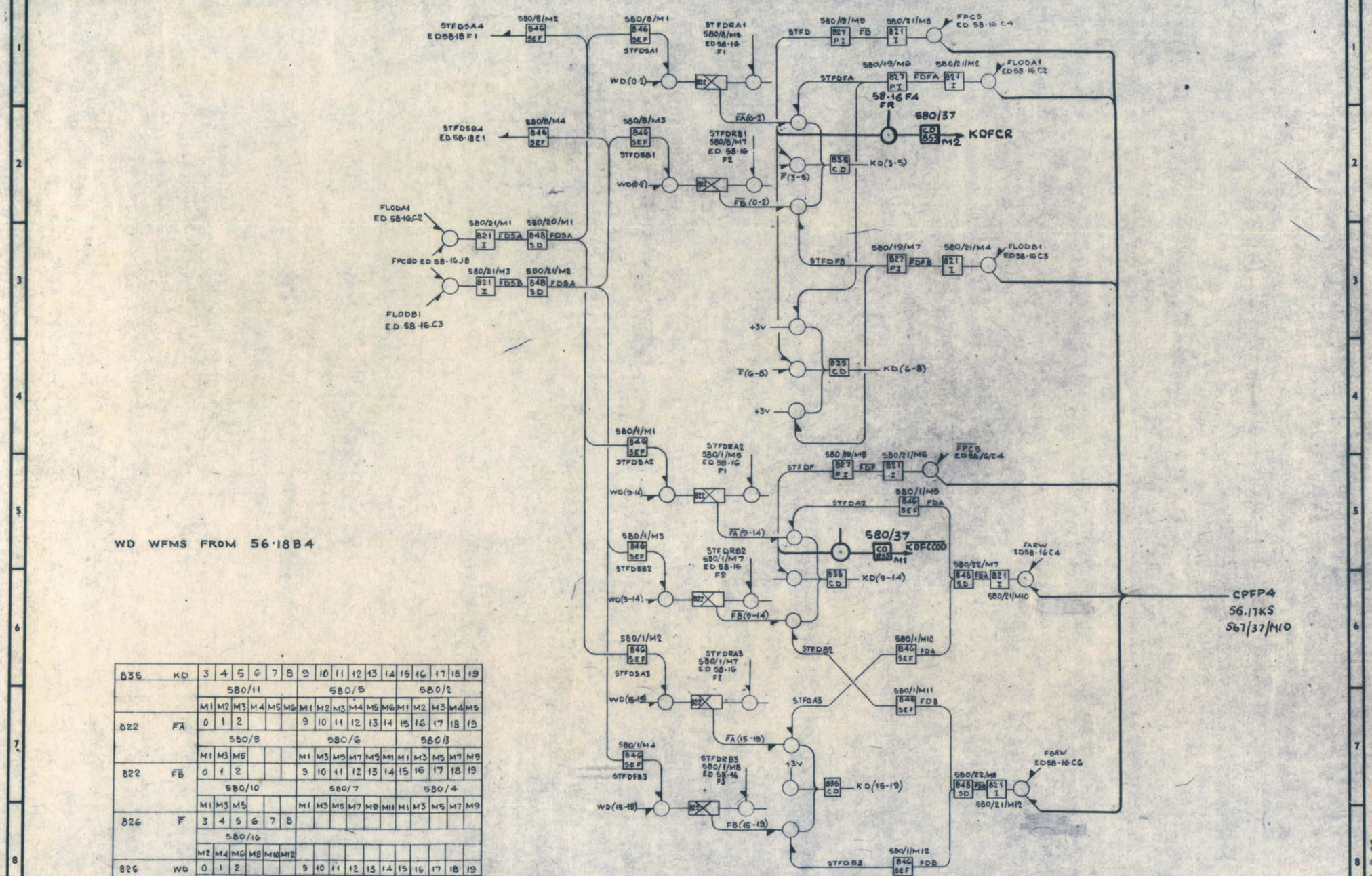
ST STOP 2 584/43/M4 58·4M5 | ST STOP 3 584/43/M5 58·4 M5 | ST STOP 4 584/43/M5 58·4M5

WV 30 583/3/M1 58·2K5


ATLAS II
ED 58.14 PRIORITY ADDRESS
AUTONOMOUS PERIPHERAL CO-ORDINATOR
+3v
3APT 26
3APT 16
3APT 00
581/21/M2
58.13. B6
3APT 04
581/21/M10
58.13. B6
3APT 08
581/28/M2
58.13. C6
3 APT 12
581/28/M10
58.13. D6
3APT 17
3APT 18
3 APT 24
3 APT 25
584/25/M1
AP 15
584/24/M5
AP 18
585/23
585/24/M1
AP 13
AC WRITE
ACREAD
E.D.58.4
A1, G3
AP 19
AP 19 (Digit 0)
584/23
AP 14
(digit 1)
585/25/M1
AP 16
584/26/M1
AP 17
3APT 40
586/28/M2 58.13.H6
3APT 44
586/28/M10 58.13 H6
3APT48
587/21/M2 58.13.J6
3APT 52
587/21/M10 58.13 L6
3APT 56
587/28/M2 58.13 K6
3APT60
587/28/M10 58.13.L6
3APT64
588/21/M2 58.13.L6
3APT68
588/21/M10 58.13.M6
3APT 72
588/28/M2 58.13.M6
3 APT76
588/28/M10 58.13 N6
3APT 02
581/21/M6 58.13.B6
3APT 10
581/21/M6 58.13.C6
3APT 42
586/28/M6 58.13.H6
3APT 50
587/21/M6 58.13.J6
3APT58
587/28/M6 58.13.K6
3APT66
588/21/M6 58.13.L6
3APT74
588/26/M6 58.13.M6
3APT 03
581/21/M8
58.13. D6
3 APT 11
581/28/M8
58.13. D6
CAPT 18
582/26/M8 58.13 D5
CAPT 21*
582/25/M6 58.13.E5
CAPT 26
582/26/M6 58.13.F5
CAPT 29*
582/25/M11 58.13.F5
3APT 43
586/28/M8 58.13.H6
3APT 51
587/21/M8 58.13.J6
3APT59
587/28/M8 58.13.L6
3APT 67
588/21/M8 58.13.M6
3 APT 75
588/28/M8 58.13. N6
CAPT 45*
586/25/M12
58.13.J5
850 E.F
584/24/M7
E.D.58.5
CAPT 45**
584/23
AP1
(DIGIT 3)
CAPT 61*
587/25/M11
58.13.L5
CAPT 13*
581/25/M11
58.12 D5
AP2
(DIGIT 4)
CAPT 13*
581/25/M12
CAPT 51
585/23
AP3
J5
CAPT 21*
582/25/M5
58.13. E5
AP5
CAPT 05*
581/25/M5
E.D.58.13.C5
AP4
850 AP8
584/24/M1
CAPT 29*
582/25/M12
58 13.F5
CAPT 53*
AP6
AP10
(Digit 5)
AP's TO E.D.585, E3
AP4
M2
CAPT 03
581/25/M3
58. 13. B5
CAPT 05*
581/25/M6
58. 13. C5
CAPT 11
581/25/M9
58.13.D5
AP3
M1
(DIGIT 2)
585/26/M1
AP12
AP20
CAPT 43
586/25/M2 58.13.H5
CAPT 53*
587/25/M6 58.13.K5
CAPT 59
587/25/M9
AP7
CAPT 67
588/25/M3 58.13.M5
CAPT 69*
588/25/M6 58.13.M5
CAPT 75
588/25/M3 58.13.N5
CAPT 61*
587/25/M12 58.13.M5
CAPT 69
588/25/M5 58.13.M5
AP7
850 E.F
584/24/M8
10-9-63


BOX 586
BOX 582
BOX 588
BOX 581
BOX 587
ALL 2APT WAVEFORMS FROM 58.13
CAPT77*
58·4L4
589/24
843
M2
M5
M8
+3V


ATLAS II
ED58·16 FAST PERIPHERAL CONTROL.
AUTONOMOUS PERIPHERAL CO-ORDINATOR
20-9-63



WD WFMS FROM 56·18B4

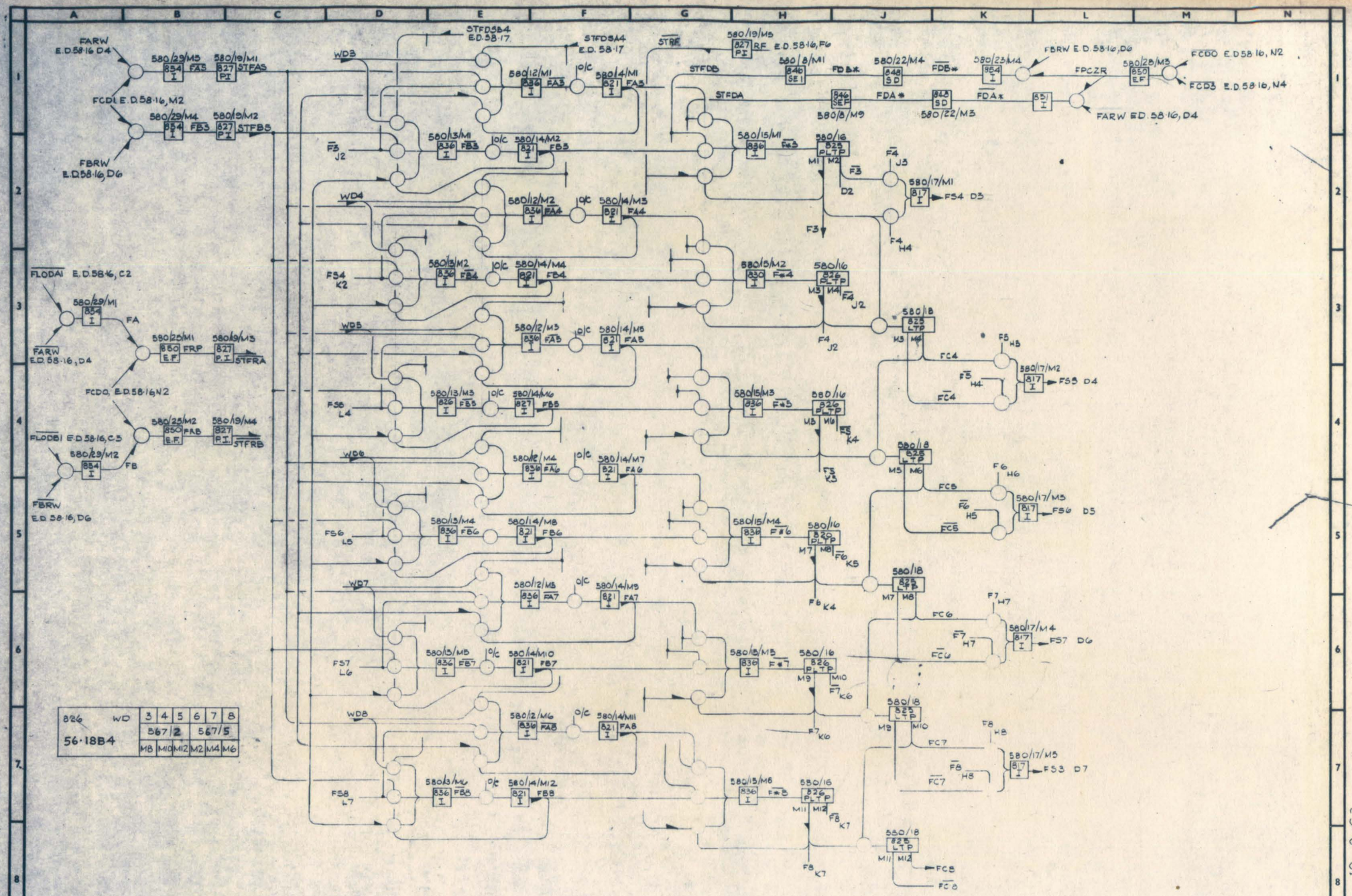
835	KD	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		580/11						580/5						580/2				
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5
822	$\overline{FA}$	0	1	2				9	10	11	12	13	14	15	16	17	18	19
		580/9						580/6						580/3				
		M1	M3	M5				M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9
822	$\overline{FB}$	0	1	2				9	10	11	12	13	14	15	16	17	18	19
		580/10						580/7						580/4				
		M1	M3	M5				M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9
826	$\overline{F}$	3	4	5	6	7	8											
		580/16																
		M2	M4	M6	M8	M10	M12											
826	WD	0	1	2				9	10	11	12	13	14	15	16	17	18	19
		567/2						567/5			567/8						567/11	
		M2	M4	M6				M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4

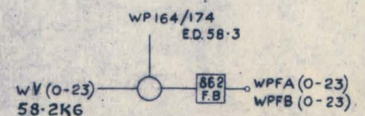
ATLAS II

ED58-17 FAST PERIPHERAL BUFFER

AUTONOMOUS PERIPHERAL CO-ORDINATOR

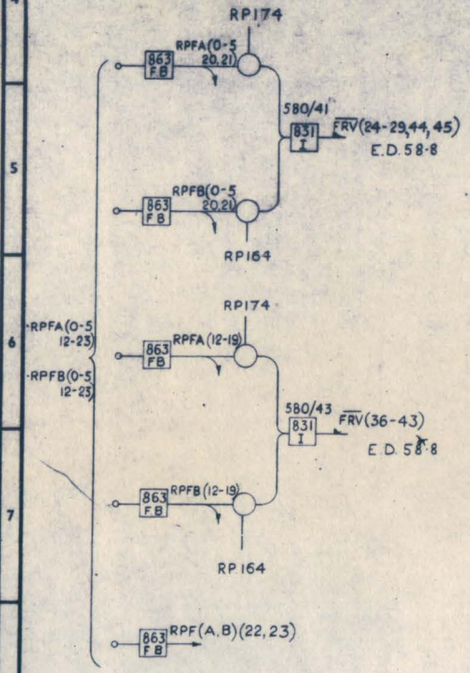
16.9.63.


FARW E.D.58·16 D4
FCDL E.D.58·16, M2
FBRW E.D.58·16, D6
STFDSB4 E.D.58·17
STFDSA4 E.D. 58·17
STFDB
STFDA
FLODAI E.D.58·16, C2
FARW E.D. 58·16, D4
FCDO E.D.58·16 N2
FLODBI E.D.58·16, C.3
FBRW E.D. 58·16, D6
FBRW E.D. 58·16, D6
FCDO E.D 58 16, N2
FCD3 E.D 58 16, N4
FPCZR
FARW E.D. 58·16, D4
STFBS
STFRA
STFRB
WD3
WD4
WD5
WD6
WD7
WD8
FS3 J2
FS4 K2
FS5 L4
FS6 L5
FS7 L6
FS8 L7
F3 J2
F4 J3
F4 H4
F4 J2
F5 K4
F5 K3
F6 K5
F6 K4
F7 K6
F7 K6
F8 K7
F8 K7
FC4
FC5
FC6
FC7
FC8
FC8
826 WD 3 4 5 6 7 8
56·18B4
M8 M10 M12 M2 M4 M6
ATLAS II
E.D 58 16 FAST PERIPHERAL HALF-ADDER.
AUTONOMOUS PERIPHERAL CO-ORDINATOR
19-9-63



862	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
WPFA	580/45												580/47											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
INPUT WV	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
STROBE	WP 174							E.D 58·3					WP 174							E.D. 58·3				

862	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
WPFB	580/46												580/48											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
INPUT WV	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
STROBE	WP164							E.D58·3					WP164							E.D58·3				



831 FRV	24	25	26	27	28	29	44	45
	580/41							
	M1	M5	M2	M6	M3	M7	M4	M8
INPUT A RFB	0	1	2	3	4	5	20	21
STROBE	RP164				E.D.58·3			
INPUT B RFA	0	1	2	3	4	5	20	21
STROBE	RP164				E.D58·3			

831 FRV	36	37	38	39	40	41	42	43
	580/43							
	M1	M5	M2	M6	M3	M7	M4	M8
INPUT A RFB	12	13	14	15	16	17	18	19
STROBE	RP164				E.D.58·3			
INPUT B RFA	12	13	14	15	16	17	18	19
STROBE	RP174				E.D 58·3			

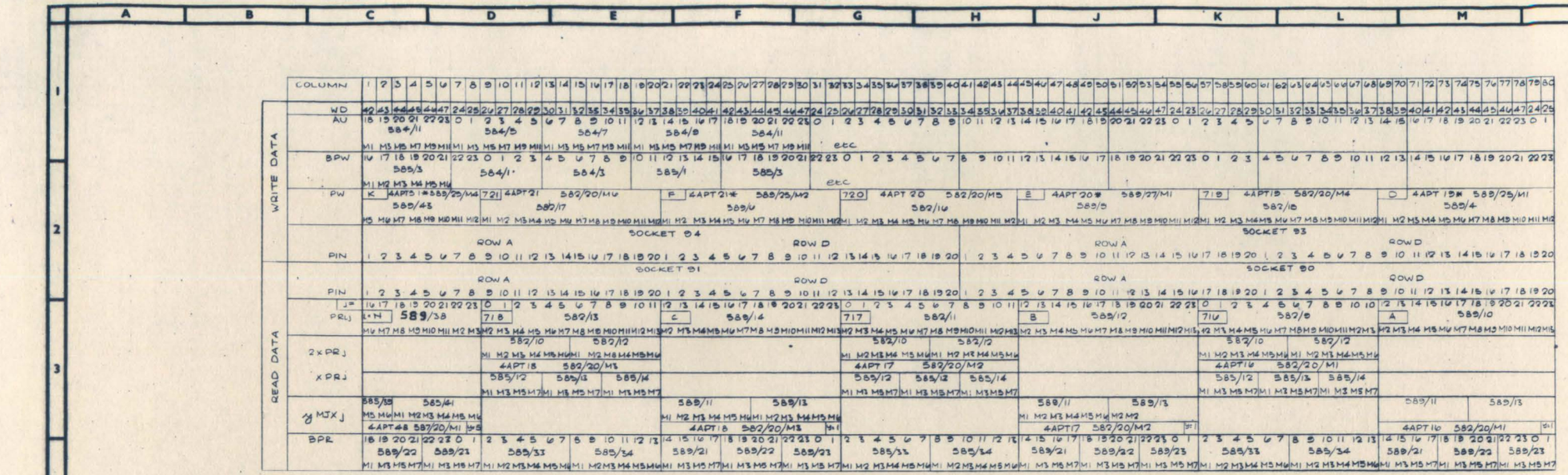
863 RPFA 580/40	12	13	14	15	16	17	18	19	20	21	22	23
	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13

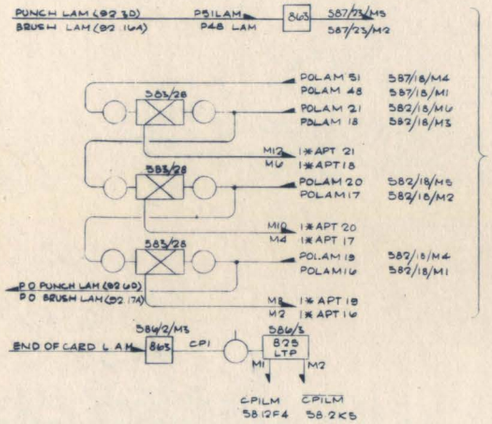
863 RPFA 580/42	0	1	2	3	4	5
	M2	M3	M4	M5	M6	M7

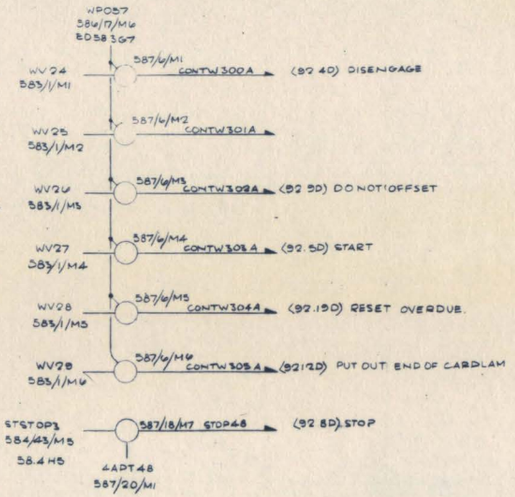
863 RPFB 580/44	12	13	14	15	16	17	18	19	20	21	22	23
	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13

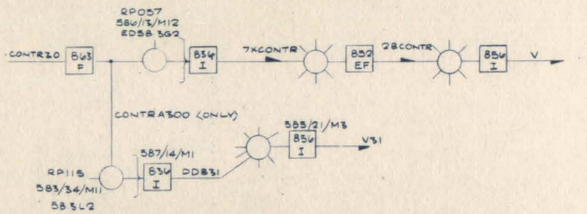
863 RPFB 580/42	0	1	2	3	4	5
	M8	M9	M10	M11	M12	M13

20-9-63

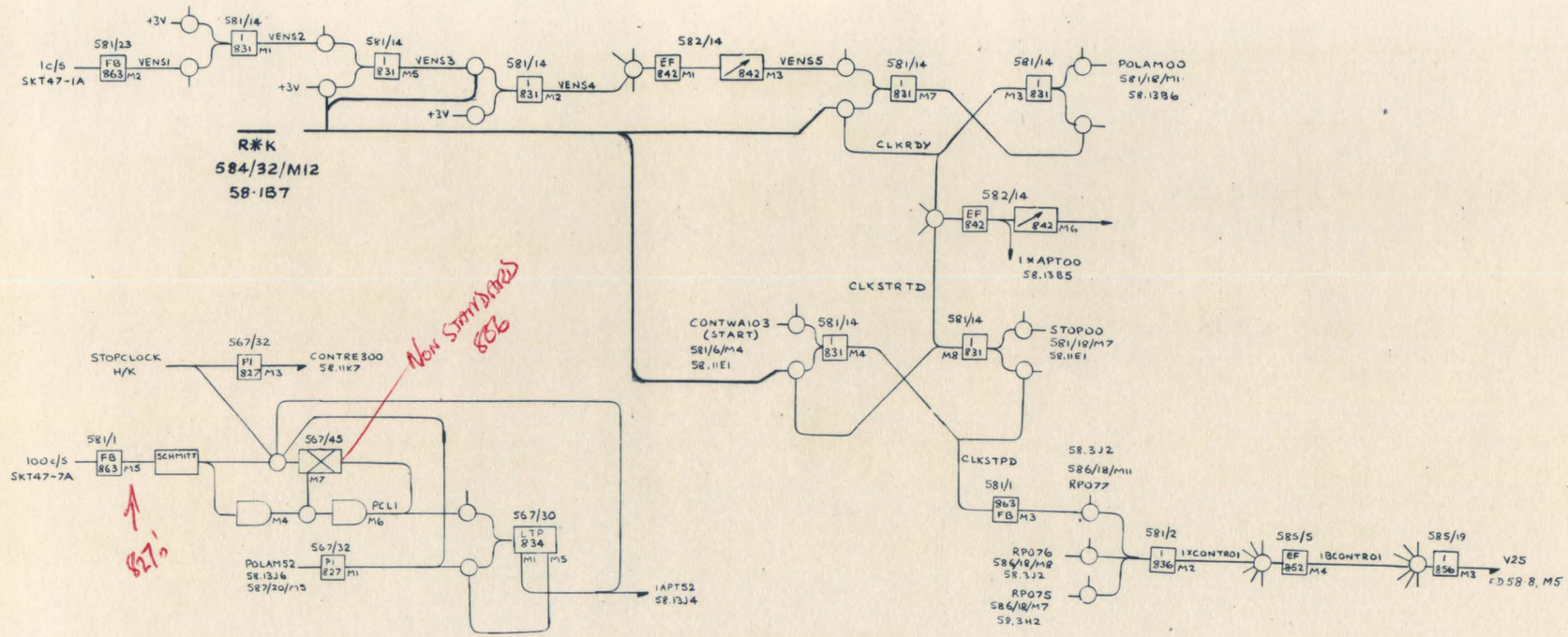




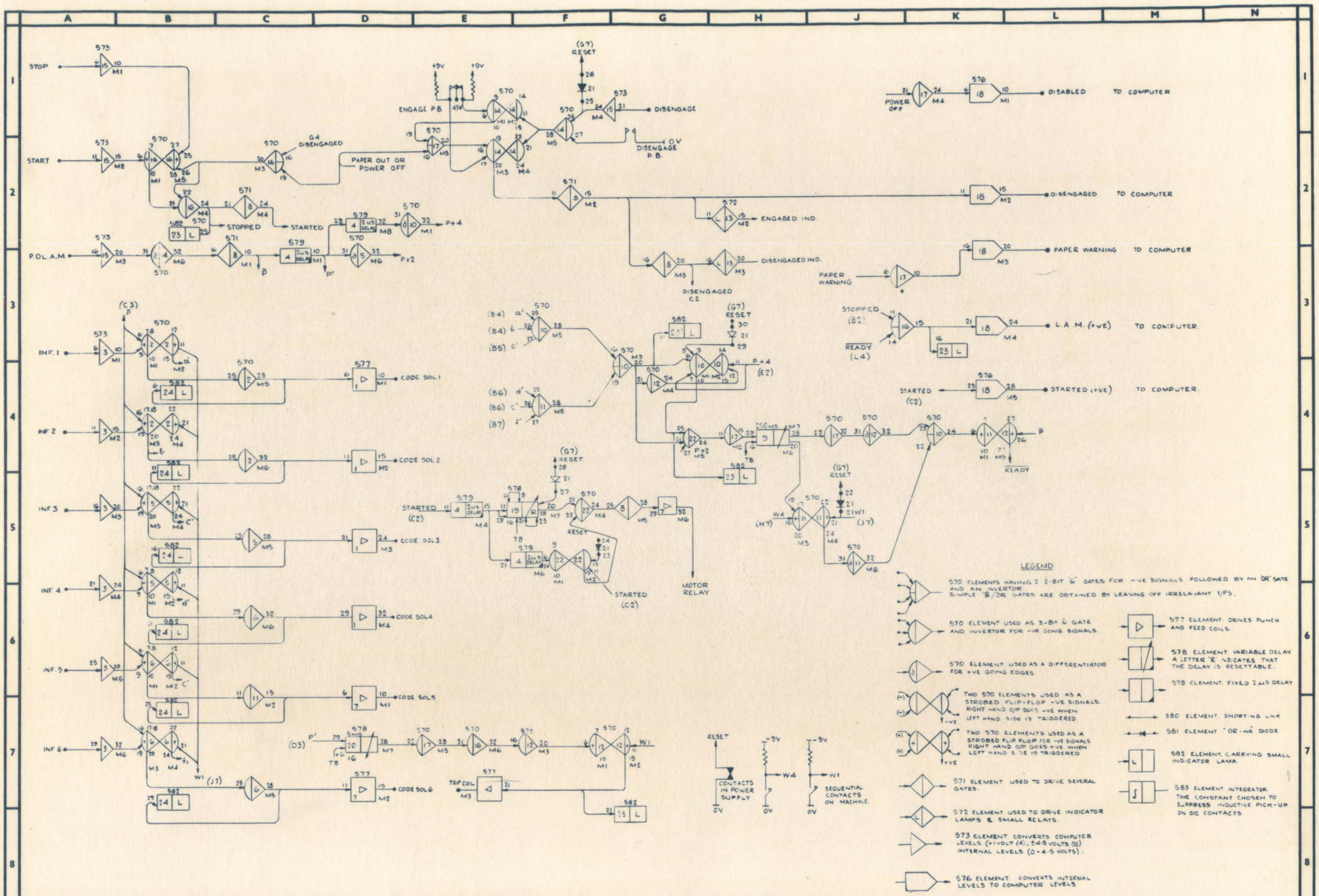


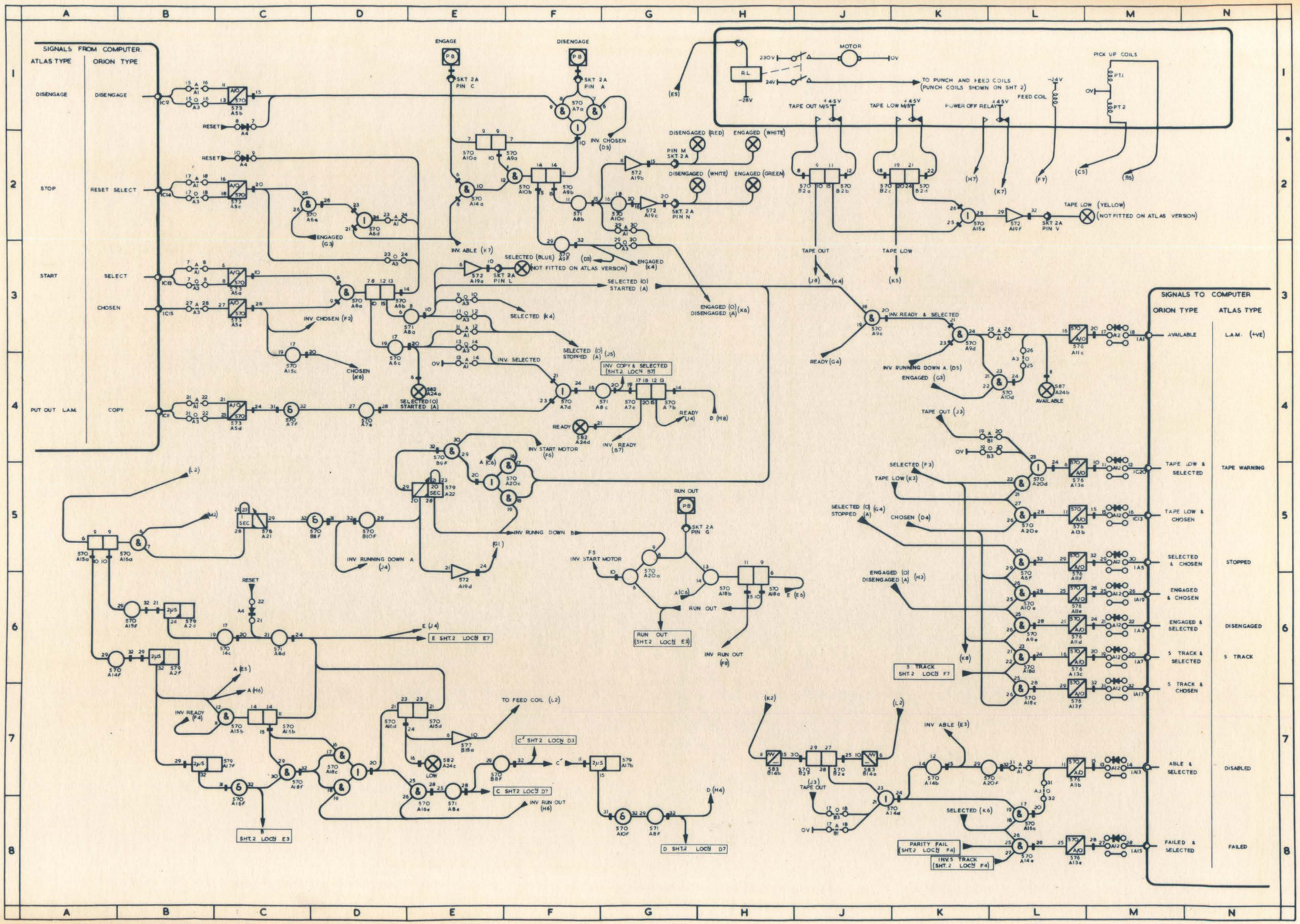


	0	1	2	3	4	5
CONTR30	DISENGAGED	STOPPED	ENGN R ATTN	OPRTR ATTN	OVERDUE	
	SKT82 11A	SKT82 15D	SKT82 13A	SKT82 9A	SKT82 10A	
	587/1					
	M2	M3	M4	M5	M6	M7
	587/2					
7XCONTRO	M1	M2	M3	M4	M5	M6
	585/6			585/8		
28CONTRO	M1	M4	M7	M1	M4	M7
V	24	25	26	21	28	23
	585/19			585/20		
	M1	M3	M5	M1	M3	M5

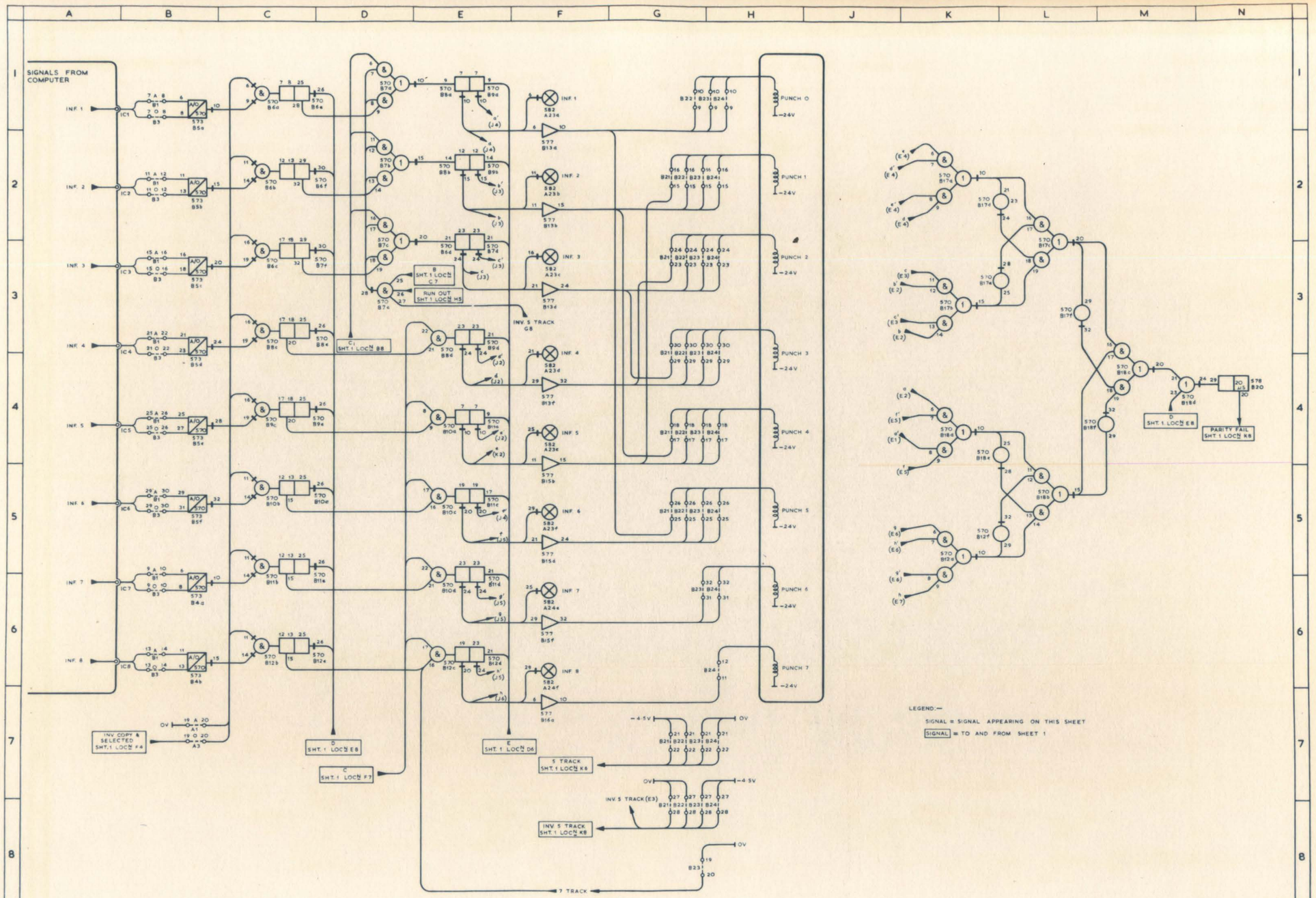


		SECONDS								MINUTES								HOURS							
		1	2	4	8	10	20	40		1	2	4	8	10	20	40		1	2	4	8	10	20		
CLOCK		PLUG C – SEE B65/88243																							
CONNECTOR		3C	4C	5C	6C	7C	8C	9C		11C	12C	13C	14C	15C	16C	17C		19C	20C	1A	3A	5A	7A		
MACHINE		SOCKET 47												SOCKET 16											
CONNECTOR		1C	2C	3C	4C	5C	6C	7C	8C	10C	19C	17A	19A	1C	2C	3C	4C	5C	6C	7C	8C	10C	19C	17A	19A
WFM	PKGE	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PR700 (0-11) PRM(12-23)	863	581/9												589/37											
		M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
		STROBE 4APT00 : 581/20/M1																							
		581/10						581/12																	
1XPR	836	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6												
		585/12			585/13			585/14																	
XPR	852	M1	M3	M5	M7	M1	M3	M5	M7	M1	M3	M5	M7												
														STROBE 4APT00 : 581/20/M1											
														589/34						589/36					
4M1X	836													M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01
	854 a	585/33 a						585/34 a						589/21 b				589/22 b				589/23 b			
BPR	858 b	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M3	M5	M7	M1	M3	M5	M7	M1	M3	M5	M7

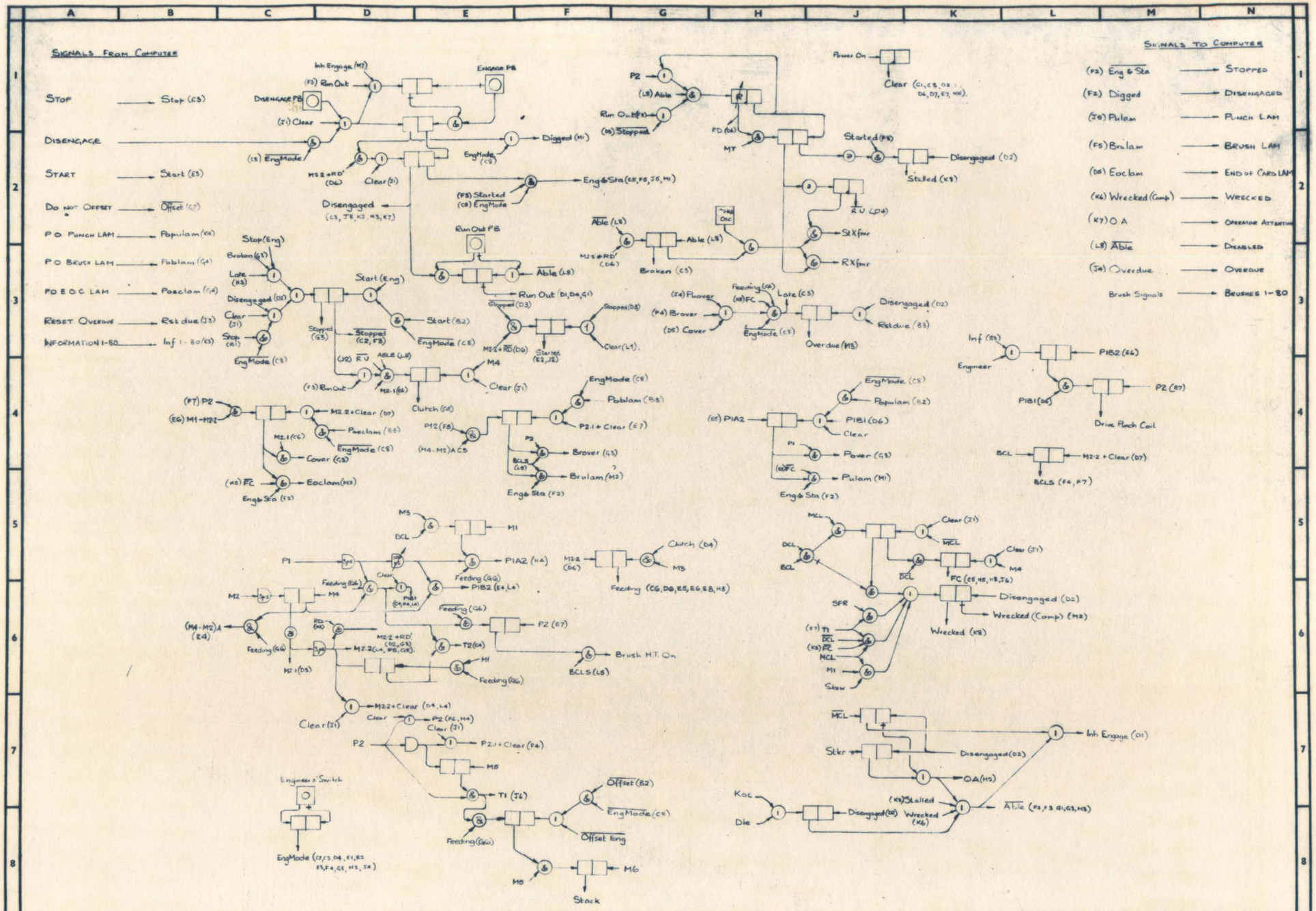

STOP
START
P.O.L. A.M.
ENGAGE P.B.
PAPER OUT OR POWER OFF
G4 DISENGAGED
STOPPED
STARTED
DISENGAGE
DISENGAGE P.B.
DISABLED
TO COMPUTER
POWER OFF
DISENGAGED
ENGAGED IND.
DISENGAGED IND.
PAPER WARNING
L.A.M. (+VE)
READY
INF. 1
INF. 2
INF. 3
INF. 4
INF. 5
INF. 6
CODE SOL 1
CODE SOL 2
CODE SOL 3
CODE SOL 4
CODE SOL 5
CODE SOL 6
MOTOR RELAY
RESET
LEGEND
570 ELEMENTS HAVING 2 2-BIT '&' GATES FOR -VE SIGNALS FOLLOWED BY AN 'OR' GATE AND AN INVERTOR SIMPLE '&'/OR GATES ARE OBTAINED BY LEAVING OFF IRRELAVANT I/PS.
570 ELEMENT USED AS 3-BIT '&' GATE AND INVERTOR FOR -VE GOING SIGNALS.
570 ELEMENT USED AS A DIFFERENTIATOR FOR +VE GOING EDGES
TWO 570 ELEMENTS USED AS A STROBED FLIP-FLOP -VE SIGNALS RIGHT HAND O/P GOES -VE WHEN LEFT HAND SIDE IS TRIGGERED
TWO 570 ELEMENTS USED AS A STROBED FLIP FLOP FOR -VE SIGNALS RIGHT HAND O/P GOES +VE WHEN LEFT HAND SIDE IS TRIGGERED
571 ELEMENT USED TO DRIVE SEVERAL GATES.
572 ELEMENT USED TO DRIVE INDICATOR LAMPS & SMALL RELAYS.
573 ELEMENT CONVERTS COMPUTER LEVELS (+1 VOLT (A), ±4·8 VOLTS (0)) INTERNAL LEVELS (0 - 4·5 VOLTS).
576 ELEMENT CONVERTS INTERNAL LEVELS TO COMPUTER LEVELS
577 ELEMENT DRIVES PUNCH AND FEED COILS.
578 ELEMENT VARIABLE DELAY A LETTER 'R' INDICATES THAT THE DELAY IS RESETTABLE.
579 ELEMENT FIXED 2 μS DELAY
580 ELEMENT SHORTING LINK
581 ELEMENT "OR"-ING DIODE
582 ELEMENT CARRYING SMALL INDICATOR LAMP.
583 ELEMENT INTEGRATOR TIME CONSTANT CHOSEN TO SUPPRESS INDUCTIVE PICK-UP ON O/C CONTACTS
CONTACTS IN POWER SUPPLY
SEQUENTIAL CONTACTS ON MACHINE



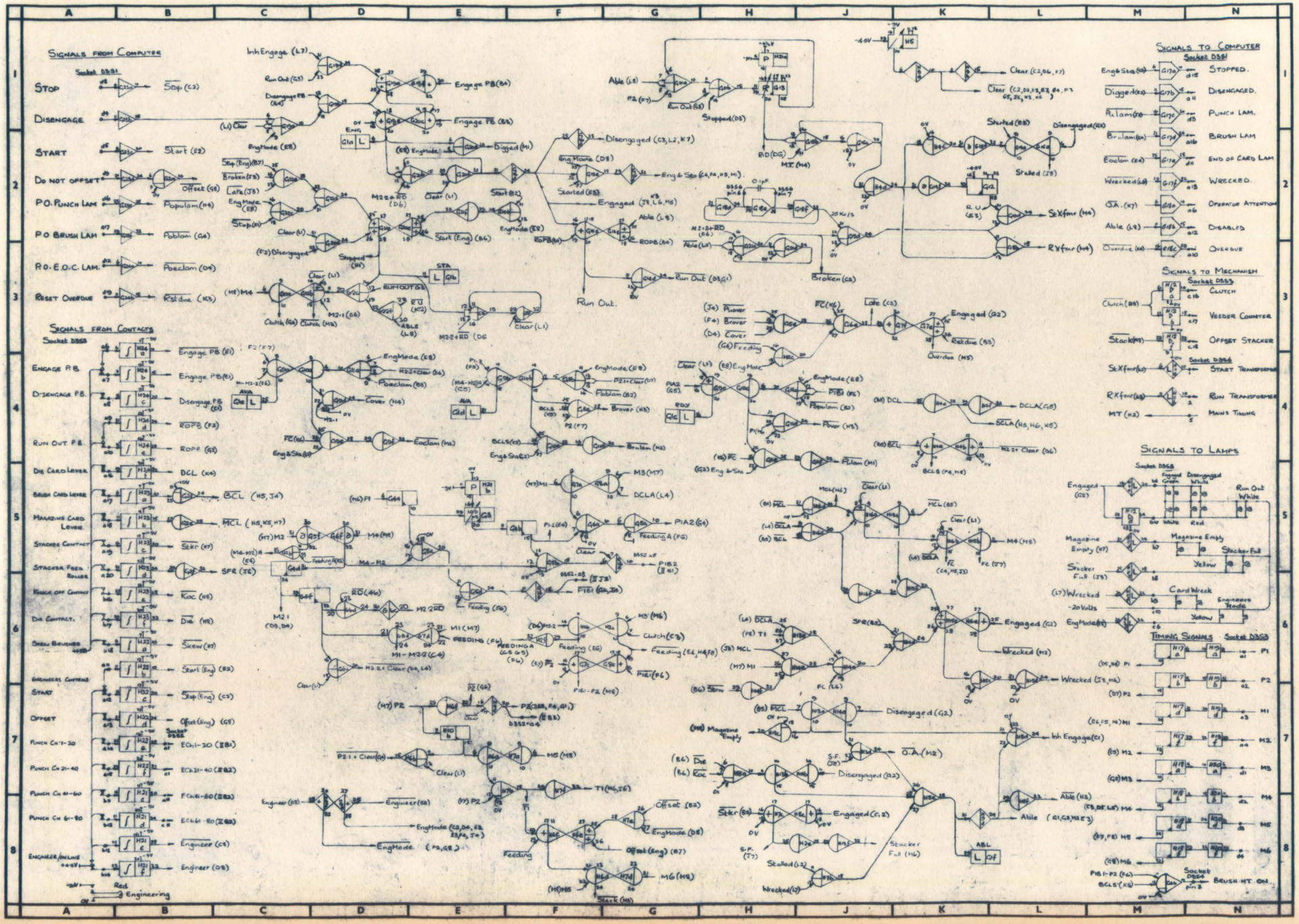
ATLAS 2 DWG. E.D. 58·101 TELETYPE CONTROL



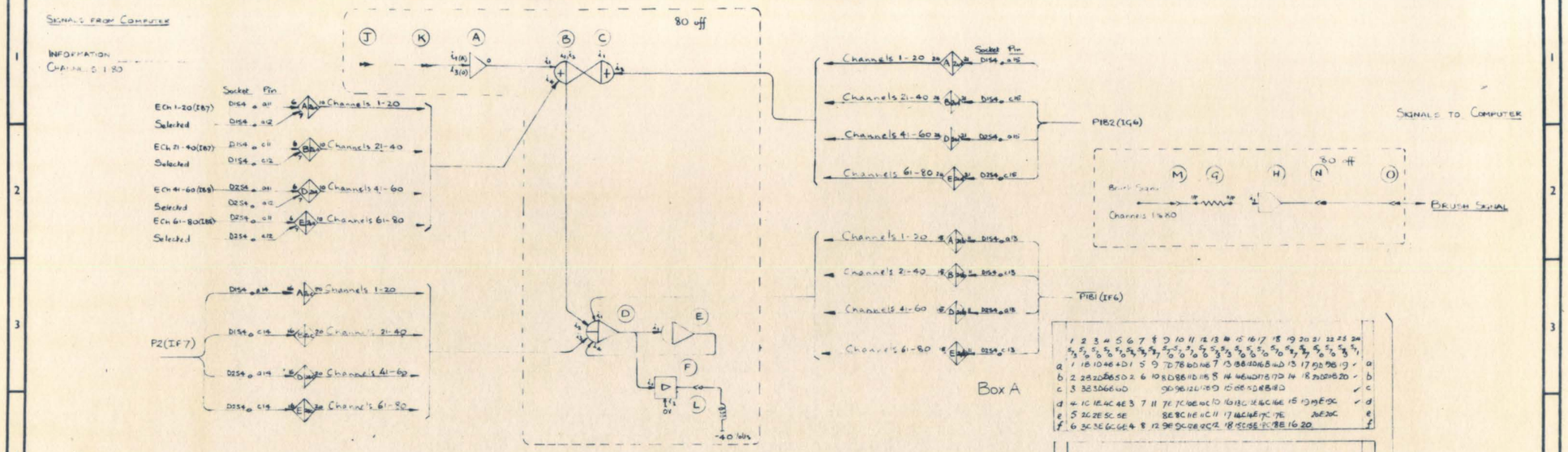
ATLAS 2 DWG. E.D. 58·102 TELETYPE DATA ROUTING



ATLAS 2 DWG. E.D. 58-103 582A CARD PUNCH CONTROL O.D.



ATLAS 2 DWG. E.D. 58·104 582A CARD PUNCH CONTROL E.D.



Channel No / Element	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A	A1a	A1b	A1c	A1d	A1e	A1f	A2a	A2b	A2c	A2d	A2e	A2f	A3a	A3b	A3c	A3d	A3e	A3f	A4a	A4b	A4c	A4d	A4e	A4f	A5a	A5b	A5c	A5d	A5e	A5f	A6a	A6b	A6c	A6d	A6e	A6f	A7a	A7b	A7c	A7d
B	A2a	A2b	A2c	A2d	A2e	A2f	A3a	A3b	A3c	A3d	A3e	A3f	A4a	A4b	A4c	A4d	A4e	A4f	A5a	A5b	A5c	A5d	A5e	A5f	A6a	A6b	A6c	A6d	A6e	A6f	A7a	A7b	A7c	A7d	A7e	A7f	A8a	A8b	A8c	A8d
C	A2d	A2e	A2f	A3d	A3e	A3f	A4d	A4e	A4f	A5d	A5e	A5f	A6d	A6e	A6f	A7d	A7e	A7f	A8d	A8e	A8f	B2a	B2b	B2c	B2d	B2e	B2f	B3d	B3e	B3f	B4d	B4e	B4f	B5d	B5e	B5f	B6d	B6e	B6f	B7d
D	A3d	A3e	A3f	A4d	A4e	A4f	A5d	A5e	A5f	A6d	A6e	A6f	A7d	A7e	A7f	A8d	A8e	A8f	B2d	B2e	B2f	B3a	B3b	B3c	B3d	B3e	B3f	B4a	B4b	B4c	B4d	B4e	B4f	B5a	B5b	B5c	B5d	B5e	B5f	B6a
E	A4d	A4e	A4f	A5d	A5e	A5f	A6d	A6e	A6f	A7d	A7e	A7f	A8d	A8e	A8f	B2d	B2e	B2f	B3d	B3e	B3f	B4a	B4b	B4c	B4d	B4e	B4f	B5a	B5b	B5c	B5d	B5e	B5f	B6a	B6b	B6c	B6d	B6e	B6f	B7a
F	A6a	A6b	A6c	A6d	A6e	A6f	A7a	A7b	A7c	A7d	A7e	A7f	A8a	A8b	A8c	A8d	A8e	A8f	B2a	B2b	B2c	B2d	B2e	B2f	B6a	B6b	B6c	B6d	B6e	B6f	B7a	B7b	B7c	B7d	B7e	B7f	B8a	B8b	B8c	B8d
G	C1a	C1b	C1c	C1d	C1e	C1f	C2a	C2b	C2c	C2d	C2e	C2f	C3a	C3b	C3c	C3d	C3e	C3f	C4a	C4b	C4c	C4d	C4e	C4f	C5a	C5b	C5c	C5d	C5e	C5f	C6a	C6b	C6c	C6d	C6e	C6f	C7a	C7b	C7c	C7d
H	C2a	C2b	C2c	C2d	C2e	C2f	C3a	C3b	C3c	C3d	C3e	C3f	C4a	C4b	C4c	C4d	C4e	C4f	C5a	C5b	C5c	C5d	C5e	C5f	C6a	C6b	C6c	C6d	C6e	C6f	C7a	C7b	C7c	C7d	C7e	C7f	C8a	C8b	C8c	C8d
J (CS1)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
K (DS1)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
L (DS2)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
M (DS4)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	c1	c2	c3	c4	c5	c6	c7	c8	c9	c10	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10
N (DS3)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
O (CS3)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20

Channel No / Element	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
A	D1a	D1b	D1c	D1d	D1e	D1f	D2a	D2b	D2c	D2d	D2e	D2f	D3a	D3b	D3c	D3d	D3e	D3f	D4a	D4b	D4c	D4d	D4e	D4f	D5a	D5b	E1a	E1b	E1c	E1d	E1e	E1f	E2a	E2b	E2c	E2d	E2e	E2f	E3a	E3b
B	D2a	D2b	D2c	D2d	D2e	D2f	D3a	D3b	D3c	D3d	D3e	D3f	D4a	D4b	D4c	D4d	D4e	D4f	D5a	D5b	D5c	D5d	D5e	D5f	D7a	D7b	D7c	D7d	D7e	D7f	D8a	D8b	D8c	D8d	D8e	D8f	E1a	E1b	E1c	E1d
C	D2d	D2e	D2f	D3d	D3e	D3f	D4a	D4b	D4c	D4d	D4e	D4f	D5a	D5b	D5c	D5d	D5e	D5f	D6a	D6b	D6c	D6d	D6e	D6f	D7d	D7e	D7f	D8a	D8b	D8c	D8d	D8e	D8f	E1a	E1b	E1c	E1d	E1e	E1f	E2a
D	D3a	D3b	D3c	D3d	D3e	D3f	D4d	D4e	D4f	D5a	D5b	D5c	D5d	D5e	D5f	D6a	D6b	D6c	D6d	D6e	D6f	D7a	D7b	D7c	D8a	D8b	D8c	D8d	D8e	D8f	E1d	E1e	E1f	E2a	E2b	E2c	E2d	E2e	E2f	E3a
E	D3d	D3e	D3f	D4d	D4e	D4f	D5d	D5e	D5f	D6d	D6e	D6f	D7a	D7b	D7c	D7d	D7e	D7f	D8a	D8b	D8c	D8d	D8e	D8f	E1d	E1e	E1f	E2a	E2b	E2c	E2d	E2e	E2f	E3a	E3b	E3c	E3d	E3e	E3f	E4a
F	D4a	D4b	D4c	D4d	D4e	D4f	D5a	D5b	D5c	D5d	D5e	D5f	D6a	D6b	D6c	D6d	D6e	D6f	D7a	D7b	D7c	D7d	D7e	D7f	D8a	D8b	D8c	D8d	D8e	D8f	E1a	E1b	E1c	E1d	E1e	E1f	E2a	E2b	E2c	E2d
G	F1a	F1c	F1e	F1g	F1j	F1f	F1b	F1d	F1h	F1k	F1m	F5a	F5c	F5e	F5g	F5j	F5l	F5b	F5d	F5f	F5h	F5k	F5m	F9a	F9c	F9e	F9g	F9j	F9l	F9b	F9d	F9f	F9h	F9k	F9m	F3a	F3c	F3e	F3g	F3j
H	F2a	F2b	F2c	F2d	F2e	F2f	F3a	F3b	F3c	F3d	F3e	F3f	F6a	F6b	F6c	F6d	F6e	F6f	F7a	F7b	F7c	F7d	F7e	F7f	F10a	F10b	F10c	F10d	F10e	F10f	F11a	F11b	F11c	F11d	F11e	F11f	F4a	F4b	F4c	F4d
J (CS2)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
K (DS5)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
L (DS6)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
M (DS7)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	c1	c2	c3	c4	c5	c6	c7	c8	c9	c10	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10
N (DS8)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20
O (CS4)	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	d15	d16	d17	d18	d19	d20

Box A

Box B

Box C

Box D

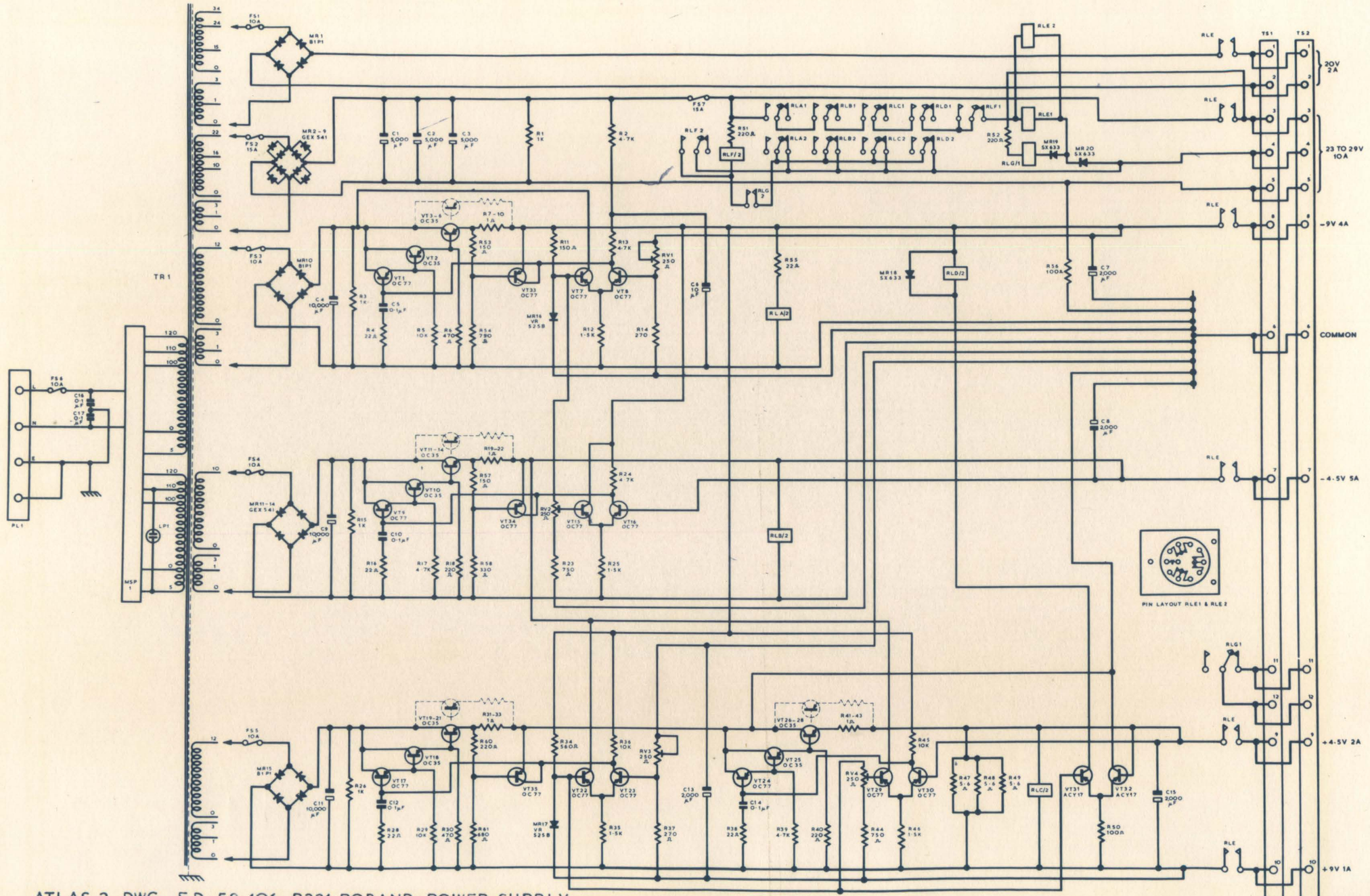
Box E

Box F

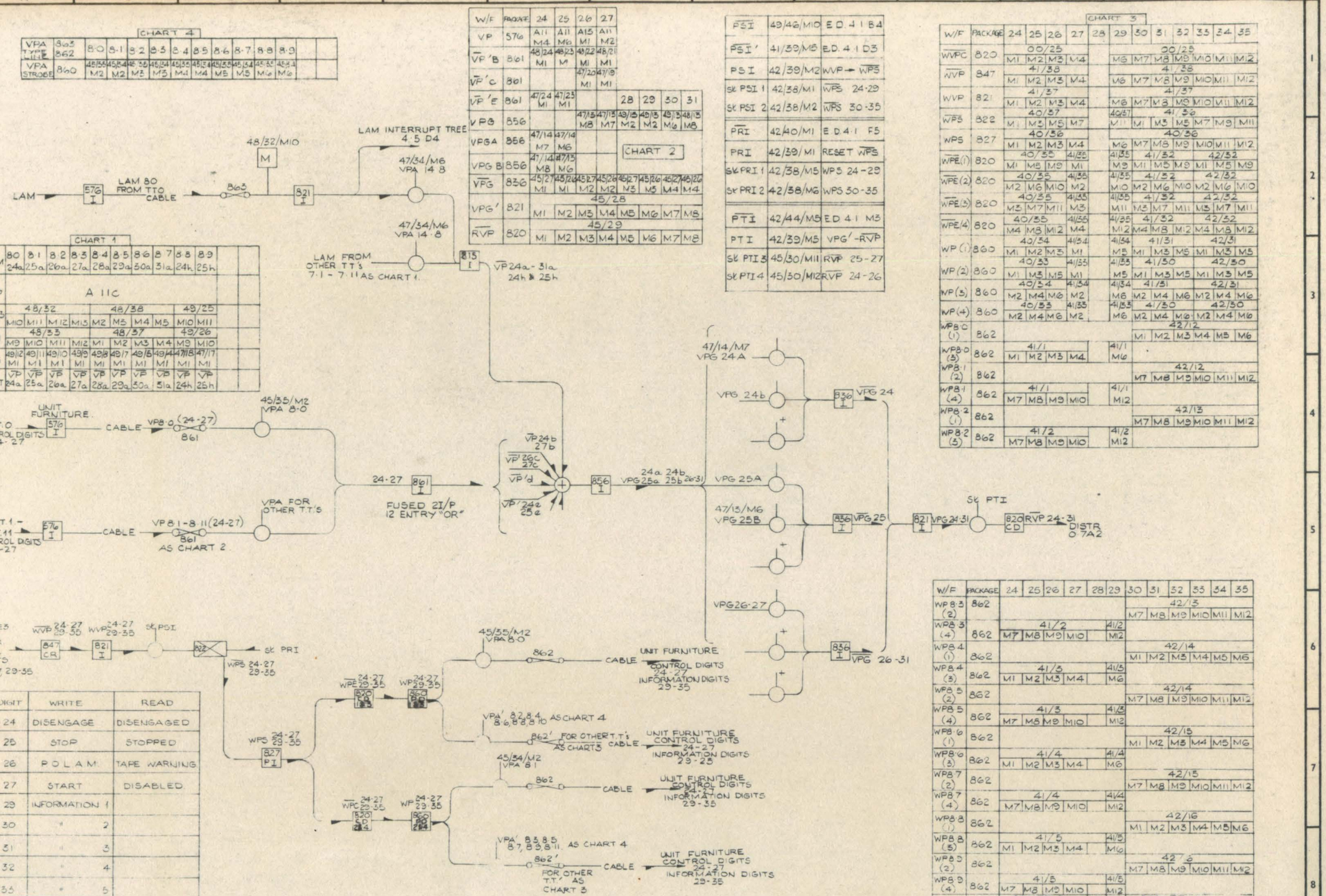
Door 1

Door 2

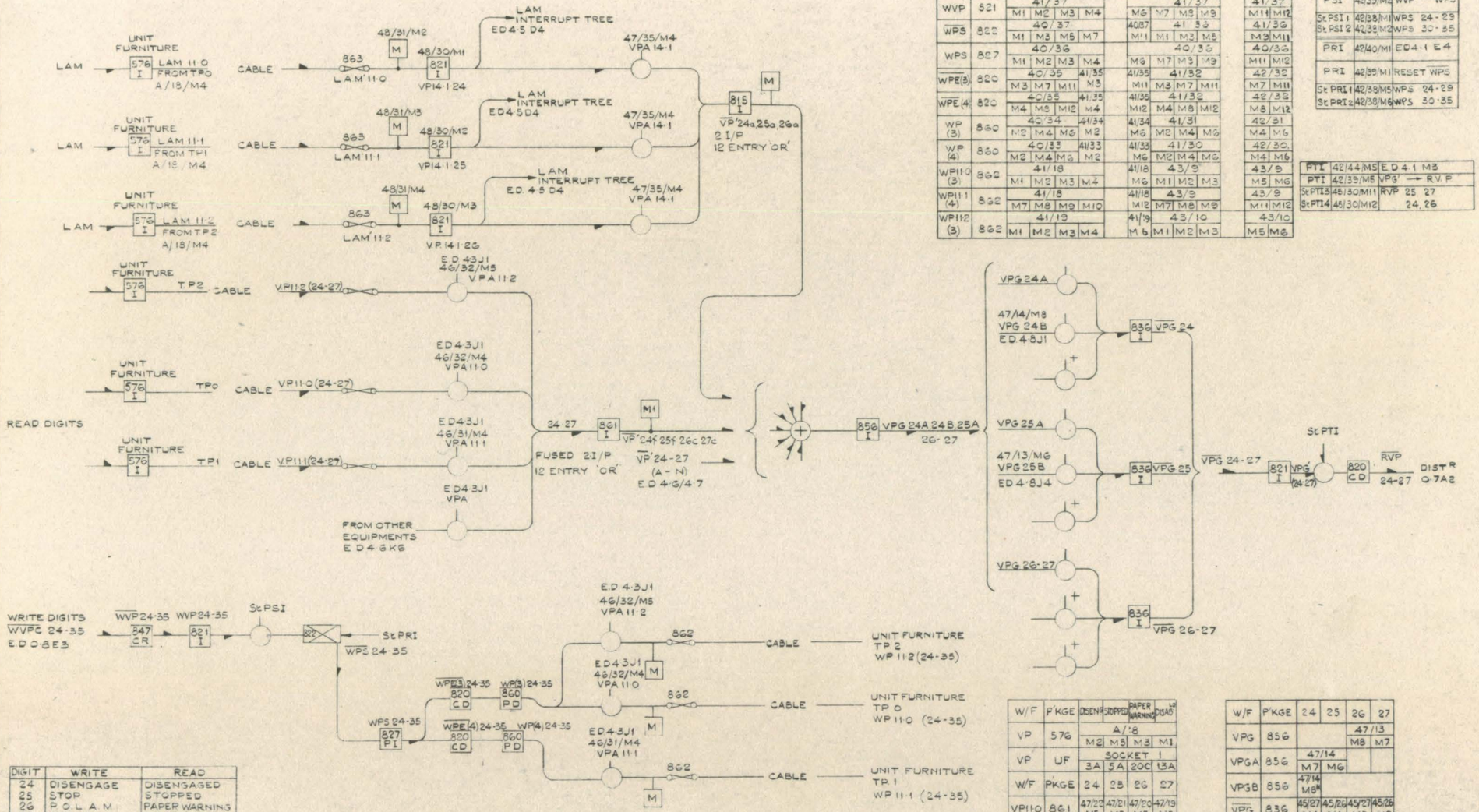
ATLAS 2 DWG. E.D. 58-105 582A CARD PUNCH DATA ROUTING



ATLAS 2 DWG. E.D. 58·106 R221 ROBAND POWER SUPPLY.



DIGIT	WRITE	READ
24	DISENGAGE	DISENGAGED
25	STOP	STOPPED
26	P.O.L.A.M.	TAPE WARNING
27	START	DISABLED
29	INFORMATION 1	
30	" 2	
31	" 3	
32	" 4	
35	" 5	
34	" 6	
35	" 7	



W/F	P'KGE	24	25	26	27	28	29	30	31	32	33	34	35
WVPC	820	00/25					00/25					00/25	
		M1	M2	M3	M4		M6	M7	M8	M9		M11	M12
WVP	847	41/38					41/38					41/38	
		M1	M2	M3	M4		M6	M7	M8	M9		M11	M12
WVP	821	41/37					41/37					41/37	
		M1	M2	M3	M4		M6	M7	M8	M9		M11	M12
WPS	822	40/37					40/37		41/33			41/36	
		M1	M3	M5	M7		M11	M1	M3	M5		M9	M11
WPS	827	40/36					40/36					40/36	
		M1	M2	M3	M4		M6	M7	M8	M9		M11	M12
WPE(3)	820	40/35		41/35			41/35		41/32			42/35	
		M3	M7	M11	M3		M11	M3	M7	M11		M7	M11
WPE(4)	820	40/35		41/35			41/35		41/32			42/35	
		M4	M8	M12	M4		M12	M4	M8	M12		M8	M12
WP (3)	860	40/34		41/34			41/34		41/31			42/31	
		M2	M4	M6	M2		M6	M2	M4	M6		M4	M6
WP (4)	860	40/33		41/33			41/33		41/30			42/30	
		M2	M4	M6	M2		M6	M2	M4	M6		M4	M6
WP11·0 (3)	862	41/18					41/18		43/9			43/9	
		M1	M2	M3	M4		M6	M1	M2	M3		M5	M6
WP11·1 (4)	862	41/18					41/18		43/9			43/9	
		M7	M8	M9	M10		M12	M7	M8	M9		M11	M12
WP11·2 (3)	862	41/19					41/19		43/10			43/10	
		M1	M2	M3	M4		M6	M1	M2	M3		M5	M6

PSI	49/43/M0	ED4·1 B3
PSI	42/39/M2	WVP → WPS
St PSI 1	42/38/M1	WPS 24-29
St PSI 2	42/38/M2	WPS 30-35
PRI	42/40/M1	ED4·1 E4
PRI	42/39/M1	RESET WPS
St PRI 1	42/38/M5	WPS 24-29
St PRI 2	42/38/M6	WPS 30-35

PTI	42/44/M5	ED 4·1 M3
PTI	42/39/M5	VPS' → R.V.P
St PTI 3	45/30/M11	RVP 25 27
St PTI 4	45/30/M12	24, 26

W/F	P'KGE	OSENG	STOPPED	PAPER WARNING	DISAB
VP	576	A/18			
		M2	M5	M3	M1
VP	UF	SOCKET 1			
		3A	5A	20C	13A
W/F	P'KGE	24	25	26	27
VP11·0	861	47/22 M5	47/21 M5	47/20 M5	47/19 M5
VP11·1	861	47/22 M6	47/21 M6	47/20 M6	47/19 M6
VP112	861	47/22 M7	47/21 M7	47/20 M7	47/19 M7
VP'a	815	49/12 M1	49/11 M1	49/10 M1	
VP'c	861			47/20 M13	47/19 M13
VP'f	861	47/22 M13	47/21 M13		

W/F	P'KGE	24	25	26	27
VPG	856			47/13	
				M8	M7
VPGA	856	47/14			
		M7	M6		
VPGB	856	47/14 M8*			
VPG	836	45/27 M1	45/26 M1	45/27 M2	45/26 M2
VPG'	821	45/28			
		M1	M2	M3	M4
RVP	820	45/29			
		M1	M2	M3	M4

DIGIT	WRITE	READ
24	DISENGAGE	DISENGAGED
25	STOP	STOPPED
26	P.O.L.A.M.	PAPER WARNING
27	START	DISABLED
28	—	
29	INF 1	
30	INF 2	
31	INF 3	
32	INF 4	
33	—	
34	INF 5	
35	INF 6	

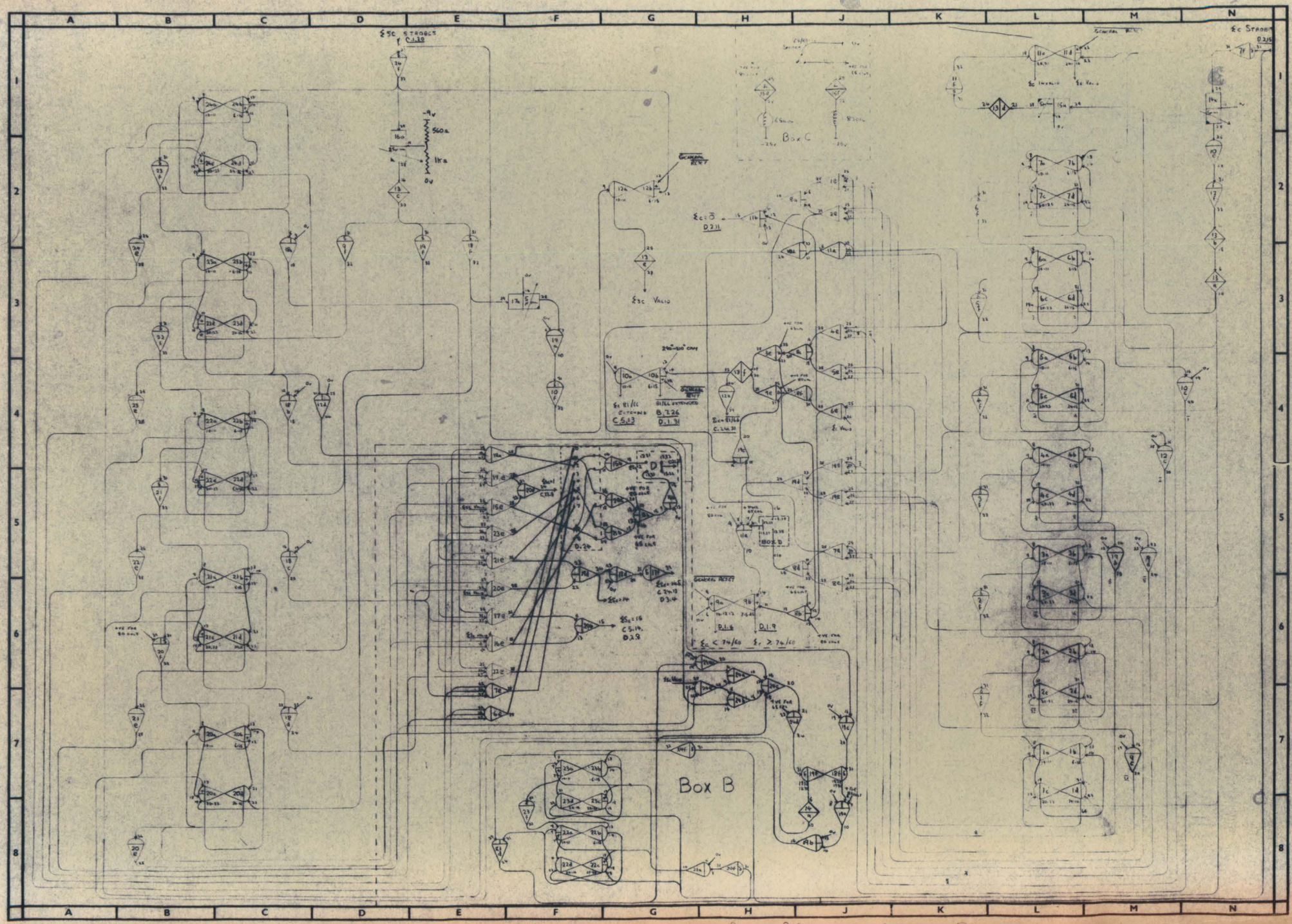
23.10.63

ATLAS E.D.4L·4/11 TELEPRINTERS 0-2 PERIPHERAL CO-ORDINATOR.

15. µs.

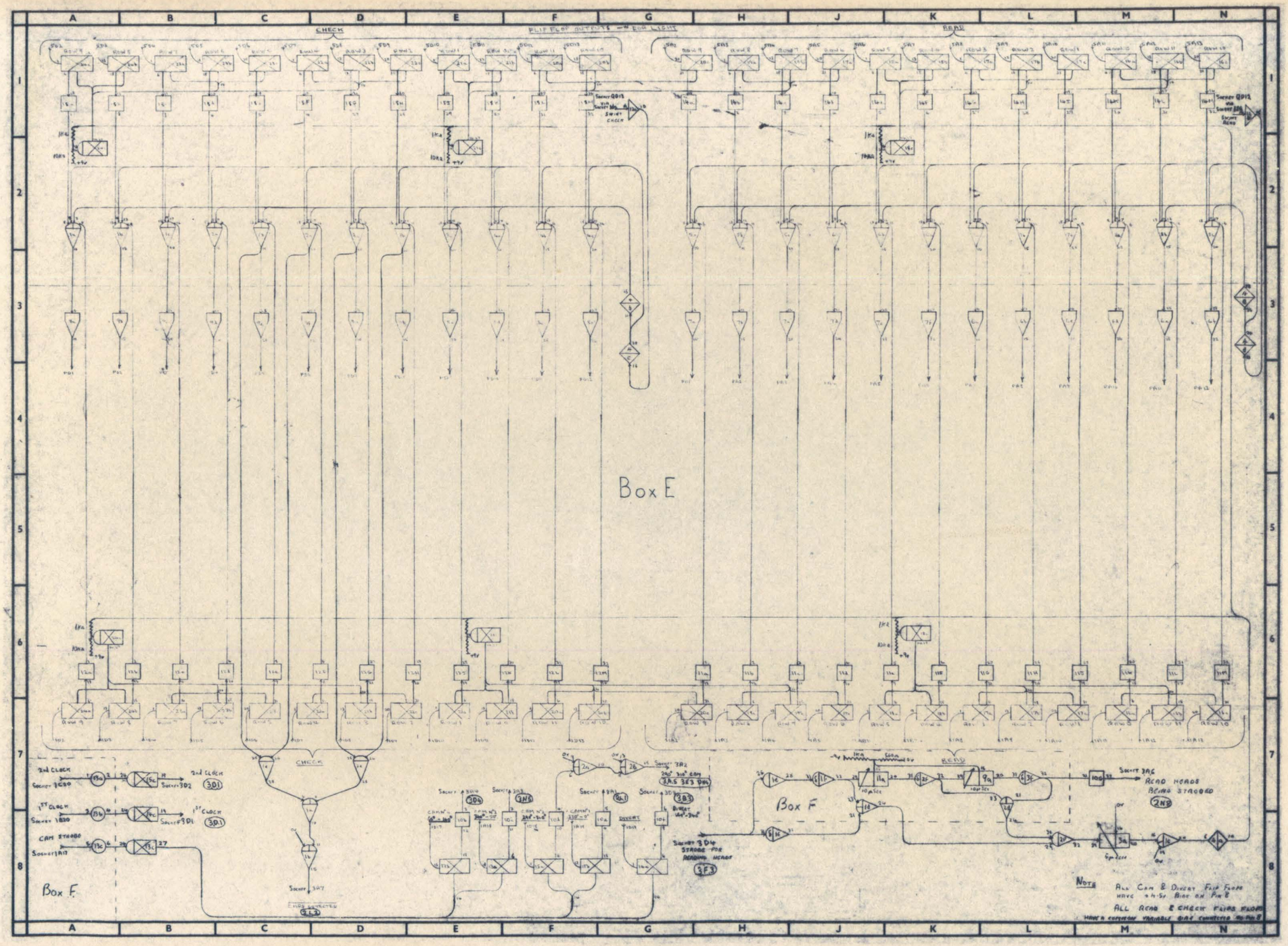
$21.10^{3}.750.10^{-12}$.

$\simeq 15\,\mu s$

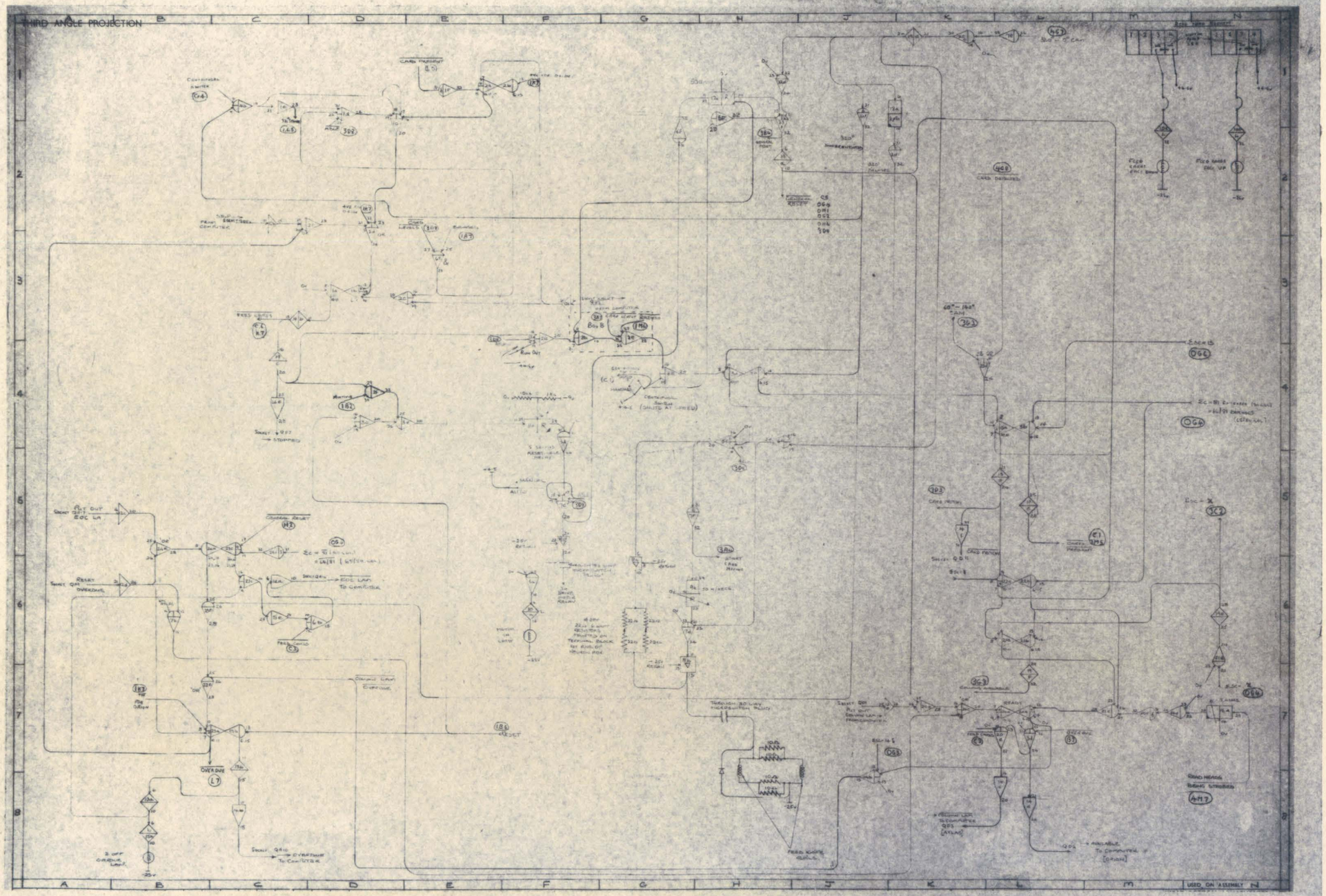


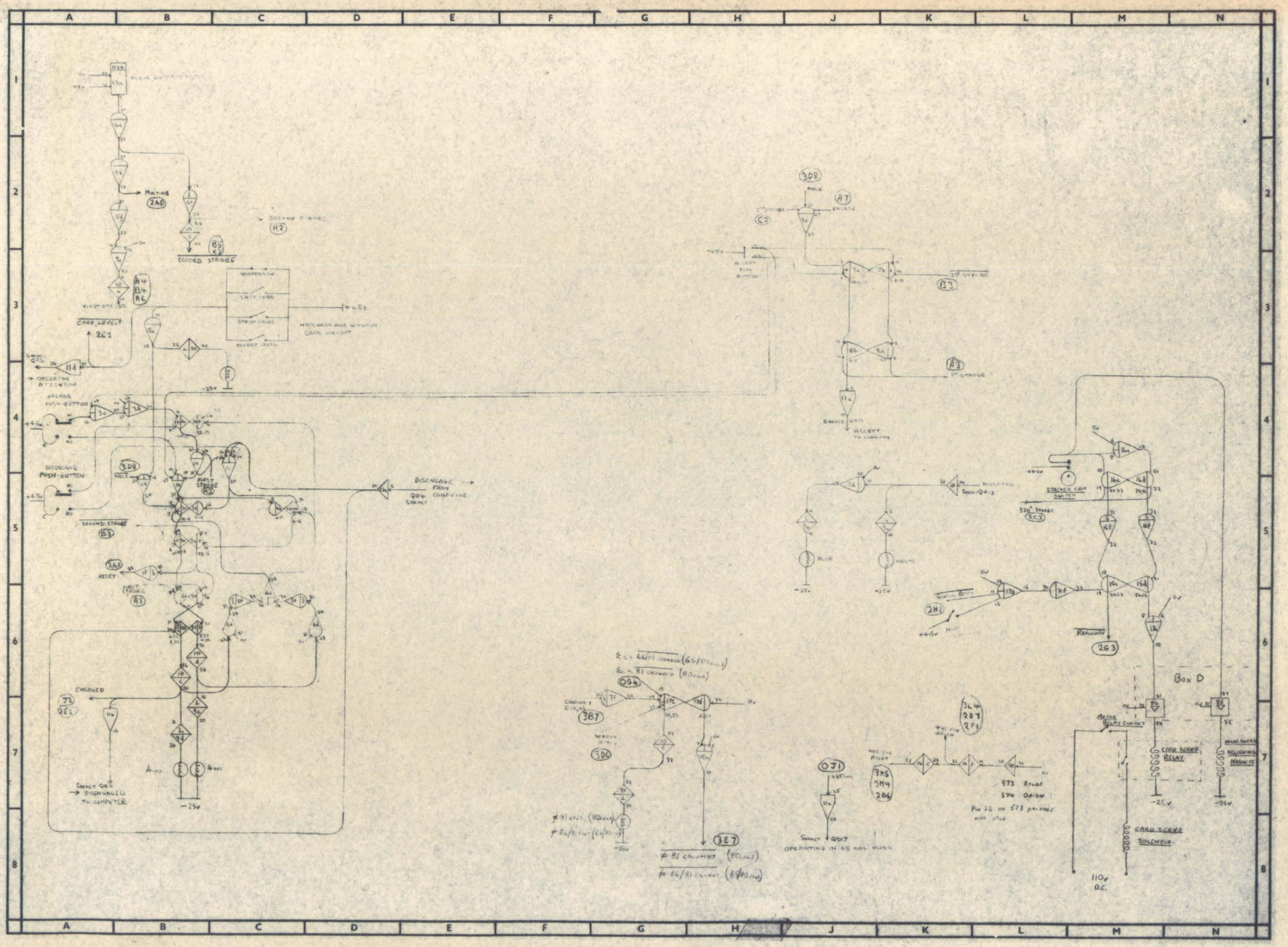
NOTE FOR DETAILS OF PACKAGE IN POSITION D.24

CARD READER

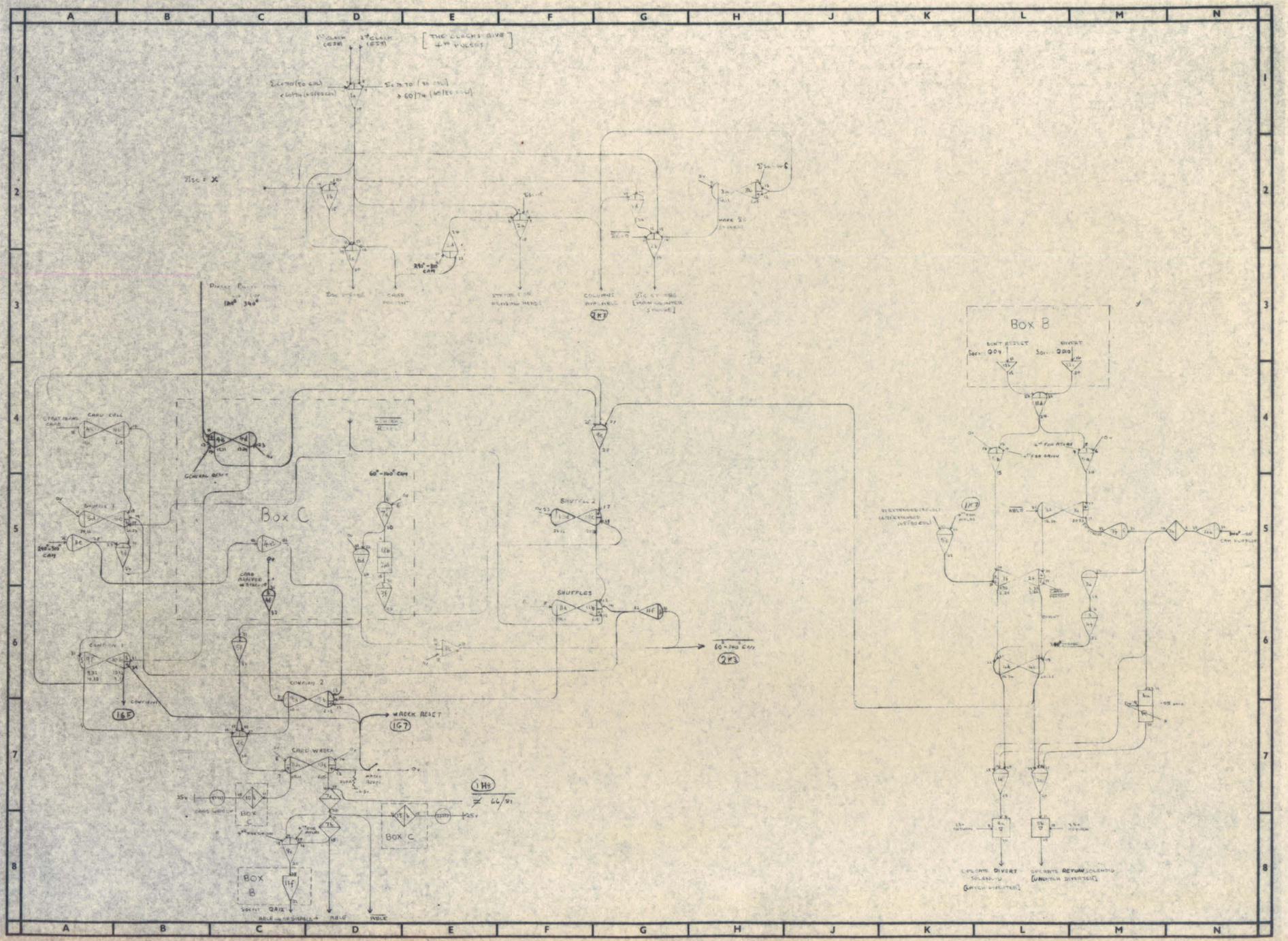

CHECK
FLIP FLOP OUTPUTS — ON FOR LIGHT
READ
Box E
Box F
Box F
CHECK
READ
2nd CLOCK
Source 1C30
Source 3D2
(3D1)
1st CLOCK
Source 1B30
Source 3D1
(3D1)
CAM STROBE
Source 1A17
27
Source 3D7
(3D3)
Source 3D4
STROBE FOR
READING HEADS
(3F3)
Source 3R2
240° 300° 60°
3A5 3B3 3B6
Source 3A6
READ HEADS
BEING STROBED
(2N3)
NOTE
ALL CAM & DIGIT FLIP FLOPS
HAVE +4·5V BIAS ON PIN 8
ALL READ & CHECK FLIP FLOPS
HAVE A DIFFERENT VARIABLE BIAS CONNECTED TO PIN 8

Card Reader

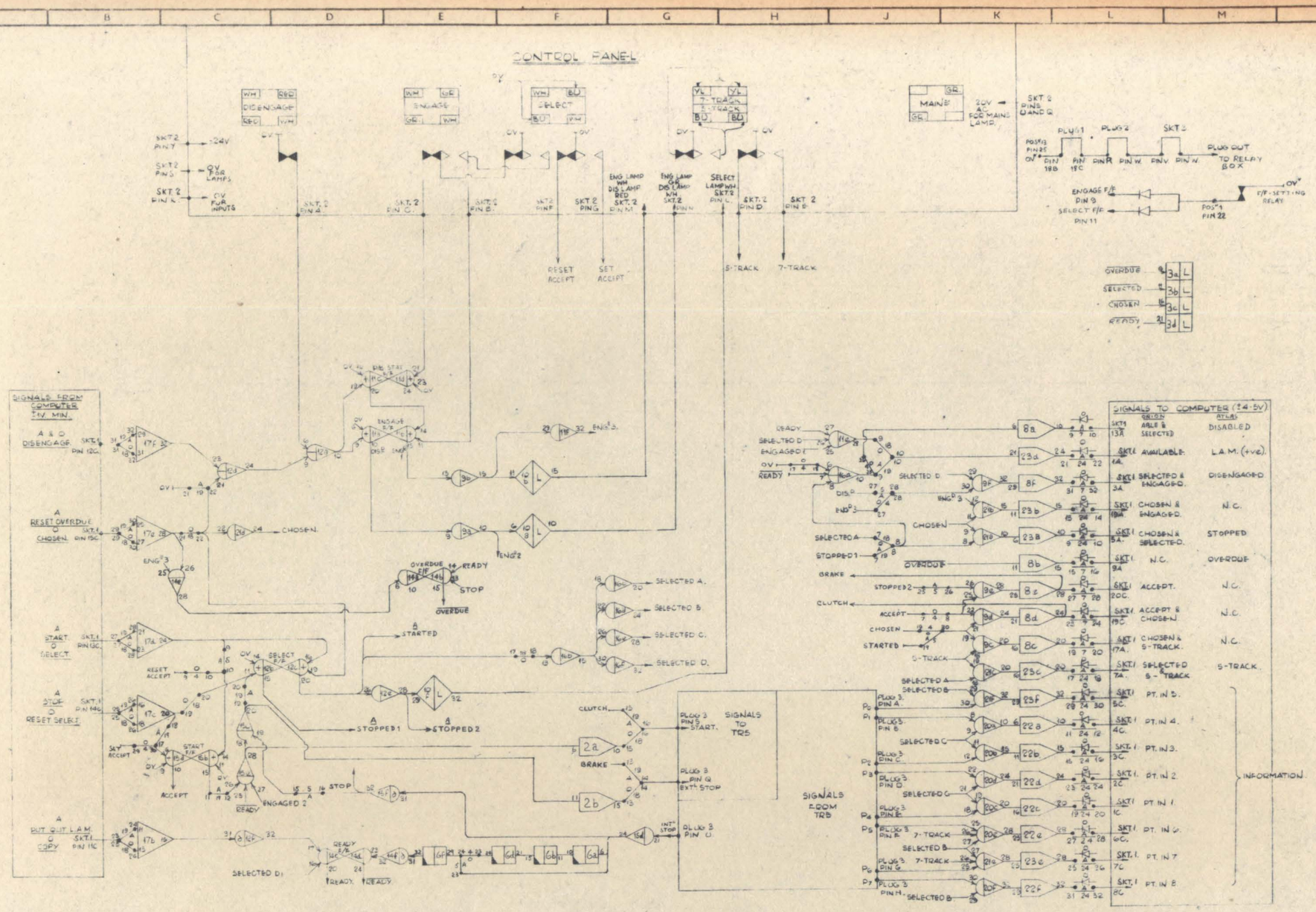

THIRD ANGLE PROJECTION
Card Reader


MIXING
SECOND STROBE
WHIPPER-IN
LAST CARD
STROBE LEVEL
CHECK LEVEL
NO CARD IN MACHINE WITHOUT CARD WEIGHT
CARD LEVELS
OPERATOR ATTENTION
ENGAGE PUSH-BUTTON
DISENGAGE PUSH-BUTTON
FIRST STROBE
SECOND STROBE
RESET
ENGAGED
DISENGAGE FEED COMPUTER
SOCKET QA11 → DISENGAGED TO COMPUTER
-25V
ACCEPT TO COMPUTER
1st STROBE
3rd STROBE
STACKER CAM SWITCH
RELEASE
CARD SCRAP RELAY
CARD SCRAP SOLENOID
RELEASING MAGNETS
110V A.C.
573 ATTAC
574 ORION
SOCKET Q017
OPERATING IN 65 COL MODE

Card Reader

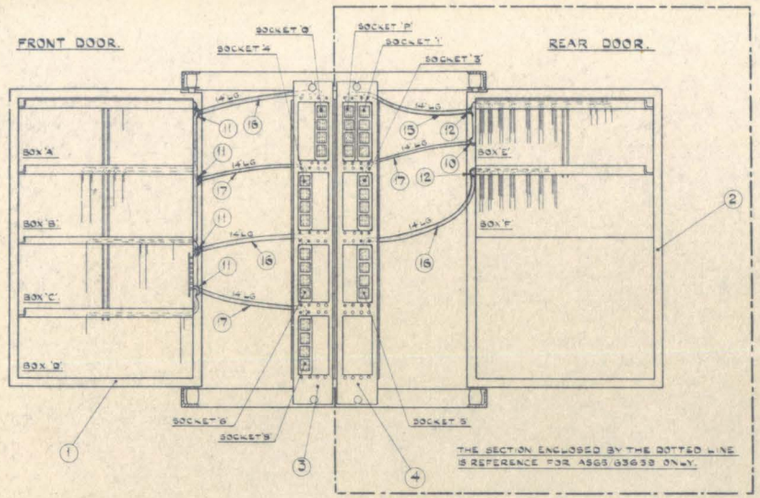


Card Readers



TR5 LOGIC FOR ATLAS/ORION
USING THE 570 SERIES PACKAGES.

THIRD ANGLE PROJECTION



NOTE

ALL WIRING TO BE IN 30/304 WIRE
SLEEVE EACH END OF THE WIRES WITH (ITEM 20) & INDICATE WITH INDIAN INK THE DESTINATION AT THE BOX END.
WHERE A TRI-COLOURED WIRE IS SHOWN THE FIRST COLOUR IS REPRESENTED BY A SLEEVE OF THE SAME COLOUR.
THE CABLEFORM SHOULD BE ANCHORED, 1) THE CLAMP ABOVE THE SOCKET & THE 'U' CLIP PROVIDED ON THE SIDE OF THE BOX, LEAVING THE LENGTH SPECIFIED ON THE DRAWING BETWEEN THE TWO CLAMPS.
ITEM NOS 13 & 14 ARE USED TO SECURE ITEMS 10, 11 & 12 ONTO THE SIDE OF THE BOXES.

REFERENCE FOR A963/63638 ONLY.

SOCKET 'J'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	PHOTOCELL OUTPUTS TWISTED PAIRS
D	2		E	24	1	R/WHITE	R3W 9 CHECK
C	2		E	24	25	BLACK	
D	3		E	24	13	R/GREY	R3W 8 CHECK
C	3		E	24	25	BLACK	
D	4		E	23	1	R/VIOLET	R3W 7 CHECK
C	4		E	23	25	BLACK	
D	5		E	23	13	R/BLUE	R3W 6 CHECK
C	5		E	23	25	BLACK	
D	6		E	23	32	R/GREEN	R3W 5 CHECK
C	6		E	23	25	BLACK	
D	7		E	22	1	R/YELLOW	R3W 4 CHECK
C	7		E	22	25	BLACK	
D	8		E	22	13	R/ORANGE	R3W 3 CHECK
C	8		E	22	25	BLACK	
D	9		E	22	32	R/RED	R3W 2 CHECK
C	9		E	22	25	BLACK	
D	10		E	21	1	R/BROWN	R3W 1 CHECK
C	10		E	21	25	BLACK	
D	11		E	21	13	R/BLACK	R3W 0 CHECK
C	11		E	21	25	BLACK	
D	12		E	21	32	R/BROWN/BK	R3W 10 CHECK
C	12		E	21	25	BLACK	
D	13		E	20	13	R/BROWN/BK	R3W 11 CHECK
C	13		E	20	25	BLACK	
A	1		E	20	1	R/WHITE	R3W 8 READ
B	1		E	20	25	BLACK	
A	2		E	19	1	GREY	R3W 8 READ
B	2		E	19	25	BLACK	
A	3		E	19	13	VIOLET	R3W 7 READ
B	3		E	19	25	BLACK	
A	4		E	19	32	BLUE	R3W 6 READ
B	4		E	19	25	BLACK	
A	5		E	18	1	GREEN	R3W 5 READ
B	5		E	18	25	BLACK	
A	6		E	18	13	YELLOW	R3W 4 READ
B	6		E	18	25	BLACK	
A	7		E	18	32	ORANGE	R3W 3 READ
B	7		E	17	1	BLACK	
A	8		E	17	13	RED	R3W 2 READ
B	8		E	17	25	BLACK	
A	9		E	17	32	BROWN	R3W 1 READ
B	10		E	17	25	BLACK	
A	11		E	16	1	BLACK	R3W 0 READ
B	11		E	16	25	BLACK	
A	12		E	16	13	P/BROWN/BK	R3W 11 READ
B	12		E	16	25	BLACK	
A	13		E	16	32	P/BROWN/BK	R3W 10 READ
B	13		E	16	25	BLACK	
A	14		F	15	1	BU/GREEN	CAM 5
B	14		E	10	25	BLACK	
D	14		E	15	13	BU/YELLOW	CAM 4
C	14		E	10	25	BLACK	
B	15		E	15	1	BU/ORANGE	CAM 3
B	15		E	10	25	BLACK	
D	15		E	15	25	BU/RED	CAM 2
B	15		E	11	25	BLACK	
A	15		E	15	13	BU/BROWN	CAM 1
B	15		E	11	25	BLACK	
B	10		E	14	1	O/BROWN	DIVERT P/C
C	23		E	18	25	BLACK	
B	23		E	13	1	GN/BROWN	1ST CLOCK
A	23		E	24	25	BLACK	
C	23		E	15	3	GN/RED	2ND CLOCK
D	23		E	11	25	BLACK	

REFERENCE FOR A963/63638 ONLY.

SOCKET 'J'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	PHOTOCELL OUTPUTS TWISTED PAIRS
D	2		F	24	1	R/WHITE	R3W 9 CHECK
C	2		F	24	25	BLACK	
D	3		F	24	13	R/GREY	R3W 8 CHECK
C	3		F	24	25	BLACK	
D	4		F	23	1	R/VIOLET	R3W 7 CHECK
C	4		F	23	25	BLACK	
D	5		F	23	13	R/BLUE	R3W 6 CHECK
C	5		F	23	25	BLACK	
D	6		F	23	32	R/GREEN	R3W 5 CHECK
C	6		F	23	25	BLACK	
D	7		F	22	1	R/YELLOW	R3W 4 CHECK
C	7		F	22	25	BLACK	
D	8		F	22	13	R/ORANGE	R3W 3 CHECK
C	8		F	22	25	BLACK	
D	9		F	22	32	R/RED	R3W 2 CHECK
C	9		F	22	25	BLACK	
D	10		F	21	1	R/BROWN	R3W 1 CHECK
C	10		F	21	25	BLACK	
D	11		F	21	13	R/BLACK	R3W 0 CHECK
C	11		F	21	25	BLACK	
D	12		F	21	32	R/BROWN/BK	R3W 10 CHECK
C	12		F	21	25	BLACK	
D	13		F	20	13	R/BROWN/BK	R3W 11 CHECK
C	13		F	20	25	BLACK	
A	1		F	19	1	WHITE	R3W 9 READ
B	1		F	19	25	BLACK	
A	2		F	19	13	VIOLET	R3W 8 READ
B	2		F	19	25	BLACK	
A	3		F	19	32	BLUE	R3W 7 READ
B	3		F	19	25	BLACK	
A	4		F	18	1	GREEN	R3W 6 READ
B	4		F	18	25	BLACK	
A	5		F	18	13	YELLOW	R3W 5 READ
B	5		F	18	25	BLACK	
A	6		F	18	32	ORANGE	R3W 4 READ
B	6		F	17	1	BLACK	
A	7		F	17	13	RED	R3W 3 READ
B	7		F	17	25	BLACK	
A	8		F	17	32	BROWN	R3W 2 READ
B	8		F	17	25	BLACK	
A	10		F	16	1	BLACK	R3W 1 READ
B	10		F	16	25	BLACK	
A	11		F	16	13	BLACK	R3W 0 READ
B	11		F	16	25	BLACK	
A	12		F	16	32	P/BROWN/BK	R3W 11 READ
B	12		F	16	25	BLACK	
A	13		F	16	32	P/BROWN/BK	R3W 10 READ
B	13		F	16	25	BLACK	

(CONT.)

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	PHOTOCELL OUTPUTS
A	18		E	1	32	GREY	
B	16		E	1	4	BLACK	
C	16		E	1	4	BLACK	
C	16		E	4	30	ORANGE	

SOCKET 'D'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	OBSERVATION TWISTED PAIRS
D	1		E	8	19	R/WHITE	R3W 9 CHECK
C	1		E	8	1	BLACK	
D	2		E	8	13	R/GREY	R3W 8 CHECK
C	2		E	8	1	BLACK	
D	3		E	8	26	R/VIOLET	R3W 7 CHECK
C	3		E	8	1	BLACK	
D	4		E	8	24	R/BLUE	R3W 6 CHECK
C	4		E	8	1	BLACK	
D	5		E	8	28	R/GREEN	R3W 5 CHECK
C	5		E	8	1	BLACK	
D	6		E	9	32	R/YELLOW	R3W 4 CHECK
C	6		E	9	1	BLACK	
D	7		E	9	13	R/ORANGE	R3W 3 CHECK
C	7		E	9	1	BLACK	
D	8		E	9	19	R/RED	R3W 2 CHECK
C	8		E	9	1	BLACK	
D	9		E	5	23	R/BROWN	R3W 1 CHECK
C	9		E	5	1	BLACK	
D	10		E	5	24	R/BLACK	R3W 0 CHECK
C	10		E	5	1	BLACK	
D	11		E	5	28	R/BROWN/BK	R3W 11 CHECK
C	11		E	5	1	BLACK	
D	12		E	6	32	R/BROWN/BK	R3W 10 CHECK
C	12		E	6	1	BLACK	
A	1		E	7	19	WHITE	R3W 9 READ
B	1		E	7	1	BLACK	
A	2		E	7	15	GREY	R3W 8 READ
B	2		E	7	1	BLACK	
A	3		E	7	23	VIOLET	R3W 7 READ
B	3		E	7	1	BLACK	
A	4		E	7	27	BLUE	R3W 6 READ
B	4		E	7	1	BLACK	
A	5		E	7	28	GREEN	R3W 5 READ
B	5		E	7	1	BLACK	
A	6		E	7	32	YELLOW	R3W 4 READ
B	6		E	7	1	BLACK	
A	7		E	6	10	ORANGE	R3W 3 READ
B	7		E	6	1	BLACK	
A	8		E	6	15	RED	R3W 2 READ
B	8		E	6	1	BLACK	
A	9		E	6	20	BROWN	R3W 1 READ
B	9		E	6	1	BLACK	R3W 0 READ
A	10		E	6	24	BLACK	
B	10		E	6	1	BLACK	R3W 11 READ
A	11		E	6	28	P/BROWN/BK	
B	11		E	6	32	P/BROWN/BK	R3W 10 READ
B	11		E	8	1	BLACK	

REFERENCE FOR A963/63638 ONLY.

SOCKET 'G'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	CONT'D OBSERVATION TWISTED PAIRS
A	9		B	11	24	BLACK	SPEAKER ATTN
B	9		B	11	1	BLACK	0V
A	8		B	11	21	BROWN	RESET SYERDUE
B	8		B	11	1	BLACK	0V
A	11		B	11	19	RED	SYERDUE
B	11		B	11	1	BLACK	0V
A	10		B	11	13	ORANGE	DISENGAGED
B	10		B	11	1	BLACK	0V
A	12		B	11	32	YELLOW	ABLE TO DISABLED
B	12		B	11	1	BLACK	0V
A	13		B	12	25	GREEN	ACCEPTED
B	13		B	12	1	BLACK	0V
A	14		C	12	13	BLUE	ESCLAU
B	14		C	12	1	BLACK	0V
A	15		C	12	19	YELLOW	PUT OUT ESCLAU
B	15		C	12	1	BLACK	0V
C	14		C	12	25	WHITE	PUT OUT COLLAR
C	15		C	12	1	BLACK	0V
D	14		C	12	24	BLACK	AVAILABLE (01
D	15		C	12	1	BLACK	0V
D	13		C	12	23	BLUE	COLLAR
D	12		C	12	1	BLACK	0V
D	11		C	12	6	BROWN	COMPUTER RELEASE
D	10		C	12	1	BLACK	0V
D	9		C	12	5	ORANGE	START
D	8		C	12	1	BLACK	0V
D	7		C	12	28	YELLOW	STOPPED
D	6		C	12	1	BLACK	0V
D	5		C	11	11	GREEN	SYSTP
D	4		C	11	1	BLACK	0V
D	3		C	11	17	BLUE	DOUP REJECT
D	2		C	11	1	BLACK	0V
D	1		C	11	30	RED	CARD PRESENT
D	0		C	11	1	BLACK	0V
D	10		C	12	10	VIOLET	DIVERT
D	11		C	12	1	BLACK	0V
D	12		C	12	32	BLUE	*
D	13		C	12	1	BLACK	0V
D	14		C	12	18	YELLOW	ACCEPT
C	10		B	11	1	BLACK	0V
D	14		B	11	28	YELLOW	OPERATING IN
D	15		B	11	1	BLACK	48 OR WIDE
D	12		C	11	32	GREEN	* 8
C	12		C	11	1	BLACK	0V
D	23		B	0 VOLT BUSBAR		BLACK	0V
A	1			VERTICAL PANEL 220-0V		RED	
A	2			"	-8V	BLUE	
A	3			"	-14.5V	ORANGE	
A	4			"	-44V	GREEN	
D	20	LINK TO POSITION		C	20	BLACK	

WISHART CHECK.
9213 → C8,32 → 405 → 335 → F12,16

WISHART READ
9212 → C11,32 → 406 → 306 → F12,11

REFERENCE FOR A963/63638 ONLY.

SOCKET 'J'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	
A	1		E	10	0	RED	220-3T CAM FF
A	2		E	10	18	YELLOW	8 DIS CAM FF
A	3		E	10	3	BLUE	32T - 30° CAM 3T
A	4		E	10	2	GREEN	33 - 35° CAM AFF
A	5		E	10	14	WHITE	CAM 5 NOT USED
A	6		E	10	27	BROWN	9213-1 CHECK FF
A	7		E		16	BROWN	CARD RELEASED
D	2		E	14	8	ORANGE	1ST CLOCK FF
D	3		E	13	8	YELLOW	2ND CHECK FF
D	4		E	13	6	YELLOW	QUEST PC FF 9-35°
D	5		E	1	31	RED	READ STROBE
D	6		F	12	6	BLUE	#1
D	7		F	12	11	GREEN	#2
D	8		E	1	30	GREY	
D	9		E	1	30	ORANGE	
D	9		E	13	19	Y/BROWN	

SOCKET 'H'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	
A	1		C	14	28	RED	220 - 3° CAM FF
A	2		C	14	18	YELLOW	8 DIS CAM FF
A	3		D	4	20	BLUE	33° - 35° CAM OFF
A	4		C	14	8	GREY	33 - 35° CAM AFF
A	5						
A	6		C	15	29	BLACK	READ +8 DIS BUS STROBE
A	7		C	23	22	BROWN	CARD RELEASED
D	2		C		7	ORANGE	1ST CLOCK FF
D	3		C		8	VIOLET	2ND CHECK FF
D	4		C		21	YELLOW	QUEST PC FF 9-35°
D	5		C		31	RED	READ STROBE
D	6		C		32	WHITE	#1
D	7		C		32	GREEN	#2
D	8		C	10	24	GREY	
D	9		C	10	29	ORANGE	

SOCKET 'B'

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	LAMP/SUPPLY STRIPS
A	1		B	9	24	GREEN	ENGAGED
A	2		B	9	20	RED	DISENGAGED
A	3		B	9	18	BLUE	ACCEPT
A	4		B	9	15	BLACK	ACCEPTED
A	5		C	15	15	YELLOW	ENGINEER ATTN
A	6		B	9	28	VIOLET	CARD LEVER
A	7		B	9	26	GREEN	05 COL
A	8		C	15	30	ORANGE	80 COL
A	9		B	9	32	BLUE	8 DIS/81
A	5		C	15	10	YELLOW	SYSTRUE
B	2		C	15	15	RED	SYSTOP ON
B	1		C	*48 BOARD -8V		BROWN/BLACK	-8V
B	9			0V BUSBAR.		BROWN	0V
B	2		C	10	15	ORANGE	CARD WRECK
D	1		C	10	28	GREY	
D	2		C	10	32	ORANGE	

SOCKET 'B'

PIN TO PIN WIRING

PIN No 'F3'	PIN No	WIRE COLOUR
3A	4A	YELLOW
4A	5A	YELLOW
5A	6A	YELLOW
8B	9B	BLACK
9B	1C	BLACK
3B	4B	YELLOW
4B	5B	YELLOW
5B	6B	YELLOW

COLUMN	PIN No	TO	BOX	POSITION	PIN No	WIRE COLOUR	
A	2		C	4	31	BLUE	CARD ARRIVED IN STACKER
B	2		B	4	1	BLACK	0V
B	3		B	4	4	YELLOW	+8V
A	6		B	11	21	GREEN	CARD LEVER
A	7		B	5	5	ORANGE	READ STROBE (INC 5 DIS)
A	8		B	5	10	YELLOW	DISENGAGE PB (INC 5 DIS)
A	9		C	4	5	YELLOW	SPEAKER FEED ANODES
A	10		C	4	1	BLACK	0V
A	11		C	4	10	RED	ACCEPT PB (INC 5 DIS)
A	12		C	4	4	ORANGE	+8V
C	1		C	5	34	BROWN	SPEAKER MODE RELAY
C	2		C	4	7	VIOLET	ACCEPT PB (NO 5 DIS)
C	3		C	4	11	BLUE	ACCEPT PB (INC 5 DIS)
C	4		C	5	4	WHITE	+8V
C	5		C	4	19	YELLOW	DISENGAGE PB (NO 5 DIS)
C	6		C	4	13	ORANGE	DISENGAGE PB (INC 5 DIS)
C	7		C	1	11	BLUE	+8V
C	8		C	1	34	BROWN	ENGAGE PB (NO 5 DIS)
C	9		C	4	10	BLACK	ENGAGE PB (INC 5 DIS)
C	10		C	1	4	BLACK	0V
C	11		C	4	13	ORANGE	+8V
C	12		C	4	10	ORANGE	RUN OUT SWITCH
C	13		C	1	4	BLACK	+8V
C	14		C	4	19	YELLOW	MANUAL SWITCH
C	15		C	4	4	YELLOW	+8V
C	16		C	4	19	YELLOW	RESET TO CONTACTOR
C	17		C	1	4	BLACK	0V
C	18		D	8	1	VIOLET	CARD RESET PB
C	19		D	13	12	GREEN	
C	20		C	4	4	YELLOW	0V
D	19		A	23	30	BLUE	+VE FOR 80 COL
D	20		A	11	1	RED	+VE FOR 05 COLS
A	11		D	8	32	BROWN	
A	12		D	8	23	V.BROWN	
A	10		D	8	24	V.BROWN	
D	11		B	17	12	V.BROWN	
D	20		C	8	32	BLACK	CARD COUNTER

C

D

MATERIAL																	
FINISH	SUP	188	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	A.D.	7236	7408	7710	7844	7973	8210	8321	8486	8677	9152	9157	9282	9454	0554	0674	0875	1016
	SIG	PB	PB	PB	PB	PB	PB	PB	PB	EJ	FS	FS	FS	FS	FS	FS	FS	JP
	DATE	5-11-62	7-11-62	8-12-62	10-1-63	8-2-63	6-3-63	8-3-63	3-4-63	1-5-63	8-5-63	7-6-63	5/64	7/64	9/64	11/64	1/65	3/65

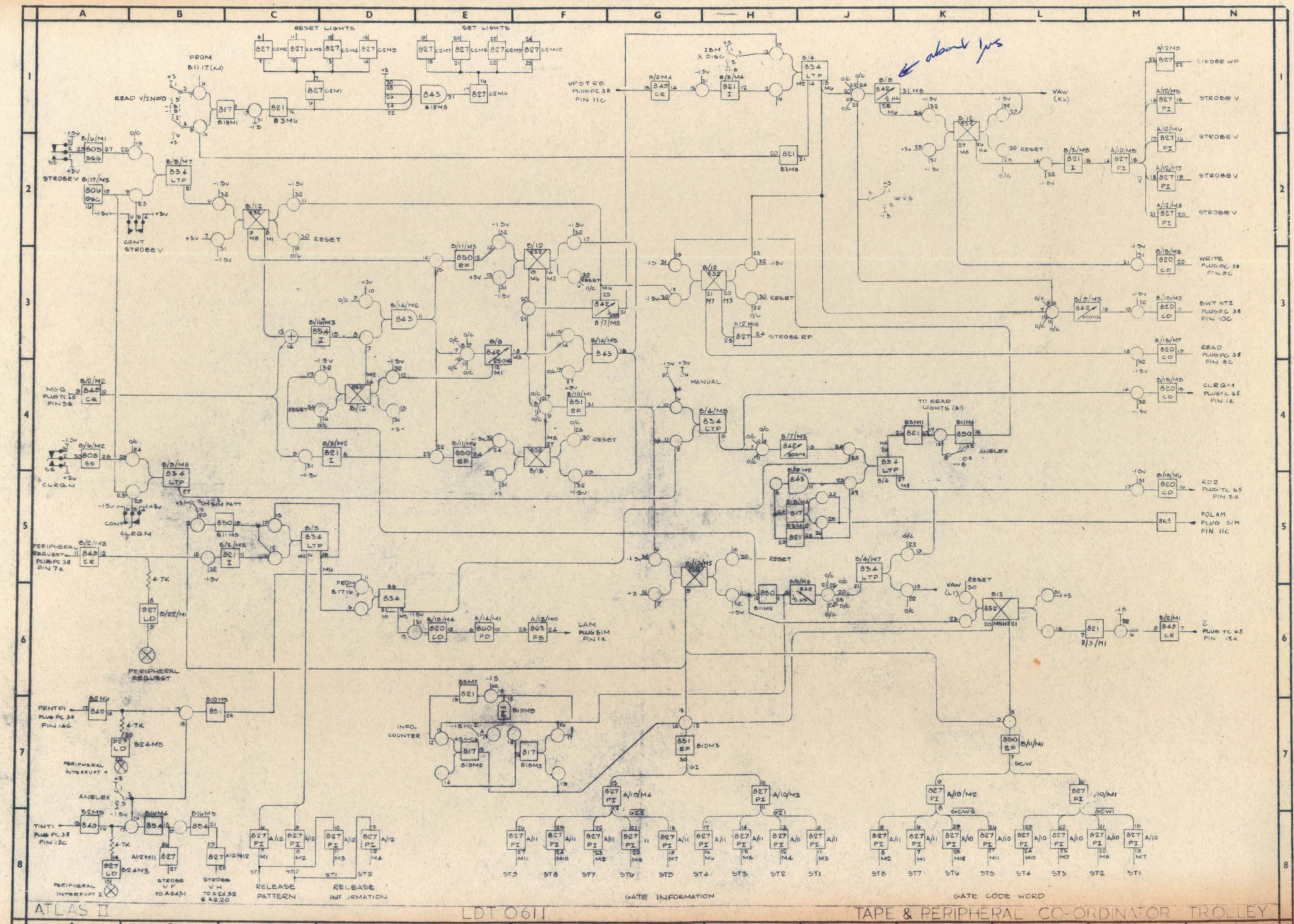
STANDARD TOLERANCES	DRG	F3	
.0000 = ± .0001	DES	A.H.	
.000 = ± .001	APP		
.00 = ± .010	MFG	G.W.P.	
FRACTIONS = ± 1/64	DATE	24.10.61	
ANGLES = ± 30'	SCALE	1:1	

FERRANTI LTD., COMPUTER DEPT., WEST GORTON, MANCHESTER 12
BRACKNELL, BERKS.

INTER SOCKET AND DOOR CABLEFORM CONNECTION ASSEMBLY
925 CARD READER

USED ON ASSEMBLY

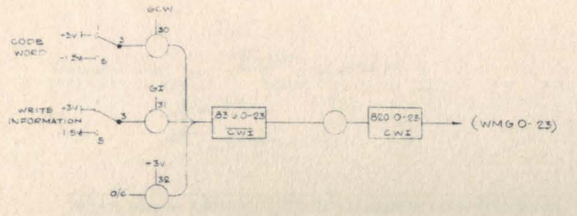
DRAWING No. D65/63660.



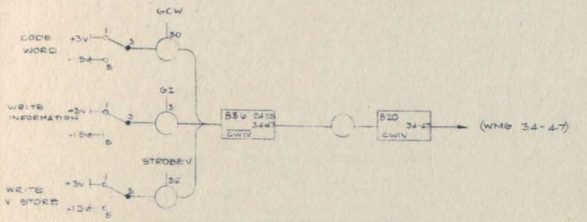
ATLAS II

LDT 0611

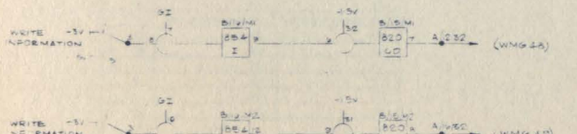
TAPE & PERIPHERAL CO-ORDINATOR TROLLEY

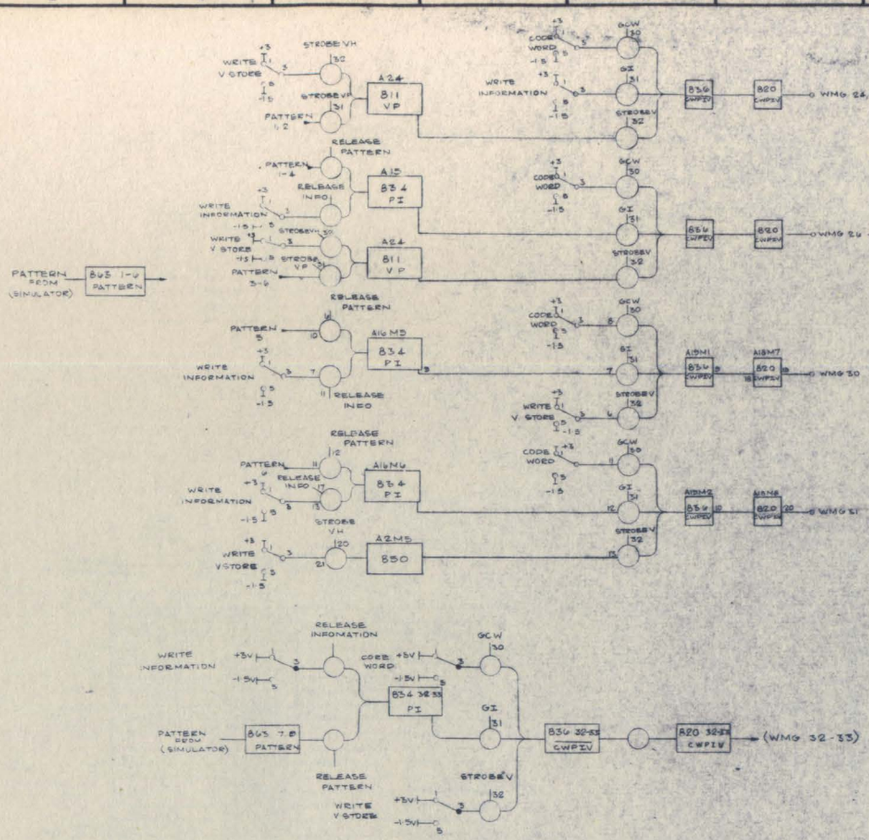


WAVEFORM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		A/4						A/6						A/7				A/9							
GWI	830	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
		A/5												A/8											
GWI	820	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12



WAVEFORM	PACKAGE	34	35	36	37	38	39	40	41	42	43	44	45	46	47
		A/19			A/20				A/22						
GWIV	830	M5	M6	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5	M6	M1
		A/18			A/21										
GWIV	820	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12





WAVEFORM	PACKAGE	1	2	3	4	5	6	7	8
PATTERN	863				A/15				
		M2	M3	M4	M5	M6	M1	M2	M3
WAVEFORM	PACKAGE	24	25	26	27	28	29	30	31	32	33
PI	834				A/15			A/16			
		M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
VP	811				A/24						
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4
GWPIV	836				A/17				A/15		
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
GWPIV	820				A/18						
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10

GI	850	B/11/M2	
GI1	827	A/10/M3	
ST GI1	827	A/11/M3	WMG 0-5
" 2	827	A/11/M4	" 6-11
" 3	827	A/11/M5	" 12-17
" 4	827	A/11/M6	" 18-23
GI2	827	A/10/M4	
ST GI 5	827	A/11/M7	WMG 24-29
" 6	827	A/11/M8	" 30-35
" 7	827	A/11/M9	" 36-41
" 8	827	A/11/M10	" 42-47
" 9	827	A/11/M11	" 48-53

GCW	850	B/11/M1	
GCW1	827	A/10/M1	
ST GCW1	827	A/10/M7	WMG 0-5
" 2	827	A/10/M8	" 6-11
" 3	827	A/10/M9	" 12-17
" 4	827	A/10/M10	" 18-23
GCW2	827	A/10/M2	
ST GCW 5	827	A/10/M11	WMG 24-29
" 6	827	A/10/M12	" 30-35
" 7	827	A/11/M1	" 36-41
" 8	827	A/11/M2	" 42-47

ST RELEASE PATTERN 1	827	A/12/M1	
ST RELEASE INFORMATION	827	A/12/M5	WMG 26-29

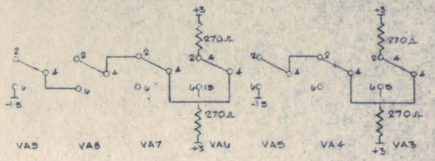
ST RELEASE PATTERN 2	827	A/12/M2	
ST RELEASE INFORMATION	827	A/12/M4	WMG 30-33

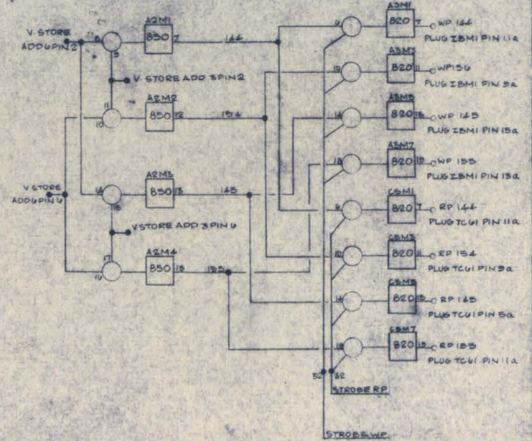
RELEASE PATTERN	854	B/5/M1	
ST RELEASE PATTERN 1	827	A/12/M1	WMG 26-29
ST RELEASE PATTERN 2	827	A/12/M2	WMG 30-33

V	827	A/10/M3	
ST V 1	827	A/12/M6	WMG 24-29
" 2	827	A/12/M4	" 30-35
" 3	827	A/12/M7	" 36-41
" 4	827	A/12/M8	" 42-47

V2	854	B/16/M4	
ST V P	827	A/2/M11	WMG 26-29

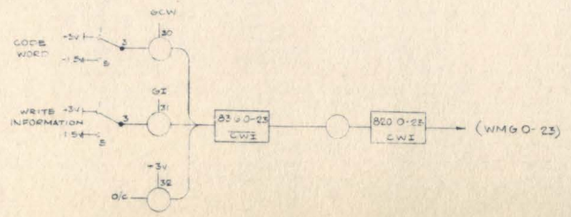
VH	854	B/16/M5	
ST V H	827	A/12/M12	WMG 26-29



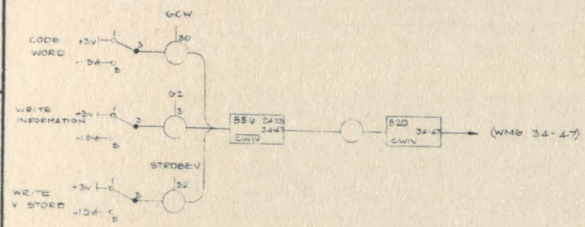


LDT 0612

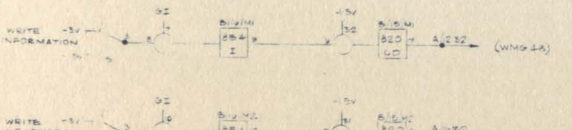
TAPE & PERIPHERAL CO-ORDINATOR TROLLEY

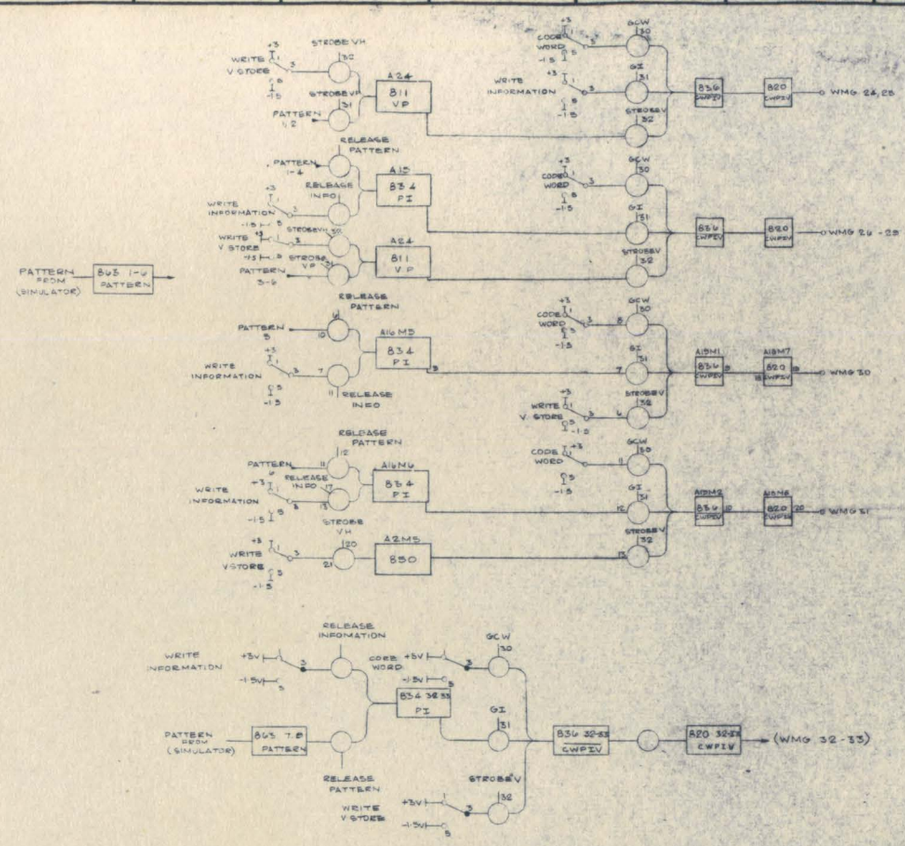


WAVEFORM	PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		A/6						A/6						A/7						A/9					
GWI	832	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
		A/8												A/8											
GWI	820	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	45	M10	M11	M12



WAVEFORM	PACKAGE	34	35	36	37	38	39	40	41	42	43	44	45	46	47
		A/19				A/20				A/22					
GWIV	834	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
		A/8						A/21							
GWIV	820	M1	M2	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12





GI	850	B/11/M2	
GI1	827	A/10/M5	
ST GI1	827	A/11/M5	WMG 0-5
" 2	827	A/11/M6	" 6-11
" 3	827	A/11/M9	" 12-17
" 4	827	A/11/M10	" 18-23
GI2	827	A/10/M6	
ST GI 5	827	A/11/M7	WMG 24-29
" 6	827	A/11/M8	" 30-35
" 7	827	A/11/M9	" 36-41
" 8	827	A/11/M10	" 42-47
" 9	827	A/11/M11	" 48-53

GCW	850	B/11/M1	
GCW1	827	A/10/M1	
ST GCW1	827	A/10/M7	WMG 0-5
" 2	827	A/10/M8	" 6-11
" 3	827	A/10/M7	" 12-17
" 4	827	A/10/M10	" 18-23
GCW2	827	A/10/M2	
ST GCW3	827	A/10/M11	WMG 24-29
" 6	827	A/10/M12	" 30-35
" 7	827	A/11/M1	" 36-41
" 8	827	A/11/M2	" 42-47

ST RELEASE PATTERN 1	827	A/12/M1	
ST RELEASE INFORMATION 1	827	A/12/M5	WMG 26-29

ST RELEASE PATTERN 2	827	A/12/M2	
ST RELEASE INFORMATION 2	827	A/12/M6	WMG 30-33

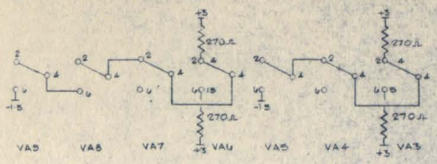
RELEASE PATTERN	834	B/5/M1	
ST RELEASE PATTERN	827	A/12/M1	WMG 26-29
ST RELEASE PATTERN 2	827	A/12/M2	WMG 30-33

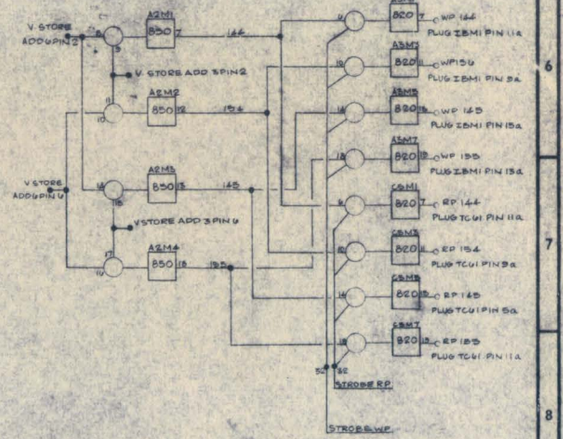
V	827	A/10/M5	
ST V 1	827	A/12/M5	WMG 24-29
" 2	827	A/12/M6	" 30-35
" 3	827	A/12/M7	" 36-41
" 4	827	A/12/M8	" 42-47

V P	834	B/16/M4	
ST V P	827	A/12/M11	WMG 26-29

V H	834	B/16/M5	
ST V H	827	A/12/M12	WMG 26-29

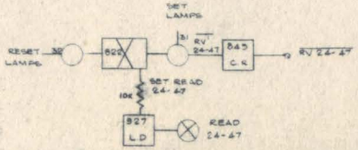
WAVEFORM	PACKAGE	1	2	3	4	5	6	7	8
PATTERN	863	A/13							
		M2	M3	M4	M5	M6	M7	M8	M9
WAVEFORM	PACKAGE	24	25	26	27	28	29	30	31	32	33
PI	834	A/15					A/16				
		M3	M4	M5	M6	M7	M8	M4	M5	M6	M7	M8
V P	811	A/24									
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
GWPIV	836	A/17							A/19		
		M1	M2	M3	M4	M5	M6	M7	M1	M2	M3	M4	M5
GWPIV	820	A/18									
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10





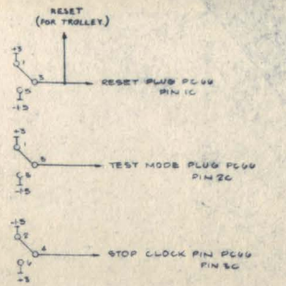
LDT 0612

TAPE & PERIPHERAL CO-ORDINATOR TROLLEY

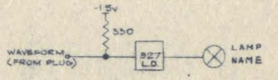


WAVEFORM	PACKAGE	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
$\overline{RV}^1$	843	C/3																C/4							
		M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8
SET READ	822	C/4								C/7				C/8				C/9							
		M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8
READ	827	C/10								C/11								C/12							
		M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8

WAVEFORM	SWITCH	PLUG
AGVP 3	Address V. 3	PC38 PIN 1C
" 4	" " 4	2C
" 5	" " 5	3C
" 6	" " 6	4C
" 7	" " 7	5C
" 8	" " 8	6C
" 9	" " 9	7C



PLUG PIN	OUTGOING WAVEFORM	CONTROLLING SWITH
C 1	INFORMATION 1	WRITE INFORMATION 1
" 2	" 2	" " 2
" 3	" 3	" " 3
" 4	" 4	" " 4
" 5	" 5	" " 5
" 6	" 6	" " 6
" 7	" 7	" " 7
" 8	" 8	" " 8
" 10	" 9	" " 9
" 19	" 10	" " 10
A 17	" 11	" " 11
" 18	" 12	" " 12
" 3	READ V STORE 26	WRITE V STORE 26
a 5	" " 25	" " 25
C 20	" 24	" 24
a 11	" 29	" 24
" 7	" 27	" 27
" 9	" 28	" 28
" 15	" 29	" 29
" 1	L A M	" 30



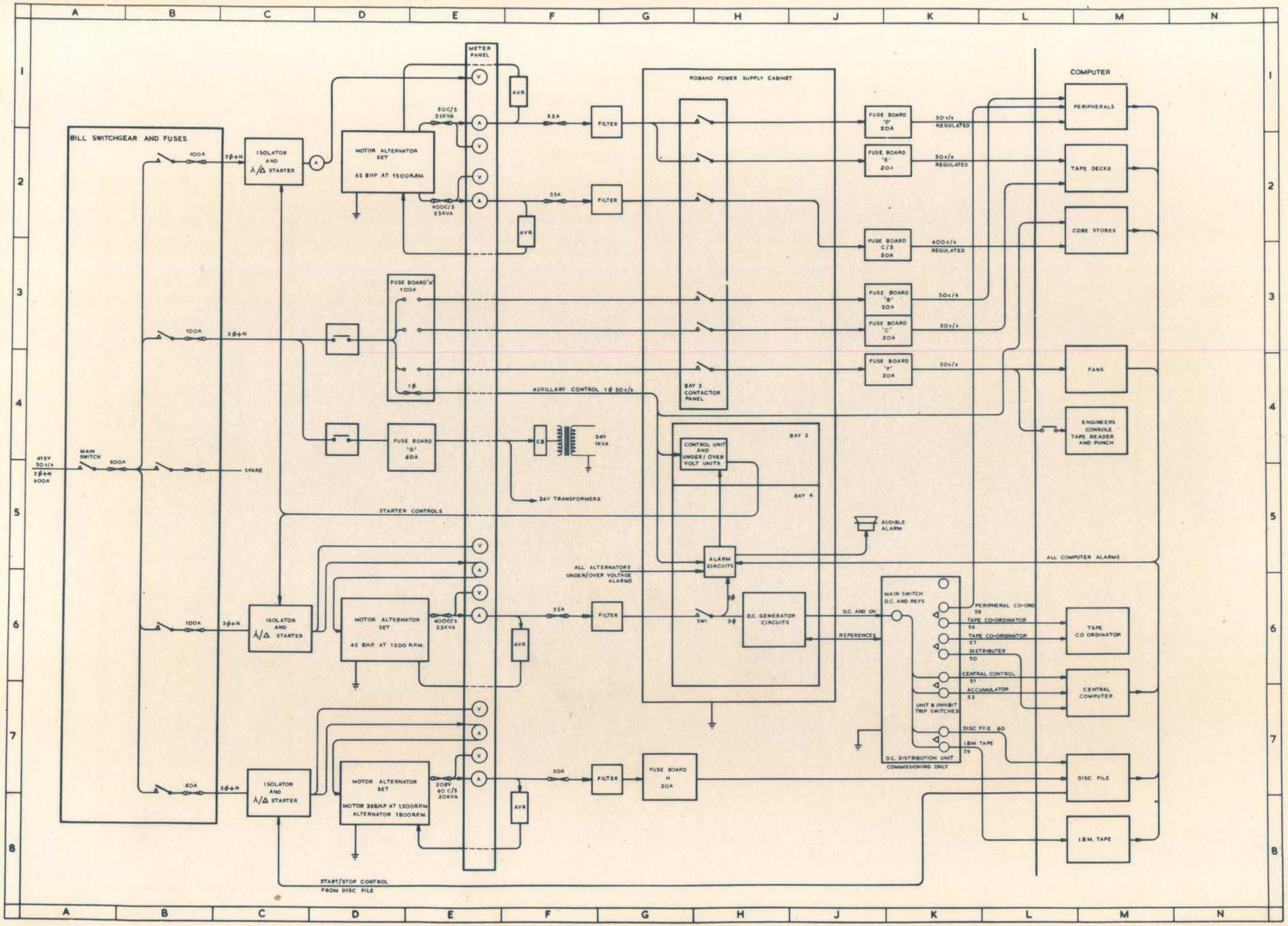
WAVEFORM	PLUG	PACKAGE	LAMP
MGTA 3	TC65 PIN 1C	B/22/M2	TAPE ADDRESS 3
" 4	" " 2C	B/22/M3	" " 4
" 5	" " 3C	B/22/M4	" " 5
" 6	" " 4C	B/22/M5	" " 6
" 7	" " 5C	B/22/M6	" " 7
" 8	" " 6C	B/22/M7	" " 8
" 9	" " 7C	B/22/M8	" " 9
" 10	" " 8C	B/23/M1	" " 10
" 11	" " 9C	B/23/M2	" " 11
" 12	" " 10C	B/23/M3	" " 12
" 13	" " 11C	B/23/M4	" " 13
" 14	" " 12C	B/23/M5	" " 14
" 15	" " 13C	B/23/M6	" " 15
" 16	" " 14C	B/23/M7	" " 16
" 17	" " 15C	B/23/M8	" " 17
" 18	" " 16C	B/24/M1	" " 18
" 19	" " 17C	B/24/M2	" " 19
FRNTP 0	PC38	18C B/24/M3	PERIPHERAL INTERFACE 3
" 2	" "	19C B/24/M4	" " 2
" 3	" "	16C B/24/M7	" " 8
MG MK	" "	17C B/24/M8	" " 1

WAVEFORM	PLUG	PACKAGE	LAMP NAME
WV 24	PC 66 PIN 1C	C/13/M1	WRITE V STORE 24
" 25	" " 2C	C/13/M2	" " 25
" 26	" " 3C	C/13/M3	" " 26
" 27	" " 4C	C/13/M4	" " 27
" 28	" " 5C	C/13/M5	" " 28
" 29	" " 6C	C/13/M6	" " 29
" 30	" " 7C	C/13/M7	" " 30
" 31	" " 8C	C/13/M8	" " 31
" 32	" " 9C	C/14/M1	" " 32
" 33	" " 10C	C/14/M2	" " 33
" 34	" " 11C	C/14/M3	" " 34
" 35	" " 12C	C/14/M4	" " 35
" 36	" " 13C	C/14/M5	" " 36
" 37	" " 14C	C/14/M6	" " 37
" 38	" " 15C	C/14/M7	" " 38
" 39	" " 16C	C/14/M8	" " 39
" 40	" " 17C	C/15/M1	" " 40
" 41	" " 18C	C/15/M2	" " 41
" 42	" " 19C	C/15/M3	" " 42
" 43	" " 20C	C/15/M4	" " 43
" 44	" " 21C	C/15/M5	" " 44
" 45	" " 22C	C/15/M6	" " 45
" 46	" " 23C	C/15/M7	" " 46
" 47	" " 24C	C/15/M8	" " 47
STATUS 0	" " 1C	C/16/M1	STATUS 0
" 1	" " 2C	C/16/M2	" 1
" 2	" " 3C	C/16/M3	" 2
" 3	" " 4C	C/16/M4	" 3
" 4	" " 5C	C/16/M5	" 4
" 5	" " 6C	C/16/M6	" 5
" 6	" " 7C	C/16/M7	" 6
" 7	" " 8C	C/16/M8	" 7
" 8	" " 9C	C/17/M1	" 8
" 9	" " 10C	C/17/M2	" 9
" 10	" " 11C	C/17/M3	" 10
" 11	" " 12C	C/17/M4	" 11
" 12	" " 13C	C/17/M5	" 12
" 13	" " 14C	C/17/M6	" 13
" 14	" " 15C	C/17/M7	" 14
" 15	" " 16C	C/17/M8	" 15
" 16	" " 17C	C/18/M1	" 16
" 17	" " 18C	C/18/M2	" 17
" 18	" " 19C	C/18/M3	" 18
" 19	" " 20C	C/18/M4	" 19
" 20	" " 21C	C/18/M5	" 20
" 21	" " 22C	C/18/M6	" 21
" 22	" " 23C	C/18/M7	" 22
" 23	" " 24C	C/18/M8	" 23

ATLAS II

LDT 0613

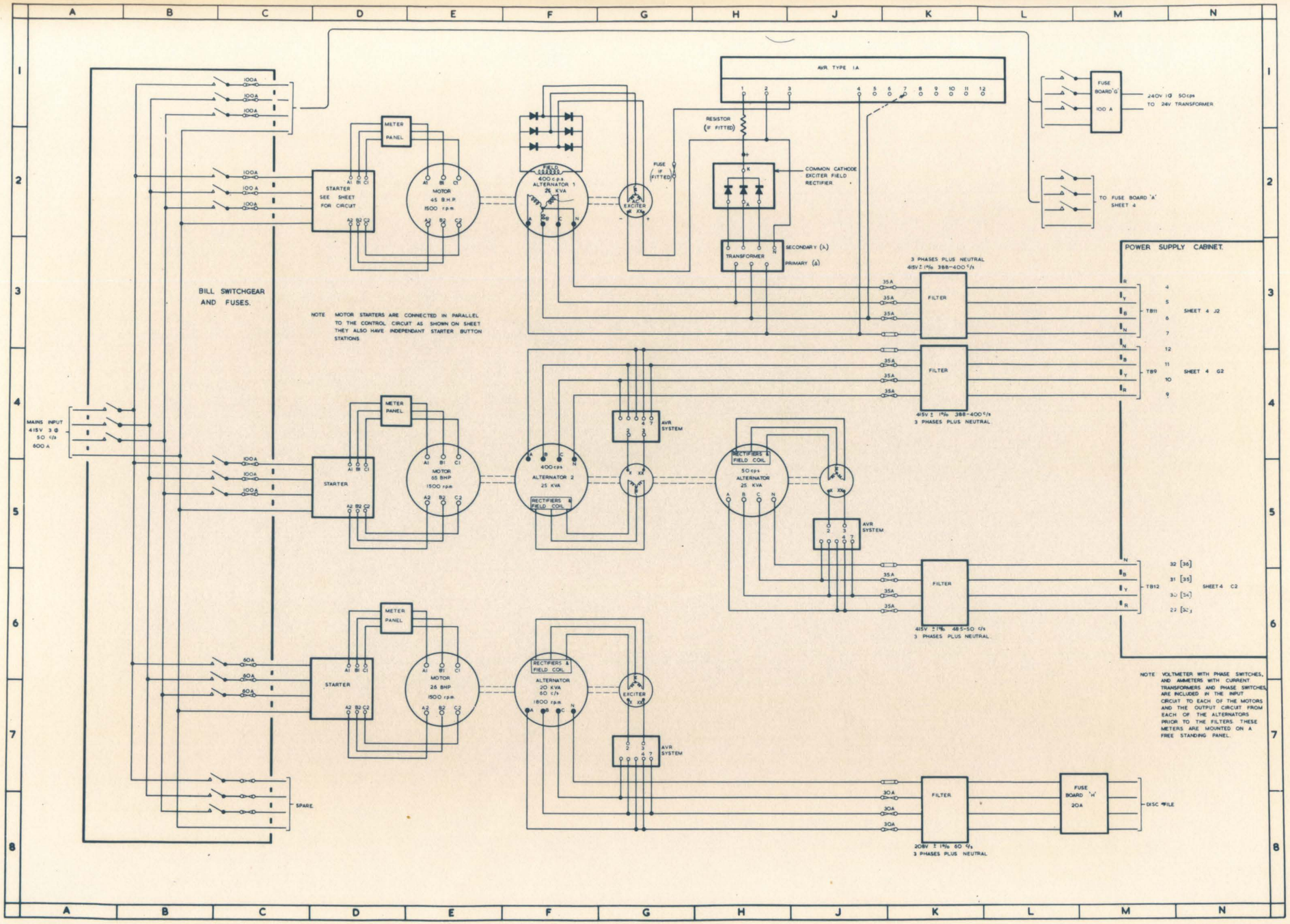
TAPE & PERIPHERAL CO-ORDINATOR TROLLEY



BLOCK DIAGRAM. AC AND DC DISTRIBUTION

ATLAS 2 POWER SUPPLY

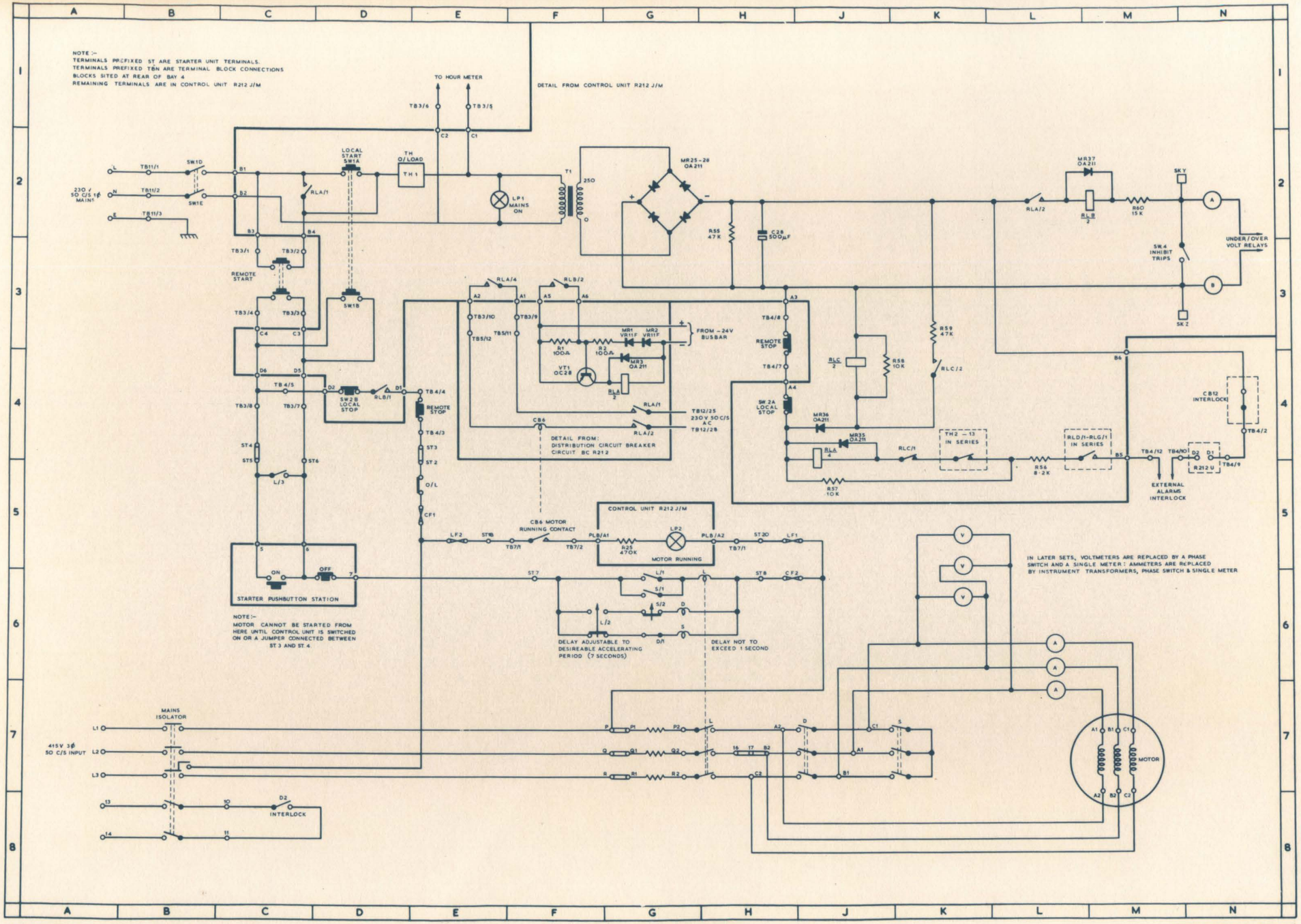
EP/A2/PS1–1 (OF 12)



AC SUPPLY SYSTEM.

ATLAS 2 POWER SUPPLY.

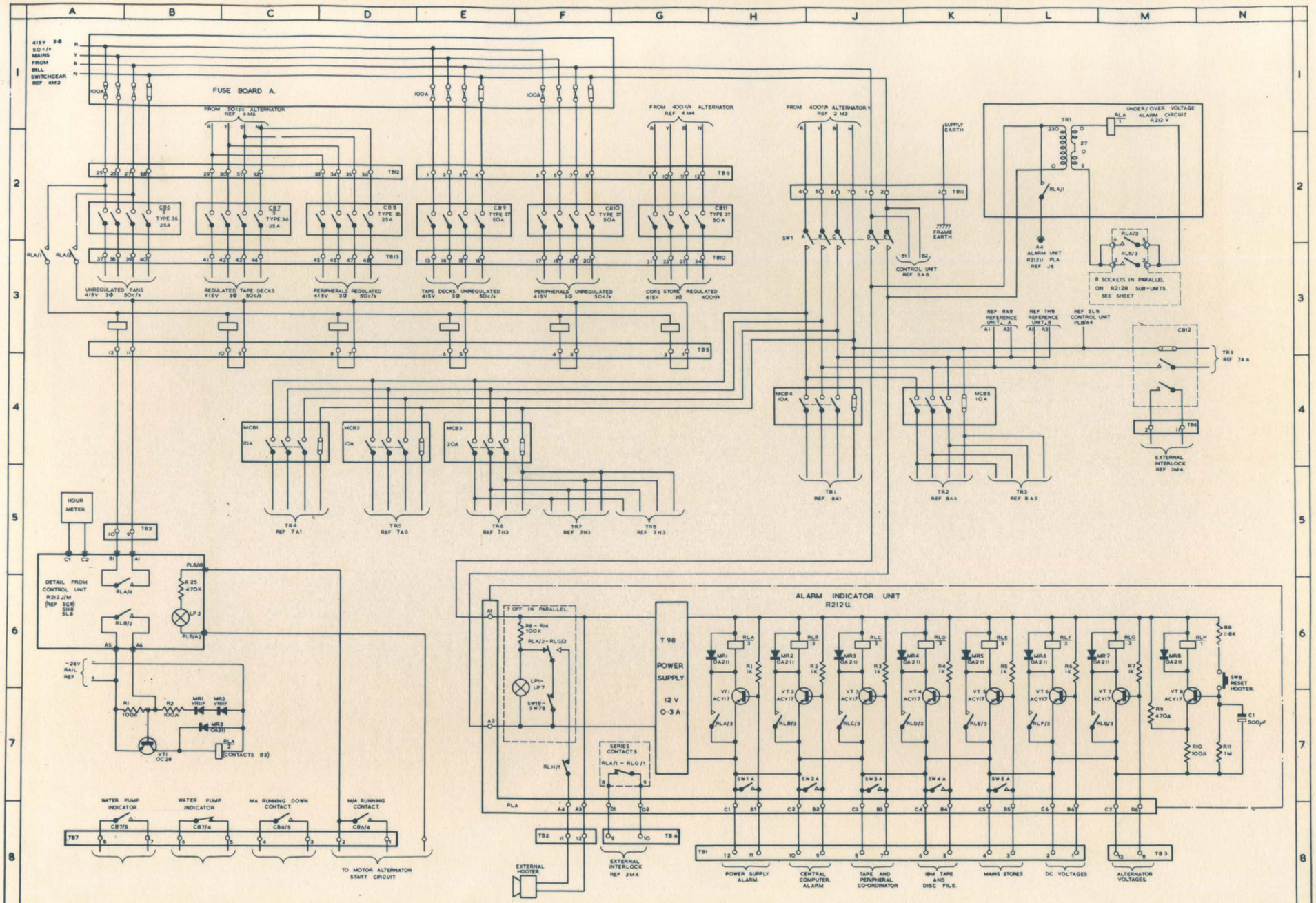
EP/A2/PS4-2 (OF 12)



MOTOR ALTERNATOR STARTER CIRCUIT

ATLAS 2 POWER SUPPLY

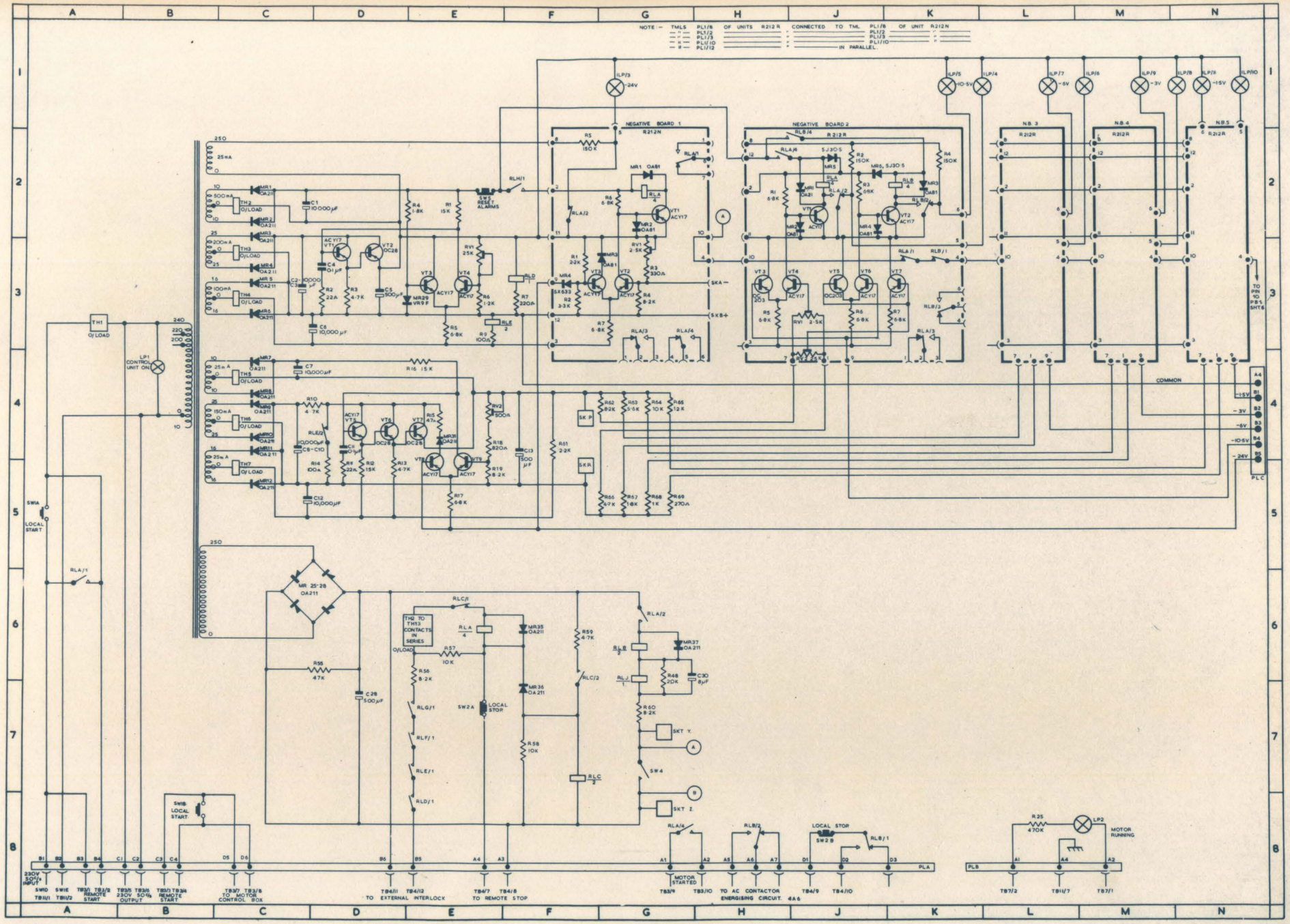
EP/A2/PS1-3 (OF 12)



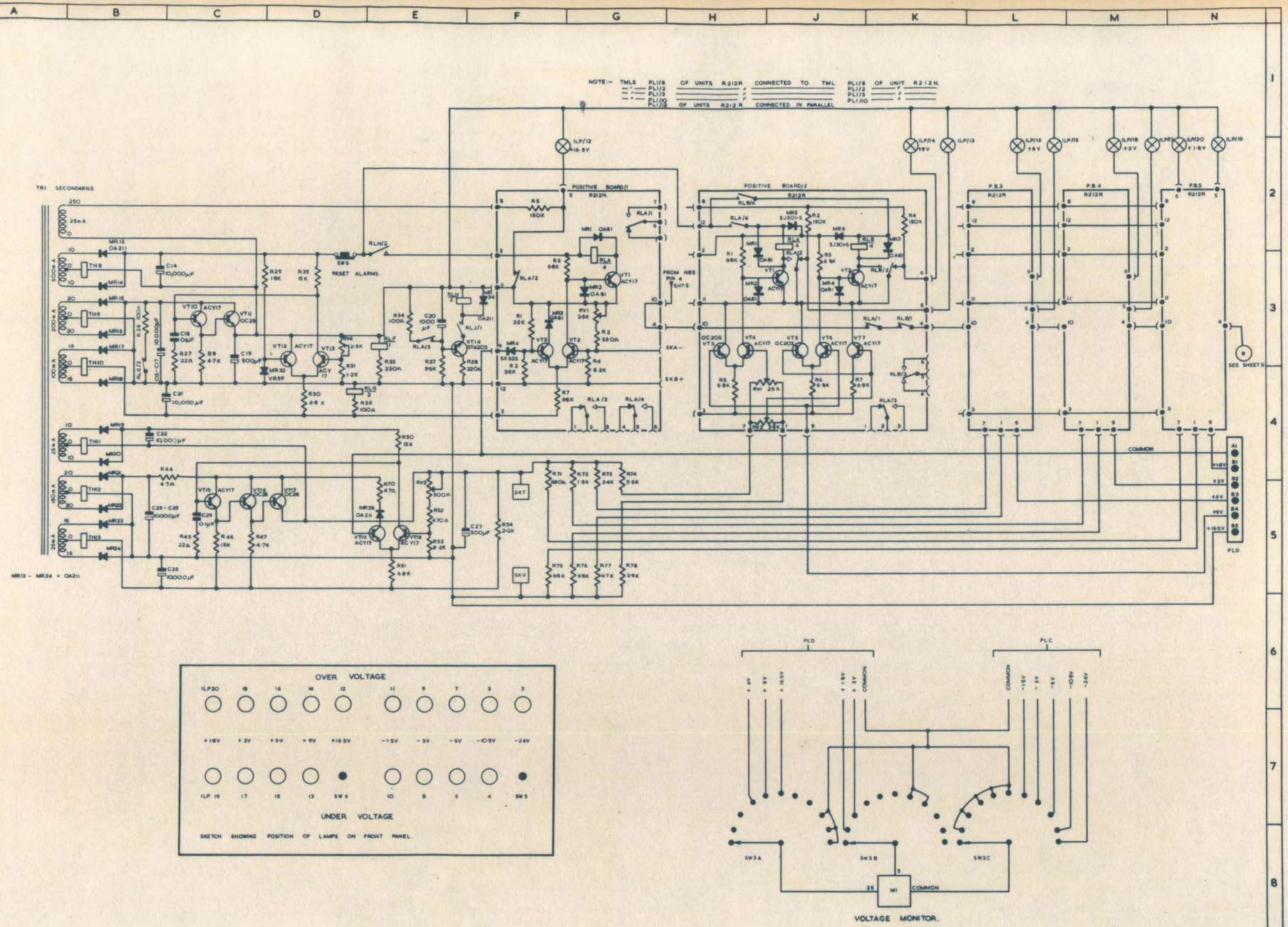
AC DISTRIBUTION

ATLAS 2 POWER SUPPLY.

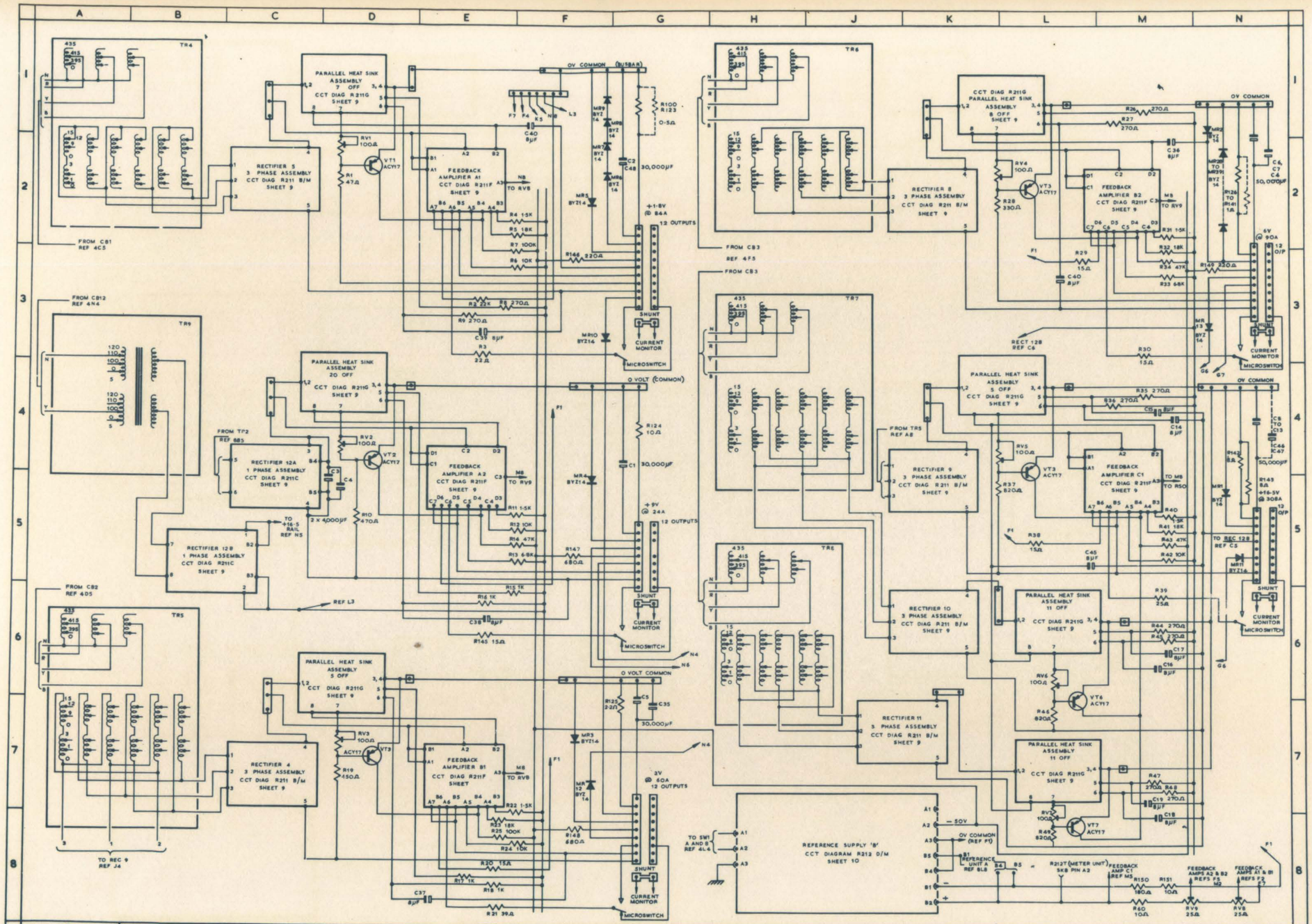
EP/A2/PS1-4 (OF 12)



CONTROL UNIT R212J/M (1 OF 2) CONTROL SECTION AND NEGATIVE RAIL MONITORS. ATLAS 2 POWER SUPPLY. EP/A2/PS1-5 (OF 12)



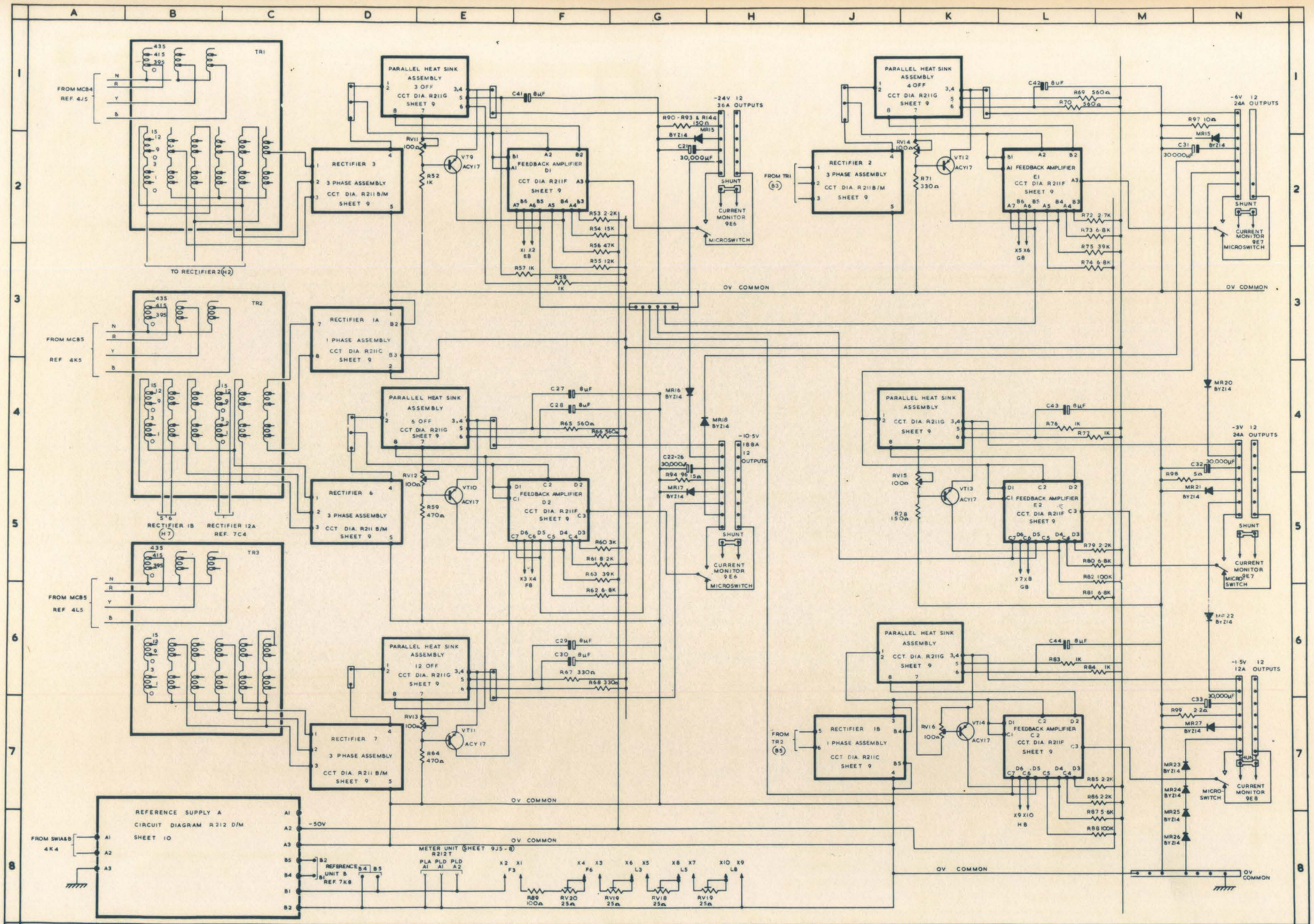
CONTROL UNIT R212J/M (2 OF 2) POSITIVE RAIL MONITORS. ATLAS 2. POWER SUPPLY EP/A2/PSI-6 (OF 12)

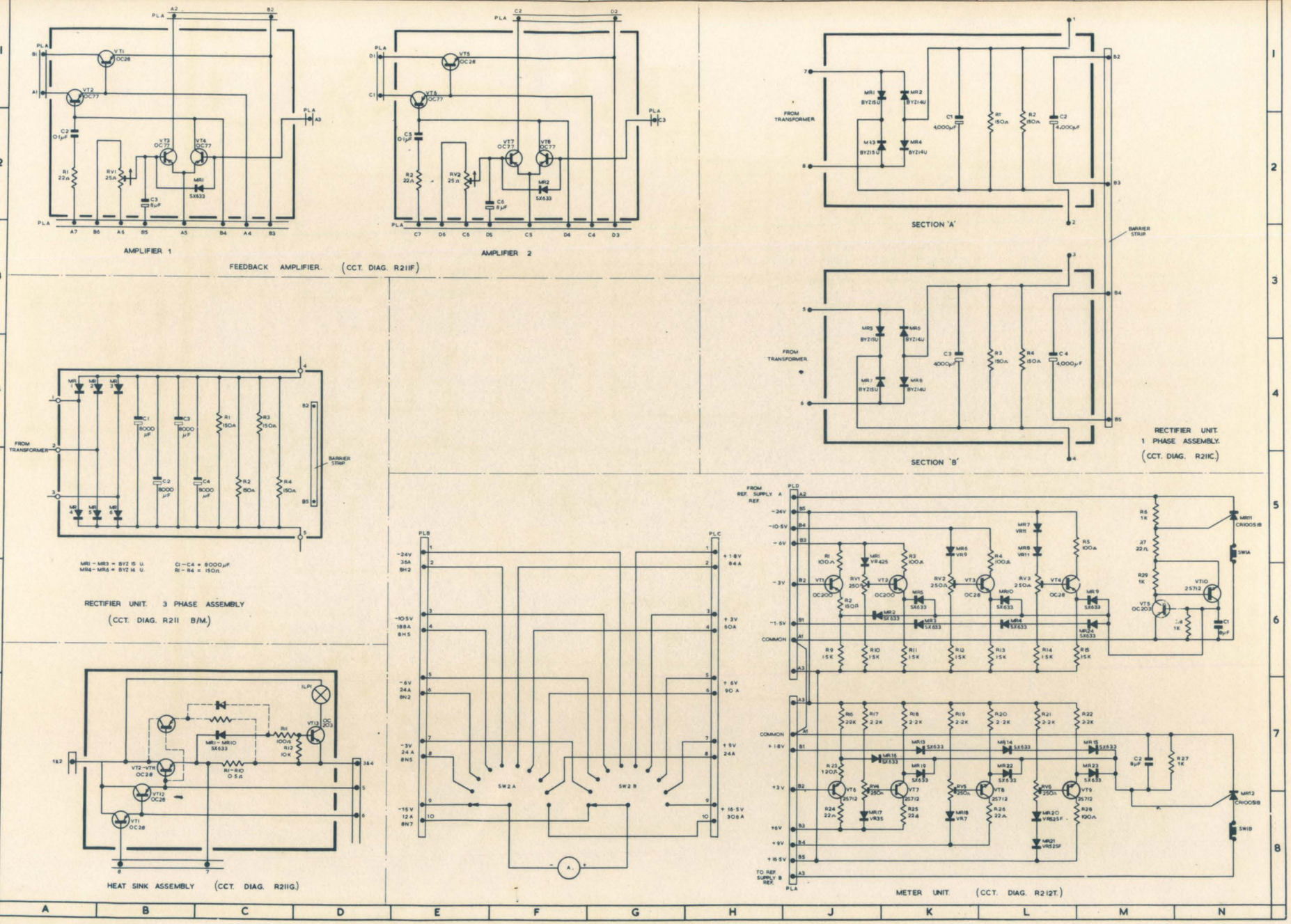


D.C. RAIL GENERATORS 1 OF 2

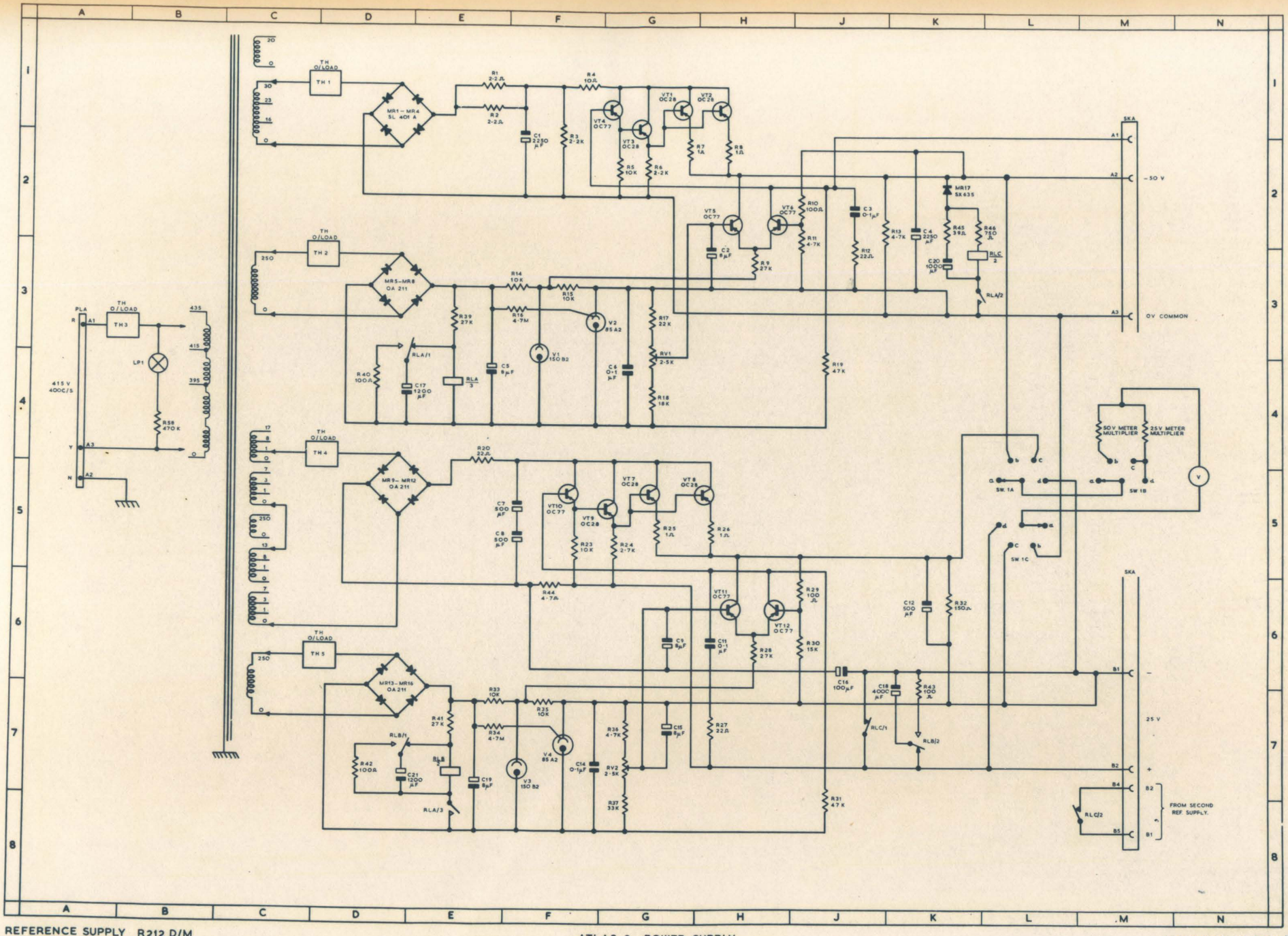
ATLAS 2 POWER SUPPLY

EP/A2/PS1—7(OF 12)


TR1
TR2
TR3
FROM MCB4 REF. 4J5
FROM MCB5 REF 4K5
FROM MCB5 REF 4L5
TO RECTIFIER 2 (H2)
RECTIFIER 1B (H7)
RECTIFIER 12A REF. 7C4
RECTIFIER 3 3 PHASE ASSEMBLY CCT DIA. R211 B/M SHEET 9
RECTIFIER 1A 1 PHASE ASSEMBLY CCT DIA. R211C SHEET 9
RECTIFIER 6 3 PHASE ASSEMBLY CCT DIA. R211 B/M SHEET 9
RECTIFIER 7 3 PHASE ASSEMBLY CCT DIA. R211 B/M SHEET 9
RECTIFIER 2 3 PHASE ASSEMBLY CCT DIA. R211B/M SHEET 9
RECTIFIER 1B 1 PHASE ASSEMBLY CCT DIA. R211C SHEET 9
PARALLEL HEAT SINK ASSEMBLY 3 OFF CCT DIA. R211G SHEET 9
PARALLEL HEAT SINK ASSEMBLY 6 OFF CCT DIA. R211G SHEET 9
PARALLEL HEAT SINK ASSEMBLY 12 OFF CCT DIA. R211G SHEET 9
PARALLEL HEAT SINK ASSEMBLY 4 OFF CCT DIA. R211G SHEET 9
PARALLEL HEAT SINK ASSEMBLY CCT DIA. R211G SHEET 9
FEEDBACK AMPLIFIER D1 CCT DIA. R211F SHEET 9
FEEDBACK AMPLIFIER D2 CCT DIA. R211F SHEET 9
FEEDBACK AMPLIFIER E1 CCT DIA. R211F SHEET 9
FEEDBACK AMPLIFIER E2 CCT DIA. R211F SHEET 9
FEEDBACK AMPLIFIER C2 CCT DIA. R211F SHEET 9
-24V 12 36A OUTPUTS
-10·5V 18·8A 12 OUTPUTS
-6V 12 24A OUTPUTS
-3V 12 24A OUTPUTS
-1·5V 12 12A OUTPUTS
SHUNT
CURRENT MONITOR 9E5
CURRENT MONITOR 9E6
CURRENT MONITOR 9E7
CURRENT MONITOR 9E8
MICROSWITCH
0V COMMON
-50V
REFERENCE SUPPLY A CIRCUIT DIAGRAM R212 D/M SHEET 10
FROM SW1&8 4K4
METER UNIT (SHEET 9J5-8) R212T
REFERENCE UNIT B REF. 7K8



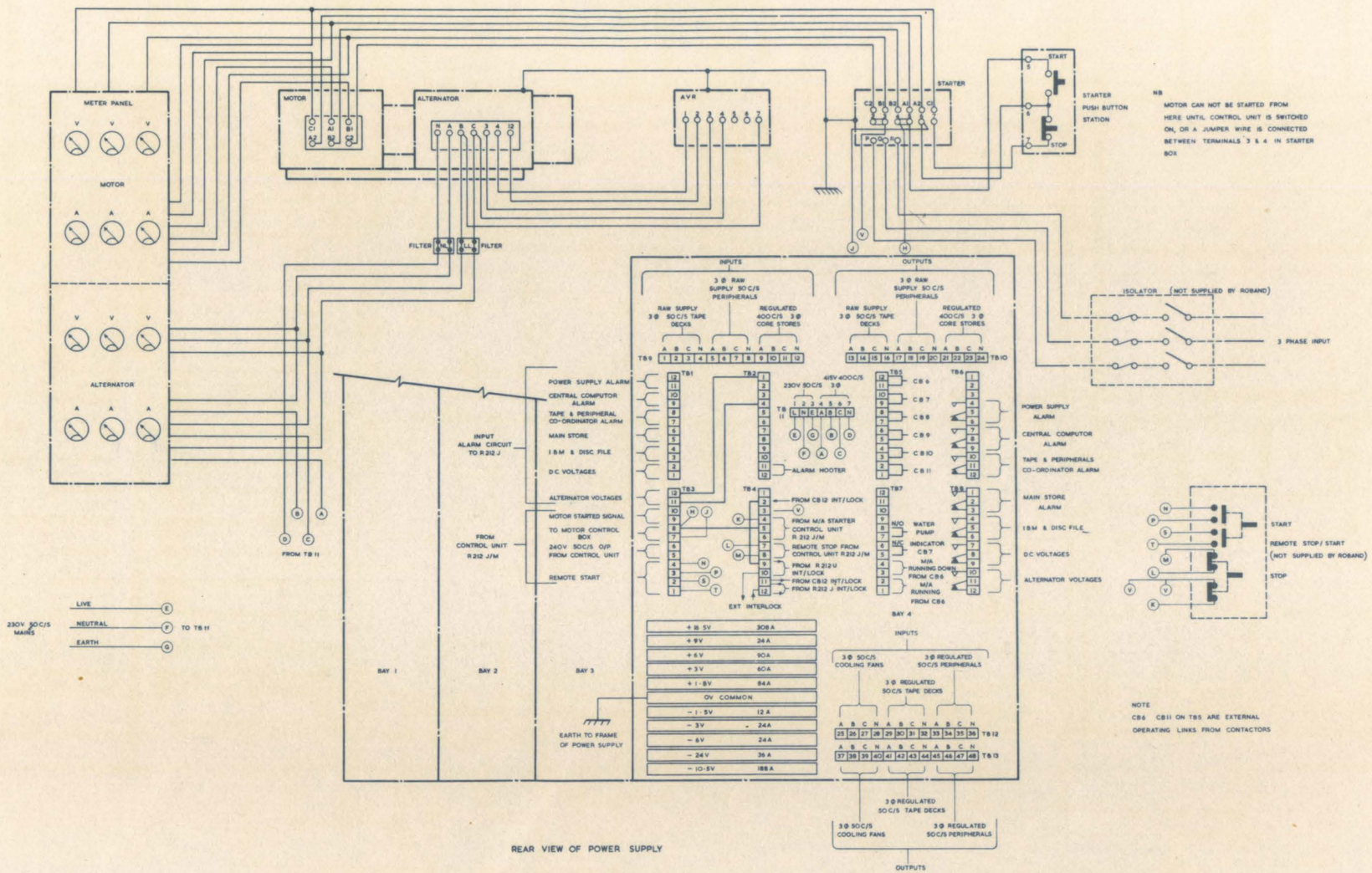
SUB CIRCUITS (FEEDBACK AND 1 & 3 PHASE REC. UNITS; HEAT SINK ASSEMBLY; METER UNIT.) ATLAS 2 POWER SUPPLY. EP/A2/PS1-9 (OF 12)



REFERENCE SUPPLY R212 D/M

ATLAS 2 POWER SUPPLY

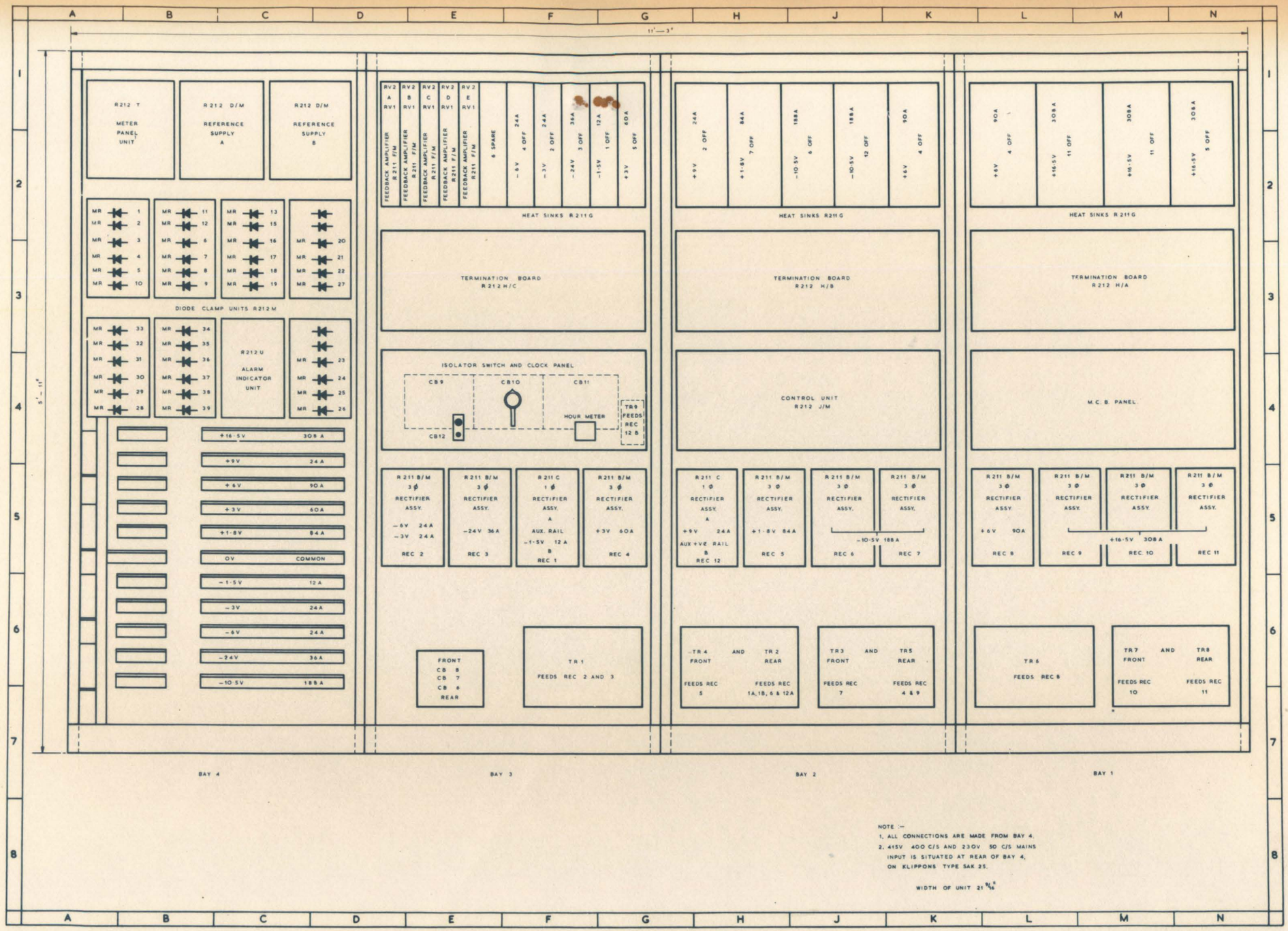
EP/A2/PS1–10 (OF 12)



INTERCONNECTION DETAILS

ATLAS 2 POWER SUPPLY

EP/A2/PSI-11 (OF 12)



NOTE :—
1. ALL CONNECTIONS ARE MADE FROM BAY 4.
2. 415V 400 C/S AND 230V 50 C/S MAINS INPUT IS SITUATED AT REAR OF BAY 4, ON KLIPPONS TYPE SAK 25.

WIDTH OF UNIT 21 9/16"

SUB UNIT LAYOUT

ATLAS 2 POWER SUPPLY

EP/A2/PS1—12 (OF 12)

I.B.M.73 In/Out WRITER to ATLAS2.

I.B.M. 73 I/O Writer Input Output Codes Correspondence Keyboards

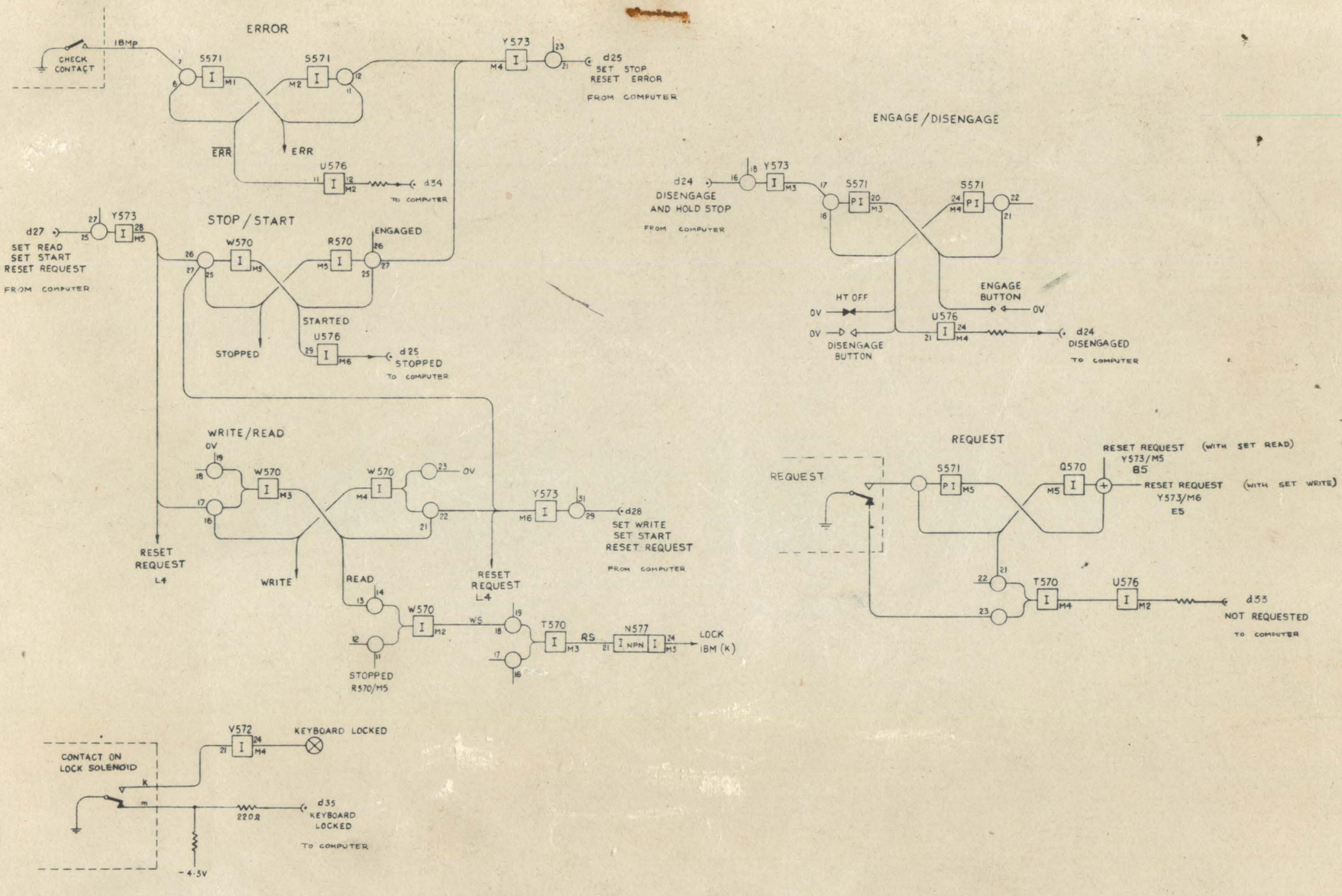
d0 1 2 3 4 5 6

		Input Mode (ET to line) Code Transmitted (Lines Pulsed)							Output Mode (Line to ET) Code Received (Magnets Pulsed)						
Character	Case	R1	R2	R2A	R5	T1	T2	CK	R1	R2	R2A	R5	T1	T2	CK
A	U	0	0	1	1	1	0	0	0	0	1	1	1	0	0
a	L	0	0	1	1	1	0	0	0	0	1	1	1	0	0
B	U	0	0	0	0	0	1	0	0	0	0	0	0	1	0
b	L	0	0	0	0	0	1	0	0	0	0	0	0	1	0
C	U	0	0	1	1	0	1	0	0	0	1	1	0	1	0
c	L	0	0	1	1	0	1	0	0	0	1	1	0	1	0
D	U	1	0	1	1	0	1	1	1	0	1	1	0	1	1
d	L	1	0	1	1	0	1	1	1	0	1	1	0	1	1
E	U	1	0	1	0	0	1	0	1	0	1	0	0	1	0
e	L	1	0	1	0	0	1	0	1	0	1	0	0	1	0
F	U	0	1	1	1	0	0	0	0	1	1	1	0	0	0
f	L	0	1	1	1	0	0	0	0	1	1	1	0	0	0
G	U	1	1	1	1	0	0	1	1	1	1	1	0	0	1
g	L	1	1	1	1	0	0	1	1	1	1	1	0	0	1
H	U	1	0	0	0	0	1	1	1	0	0	0	0	1	1
h	L	1	0	0	0	0	1	1	1	0	0	0	0	1	1
I	U	0	0	1	0	1	0	1	0	0	1	0	1	0	1
i	L	0	0	1	0	1	0	1	0	0	1	0	1	0	1
J	U	1	1	1	0	0	0	0	1	1	1	0	0	0	0
j	L	1	1	1	0	0	0	0	1	1	1	0	0	0	0
K	U	0	0	1	0	0	1	1	0	0	1	0	0	1	1
k	L	0	0	1	0	0	1	1	0	0	1	0	0	1	1
L	U	1	0	0	1	0	1	0	1	0	0	1	0	1	0
l	L	1	0	0	1	0	1	0	1	0	0	1	0	1	0
M	U	1	1	1	1	1	0	0	1	1	1	1	1	0	0
m	L	1	1	1	1	1	0	0	1	1	1	1	1	0	0
N	U	0	1	1	0	0	1	0	0	1	1	0	0	1	0
n	L	0	1	1	0	0	1	0	0	1	1	0	0	1	0
O	U	1	0	0	1	1	0	0	1	0	0	1	1	0	0
o	L	1	0	0	1	1	0	0	1	0	0	1	1	0	0
P	U	1	0	1	0	0	0	1	1	0	1	0	0	0	1
p	L	1	0	1	0	0	0	1	1	0	1	0	0	0	1
Q	U	0	0	1	0	0	0	0	0	0	1	0	0	0	0
q	L	0	0	1	0	0	0	0	0	0	1	0	0	0	0
R	U	1	0	1	1	1	0	1	1	0	1	1	1	0	1
r	L	1	0	1	1	1	0	1	1	0	1	1	1	0	1
S	U	1	0	0	0	1	0	1	1	0	0	0	1	0	1
s	L	1	0	0	0	1	0	1	1	0	0	0	1	0	1
T	U	1	1	1	0	0	1	1	1	1	1	0	0	1	1
t	L	1	1	1	0	0	1	1	1	1	1	0	0	1	1
U	U	0	1	1	1	0	1	1	0	1	1	1	0	1	1
u	L	0	1	1	1	0	1	1	0	1	1	1	0	1	1
V	U	0	1	1	1	1	0	1	0	1	1	1	1	0	1
v	L	0	1	1	1	1	0	1	0	1	1	1	1	0	1
W	U	0	0	0	0	1	0	0	0	0	0	0	1	0	0
w	L	0	0	0	0	1	0	0	0	0	0	0	1	0	0
X	U	1	1	1	1	0	1	0	1	1	1	1	0	1	0
x	L	1	1	1	1	0	1	0	1	1	1	1	0	1	0
Y	U	1	0	0	0	0	0	0	1	0	0	0	0	0	0
y	L	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Z	U	1	1	1	0	1	1	0	1	1	1	0	1	1	0
z	L	1	1	1	0	1	1	0	1	1	1	0	1	1	0

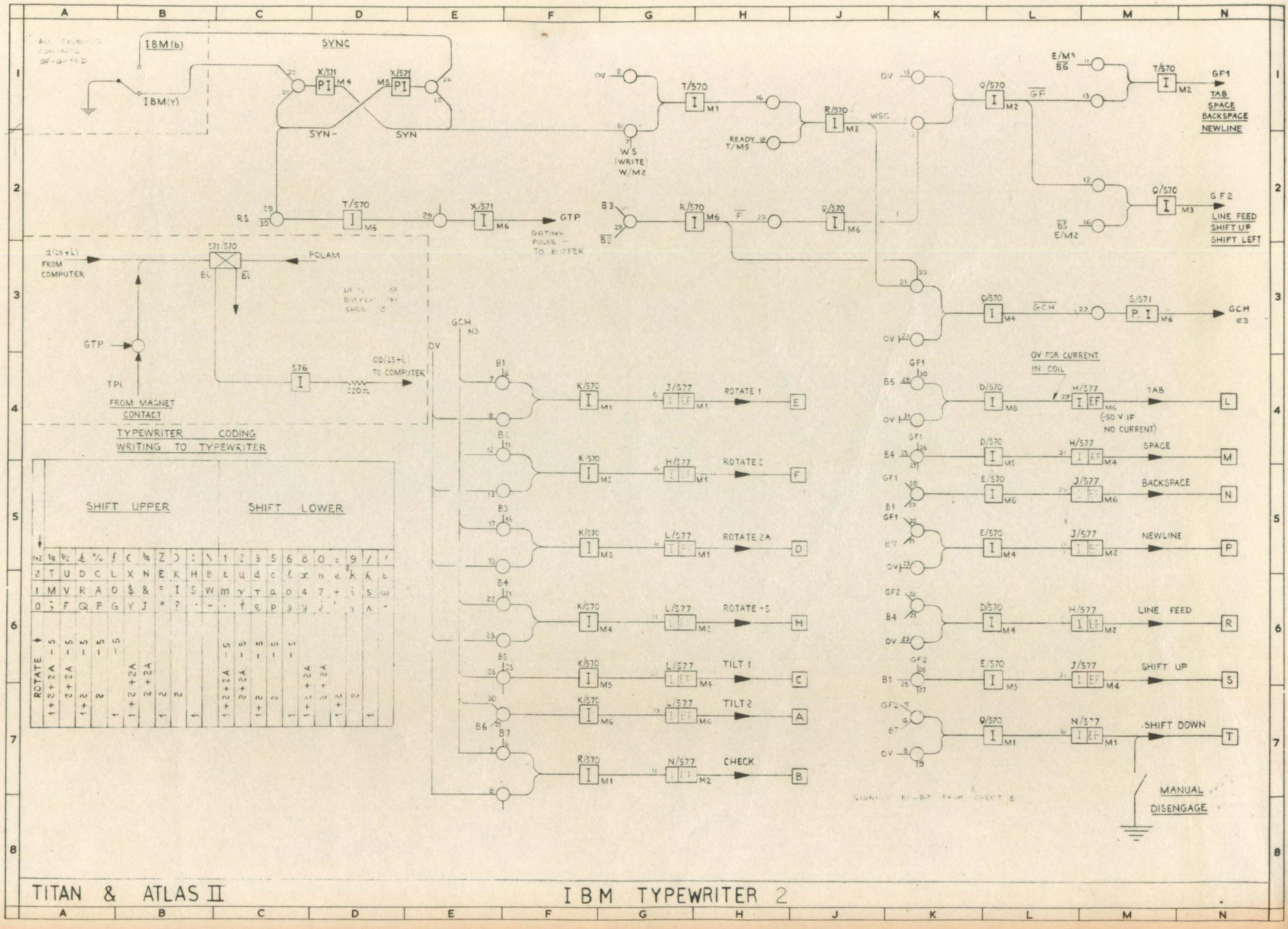
±]	U	1	1	1	1	1	1	1		1	1	1	1	1	1	1
]	L	1	1	1	1	1	1	1		1	1	1	1	1	1	1
@	U	0	1	1	0	1	1	1		0	1	1	0	1	1	1
2	L	0	1	1	0	1	1	1		0	1	1	0	1	1	1
#	U	0	1	1	1	1	1	0		0	1	1	1	1	1	0
3	L	0	1	1	1	1	1	0		0	1	1	1	1	1	0
$	U	1	0	0	1	1	1	1		1	0	0	1	1	1	1
4	L	1	0	0	1	1	1	1		1	0	0	1	1	1	1
%	U	1	0	1	0	1	1	1		1	0	1	0	1	1	1
5	L	1	0	1	0	1	1	1		1	0	1	0	1	1	1
¢	U	0	0	1	0	1	1	0		0	0	1	0	1	1	0
6	L	0	0	1	0	1	1	0		0	0	1	0	1	1	0
&	U	1	0	1	1	1	1	0		1	0	1	1	1	1	0
7	L	1	0	1	1	1	1	0		1	0	1	1	1	1	0
*	U	0	0	1	1	1	1	1		0	0	1	1	1	1	1
8	L	0	0	1	1	1	1	1		0	0	1	1	1	1	1
(	U	0	0	0	0	1	1	1		0	0	0	0	1	1	1
9	L	0	0	0	0	1	1	1		0	0	0	0	1	1	1
)	U	1	0	0	0	1	1	0		1	0	0	0	1	1	0
0	L	1	0	0	0	1	1	0		1	0	0	0	1	1	0
_	U	0	0	0	0	0	0	1		0	0	0	0	0	0	1
-	L	0	0	0	0	0	0	1		0	0	0	0	0	0	1
+	U	0	1	1	0	0	0	1		0	1	1	0	0	0	1
=	L	0	1	1	0	0	0	1		0	1	1	0	0	0	1
o	U	1	1	1	0	1	0	1		1	1	1	0	1	0	1
!	L	1	1	1	0	1	0	1		1	1	1	0	1	0	1
:	U	1	0	1	1	0	0	0		1	0	1	1	0	0	0
;	L	1	0	1	1	0	0	0		1	0	1	1	0	0	0
"	U	1	0	1	0	1	0	0		1	0	1	0	1	0	0
'	L	1	0	1	0	1	0	0		1	0	1	0	1	0	0
'	U	0	0	1	1	0	0	1		0	0	1	1	0	0	1
,	L	0	0	1	1	0	0	1		0	0	1	1	0	0	1
.	U	0	1	1	0	1	0	0		0	1	1	0	1	0	0
.	L	0	1	1	0	1	0	0		0	1	1	0	1	0	0
?	U	1	0	0	1	0	0	1		1	0	0	1	0	0	1
/	L	1	0	0	1	0	0	1		1	0	0	1	0	0	1

	R_I	R_2	R_{2A}	R_5	T_I	T_2	Ck.		R_I	R_2	R_{2A}	R_5	T_I	T_2	Ck.
FUNCTION.	B_I	B_2	B_3	B_4	B_5	B_6	B_7		B_I	B_2	B_3	B_4	B_5	B_6	B_7
TABULATE.	I	I	0	0	0	0	I		I	I	0	0	0	0	I
SPACE	0	I	0	0	I	0	I		0	I	0	0	I	0	I
B. SPACE.	I	I	0	0	I	0	0		I	I	0	0	I	0	0
CAR. RETn. (New Line)	I	I	0	0	0	I	0		I	I	0	0	0	I	0
INDEX. (Line Feed)	0	I	0	0	0	0	0		0	I	0	0	0	0	0
U. CASE SHIFT.	0	I	0	0	I	I	0		0	I	0	0	I	I	0
L. CASE SHIFT.	0	I	0	0	0	I	I		0	I	0	0	0	I	I

NOTE.
B_2 = I and B_3 = 0 specifies a "Non-Print" or "Functional" character.

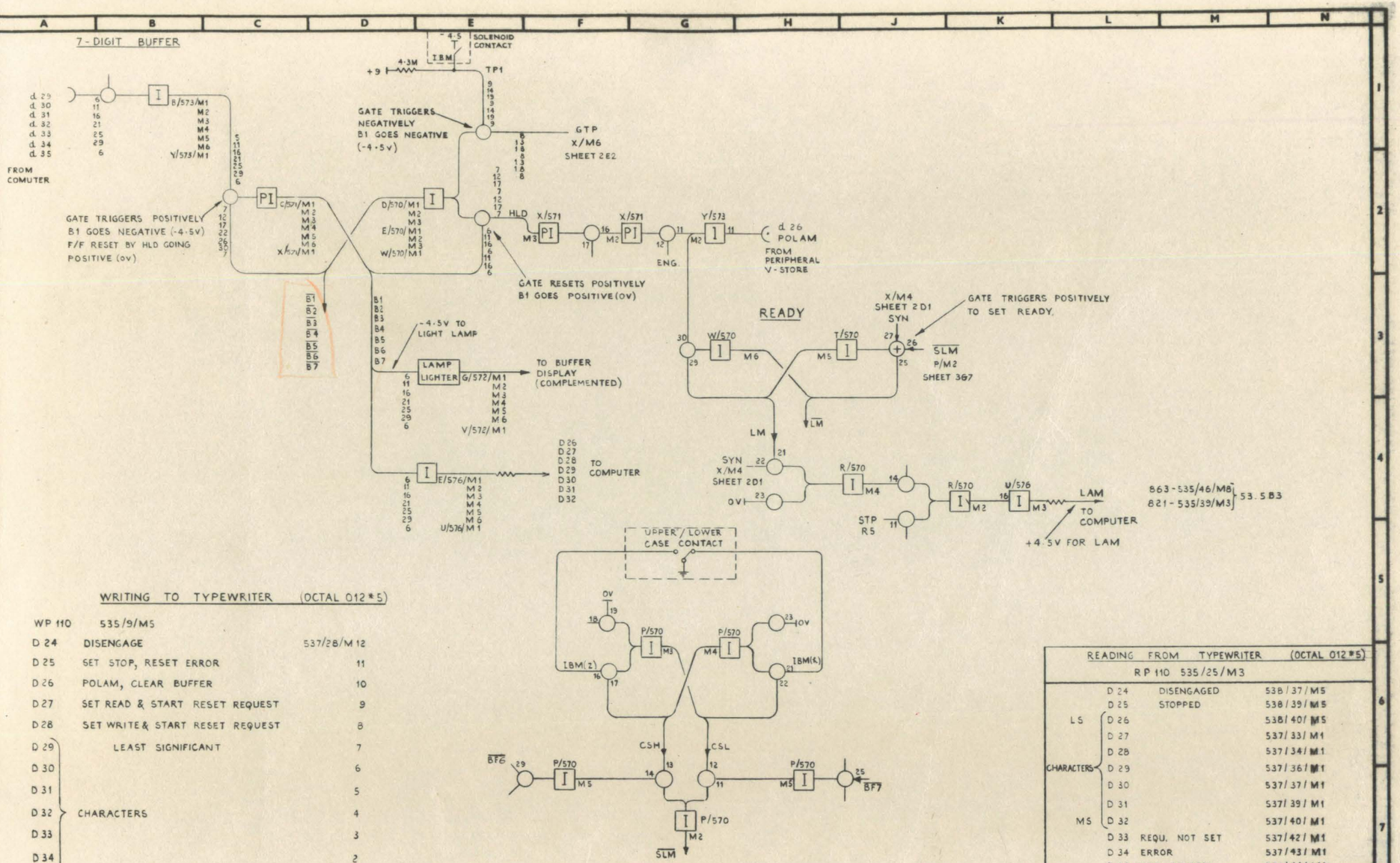


TITAN & ATLAS 2 IBM TYPEWRITER 1



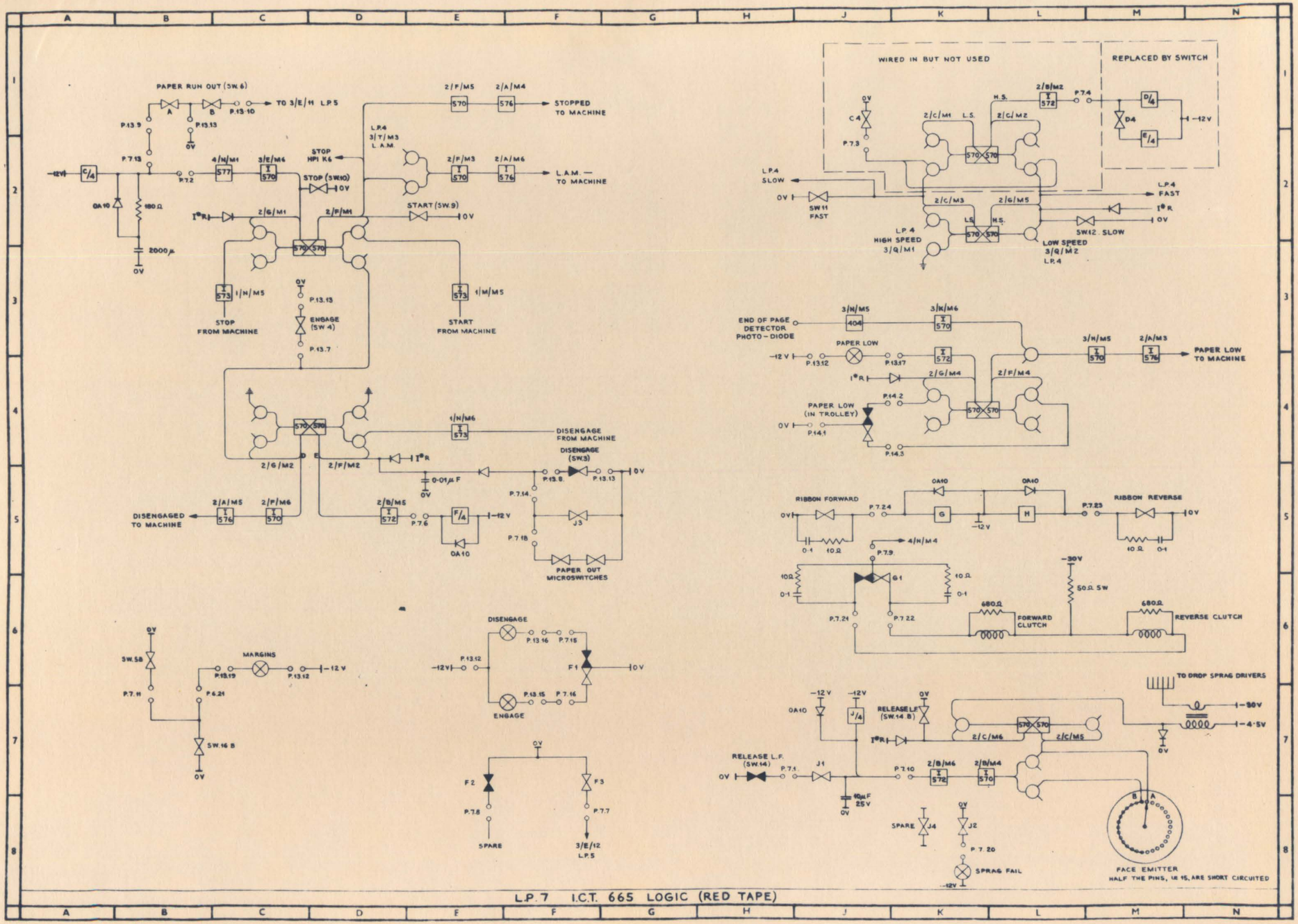
TITAN & ATLAS II

IBM TYPEWRITER 2

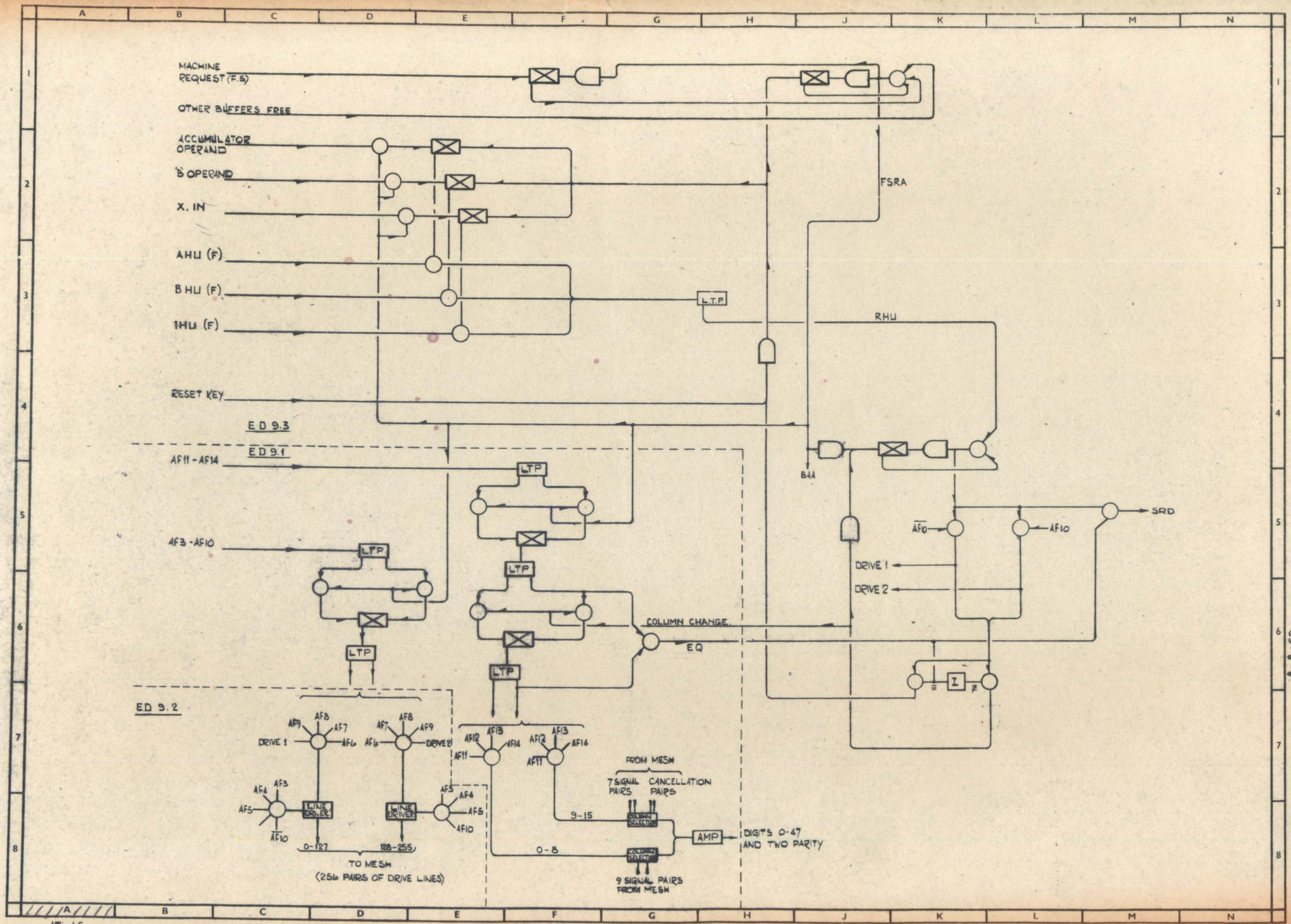


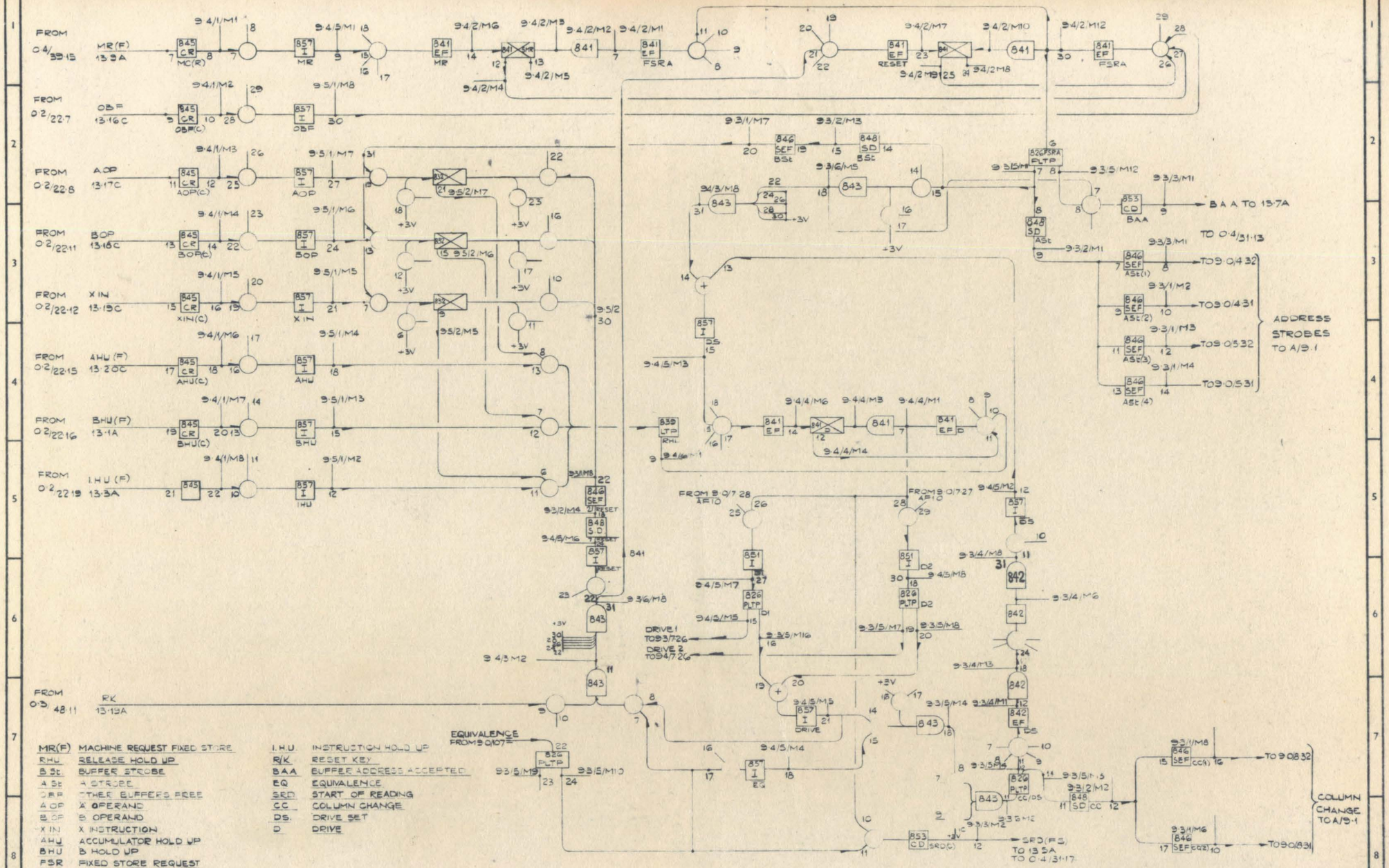
TITAN & ATLAS II

I.B.M. TYPEWRITER III



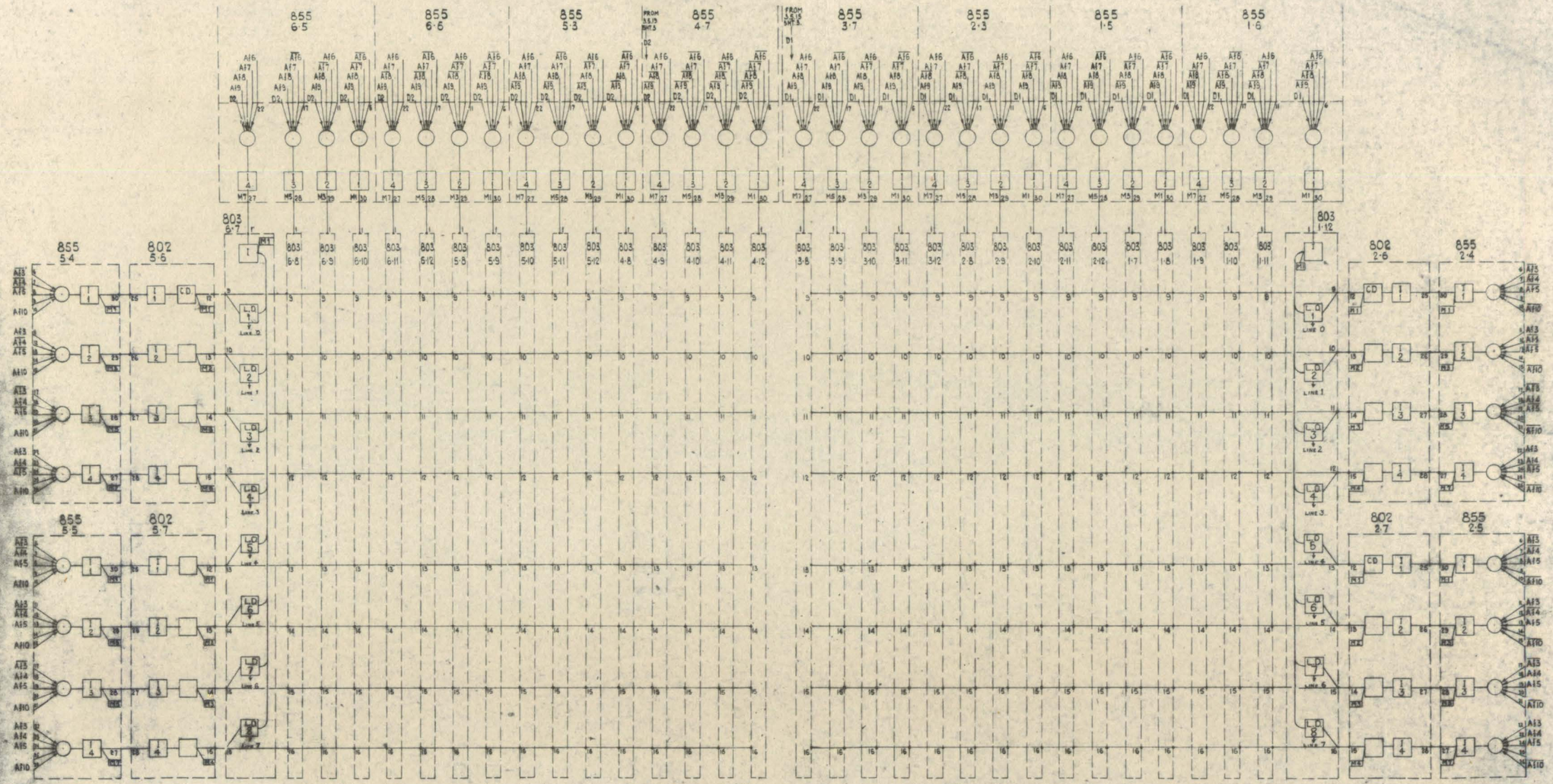
L.P.7 I.C.T. 665 LOGIC (RED TAPE)


MACHINE REQUEST (F.S)
OTHER BUFFERS FREE
ACCUMULATOR OPERAND
'B' OPERAND
X. IN
AHU (F)
BHU (F)
1HU (F)
L.T.P
FSRA
RHU
RESET KEY
ED 9.3
ED 9.1
AF11 - AF14
AF3 - AF10
LTP
B4A
SRD
DRIVE 1
DRIVE 2
COLUMN CHANGE
EQ
ED 9.2
LINE DRIVER
0-127
128-255
TO MESM
(256 PAIRS OF DRIVE LINES)
FROM MESM
7 SIGNAL PAIRS
CANCELLATION PAIRS
COLUMN SELECTION
9-15
0-8
AMP
DIGITS 0-47
AND TWO PARITY
9 SIGNAL PAIRS FROM MESM
8-8-62

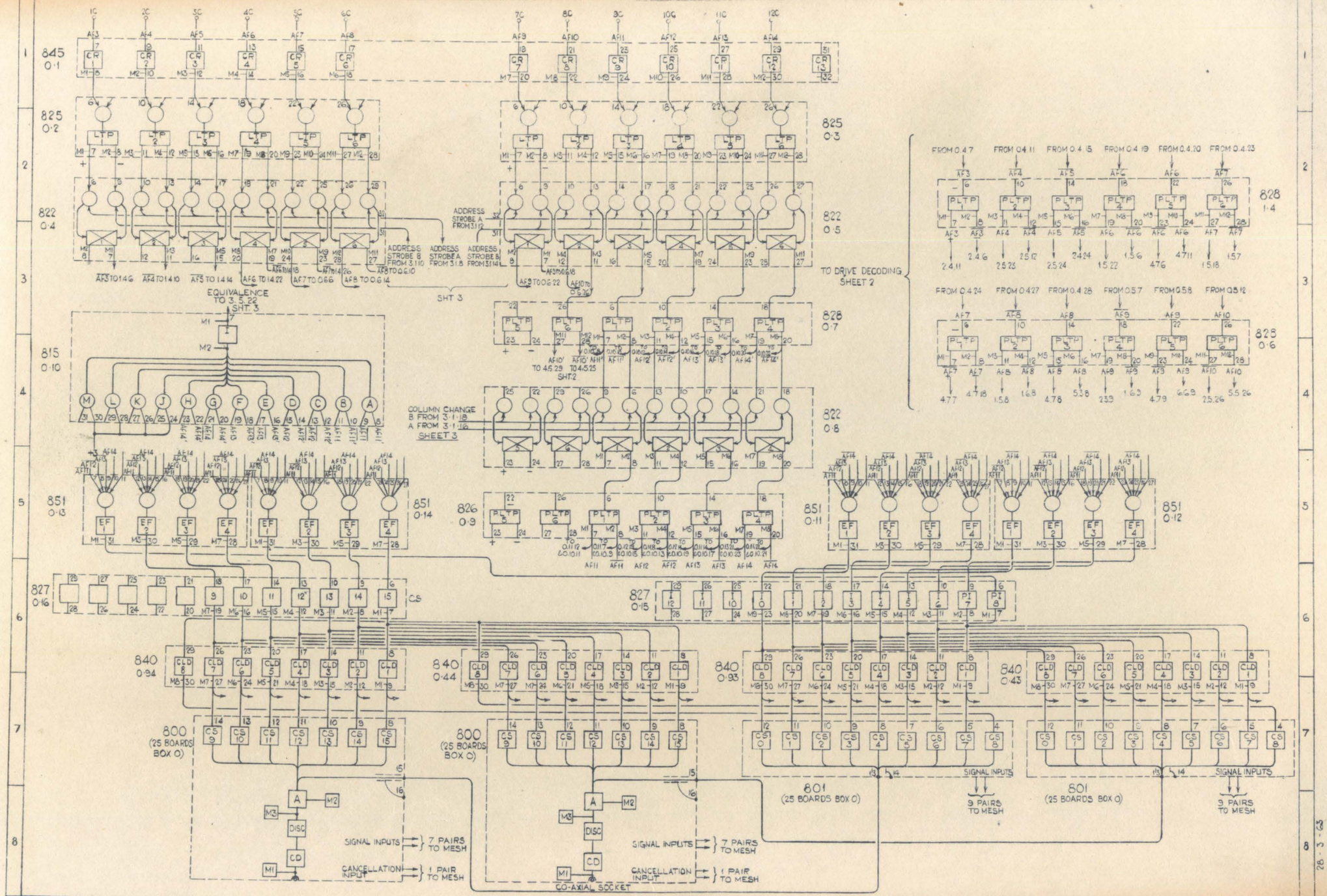


ATLAS — ED9·3 RHYTHM UNIT REPLACING 93-94 — FIXED STORE

THIRD ANGLE PROJECTION



D	MATERIAL:-	SUB		STANDARD TOLERANCES	DRG: E.G.	FERRANTI LTD., COMPUTER DEPT.,	USED ON ASSEMBLY		
	FINISH:-	A.C.D.		1·0000 = ± ·0005"	TR'D:		WEST GORTON, MANCHESTER		
		SIG.		1·000 = ± ·005"	APP:		BRACKNELL, BERKS.		
		DATE		1·00 = ± ·050"	SIG:	LOGICAL & BOARD WIRING DIAGRAM	DRAWING No.		
				FRACTIONS = ± ·015"	DATE: 3-7-62	ATLAS FIXED STORE	4/9·2		
				NECESSARY DEVIATIONS BY LIMITS	SCALE	SHT. 2 of 3 SHEETS			


845 0·1
825 0·2
822 0·4
825 0·3
822 0·5
828 0·7
815 0·10
822 0·8
826 0·9
851 0·13
851 0·14
851 0·11
851 0·12
827 0·16
827 0·15
840 0·94
840 0·44
840 0·93
840 0·43
800 (25 BOARDS BOX 0)
801 (25 BOARDS BOX 0)
828 1·4
828 0·6
EQUIVALENCE TO 3·5·22 SHT 3
SHT 3
TO DRIVE DECODING SHEET 2
COLUMN CHANGE B FROM 3·1·18 A FROM 3·1·16 SHEET 3
SIGNAL INPUTS
7 PAIRS TO MESH
CANCELLATION INPUT
1 PAIR TO MESH
9 PAIRS TO MESH
CO-AXIAL SOCKET
ATLAS
LOGICAL & BOARD WIRING DIAGRAM
FIXED STORE

RACK 90 (& 100).

BOX 91

	1	2	3	4	5	6	7	8	9	10	11	12
				828	855	855	803	803	803	803	803	803
M1	SPARE	SPARE	SPARE	AF3	DC4	DC0	DIC5	DIC4	DIC3	DIC2	DIC1	DIC0
2				AF3			PRF	PRF	PRF	PRF	PRF	PRF
3				AF4	DC5	DC1						
4				AF4								
5				AF5	DC6	DC2						
6				AF5								
7				AF6	DC7	DC3						
8				AF6								
9				AF7								
10				AF7								
11												
12												
13												

BOX 92

	1	2	3	4	5	6	7	8	9	10	11	12
			855	855	855	802	802	803	803	803	803	803
M1	SPARE	SPARE	DC8	DL0U	DL4U	DL0U	DL4U	DIC10	DIC9	DIC8	DIC7	DIC6
2						DL1U	DL5U	PRF	PRF	PRF	PRF	PRF
3			DC9	DL1U	DL5U	DL2U	DL6U					
4						DL3U	DL7U					
5			DC10	DL2U	DL6U							
6												
7			DC11	DL3U	DL7U							
8												
9												
10												
11												
12												
13												

BOX 93

	1	2	3	4	5	6	7	8	9	10	11	12
	846	848	853	842	826	843	855	803	803	803	803	803
M1	ASt1	ASt D		DS	BSt/FSR		DC12	DIC15	DIC14	DIC13	DIC12	DIC11
2	ASt2	CC	SRD		SAA			PRF	PRF	PRF	PRF	PRF
3	ASt3	BSt D		DSD	CC	CCDSDD	DC13					
4	ASt4	RESET			DS							
5	CCSt1				DI	FSRD	DC14					
6	CCSt2				DT							
7	BSt				D2		DC15					
8	RESET St				D2							
9												
10					EQU							
11												
12												
13												

BOX 94

	1	2	3	4	5	6	7	8	9	10	11	12
	845	841	843	841	857	839	855	803	803	803	803	803
M1	MRF	FSRA		D	MRF	RHU	DC16	DIC20	DIC19	DIC18	DIC17	DIC16
2	OBF	FSRA	RESET		D2			PRF	PRF	PRF	PRF	PRF
3	AOP	MRSR		RD	SQ		DC17					
4	BOP	MRB		D RESET	EQU							
5	XIN		CCDSD		DRIVE		DC18					
6	AHU	MRF		SD	RESET							
7	BHU	RESET			DT		DC19					
8	IHU		FSRDD		D2							
9		RFSR										
10		FSRAR										
11												
12		FSRA										
13												

BOX 95

	1	2	3	4	5	6	7	8	9	10	11	12
	857	832	855	855	855	802	802	803	803	803	803	803
M1			DC20	DL0L	DL4L	DL0L	DL4L	DIC25	DIC24	DIC23	DIC22	DIC21
2	IHU					DL1L	DL5L	PRF	PRF	PRF	PRF	PRF
3	BHU		DC21	DL1L	DL5L	DL2L	DL6L					
4	AHU					DL3L	DL7L					
5	XIN	XINS	DC22	DL2L	DL6L							
6	BOP	BOPS										
7	AOP	AOPS	DC23	DL3L	DL7L							
8	OBF											
9												
10												
11												
12												
13												

BOX 96

	1	2	3	4	5	6	7	8	9	10	11	12
					855	855	803	803	803	803	803	803
M1	SPARE	SPARE	SPARE	SPARE	DC28	DC24	DIC31	DIC30	DIC29	DIC28	DIC27	DIC26
2							PRF	PRF	PRF	PRF	PRF	PRF
3					DC29	DC25						
4												
5					DC30	DC26						
6												
7					DC31	DC27						
8												
9												
10												
11												
12												
13												

USE WITH DWGS. E.D.9-2/9-3.

5363

RACK 90 (&100)

BOX 90

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	845	825	825	822	822	828	828	822	826	815	851	851	851	851	827	827	801	800	801	800	801	800	801	800	801	800	801	800	801	800
M1	AF3	AF3	AF9	AF3	AF9	AF7	AF11'		AF11	EQU	COL 0	COL 4	COL 8	COL 12	COL 8	COL 15		RF 00		RF 49		RF 01		RF 48		RF 02		RF 47		RF 03
2	AF4	AF3	AF9		AF9	AF7	AF11'	AF11	AF11	EQU					COL 7	COL 14		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD
3	AF5	AF4	AF10	AF4	AF10	AF8	AF12'		AF12		COL 1	COL 5	COL 9	COL 13	COL 6	COL 13		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP
4	AF6	AF4	AF10		AF10	AF8	AF12'	AF12	AF12						COL 5	COL 12														
5	AF7	AF5	AF11	AF5	AF11	AF8	AF13'		AF13		COL 2	COL 6	COL 10	COL 14	COL 4	COL 11														
6	AF8	AF5	AF11			AF8	AF13'	AF13	AF13						COL 3	COL 10														
7	AF9	AF6	AF12	AF6	AF12	AF9	AF14'		AF14		COL 3	COL 7	COL 11	COL 15	COL 2	COL 9														
8	AF10	AF6	AF12	AF6		AF9	AF14'	AF14	AF14						COL 1															
9	AF11	AF7	AF13	AF7	AF13	AF9									COL 0															
10	AF12	AF7	AF13	AF7		AF9																								
11	AF13	AF8	AF14	AF8	AF14	AF10	AF10'																							
12	AF14	AF8	AF14	AF8		AF10	AF10'																							
13																														

90

	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800
M1		RF 46		RF 04		RF 45		RF 05		RF 44		RF 06	COL 7	COL 15		RF 43		RF 07		RF 42		RF 08		RF 41		RF 09		RF 40		RF 10
2		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD	COL 6	COL 14		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD
3		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP	COL 5	COL 13		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP
4													COL 4	COL 12																
5													COL 3	COL 11																
6													COL 2	COL 10																
7													COL 1	COL 9																
8													COL 0	COL 8																
9																														
10																														
11																														
12																														
13																														

90

	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800
M1		RF 39		RF 11		RF 38		RF 12		RF 37		RF 13		RF 36		RF 14		RF 35		RF 15		RF 34		RF 16		RF 33		RF 17		RF 32
2		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD
3		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														

90

	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
	801	800	840	840	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800	801	800
M1		RF 18	COL 7	COL 15		RF 31		RF 19		RF 30		RF 20		RF 29		RF 21		RF 28		RF 22		RF 27		RF 23		RF 26		RF 24		RF 25
2		CHAD	COL 6	COL 14		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD		CHAD
3		CLIP	COL 5	COL 13		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP		CLIP
4			COL 4	COL 12																										
5			COL 3	COL 11																										
6			COL 2	COL 10																										
7			COL 1	COL 9																										
8			COL 0	COL 8																										
9																														
10																														
11																														
12																														
13																														

USE WITH .DWG. E.D. 9-1

4-3-63

ED 9-99 PLATE & WAVEFORM LAYOUT

PIN CONNECTIONS & MONITOR POINTS

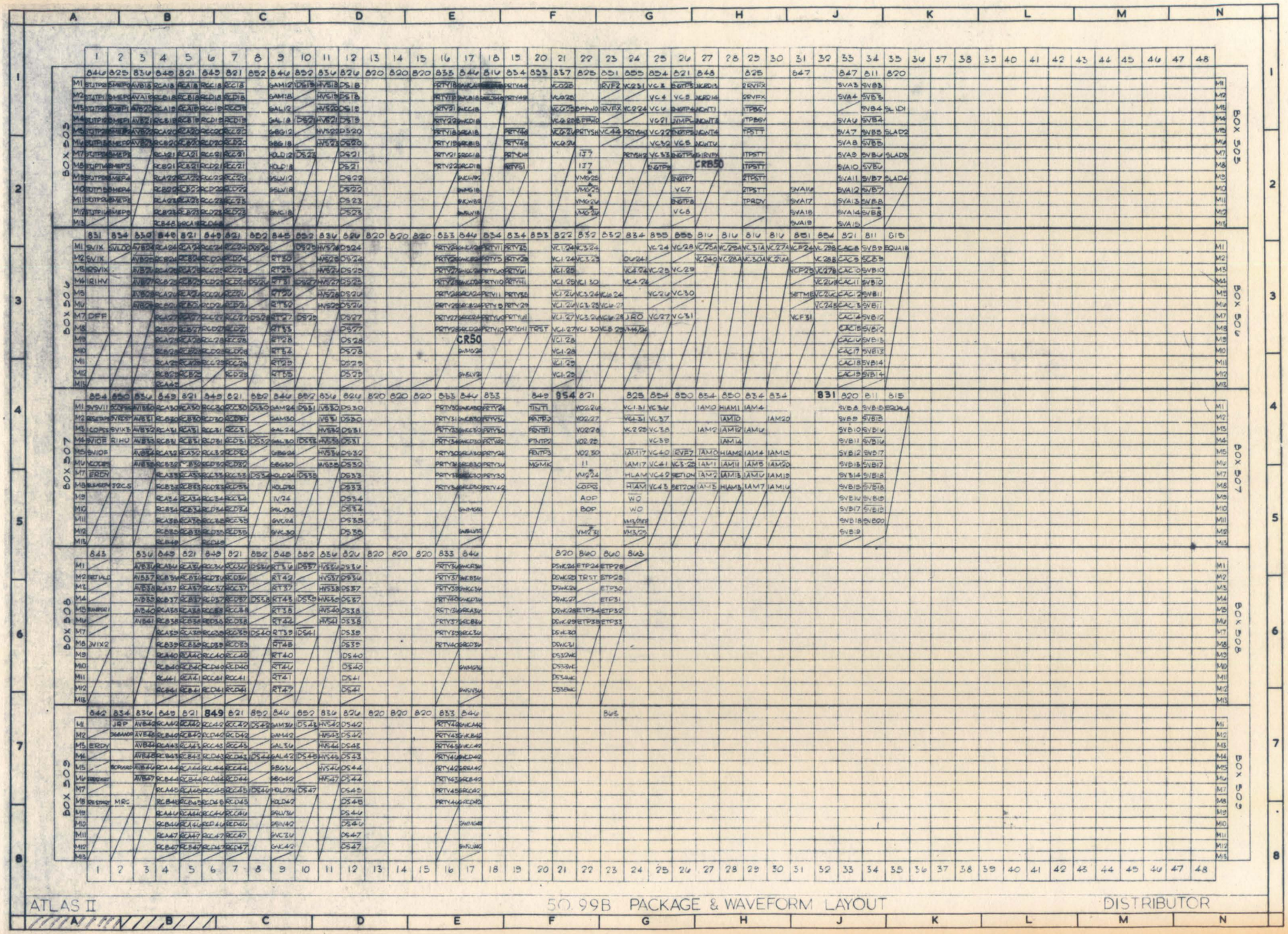
ATLAS

ATLAS PACKAGES

PIN	800	801	802 MP	803	804 MP	805 MP	806 MP	811 MP	812 MP	813 MP	814	815 MP	816 MP	817 MP	818 MP	819 MP	820/1/2/3 MP	824/5 MP	826/8 MP	827/9 MP	830/1/2	833/4 MP	835/6/7/8 MP	839 MP	PIN
1	0V	0V	/	INV PRE	0V	-0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	1
2	0V	0V	0V	0V	-10·5	-10·5	-10·5	-10·5	/	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	2
3	0V	-10·5	-10·5	-10·5	+1·8	+1·8	+1·8	/	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	3
4	-10·5	S8	+1·8	+1·8	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	-16·5	+16·5	4
5	+16·5	S7	/	+3	+7·5	+7·5	+7·5	+7·5	-24	+7·5	+7·5	+7·5	+7·5	+7·5	+7·5	+7·5	+7·5	+7·5	+3	+3	-7·5	+7·5	+7·5	+7·5	5
6	+7·5/2	S6	+16·5	+16·5	+3	-6	-6	+2·8	CP	+2·8	+1·3	/	1A1	1A1	1A1	1A1	1A	1	1	1	1A	1A1	1A	1A1	6
7	+7·5/1	S5	/	-6	-6	-1·5	/	O/P TC1 M1	O/P 1C M1	O/P1A M3	-24	O/P M1	1A1	1A2	1B1	1B1	O/P1 M1	O/P1A M1	O/P1A M1	O/P1 M1	1A	1A	1B	1B1	7
8	S15	S4	/	DRIVE CURRENT	1A1	/	1/P	X1	1TB	O/P1B M1	-1·5	1A1	1A1	O/P2 M1	1C1	1C1	C/P2 M2	O/P1B M2	O/P1B M2	O/P2 M2	1B	1B	1C	1C1	8
9	S14	S3	+3	1	1A2	/	1/P	X1	1TA	O/P1TB M3	O/P 5 M1	1A2	1A2	1B1	1D1	1D1	2A	1A2	/	2	O/P2 M5	O/P1B M5	O/P1 M1	O/P1A M1	9
10	S13	S2	/	2	2A1	/	1/P	O/P TA1 M2	1TC	O/P1TA M4	O/P 3 M2	1B1	1B1	1B2	1D2	O/P1A M1	3A	2A1	2	3	2A	1A2	O/P2 M2	O/P1B M2	10
11	S12	S1	/	3	2A2	/	1/P	O/P TC2 M3	O/P2C M2	O/P1TC M2	1D	1B2	1B2	2A1	1D2	O/P1B M2	O/P3 M3	O/P2A M3	O/P2A M3	O/P3 M3	2B	1B2	2C	1A2	11
12	S11	S0	C/P1 M1	4	O/P1 M1	/	1/P	X2	2TB	1C	1A	1C1	1C1	2A2	1A2	1A2	O/P4 M4	O/P2B M4	O/P2B M4	O/P4 M4	3B	2A1	2B	1B2	12
13	S10	O/P A	O/P2 M2	5	O/P2 M2	/	1/P	X2	2TA	1C	1A	1C2	1C2	O/P2 M2	1AB	1B2	4A	2A2	/	4	3A	2B1	2A	1C2	13
14	S9	O/P B	C/P3 M3	6	/	/	/	O/P TA2 M4	2TC	1y	STX-Y	1D1	1C1	2B1	1E1	1E1	5A	3A1	3	5	O/P3 M2	O/P2A M2	3A	2A1	14
15	A	OA	O/P4 M4	7	3	/	O/P M2	O/P TC3 M5	O/P3C M3	1y	STX+Y	1D2	1C2	2B2	1F1	1F1	O/P5 M5	O/P3A M3	O/P3A M3	O/P5 M5	O/P4 M6	O/P2B M6	3B	2B1	15
16	B	OB	/	8	/	/	O/P M1	X3	B3TB	1C+	O/P2S M4	1E1	1E1	3A1	2A1	2A1	O/P6 M6	O/P3B M6	O/P3B M6	O/P6 M6	4A	2A2	3C	2C1	16
17	3A	1A	/	O/P1A	O/P3 M3	/	/	X3	A3TA	1C-	O/P2S M5	1E2	1E2	3A2	2B1	2B1	6A	3A2	/	6	4B	2B2	O/P3 M3	O/P2A M3	17
18	9B	1B	/	O/P1B	/	/	/	O/P TA3 M6	C3TG	2D	/	1F1	1F1	O/P3 M3	2C1	2C1	7A	3A1	4	7	5B	3A1	O/P4 M4	O/P2B M4	18
19	10A	2A	/	O/P2A	/	O/P M3	/	O/P TC4 M7	C/P4C M4	2A	/	1F2	1F2	3B1	2D	2D	O/P7 M7	C/P4A M7	O/P4A M7	O/P7 M7	5A	3B1	4C	2A2	19
20	10B	2B	/	O/P2B	/	/	/	X4	4TB	/	2A	1G1	2A1	3B2	O/P2A M3	O/P2A M3	C/P8 M8	C/P4B M8	O/P4B M8	O/P8 M8	O/P5 M3	O/P3A M3	4B	2B2	20
21	11A	3A	/	O/P3A	/	/	/	X4	4TA	/	STX-Y	1G2	2A2	/	O/P2B M4	O/P2B M4	8A	4A2	/	8	O/P6 M7	O/P3B M7	4A	2C2	21
22	11B	3B	/	O/P3B	/	O/P	/	O/P TA4 M8	4TC	O/P2A M10	STX-Y	1H1	2B1	4A1	2A2	2A2	9A	5A1	5	9	6A	3A2	5A	3A1	22
23	12A	1A	/	C/P4A	4	/	O/P M5	O/P TC5 M8	O/P5C M5	O/P2A M3	/	1H2	2B2	4A2	2B2	2B2	O/P9 M9	O/P5A M9	O/P5A M9	O/P9 M9	6B	3B2	5B	3B1	23
24	12B	4B	/	O/P4B	/	/	/	X5	5TB	O/P2TB M7	/	1J1	2C1	O/P4 M4	2E1	2E1	O/P10 M10	O/P5B M10	O/P5B M10	O/P10 M10	7B	4A1	5C	3C1	24
25	13A	5A	1	O/P5A	O/P4 M4	/	/	X5	5TA	O/P2TA M8	/	1J2	2C2	4B1	2F1	2F1	10A	5A2	/	10	7A	4B1	O/P5 M5	O/P3A M5	25
26	13B	5B	2	O/P5B	/	/	/	O/P TA5 M9	5TC	O/P2TC M6	O/P3S M7	1K1	2D1	4B2	STROBE C	STROBE C	11A	6A1	6	11	O/P7 M4	O/P4A M4	O/P6 M6	O/P3B M6	26
27	CA	GA	3	O/PGA	/	O/P1 M1	/	O/P TC6 M11	O/P6C M8	2C	O/P3S M8	1K2	2D2	5A1	STROBE D	STROBE D	O/P11 M11	O/PGA M11	O/PGA M11	O/P11 M11	O/P8 M8	O/P4B M8	GC	3A2	27
28	CB	GB	4	O/P6B	/	O/P2 M2	/	XG	6TB	2C	3D	1L1	2E1	5A2	STROBE A	STROBE A	O/P12 M12	O/P6B M12	O/P6B M12	O/P12 M12	8A	4A2	6B	3B2	28
29	14A	7A	/	O/P7A	/	1	/	XG	6TA	2y	3A	1L2	2E2	O/P5 M5	STROBE B	STROBE B	12A	6A2	/	12	8B	4B2	GA	3C2	29
30	14B	7B	/	O/P7B	/	2	/	O/P TAG M9	6TC	2D	3A	1M1	2F1	5B1	STROBE E	STROBE E	/	/	/	/	STROBE A2	/	STROBE C	/	30
31	15A	8A	/	O/P8A	/	/	/	STROBE ADD	O/PCP	2C	STX-Y	1M2	2F2	5B2	STROBE F	STROBE F	STROBE A	/	/	/	STROBE A1	/	STROBE B	/	31
32	15B	8B	/	O/P8B	/	/	/	STROBE SUBTRACT	/	2D	STX-Y	/	/	/	RESET	RESET	STROBE B	/	/	/	STROBE B	/	STROBE A	/	32

PIN	840/8 MP	841 MP	842 MP	843 MP	844 MP	845/7/9 MP	846 MP	850 MP	851 MP	852 MP	853/4/7 MP	855/8 MP	856 MP	859 MP	860 MP	861 MP	862 MP	863/7	870	871	872	873	874	PIN
1	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	/	0V	/	0V	1
2	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	-10·5	/	+16·5	/	/	-18V	-10·5	2
3	/	+1·8	+1·8	+1·8	+1·8	+1·8	+1·8	/	/	/	+1·8	+1·8	+1·8	+1·8	+1·8	/	/	/	/	/	/	/	+3	3
4	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	+16·5	/	+16·5	+16·5	/	+6V	-6	/	+16·5	+16·5	+16·5	4
5	/	+7·5	+7·5	+7·5	+7·5	O*	+7·5	/	/	-6	-7·5	+7·5	+7·5	/	/	+7·5	+6	+6V	+16·5	/	-10·5	/	/	5
6	-1·5	-6	-6	/	1A1	-3V	-1·5	-6	-6	1A1	/	1A1	1A1	1	-3	+6	-6	-6V	O/P1	INFO1	/	CONTROL	1	6
7	+3	O/P1A M1	1A1	1A1	1A2	1	1	O/P1 M1	1A1	1A2	1A2	1A2	1A2	O/P1 M1	-3	O/P M3	STROBE A	/	O/P1	BA0	/	O/P'A'	/	7
8	1	1B1	1A2	1A2	/	O/P1 M1	O/P1 M1	1A1	1A2	1A3	1A2	1A3	1A3	O/P2 M2	-3	A1	1A	PG	O/P1	BA1	/	/	/	8
9	O/P1 M1	1B2	1A3	1B1	/	2	2	1A2	1A3	1A4	O/P1 M1	1A4	1A4	2	/	A2 M1	O/P1A M1	CC	OV	BA2	/	/	O/P1	9
10	/	1B3	1A4	1B2	/	O/P2 M2	O/P2 M2	2A1	1A4	1A5	2A1	1A5	1A5	3	O/P1 M1	B1	2A	PG	OV	BA3	/	/	/	10
11	2	1B4	1A5	O/P1 M2	O/P1 M2	3	3	2A2	1A5	1A6	2A1	1A6	1A6	O/P3 M3	/	B2 M2	C/P2A M2	CC	OV	BA4	/	/	/	11
12	O/P2 M2	C/P1B M4	O/P1A M1	/	/	O/P3 M3	O/P3 M3	O/P2 M2	2A1	1A7	O/P2 M2	2A2	1A7	O/P4 M4	2	C1	3A	PG	OV	BA5	/	SIG GND	-24	12
13	/	O/P1C M5	/	/	2A1	4	4	O/P3 M3	2A2	1A8	3A1	2A3	2A1	4	/	C2 M3	O/P3A M3	CC	OV	BA6	-40V	'A'	/	13
14	3	O/P1D M6	2A1	2A1	2A2	O/P4 M4	O/P4 M4	3A1	2A3	O/P1 M1	3A2	2A4	2A2	5	O/P2 M2	D1	4A	PG	O/P1	BA7	SPARE	0V	/	14
15	O/P3 M3	1A1	2A2	/	/	5	5	3A2	2A4	2A1	O/P3 M3	2A5	2A3	O/P5 M5	/	D2 M4	O/P4A M4	CC	O/P1	CT0	-5·5V VARIABLE	0V	2	15
16	/	1A2	/	2B1	/	/	/	4A1	2A5	2A2	/	4A1	2A4	O/P6 M6	3	E1	5A	PG	O/P1	CT1	0V	0V	/	16
17	4	1A3	/	2B2	/	6	6	4A2	/	2A3	4A2	3A1	2A5	6	/	E2 M5	O/P5A M5	CC	+6V	CT2	/	0V	/	17
18	O/P4 M4	1A4	O/P1B M3	C/P2 M5	O/P2 M2	O/P6 M6	O/P6 M6	O/P4 M4	3A1	2A4	O/P4 M4	3A2	2A6	7	O/P3	F1	6A	PG	+6V	CT3	READ OUT1	0V	/	18
19	/	2A4	/	/	/	7	7	O/P5 M5	3A2	2A5	5A1	3A3	2A7	O/P7 M7	/	F2 M6	O/P6A M6	CC	O/P2	CT4	READ OUT2	0V	0V	19
20	5	2A3	2A1	/	3A1	O/P7 M7	O/P7 M7	5A1	3A3	2A6	5A2	3A4	3A1	O/P8 M8	4	G1	1B	PG	O/P2	CT5	SHEATH	'B'	-10·5V	20
21	O/P5 M5	2A2	2A2	/	3A2	8	8	5A2	3A4	2A7	O/P5 M5	3A5	3A2	8	/	G2 M7	O/P1B M7	CC	O/P2	CT6	SPARE	SIG GNDE	/	21
22	/	2A1	2A3	3A	/	O/P8 M8	O/P8 M8	6A1	3A5	2A8	6A1	4A1	3A3	9	O/P4	H1	2B	PG	O/P2	CT7	READ/WRITE	/	O/P2	22
23	6	O/P2D M7	2A4	/	/	9	9	6A2	4A1	O/P2 M4	6A2	4A2	3A4	O/P9 M9	/	H2 M8	O/P2B M8	CC	OV	BB0	-31V	/	-31	23
24	O/P6 M6	O/P2C M8	2A5	3B	/	O/P3 M3	O/P3 M3	O/PG M6	4A2	3A1	O/PG M6	4A3	3A5	O/P10 M10	5	J1	3B	PG	OV	BB1	OV	/	/	24
25	/	O/P2B M9	C/P2A M6	/	C/P3 M3	10	10	O/P7 M7	4A3	3A2	7A1	4A4	3A6	1C	/	J2 M9	O/P3B M9	CC	OV	BB2	-49V	/	-49	25
26	7	2B4	/	3C	/	O/P10 M10	O/P10 M10	7A1	4A4	3A3	7A2	4A5	3A7	1I	O/P5 M5	K1	4B	PG	OV	BB3	INFO IN	O/P'B'	/	26
27	O/P7 M7	2B3	/	/	4A1	11	11	7A2	4A5	3A4	O/P7 M7	5A1	O/P4 M7	O/P11 M11	/	K2 M10	O/P4B M10	CC	OV	BB4	SPARE	CONTROL	/	27
28	/	2B2	/	3D	4A2	O/P11 M11	O/P11 M11	8A1	O/P4 M7	3A5	8A1	O/P3 M5	O/P3 M5	O/P12 M12	6	L1	5B	PG	O/P2	BB5	WRITE CURRENT	/	/	28
29	8	2B1	/	/	/	12	12	8A2	O/P3 M3	3A6	8A2	O/P2 M3	O/P2 M3	12	/	L2 M11	O/P5B M11	CC	O/P2	BB6	VARIABLE -1·5V	+16·5	/	29
30	O/P8 M8	O/P2A M12	/	3E	/	O/P12 M12	O/P12 M12	O/P8 M8	C/P2 M3	3A7	O/P8 M8	1A8	O/P1 M1	/	O/PG M6	M1	6B	PG	O/P2	BB7	-24V	/	/	30
31	/	O/P2E M12	O/P2E M8	O/P3 M3	/	13	13	/	O/P1 M1	3A8	/	2A8	/	/	/	M2 M12	O/P6B M12	CC	I	INFO 2	INF 1	-18V	/	31
32	/	O/P1E M3 M12 & M11	/	/	O/P4 M8	O/P13 M13	/	/	/	O/P3 M7	/	3A8	/	/	/	-6V	STROBE B	/	2	/	INF 2	/	/	32

28-2-63


BOX 505
BOX 506
BOX 507
BOX 508
BOX 509
CR50
CRB50
ATLAS II
50.99B PACKAGE & WAVEFORM LAYOUT
DISTRIBUTOR

INTERNATIONAL COMPUTERS AND TABULATORS LIMITED

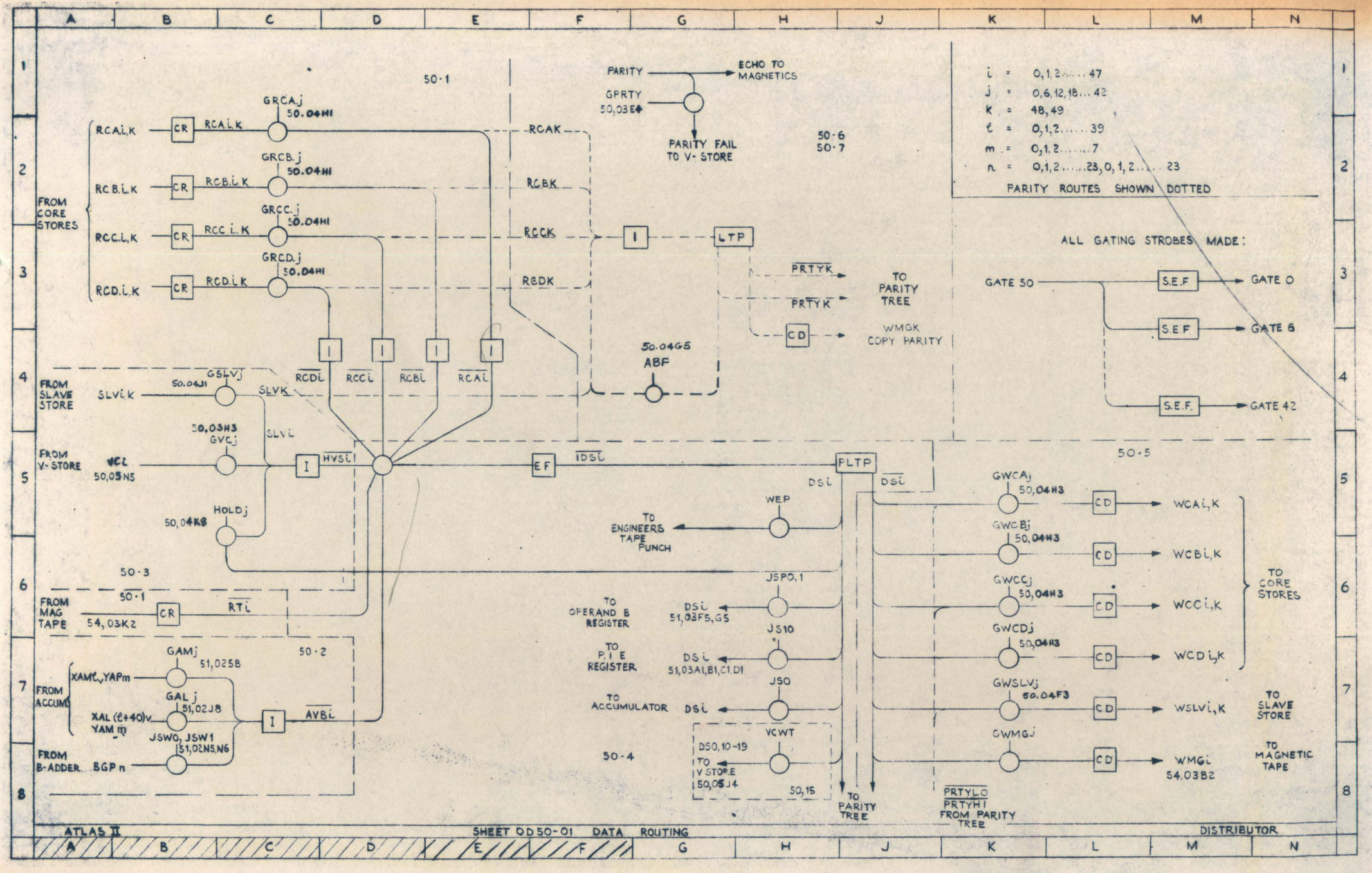
DELAY TILES ALDERMASTON ATLAS

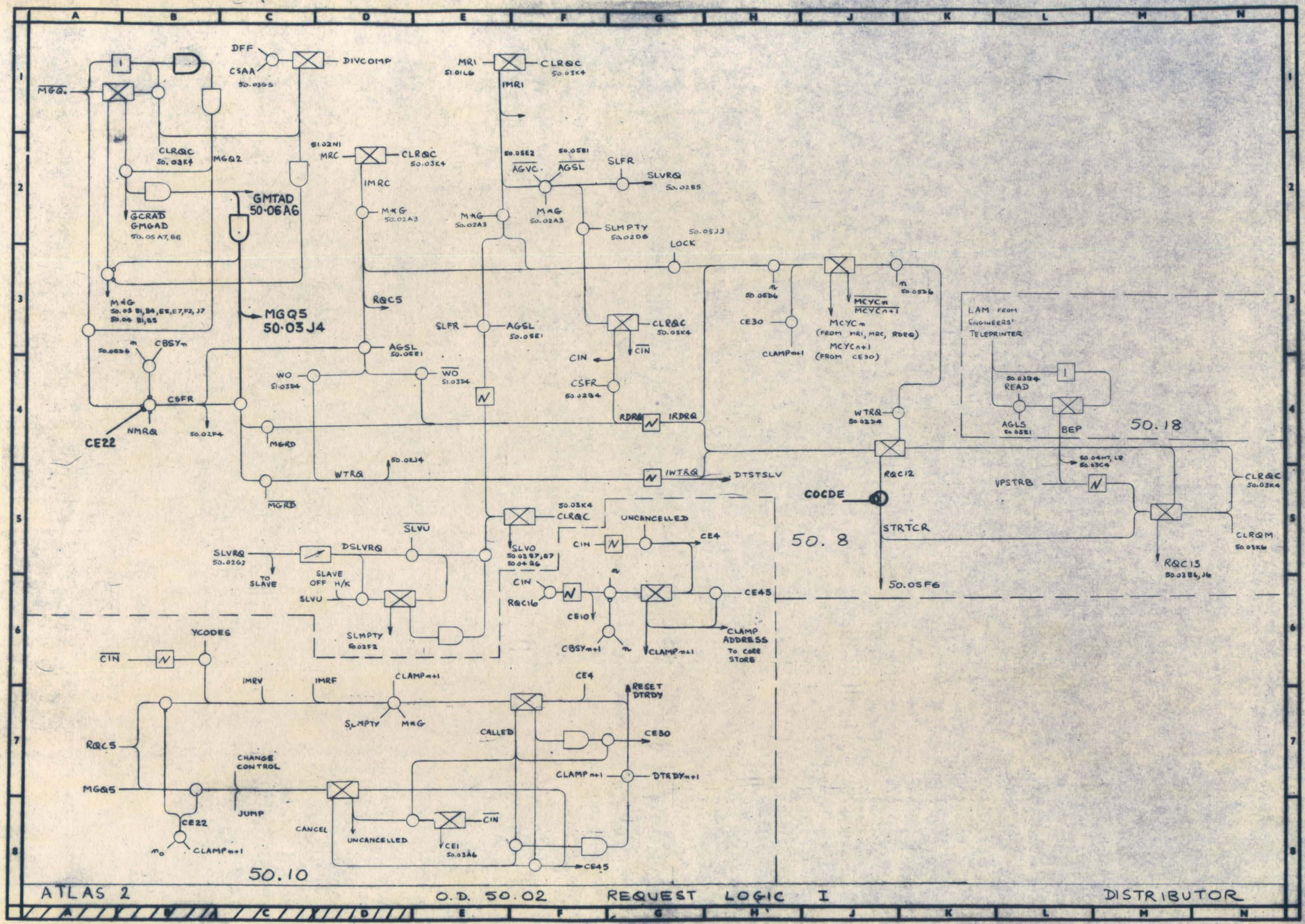
DISTRIBUTOR as measured (input to output) 12/5/65

Output	ns.
02/20/M2	170
M5	not used
M8	not used
02/22/M2	130
M5	90
M8	80
02/26/M3	not used
M8	240
03/33/M2	110
M5	130
M8	140
03/34/M2	100
M5	130
M8	not yet set
03/38/M2	100
M5	130
M8	85

Output	ns.
03/39/M2	140
M5	200
M8	120
03/40/M2	100
M5	160
M8	200
03/41/M2	120
M5	130
M8	not used
03/45/M2	180
M5	80
M8	110
04/32/M2	80
M5	130
M8	140

Output	ns.
04/45/M3	470
M8	not used
04/46/M2	60
M5	60
M8	60
04/47/M2	110
M5	130
M8	not used
04/48/M3	180
M8	380


50·1
PARITY
GPRTY
50,03E4
ECHO TO MAGNETICS
PARITY FAIL TO V-STORE
50·6
50·7
i = 0,1,2..... 47
j = 0,6,12,18... 42
k = 48,49
ℓ = 0,1,2..... 39
m = 0,1,2..... 7
n = 0,1,2.....23, 0, 1, 2..... 23
PARITY ROUTES SHOWN DOTTED
ALL GATING STROBES MADE:
GATE 50
S.E.F
GATE 0
GATE 6
GATE 42
FROM CORE STORES
RCAi,K
RCBi,K
RCCi,K
RCDi,K
CR
GRCAj 50.04H1
GRCBj 50.04H1
GRCCj 50.04H1
GRCDj 50.04H1
RCAK
RCBK
RCCK
RCDK
I
LTP
PRTYK
PRTYK
CD
TO PARITY TREE
WMGK COPY PARITY
50.04G5 ABF
FROM SLAVE STORE
SLVi,K
GSLVj 50.04J1
SLVK
SLVi
RCDi
RCCi
RCBi
RCAi
FROM V-STORE
VCi 50,05N5
GVCj 50,03H3
HVSTI
EF
IDSI
FLTP
DSi
DSi
HOLDj 50,04K8
WEP
TO ENGINEERS TAPE PUNCH
50·5
GWCAj 50,04H3
GWCBj 50,04H3
GWCCj 50,04H3
GWCDj 50,04H3
GWSLVj 50.04F3
GWMGj
WCAi,K
WCBi,K
WCCi,K
WCDi,K
WSLVi,K
WMGi 54.03B2
TO CORE STORES
TO SLAVE STORE
TO MAGNETIC TAPE
50·3
50·1
FROM MAG TAPE
54, 03K2
RTi
50·2
JSP0,1
JS10
JS0
TO OPERAND B REGISTER
DSi 51,03F5,G5
TO P.I.E REGISTER
DSi 51,03A1,B1,C1,D1
TO ACCUMULATOR
DSi
FROM ACCUM
XAMv, YAPm
XAL (ℓ+40)v
YAM m
GAMj 51,02S8
GALj 51,02J8
JSW0, JSW1 51,02N5,N6
AVBi
FROM B-ADDER
BGP n
50·4
VCWT
DS0,10-19
TO V STORE 50,05J4
50,15
TO PARITY TREE
PRTYLO
PRTYH1
FROM PARITY TREE
ATLAS II
SHEET 0D 50-01 DATA ROUTING
DISTRIBUTOR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DIVCOMP
MRI
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CLRQC
50.03K4
IMRI
MGQ.
CLRQC
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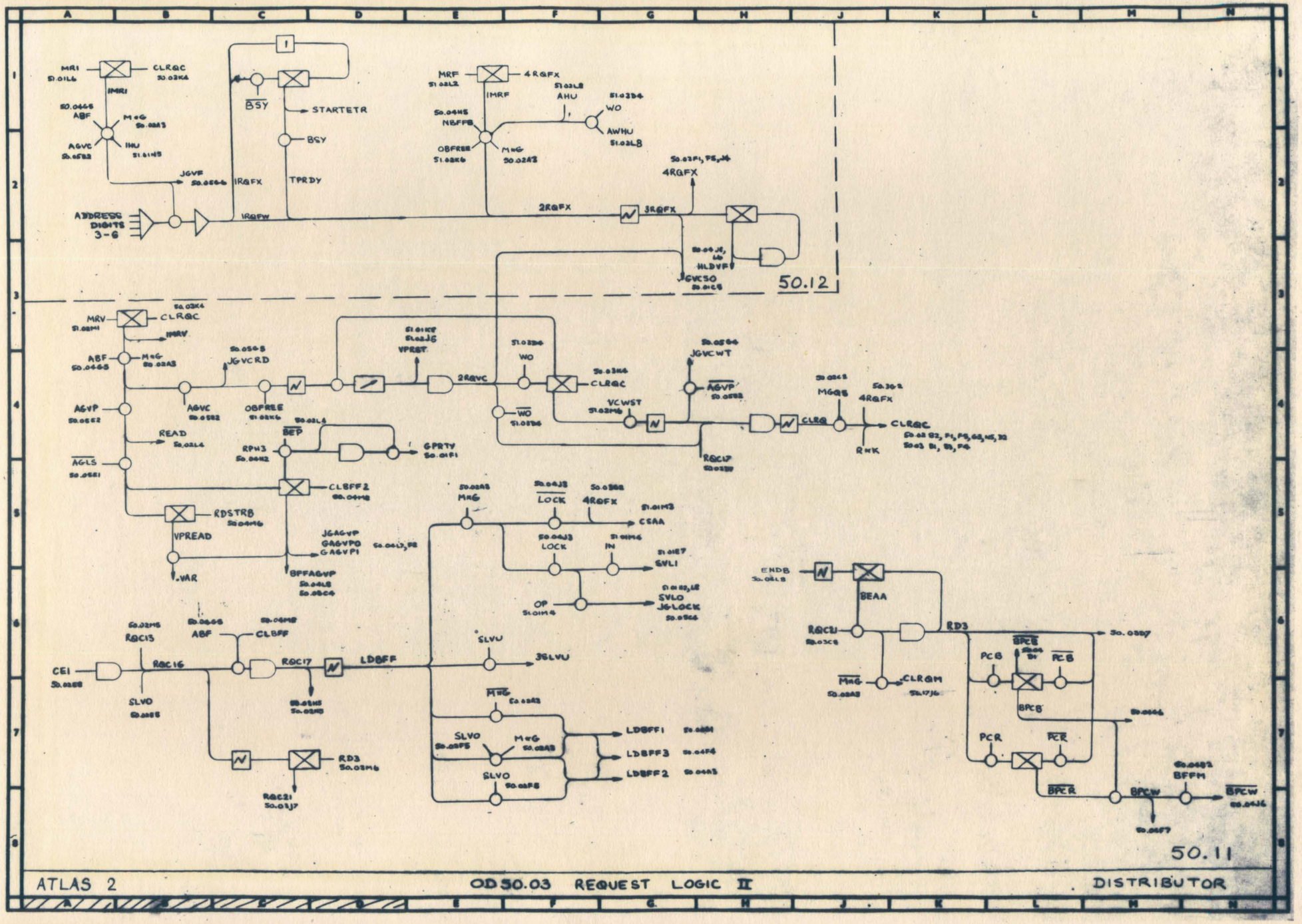
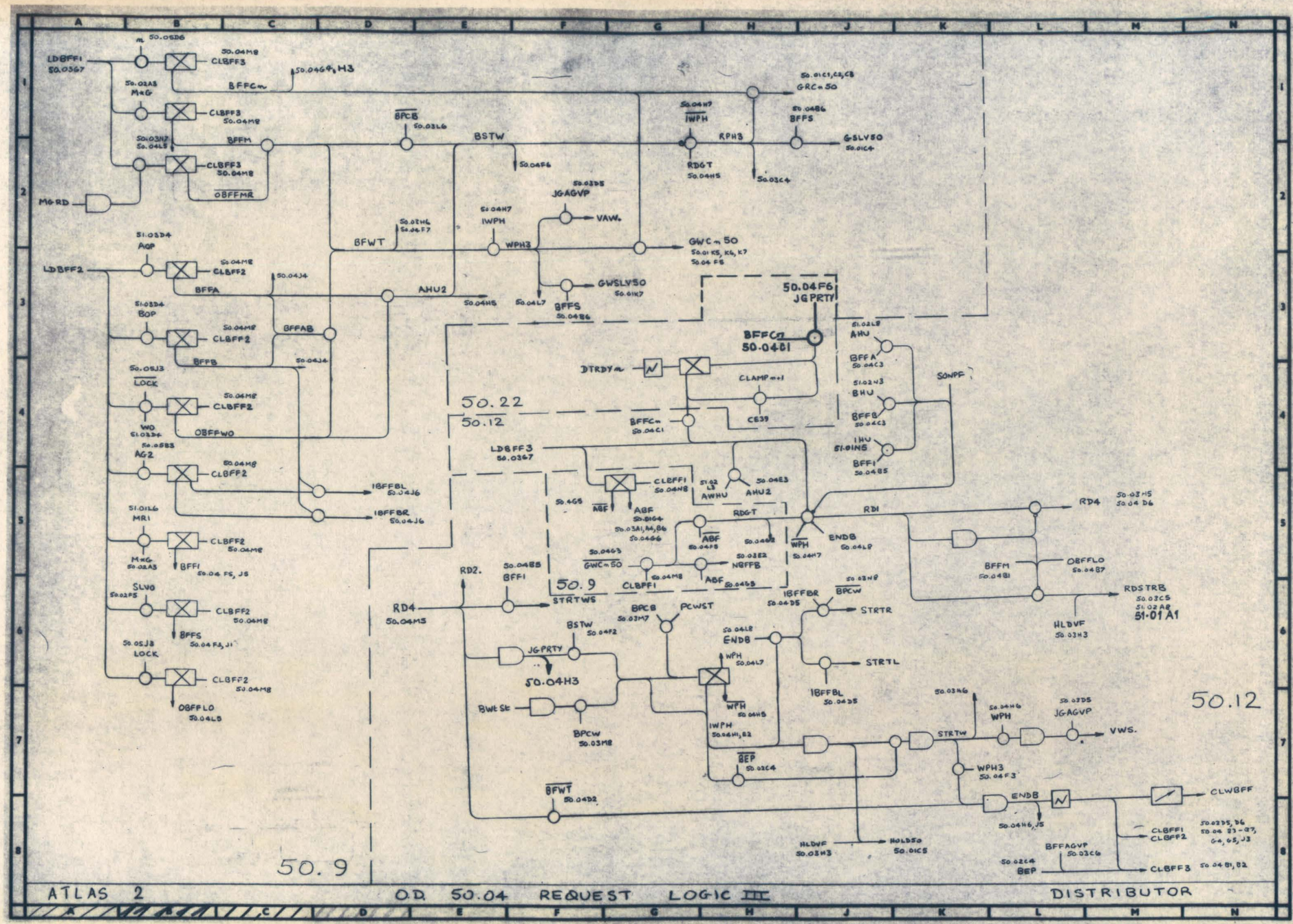
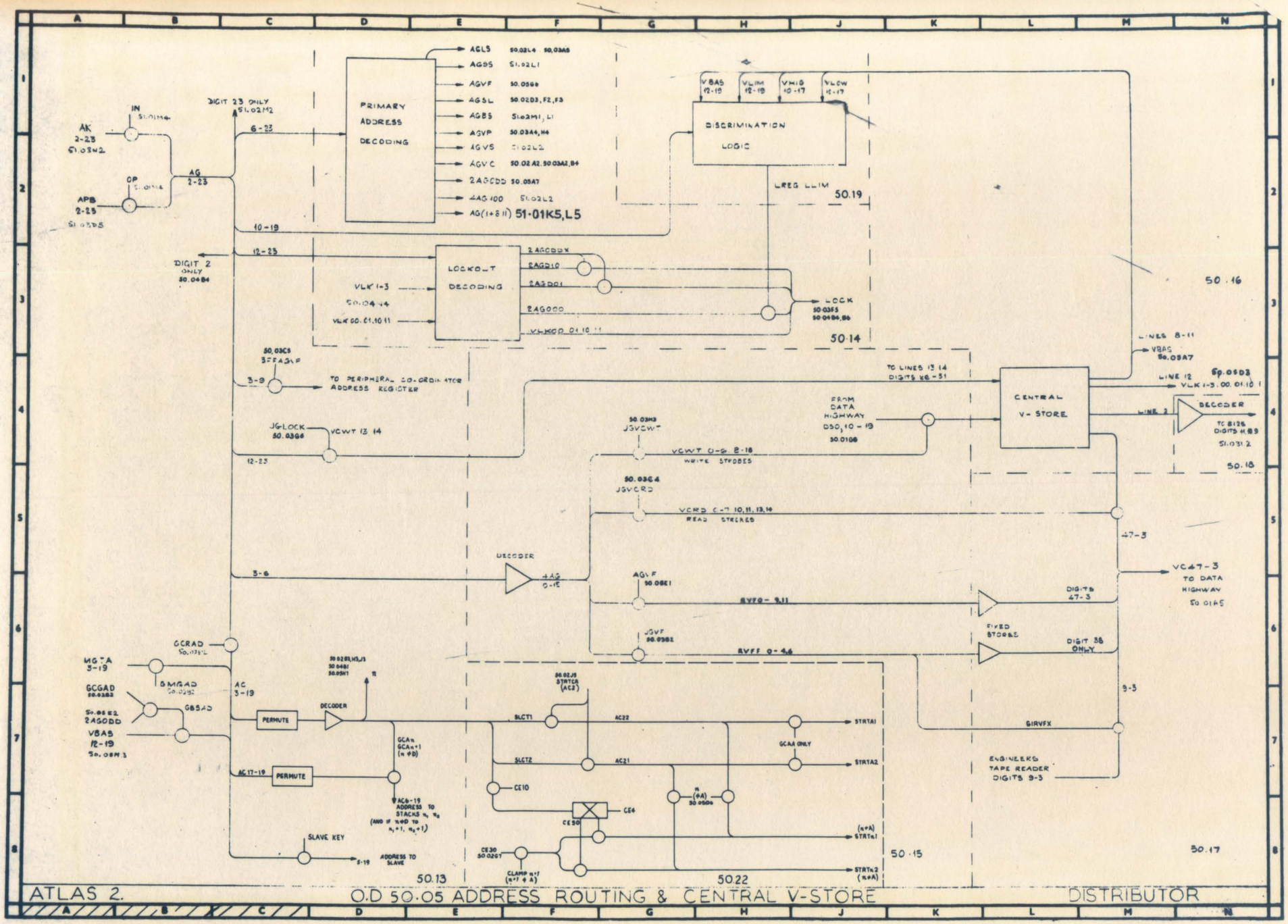
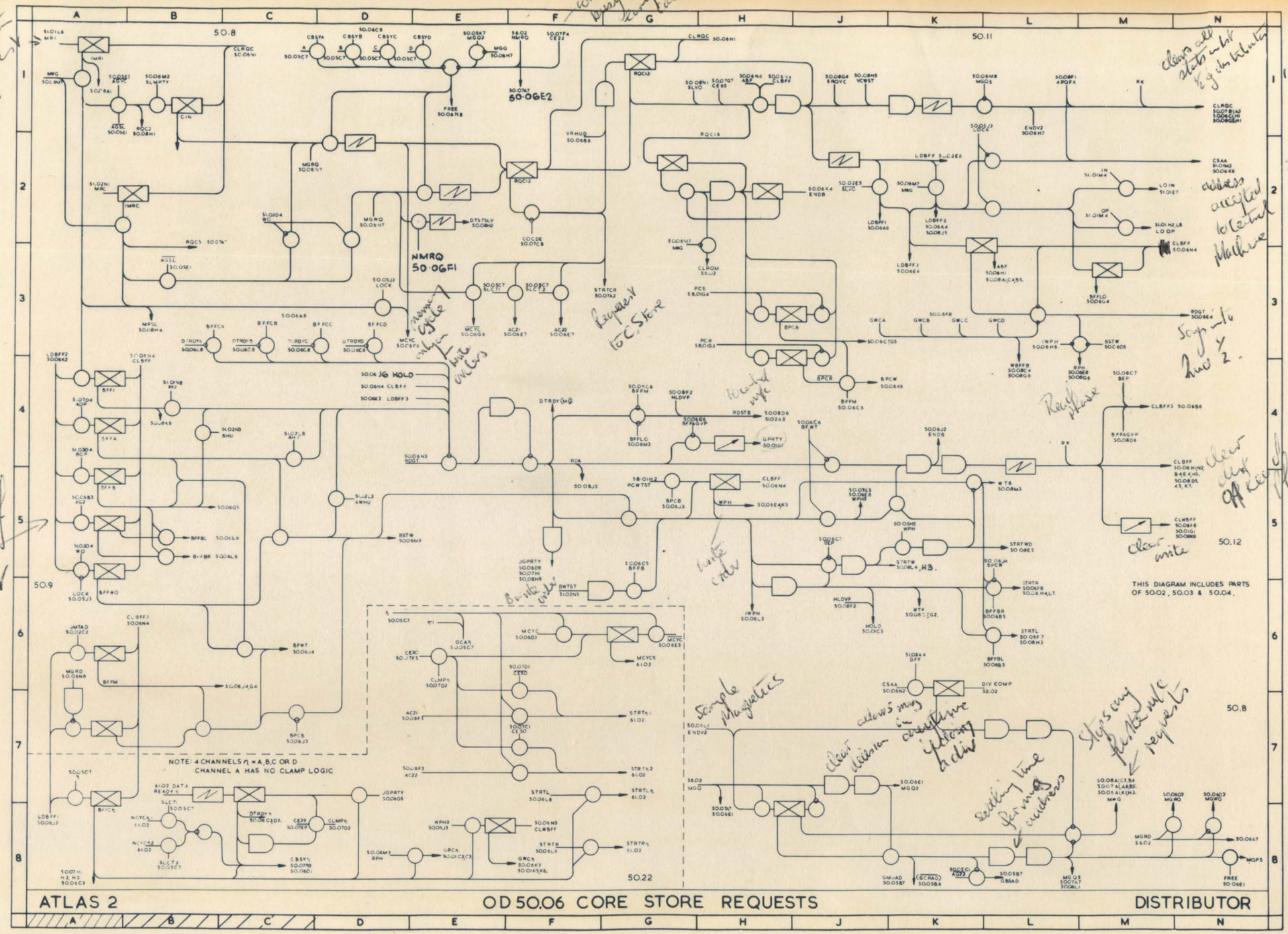
MGQ2
51.02N1
MRC
CLRQC
50.03K4
IMRC
50.05E2
AGVC.
50.05B1
AGSL
SLFR
SLVRQ
50.02B5
GMTAD
50.06A6
GCRAD
GMGAD
50.05A7, B6
M&G
50.02A3
M&G
50.02A3
M&G
50.02A3
SLMPTY
50.02D6
50.05J3
LOCK
M&G
50.03 B1, B4, E5, E7, F2, J7
50.04 B1, B5
MGQ5
50.03J4
RQC5
SLFR
AGGL
50.05E1
CLRQC
50.03K4
CIN
CIN
CSFR
50.02B4
AGSL
50.05E1
CBSYm
50.05B6
m
CE30
CLAMPm+1
MCYCm
MCYCn+1
MCYCm
(FROM MRI, MRC, RDRQ)
MCYCn+1
(FROM CE30)
50.05B6
m
50.05B6
LAM FROM
ENGINEERS'
TELEPRINTER
50.03B4
READ
AGLS
50.05E1
BEP
50.18
WO
51.03B4
WO
51.03B4
CE22
NMRQ
50.02F4
CSFR
MGRD
WTRQ
50.02J4
MGRD
RDRQ
IRDRQ
WTRQ
50.02B4
IWTRQ
DTSTSLV
RQC12
COCDE
STRTCR
50.05F6
50.04H7, L8
50.03C6
VPSTRB
CLRQC
50.03K4
CLRQM
50.03K6
RQC13
50.03B6, J6
50.03K4
CLRQC
SLVU
UNCANCELLED
SLVRQ
50.02G2
DSLVRQ
TO
SLAVE
SLAVE
OFF H/K
SLVU
SLVO
50.03B7, B7
50.04B6
CIN
CE4
50.8
CIN
RQC16
CE10Y
CE45
CBSYm+1
m
CLAMPm+1
CLAMP
ADDRESS
TO CORE
STORE
SLMPTY
50.02F2
YCODES
CIN
IMRV
IMRF
CLAMPm+1
CE4
RESET
DTRDY
SLMPTY
M&G
CALLED
CE30
RQC5
CHANGE
CONTROL
CLAMPm+1
DTRDYm+1
MGQ5
JUMP
CE22
m0
CLAMPm+1
CANCEL
UNCANCELLED
CIN
CEI
50.03A6
CE45
50.10
ATLAS 2
O.D. 50.02
REQUEST LOGIC I
DISTRIBUTOR

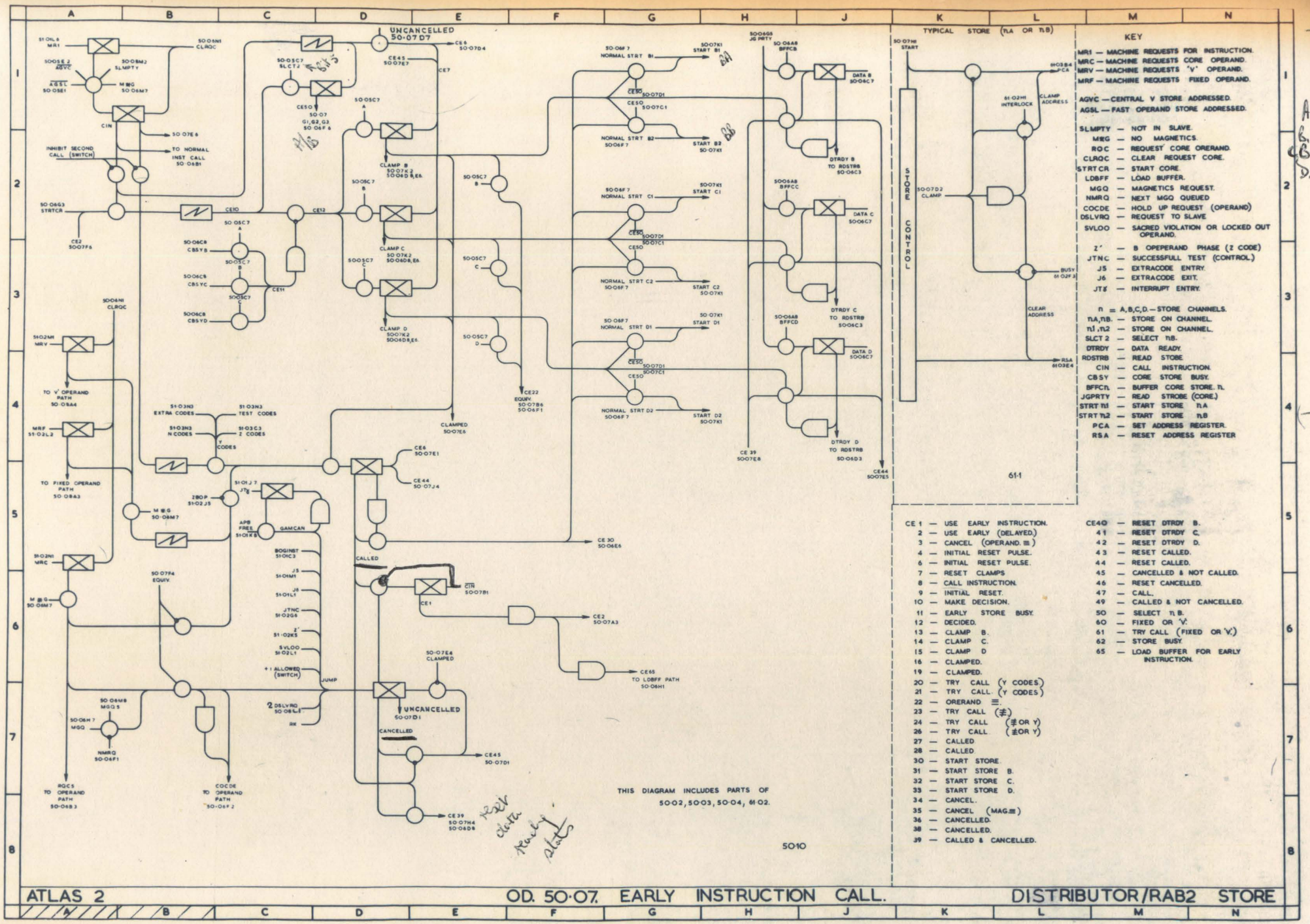

MRI
CLRQC
IMRI
ABF
MRG
AGVC
IHU
BSY
STARTETR
BSY
IRQFX
TPRDY
IRQFW
ADDRESS BITS 3-6
JGVF
MRF
4RQFX
IMRF
AHU
WO
AWHU
NBFFB
OBFREE
MRG
2RQFX
3RQFX
4RQFX
HLDVF
JGVCSO
50.12
MRV
CLRQC
IMRV
ABF
MRG
JGVCRD
AGVC
OBFREE
VPRST
2RQVC
WO
CLRQC
JGVCWT
AGVP
VCWST
CLRQC
MRQB
4RQFX
RNK
READ
AGLS
RPH3
BEP
GPRTY
CLBFF2
RDSTRB
VPREAD
JGAGVP
GAGVP0
GAGVP1
BFFAGVP
VAR
MRG
LOCK
4RQFX
CSAA
LOCK
IN
GVLI
OP
SVLO
JGLOCK
RQC13
ABF
CLBFF
CEI
RQC16
RQC17
LDBFF
SLVO
JGLVU
SLVO
RD3
RQC21
MRG
SLVO
MRG
LDBFF1
LDBFF3
SLVO
LDBFF2
ENDB
BEAA
RQC11
RD3
PCB
PCB
BPCB
MRG
CLRQM
BPCB
PCR
PCR
BPCR
BPCW
BFFM
BPCW
50.11

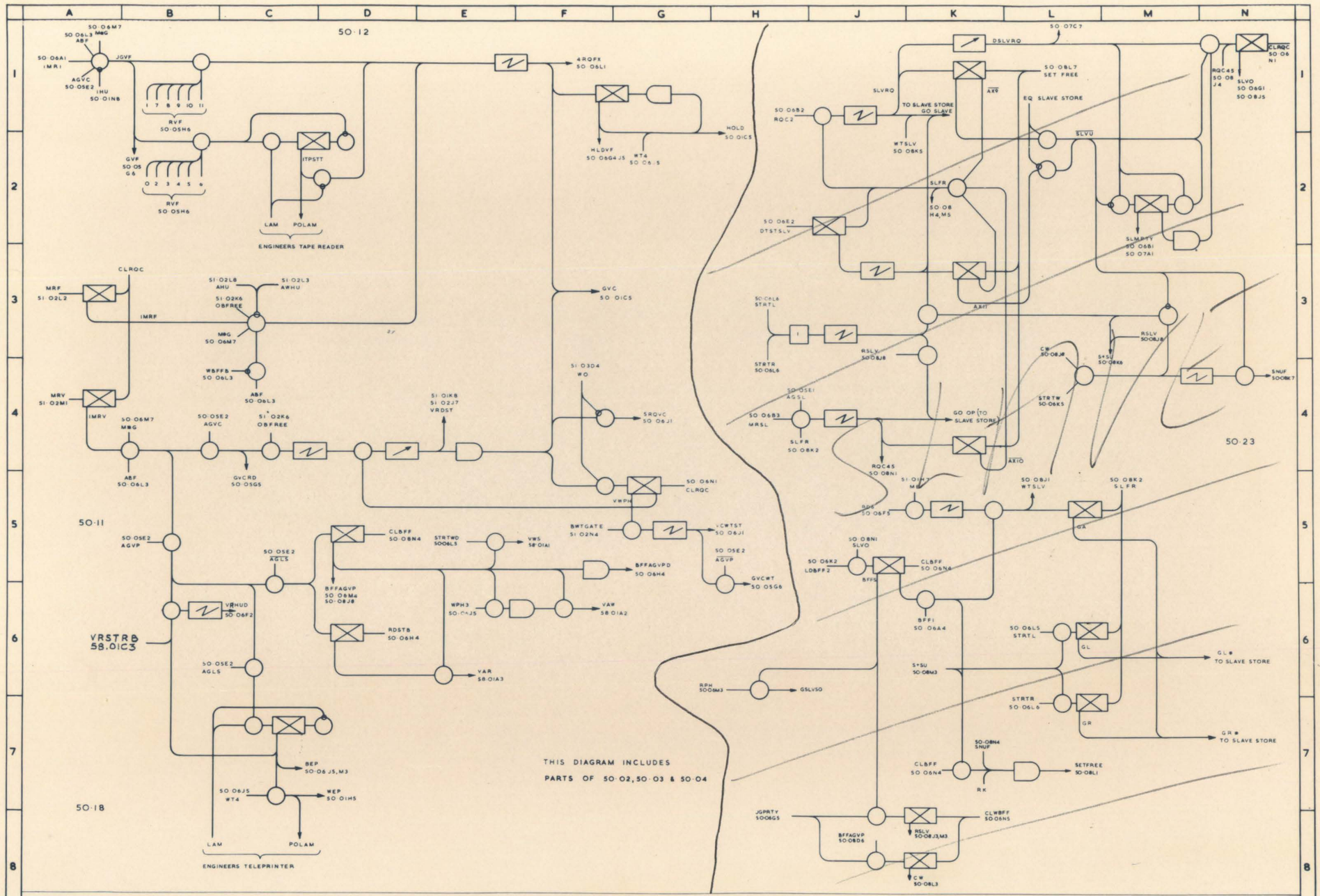

LDBFF1
50.0367
CLBFF3
BFFCm
BFFM
BSTW
BPCB
RPH3
RDGT
GRCm50
BFFS
GSLV50
JGAGVP
VAW.
IWPH
WPH3
BFWT
GWCm50
GWSLV50
AHU2
BFFA
BFFAB
BFFB
LDBFF2
LDBFF3
OBFFWO
OBFFMR
M&RD
LOCK
AQP
BOP
AG2
MR1
SLVO
IBFFBL
IBFFBR
DTRDYm
CLAMPm1
CE39
50.04F6
JG PRTY
BFFCm
50.0481
AHU
BHU
IHU
SONPF
50.22
50.12
50.9
STRTWS
RD2.
RD4
50.04M3
BSTW
JG PRTY
50.04H3
BWt St
BPCW
PCWST
ENDB
STRTR
STRTL
IBFFBL
STRTW
WPH3
VWS.
BEP
BFFWT
HLDVF
HOLDSO
CLWBFF
CLBFF1
CLBFF2
CLBFF3
BFFAGVP
RD4
RDI
OBFFLO
RDSTRB
51.01A1
50.12
50.9
ATLAS 2
O.D. 50.04 REQUEST LOGIC III
DISTRIBUTOR



ATLAS 2. O.D 50.05 ADDRESS ROUTING & CENTRAL V-STORE DISTRIBUTOR

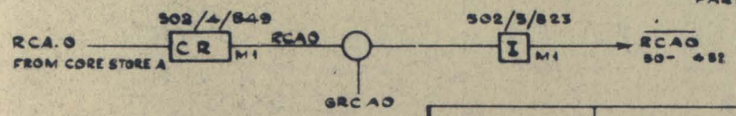

50.8
50.11
50·06E2
NMRQ
50·06F1
50.9
50.12
50.22
THIS DIAGRAM INCLUDES PARTS OF 50.02, 50.03 & 50.04.
NOTE: 4 CHANNELS n = A, B, C OR D
CHANNEL A HAS NO CLAMP LOGIC
ATLAS 2
OD 50.06 CORE STORE REQUESTS
DISTRIBUTOR


UNCANCELLED 50-07D7
CE6 50-07D4
CE43 50-07E7
CE7
CE10
CE12
CE11
CE2 50-07F6
CE22 EQUIV. 50-07B6 50-06F1
CLAMPED 50-07E6
CE6 50-07E1
CE44 50-07J4
CE30 50-06E6
CE1
CE2 50-07A3
CE65 TO LDBFF PATH 50-06H1
CE45 50-07D1
CE39 50-07H4 50-06D8
CE44 50-07E5
CE39 50-07E8
CE40 RESET DTRDY B.
CE41 RESET DTRDY C.
CE42 RESET DTRDY D.
CE43 RESET CALLED.
CE44 RESET CALLED.
CE45 CANCELLED & NOT CALLED.
CE46 RESET CANCELLED.
CE47 CALL.
CE49 CALLED & NOT CANCELLED.
CE50 SELECT n1 B.
CE60 FIXED OR 'V'.
CE61 TRY CALL (FIXED OR 'V')
CE62 STORE BUSY.
CE65 LOAD BUFFER FOR EARLY INSTRUCTION.
CLEAR
CALLED
CANCELLED
JUMP
TYPICAL STORE (n1A OR n1B)
STORE CONTROL
KEY
THIS DIAGRAM INCLUDES PARTS OF 50-02, 50-03, 50-04, 61-02.
5010
61-1
ATLAS 2
OD. 50-07. EARLY INSTRUCTION CALL.
DISTRIBUTOR/RAB2 STORE

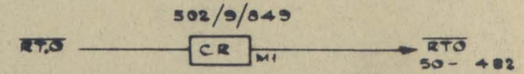

50·12
50·11
50·18
50·23
ENGINEERS TAPE READER
ENGINEERS TELEPRINTER
VRSTRB 58.01C3
THIS DIAGRAM INCLUDES PARTS OF 50·02, 50·03 & 50·04
LAM
POLAM
RVF 50·05H6
GVF 50·05 G6
ITPSTT
4RQFX 50·06LI
HOLD 50·01C5
HLDVF 50·08G4 J5
WT4 50·06·5
GVC 50·01C5
SRQVC 50·06J1
VWP4
VCWTST 50·06J1
GVCWT 50·05G6
GVCRD 50·05G5
CLBFF 50·08N4
STRTWD 50·06L5
VWS 58·01A1
BFFAGVPD 50·08H4
BFFAGVP 50·08M4 50·08J8
RDSTB 50·06H4
WPH3 50·04J5
VAR 58·01A2
VAW 58·01A3
VRHUD 50·06F2
BEP 50·06J5,M3
WEP 50·01H5
DSLVRQ
SLVRQ
TO SLAVE STORE GO SLAVE
WTSLV 50·08K5
EQ SLAVE STORE
SET FREE
SLVU
SLFR
RSLV 50·08J8
GO OP (TO SLAVE STORE)
RQC45 50·08N1
SLVO 50·08N1
BFF0
BFF1 50·06A4
GL
GR
GL* TO SLAVE STORE
GR* TO SLAVE STORE
SETFREE 50·08L1
CLWBFF 50·06N5
CW 50·08L3
RSLV 50·08J3,M3
BFFAGVP 50·08D6
JGPRTY 50·06G5
GSLV50
RPH 50·06M3
SNUF 50·08K7
CLRQC 50·06 N1
RQC45 50·08 J4
SLVO 50·06G1 50·08J5
SLMPRT 50·06B1 50·07A1
STRTR 50·06L6
STRTW 50·06K5
S+SU 50·08K6
S+SU 50·08M3
WTSLV 50·08J1
SLFR 50·08K2
BFFI 50·06A4
CLBFF 50·06N4
SNUF 50·08N4
RK
ATLAS 2
OD 50·08 MINOR STORES REQUESTS
DISTRIBUTOR

DIGITS RCA 0-47 FROM CORE STORE A
DIGITS RCB. 0-47 . . . B
DIGITS RCC. 0-47 . . . C
DIGITS RCD. 0-47 . . . D
PARITY DIGITS 48,49 ON SHEET ED 50-07.

DIGITS $\overline{RT}$ 0 - 47 FROM MAGNETIC TAPE



BOX	502	503	504	505	506	507	508	509	RCA xx CR 4/849	RCA xx I 5/823	RCB xx CR 4/849	RCB xx I 5/823	RCC xx CR 6/849	RCC xx I 7/823	RCD xx CR 6/849	RCD xx I 7/823
DIGITS.	0	6	12	18	24	30	36	42	M1		M2		M1		M2	
	1	7	13	19	25	31	37	43	3		4		3		4	
	2	8	14	20	26	32	38	44	5		6		5		6	
	3	9	15	21	27	33	39	45	7		8		7		8	
	4	10	16	22	28	34	40	46	9		10		9		10	
	5	11	17	23	29	35	41	47	11		12		11		12	



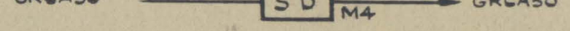
BOX	502	504	506	508	$\overline{RT}$ xx CR 9/849
DIGITS	0	12	24	36	M1
	1	13	25	37	3
	2	14	26	38	5
	3	15	27	39	7
	4	16	28	40	9
	5	17	29	41	11
	6	18	30	42	2
	7	19	31	43	4
	8	20	32	44	6
	9	21	33	45	8
	10	22	34	46	10
	11	23	35	47	12

TO TRACE THE COURSE OF RCD 37—
DIGIT 37 IS IN COLUMN HEADED 'BOX 508'
RCDxx & DIGIT 37 INTERSECT IN M4.
THEREFORE RCD37 IS PRODUCED FROM RCD 37 AT 508/6/M4,
& $\overline{RCD37}$ IS PRODUCED AT 508/7/M4.

$\overline{RT37}$ IS PRODUCED AT 506/9/M4.

PRODUCTION OF STROBES
502/17/846.

PRODUCTION OF STROBE DRIVERS.
502/18/848



DIGITS.	STROBED WITH RCAxx	RCBxx	RCCxx	RCDxx
0—5	GRC A 0	GRCB 0	GRCC 0	GRCD 0
6—11	6	6	6	6
12—17	12	12	12	12
18—23	18	18	18	18
24—29	24	24	24	24
30—35	30	30	30	30
36—41	36	36	36	36
42—47	42	42	42	42

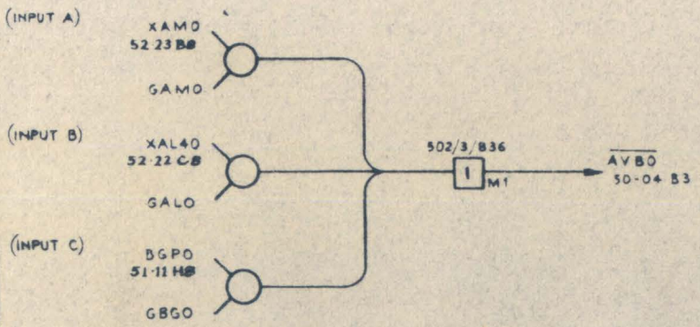
EG RCD37 IS STROBED WITH GRCD36

ALL GRCA STROBES PRODUCED FROM GRCA50
. GRCB . . . GRCB50
. GRCC . . . GRCC50
. GRCD . . . GRCB50

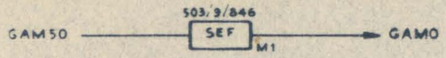
STROBE DIGITS	POSN (7) IN BOX	STROBE LETTERS	MONITOR PT
0	502	GRCA	M5
6	503	GRCB	M6
12	504	GRCC	M7
18	505	GRCD	M8
24	506	ALL 846 IN POSN 17	
30	507	THUS GRCD36 PRODUCED	
36	508	AT 508/17/M8	
42	509		

SOURCE NAME	MONITOR	REF. 50-9	STROBE DRIVER	MONITOR
$\overline{GRCA50}$	502/25/M2	L6	GRCA50	502/18/M4
$\overline{GRCB50}$	M4	L6	GRCB50	M5
$\overline{GRCC50}$	M6	L7	GRCC50	M6
$\overline{GRCD50}$	M8	L7	GRCD50	M7

ATLAS 2 SHEET ED50- 1. DATA ROUTING— INPUTS FROM CORE STORES & TAPE DIGITS 0-47 DISTRIBUTOR

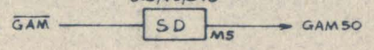


DIGITS XAM0-39 FROM M.S. HALF OF ACCUMULATOR. 52·23 B8
DIGITS XAL40-78 AND SIGNL FROM L.S. HALF OF ACCUMULATOR 52·22 C8
DIGITS YAP0-7 FROM EXPONENT REGISTER 52·20 L6
DIGITS BGP0-23 FROM B-ADDER 51·11 H8



STROBE DIGITS	POSN. 9 IN BOX	STROBE LETTERS. GAM	GAL	GBG
0	503	M1	M3	M5
6	503	M2	M4	M6
12	505	M1	M3	M5
18	505	M2	M4	M6
24	507	M1	M3	M5
30	507	M2	M4	M6
36	509	M1	M3	M5
42	509	M2	M4	M6

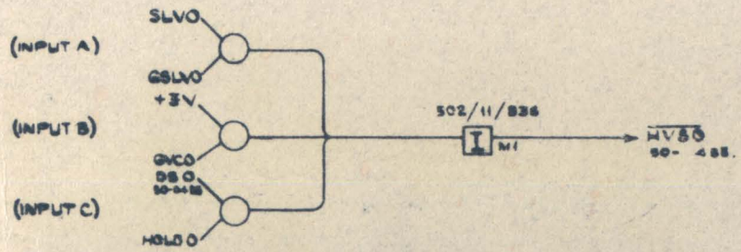
PRODUCTION OF STROBE DRIVERS
518/40/848



SOURCE	MONITOR	REF	STROBE DRIVER	MONITOR
$\overline{GAM}$	519/48/M7	51·66	GAM50	518/40/M5
$\overline{GAL}$	519/48/M4	M7	GAL50	518/40/M6
$\overline{JSW0}$	518/36/M2	51·N6	GBG25	518/40/M8
$\overline{JSW1}$	518/36/M1	N6	GBG50	518/40/M7

ALL GAM STROBES MADE FROM GAM 50
ALL GAL STROBES MADE FROM GAL 50
GBG 0-18 MADE FROM GBG 25
GBG 24-42 MADE FROM GBG 50
ALL 846 IN POSN. 9
THUS GBG 12 MADE FROM GBG 25 AT 505/9/M5.

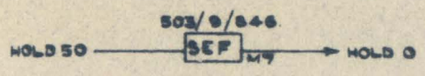
INPUT A	STROBED WITH	INPUT B	STROBED WITH	INPUT C	STROBED WITH	OUTPUT	BOX/POSN. M P
XAM 0		XAL 40		BGP 0		AVB 0 —	502 / 3 / M1
1		41		1		1 —	2
2	GAM 0	42	GAL 0	2	GBG 0	2 —	3
3		43		3		3 —	4
4		44		4		4 —	5
5		45		5		5 —	6
6		46		6		6 —	503 / 3 / M1
7		47		7		7 —	2
8		48		8		8 —	3
9	GAM 6	49	GAL 6	9	GBG 6	9 —	4
10		50		10		10 —	5
11		51		11		11 —	6
12		52		12		12 —	504 / 3 / M1
13		53		13		13 —	2
14	GAM 12	54	GAL 12	14	GBG 12	14 —	3
15		55		15		15 —	4
16		56		16		16 —	5
17		57		17		17 —	6
18		58		18		18 —	505 / 3 / M1
19		59		19		19 —	2
20	GAM 18	60	GAL 18	20	GBG 18	20 —	3
21		61		21		21 —	4
22		62		22		22 —	5
23		63		23		23 —	6
24		64		0		24 —	506 / 3 / M1
25		65		1		25 —	2
26	GAM 24	66	GAL 24	2	GBG 24	26 —	3
27		67		3		27 —	4
28		68		4		28 —	5
29		69		5		29 —	6
30		70		6		30 —	507 / 3 / M1
31		71		7		31 —	2
32	GAM 30	72	GAL 30	8	GBG 30	32 —	3
33		73		9		33 —	4
34		74		10		34 —	5
35		75		11		35 —	6
36		76		12		36 —	508 / 3 / M1
37		77		13		37 —	2
38	GAM 36	78	GAL 36	14	GBG 36	38 —	3
39		SIGNL		15		39 —	4
YAP 0		YAP 0		16		40 —	5
1		1		17		41 —	6
2		2		18		42 —	509 / 3 / M1
3		3		19		43 —	2
4		4		20		44 —	3
5	GAM 42	5	GAL 42	21	GBG 42	45 —	4
6		6		22		46 —	5
7		7		23		47 —	6



DIGITS SLV0-47 FROM SLAVE STORE.

DIGITS VC3-8, 21-42, 44, 45, 47 FROM V STORE.

DIGITS DS0-47 ARE HOLDING INPUTS FROM DS REGISTER.



STROBE DIGITS	PUSH IN BOX	STROBE LETTERS. HOLD.	GSLV.	GVC.
0	503	M7	M8	M11
6	503	M8	M10	M12
12	505	M7	M8	M11
18	506	M8	M10	M12
24	507	M7	M8	M11
30	507	M8	M10	M12
36	508	M7	M8	M11
42	509	M8	M10	M12

ALL HOLD STROBES MADE FROM HOLD 50.

ALL GSLV STROBES MADE FROM GSLV50.

ALL GVC STROBES MADE FROM GVC 50.

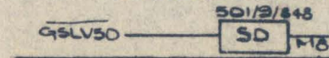
ALL B46 IN POSITION 9.

THUS GSLV36 MADE FROM GSLV50 AT 509/9/M8.

NOTE GVC 12 NOT USED.

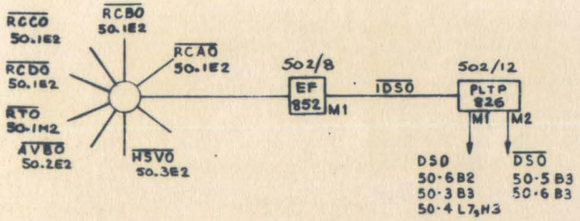
INPUT A	STROBED WITH	INPUT B	REF 50H7	STROBED WITH	INPUT C	STROBED WITH	OUTPUT	BOX/POSN/MP
SLV 0	GSLV0	+3V +3V +3V VC3		GVC0	DS 0	HOLD 0	HVS0	502/11/M1
GSLV6		+3V	L6 L5	GVC6		HOLD 6		503/11/M
GSLV 12				—		HOLD 12		504/11/M
GSLV 18		VC 45		GVC 18		HOLD 18		505/11/M
GSLV 24				GVC 24		HOLD 24		506/11/M
GSLV 30				GVC 30		HOLD 30		507/11/M
GSLV 36				GVC 36		HOLD 36		508/11/M
GSLV 42		+3V VC 44 45 +3V VC 47	D2 D2 D1 D1	GVC 42		HOLD 42		509/11/M

PRODUCTION OF STROBE DRIVERS



SOURCE	MONITOR	REF	STROBE DRIVER	MONITOR
GSLV 50	502/25/M10	509H7	GSLV 50	501/9/M8
GVC 50	502/45/M1	501-12M8	GVC 50	M6
HOLD 50	501/30/M6	5012H6	HOLD 50	M7

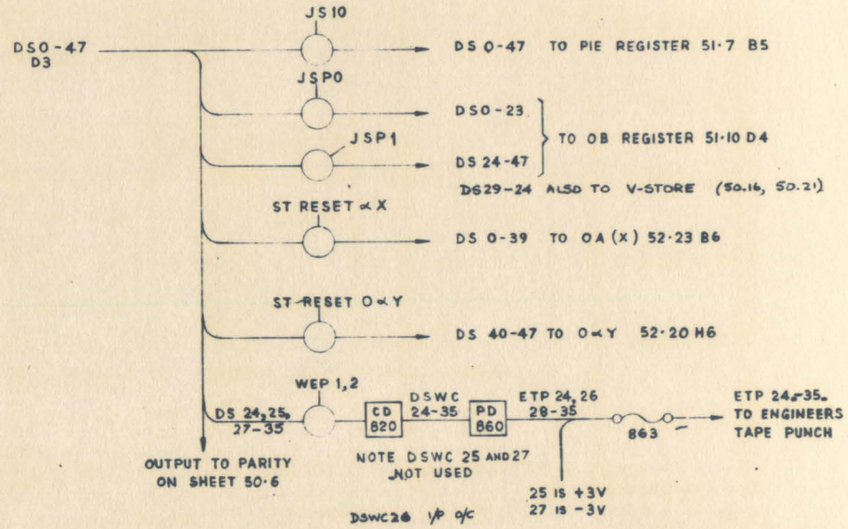
ATLAS 2 SHEET ED50-3 DATA ROUTING— INPUTS FROM SLAVE & V STORES & HOLDING INPUTS. DISTRIBUTOR



BOX	502	503	504	505	506	507	508	509	IDS XX EF POSN/M.P.	DS XX PLTP IN POSN.12 M.P.	DS XX PLTP IN POSN.12 M.P.
DIGITS	0	6	12	18	24	30	36	42	8/M1	M1	M2
	1	7	13	19	25	31	37	43	10/M1	M3	M4
	2	8	14	20	26	32	38	44	8/M2	M5	M6
	3	9	15	21	27	33	39	45	10/M2	M7	M8
	4	10	16	22	28	34	40	46	8/M3	M9	M10
	5	11	17	23	29	35	41	47	10/M3	M11	M12

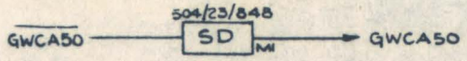
EG. $\overline{IDS34}$ - IS PRODUCED AT 507/8/M3
ALL 826 IN POSITION 12
THUS DS34 PRODUCED AT 507/12/M9
AND $\overline{DS34}$ PRODUCED AT 507/12/M10

OUTPUTS TO A B & C CIRCUITS



PACKAGE TYPE	DIGIT / WFM	24	25	26	27	28	29	30	31	32	33	34	35
				508/12							507/12		
825	DS	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11
								508/21					
820	DSWC	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
			508/22					508/23				508/22	
860	ETP	M1		M3		M1	M2	M3	M4	M5	M6	M5	M6
						508/24							
863	ETP*	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13
827	STROBED WEP1	/		/		/		/		/		/	
827	STROBED WEP2		/		/		/		/		/		/

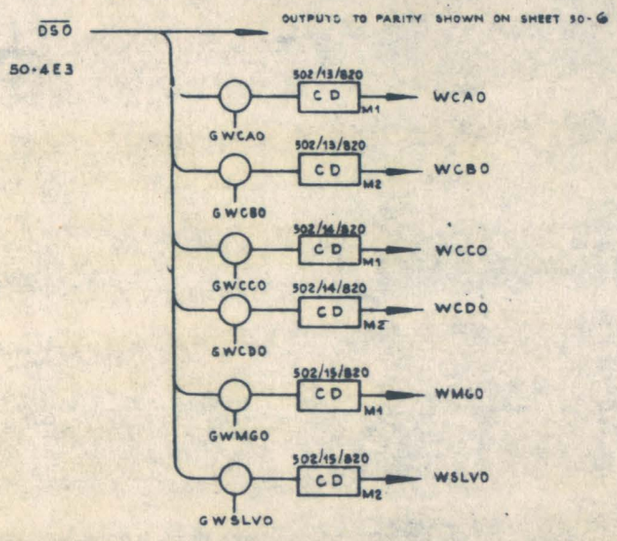
PRODUCTION OF STROBE DRIVERS.



SOURCE NAME	MONITOR	REF 50 9	STROBE DRIVER	MONITOR
$\overline{GWCA50}$	502/25/M1	N4	GWCA50	504/22/M1
$\overline{GWCB50}$	M3	N5	GWCB50	M2
$\overline{GWCC50}$	M5	N5	GWCC50	M3
$\overline{GWCD50}$	M7	N6	GWCD50	M4
+3V			GWMG90	M5
+3V			GWSLV50	M6

		WCA xx	WCB xx	WCC xx	WCD xx	WMG xx	WSLV xx
		C D	C D	C D	C D	C D	C D
BOX	502 503 504 505 506 507 508 509	POSN. 13	POSN. 13	POSN. 14	POSN. 14	POSN. 15	POSN. 15
DIGITS	0 6 12 18 24 30 36 42	M 1	M 2	M 1	M 2	M 1	M 2
	1 7 13 19 25 31 37 43	M 3	M 4	M 3	M 4	M 3	M 4
	2 8 14 20 26 32 38 44	M 5	M 6	M 5	M 6	M 5	M 6
	3 9 15 21 27 33 39 45	M 7	M 8	M 7	M 8	M 7	M 8
	4 10 16 22 28 34 40 46	M 9	M 10	M 9	M 10	M 9	M 10
	5 11 17 23 29 35 41 47	M 11	M 12	M 11	M 12	M 11	M 12

E.g. WMG 36 PRODUCED AT 508/15/M1.



DIGITS	WCA	0-47	TO CORE STORE	A
"	WCB	0-47	" "	B
"	WCC	0-47	" "	C
"	WCD	0-47	" "	D
"	WMG	0-47	TO MAGNETIC TAPE	
"	WSLV	0-47	TO SLAVE STORE.	

	WCA xx	WCB xx	WCC xx	WCD xx	WMG xx	WSLV xx
	DS-	S T R O B E D			W I T H	
DIGITS	0 – 5	GWCA 0	GWCB 0	GWCC 0	GWCD 0	GWMG 0	GWSLV 0
	6 – 11	6	6	6	6	6	6
	12 – 17	12	12	12	12	12	12
	18 – 23	18	18	18	18	18	18
	24 – 29	24	24	24	24	24	24
	30 – 35	30	30	30	30	30	30
	36 – 41	36	36	36	36	36	36
	42 – 47	42	42	42	42	42	42

E.g. WMG 36 PRODUCED BY STROBING $\overline{DS36}$ WITH GWMG 36.

STROBE D.GITS	POSN. 17 IN BOX
0	502
6	503
12	504
18	505
24	506
30	507
36	508
42	509

STROBE LETTERS	M.P.
GWCA	M1
GWCB	M2
GWCC	M3
GWCD	M4
GWMG	M10
GWSLV	M12

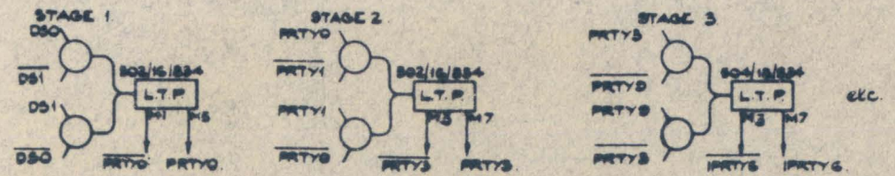
ALL GWCA STROBES MADE FROM GWCA50
" GWCB " " " GWCB50
" GWCC " " " GWCC50
" GWCD " " " GWCD50
" GWMG " " " GWMG50
" GWSLV " " " GWSLV50
} 50-9 N3-6

ALL 846 IN POSN. 17.

THUS GWMG 36 PRODUCED FROM GWMG50 AT 508/17/M10.

NOTE: GWMG0, GWSLV0 ALWAYS OPEN

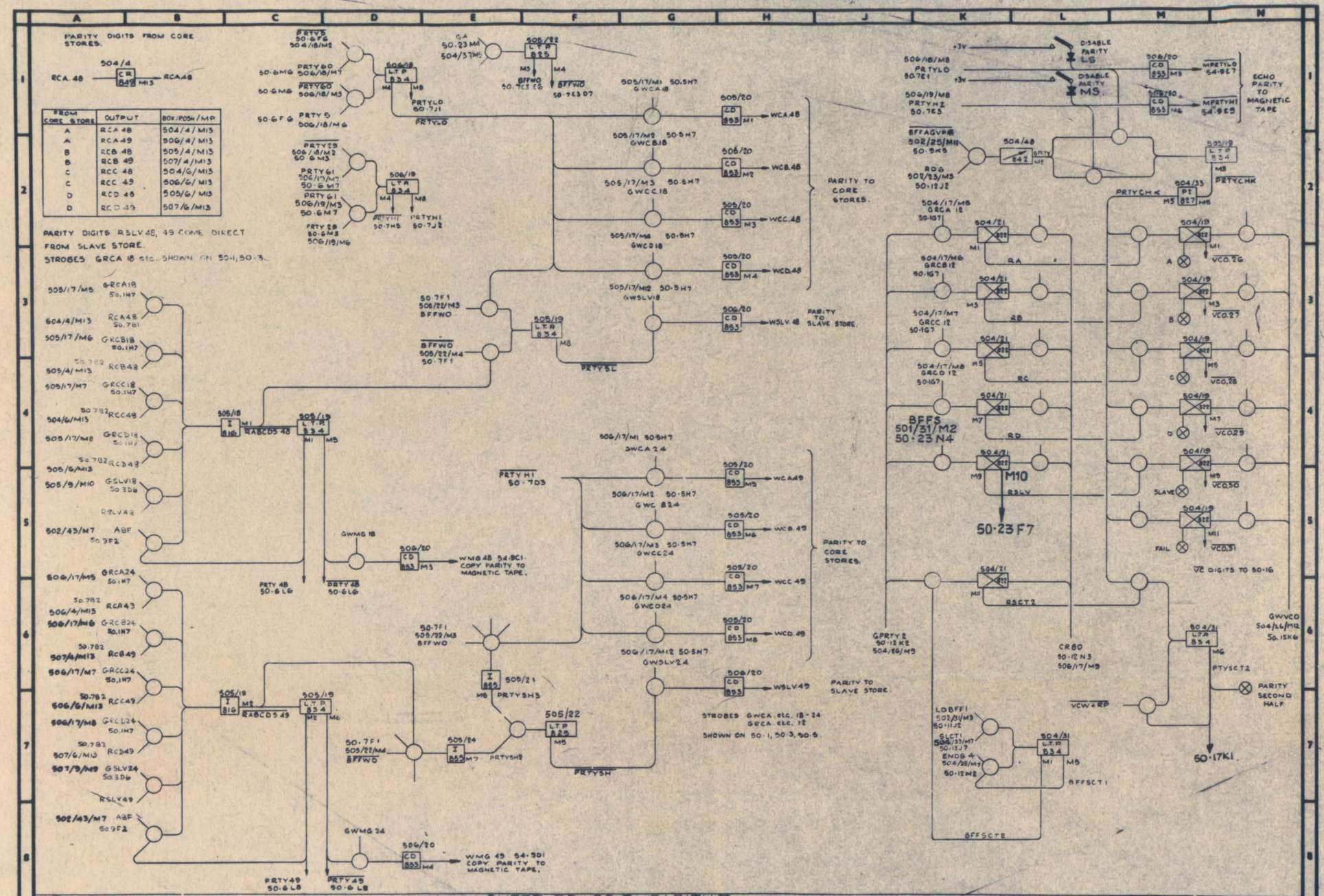
D5 DIGITS PRODUCED ON 50-4
PARITY DIGITS 48,49 COMING FROM CORE 4
SLAVE STORES ARE SHOWN ON 50-7.

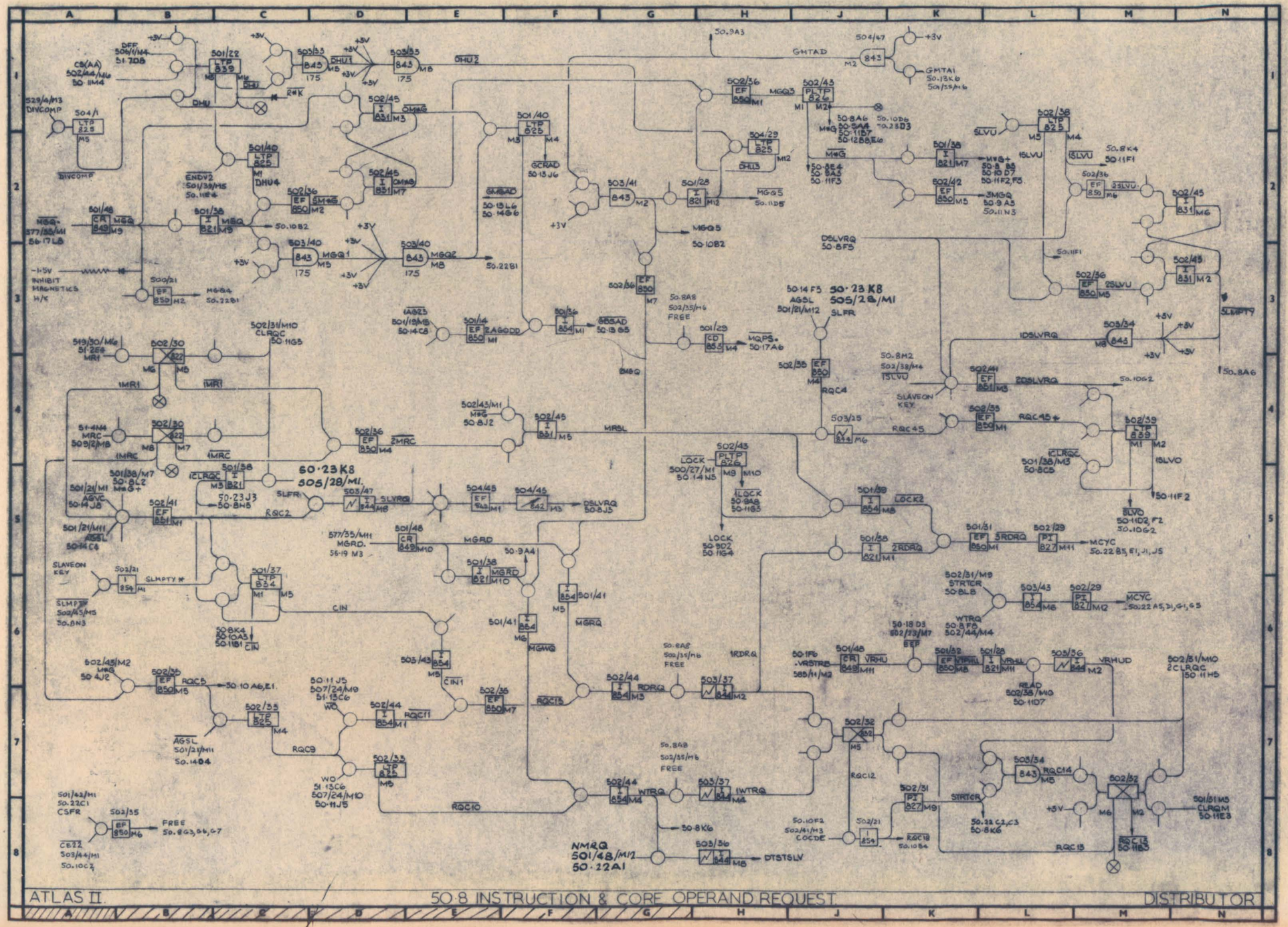


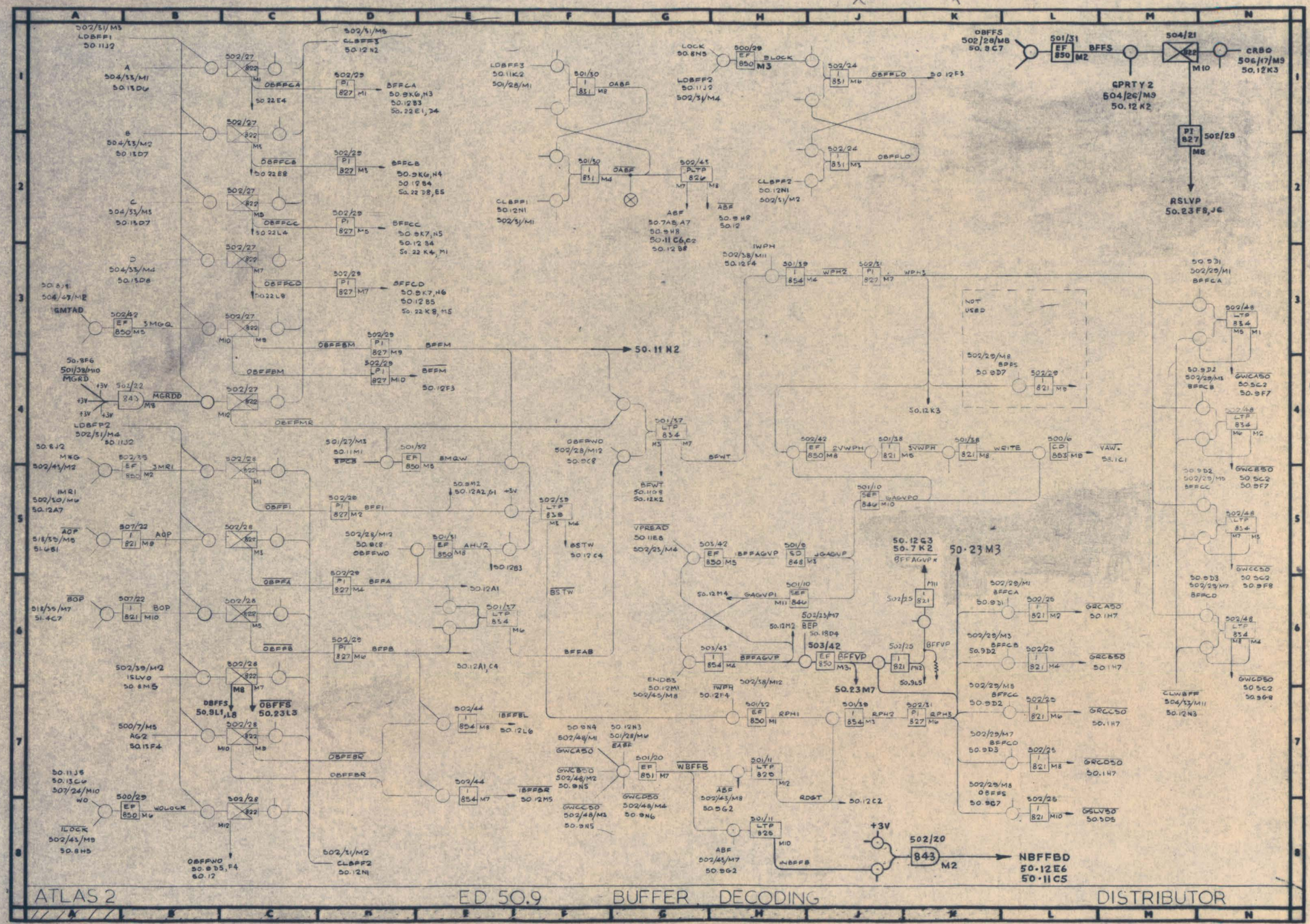
STAGE OUTPUTS CROSS-CONNECTED TO MAKE INPUTS TO NEXT STAGE, AS ABOVE.

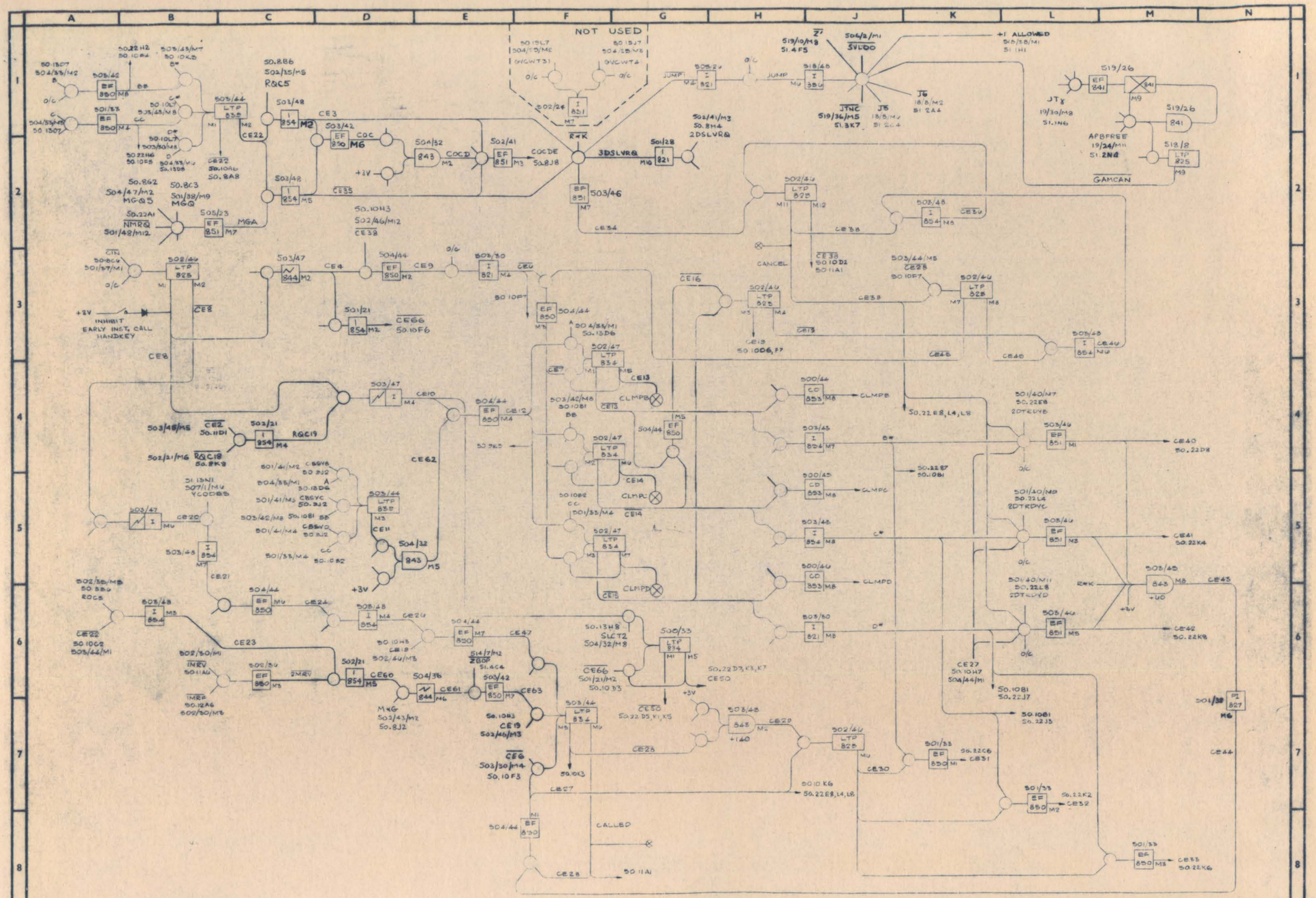
STAGE 1 INPUTS	STAGE 1 OUTPUTS		STAGE 2 OUTPUTS		STAGE 3 OUTPUTS		STAGE 4 OUTPUTS	
D50 D51 - D51 D50 -	502/16/M1	PRTY0						
	502/16/M5	PRTY0	503/16/M3	PRTY3				
D52 D53 - D53 D52 -	502/16/M2	PRTY1	502/16/M7	PRTY3				
	502/16/M6	PRTY1			504/16/M3	PRTY6		
D56 D57 - D57 D56 -	503/16/M1	PRTY6			504/16/M7	PRTY6		
	503/16/M5	PRTY6	503/16/M3	PRTY2				
D58 D59 - D59 D58 -	503/16/M2	PRTY7	503/16/M7	PRTY2			50.7D1	
	503/16/M6	PRTY7					506/16/M2	PRTY5
D512 D513 - D513 D512 -	504/16/M1	PRTY12					506/16/M6 50-7D2	PRTY5
	504/16/M5	PRTY12	504/16/M3	PRTY15				
D514 D515 - D515 D514 -	504/16/M2	PRTY13	504/16/M7	PRTY15				
	504/16/M6	PRTY13			504/16/M4	1PRTY15		
D518 D519 - D519 D518 -	505/16/M1	PRTY18			504/16/M8	1PRTY15		
	505/16/M5	PRTY18	505/16/M3	PRTY21				
D520 D521 - D521 D520 -	505/16/M2	PRTY19	505/16/M7	PRTY21				
	505/16/M6	PRTY19						

STAGE 1 INPUTS	STAGE 1 OUTPUTS		STAGE 2 OUTPUTS		STAGE 3 OUTPUTS		STAGE 4 INPUTS	STAGE 4 OUTPUTS	
D524 D525 - D525 D524 -	506/16/M1	PRTY24							
	506/16/M5	PRTY24	506/16/M3	PRTY27					
D526 D527 - D527 D526 -	506/16/M2	PRTY25	506/16/M7	PRTY27					
	506/16/M6	PRTY25							
D530 D531 - D531 D530 -	507/16/M1	PRTY30			507/16/M3	1PRTY30	1PRTY30		
	507/16/M5	PRTY30	507/16/M3	PRTY33	507/16/M7	1PRTY30	1PRTY30		
D532 D533 - D533 D532 -	507/16/M2	PRTY31	507/16/M7	PRTY33					
	507/16/M6	PRTY31						506/19/M2	PRTY29
D536 D537 - D537 D536 -	508/16/M1	PRTY36						506/19/M6 50-7D2, D3	PRTY29
	508/16/M5	PRTY36	508/16/M3	PRTY39					
D538 D539 - D539 D538 -	508/16/M2	PRTY37	508/16/M7	PRTY39					
	508/16/M6	PRTY37			507/16/M4	1PRTY42	1PRTY42		
D542 D543 - D543 D542 -	508/16/M1	PRTY43			507/16/M8	1PRTY42	1PRTY42		
	508/16/M5	PRTY42	509/16/M3	PRTY46					
D546 D547 - D547 D546 -	508/16/M2	PRTY46	509/16/M7	PRTY46					
	508/16/M6	PRTY46							
D54 D55 - D55 D54 -	502/16/M4	PRTY4							
	502/16/M8	PRTY4	504/16/M1	1PRTY0			PRTY 11		
D510 D511 - D511 D510 -	503/16/M4	PRTY10	504/16/M5	1PRTY0			PRTY 11		
	503/16/M8	PRTY10			506/16/M1	PRTY11		506/16/M3	PRTY60
D516 D517 - D517 D516 -	504/16/M4	PRTY16	504/16/M2	1PRTY12	506/16/M5	PRTY11		506/16/M7 50-7D1	PRTY60
	504/16/M8	PRTY16	504/16/M6	1PRTY12			PRTY 48 505/19/M5 PRTY 48 505/19/M1 50-7C6		
D522 D523 - D523 D522 -	505/16/M4	PRTY22							
	505/16/M8	PRTY22							
D528 D529 - D529 D528 -	506/16/M4	PRTY28							
	506/16/M8	PRTY28	507/16/M1	1PRTY24			PRTY 35		
D534 D535 - D535 D534 -	507/16/M4	PRTY34	507/16/M5	1PRTY24			PRTY 35		
	507/16/M	PRTY34			506/16/M1	PRTY35		506/19/M3	PRTY61
D540 D541 - D541 D540 -	508/16/M4	PRTY40			506/16/M5	PRTY35		506/19/M7 50-7D2	PRTY61
	508/16/M8	PRTY40	507/16/M3	1PRTY36			PRTY 49 505/19/MG PRTY 49 505/19/M2 50-7C8		
D546 D547 - D547 D546 -	508/16/M4	PRTY46	507/16/M4	1PRTY36					
	508/16/M8	PRTY46							


PARITY DIGITS FROM CORE STORES.
RCA 48
504/4
CR 849 M13
RCA 48
FROM CORE STORE | OUTPUT | BOX/POSN/MP
A | RCA 48 | 504/4/M13
A | RCA 49 | 506/4/M13
B | RCB 48 | 505/4/M13
B | RCB 49 | 507/4/M13
C | RCC 48 | 504/6/M13
C | RCC 49 | 506/6/M13
D | RCD 48 | 505/6/M13
D | RCD 49 | 507/6/M13
PARITY DIGITS RSLV 48, 49 COME DIRECT FROM SLAVE STORE.
STROBES GRCA 18 etc. SHOWN ON 50-1, 50-3.
PARITY TO CORE STORES.
PARITY TO SLAVE STORE.
STROBES GWCA etc. 18-24 GRCA etc. 12
SHOWN ON 50-1, 50-3, 50-5.
ECHO PARITY TO MAGNETIC TAPE
DISABLE PARITY LS
DISABLE PARITY MS
BFFS 501/31/M2 50-23 N4
M10
50-23 F7
VE DIGITS TO 50-16
PARITY SECOND HALF
50-17 K1
GWVCO 504/26/M12 50-15 K6
CR 80 50-12 N3 506/17/M9
VCW + RP
BFFSCT1
BFFSCT2
PRTYCHK
PTYSCT2
ATLAS II
SHEET ED 50.7 PARITY II.
DISTRIBUTOR.


ATLAS II.
50·8 INSTRUCTION & CORE OPERAND REQUEST
DISTRIBUTOR
50·23K8
505/28/M1.
NMRQ
501/48/M12
50·22A1


ATLAS 2
ED 50.9
BUFFER DECODING
DISTRIBUTOR
OBFFS
502/28/M8
50.23C7
501/31
EF 850 M2
BFFS
504/21
822
M10
CRBO
506/17/M9
50.12K3
GPRTY2
504/26/M9
50.12K2
PI 827 M8
502/29
RSLVP
50.23F8, J6
LOCK
50.8N3
LDBFF2
50.11J2
502/3/M4
500/29
EF 850
M3
BLOCK
502/24
851 M6
OBFFLO
50.12F3
LDBFF3
50.11K2
50/28/M1
501/30
851 M8
OABF
502/24
851 M3
OBFFLO
CLBFF2
50.12N1
502/3/M2
501/30
851 M4
OABF
502/43
PLTP 826
M7 M8
CLBFF1
50.12N1
502/3/M1
ABF
50.7A8, A7
50.9H8
50.11C6, C2
50.12B8
ABF
50.8H9
50.12
IWPH
502/38/M11
50.12F4
501/39
854 M4
WPH2
502/31
PI 827 M7
WPH3
50.9D1
502/29/M1
BFFCA
NOT USED
502/29/M8
BFFS
50.9D7
502/29
821 M8
50.12K3
50.8J1
504/47/M2
GMTAD
502/42
EF 850 M5
3MGQ
502/27
822 M10
M8
OBFFBM
502/29
PI 827 M9
BFFM
50.11 N2
50.8F6
501/38/M10
MGRD
+3V
502/22
843 M9
MGRDD
502/27
822 M12
OBFFMR
LDBFP2
502/31/M4
50.11J2
501/37
LTP 834 M3 M7
BFWT
50.11G8
50.12K2
502/42
EF 850 M8
2VWPH
501/38
821 M5
5VWPH
501/38
821 M8
WRITE
500/6
ED 853 M8
VAW
50.16C1
501/10
SEF 846 M10
GAGVPO
50.8J2
MRG
502/43/M2
502/39
EF 850 M2
3MRI
IMRI
502/30/M6
50.12A7
501/27/M3
50.11M1
EPCB
501/32
EF 850 M5
BMQW
OBFFWO
502/28/M12
50.9C8
VPREAD
50.11B8
502/23/M4
503/42
EF 850 M5
BFFAGVP
501/8
SD 848 M3
JGAGVP
50.12G3
50.7K2
BFFAGVPR
50.23M3
502/23
821 M11
502/28/M12
50.9C8
OBFFWO
50.8M2
50.12A2, G1
+3V
502/33
LTP 838 M5 M4
BSTW
50.12C4
BSTW
50.12M4
GAGVP1
501/10
SEF 846 M11
50.12M2
BEP
50.18D4
503/42
EF 850 M3
BFFVP
502/23
821 M12
BFFVP
50.9L5
50.23M7
502/23/M7
503/43
854 M4
BFFAGVP
ENDB3
50.12M1
502/43/M8
IWPH
50.12F4
502/38/M12
501/12
EF 850 M1
RPH1
501/38
854 M3
RPH2
502/31
PI 827 M6
RPH3
502/29/M1
BFFCA
50.9D1
502/26
821 M2
GRCA50
50.1H7
502/29/M3
BFFCB
50.9D2
502/26
821 M4
GRCB50
50.1H7
502/29/M5
BFFCC
50.9D2
502/26
821 M6
GRCC50
50.1H7
502/29/M7
BFFCD
50.9D3
502/26
821 M8
GRCD50
50.1H7
502/29/M8
OBFFS
50.9C7
502/26
821 M10
GSLV50
50.5D5
502/48
LTP 834 M8 M1
GWCA50
50.5C2
50.9F7
502/48
LTP 834 M6 M2
GWCB50
50.5C2
50.9F7
502/48
LTP 834 M4 M3
GWCC50
50.5C2
50.9F8
502/48
LTP 834 M2 M4
GWCD50
50.5C2
50.9F8
CLWBFF
504/13/M11
50.12N3
50.9D2
502/29/M2
BFFCB
50.9D3
502/29/M7
BFFCD
50.9D2
502/29/M5
BFFCC
50.8J2
MRG
502/43/M2
IMRI
502/30/M6
50.12A7
502/39
EF 850 M2
3MRI
502/28
822 M1
OBFFI
502/28
PI 827 M2
BFFI
50.8M2
50.12A2, G1
+3V
502/33
LTP 838 M5 M4
BSTW
50.12C4
AOP
518/35/M5
51.6B1
507/22
821 M9
AOP
502/28
822 M3
OBFFA
502/28/M12
50.9C8
OBFFWO
501/31
EF 850 M8
AHU2
50.12B3
502/29
PI 827 M4
BFFA
50.12A1
BOP
518/35/M7
51.4C7
507/22
821 M10
BOP
502/28
822 M5
OBFFB
502/29
PI 827 M6
BFFB
50.12A1, C4
BFFAB
502/39/M12
ISLVO
50.8M5
502/28
822 M7
M8
OBFFS
50.9L1, L8
OBFFS
50.23L3
502/44
854 M8
IBFFBL
50.12L6
500/7/M5
AG2
50.11F4
502/28
822 M10
M8
OBFFBR
50.11J5
50.13C4
503/24/M10
WO
500/29
EF 850 M6
WOLOCK
ILOCK
502/43/M9
50.8H5
502/28
822 M12
OBFFWO
50.9B5, F4
50.12
502/21/M2
CLBFF2
50.12N1
503/44
854 M7
BFFBR
50.12M5
50.9N4
502/48/M1
GWCA50
GWCB50
502/48/M2
50.9N5
GWCC50
502/48/M3
50.9N5
50.12N3
501/28/M6
EABF
501/20
EF 851 M7
GWCD50
502/48/M4
50.9N6
WBFFB
501/11
LTP 825 M12
RDBT
50.12E2
ABF
502/43/M8
50.5G2
501/11
LTP 825 M10
ABF
502/43/M7
50.9G2
WBFFB
+3V
502/20
843 M2
NBFFBD
50.12E6
50.11C5


NOT USED
R&C5
R&C
3DSLVRQ
2DSLVRQ
INHIBIT EARLY INST. CALL HANDKEY
CANCEL
JUMP
JTX
APBFREE
GAMCAN
CALLBD
CLMPB
CLMPC
CLMPD
SLCT2
MMRQ
MGA
MGQ
MG-Q5
INRV
IMRQ
M4G
RQC5
RQC19
CBSYC
CBSVQ
CBSVR
YCODES
2DTRDVB
2DTRDVC
2DTRDVD
2DTRDVE
ALLOWED
3VLDO
JTNC
JT5
JT6
+1V
+2V
+3V
+4V
+6V
+8V
+10
+14
+20
ZGOF
CE1
CE2
CE3
CE4
CE5
CE6
CE7
CE8
CE9
CE10
CE11
CE12
CE13
CE14
CE15
CE16
CE17
CE18
CE19
CE20
CE21
CE22
CE23
CE24
CE25
CE26
CE27
CE28
CE29
CE30
CE31
CE32
CE33
CE34
CE35
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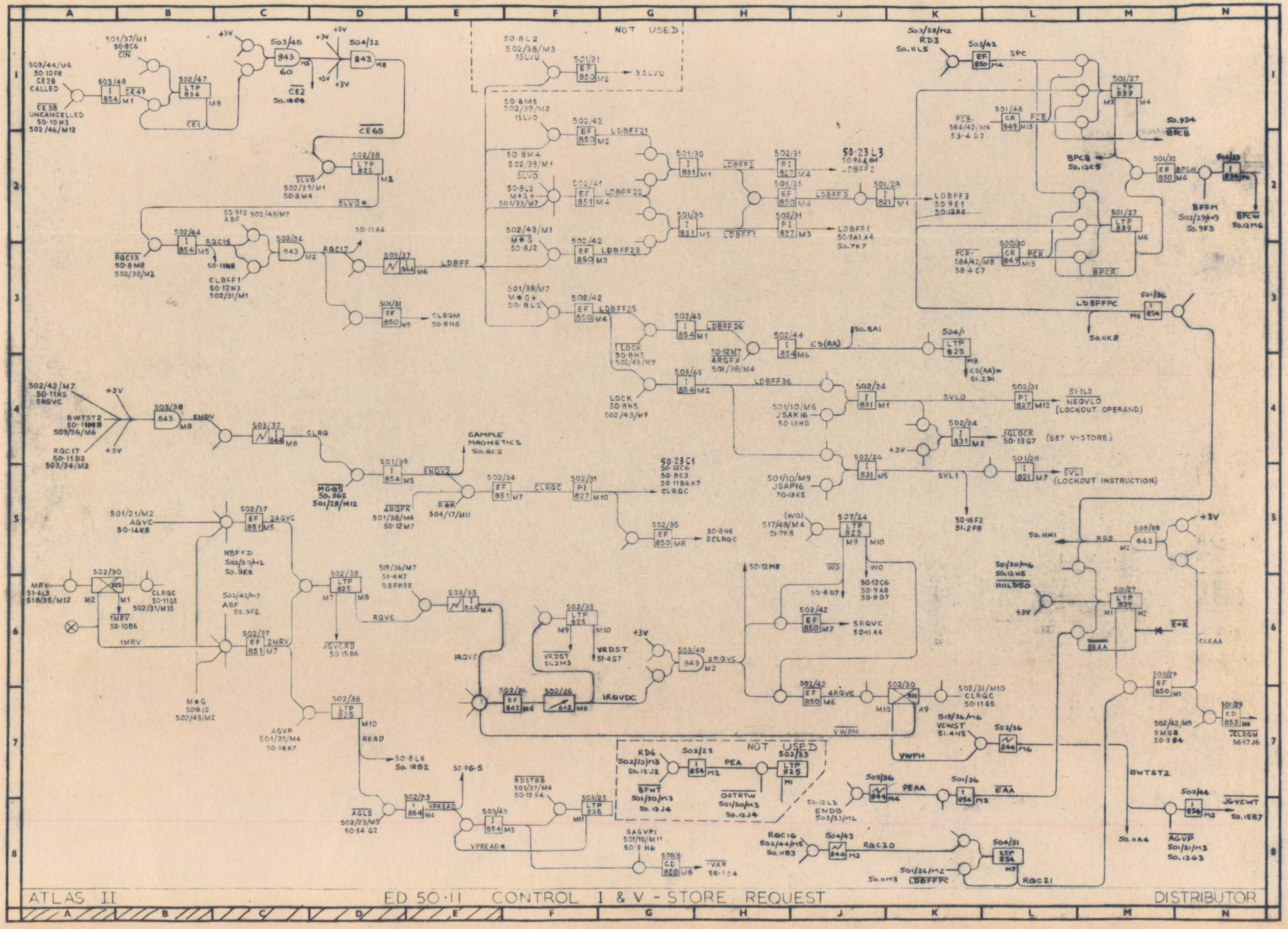
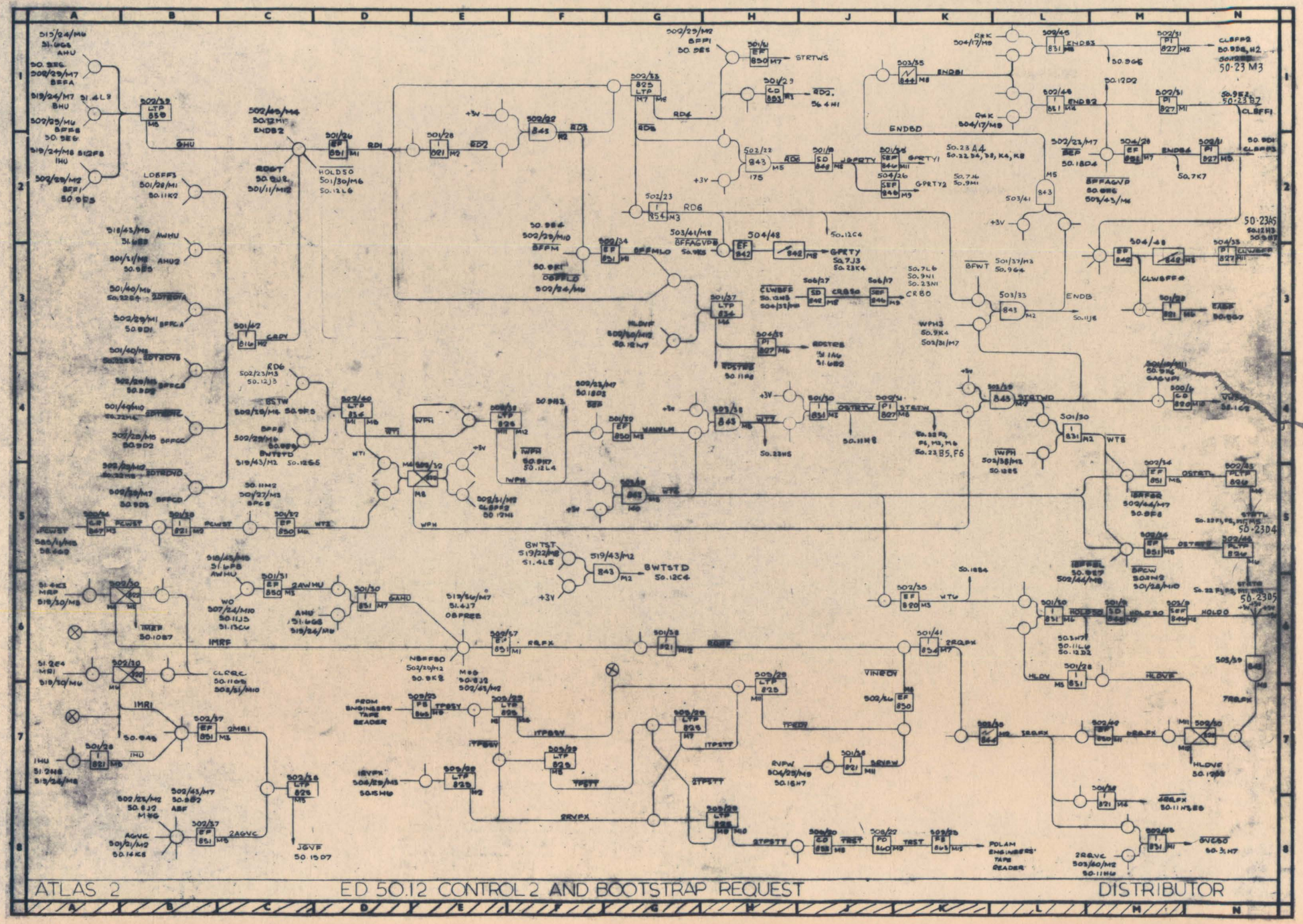
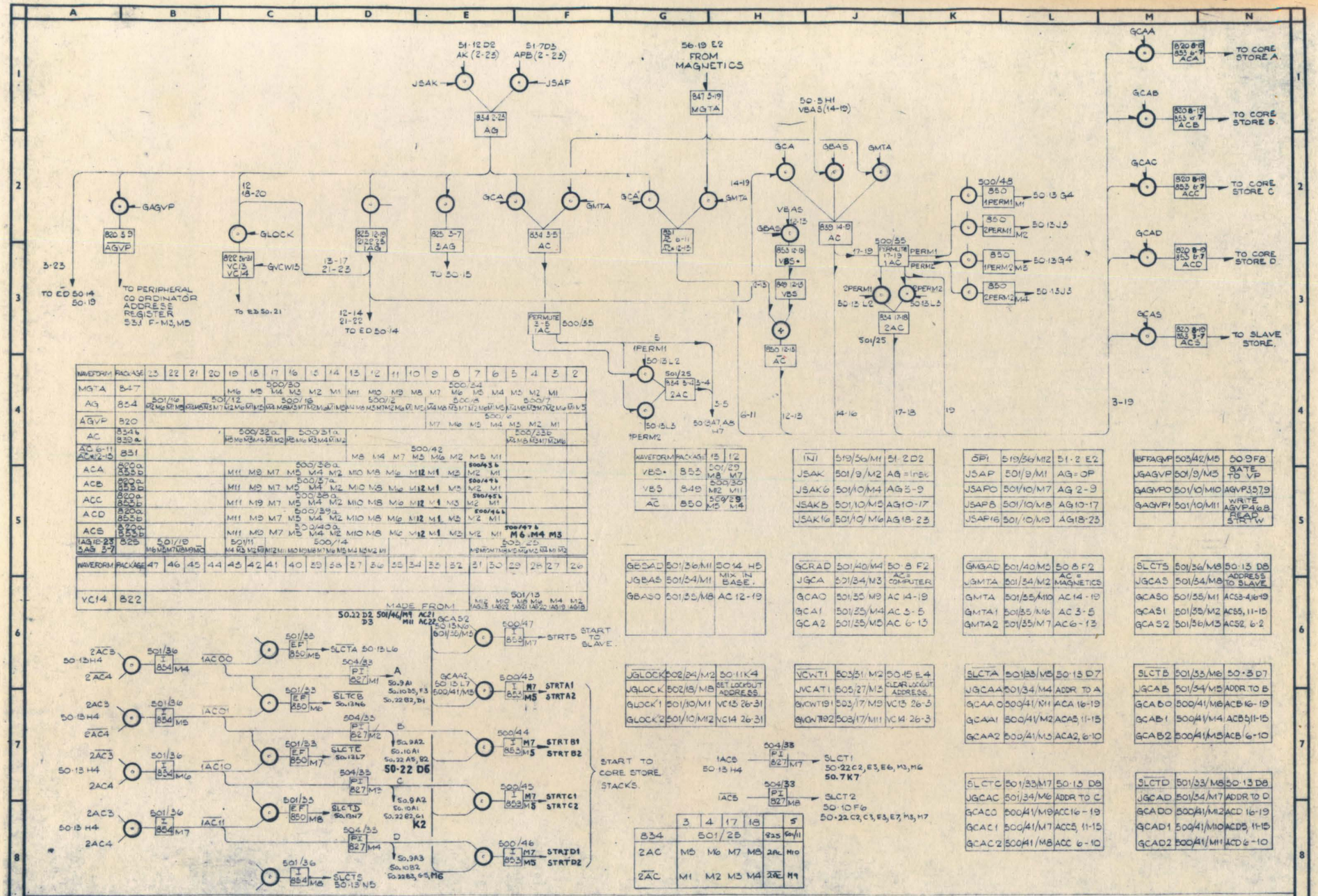
CE37
CE38
CE39
CE40
CE41
CE42
CE43
CE44
CE45
CE46
CE47
CE48
CE50
CE62
CE63
CE66
ATLAS II
ED 50 10 EARLY INSTRUCTION CALL
DISTRIBUTOR


NOT USED
NOT USED
SAMPLE MAGNETICS
50.8C2
50-23 C1
50-12C6
50-8C3
50-11B6 K7
CLRQC
50-23 L3
LDBFF2
LDBFF3
LDBFF1
CS(AA)
SVL0
SVL1
NEGVLO
(LOCKOUT OPERAND)
JGLOCK
(SET V-STORE)
(LOCKOUT INSTRUCTION)
ENDV
CLRQ
LDBFF
CLRQM
50-8N8
SRQVC
50-11A4
IRQVC
IRQVDC
VRDST
51-4G7
VWPH
PEA
PEAA
EAA
BEAA
CLEAA
BPCB
BPCW
BPCR
BFFM
LDBFFPC
50.11K8
ATLAS II
ED 50-11 CONTROL I & V - STORE REQUEST
DISTRIBUTOR


ATLAS 2
ED 50.12 CONTROL 2 AND BOOTSTRAP REQUEST
DISTRIBUTOR



WAVEFORM	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
MGTA	847																						
AG	834																						
AGVP	820																						
AC	834b 850a																						
AC 6-11 AC 12-13	831																						
ACA	820a 853b																						
ACB	820a 853b																						
ACC	820a 853b																						
ACD	820a 853b																						
ACS	820a 853b																						
IAG 18-23 SAG 5-7	825																						

WAVEFORM	PACKAGE	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
VC14	822																						

MADE FROM 50·22 D2 D3 501/46/M9 M11 AC21 AC22

WAVEFORM	PACKAGE	13	12
VBS•	853	501/29 M8	M7
VBS	849	500/30 M12	M11
AC	850	500/29 M5	M4

INI	519/36/M11	51·2 D2
JSAK	501/9/M2	AG = INSK
JSAK6	501/10/M4	AG 3-9
JSAK8	501/10/M5	AG 10-17
JSAK16	501/10/M6	AG 18-23

OPI	519/36/M12	51·2 E2
JSAP	501/9/M1	AG = OP
JSAP8	501/10/M7	AG 2-9
JSAP8	501/10/M8	AG 10-17
JSAP16	501/10/M9	AG 18-23

IBFFAGVP	503/42/M5	50·9 F8
JGAGVP	501/9/M3	GATE TO VP
GAGVP0	501/10/M10	AGVP3,7,9
GAGVP1	501/10/M11	WRITE AGVP4,6,8
		READ STRTW

GBSAD	501/36/M1	50·14 H5
JGBAS	501/34/M1	MIX IN BASE.
GBAS0	501/35/M8	AC 12-19

GCRAD	501/40/M4	50·8 F2
JGCA	501/34/M3	AC TO COMPUTER
GCA0	501/35/M9	AC 14-19
GCA1	501/25/M4	AC 3-5
GCA2	501/35/M5	AC 6-13

GMGAD	501/40/M5	50·8 F2
JGMTA	501/34/M2	AC TO MAGNETICS
GMTA	501/35/M10	AC 14-19
GMTA1	501/35/M6	AC 3-5
GMTA2	501/35/M7	AC 6-13

SLCTS	501/36/M8	50·13 D8
JGCAS	501/34/M8	ADDRESS TO SLAVE
GCAS0	501/35/M1	ACS3-4,16-19
GCAS1	501/35/M2	ACS5, 11-15
GCAS2	501/36/M3	ACS2, 6-2

JGLOCK	502/24/M2	50·11 K4
JGLOCK	502/18/M8	SET LOCKOUT ADDRESS
GLOCK1	501/10/M1	VC13 26-31
GLOCK2	501/10/M12	VC14 26-31

VCWT1	503/31/M2	50·15 E4
JVCAT1	505/27/M3	CLEAR LOCKOUT ADDRESS
GVCWT19	503/17/M9	VC13 26-3
GVCWT82	503/17/M11	VC14 26-3

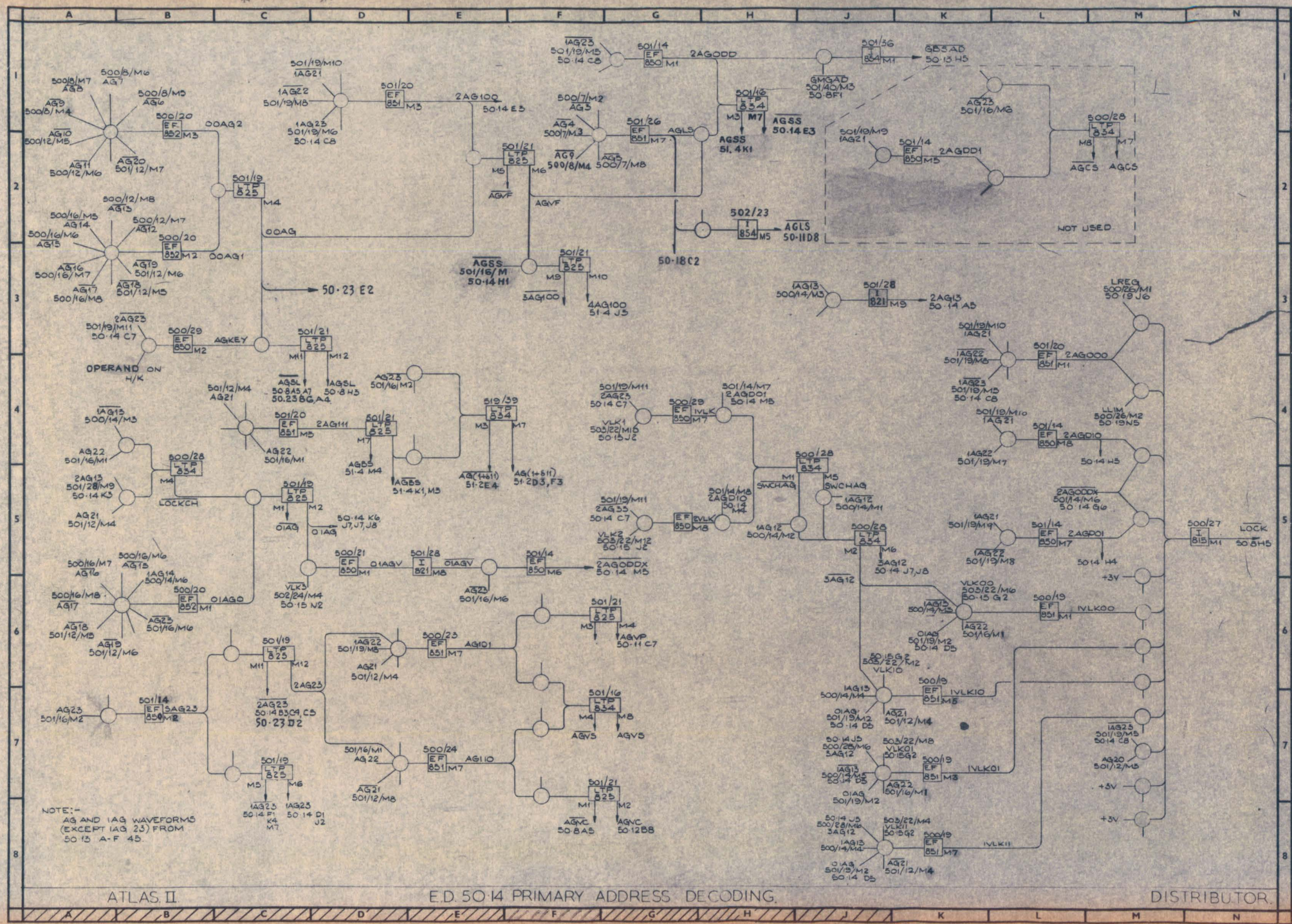
SLCTA	501/33/M5	50·13 D7
JGCAA	501/34/M4	ADDR TO A
GCAA0	500/41/M11	ACA 16-19
GCAA1	500/41/M2	ACA3, 11-15
GCAA2	500/41/M3	ACA2, 6-10

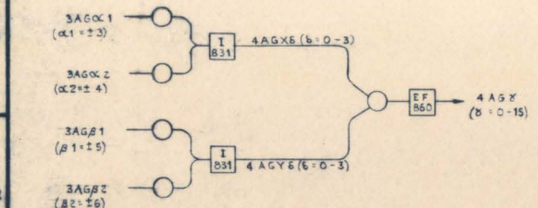
SLCTB	501/33/M6	50·3 D7
JGCAB	501/34/M5	ADDR TO B
GCAB0	500/41/M8	ACB 16-19
GCAB1	500/41/M4	ACB3,11-15
GCAB2	500/41/M5	ACB 6-10

SLCTC	501/33/M7	50·13 D8
JGCAC	501/34/M6	ADDR TO C
GCAC0	500/41/M9	ACC 16-19
GCAC1	500/41/M7	ACC3, 11-15
GCAC2	500/41/M8	ACC 6-10

SLCTD	501/33/M8	50·13 D8
JGCAD	501/34/M7	ADDR TO D
GCAD0	500/41/M12	ACD 16-19
GCAD1	500/41/M10	ACD3, 11-15
GCAD2	500/41/M11	ACD 6-10

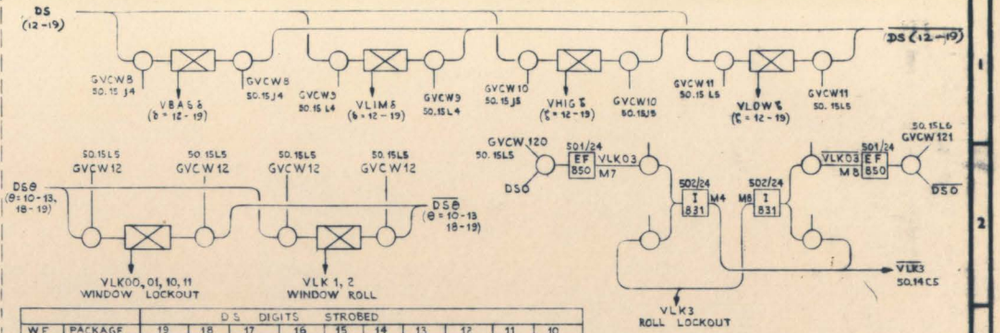
	3	4	17	18		5
834	501/25				825	501/11
2AC	M5	M6	M7	M8	2AC	M10
2AC	M1	M2	M3	M4	2AC	M9


ATLAS II.
E.D. 50·14 PRIMARY ADDRESS DECODING.
DISTRIBUTOR.
NOTE:-
AG AND IAG WAVEFORMS (EXCEPT IAG 23) FROM 50·13 A-F 45.
NOT USED
OPERAND ON H/K
50·23 E2
50·18 C2
AGSS 51.4 K1
AGSS 50.14 E3
AGSS 501/16/M 50·14 H1
AGSS 50·13 H5
AGLS 50·11 D8
2AG23 50·14 B3 C9, C5 50·23 D2
AGVF
AGVP 50·11 C7
AGVC 50·8 A5
AGVC 50·12 B8
4AG100 51·4 J5
LOCK 50·8 H5
50·14 H4
50·14 H5
50·14 K6 J7, J7, J8
50·14 M5
50·14 M8
50·14 J7, J8
50·14 D5
50·14 F1 K4 M7
50·14 D1 J2
50·14 C8
50·14 A5
50·14 G6
50·14 M6
50·14 C7
50·14 B5
50·14 J5
50·14 M4
50·15 J2
50·15 G2
50·15 N2
50·8 A5 A7 50.23 B6 C4
50·8 H3
50·8 F1
50·19 J6
50·19 N5
51·2 E4
51·2 D3, F3
+3V



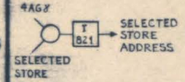
INPUT (50-13E5)		831		OUTPUT	
3AG3	503/25/M1	3AG4	503/25/M3	4AGX0	503/26/M1
3AG3	M2	3AG4	M3	4AGX1	M5
3AG3	M1	3AG4	M4	4AGX2	M2
3AG3	M2	3AG4	M4	4AGX3	M6
3AG5	503/25/M5	3AG6	503/25/M7	4AGY0	503/26/M3
3AG5	M6	3AG6	M7	4AGY1	M7
3AG5	M5	3AG6	M8	4AGY2	M4
3AG5	M6	3AG6	M8	4AGY3	M8

INPUT		OUTPUT	
4AGX0	4AGY0	4AG0	503/27/M1
4AGX1	0	1	M2
4AGX2	0	2	M3
4AGX3	0	3	M4
4AGX0	4AGY1	4AG4	503/27/M5
1	1	5	M6
2	1	6	M7
3	1	7	M8
4AGX0	4AGY2	4AG8	503/28/M1
1	2	9	M2
2	2	10	M3
3	2	11	M4
4AGX0	4AGY3	4AG12	503/28/M5
1	3	13	M6
2	3	14	M7
3	3	15	M8



WF	PACKAGE		DS DIGITS STROBED 19	18	17	16	15	14	13	12	11	10
VBAS	831	12-13			503/20				504/20			
	822	14-19	M4 M3 M2 M1 M12 M11 M10 M9 M8 M7 M6 M5						M8 M7 M6 M5			
VLIM	831	12-13			503/21				504/20			
	822	14-19	M4 M3 M2 M1 M12 M11 M10 M9 M8 M7 M6 M5						M4 M3 M2 M1			
VHIG	831	12-13			503/18				503/23			
	822	14-19	M12 M11 M10 M9 M8 M7 M6 M5 M4 M3 M2 M1						M8 M7 M6 M5			
VLOW	831	12-13			503/19				503/23			
	822	14-19	M12 M11 M10 M9 M8 M7 M6 M5 M4 M3 M2 M1						M4 M3 M2 M1			
	WAVEFORM NO								503/22 11	10	01	00
VLK	822								M4 M3 M2 M1	M8 M7	M6	M5
	WAVEFORM NO		503/22 2		1							
VLK	822		M12 M11 M10 M9									

STROBE / DIGIT	GVCRDO GVCRD1 V CENTRAL READ	50.15B6	GVI00 FIXED	50.15D6 OPERAND	GVCWTO GVCWT1 V CENTRAL WRITE	50.15B7	GVFO GVF1 INST. BOOTSTRAP	50.15D7
4AG0	VCRD0	503/29/M1	RVFF0	503/30/M1	VCWT0	503/31/M1	RVF0	503/32/M1
1	1	M2	1	M3	1	M2	1	M2
2	2	M3	2	M5	2	M3	2	M3
3	3	M4	3	M7	3	M4	3	M4
4AG4	VCRD4	503/29/M5	RVFF4	503/30/M9	VCWT4	503/31/M5	RVF4	503/32/M5
5	5	M6			5	M6	5	M6
6	6	M7	RVFF6	503/30/M11	6	M7	6	M7
7	7	M8					7	M8
4AG8					VCWT8	503/31/M8	RVF8	503/32/M9
9					9	M9	9	M10
10	VCRD10	505/29/M11			10	M10	11	M11
11	VCRD11	505/29/M12			11	M11		
4AG12					VCWT12	503/31/M12		
13	VCRD13	503/29/M9						
14	14	M10						
15								



JGVCRD	502/38/M7	50.11 D6
JGVCRD	502/18/M3	SELECT VC READ
GVCRDO	504/26/M2	VCRD 0, 2, 4, 6, 13
GVCRD1	M13	VCRD 1, 3, 5, 7, 14

VCRD TO 50.17 M1-M6

AGVF	501/21/M5	50.14E2
JGV100	5002/18/M1	SELECT FIXED OP
GV100	504/26/M8	RVFFO 4, 6

RVFF TO 50.17 A1-A4

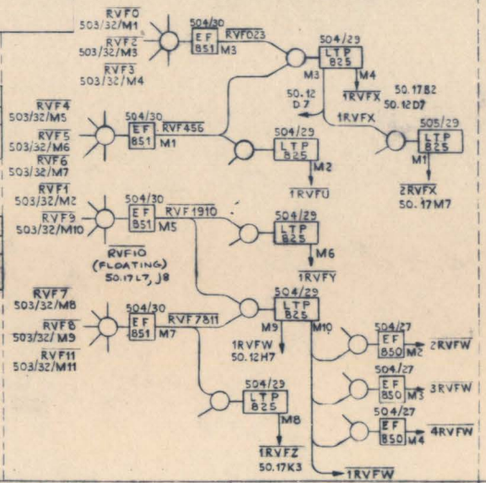
JGVCWT	502/44/M2	50.11 M8
JGVCWT	504/23/M6	SELECT VC WRITE
GVCWTO	504/26/M4	VCWT 0, 2, 4, 6, 9, 11
GVCWT1	M5	VCWT 1, 3, 5, 8, 10, 12

VCWT TO 50.15 J4 . J7 L4 . L7

JGVF	502/38/M5	50.12C8
JGVF	502/18/M2	SELECT BOOTSTRAP
GVFO	504/26/M6	RVF 0, 2, 4, 6, 8, 11
GVF1	M7	RVF 1, 3, 5, 7, 9, 10

RVF TO 50.17

SEE ALSO 50.17



CENTRAL V STORE WRITE STROBES

VCWT8	503/31/M8	50.15E5
GVCW8	504/23/M1	DS → V BASE
GVCW80	503/24/M1	V BAS 14-19
81	M2	V BAS 14-19
82	505/17/M11	V BAS, V BAS 12-13

VCW 15	503/31/M9	50.15E5
GVCW 9	504/23/M2	DS → V LIMIT
GVCW 90	503/24/M3	V LIM 14-1
91	M4	V LIM 14-19
92	505/17/M9	V LIM, V LIM 12-13

VCWT10	503/31/M10	50.15E5
GVCW 10	504/23/M3	DS → REGION HI
GVCW100	503/24/M7	V HIG 12-17
101	M8	V HIG 12-17
102	M9	V HIG, V HIG 10-11

VCWT 11	503/31/M11	50.15E5
GVCW 11	504/23/M4	DS → REGION LOW
GVCW110	503/24/M10	V LOW 12-17
111	M11	V LOW 12-17
112	M12	V LOW, V LOW 10-11

VCWT 12	503/31/M12	50.15E5
GVCW 12	504/23/M5	DS → WINDOW CONTROL
GVCW 120	503/24/M5	V LK 00 1, 01 2, 10 3, 11
121	M6	V LK

503/31/M1 VCWTO SO.15E4 — 503/42 EF 850 M1 → VCWTO + RP 50.15K6
RESET PARITY 51.18J4

VCWTO +RP	503/42/M1	50.15K5
VCWTO	504/23/M7	DS → VC LINE 0
GVCW0	504/26/M12	VC0 26-31

VCWT1	503/31/M2	50.15E4
JVCWT1	505/27/M3	DS → VC VARIOUS
GVCWT19	504/25/M1	VC0 24; VC1 24-29; VC7 30
191	503/17/M9	VC13 26-31
192	503/17/M11	VC14 26-31

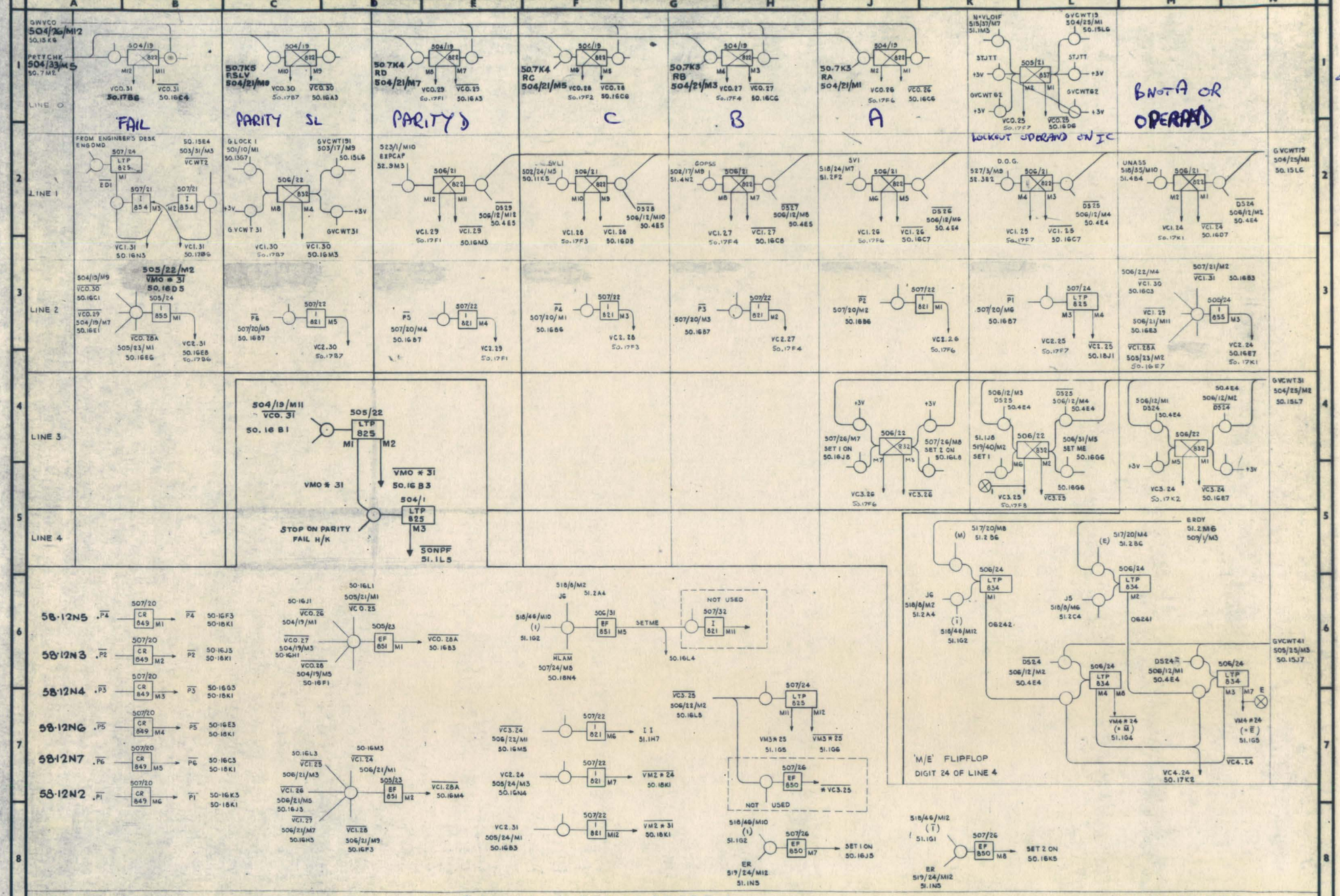
VCWT2	503/31/M3	50.15E4

VCWT3	503/31/M4	50.15E4
JVCWT3	505/27/M4	DS → VC LINE 3
GVCWT31	504/25/M2	VC3 24-25; VC3 24-25

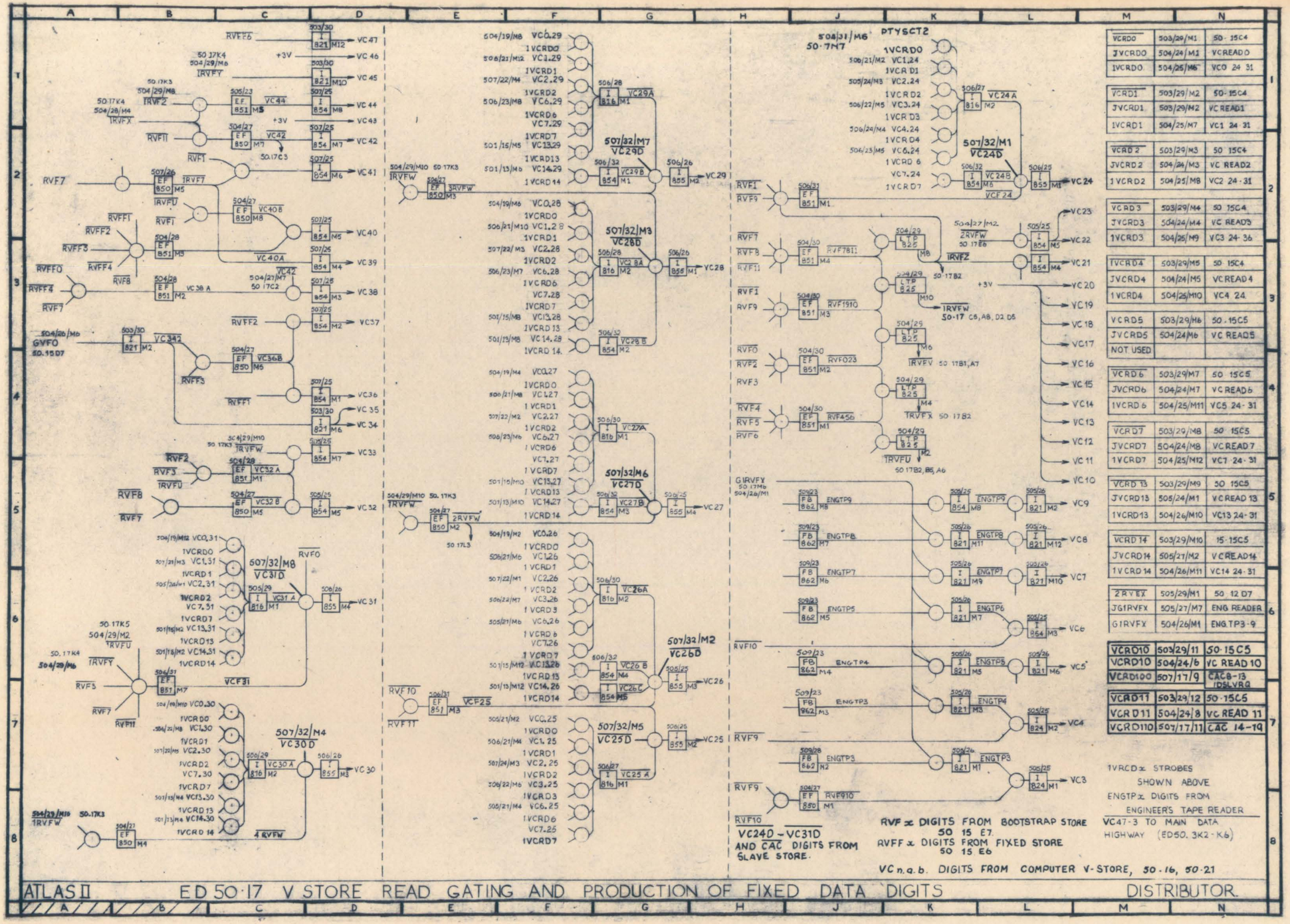
VCWT4	503/31/M5	50.15E4
JVCWT4	505/27/M5	DS → VC LINE 4
GVCWT41	504/25/M3	VM4 ≠ 24; VM4 ≠ 24

VCWT6	503/31/M7	50.15E5
JVCWT6	505/27/M6	DS → VC LINE 6
GVCWT61	504/25/M4	VC6 24, 27-29; VC6 24, 27-29; VC6 25-26; VC6 25-26
62	M5	

STROBES FOR CENTRAL MACHINE INDICATORS. 50.16 50.21



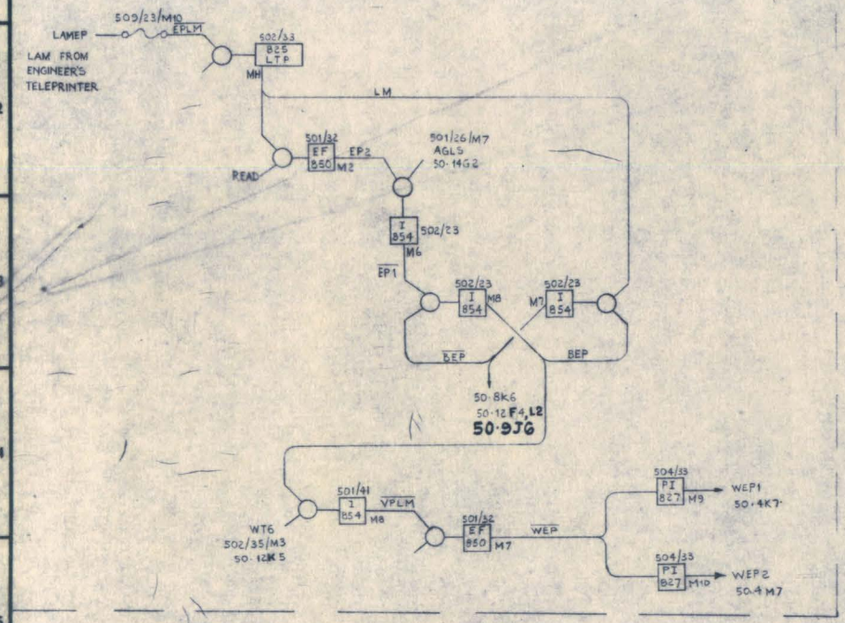
ATLAS 2 — ED 50.16 COMPUTER V-STORE 1 — DISTRIBUTOR.

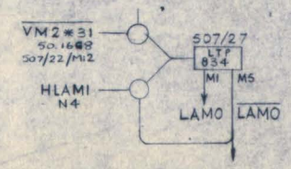


VCRD0	503/29/M1	50-15C4
JVCRD0	504/24/M1	VCREAD0
1VCRD0	504/25/M6	VC0 24-31
VCRD1	503/29/M2	50-15C4
JVCRD1	503/29/M2	VCREAD1
1VCRD1	504/25/M7	VC1 24-31
VCRD2	503/29/M3	50 15C4
JVCRD2	504/24/M3	VC READ2
1VCRD2	504/25/M8	VC2 24-31
VCRD3	503/29/M4	50 15C4
JVCRD3	504/24/M4	VC READ3
1VCRD3	504/25/M9	VC3 24-36
1VCRD4	503/29/M5	50 15C4
JVCRD4	504/24/M5	VCREAD4
1VCRD4	504/25/M10	VC4 24
VCRD5	503/29/M6	50-15C5
JVCRD5	504/24/M6	VC READ5
NOT USED		
VCRD6	503/29/M7	50 15C5
JVCRD6	504/24/M7	VC READ6
1VCRD6	504/25/M11	VC5 24-31
VCRD7	503/29/M8	50 15C5
JVCRD7	504/24/M8	VC READ7
1VCRD7	504/25/M12	VC1 24-31
VCRD13	503/29/M9	50 15C5
JVCRD13	505/24/M1	VCREAD13
1VCRD13	504/26/M10	VC13 24-31
VCRD14	503/29/M10	15-15C5
JVCRD14	505/27/M2	VCREAD14
1VCRD14	504/26/M11	VC14 24-31
2RVFX	505/29/M1	50 12 D7
JG1RVFX	505/27/M7	ENG READER
G1RVFX	504/26/M1	ENG TP3-9
VCRD10	503/29/11	50-15C5
VCRD10	504/24/6	VC READ10
VCRD100	507/17/9	CAC8-13 IDSLVRQ
VCRD11	503/29/12	50-15C5
VCRD11	504/24/8	VC READ11
VCRD110	507/17/11	CAC 14-19

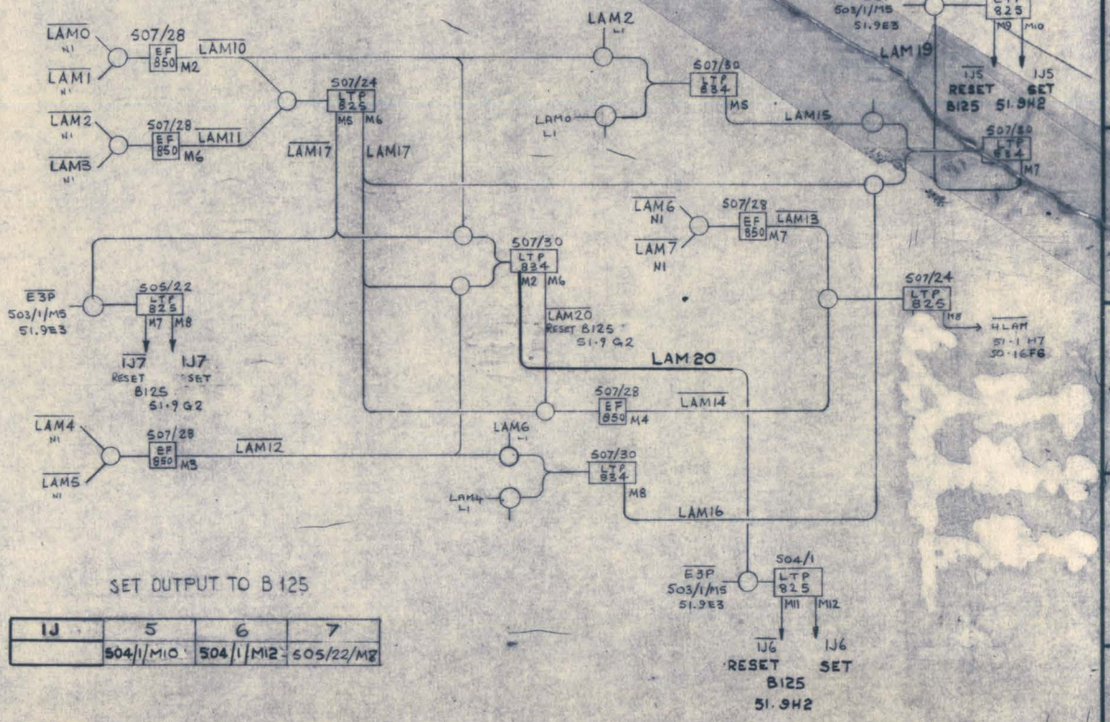
ATLAS II ED 50·17 V STORE READ GATING AND PRODUCTION OF FIXED DATA DIGITS

DISTRIBUTOR





SET INPUT			HOLD INPUT	OUTPUT	B54	COMPLEMENT OF OUTPUT	B54
50·16 G8	507/20/M12	VM2*31	HLAM I	LAM 0	507/27/M1	LAM0	507/27/M5
50·16 B7	507/20/M2	P6	1	1	2	1	6
50·16 B7	507/20/M4	P6	2	2	3	2	7
50·16 B6	507/20/M1	P5	3	3	4	3	8
50·16 B6	507/20/M3	P3	1	4	507/29/M1	4	507/29/M5
50·16 B6	507/20/M2	P2	2	5	2	5	6
50·16 L4	507/24/M4	VC2*35	2	6	3	6	7
50·16 G7	507/22/M7	VM2*24	3	7	4	7	8



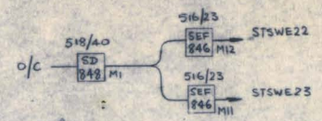
SET OUTPUT TO B 125

IJ	5	6	7
	504/1/M10	504/1/M12	505/22/M8

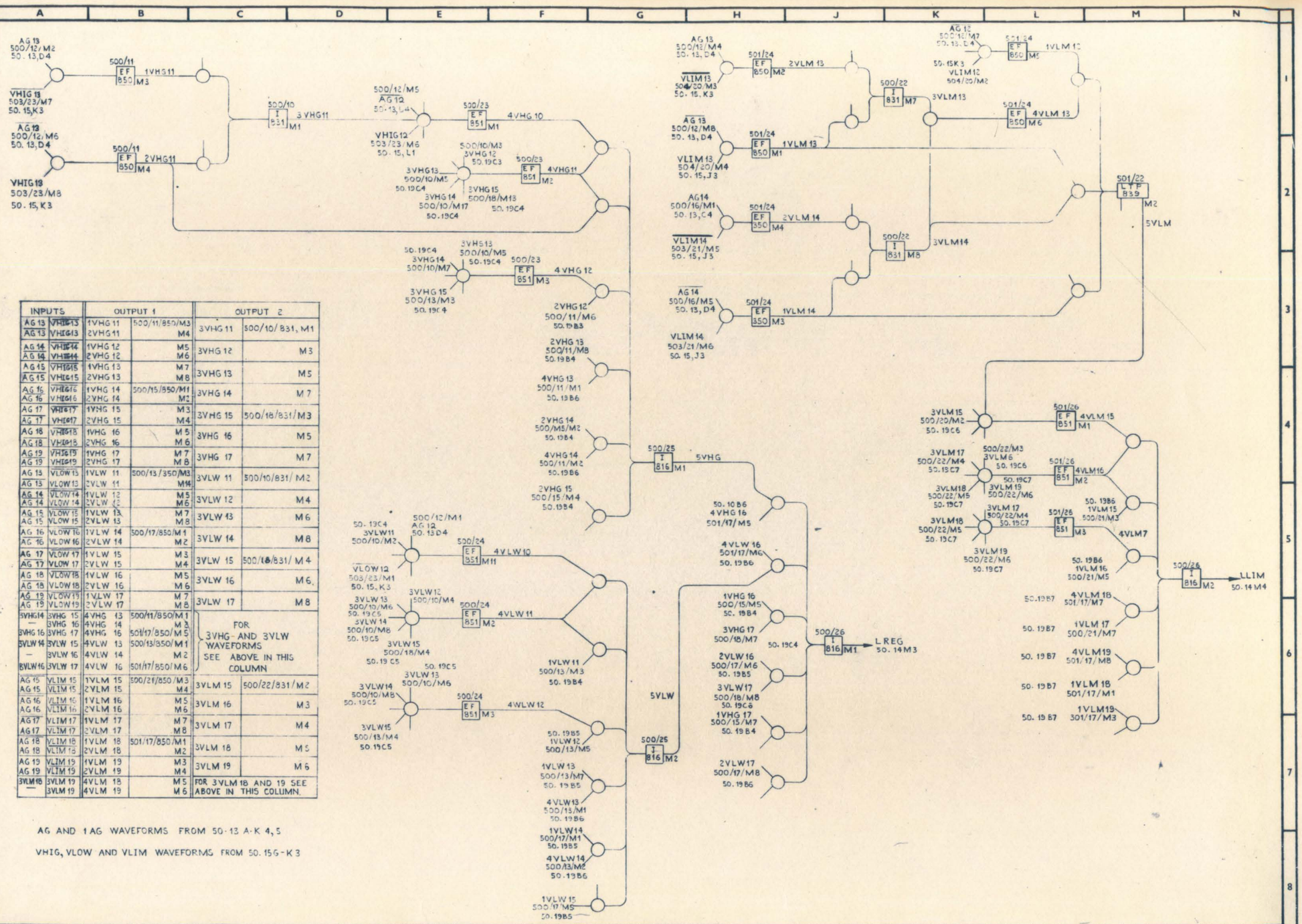
DIGITS OF B125 AND B126 ON INTERRUPT JUMP AND EXTRACODE ENTRY SET AS FOLLOWS VIA PERMUTATION BOARD IN SIS/46:

		19	18	17	16	15	14
INTERRUPT JUMP	IJ	1	1	1	1	1	1
EXTRACODE ENTRY	XJ	1	1	1	1	1	1

POSITIVE VOLTAGE SUPPLIED BY STSWE:



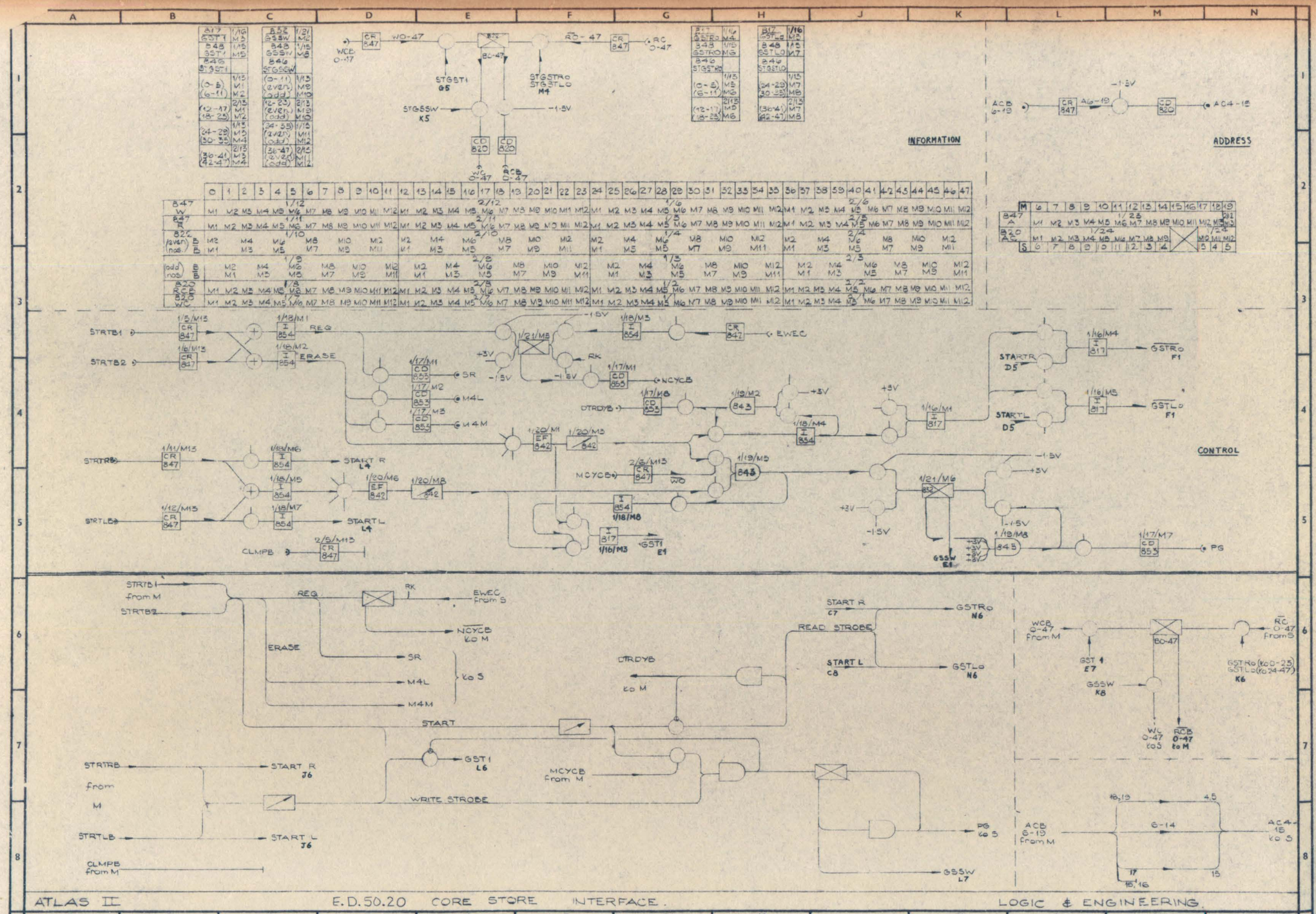
DIGITS OF COMPUTER V-STORE LINE 2								DIGITS OF B125		
31	30	29	28	27	26	25	24	7	6	5
1	δ	δ	δ	δ	δ	δ	δ	1	1	1
0	1	δ	δ	δ	δ	δ	δ	1	1	0
0	0	1	δ	δ	δ	δ	δ	1	0	1
0	0	0	1	δ	δ	δ	δ	1	0	0
0	0	0	0	1	δ	δ	δ	0	1	1
0	0	0	0	0	1	δ	δ	0	1	0
0	0	0	0	0	0	1	δ	0	0	1
0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	0	0	(NO INTERRUPT)		

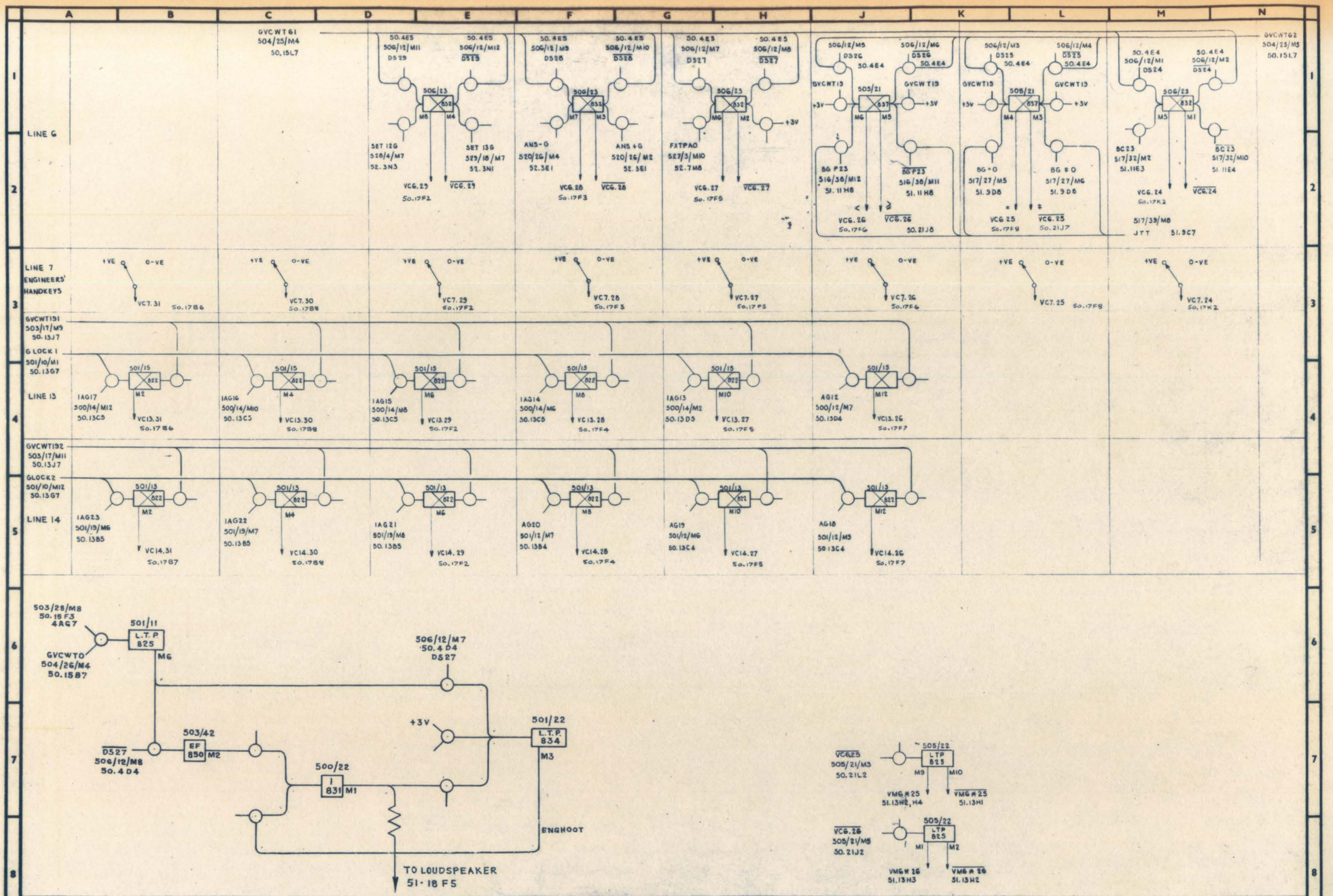


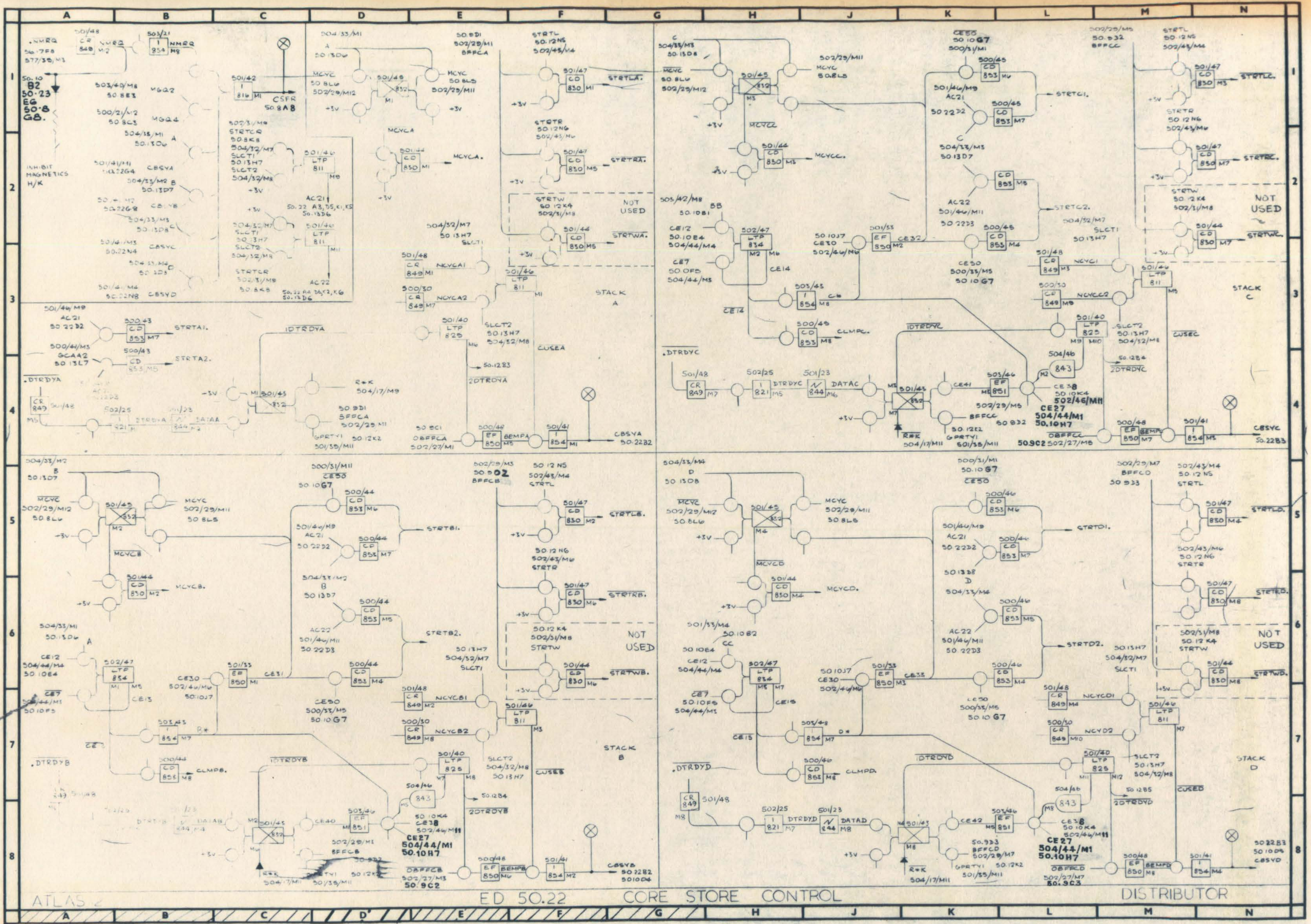
INPUTS		OUTPUT 1		OUTPUT 2	
AG 13	VHIG 13	1VHG 11	500/11/850/M3	3VHG 11	500/10/831, M1
AG 13	VHIG 13	2VHG 11	M4		
AG 14	VHIG 14	1VHG 12	M5	3VHG 12	M3
AG 14	VHIG 14	2VHG 12	M6		
AG 15	VHIG 15	1VHG 13	M7	3VHG 13	M5
AG 15	VHIG 15	2VHG 13	M8		
AG 16	VHIG 16	1VHG 14	500/15/850/M1	3VHG 14	M7
AG 16	VHIG 16	2VHG 14	M2		
AG 17	VHIG 17	1VHG 15	M3	3VHG 15	500/18/831/M3
AG 17	VHIG 17	2VHG 15	M4		
AG 18	VHIG 18	1VHG 16	M5	3VHG 16	M5
AG 18	VHIG 18	2VHG 16	M6		
AG 19	VHIG 19	1VHG 17	M7	3VHG 17	M7
AG 19	VHIG 19	2VHG 17	M8		
AG 13	VLOW 13	1VLW 11	500/13/350/M3	3VLW 11	500/10/831/M2
AG 13	VLOW 13	2VLW 11	M4		
AG 14	VLOW 14	1VLW 12	M5	3VLW 12	M4
AG 14	VLOW 14	2VLW 12	M6		
AG 15	VLOW 15	1VLW 13	M7	3VLW 13	M6
AG 15	VLOW 15	2VLW 13	M8		
AG 16	VLOW 16	1VLW 14	500/17/850/M1	3VLW 14	M8
AG 16	VLOW 16	2VLW 14	M2		
AG 17	VLOW 17	1VLW 15	M3	3VLW 15	500/18/831/M4
AG 17	VLOW 17	2VLW 15	M4		
AG 18	VLOW 18	1VLW 16	M5	3VLW 16	M6
AG 18	VLOW 18	2VLW 16	M6		
AG 19	VLOW 19	1VLW 17	M7	3VLW 17	M8
AG 19	VLOW 19	2VLW 17	M8		
3VHG 14	3VHG 15	4VHG 13	500/11/850/M1	FOR 3VHG- AND 3VLW WAVEFORMS SEE ABOVE IN THIS COLUMN	
—	3VHG 16	4VHG 14	M3		
3VHG 16	3VHG 17	4VHG 16	501/17/850/M5		
3VLW 14	3VLW 15	4VLW 13	500/13/350/M1		
—	3VLW 16	4VLW 14	M2		
3VLW 16	3VLW 17	4VLW 16	501/17/850/M6		
AG 15	VLIM 15	1VLM 15	500/21/850/M3	3VLM 15	500/22/831/M2
AG 15	VLIM 15	2VLM 15	M4		
AG 16	VLIM 16	1VLM 16	M5	3VLM 16	M3
AG 16	VLIM 16	2VLM 16	M6		
AG 17	VLIM 17	1VLM 17	M7	3VLM 17	M4
AG 17	VLIM 17	2VLM 17	M8		
AG 18	VLIM 18	1VLM 18	501/17/850/M1	3VLM 18	M5
AG 18	VLIM 18	2VLM 18	M2		
AG 19	VLIM 19	1VLM 19	M3	3VLM 19	M6
AG 19	VLIM 19	2VLM 19	M4		
3VLM 16	3VLM 19	4VLM 18	M5	FOR 3VLM 18 AND 19 SEE ABOVE IN THIS COLUMN.	
—	3VLM 19	4VLM 19	M6		

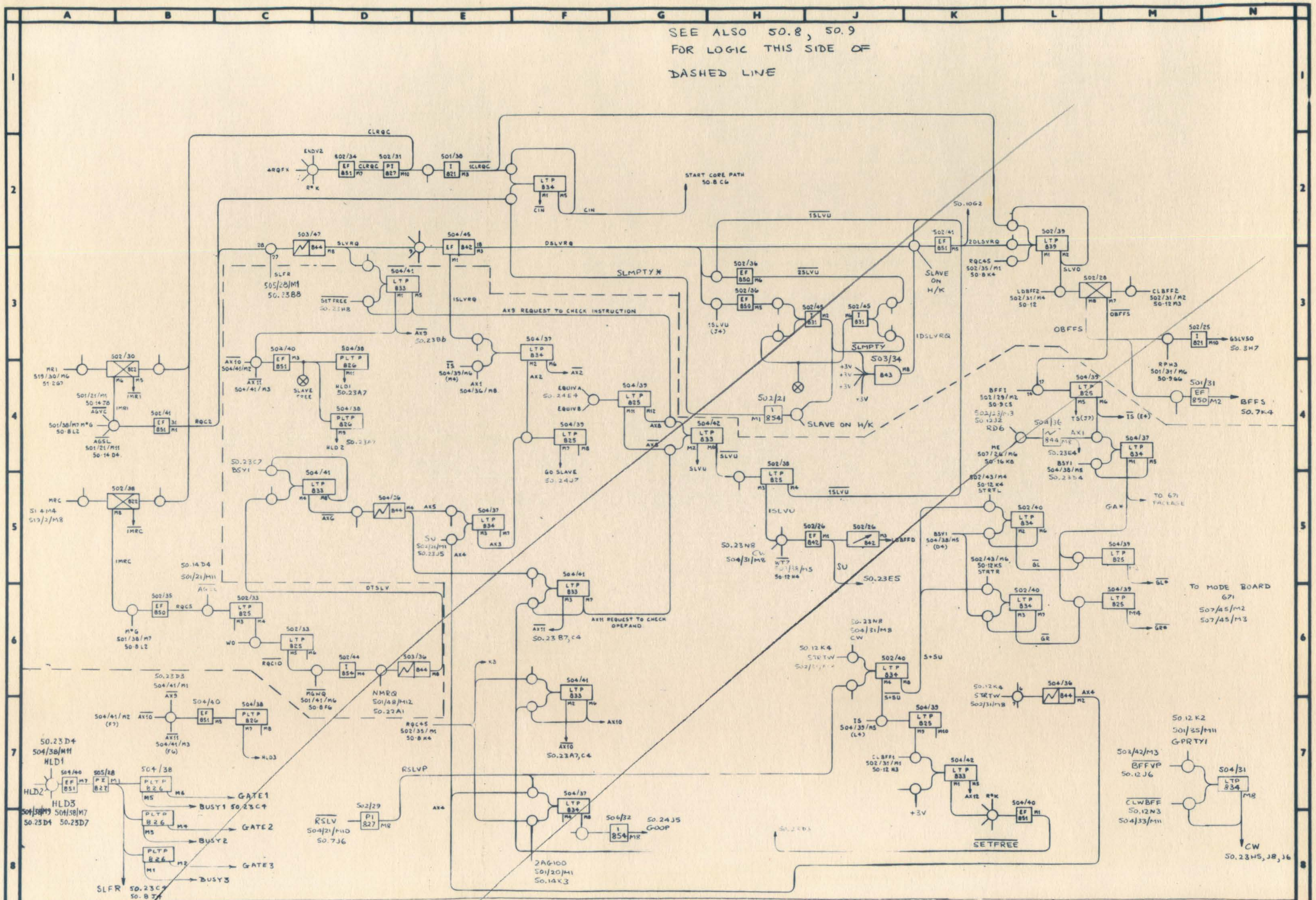
AG AND 1AG WAVEFORMS FROM 50·13 A-K 4,5

VHIG, VLOW AND VLIM WAVEFORMS FROM 50.15G-K3

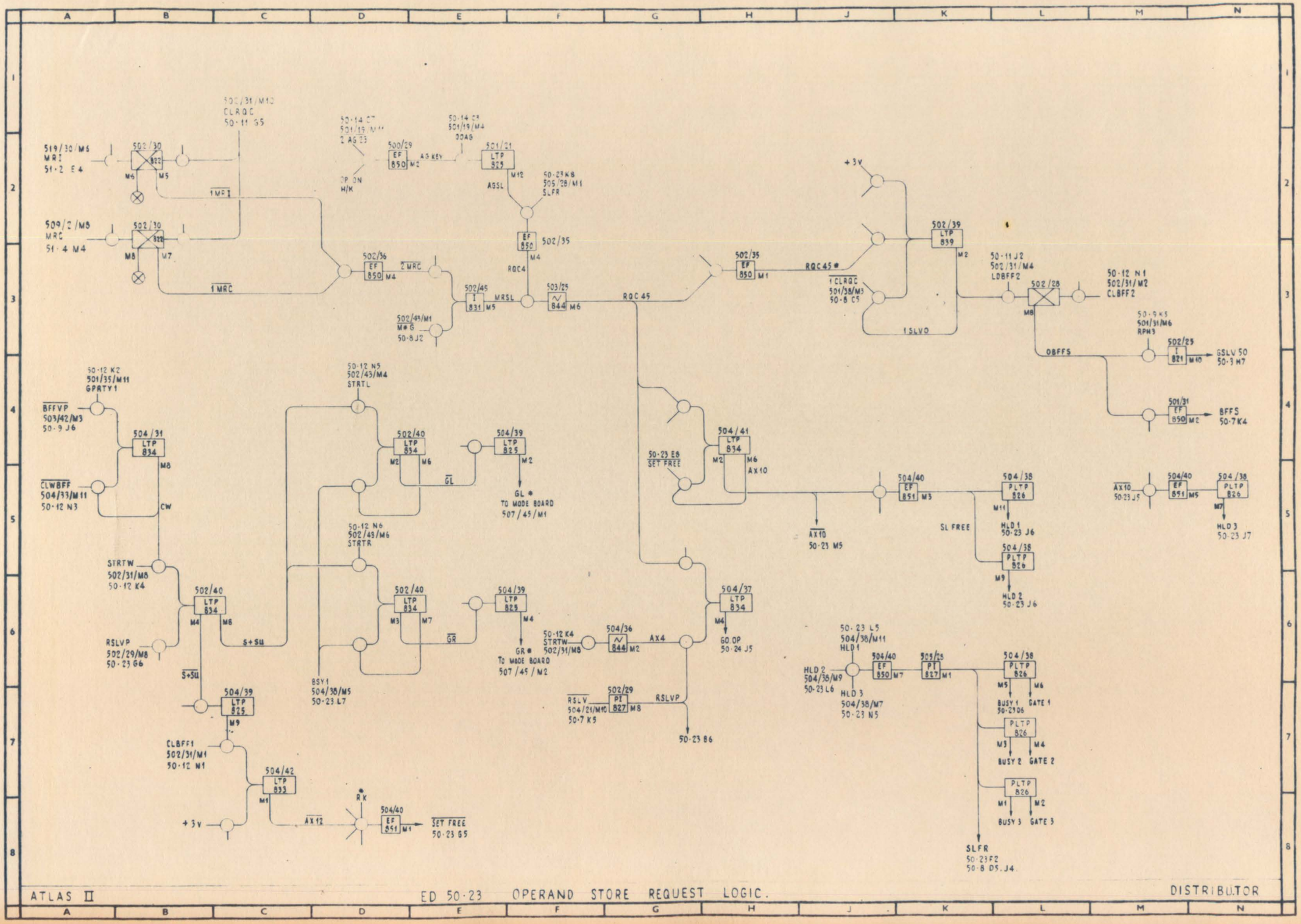

INFORMATION
ADDRESS
CONTROL
STRTB1
STRTB2
REQ
ERASE
SR
M4L
M4M
NCYCB
EWEC
RK
DTRDYB
MCYCB
START R
START L
CLMPB
GSTRo
GSTLo
GSSW
PG
START
WRITE STROKE
READ STROKE
GST1
WCB 0-47
RCB 0-47
ACB 6-19
AC4-15
ATLAS II
E.D.50.20 CORE STORE INTERFACE.
LOGIC & ENGINEERING.


LINE 6
LINE 7 ENGINEERS' HANDKEYS
LINE 13
LINE 14
GLOCK 1
GLOCK 2
GVCWT191
GVCWT192
GVCWT61
GVCWT62
ENGHOOT
TO LOUDSPEAKER 51-18 F5
ATLAS 2
ED. 50.21 COMPUTER V-STORE 2
DISTRIBUTOR


ATLAS 2
ED 50.22
CORE STORE CONTROL
DISTRIBUTOR
STACK A
STACK B
STACK C
STACK D
NOT USED
INHIBIT MAGNETICS H/K
NMRQ
CSFR 50.8A8
MGQ2
MGQ4
CBSYA
CBSYB
CBSYC
CBSYD
MCYCA.
MCYCB.
MCYCC.
MCYCD.
STRTLA.
STRTRA.
STRTWA.
STRTA1.
STRTA2.
STRTB1.
STRTB2.
STRTLB.
STRTRB.
STRTWB.
STRTC1.
STRTC2.
STRTLC.
STRTRC.
STRTWC.
STRTD1.
STRTD2.
STRTLD.
STRTRD.
STRTWD.
CLMPB.
CLMPC.
CLMPD.
CUSEA
CUSEB
CUSEC
CUSED
IDTRDYA
IDTRDYB
IDTRDYC
IDTRDYD
2DTRDYA
2DTRDYB
2DTRDYC
2DTRDYD
.DTRDYA
.DTRDYB
.DTRDYC
.DTRDYD
DATAC
DATAD
NCYCA1
NCYCA2
NCYCB1
NCYCB2
NCYC1
NCYCC2
NCYCD1
NCYD2
BEMPA
BEMPB
BEMPC
BEMPD
OBFFCA
OBFFCB
OBFFCC
OBFFCD
BFFCA
BFFCB
BFFCC
BFFCD
SLCT1
SLCT2
AC21
AC22
CE50
CE27 504/44/M1 50.10H7
R*K 504/17/M11
GPRTY1 501/35/M11



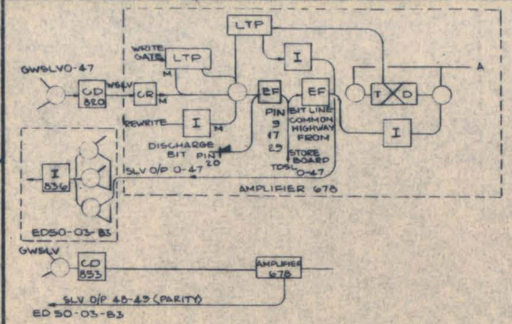
ATLAS 2 — 50.23 SLAVE STORE REQUEST LOGIC — DISTRIBUTOR



ATLAS II

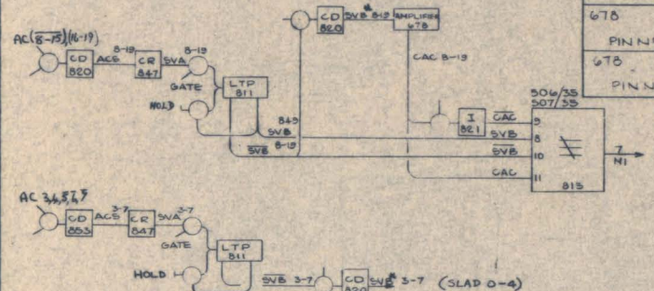
ED 50·23 OPERAND STORE REQUEST LOGIC.

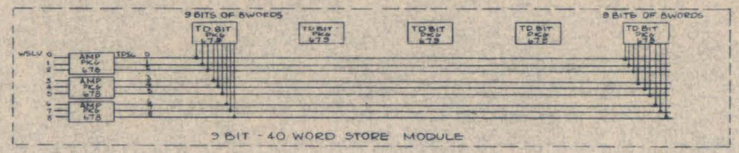
DISTRIBUTOR



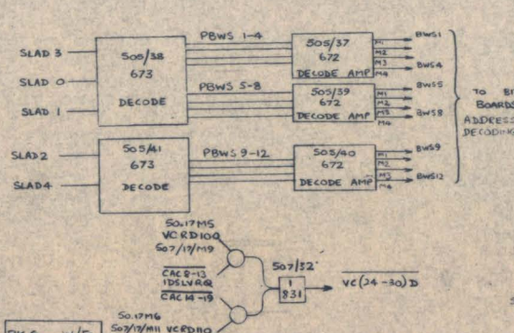
PKG W/F	43	40	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
678	503/43-44-43								503/37-36-35								503/29-28-27								508/43-44-43								508/30-29-28								507/41-40-39							
SLV O/P	M11	M11	M10	M9	M8	M6	M6	M3	M3	M3	M11	M11	M1	M6	M6	M6	M3	M3	M3	M11	M11	M11	M6	M6	M6	M3	M3	M3	M11	M11	M11	M6	M6	M6	M3	M3	M3	M11	M11	M11	M6	M6	M3	M3	M3	M11	M11	M11	M6	M6	M6
A	M8								M8								M8								M8								M8								M8							
WRITE GATE	M10	M10	M5	M5	M5	M2	M2	M2	M10	M10	M10	M5	M5	M5	M2	M2	M2	M10	M10	M10	M5	M5	M5	M2	M2	M2	M10	M10	M10	M5	M5	M5	M2	M2	M2	M10	M10	M10	M5	M5	M5	M2	M2	M2	M10	M10	M10	M5	M5	M5
REWRITE	M7								M7								M7								M7								M7								M7							
CR	M9	M9	M4	M4	M4	M1	M1	M1	M9	M9	M9	M4	M4	M4	M1	M1	M1	M9	M9	M9	M4	M4	M4	M1	M1	M1	M9	M9	M9	M4	M4	M4	M1	M1	M1	M9	M9	M9	M4	M4	M4	M1	M1	M1	M9	M9	M9	M4	M4	M4
820 WSLV	503/15								508/15								507/15								506/15								505/15								504/15							
	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2
853 WSLV	506/20																																																	
	M2	M1																																																	

PKG W/F	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TDSL	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
679	509/41-42-46-47-48								509/33-34-38-39-40								509/25-26-30-31-32								508/41-42-46-47-48								508/26-27-31-32-33								507/37-38-42-43-44							
PIN N°	30	28	26	24	22	20	18	16	32	30	28	26	24	22	20	18	16	32	30	28	26	24	22	20	18	16	32	30	28	26	24	22	20	18	16	32	30	28	26	24	22	20	18	16	32	30	28	26	24	22
678	503/43								503/35								503/27								508/43								508/28								507/39							
PIN N°	23			17			9		23			17			9			23			17			9			23			17			9			23			17			9			23			17		
678	503/44								503/36								503/28								508/44								508/29								507/40							
PIN N°	29			17			9		29			17			9			29			17			9			29			17			9			29			17			9			29			17		
678	503/45								503/37								503/29								508/45								508/30								507/41							
PIN N°			17			9			29			17			9			29			17			9			29			17			9			29			17			9			29			17		

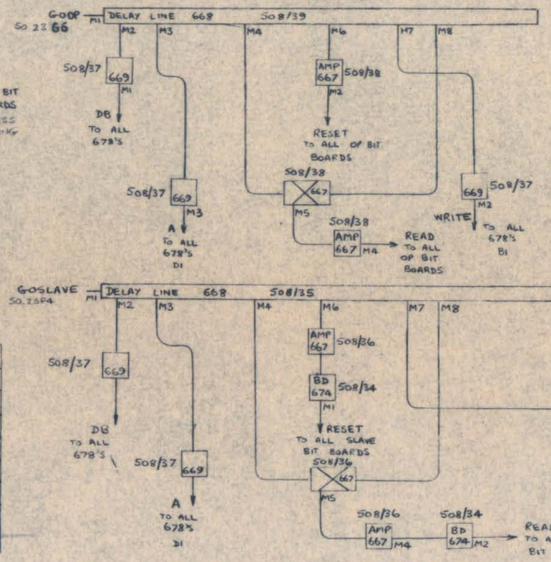




PKG W/F DIGITS	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
821 CAC	506/33																
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1					
678	507/41-40-39				506/41-40-39												
CAC	M3	M3	M3	M11	M11	M11	M6	M6	M6	M3	M3	M3					
A	M8				M8												
WRITE GATE	M2	M2	M2	M10	M10	M10	M5	M5	M5	M2	M2	M2					
REWRITE	M7				M7												
CR	M1	M1	M1	M9	M9	M9	M4	M4	M4	M1	M1	M1					
820 SVB*	507/33												505/35				
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M9	M7	M5	M3	M1
811	507/34				506/34						505/34						
$\overline{SVB}$	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2
SVB	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1
826	504/38																
GATE	M2	M2	M2	M2	M2	M4	M4	M4	M4	M4	M6	M6	M6	M6	M6	M6	
HOLD	M7	M7	M7	M7	M7	M9	M9	M9	M3	M3	M3	M11	M11	M11	M11	M11	M11
847 SVA	505/31				505/33												
	M13	M12	M11	M10	M9	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1
820 ACS 3,4,5, 11-15, 16-19	500/40															500/40	
	M11	M9	M7	M5	M4	M2	M10	M8	M6							M12	M3	M1
853 ACS 6-10	500/47																
													M6	M4	M3	M2	M1



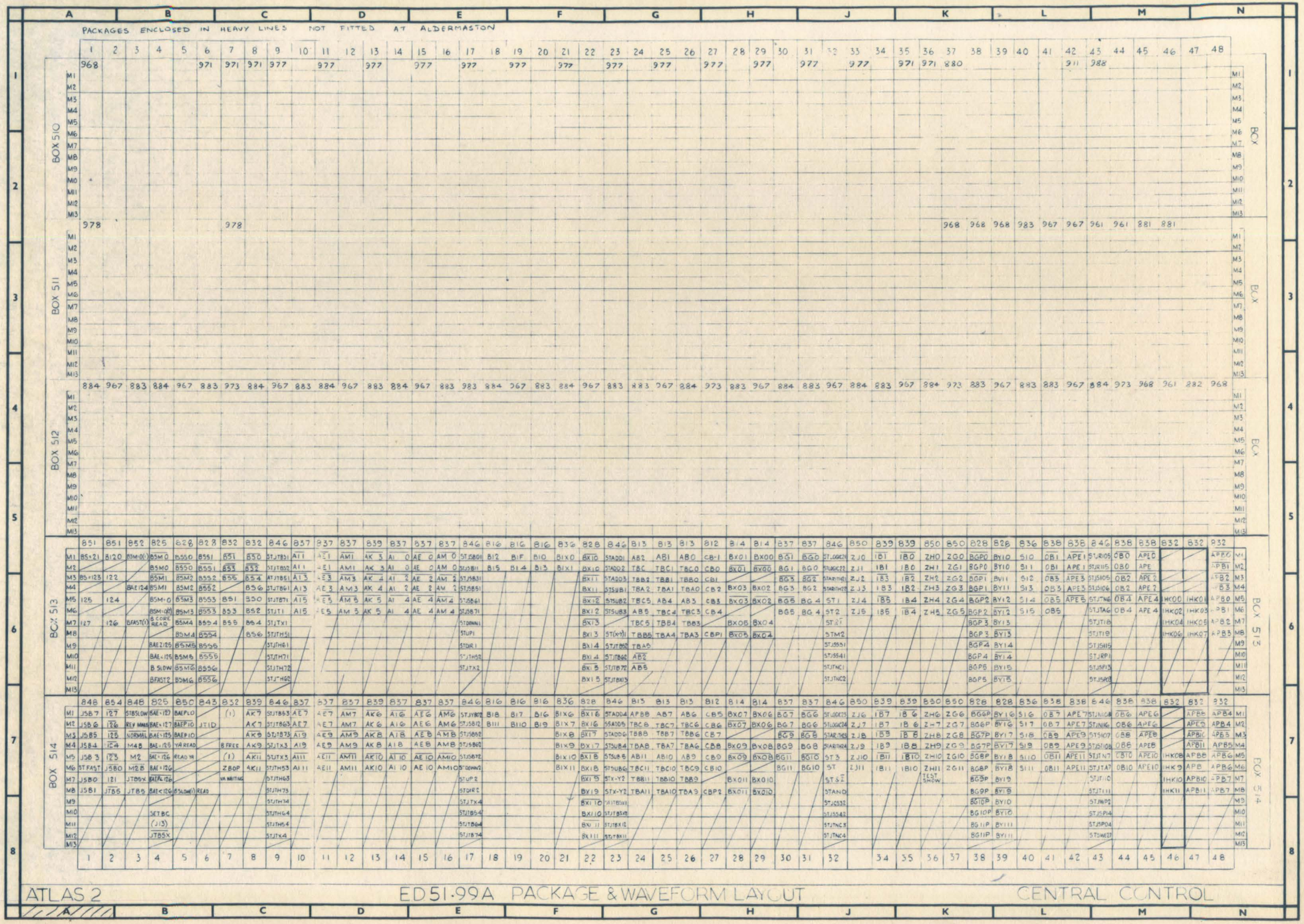
PKG W/F	13	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
TDAC																	
679	507 37-38-42-43-44				506/37-38-42-43												
PIN N°	20	18	16	32	30	28	26	24	22	20	18	16					
678	507/39				506/39												
PIN N°			9			29			17			9					
678	507/40				506/40												
PIN N°		9			29			17			9						
678	507/41				506/41												
PIN N°	9			29			17			9							

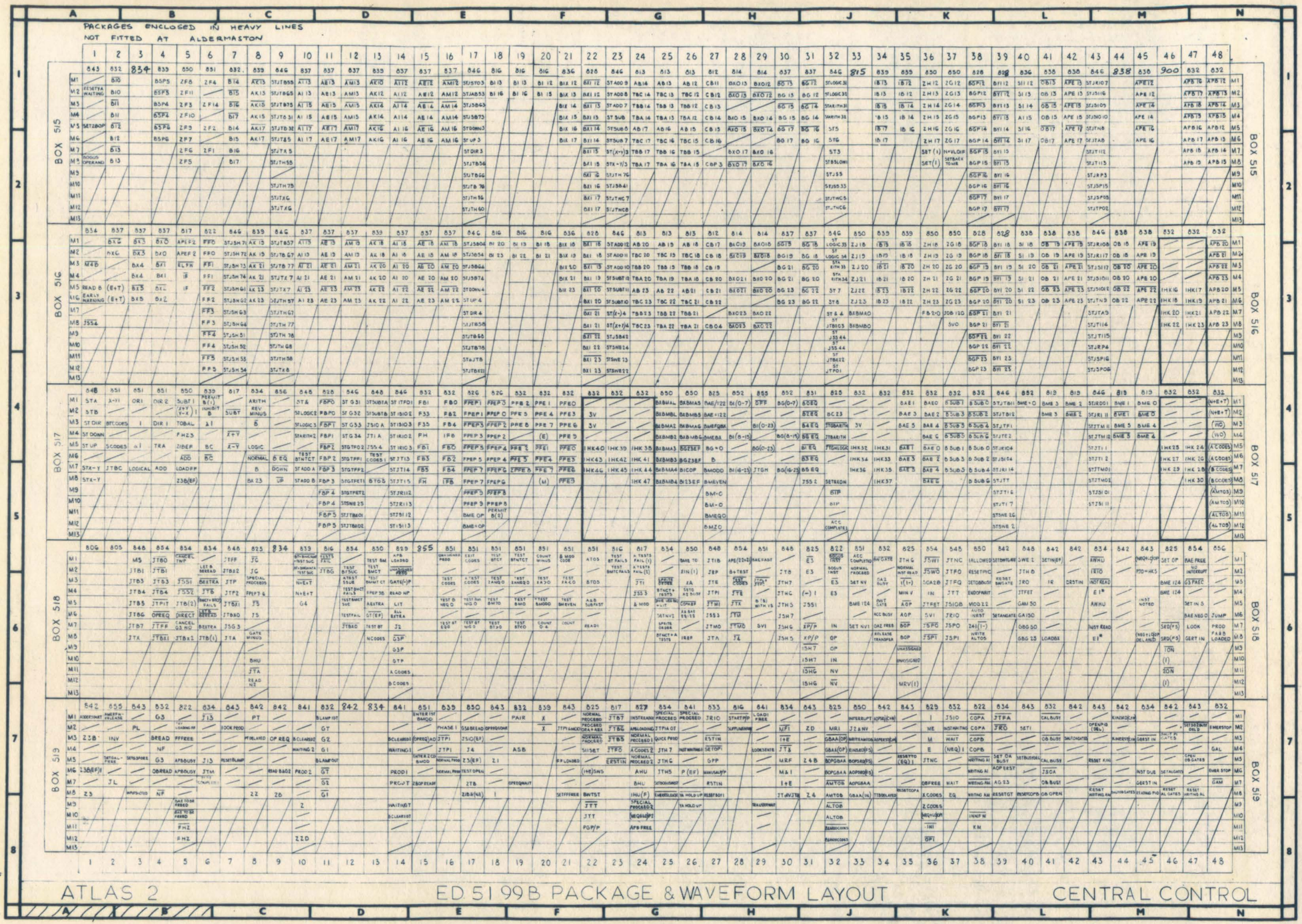


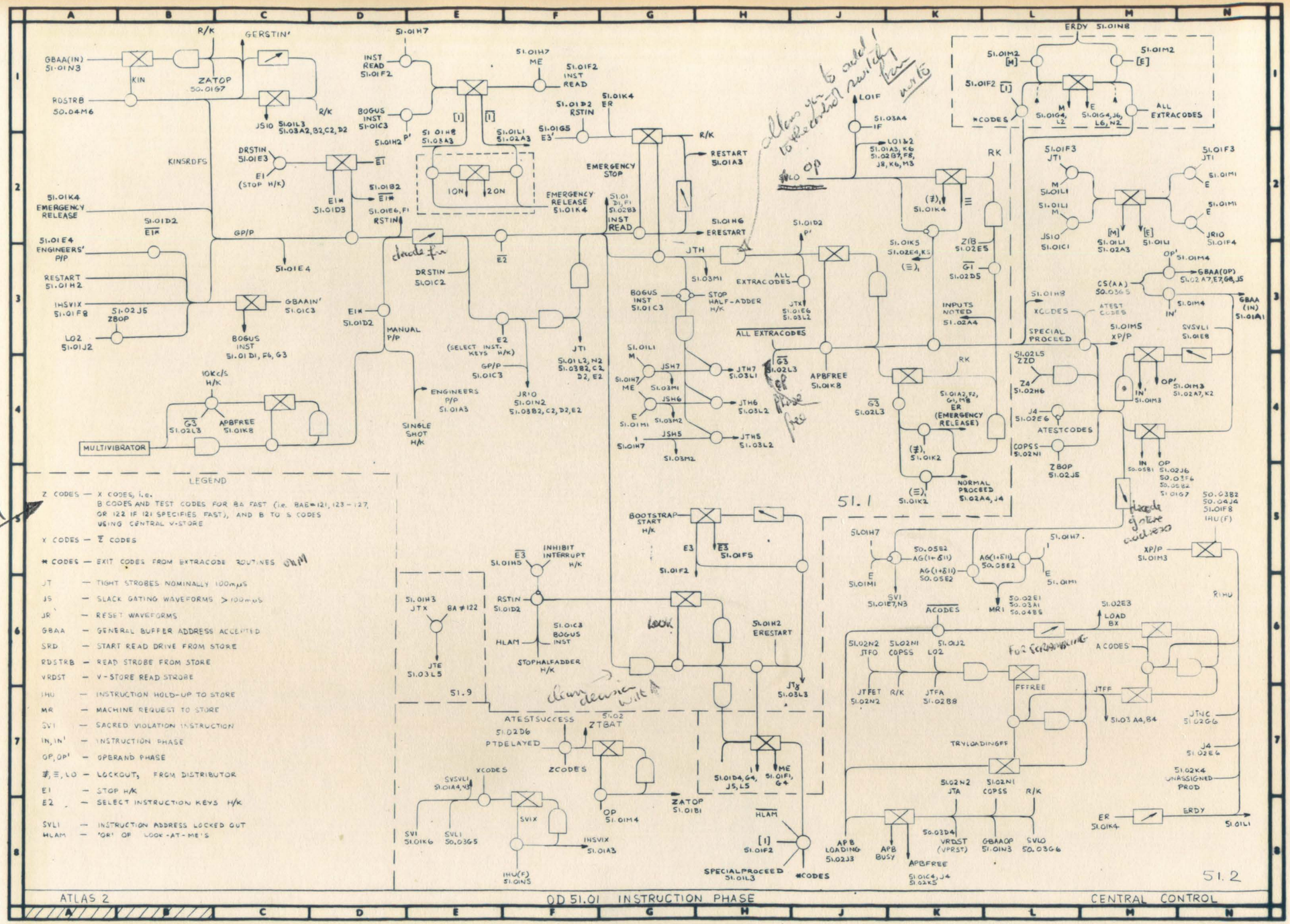
ATLAS 2 & TITAN

50.24 SLAVE STORE CONTROL LOGIC

DISTRIBUTOR


PACKAGES ENCLOSED IN HEAVY LINES NOT FITTED AT ALDERMASTON
BOX 510
BOX 511
BOX 512
BOX 513
BOX 514
BCX
ECX
BCX 513
ECX 514
ATLAS 2
ED51-99A PACKAGE & WAVEFORM LAYOUT
CENTRAL CONTROL

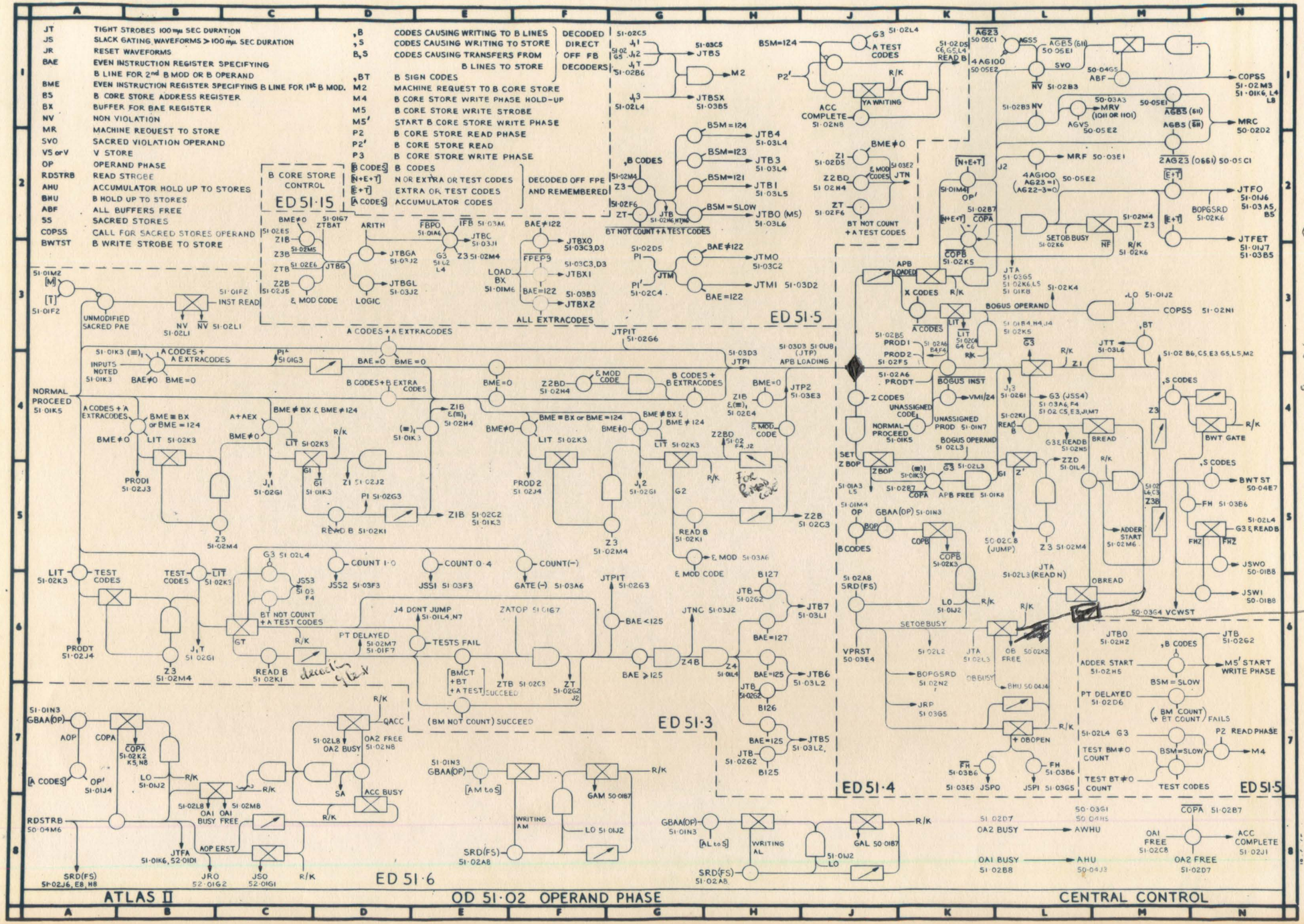

PACKAGES ENCLOSED IN HEAVY LINES
NOT FITTED AT ALDERMASTON
BOX 515
BOX 516
BOX 517
BOX 518
BOX 519
ATLAS 2
ED 5199B PACKAGE & WAVEFORM LAYOUT
CENTRAL CONTROL



Scrambled codes are B codes using slow B lines only (Fast B lines may be jumping)

A codes not scrambled slow B lines only (central voltage not scrambled as coming be switch of control

ATLAS 2 — OD 51.01 INSTRUCTION PHASE — CENTRAL CONTROL



All main delays
outputs O/P
delays

G_1 BA (only A codes)

G_2 Bm (eg Branch)

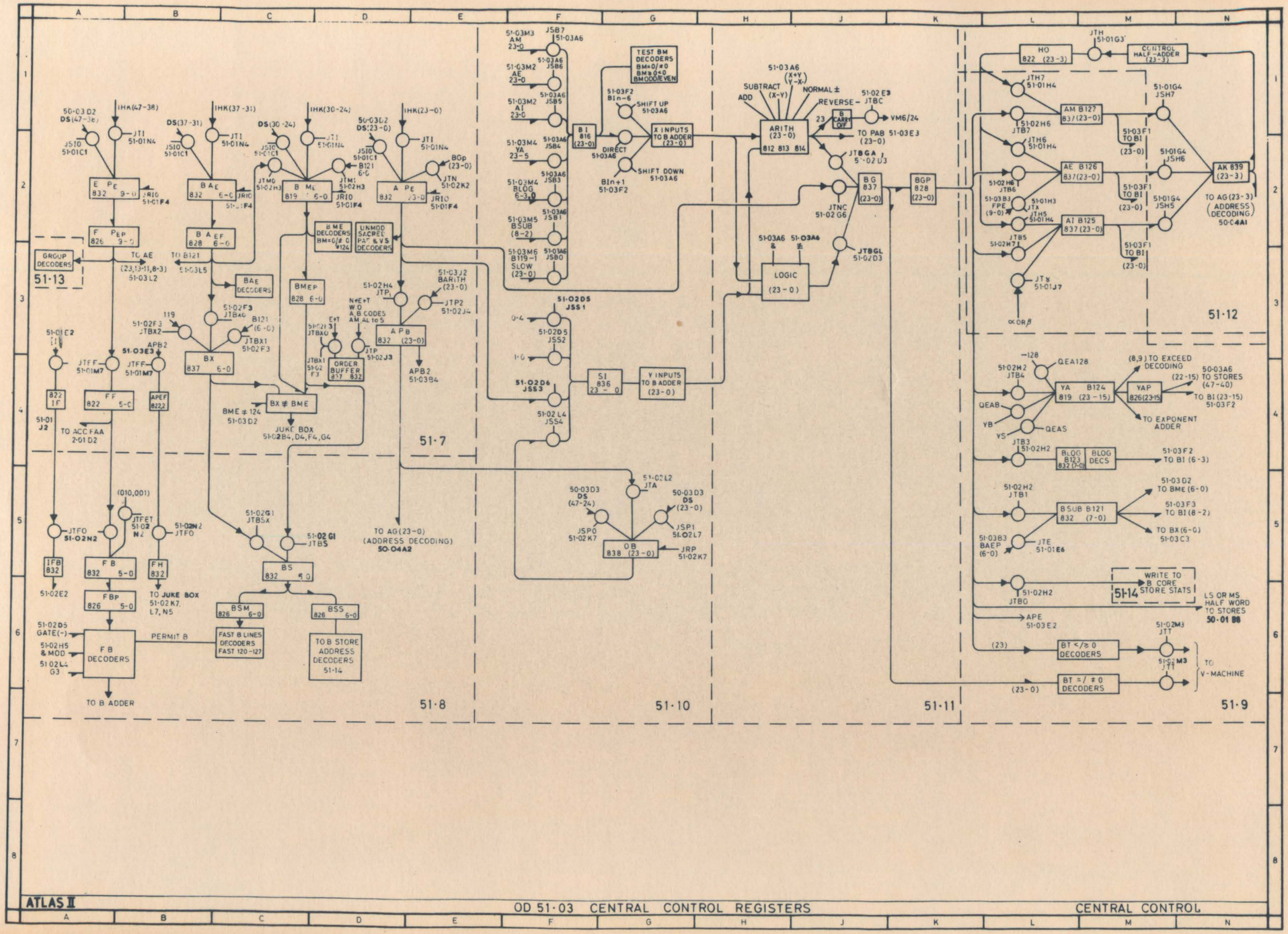
G_3 operand write

G_T Test codes

Z_3 says only operand phase after PROD

K5 = bac + bm + A
(B, MOD, CODE)

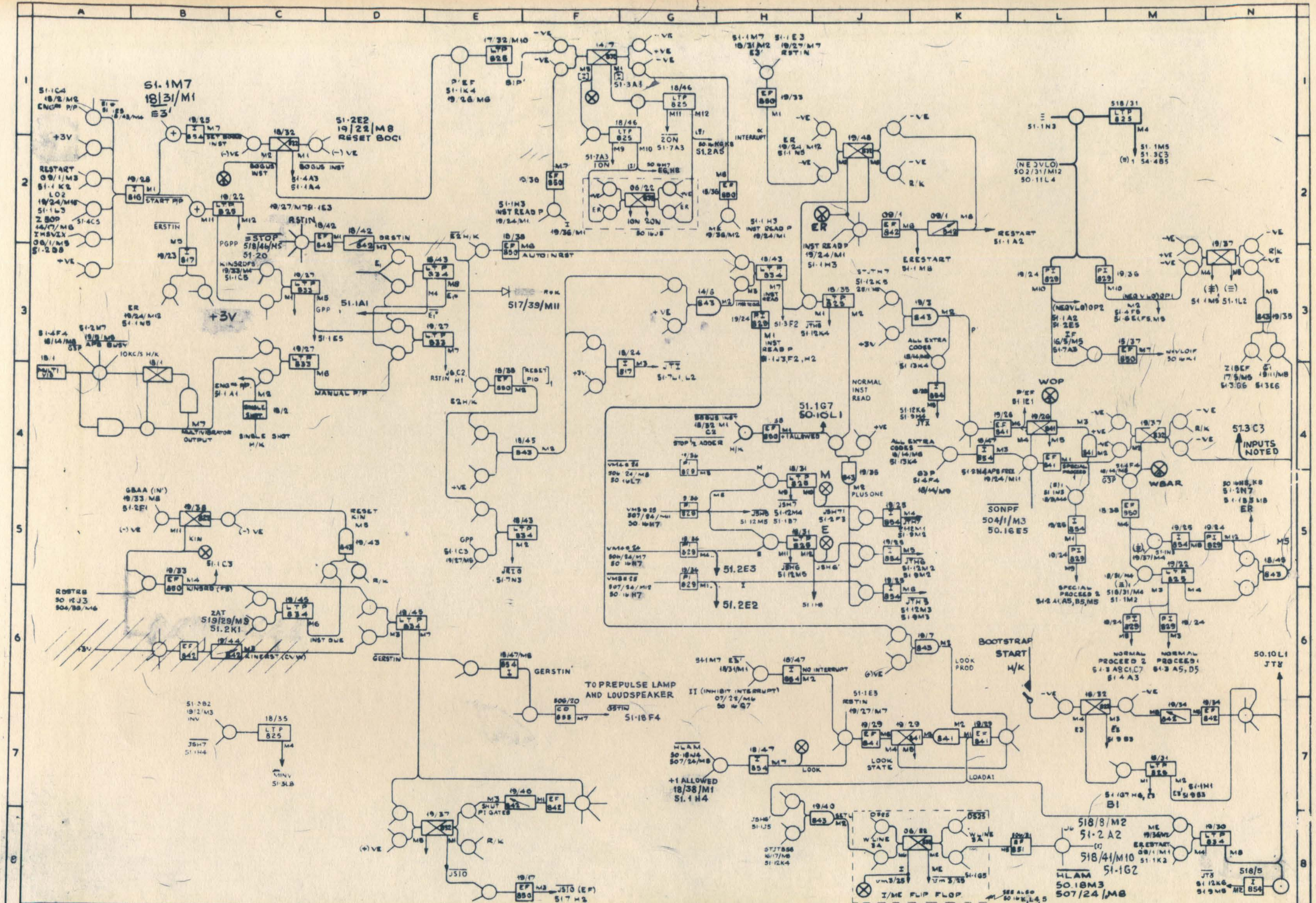
Right to Left ?!



ATLAS II

OD 51·03 CENTRAL CONTROL REGISTERS

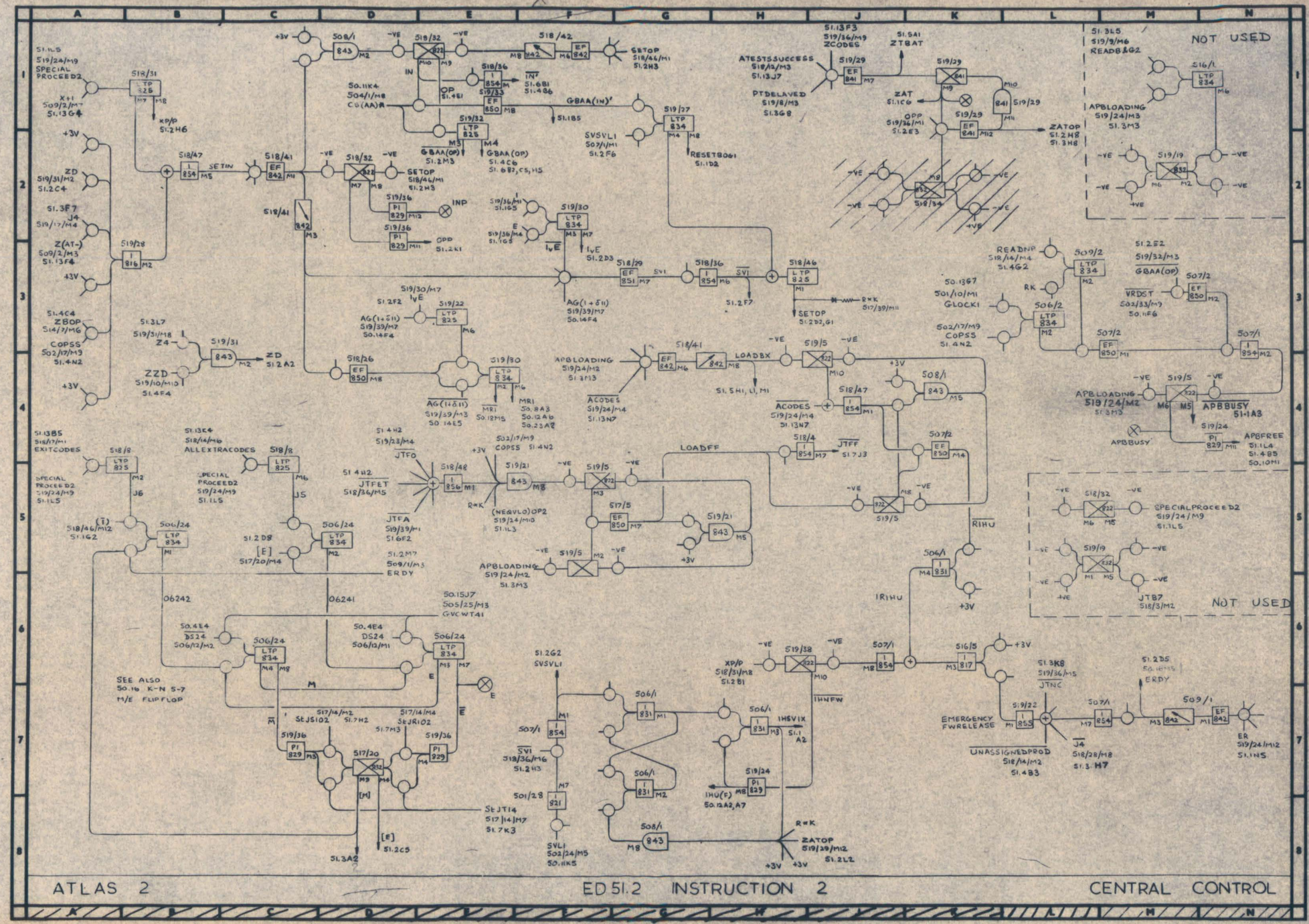
CENTRAL CONTROL

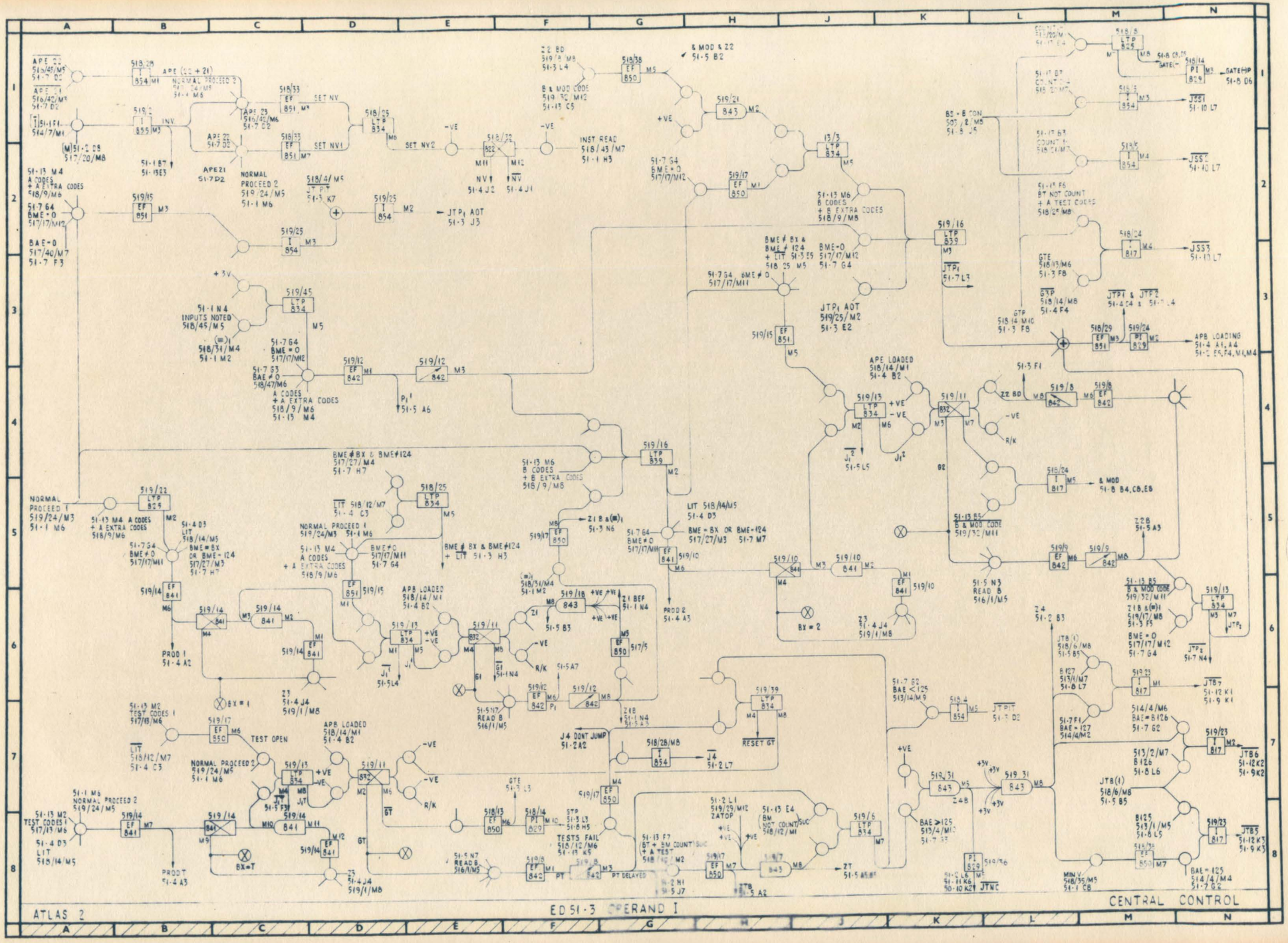


ATLAS 2

ED 51·1 INSTRUCTION I.

CENTRAL CONTROL.


NOT USED
SETOP
SETIN
INP
OPP
ZD
ZZD
ZBOP
COPSS
+3V
-VE
+VE
IVE
RESET
ZATOP
ZTBAT
ZAT
ATESTSSUCCESS
PTDELAYED
SPECIAL PROCEED2
EXITCODES
ALLEXTRACODES
JTFO
JTFA
JTFET
LOADFF
LOADBX
ACODES
APBLOADING
APBBUSY
APBFREE
READNP
RK
VRDST
GLOCK1
SETSTBO61
SVSVL1
SVL1
IHSVIX
IHWFW
IHU(F)
IRIHU
RIHU
JTNC
JTB7
ERDY
EMERGENCY FWRELEASE
UNASSIGNEDPROD
SEE ALSO 50.16 K-N 5-7 M/E FLIPFLOP
ATLAS 2
ED 51.2 INSTRUCTION 2
CENTRAL CONTROL


ATLAS 2
ED 51-3 OPERAND I
CENTRAL CONTROL
NORMAL PROCEED 1
519/24/M3
51-1 M6
NORMAL PROCEED 2
519/24/M5
51-1 M6
PROD 1
51-4 A2
PROD 2
51-4 A3
TEST OPEN
APB LOADED
518/14/M1
51-4 B2
BME≠BX & BME≠124
517/27/M4
51-7 H7
BME=BX OR BME=124
517/27/M3
51-7 H7
BME=0
517/17/M12
51-7 G4
BME≠0
517/17/M11
51-7 G4
BAE=0
517/40/M7
51-7 F3
BAE<125
513/14/M9
BAE>125
515/4/M9
51-7 F3
BAE=127
514/4/M2
51-7 G2
BAE=125
514/4/M4
51-7 G2
BAE=B126
51-7 G2
B127
513/1/M7
51-8 L7
B126
513/2/M7
51-8 L6
B125
513/1/M5
51-8 L5
A CODES
+ A EXTRA CODES
518/9/M6
B CODES
+ B EXTRA CODES
518/9/M8
& MOD CODE
519/32/M11
& MOD
51-8 B4, C8, E8
BT NOT COUNT
+ A TEST CODES
518/9/M8
BT NOT COUNT
518/21/M7
BT≠BM COUNT SUC
+ A TEST
518/12/M7
BM NOT COUNT SUC
518/12/M1
TESTS FAIL
518/12/M6
51-1 F5
PT DELAYED
51-2 H1
51-5 J7
51-5 A2
APE 22
513/45/M5
51-7 D2
APE 23
516/42/M6
51-7 D2
APE 21
51-7 D2
APE (22 + 21)
NORMAL PROCEED 2
519/24/M5
51-1 M6
APE 1
516/42/M3
51-7 D2
NORMAL PROCEED 2
519/24/M5
51-1 M6
APE 21
51-7 D2
SET NV
SET NV1
SET NV2
-VE
NV
51-4 J2
NV
51-4 J1
INST READ
518/43/M7
51-1 H3
+VE
-VE
R/K
GT
GTE
51-5 L3
GTP
518/14/M8
51-4 F4
GTP
518/14/M10
51-3 F8
GTE
518/13/M6
51-3 F8
STP
51-3 L3
51-8 H5
JTP1 AOT
519/25/M2
51-3 E2
JTP1 AOT
51-3 J3
JTP1
51-7 L3
JTP1 & JTP2
51-4 C4 & 51-7 L4
JTP2
51-7 N4
JTP1
51-5 L5
JTP2
51-5 L4
JTP PIT
51-3 D2
JTNC
51-10 K2
JTB(1)
518/6/M8
51-5 B5
JTB7
51-12 K1
51-9 K1
JTB6
51-12 K2
51-9 K2
JTB5
51-12 K3
51-9 K3
JSS1
51-10 L7
JSS2
51-10 L7
JSS3
51-13 L7
JSS4
51-13 L7
APB LOADING
51-4 A1, A4
51-5 E6, F4, M4, M4
GATEHP
51-8 D6
GATEL
51-8 C8, C6
LIT 518/12/M7
51-4 C3
LIT 518/14/M5
51-4 D3
LIT
51-4 D3
Z1 BEF
51-1 N4
Z1 B &(=)1
51-3 N6
Z1 B &(=)1
519/17/M8
51-3 F5
Z1 B
51-5 A3
Z2 B
51-5 A3
Z2 BD
519/8/M8
51-3 L4
Z3
51-4 J4
519/1/M8
Z4
51-2 B3
Z18
51-1 N4
51-5 A3
Z7
51-4 J4
519/1/M4
Z8
51-1 N4
51-5 A3
Z T
51-5 A5 B5
READ B
516/1/M5
51-5 N3
READ B
516/1/M5
51-5 N7
RESET GT
J4 DONT JUMP
51-2 A2
J4
51-2 L7
MIN V
518/35/M5
51-1 C8
ZATOP
519/29/M12
51-2 L1
51-13 E4
51-13 F7
51-13 M2
TEST CODES 1
517/13/M6
51-4 D3
LIT
518/14/M5
51-13 M4
A CODES
+ A EXTRA CODES
518/9/M6
51-7 G4
BME=0
517/17/M12
51-7 G3
BAE≠0
518/47/M6
51-13 M4
A CODES
+ A EXTRA CODES
518/9/M6
51-13 M6
B CODES
+ B EXTRA CODES
518/9/M8
51-13 M6
B CODES
+ B EXTRA CODES
518/9/M8
51-13 B5
& MOD CODE
519/32/M11
51-13 M5
TEST CODES 1
517/13/M6
51-13 M2
TEST CODES 1
517/13/M6
51-1 M5
NORMAL PROCEED 2
519/24/M5
51-1 M6
51-1 B7
51-1 E3
51-2 D8
517/20/M8
51-1 N4
INPUTS NOTED
518/45/M5
518/31/M4
51-1 M2
518/31/M4
51-1 M2
51-7 H4
51-7 J4
51-7 K4
51-7 L4
51-7 M4
51-7 N4
51-8 B6
51-8 C6
51-8 D6
51-8 E6
51-8 F6
51-8 G6
51-8 H6
51-8 J6
51-8 K6
51-8 L6
51-8 M6
51-8 N6
51-8 P6
51-8 R6
51-8 S6
51-8 T6
51-8 U6
51-8 V6
51-8 W6
51-8 X6
51-8 Y6
51-8 Z6
51-8 A7
51-8 B7
51-8 C7
51-8 D7
51-8 E7
51-8 F7
51-8 G7
51-8 H7
51-8 J7
51-8 K7
51-8 L7
51-8 M7
51-8 N7
51-8 P7
51-8 R7
51-8 S7
51-8 T7
51-8 U7
51-8 V7
51-8 W7
51-8 X7
51-8 Y7
51-8 Z7
51-8 A8
51-8 B8
51-8 C8
51-8 D8
51-8 E8
51-8 F8
51-8 G8
51-8 H8
51-8 J8
51-8 K8
51-8 L8
51-8 M8
51-8 N8
51-8 P8
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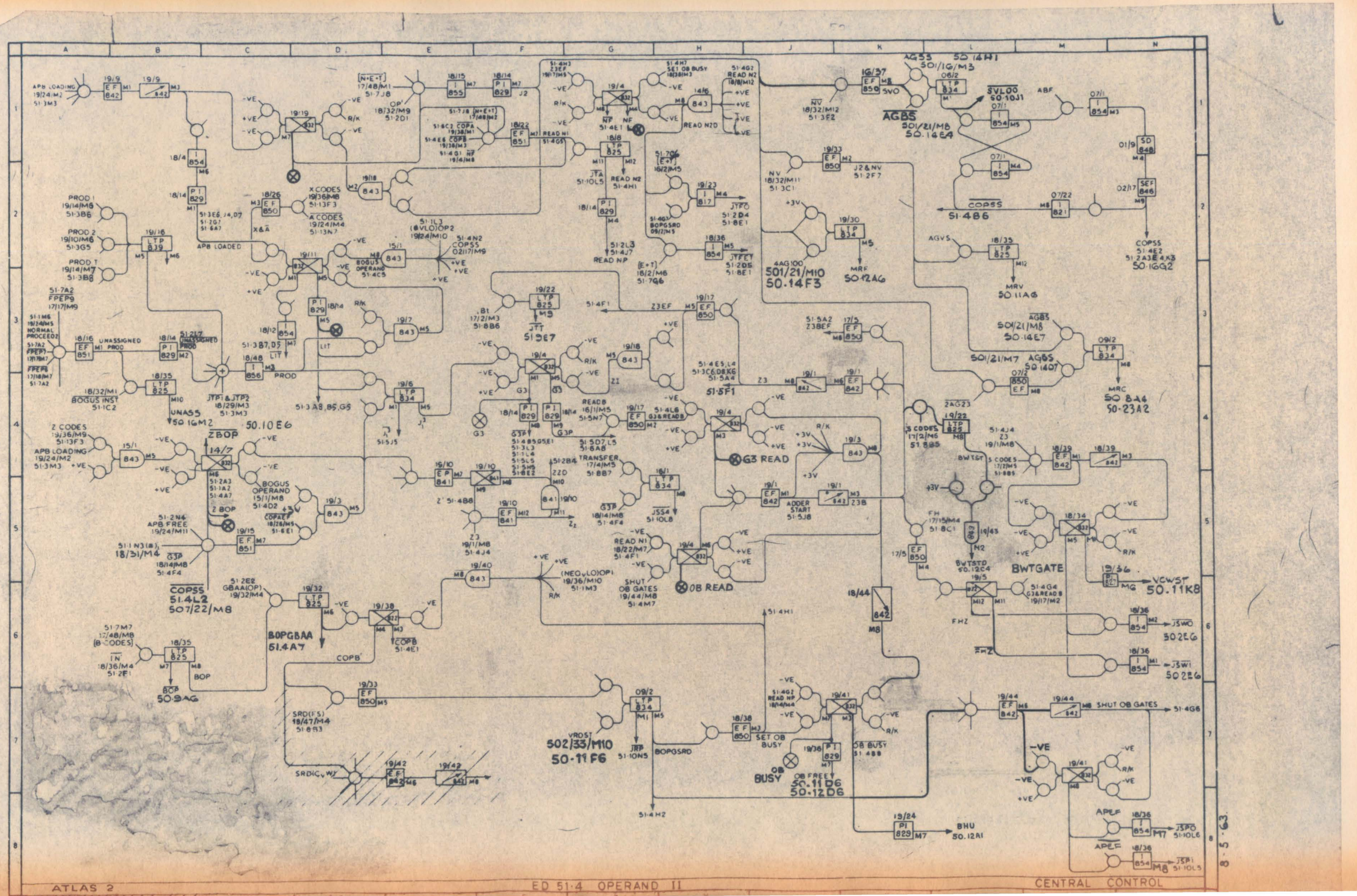
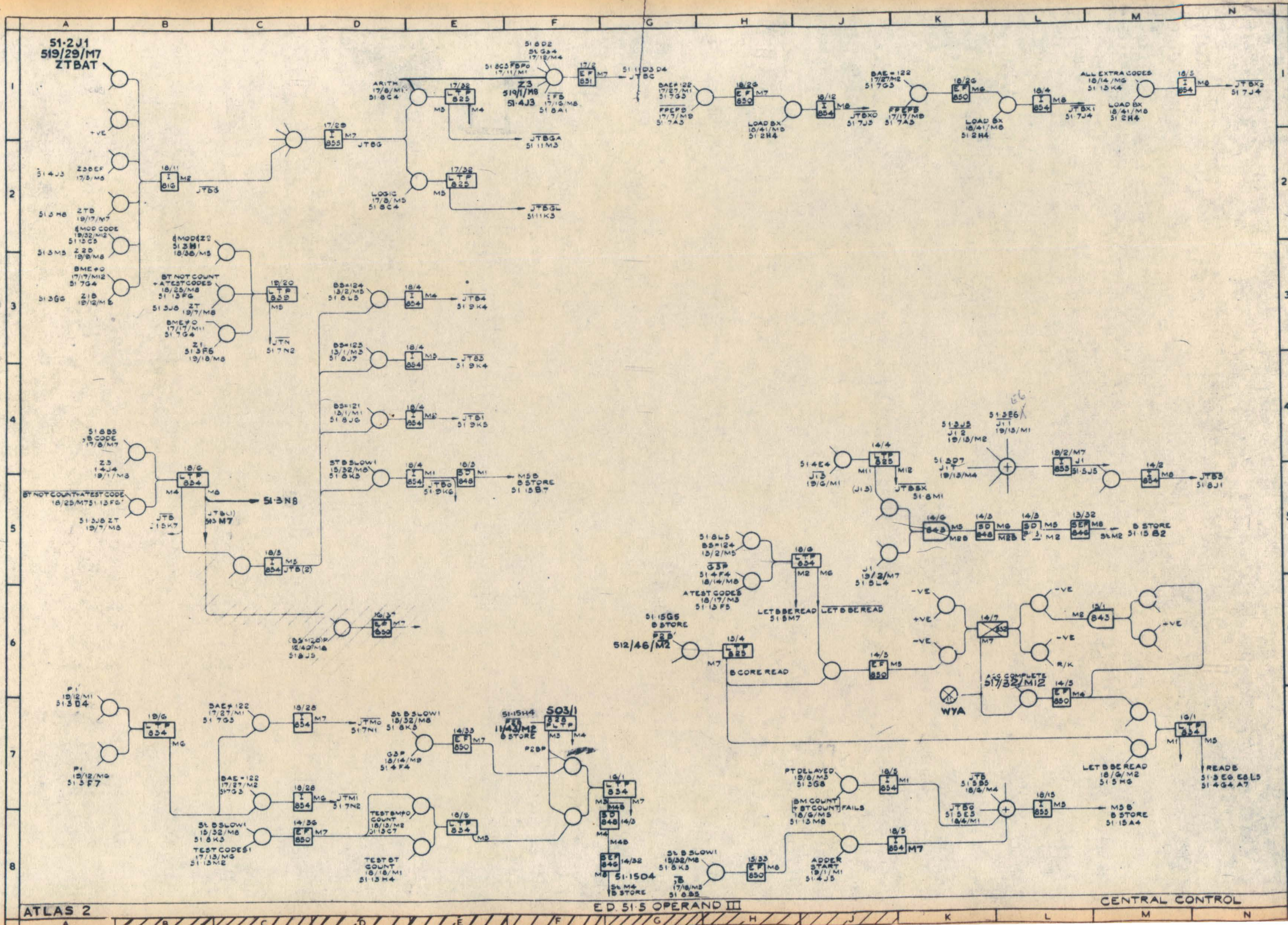
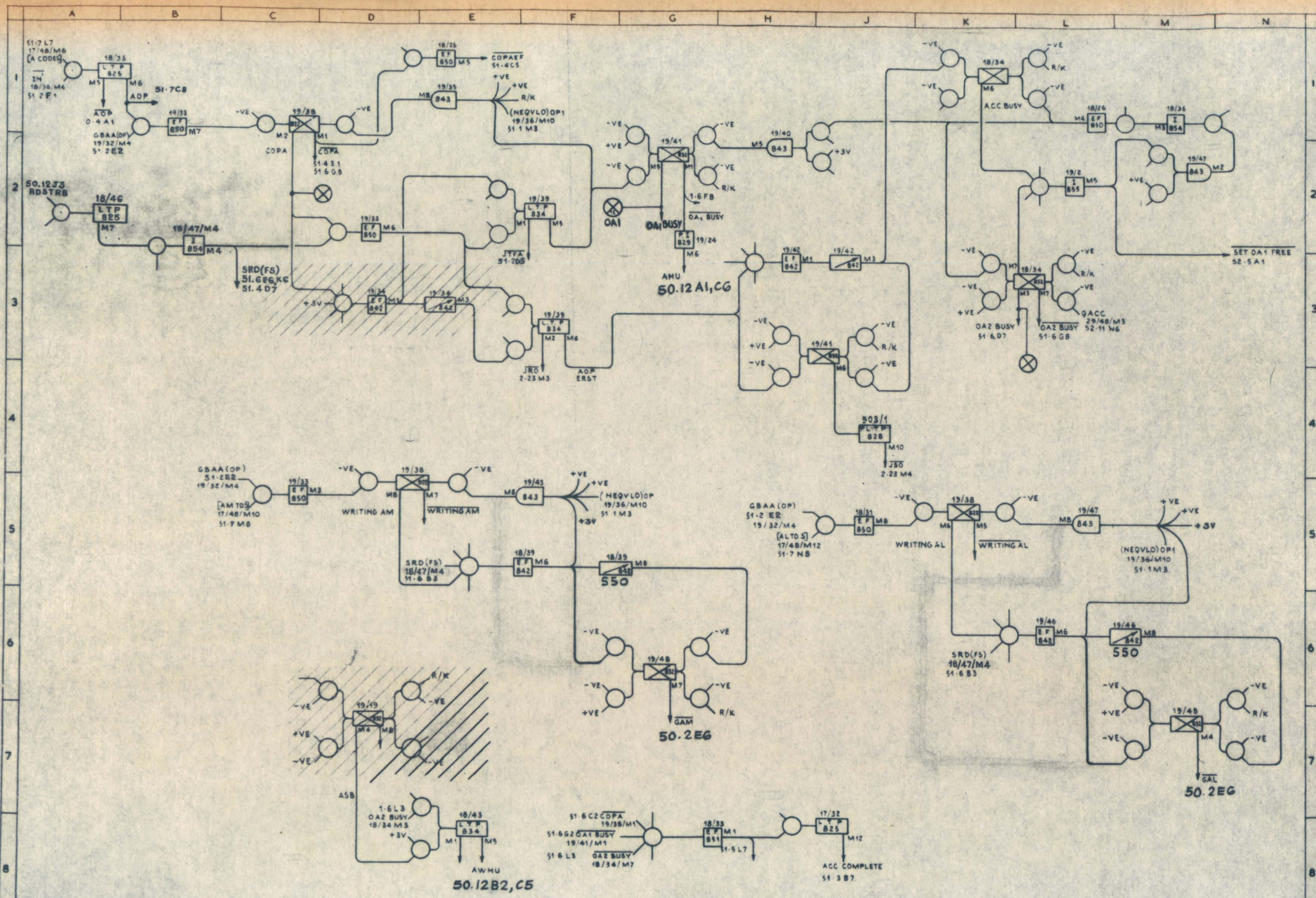
51-8 Y8
51-8 Z8


APB LOADING
PROD 1
PROD 2
PROD T
APB LOADED
X CODES
A CODES
UNASSIGNED PROD
BOGUS INST
UNASS
JTP1 & JTP2
PROD
Z CODES
APB LOADING
ZBOP
Z BOP
BOGUS OPERAND
APB FREE
COPSS 51.4L2 507/22/M8
BOPGBAA 51.4A7
BOP 50.9AG
SRD(FS) 18/47/M4 51.8B3
SRDIC
COPB'
READ N1
READ N2
READ NP
SET OB BUSY
OB BUSY
OB FREE 50.11D6 50.12D6
SHUT OB GATES
G3 READ
OB READ
ADDER START
TRANSFER
BOPGSRD
VROST 502/33/M10 50-11F6
AGBS 501/21/M8 50.14E4
AGBS 501/21/M8 50.14E7
AGBS 501/21/M7 50.14D7
4AG100 501/21/M10 50.14F3
MRF 50.12A6
MRV 50.11A6
MRC 50.8.14 50-23A2
COPSS 51.486
COPSS 51.4E2 51.2A3E 4K3 50.16G2
BWTGATE
BWTSTD 50.12C4
VCWST 50.11K8
BHU 50.12A1
JSW0 502E6
JSW1 502E6
JSP0 51.10L6
JSP1 51.10L5
FHZ
FMZ
ATLAS 2
ED 51.4 OPERAND II
CENTRAL CONTROL
8.5.63

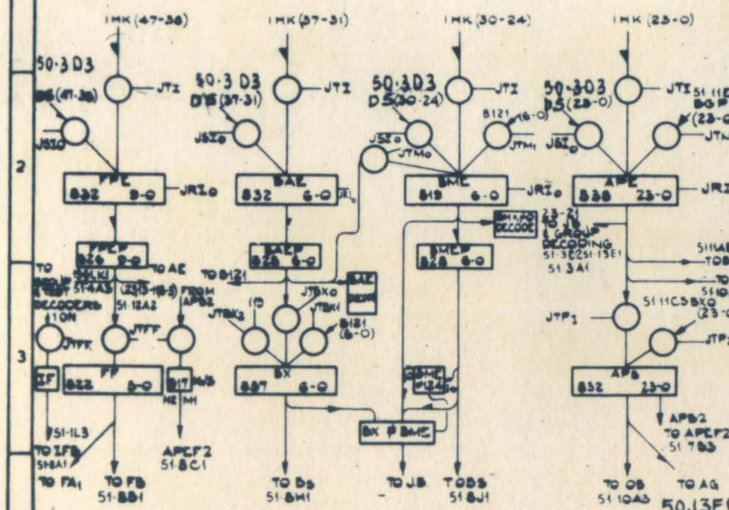


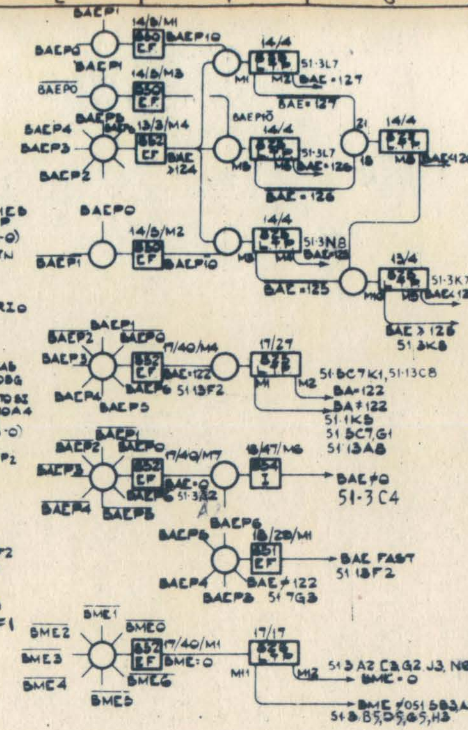
51·2J1
519/29/M7
ZTBAT
Z3
519/1/M8
51·4J3
51·3N8
512/46/M2
B CORE READ
WYA
503/1
51·15D4
ATLAS 2
E.D. 51·5 OPERAND III
CENTRAL CONTROL
8·5·63



ATLAS 2 ED. 51 6 OPERAND IV CENTRAL CONTROL

8·5·63





SK JSZ1 5	15/43/M3	APO 0-7
6	13/43/M2	APO 8-15
7	16/43/M3	APO 16-23
1	17/43/M10	BMO 0-6
5	17/14/M12	FPO 0,3,6,9
2	17/14/M11	FPO 1,2,4,5,7,8

JSZ0	19/17/M3	51 1F8
JSZ0A	17/13/M8	RE → PIE, M → (M)
SK JSZ0 3	13/43/M3	APE 0,2,4
6	13/43/M4	APE 1,3,5
1	17/43/M9	BME 0-6
4	17/39/M6	BAE 0-6
3	17/14/M3	FPE 0,3,6,9
2	17/14/M2	FPE 1,2,4,5,7,8 M1-2 A6

JSZ0	19/17/M5	51 1F8
JSZ0B	18/37/M5	RE → PIE
SK JSZ0 7	14/43/M3	APE 6,8,10
8	14/43/M4	APE 7,9,11
9	15/43/M3	APE 12,14,16
10	15/43/M4	APE 13,15,17
11	16/43/M4	APE 18,20,22
12	16/43/M5	APE 19,21,23

JTFF	18/4/M7	51 2K4
JTFF	18/7/M1	FPEP → FF
SK JTFF 2	17/12/M7	FF 0-5
1	17/12/M6	FF 0-5

JTBX0	18/12/M8	51 5J1
JTBX0	18/7/M6	BAEP → BX
JTBX0 1	17/12/M11	BX 0,1,2
2	17/12/M12	BX 3,4,5
3	18/32/M8	BX 6 (E+T)

JTBX1	18/4/M8	51 5L1
JTBX1	18/7/M5	B121 → BX
JTBX1 1	12/33/M12	BX 0,1,2
2	12/33/M12	BX 3,4,5
3	13/33/M12	BX 6 (E+T)

JTBX2	18/8/M8	51·3N1
JTX1	18/7/M2	LEVEL(H9) → BX
SK JTBX2 1	16/17/M12	E+T BX 0,1,2
2	16/32/M11	BX 3,4,5,6

SWE2	18/40/M1	MK → PIO
SK SWE2 7	14/43/M2	APO 0-7
4	16/23/M10	BMO 0-6
1	17/39/M12	BAO 0-6
6	17/39/M11	FPO 0,3,6,9
3	17/12/M10	FPO 1,2,4,5,7,8

JTI	18/24/M3	51·1G4
JTIB	18/27/M1	MK → PIE
SK JTI 5	13/43/M8	APE 0,2,4
8	13/43/M7	APE 1,3,5
11	14/43/M8	APE 6,8,10
10	14/43/M7	APE 7,9,11
12	15/43/M7	APE 12,14,16
13	15/43/M8	APE 13,15,17
14	16/43/M8	APE 18,20,22
15	16/43/M9	APE 19,21,23

JTI	18/24/M3	51·1G4
JTI A	17/13/M4	MK → PIE, M → (M)
SK JTI 1	17/43/M5	BME 0,1,4,5
2	17/43/M6	BME 2,3,6
6	17/39/M9	BAE 0,2,4,6
7	17/39/M10	BAE 1,3,5
5	17/14/M8	FPE 0,3,6,9
4	17/14/M7	FPE 1,4,7(M) 51 2B6
3	17/14/M6	FPE 2,5,8

JTP1	19/16/M3	51 3K3
JTP1	18/27/M4	APE → APB
SK JTP1 11	05/1/M2	APB 0-3
12	05/1/M4	APB 4-7
13	05/1/M6	APB 8-11
14	05/1/M8	APB 12-15
15	05/1/M10	APB 16-19
16	05/1/M12	APB 20-23

JTR (JTP2)	18/29/M3	51·3M3
JTP	18/7/M3	ORDER → ORDER BUFFER
SK JTP0 1	16/32/M12	(N+E+T WO A CODES
2	13/43/M12	B CODES AMTOS, ALTOS)

JRI1	18/40/M8	PIO RESET
SK JRI1 5	13/43/M2	APO 0-7
6	14/43/M2	APO 8-15
7	16/43/M2	APO 16-23
1	17/43/M2	BMO 0-6
4	17/39/M7	BAO 0-6
3	17/14/M10	FPO 0,3,6,9
2	17/14/M9	FPO 1,2,4,5,7,8

JTM0	18/28/M7	51 5C7
JTM0	18/27/M7	BAEP → BME
SK JTM0 1	17/43/M7	BME 0,1,4,5
2	17/43/M8	BME 2,3,6

JTM1	18/28/M6	51 5C7
JTM1	18/27/M5	B121 → BME
SK JTM1 1	17/43/M3	BME 0,1,4,5
2	17/43/M4	BME 2,3,6

JTN	19/20/M5	51 3C3
JTN	18/27/M7	BGP → APE
SK JTN 6	13/43/M5	APE 0-5
7	14/43/M5	APE 6-11
8	15/43/M5	APE 12-17
9	16/43/M6	APE 18-23

JRI0	18/43/M2	51 1E5
JRI0	18/37/M8	PIE RESET → (E)
SK JRI0 5	13/43/M1	APE 0-5
6	14/43/M1	APE 6-11
7	15/43/M1	APE 12-17
8	16/43/M1	APE 18-23
1	17/43/M1	BME 0-6
4	17/39/M6	BAE 0-6
3	17/14/M5	FPE 0,3,6,9
2	17/14/M4	FPE 1,2,4,5,7,8 (E) 51 2C6

JTP2	19/13/M3	51·3N6
JTP2	18/7/M4	B ARITH → APB
SK JTP2 21	05/1/M1	APB 0-3
22	05/1/M3	APB 4-7
23	05/1/M5	APB 8-11
24	05/1/M7	APB 12-15
25	05/1/M9	APB 16-19
26	05/1/M11	APB 20-23

W/F	PACKAGE	47	46	45	44	43	42	41	40	39	38
D.S.	826	509/12 M11	M9	M7	M5	M3	M1	508/12 M11	M9	M7	M5

W/F	PACKAGE	37	36	35	34	33	32	31
DS	826	508/12 M3	M1	507/12 M11	M9	M7	M5	M3

W/F	PACKAGE	30	29	28	27	26	25	24
DS	826	507/12 M1	506/12 M11	M9	M7	M5	M3	M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
DS	826	505/12 M11	M9	M7	M5	M3	M1	504/12 M11	M9	M7	M5	M3	M1	503/12 M11	M9	M7	M5	M3	M1	502/12 M11	M9	M7	M5	M3	M1

W/F	PACKAGE	8	7	6	5	4	3	2
B121	832	17/38 M8,M4	17/37 M7,M3	17/38 M7,M3	17/37 M6,M2	17/38 M6,M2	17/37 M6,M1	17/38 M6,M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BGP	828	16/38 [illegible]						15/38 [illegible]						14/38 [illegible]						13/38 [illegible]					

W/F	PACKAGE	9	8	7	6	5	4	3	2	1	0
FPE	832	17/21 M8,M4	17/19 M7,M3	17/20 M7,M3	17/21 M7,M3	17/19 M6,M2	17/20 M6,M2	17/21 M6,M2	17/19 M5,M1	17/20 M5,M1	17/21 M5,M1
FPEP	828	17/17 M9,M10	17/18 M9,M10	17/17 M7,M8	17/18 M7,M8	17/17 M5,M6	17/18 M5,M6	17/17 M3,M4	17/18 M3,M4	17/17 M1,M2	17/18 M1,M2

W/F	PACKAGE	6	5	4	3	2	1	0
BAE	832	17/36 M8	17/36 M7	17/36 M7	17/36 M6	17/36 M6	17/35 M5	17/36 M5
BAEP	828	03/1 M1,M2	03/2 M11,M12	M9,M10	M7,M8	M5,M6	M3,M4	M1,M2

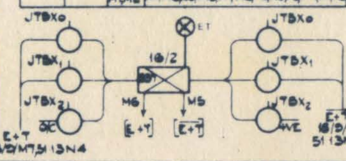
W/F	PACKAGE	6	5	4	3	2	1	0
BME	819	17/42 M4,M3	17/44 M4,M3	17/45 M4,M3	17/41 M2,M1	17/42 M2,M1	17/44 M2,M1	17/45 M2,M1
BMEP	828	03/1 M1,M2	05/2 M11,M12	M9,M10	M7,M8	M5,M6	M3,M4	M1,M2

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
APE	838	16/42 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15/45 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

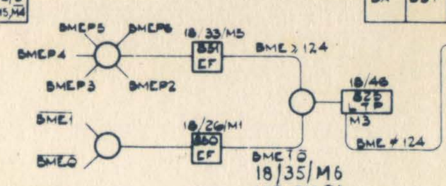
W/F	PACKAGE	
1ON	825	18/46 M11, M9
IF	817 F/F	16/5 M5, M4

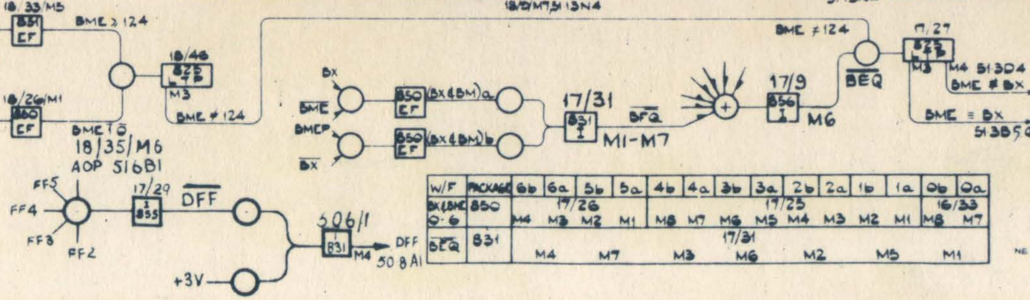
W/F	PACKAGE	5	4	3	2	1	0
FF	822	16/6 M12 M11	M10 M9	M8 M7	M6 M5	M4 M3	M2 M1

119		1	1	1	0	1	1	1
W/F	PACKAGE	6	5	4	3	2	1	0
B121	832 (EXT 834)	17/38 M8,M4	17/37 M7,M3	17/38 M7,M3	17/37 M6,M2	17/38 M6,M2	17/37 M6,M1	17/38 M6,M1
BX	837	16/2 M2,M1	16/3 M6,M5	M4,M3	M2,M1	16/4 M6,M5	M4,M3	M2,M1

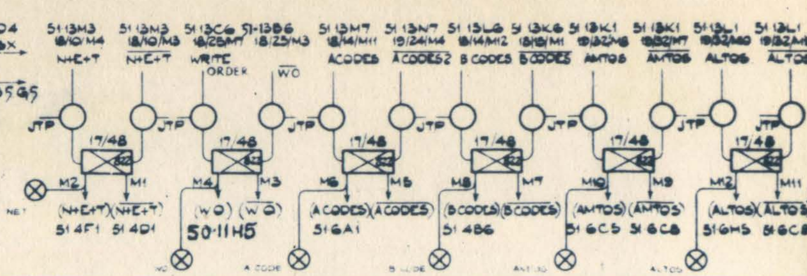


W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BARITH	814	16/28 7 8	16/29 7 8	16/28 4 5	16/29 4 5	16/28 1 2	16/29 1 2	15/28 7 8	15/29 7 8	15/28 4 5	15/28 4 5	15/28 1 2	16/29 1 2	14/28 7 8	14/29 7 8	14/28 4 5	14/29 4 5	14/28 1 2	14/29 1 2	13/28 7 8	13/29 7 8	13/28 4 5	13/29 4 5	13/28 1 2	13/29 1 2
APB	832	16/48 8 4	7 3	6 2	5 1	15/47 8 4	7 3	6 2	5 1	15/48 8 4	7 3	6 2	5 1	14/47 8 4	7 3	6 2	5 1	14/48 8 4	7 3	6 2	5 1	13/48 8 4	7 3	6 2	5 1





W/F	PACKAGE	6b	6a	5b	5a	4b	4a	3b	3a	2b	2a	1b	1a	0b	0a
BX & BME 0-6	850	17/26 M4	M3	M2	M1	17/25 M8	M7	M6	M5	M4	M3	M2	M1	16/33 M8	M7
BEQ	831	17/31 M4		M7		M3		M6		M2		M5		M1	



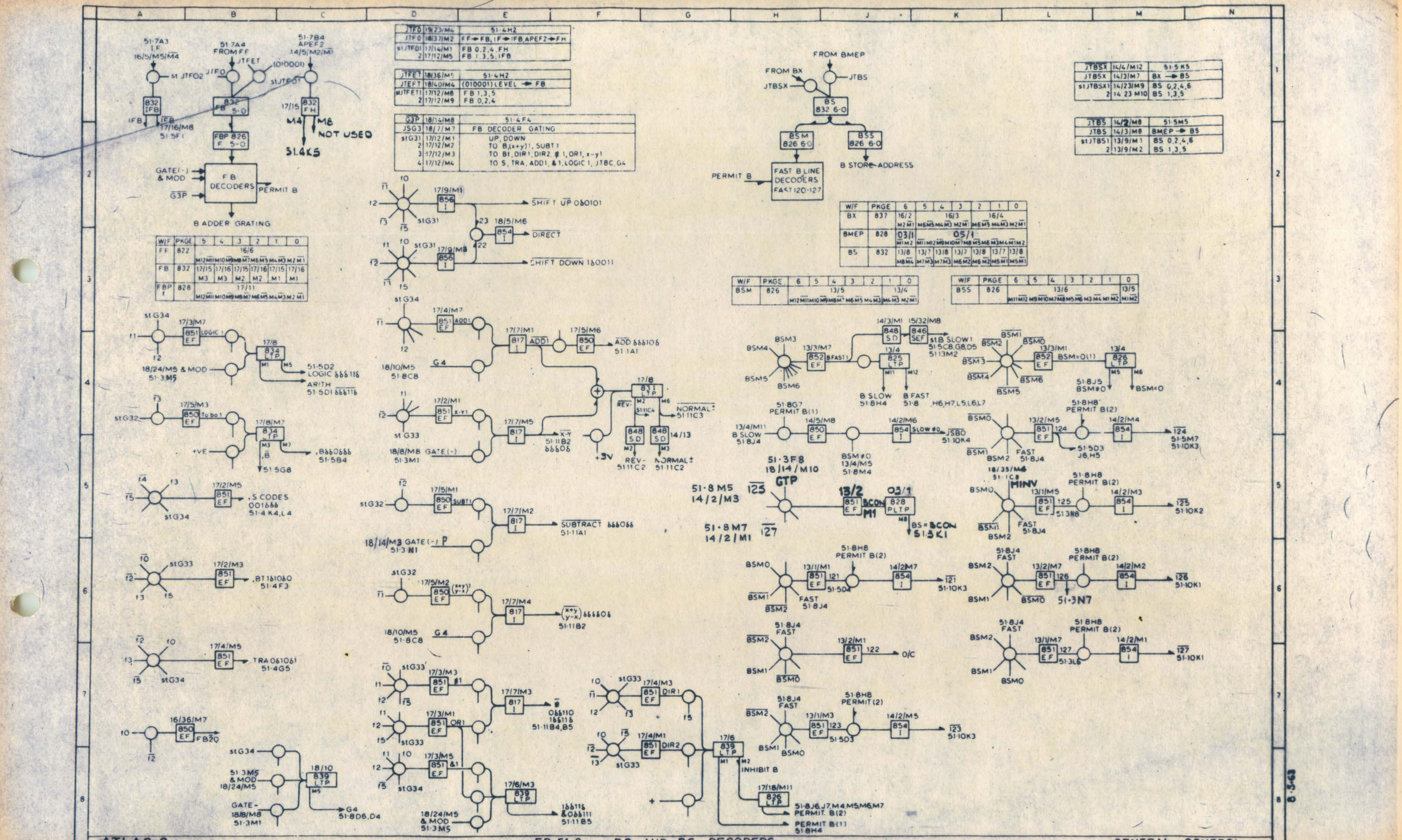
LAMPS ON DIRECT SIDE OF FOLLOWING DIGITS

FPE	9-0
BAE	6-0
BME	6-0
APE	23-0
APB	23-0
B121	8-2

ATLAS 2

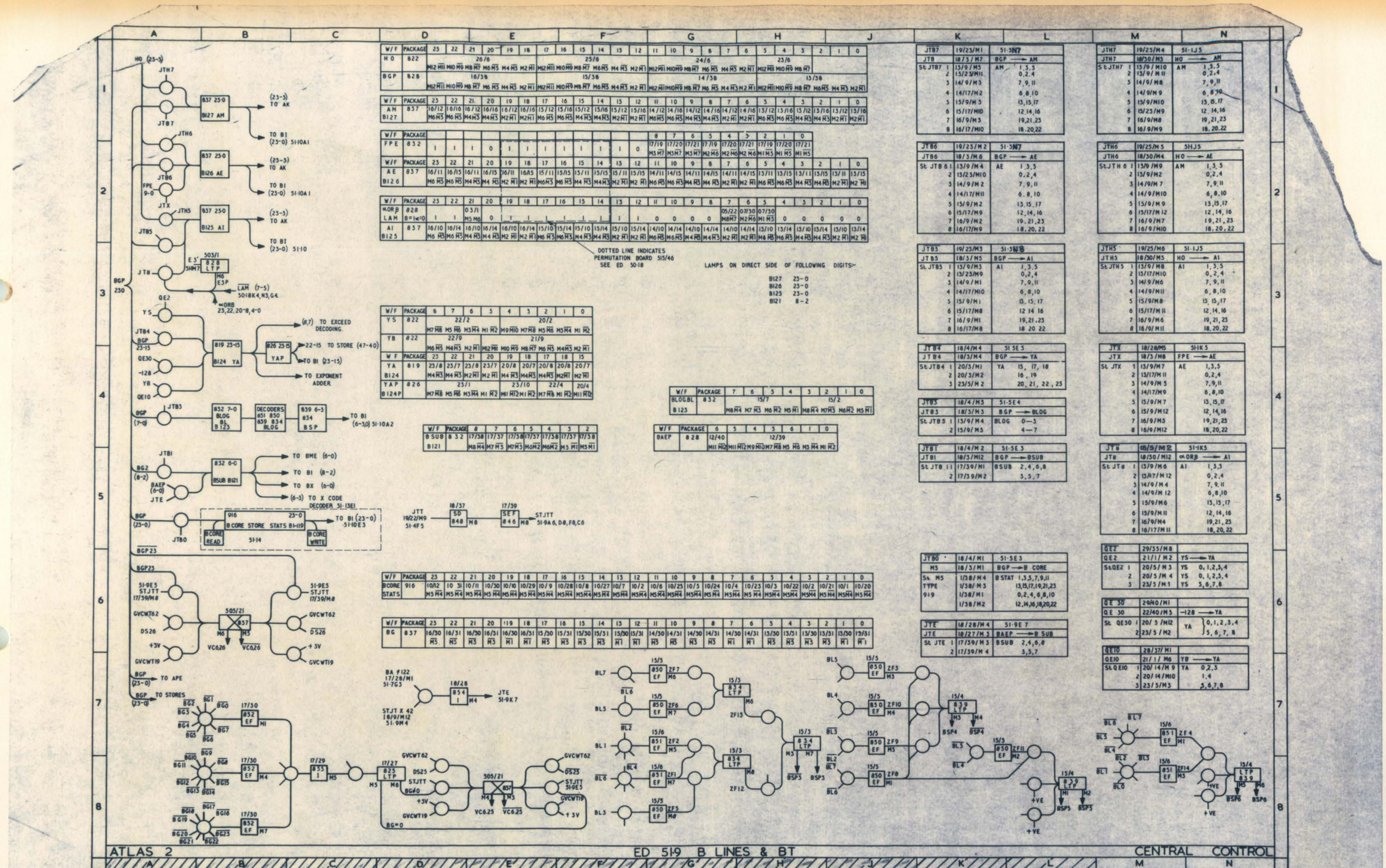
ED 51·7 INSTRUCTION REGISTERS AND BUFFERS

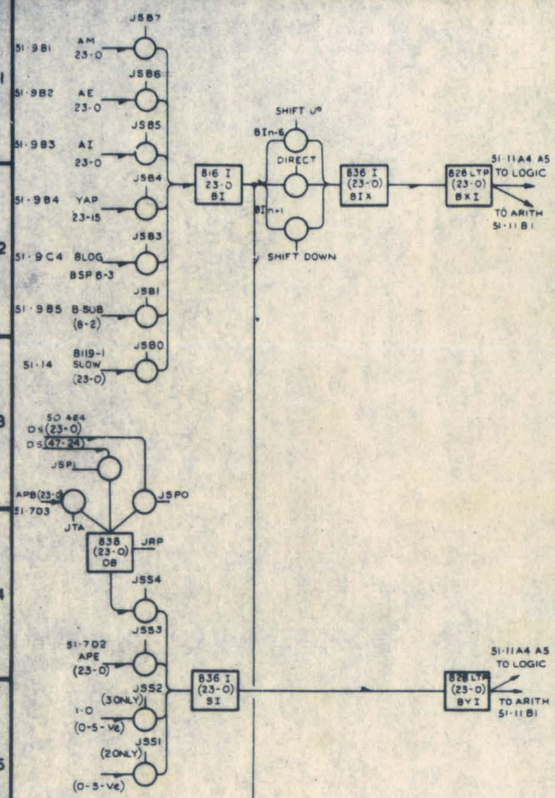
B AND C

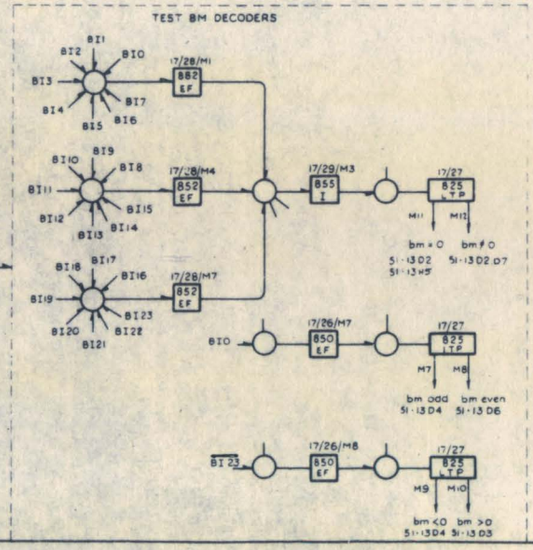


ATLAS 2 ED 51·8 FB AND BS DECODERS CENTRAL CONTROL

0·363


ATLAS 2
ED 519 B LINES & BT
CENTRAL CONTROL
DOTTED LINE INDICATES PERMUTATION BOARD 515/46 SEE ED 50-18
LAMPS ON DIRECT SIDE OF FOLLOWING DIGITS—
B127 23-0
B126 23-0
B125 23-0
B121 8-2
TO EXCEED DECODING.
TO STORE (47-40)
TO BI (23-15)
TO EXPONENT ADDER
TO BME (6-0)
TO BI (8-2)
TO BX (6-0)
TO X CODE DECODER SI-13E1
TO BI (23-0) SI-10E3
TO APE
TO STORES
B CORE STORE STATS BI-119
SI-14
TO BI (6-3,0) SI-10A2
TO BI (23-0) SI-10A1
TO BI (23-0) SI-10
LAM (7-5) SO-18K4, N3, G4.
*ORB 25,22,20-8,4-0
STJTT SI-9A6, D8, F8, C6
STJT X 42 18/9/M12 SI-9M4
BG=0





W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
AM B/27	837	16/12 M6	16/16 M6	16/12 M4	16/16 M4	16/12 M2	16/16 M2	15/12 M6	15/16 M6	15/12 M4	15/16 M4	15/12 M2	15/16 M2	14/12 M6	14/16 M6	14/12 M4	14/16 M4	14/12 M2	14/16 M2	13/12 M6	13/16 M6	13/12 M4	13/16 M4	M2	13/16 M2
AE B126	837	16/11 M6	16/15 M6	16/11 M4	16/15 M4	16/11 M2	16/15 M2	15/11 M6	15/15 M6	15/11 M4	15/15 M4	15/11 M2	15/15 M2	14/11 M6	14/15 M6	14/11 M4	14/15 M4	14/11 M2	14/15 M2	13/11 M6	13/15 M6	13/11 M4	13/15 M4	13/11 M2	13/15 M2
AI B125	837	16/10 M6	16/14 M6	16/10 M4	16/14 M4	16/10 M2	16/14 M2	15/10 M6	15/14 M6	15/10 M4	15/14 M4	15/10 M2	15/14 M2	14/10 M6	14/14 M6	14/10 M4	14/14 M4	14/10 M2	14/14 M2	13/10 M6	13/14 M6	13/10 M4	13/14 M4	13/10 M2	13/14 M2
YAP B124P	826	23/1 M7	M5	M3	M1	23/10 M11	M1	22/4 M7	M1	20/4 M11															
BLOG BSP	834Q 839b																								
BSUB B121	832																								
BSLOW BR	916	10/12 M5	10/31 M5	10/11 M5	10/30 M5	10/10 M5	10/29 M5	10/9 M5	10/28 M5	10/8 M5	10/27 M5	10/7 M5	10/26 M5	10/6 M5	10/25 M5	10/5 M5	10/24 M5	10/4 M5	10/23 M5	10/3 M5	10/22 M5	10/2 M5	10/21 M5	10/1 M5	10/20 M5

b: +VE M8, 15/4 M1, M3, 15/3 M7, +VE M6
a: 17/38 M8, 17/37 M7, 17/38 M7, 17/37 M6, 17/38 M6, 17/37 M5, 17/38 M5, +VE M5, +VE M5, 15/4 M6

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BI	816	16/18 M2	16/19 M2	16/20 M2	16/18 M1	16/19 M1	16/20 M1	15/18 M2	15/19 M2	15/20 M2	15/18 M1	15/19 M1	15/20 M1	14/18 M2	14/19 M2	14/20 M2	14/18 M1	14/19 M1	14/20 M1	13/18 M2	13/19 M2	13/20 M2	13/18 M1	13/19 M1	13/20 M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BIX	836	16/21 M6	M5	M4	M3	M2	M1	15/21 M6	M5	M4	M3	M2	M1	14/21 M6	M5	M4	M3	M2	M1	13/21 M6	M5	M4	M3	M2	M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BXI	828	M12 M11	M10	M9	M8	M7	M6	16/22 M5	M4	M3	M2	M1	M12	15/22 M11	M10	M9	M8	M7	M6	14/22 M5	M4	M3	M2	M1	M12	13/22 M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1

W/F	PACKAGE	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24
DS (47-24)	826	509/12 M11	M9	M7	M5	M3	M1	M11	M9	508/12 M7	M5	M3	M1	M11	M9	507/12 M7	M5	M3	M1	M11	M9	506/12 M7	M5	M3	M1
W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
DS (23-0)	826	505/12 M11	M9	M7	M5	M3	M1	M11	M9	504/12 M7	M5	M3	M1	M11	M9	503/12 M7	M5	M3	M1	M11	M9	502/12 M7	M5	M3	M1
APB	832	16/48 M8	M4	M7	M3	M6	M2	M5	M1	15/47 M8	M4	M7	M3	M6	M2	M5	M1	15/48 M8	M4	M7	M3	M6	M2	M5	M1	14/47 M8	M4	M7	M3	M6	M2	M5	M1	14/48 M8	M4	M7	M3	M6	M2	M5	M1	13/48 M8	M4	M7	M3	M6	M2	M5	M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
08	838	16/41 M6	16/44 M6	16/41 M4	16/44 M4	16/41 M2	16/44 M2	15/41 M6	15/44 M6	15/41 M4	15/44 M4	15/41 M2	15/44 M2	14/41 M6	14/44 M6	14/41 M4	14/44 M4	14/41 M2	14/44 M2	13/41 M6	13/44 M6	13/41 M4	13/44 M4	13/41 M2	13/44 M2
APE	838	16/42 M6	16/45 M6	16/42 M4	16/45 M4	16/42 M2	16/45 M2	15/42 M6	15/45 M6	15/42 M4	15/45 M4	15/42 M2	15/45 M2	14/42 M6	14/45 M6	14/42 M4	14/45 M4	14/42 M2	14/45 M2	13/42 M6	13/45 M6	13/42 M4	13/45 M4	13/42 M2	13/45 M2

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
SI	836	16/40 M6	M5	M4	M3	M2	M1	15/40 M6	M5	M4	M3	M2	M1	14/40 M6	M5	M4	M3	M2	M1	13/40 M6	M5	M4	M3	M2	M1

W/F	PACKAGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BYI	826	M11 M12	M9	M10	M7	M8	M5	16/39 M6	M3	M4	M1	M2	M11	15/39 M12	M9	M10	M7	M8	M5	M6	M3	M4	M1	M2	M11	14/39 M12	M9	M10	M7	M8	M5	M6	M3	M4	M1	M2	M11	13/39 M12	M9	M10	M7	M8	M5	M6	M3	M4	M1	M2

I37	14/2/M1	SI-8 M7
JSB7	14/1/M1	AM → BI
St JSB7 1	13/17/M6	BI 0-5
2	14/17/M5	6-11
3	15/17/M4	12-17
4	16/17/M4	18-23

I26	14/2/M2	SI-8 M6
JSB6	14/1/M2	AE → BI
St JSB6 1	13/17/M5	BI 0-5
2	14/17/M4	6-11
3	15/17/M3	12-17
4	16/17/M3	18-23

I25	14/2/M3	SI-8 M5
JSB5	14/1/M3	AI → BI
St JSB5 1	13/17/M4	BI 0-5
2	14/17/M3	6-11
3	15/17/M2	12-17
4	16/17/M2	18-23

I24	14/12/M4	SI-8 M4
JSB4	14/1/M4	YAP → BI
St JSB4 1	15/23/M10	BI 15-17
2	16/23/M9	18-23

I23	14/2/M5	SI-8K7
JSB3	14/1/M5	BSP → BI
St JSB3 1	13/17/M3	BI 3-8

I21	14/2/M7	SI-8K6
JSB1	14/1/M8	B SUB → BI
St JSB1 1	13/17/M2	BI 0-5
2	14/17/M2	6-8

JSB0	14/2/M6	SI-8K4
JSB0	14/1/M7	B SLOW → BI
St JSB0 1	13/17/M1	BI 0-5
2	14/17/M1	6-11
3	15/17/M1	12-17
4	16/17/M1	18-23

JTA	18/8/M11	SI-4 G2
JTA	18/7/M8	APB → 08
St JTA 6	13/43/M6	08 0-5
7	14/43/M6	6-11
8	15/43/M6	12-17
9	16/43/M7	18-23

JSPI	18/36/M8	SI-4 N8
JSPI	18/37/M8	DS(47-26) → 08
St JSPI 3	13/43/M11	08 0-5
4	14/43/M10	6-11
5	15/43/M10	12-17
6	16/43/M11	18-23

JSPO	18/36/M7	SI-4 N8
JSPO	18/37/M7	DS(23-0) → 08
St JSPO 3	13/43/M12	08 0-5
4	14/43/M11	6-11
5	15/43/M11	12-17
6	16/43/M12	18-23

JSS1	18/5/M3	SI-3 M1
831 JSS1	18/31/M5	0-4 → SI2

JSS2	18/5/M4	SI-3 N2
831 JSS2	17/31/M8	1-0 → SI3

JSS3	18/24/M4	SI-3 N3
JSS3	18/27/M6	APE → SI
St JSS3 1	13/32/M9	SI 0-5
2	14/32/M9	6-11
3	15/32/M10	12-17
4	16/32/M10	18-23

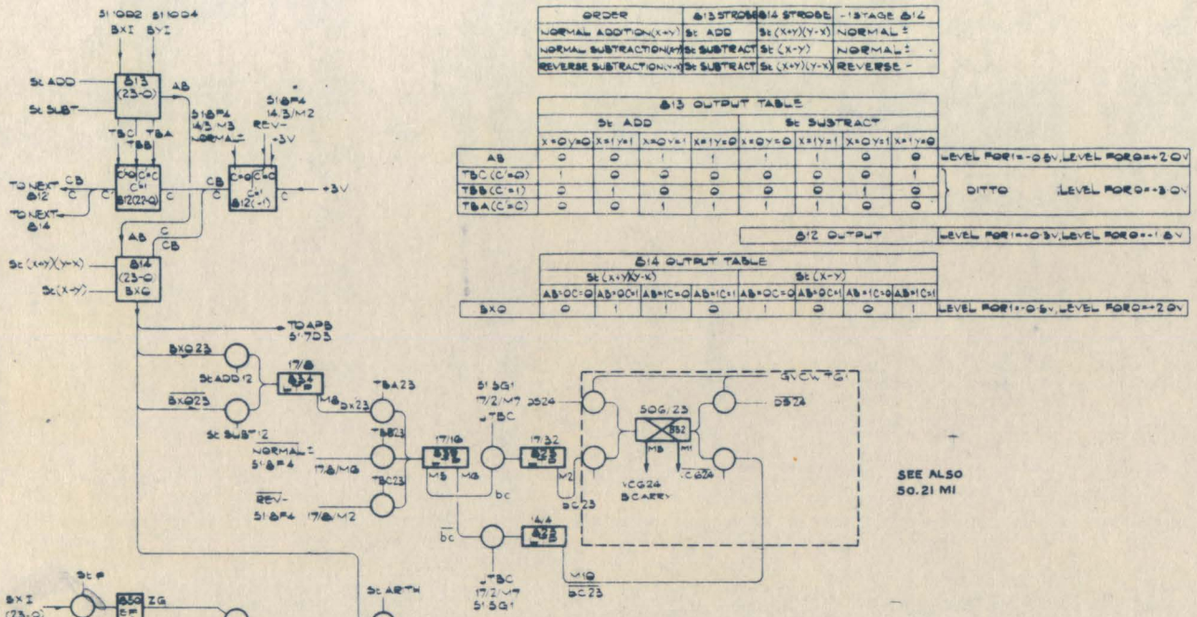
JSS4	16/1/M8	SI-4 M5
JSS4	17/13/M5	08 → SI
St JSS4 1	13/32/M10	SI 0-5
2	14/32/M10	6-11
3	15/32/M9	12-17
4	16/32/M9	18-23

UP	17/9/M8	SI-8 E2
ST UP	17/1/M5	BIn-6 → BIX
St UP 1	13/17/M8	BIX 0-5
2	14/17/M7	6-11
3	15/17/M6	12-17
4	16/17/M6	18-23

DIRECT	18/5/M6	SI-8 E3
ST DIR	17/1/M3	BI → BIX
St DIR 1	13/17/M9	BIX 0-5
2	14/17/M8	6-11
3	15/17/M7	12-17
4	16/17/M7	18-23

DOWN	17/9/M7	SI-8 E3
St DOWN	17/11/M4	BIn+1 → BIX
St DOWN 1	13/17/M7	BIX 0-5
2	14/17/M6	6-11
3	15/17/M5	12-17
4	16/17/M5	18-23

JRP	09/2/M5	SI-4 G8
JRP	18/27/M2	OP TO 08 RESET
St JRP 1	13/43/M10	08 0-5
2	14/43/M9	6-11
3	15/43/M9	12-17
4	16/43/M10	18-23



ORDER	B13 STROBE	B14 STROBE	-1 STAGE B12
NORMAL ADDITION (x+y)	St ADD	St (x+y)(y-x)	NORMAL +
NORMAL SUBTRACTION (x-y)	St SUBTRACT	St (x-y)	NORMAL -
REVERSE SUBTRACTION (y-x)	St SUBTRACT	St (x+y)(y-x)	REVERSE -

B13 OUTPUT TABLE

	St ADD				St SUBTRACT				
	X+0 Y=0	X=1 Y=1	X=0 Y=1	X=1 Y=0	X=0 Y=0	X=1 Y=1	X=0 Y=1	X=1 Y=0	
AB	0	0	1	1	1	1	0	0	LEVEL FOR 1=-0.8V, LEVEL FOR 0=+2.0V
TBC (C+0)	1	0	0	0	0	0	0	1	DITTO
TBB (C+1)	0	1	0	0	0	0	1	0	DITTO LEVEL FOR 0=-3.0V
TBA (C+2)	0	0	1	1	1	1	0	0	DITTO

B12 OUTPUT	LEVEL FOR 1=-0.8V, LEVEL FOR 0=-1.8V

B14 OUTPUT TABLE

	St (x+y)(y-x)				St (x-y)				
	AB=0 C=0	AB=0 C=1	AB=1 C=0	AB=1 C=1	AB=0 C=0	AB=0 C=1	AB=1 C=0	AB=1 C=1	
BXQ	0	1	1	0	1	0	0	1	LEVEL FOR 1=-0.8V, LEVEL FOR 0=+2.0V

ADD	17/8/M6	51 B E 4
St ADDA	17/10/M*	
St ADD 1	13/23/M1	Q 1
2	13/23/M2	3 4
3	13/23/M3	2 5
4	14/23/M1	G 7
5	14/23/M2	8 10
6	14/23/M3	8 11

SUBT	17/9/M2	51 B E 5
St SUBTA	17/13/M1	
St SUBT 1	15/23/M4	Q 1
2	13/23/M5	3 4
3	13/23/M6	2 5
4	14/23/M4	G 7
5	14/23/M5	8 10
6	14/23/M6	8 11

ADD	17/5/M6	51 B F 4
St ADD B	17/10/M8	
St ADD T	15/23/M3	12 13
8	15/23/M2	15 16
9	15/23/M1	14 17
10	16/23/M3	18 19
11	16/23/M2	21 22
12	16/23/M1	20 23

SUBT	17/17/M2	51 B E 5
St SUBTA	17/13/M2	
St SUBT	15/23/M6	12 13
8	15/23/M5	15 16
9	15/23/M4	14 17
10	16/23/M6	18 19
11	16/23/M5	21 22
12	16/23/M4	20 23

LOGIC	17/32/M5	51 B E 2
LOGIC 2	17/10/M2	LB → BG
St LOGIC 21	13/32/M1	BG 0 2 4
22	13/32/M2	1 3 5
23	14/32/M1	6 8 10
24	14/32/M2	7 9 11
St LOGIC 31	15/32/M1	BG 12 14 16
32	15/32/M2	13 15 17
33	16/32/M1	18 20 22
34	16/32/M2	19 21 23

ARITH	17/32/M3	51 B E 1
St ARITH 2	17/10/M4	BXQ → BG
St ARITH 21	13/32/M3	BG 0 2 4
22	13/32/M4	1 3 5
23	14/32/M3	6 8 10
24	14/32/M4	7 9 11
St ARITH 31	15/32/M3	BG 12 14 16
32	15/32/M4	13 15 17
33	16/32/M3	18 20 22
34	16/32/M4	19 21 23

E	17/7/M3	51 B E 7
St E A	17/1/M1	BXI → ZG, BXI → ZJ
St E 1	13/32/M5	ZJ Q 5
2	13/32/M6	ZG Q 5
3	14/32/M5	ZJ 6 11
4	14/32/M6	ZG 6 11
St E B	17/1/M2	BXI → ZG, BXI → ZJ
St E 5	15/32/M5	ZJ 12 17
6	15/32/M6	ZG 12 17
7	16/32/M5	ZJ 18 23
8	16/32/M6	ZG 18 23

I	17G/M3	51 B E 8
St I 2	17/10/M1	BXI → ZH
St I 1	18/32/M7	ZH Q 5
2	14/32/M7	6 11
3	15/32/M7	12 17
4	16/32/M7	17 23

JMC	19/36/M5	51 B K 8
JNC	18/37/M1	APE → BG
St JNC 1	13/32/M11	BG 0 2 4
2	13/32/M12	1 3 5
3	14/32/M11	6 8 10
4	14/32/M12	7 9 11
5	15/32/M11	12 14 16
6	15/32/M12	13 15 17
7	15/23/M11	18 20 22
8	15/23/M12	19 21 23

(X-Y)	17/9/M5	51 B F 4
St (x-y)	17/1/M7	NORMAL SUBTRACT
St (x-y) 1	13/23/M7	BXQ Q 5
2	14/23/M8	6 11
3	15/23/M7	12 17
4	16/23/M8	18 23

(X+Y)(Y-X)	17/7/M6	51 B F G
St (x+y)(y-x)	17/1/M8	ADD REVERSE —
St (x+y)(y-x) 1	13/23/M8	BXQ Q 5
2	14/23/M7	6 11
3	15/23/M8	12 17
4	16/23/M8	18 23

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BXI	B2G	16/22							15.22						14/22								13.22		
X		M2	M1	M0	M8	M7	M6	M5	M4	M3	M2	M1	M0	M8	M7	M6	M5	M4	M3	M2	M1	M0	M8	M7	M6	M5	M4	M3	M2
BYI	B2G	16.35							15.35						14.35								13.35		
Y		M1	M2	M0	M8	M7	M6	M5	M4	M3	M2	M1	M0	M8	M7	M6	M5	M4	M3	M2	M1	M0	M8	M7	M6	M5	M4	M3	M2

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1	BEXQE	W/F
AB	B13	16.24 M5	16.25 M5	16.26 M5	16.24 M1	16.25 M1	16.26 M1	15.24 M5	15.25 M5	15.26 M5	15.24 M1	15.25 M1	15.26 M1	14.24 M5	14.25 M5	14.26 M5	14.24 M1	14.25 M1	14.26 M1	13.24 M5	13.25 M5	13.26 M5	13.24 M1	13.25 M1	13.26 M1	14.5 M2	B46	
TBC (C+0)		M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M3		
TBB (C+1)		M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	+3V		
TBA (C+2)		M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4			

REV-
NORMAL+

WAVEFORM	PCODE	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	-1
C	B12	16.27						15.27						14.27						13.27					
CB		M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1

WAVEFORM	PCODE	3	2	1	0	-1
C	B12	15/27 M8	14/27 M8	13/27 M8		
CBP	B12					+3V

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BXQ	B14	16.28 M7	16.29 M7	16.28 M3	16.29 M3	16.28 M2	16.29 M2	15.28 M7	15.29 M7	15.28 M3	15.29 M3	15.28 M2	15.29 M2	14.28 M7	14.29 M7	14.28 M3	14.29 M3	14.28 M2	14.29 M2	13.28 M7	13.29 M7	13.28 M3	13.29 M3	13.28 M2	13.29 M2

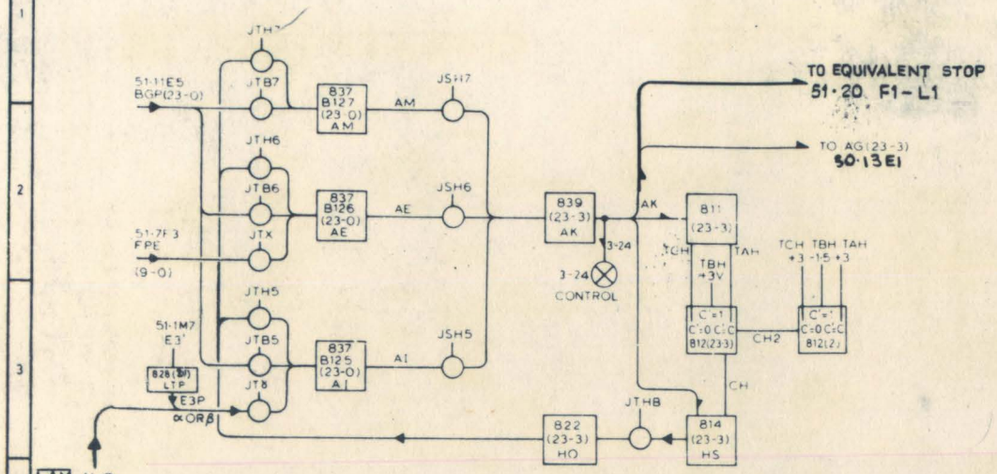
WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
ZG	B50	16.37						15.37						14.37						13.37					
		M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1
ZH	B50	16.36						15.36						14.36						13.36					
		M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1
ZJ	B50	16.33						15.33						14.33						13.33					
		M6	M5	M4	M5	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
-B	B39	16.34 M6	16.35 M6	16.34 M4	16.35 M4	16.34 M2	16.35 M2	15.34 M6	15.35 M6	15.34 M4	15.35 M4	15.34 M2	15.35 M2	14.34 M6	14.35 M6	14.34 M4	14.35 M4	14.34 M2	14.35 M2	13.34 M6	13.35 M6	13.34 M4	13.35 M4	13.34 M2	13.35 M2

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
APE	B38	16.42 M8	16.45 M8	16.42 M4	16.45 M4	16.42 M2	16.45 M2	15.42 M8	15.45 M8	15.42 M4	15.45 M4	15.42 M2	15.45 M2	16.42 M8	16.45 M8	14.42 M4	14.45 M4	14.42 M2	14.45 M2	13.42 M8	13.45 M8	13.42 M4	13.45 M4	13.42 M2	13.45 M2

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BQ	B37	16.30 M8	16.31 M8	16.30 M4	16.31 M4	16.30 M2	16.31 M2	15.30 M8	15.31 M8	15.30 M4	15.31 M4	15.30 M2	15.31 M2	14.30 M8	14.31 M8	14.30 M4	14.31 M4	14.30 M2	14.31 M2	13.30 M8	13.31 M8	13.30 M4	13.31 M4	13.30 M2	13.31 M2

WAVEFORM	PCODE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
BQP	B28	16.38 M2	M1	M0	M8	M7	M6	M5	M4	M3	M2	M1	M0	15.38 M8	M7	M6	M5	M4	M3	M2	M1	M0	14.38 M8	M7	M6	M5	M4	M3	M2	M1	M0	13.38 M8	M7	M6	M5	M4	M3	M2



WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
HO	F 22	26/6						25/6						24/6						23/6					
		M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1
BGP	828	16/38						15/38						14/38						13/38					
		M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1

WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
AM B127	837	16/12	16/11	16/12	16/16	16/12	16/16	15/12	15/16	15/12	15/16	15/12	15/16	14/12	14/16	14/12	14/16	14/12	14/16	13/12	13/16	13/12	13/16	13/12	13/16
		M6	M5	M6	M5	M4	M3	M2	M1	M2	M1	M6	M5	M6	M5	M4	M3	M4	M3	M2	M1	M2	M1	M6	M5

WFM	PKGE													8	7	6	5	4	3	2	1	0
FPE	832	1	1	1	0	1	1	1	1	1	1	1	0	17/19	17/20	17/21	17/19	17/20	17/21	17/19	17/20	17/21
														M3	M3	M3	M2	M2	M2	M1	M1	M1

WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
AE B126	837	16/11	16/15	16/11	16/15	16/11	16/15	15/11	15/15	15/11	15/15	15/11	15/15	14/11	14/15	14/11	14/15	14/11	14/15	13/11	13/15	13/11	13/15	13/11	13/15
		M6	M5	M6	M5	M4	M3	M4	M3	M4	M3	M4	M3	M2	M1	M2	M1	M6	M5	M6	M5	M4	M3	M2	M1

WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
αORβ	828(31)	LEVEL															LEVEL								
CAM	LAM11	1	1		0	1	1	1	1	1	1	1	1				0	0	0	0	0	0	0	0	0
AI B125	837	16/10	16/14	16/10	16/14	16/10	16/14	15/10	15/14	15/10	15/14	15/10	15/14	14/10	14/14	14/10	14/14	14/10	14/14	13/10	13/14	13/10	13/14	13/10	13/14
		M6	M5	M6	M5	M4	M3	M4	M3	M4	M3	M2	M1	M2	M1	M6	M5	M6	M5	M4	M3	M4	M3	M2	M1

WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
AK	839	16/8	16/13	16/8	16/13	16/8	16/13	15/8	15/13	15/8	15/13	15/8	15/13	14/8	14/13	14/8	14/13	14/8	14/13	13/13		
		M6	M5	M6	M5	M4	M3	M4	M3	M4	M3	M2	M1	M2	M1	M6	M5	M6	M5	M4	M3	M2

WFM	PKGE	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
TCH (C'=0)	811	26/2						25/2						24/2						23/2			
		M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	+3V
TAH (C'=C)		M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	+3V
CH	812	26/3						25/3						24/3						23/3			
			M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4
HS	814	26/4	26/5	26/4	26/5	26/4	26/5	25/4	25/5	25/4	25/5	25/4	25/5	24/4	24/5	24/4	24/5	24/4	24/5	23/4			
		M8	M7	M8	M7	M5	M4	M5	M4	M5	M4	M2	M1	M2	M1	M8	M7	M8	M7	M5	M4	M2	M1		

JTB7	19/23/M1	51-3N7
JTB7	18/3/M7	BGP → AM
stJTB71	13/9/M5	AM 1,3,5
2	13/23/M11	0,2,4
3	14/9/M3	7,9,11
4	14/17/M12	6,8,10
5	15/9/M3	13,15,17
6	15/17/M10	12,14,16
7	16/9/M3	19,21,23
8	16/17/M10	18,20,22

JTB6	19/23/M2	51-3N7
JTB6	18/3/M6	BGP → AE
stJTB61	13/9/M4	AE 1,3,5
2	13/23/M10	0,2,4
3	14/9/M2	7,9,11
4	14/17/M11	6,8,10
5	15/9/M2	13,15,17
6	15/17/M9	12,14,16
7	16/9/M2	19,21,23
8	16/17/M9	18,20,22

JTB5	19/23/M3	51-3N8
JTB5	18/3/M5	BGP → AI
stJTB51	13/9/M3	AI 1,3,5
2	13/23/M9	0,2,4
3	14/9/M1	7,9,11
4	14/17/M10	6,8,10
5	15/9/M1	13,15,17
6	15/17/M8	12,14,16
7	16/9/M1	19,21,23
8	16/17/M8	18,20,22

JTH8	18/35/M1	51-1J3
JTH8	18/40/M2	HS → HO
stJTH 1	23/5/M9	HO 3,4,5
2	25/1/M3	6 - 11
3	25/1/M4	6 - 11
4	25/1/M5	12 - 17
5	25/1/M6	12 - 17
6	25/1/M7	18 - 23
7	25/1/M8	18 - 23

JTX	18/28/M5	51-1K5
JTX	18/3/M8	FPE → AE
stJTX 1	13/9/M7	AE 1,3,5
2	13/17/M11	0,2,4
3	14/9/M5	7,9,11
4	14/17/M9	6,8,10
5	15/9/M7	13,15,17
6	15/9/M12	12,14,16
7	16/9/M5	19,21,23
8	16/9/M12	18,20,22

JT8	18/5/M2	51-1N8
JT8	18/30/M2	αORβ → AI
stJT8 1	13/9/M6	AI 1,3,5
2	13/17/M12	0,2,4
3	14/9/M4	7,9,11
4	14/9/M12	6,8,10
5	15/9/M6	13,15,17
6	15/9/M11	12,14,16
7	16/9/M4	19,21,23
8	16/17/M11	18,20,22

JTH7	19/25/M4	51-1J5
JTH7	18/30/M3	HO → AM
stJTH71	13/9/M10	AM 1,3,5
2	13/9/M11	0,2,4
3	14/9/M8	7,9,11
4	14/9/M9	6,8,10
5	15/9/M10	13,15,17
6	15/23/M9	12,14,16
7	16/9/M8	19,21,23
8	16/9/M9	18,20,22

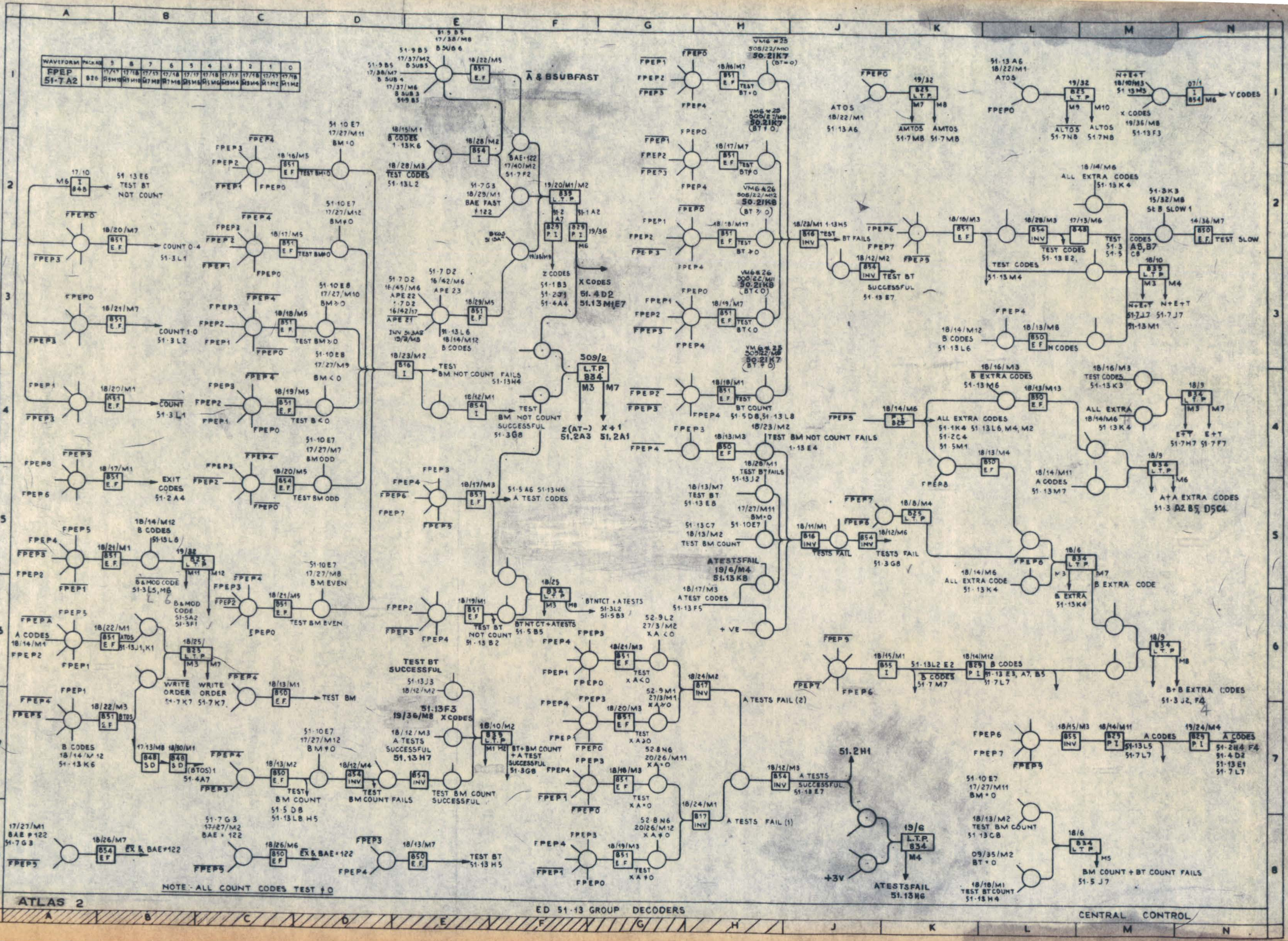
JTH6	19/25/M5	51-1J5
JTH6	18/30/M4	HO → AE
stJTH61	13/9/M9	AE 1,3,5
2	13/9/M12	0,2,4
3	14/9/M17	7,9,11
4	14/9/M10	6,8,10
5	15/9/M9	13,15,17
6	15/17/M12	12,14,16
7	16/9/M7	19,21,23
8	16/9/M10	18,20,22

JTH5	19/25/M6	51-1J5
JTH5	18/30/M5	HO → AI
stJTH51	13/9/M8	AI 1,3,5
2	13/17/M10	0,2,4
3	14/9/M6	7,9,11
4	14/9/M11	6,8,10
5	15/9/M8	13,15,17
6	15/17/M11	12,14,16
7	16/9/M6	19,21,23
8	16/9/M11	18,20,22

JSH7	18/31/M9	51-1H5
JSH7	18/30/M6	AM → AK
stJSH71	16/7/M1	AK 3,4,5
2	16/7/M2	6 - 11
3	16/7/M3	12 - 17
4	16/7/M4	18 - 23

JSH6	18/31/M11	51-1H5
JSH6	18/30/M7	AE → AK
stJSH61	16/7/M5	AK 3,4,5
2	16/7/M6	6 - 11
3	16/7/M7	12 - 17
4	16/7/M8	18 - 23

ME	19/36/M2	51-1G5
JSH5	18/30/M8	AI → AK
stJSH51	16/7/M9	AK 3,4,5
2	16/7/M10	6 - 11
3	16/7/M11	12 - 17
4	16/7/M12	18 - 23



A & BSUBFAST
Y CODES
TEST SLOW
A+A EXTRA CODES
B EXTRA CODE
B+B EXTRA CODES
A TESTS FAIL (2)
A TESTS FAIL (1)
ATESTSFAIL
BM COUNT + BT COUNT FAILS
NOTE - ALL COUNT CODES TEST ≠ 0
ATLAS 2
ED 51·13 GROUP DECODERS
CENTRAL CONTROL

DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
B127	516/12	516/16	516/12	516/16	516/12	516/16	515/12	515/16	515/12	515/16	515/12	515/16	514/12	514/16	514/12	514/16	514/12	514/16	513/12	513/16	513/12	513/16	513/12	513/16
837	M6	M0	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2
DESK	CO/4								CO/2															
FB863	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2
L/D	CO/5								CO/3								CO/1							
926	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1

DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
APB	516/48	516/48	516/48	516/48	515/47	515/47	515/47	515/47	515/48	515/48	515/48	515/48	514/47	514/47	514/47	514/47	514/48	514/48	514/48	514/48	513/48	513/48	513/48	513/48
832	M8	M7	M6	M5	M8	M7	M6	M5	M8	M7	M6	M5	M8	M7	M6	M5	M8	M7	M6	M5	M8	M7	M6	M5
DESK	CO/36				CO/33								CO/31											
FB863	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5
L/D	CO/35				CO/34								CO/32								CO/30			
926	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4

DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
B126	516/11	516/15	516/11	516/15	516/11	516/15	515/11	515/15	515/11	515/15	515/11	515/15	514/11	514/15	514/11	514/15	514/11	514/15	513/11	513/15	513/11	513/15	513/11	513/15
837	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2
DESK	CO/9								CO/7															
FB863	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2
L/D	CO/10				CO/8				CO/6															
926	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1

	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24
WV	583/7	583/7	583/7	583/7	583/7	583/7	583/5	583/5	583/5	583/5	583/5	583/5	583/3	583/3	583/3	583/3	583/3	583/3	583/1	583/1	583/1	583/1	583/1	583/1
860	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1
DESK	C1/4												C1/2											
FB863	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2
L/D	C1/5								C1/3								C1/2							
926	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1

DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
B125	516/10	516/14	516/10	516/14	516/10	516/14	515/10	515/14	515/10	515/14	515/10	515/14	514/10	514/14	514/10	514/14	514/10	514/14	513/10	513/14	513/10	513/14	513/10	513/14
837	M8	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2
DESK	CO/16				CO/14								CO/12											
FB863	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M9	M8	M7	M6	M5	M4	M3	M2
L/D	CO/15				CO/13				CO/11															
926	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1

W/F	V WRITE	ODD	NO CARRY	WAIT DATA	RESET INT.			REQUEST FPC	WAIT FPC		REQUEST TC1	WAIT TC1A	RUNNING TC1	CLOCK 1A	CLOCK 1B	BLOCK MARK 1A	BLOCK MARK 1B	REQUEST TC2	DATA TC2A	RUNNING TC2	CLOCK 2A	CLOCK 2B	BLOCK MARK 2A	BLOCK MARK 2B
ORIGIN T/C'S P/C'S	583/24 M8	584/32 M2	588/23 M11	584/22 M5	584/30 M8			560/36 M5	560/33 M6		565/43 M1	565/32 M5	565/3 M7	566/21 M6	566/21 M8	566/4 M10	566/4 M12	575/43 M1	575/32 M5	575/3 M7	576/21 M6	576/21 M8	576/4 M10	576/4 M12
DESK	C1/9										C1/7												C1/9	
FB863	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3
L/D	C1/8			C1/10							C1/6						C1/8							
926	M3	M4	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M5	M6	M7	M8	M1	M2

W/F.	B124 23	B124 22	B124 21	B124 20	B124 19	B124 18	B124 17	B124 16	B124 15	LOOK	M	E	I	[I]	RUN	B121 8	B121 7	B121 6	B121 5	B121 4	B121 3	B121 2	B121 1	B121 0		
ORIGIN	523/1	523/1	523/1	523/1	523/10	523/10	522/4	522/4	520/4	518/47	518/51	518/31	506/22	514/7	C2/3	517/32	517/37	517/38	517/38	517/38	517/38	517/38				
	M7	M5	M3	M1	M11	M1	M7	M1	M1	M7	M10	M12	M6	M5	M4	M8	M7	M7	M6	M6	M5	M5				
DESK	C1/36				C1/33				C1/35	CO/19	CO/16	C1/33	CO/36			CO/16									CO/36	
FB863	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M3	M2	M3	M4	M7	M12	M11	M10	M9	M8	M7	M6	M6	M5		
L/D	C1/35				C1/34				C1/34	CO/18	CO/17	C1/32	CO/35			CO/17									CO/35	
926	M4	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1	M8	M3	M6	M7	M6	M5	M4	M3	M2	M1	M5	M4		

W/F	ON TRACK A	EOFT A	ERROR A			FILE WARNING	DISENGAGE	ON TRACK B	EOFT B	ERROR B			DECK SELECTED	RE-WIND	FORWARD	FILE MARK	HIGH DENSITY	LOAD POINT	END OF TAPE	WRITE	READ	LAT PARITY FAIL	LONG PARITY FAIL	EVEN PARITY
ORIGIN FMT DFC	602/4 M6	604/39 M10	604/45 M10			606/RH FL RCNET	604/30 M1	606/44 M6	604/39 M12	604/45 M12			550/19 M4	597/46 M5	557/27 M11	597/47 M4	597/47 M1	559/19 M5	559/19 M6	597/46 M9	597/46 M11	599/39 M4	597/17 M3	598/16 M8
DESK	C1/16					C1/14							C1/12											
FB863	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M9	M8	M7	M6	M5	M4	M3	M2
L/D	C1/15					C1/13							C1/11											
926	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1

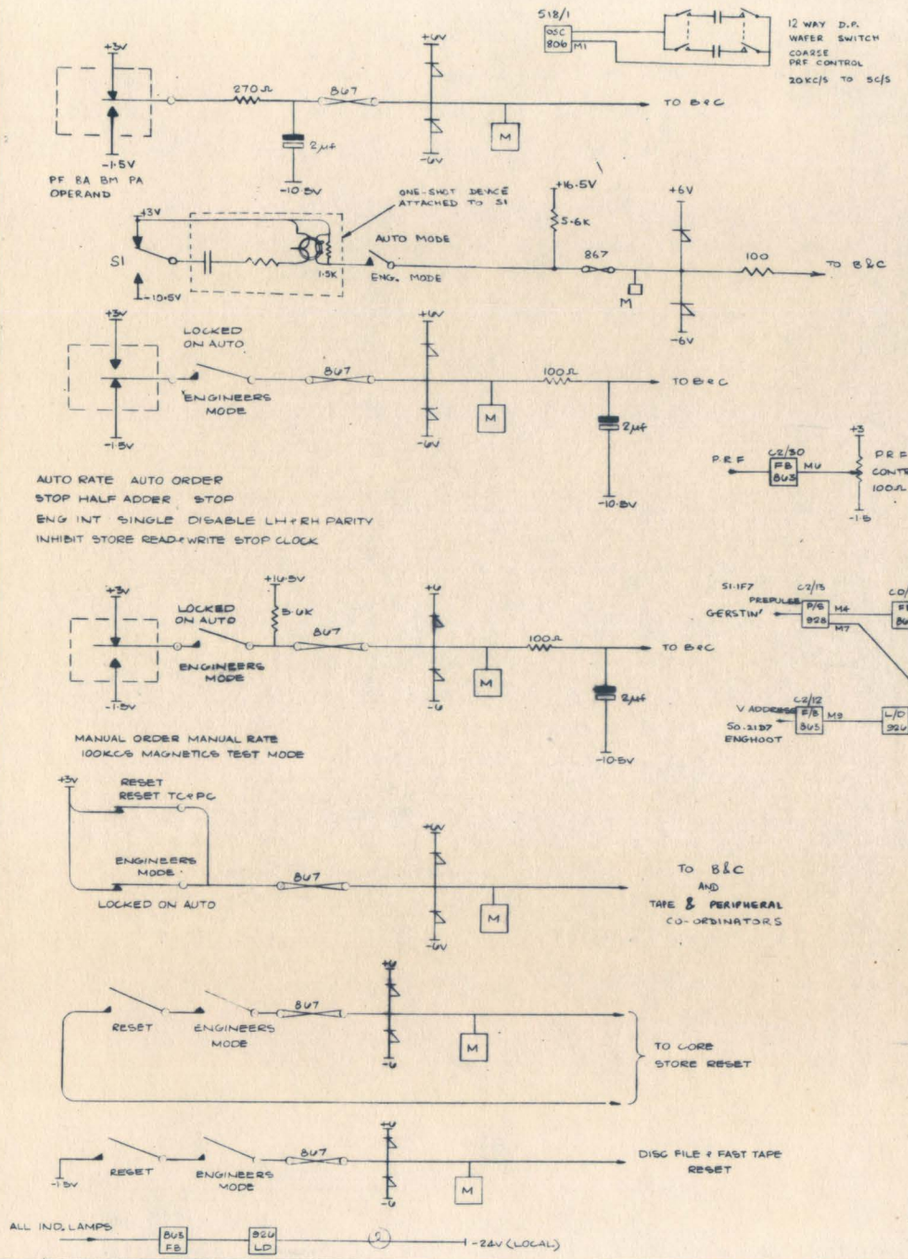
W/F	FPE 9	FPE 8	FPE 7	FPE 6	FPE 5	FPE 4	FPE 3	FPE 2	FPE 1	FPE 0	BAE 6	BAE 5	BAE 4	BAE 3	BAE 2	BAE 1	BAE 0	BME 7	BME 6	BME 5	BME 4	BME 3	BME 2	BME 1	BME 0
ORIGIN	517/21	517/19	517/20	517/21	517/19	517/20	517/21	517/19	517/20	517/21	517/36	517/35	517/36	517/35	517/36	517/35	517/36	517/42	517/44	517/45	517/44	517/45	517/42	517/44	517/45
	M4	M3	M3	M3	M2	M2	M2	M1	M1	M1	M4	M3	M3	M2	M2	M1	M1	M5	M3	M3	M3	M2	M1	M1	M1
DESK	C0/26			C0/24							C0/21														C0/19
FB863	M4	M3	M2	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	
L/D	C0/25			C0/23							C0/22							C0/20							
926	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	

W/F	FULL 1	FULL 2	EARLY REQUEST	REQUEST	CO-ORD PRIORITY	SECOND HALF		DRIVE BSY	W XFR	WDAR	WOP	DRIVE FREE	ARM BUSY FREE	DRIVE BSY FREE	OSC BSY FREE	BOOLS INST FREE	ENERGY RELEASE	E.V.T	N.E.V.T	WO	B CODE	A CODE	AMTOS	ALTOS
ORIGIN O BUFFER C, COMP	567/58 M12	567/40 M11	567/30 M8	567/31 M7	567/30 M7	904/31 M6		518/54 M3	514/1 M7	518/37 M2	519/26 M4	519/4 M1	519/3 M6	519/41 M5	519/41 M7	518/32 M2	568/48 M2	516/2 M5	517/48 M2	517/48 M4	517/48 M8	517/48 M6	517/48 M10	517/48 M12
DESK	C2/12		C2/9				C1/26	C1/26	C1/19								C1/16							
FB863	M3	M2	M13	M12	M11	M10	M2	M11	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M6	M7	M9	M8	M10	M11
L/D	C2/11		C2/10				C1/27	C1/27	C1/18								C1/17							
926	M2	M1	M8	M7	M6	M5	M7	M6	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M1	M2	M4	M3	M5	M6	

DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
APE	516/42	516/45	516/42	516/45	516/42	516/45	515/42	515/45	515/42	515/45	515/42	515/45	514/42	514/45	514/42	514/45	514/42	514/45	513/42	513/45	513/42	513/45	513/42	513/45
838	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2
DESK	CO/31			CO/28							CO/26													
FB863	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M13	M12	M11	M10	M9	M8	M7	M6	M5
L/D	CO/30			CO/29					CO/27							CO/25								
926	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	

W/F	FAIL	SLAVE	A	B	C	D	CLMP D	CLMP C	CLMP B	BSY A	BSY B	BSY C	BSY D	SPEDY	MAG. REQUEST	HLD UP	MR1	MRC	MRF	MRV	ABF	VALVE	RECALLED	
ORIGIN DIS STATUS DIS PAR	504/19 M12	504/19 M10	504/19 M2	504/19 M4	504/19 M6	504/19 M8	502/47 M7	502/47 M6	502/47 M5	501/41 M1	501/41 M2	501/41 M3	501/41 M4	503/29 M4	501/38 M9	502/30 M12	502/30 M6	502/30 M8	502/30 M4	502/30 M2	501/30 M8	502/46 M11	503/44 M6	
DESK	C1/24							C1/21												C1/19				C2/12
FB863	M8	M7	M3	M4	M5	M6	M2	M13	M12	M8	M9	M10	M11	M7	M6	M5	M3	M4	M2	M13	M12	M11	M10	M4
L/D	C1/23							C1/22								C1/20								C2/11
926	M7	M6	M2	M3	M4	M5	M1	M8	M7	M3	M4	M5	M6	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M3	

E.D. 51 17 ENGINEERS DESK IND. LAMPS. CENRAL CONTROL



W/F	PF										BA							BM						
DIGIT	9	8	7	6	5	4	3	2	1	0	6	5	4	3	2	1	0	6	5	4	3	2	1	0
DESK FB 8U7	C2/32												C2/31											
	MI3	MI2	MII	MI0	M9	M8	M7	M6	M5	M4	M3	M2	MI3	MI2	MII	MI0	M9	M8	M7	M6	M5	M4	M3	M2
B&C	517/21	517/19	517/20	517/21	517/19	517/20	517/21	517/19	517/20	517/21	517/36	517/35	517/36	517/35	517/36	517/35	517/36	517/42	517/44	517/45	517/41	517/42	517/44	517/45
	M4	M3	M3	M3	M2	M2	M2	M1	M1	M1	M4	M3	M3	M2	M2	M1	M1	M8	M8	M8	M2	M1	M1	M1

W/F	PA																							
DIGIT	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
DESK FB 8U7	C2/34												C2/33											
	MI3	MI2	MII	MI0	M9	M8	M7	M6	M5	M4	M3	M2	MI3	MI2	MII	MI0	M9	M8	M7	M6	M5	M4	M3	M2
B&C 858	514/42	514/45	514/46	514/45	514/42	514/46	518/42	515/46	515/42	515/45	515/42	515/46	514/42	514/45	514/46	514/45	514/42	514/45	513/42	513/46	513/42	513/45	513/42	513/46
	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2	M6	M6	M4	M4	M2	M2

W/F	DISABLE LH PAR	DISABLE RH PAR	STOP ON PARITY	RESET PARITY	ESTOP	AUTO RESET SINGLE	VM7 7	VM7 6	VM7 5	VM7 4	VM7 3	VM7 2	VM7 1	VM7 0	RESET T+PC	MAG TEST MODE	STOP CLOCK	INHIBIT MAGS	RESET PTOF	CORE STORE RK
DESK FB 8U7	C2/35	C2/35	C2/35	C2/35	C2/30	C2/30	C2/34	C2/34	C2/34	C2/34	C2/34	C2/34	C2/34	C2/34	C2/28	C2/28	C2/28	C2/28	C2/29	C2/30
	M2	M3	M5	M6	M11	M10	M13	M12	M11	M10	M9	M8	M7	M6	M7	M5	M2	M6	M13	M3
	504/19	504/18	504/1	503/42	518/46	C2/35	504/20	504/28	504/27	504/26	504/25	504/24	504/27	504/32	585/11	504/15	507/42	504/48	602/13	504/42
	M8	M8	M3	M1	M5	M11	M1	M2	M1	M2	M1	M2	M1	M6	M8	M2	M3	N9	M2	M5

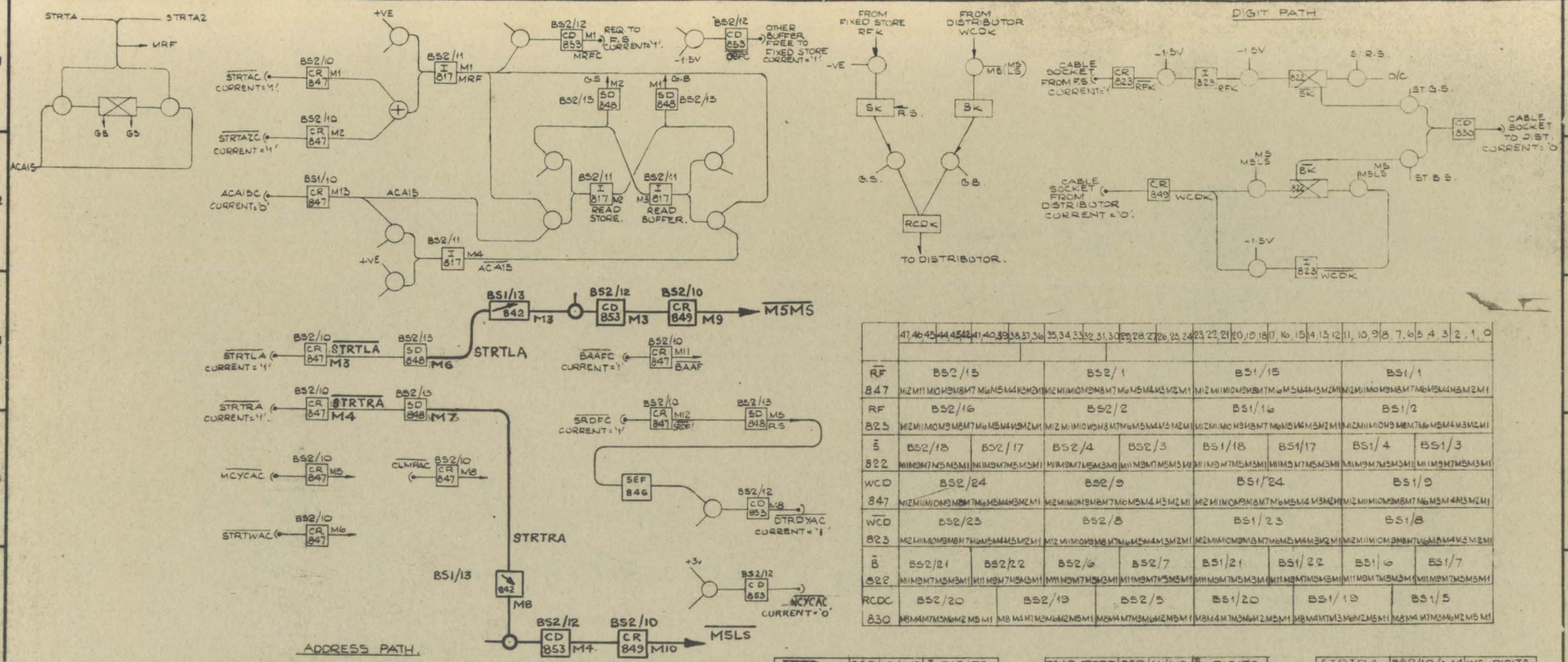
W/F	RESET	ENG INT	SINGLE	STOP	LOCKED	MANUAL RATE	AUTO RATE	MANUAL ORDER	AUTO ORDER															
DESK FB 8U7	C2/35	C2/35	C2/35	C2/34	C2/34	C2/34	C2/34	C2/34	C2/35															
	M10	M8	M11	M5	M4	M3	M7	M13	M12															
	518/46	518/2	518/2	518/27	518/1	518/45	518/45	518/38	518/38															
	M4	M1	M2	M2	M3	M3	M4	M6	M2															

W/F	BO A	HPE A	LPE A	TPE A	>ITPE A	TPS1/3 A	ERROR 2A	CWO A	READ A	WRITE A	SWA	PTS A	BO B	HPE B	LPE B	TPE B	>ITPE B	TPS1/3 B	ERROR 2B	CWO B	READ B	WRITE B	SWB	PTS B
ORIGIN DISC FILE CO-ORD	603/54	603/52	603/64	604/46	604/42	603/40	603/54	604/42	604/50	604/52	602/42	602/17	605/52	605/64	605/54	604/46	604/44	604/46	605/52	604/44	604/39	604/35	602/42	602/17
	M5	MU	M7	M4	M4	MU	M8	M4	MU	M2	M7	M5	M5	MU	M7	MU	MU	MU	M8	M12	M8	M4	M8	MU
DESK FB 863	C2/4								C2/2				C2/7								C2/4			
	M9	M8	M7	MU	M5	M4	M3	M2	MI3	MI2	MII	MI0	M9	M8	M7	MU	M5	M4	M3	M2	MI3	MI2	MII	MI0
L/D	C2/5				C2/3				C2/6				C2/0								C2/5			
82U	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	MU	M5	M8	M7	MU	M5	M4	M3	M2	M1	M8	M7	M6	M5

W/F	WPH	RGC13	CSFR	DHU				IHU	IN	COPA	COPB	KIN	NF	ZBOP	OB READ	GSB READ	LIT	APS LOADED	BXE1	GT	BXE2	G2	BXE1	G1
ORIGIN B&C DISTRIB	502/52	502/52	501/42	501/22				518/36	518/36	518/38	518/38	518/38	518/4	514/7	518/4	518/4	518/14	518/12	518/14	518/11	518/10	518/11	518/14	518/11
	M8	M6	M1	M6				M8	M12	M2	M4	M11	M4	M6	M6	M3	M8	M7	M8	M2	M6	M3	M4	M4
DESK FB 803	C2/9							C2/7					C2/2								C1/36			
	M9	M8	M7	M6	M5	M4	M3	M2	MI3	MI2	MII	MI0	M9	M8	M7	M6	M5	M4	M3	M2	M9	M8	M7	M6
L/D	C2/10				C2/8				C2/3				C2/1								C1/35			
82U	M4	M3	M2	M1	M4	M3	M2	M1	M8	M7	M6	M5	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M6	M5

AUTO RATE AUTO ORDER
STOP HALF ADDER STOP
ENG INT SINGLE DISABLE LH+RH PARITY
INHIBIT STORE READ+WRITE STOP CLOCK

ED 51-18 ENGINEERS DESK I.D.I. MVPS CONTROL & INSTRUCTION KEYS



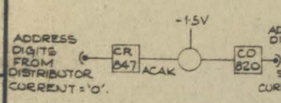
	47,46,45,44,45,42,41,40,39,38,37,36	35,34,33,32,31,30,29,28,27,26,25,24	23,22,21,20,19,18	17,16,15,14,13,12	11,10,9	8,7,6	5,4,3	2,1,0
$\overline{RF}$	BS2/15	BS2/1	BS1/15		BS1/1			
847	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1		M2M11M10M9M8M7M6M5M4M3M2M1			
RF	BS2/16	BS2/2	BS1/16		BS1/2			
825	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1		M2M11M10M9M8M7M6M5M4M3M2M1			
$\overline{S}$	BS2/18	BS2/17	BS2/4	BS2/3	BS1/18	BS1/17	BS1/4	BS1/3
822	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1
WCD	BS2/24	BS2/9	BS1/24		BS1/9			
847	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1		M2M11M10M9M8M7M6M5M4M3M2M1			
$\overline{WCD}$	BS2/23	BS2/8	BS1/23		BS1/8			
823	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1	M2M11M10M9M8M7M6M5M4M3M2M1		M2M11M10M9M8M7M6M5M4M3M2M1			
$\overline{B}$	BS2/21	BS2/22	BS2/6	BS2/7	BS1/21	BS1/22	BS1/6	BS1/7
822	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1	M11M9M7M5M3M1
RCDC	BS2/20	BS2/19	BS2/5		BS1/20	BS1/19	BS1/5	
830	M8M4M7M3M6M2M5M1	M8M4M7M3M6M2M5M1	M8M4M7M3M6M2M5M1		M8M4M7M3M6M2M5M1	M8M4M7M3M6M2M5M1	M8M4M7M3M6M2M5M1	

5RDF	BS2/10/M12	5 DIGITS
R.S.	BS2/13/M5	SET.
ST.R.S. 1	BS1/12/M5	0-5 in BS1/3
2	M6	6-11 BS1/4
3	14/M5	12-17 BS1/17
4	M6	18-23 BS1/18
5	12/M7	24-29 BS2/3
6	M8	30-35 BS2/4
7	BS2/14/M11	36-41 BS2/17
8	M12	42-47 BS2/18

READ STORE	BS2/11/M2	5 DIGITS
G.B.	BS2/13/M1	STROBED
ST.G.B. 1	BS1/14/M10	0-7 in BS1/5
2	M11	8-15 BS1/19
3	M12	16-23 BS1/20
4	BS2/14/ M1	24-31 BS2/5
5	M2	32-38 BS2/19
6	M3	39-47 BS2/20

STRTRA	BS2/10/M4	WC DIGITS
M5LS	BS2/13/M4	STROBED.
ST.M5LS 1	BS1/12/M1	0-5 in BS1/7
2	M2	
3	M3	6-11 in BS1/6
4	M4	
5	14/M1	12-17 in BS1/22
6	M2	
7	M3	18-23 in BS1/21
8	M4	

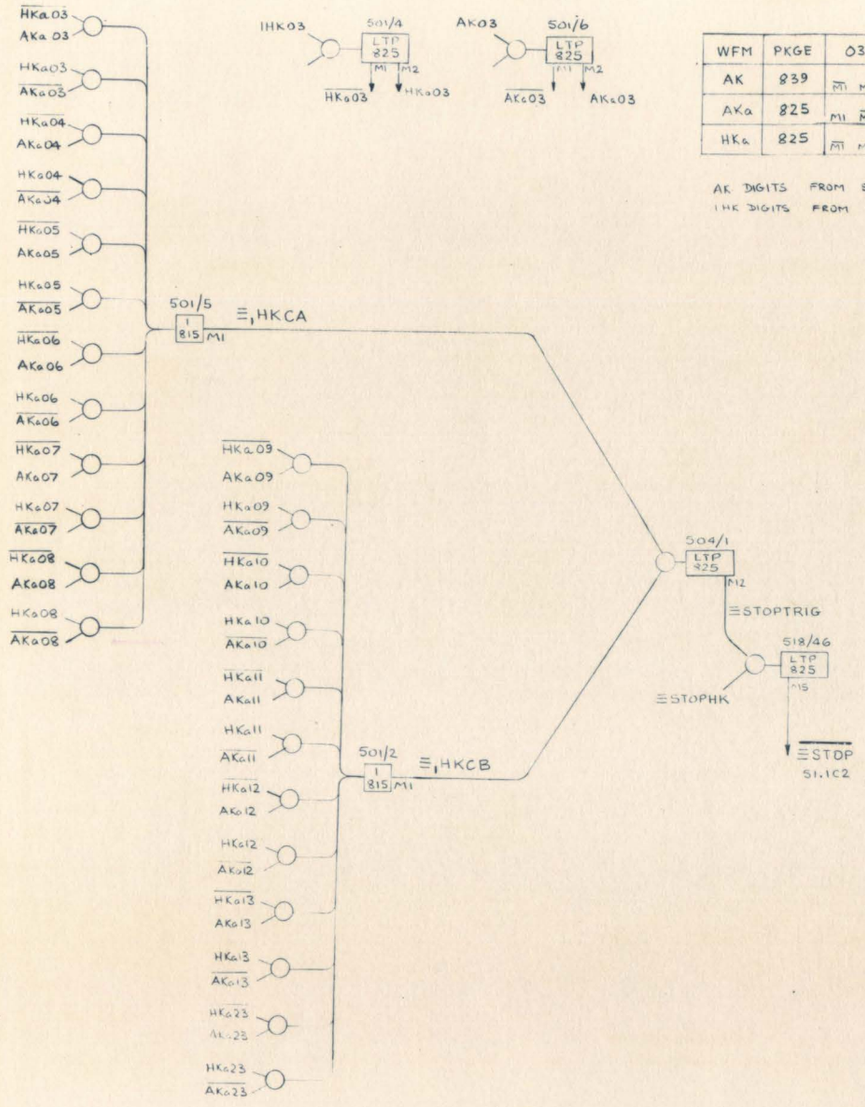
WAVEFORM FROM DISTRIBUTOR	MONITOR POINT 847	WAVEFORM TO FIXED STORE	MONITOR POINT B20
ACA6	BS1/10/M1	$\overline{AF}$6C	BS1/11/M1
ACA7	M2	$\overline{AF}$7C	M2
ACA8	M3	$\overline{AF}$8C	M3
ACA9	M4	$\overline{AF}$9C	M4
ACA10	M5	$\overline{AF}$10C	M5
ACA11	M6	$\overline{AF}$11C	M6
ACA12	M7	$\overline{AF}$12C	M7
ACA13	M8	$\overline{AF}$13C	M8
ACA14	M9	$\overline{AF}$14C	M9
ACA15	M13	—	—
ACA16	BS1/9/ M13	—	—
ACA17	BS1/10/ M10	$\overline{AF}$5C	M10
ACA18	M11	$\overline{AF}$4C	M11
ACA19	M12	$\overline{AF}$5C	M12



READ BUFFER	BS2/11/M3	5 DIGITS
G.S.	BS2/13/M2	STROBED.
ST.G.S. 1	BS1/14/M7	0-7 in BS1/5
2	M8	8-15 BS1/19
3	M9	16-23 BS1/20
4	BS2/14/M4	24-31 BS2/5
5	M5	32-38 BS2/19
6	M6	39-47 BS2/20

STRTLA	BS2/10/M3	WC DIGITS
M5MS	BS2/13/M3	STROBED.
ST.M5MS 1	BS1/12/M3	24-29 in BS2/7
2	M10	
3	M11	30-35 BS2/6
4	M12	
5	BS2/14/M7	36-41 BS2/22
6	M8	
7	M9	42-47 BS2/21
8	M10	

ATLAS 2. EDS1-19 COMMISSIONING FIXED STORE INTERFACE BOX. ENGINEERING DIAGRAM.

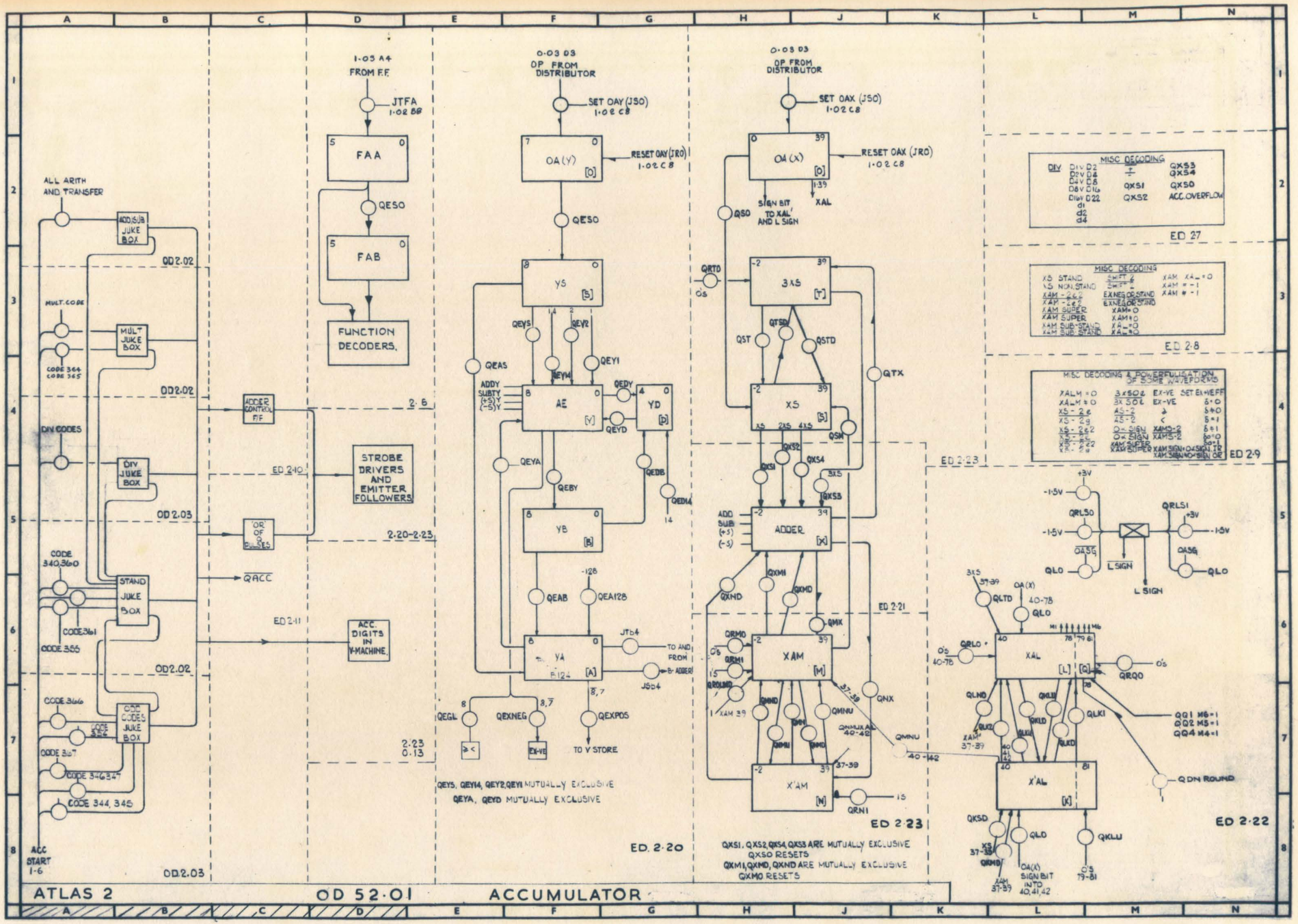


WFM	PKGE	03	04	05	06	07	08	09	10	11	12	13	23
AK	839	M1 M2	M3 M4	M5 M6	M1 M2	M1 M2	M3 M4	M3 M4	M5 M6	M5 M6	M1 M2	M1 M2	M5 M6
AKa	825	M11 M12	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12
HKa	825	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12	M1 M2	M3 M4	M5 M6	M7 M8	M9 M10	M11 M12

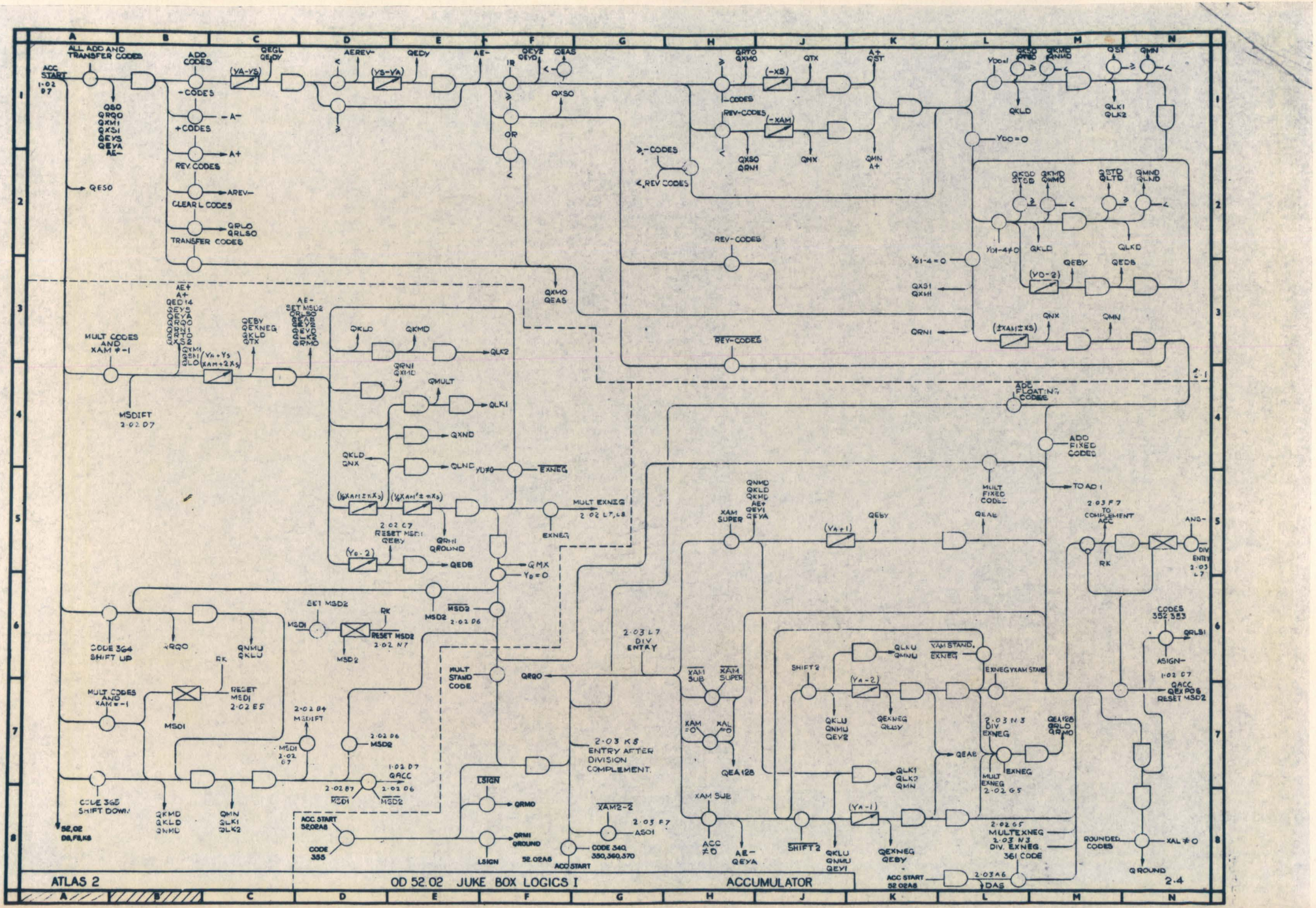
513/13
514/13
514/8
514/13
514/8
514/13
514/8
515/13
515/8
515/8
501/6
501/3
51.1/4
501/1

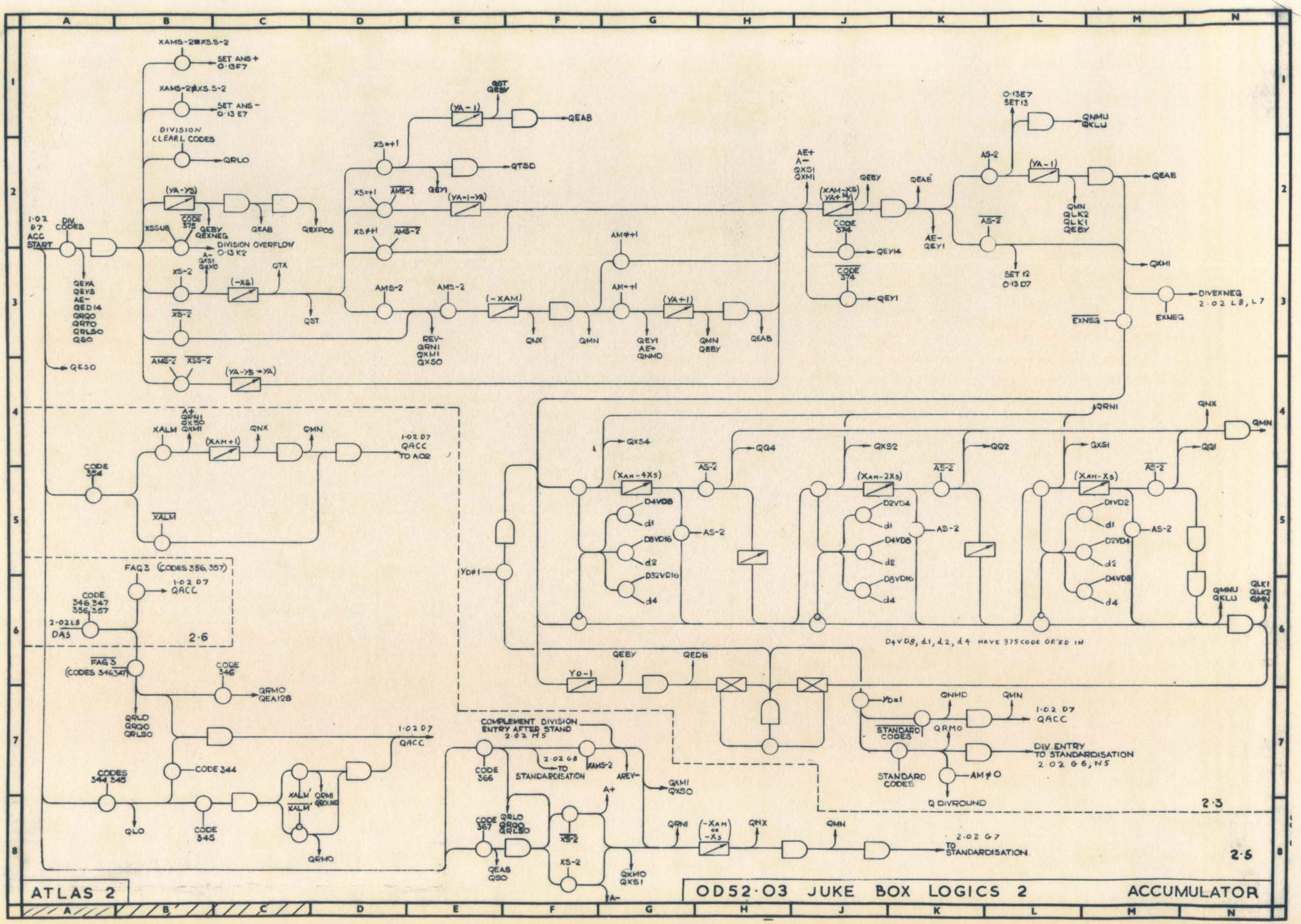
AK DIGITS FROM 51.12D2
IHK DIGITS FROM HANDKEYS ON ENGINEERS' DESK

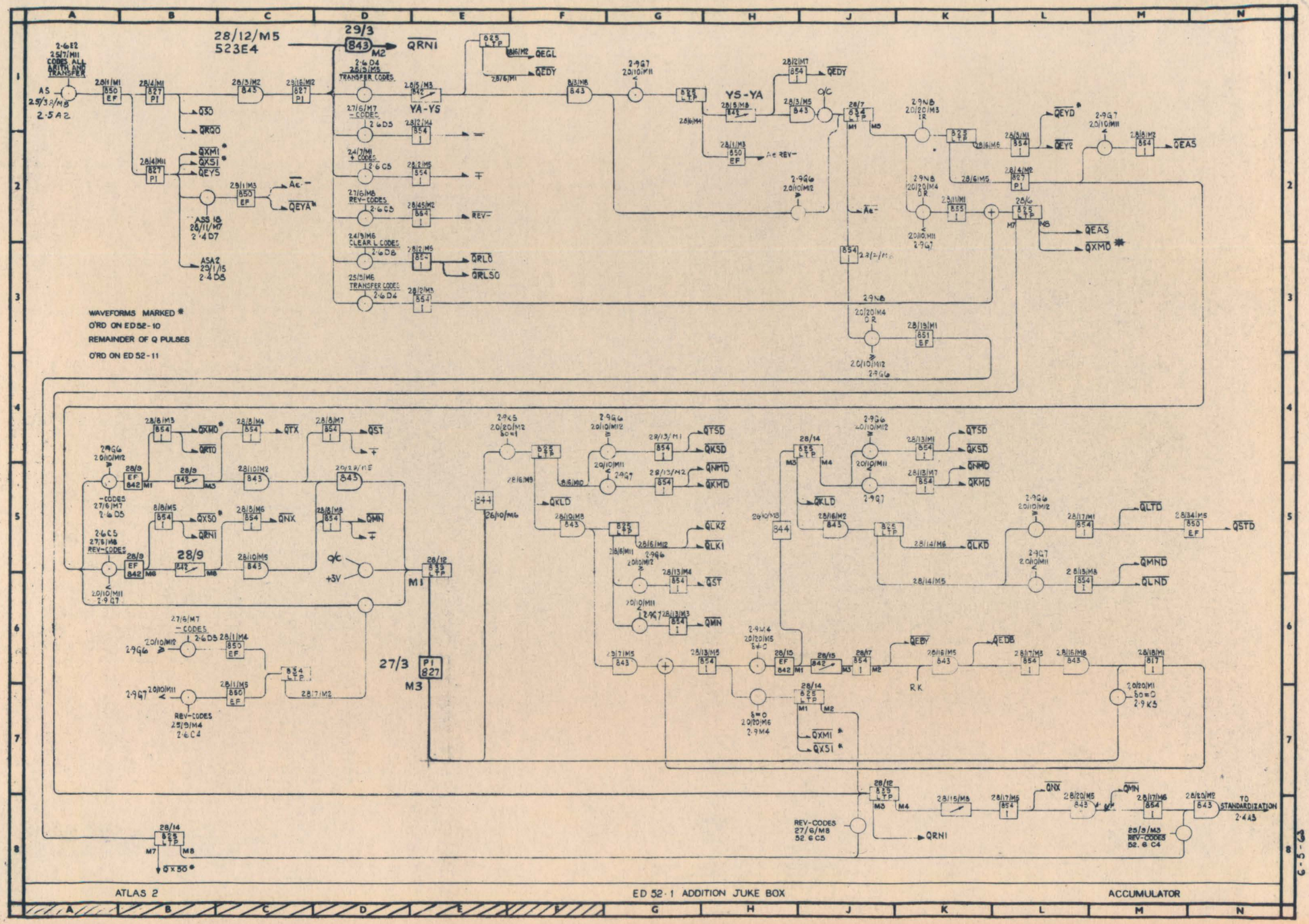
ATLAS 2 ED51.20 EQUIVALENT STOP CENTRAL CONTROL

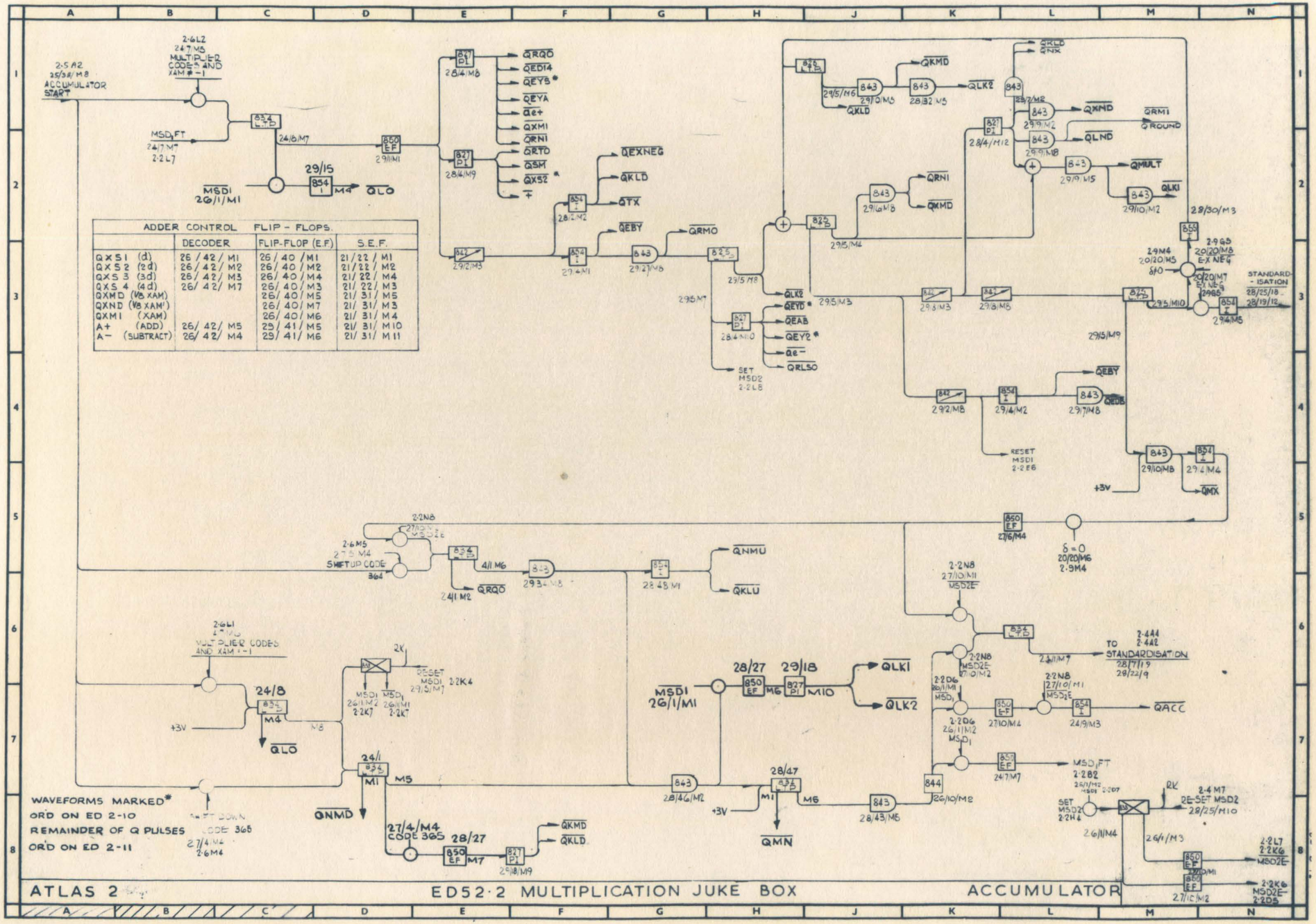


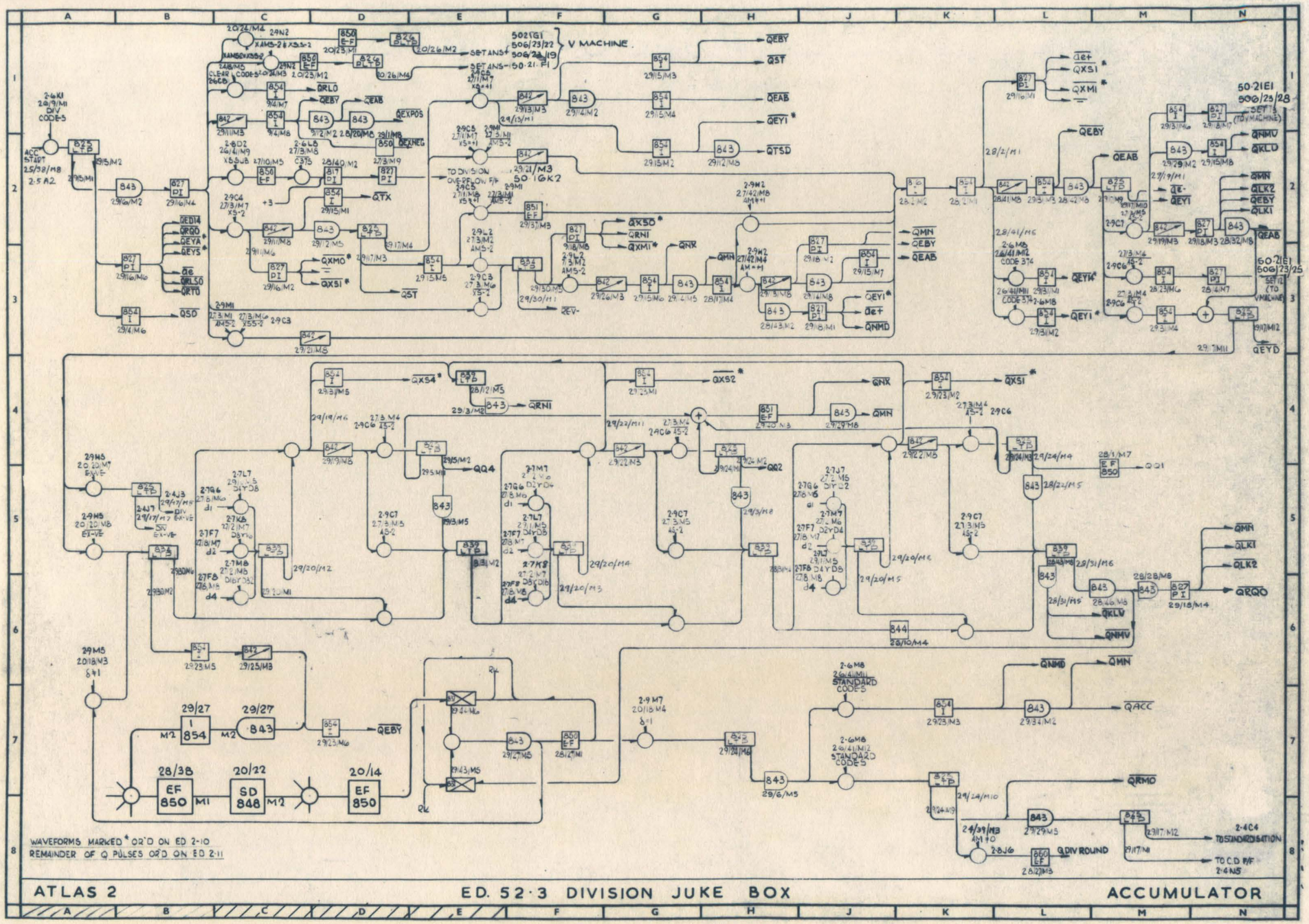
ATLAS 2 OD 52·01 ACCUMULATOR

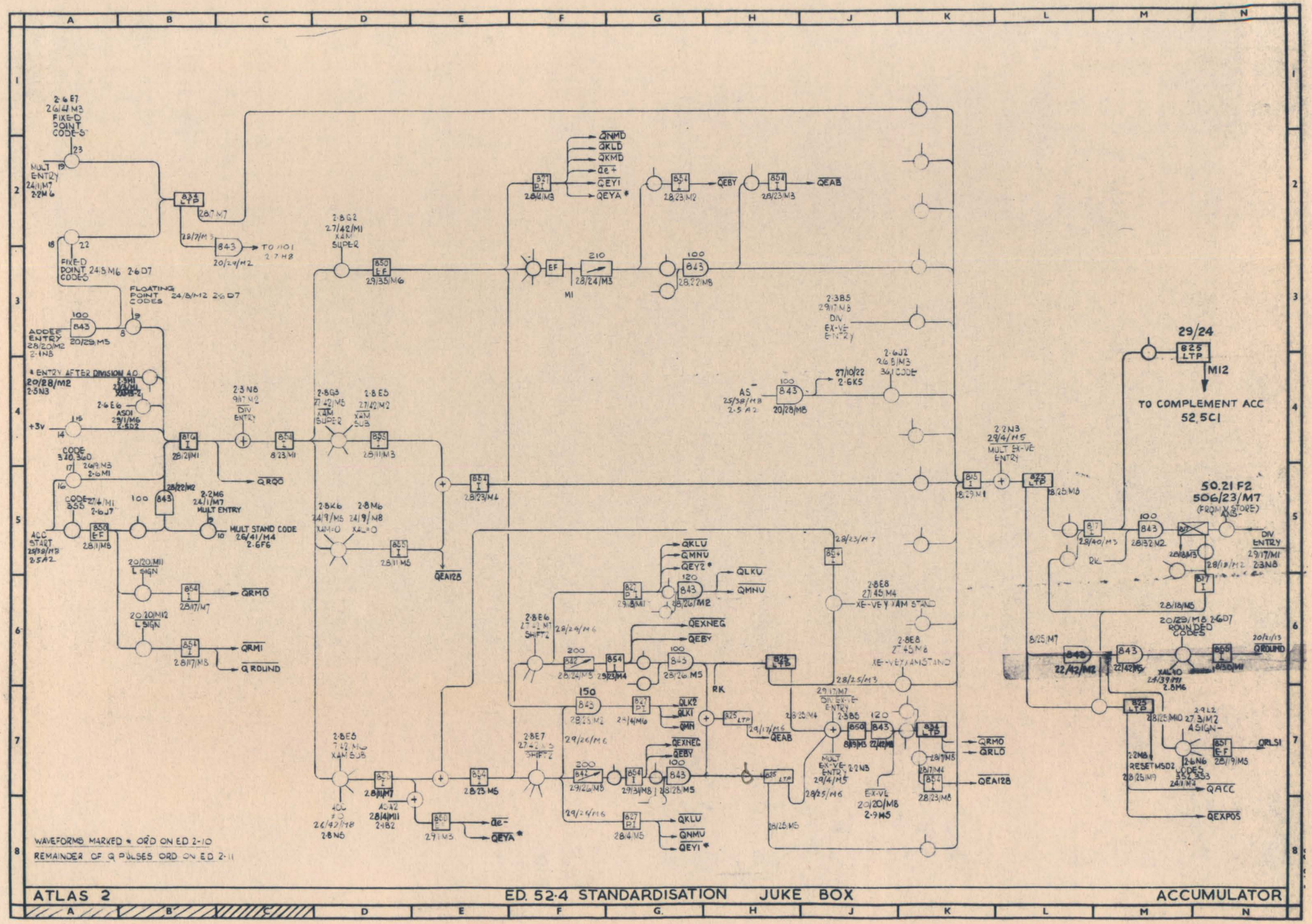

ALL ADD AND TRANSFER CODES
ADD CODES
ACC START
1-02 D7
-CODES
-A-
+CODES
A+
REV CODES
AREV-
CLEAR L CODES
QRLO QRLSO
TRANSFER CODES
QESO
QRQO QXM1 QXS1 QEYS QEYA AE-
QXMO QEAS
QXSO
REV-CODES
-XS
-XAM
QXSO QRNI
QMX
QMN A+
YDO=1
YDO=0
QKLD
QLK1 QLK2
QKMD QNMD
QSTD QLTD
QMND QLND
YX-4≠0
YX1-4=0
QXS1 QXM1
QRNI
QEBY
QEDB
(YD-2)
(±XAM±XS)
QNX
QMN
MULT CODES AND XAM≠-1
MSDIFT
2-02 D7
AE+ A+ QED14
AE- SET MSD2 QRLSO
QEBY QEXNEG QKLD QTX
(YA+YS) (XAM+2XS)
QKLD QKMD
QLK2
QRNI QXMO
QMULT
QLK1
QXND
QLND
YU≠0
EXNEG
(½XAM±nXS)
(½XAM±nXS)
MULT EXNEG
2-02 L7,L8
2-02 C7 RESET MSD1 QEBY
QRNI QROUND
(YB-2)
QEDB
QMX
YB=0
MSD2
2-02 D6
SET MSD2
MSD1
RK
RESET MSD2
2-02 N7
MSD2
CODE 364 SHIFT UP
+RQQ
QNMU QKLU
MULT CODES AND XAM=-1
RESET MSD1 2-02 E5
MSD1
2-02 B4 MSHIFT
MSD1 2-02 C7
2-02 D6 MSD2
1-02 D7 QACC
2-02 B7 MSD1
2-02 D6 MSD2
CODE 365 SHIFT DOWN
52,02 D8,F8,K8
QKMD QKLD QNMD
QMN QLK1 QLK2
ACC START 52.02A8
CODE 355
LSIGN
QRMD
QRMI QROUND
52.02A8
MULT STAND CODE
QRQO
2-03 L7 DIV ENTRY
2-03 K8 ENTRY AFTER DIVISION COMPLEMENT.
XAM2-2
2-03 F7 ASO1
CODE 340, 350, 360, 370
ACC START
XAM SUB
XAM SUPER
XAM =0
XAL =0
QEA128
XAM SUB
ACC ≠0
AE- QEYA
SHIFT 2
QKLU QNMU QEYI
QEXNEG QEBY
ACC START 52.02A8
2-03 A6 DAS
QNMD QKLD QXMD AE+ QEYI QEYA
XAM SUPER
(YA+1)
QEBY
QEAB
MULT FIXED CODE
ADD FLOATING CODES
ADD FIXED CODES
TO AD 1
2-03 F7 TO COMPLEMENT ACC
RK
ANS-
DIV ENTRY 2-03 L7
CODES 352,353
QRLS1
ASIGN-
1-02 D7
QACC QEXP05 RESET MSD2
SHIFT 2
(YA-2)
QKLU QNMU QEY2
QEXNEG QEBY
XAM STAND, EXNEG
EXNEG YXAM STAND
2-03 N3 DIV EXNEG
QEA128 QRLD QRMD
QEAB
MULT EXNEG 2-02 G5
EXNEG
QLK1 QLK2 QMN
(YA-1)
QKLU QNMU QEYI
QEXNEG QEBY
2-02 G5 MULTEXNEG 2-03 N3 DIV. EXNEG 361 CODE
ROUNDED CODES
XAL≠0
Q ROUND
2.4
ATLAS 2
OD 52.02 JUKE BOX LOGICS I
ACCUMULATOR


XAMS-2≠XS.S-2
SET ANS+ 0·13E7
XAMS-2≠XS.S-2
SET ANS− 0·13 E7
DIVISION CLEARL CODES
QRLO
(YA−YS)
CODE 375
QEBY QEXNEG
QEAB
QEXPOS
DIVISION OVERFLOW 0·13 K2
1·02 D7 ACC START
DIV CODES
XSSUB
A− QXS1 QXMO
XS−2
(−XS)
QTX
QST
QESO
QEYA QEYS AE− QED14 QRQO QRTO QRLSO QSO
AMS−2 XSS−2
(YA−YS→YA)
XS=+1
(YA−1)
QST QEBY
QEAB
QTSD
QEY1
AMS−2
(YA−1−YA)
XS≠+1
AMS−2
AMS−2
AMS−2
REV− QRN1 QXM1 QXSO
(−XAM)
QNX
QMN
AM=+1
QEY1 AE+ QNMD
QMN QEBY
QEAB
(YA+1)
AE+ A− QXS1 QXM1
(XAM−XS) YA+M1
CODE 374
QEBY
QEAB
QEY14
CODE 374
QEY1
AE− QEY1
AS−2
0·13E7 SET13
QNMU QKLU
(YA−1)
QEAB
QMN QLK2 QLK1 QEBY
AS−2
SET 12 0·13 D7
QXM1
DIVEXNEG 2·02 L8, L7
EXNEG
EXNEG
QRN1
QNX
QMN
QX54
QX52
QX51
QQ4
QQ2
QQ1
(XAM−4XS)
AS−2
D4VD8
d1
D8VD16
d2
D32VD16
d4
AS−2
(XAM−2XS)
AS−2
D2VD4
d1
D4VD8
d2
D8VD16
d4
AS−2
(XAM−XS)
AS−2
DIVD2
d1
D2VD4
d2
D4VD8
d4
AS−2
QMNU QKLU
QLK1 QLK2 QMN
D4VD8, d1, d2, d4 HAVE 375 CODE OR'ED IN
YD≠1
YD−1
QEBY
QEDB
YD=1
STANDARD CODES
QNMD
QMN
QRMO
1·02 D7 QACC
DIV ENTRY TO STANDARDISATION 2·02 G6, N5
STANDARD CODES
AM≠0
Q DIVROUND
2·3
A+ QRN1 QXS0 QXM1
XALM
(XAM+1)
QNX
QMN
1·02 D7 QACC TO AC2
CODE 364
XALM
FAC 3 (CODES 356, 357)
1·02 D7 QACC
CODE 346 347 356, 357
2·02 L8 DAS
2·6
FAC 3 (CODES 346,347)
CODE 346
QRMO QEA128
QRLO QRQO QRLSO
1·02 D7 QACC
CODES 344 345
CODE 344
QLO
CODE 345
XALM/ XALM
QRMI GROUND
QRMO
COMPLEMENT DIVISION ENTRY AFTER STAND 2·02 M5
2·02 G8 TO STANDARDISATION
XAMS-2
AREV−
QXM1 QXSO
CODE 366
CODE 367
QRLO QRQO QRLSO
QEAS QSO
A+
XS−2
XS−2
A−
QXMO QXS1
QRN1
(−XAM or −XS)
QNX
QMN
2·02 G7 TO STANDARDISATION
2·5
ATLAS 2
OD52·03 JUKE BOX LOGICS 2
ACCUMULATOR

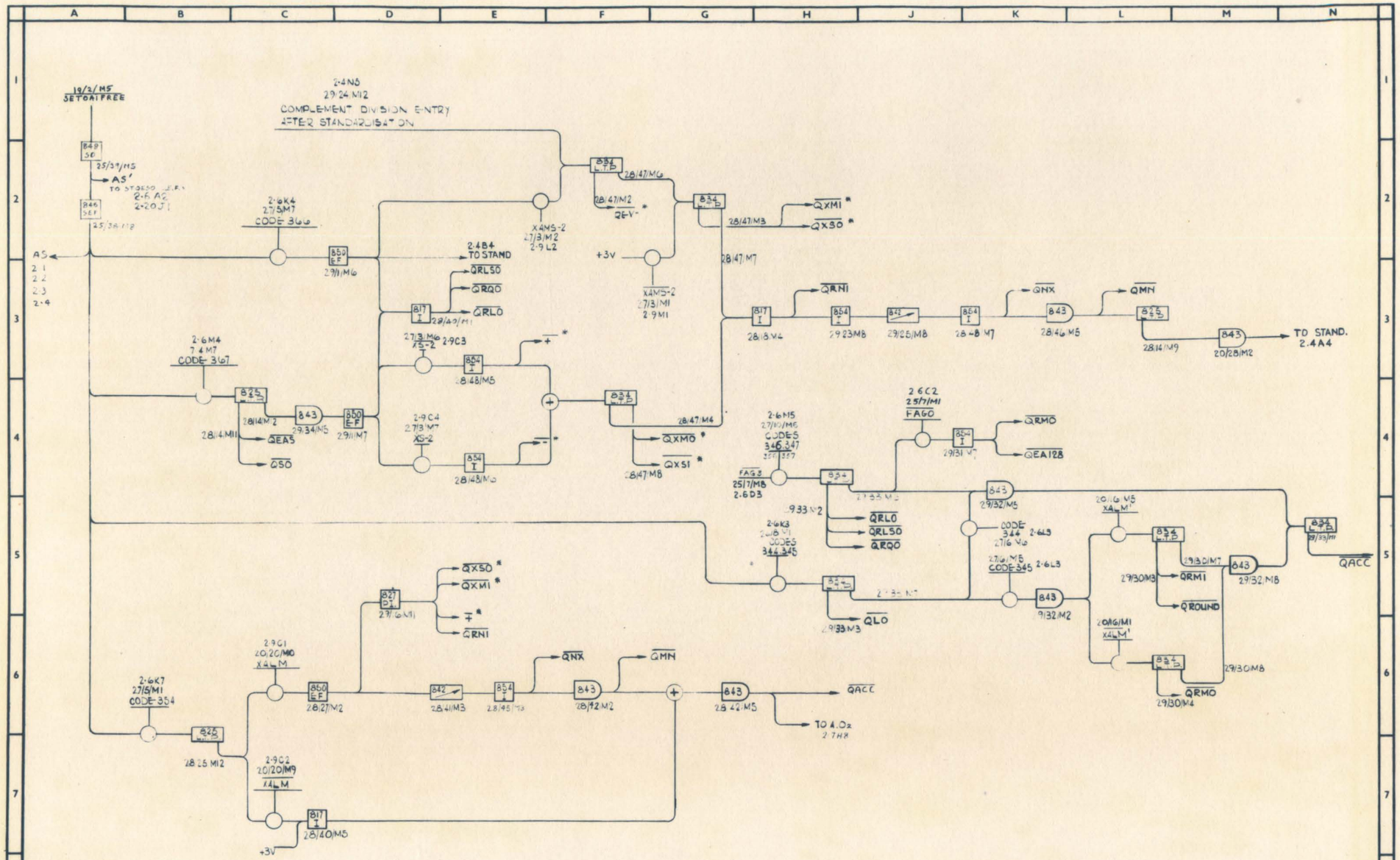

28/12/M5
523E4
29/3
QRNI
YS-YA
YA-YS
WAVEFORMS MARKED *
O'RD ON ED52-10
REMAINDER OF Q PULSES
O'RD ON ED 52-11
28/9
27/3
M3
M1
TO STANDARDIZATION
2·443
REV-CODES
27/6/M8
52 6 C5
25/9/M3
REV-CODES
52. 6 C4
ATLAS 2
ED 52·1 ADDITION JUKE BOX
ACCUMULATOR

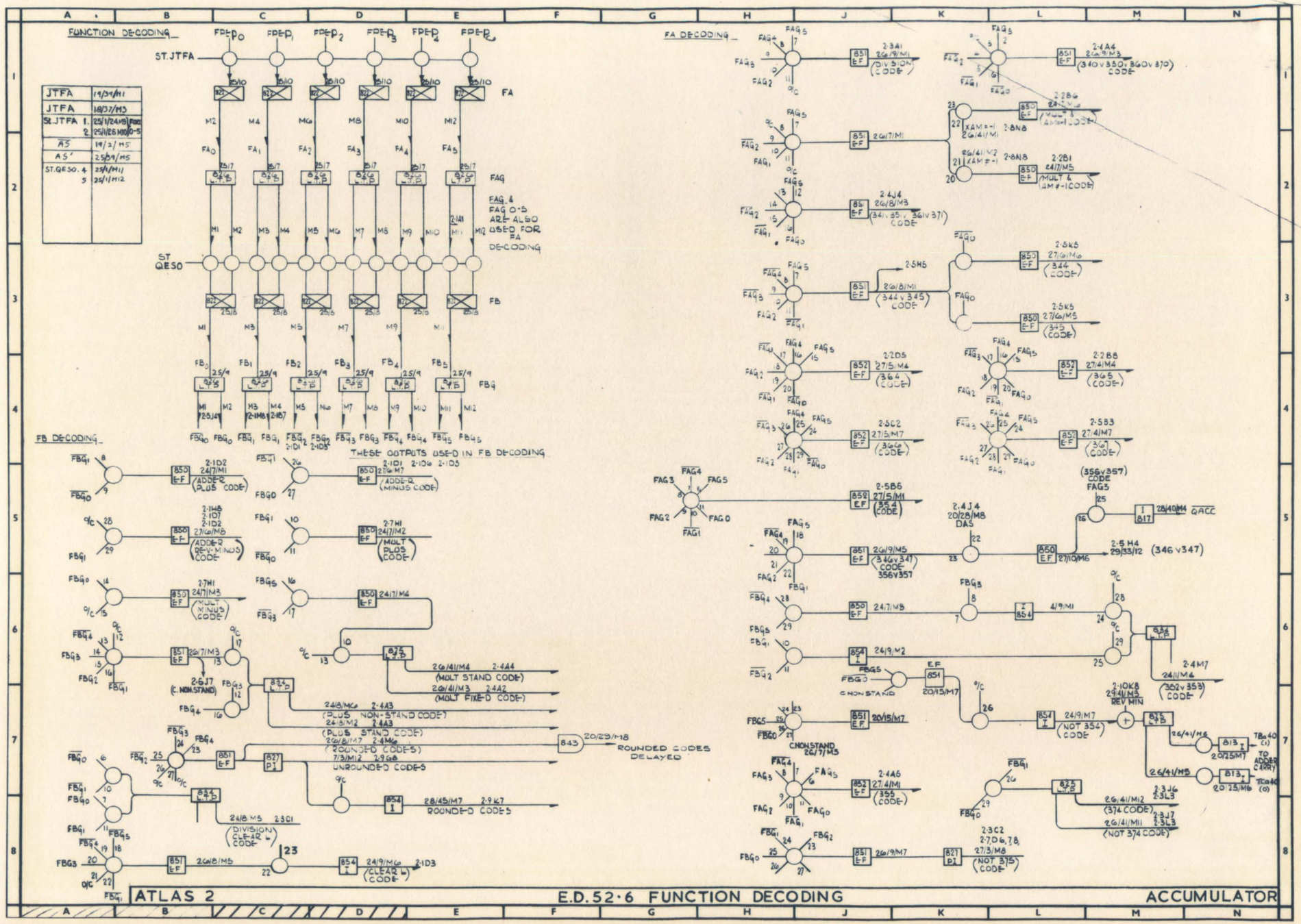

ADDER CONTROL FLIP - FLOPS.
DECODER
FLIP-FLOP (E.F)
S.E.F.
QXS1 (d) 26/42/M1 26/40/M1 21/22/M1
QXS2 (2d) 26/42/M2 26/40/M2 21/22/M2
QXS3 (3d) 26/42/M3 26/40/M4 21/22/M4
QXS4 (4d) 26/42/M7 26/40/M3 21/22/M3
QXMD (VB XAM) 26/40/M5 21/31/M5
QXND (VB XAM') 26/40/M7 21/31/M3
QXMI (XAM) 26/40/M6 21/31/M4
A+ (ADD) 26/42/M5 25/41/M5 21/31/M10
A− (SUBTRACT) 26/42/M4 29/41/M6 21/31/M11
2·5 A2 25/3 8/M8 ACCUMULATOR START
2·6L2 24·7 M5 MULTIPLIER CODES AND XAM = -1
MSD1 FT 24/7 M7 2·2 L7
MSD1 26/1/M1
24/8/M7
29/15
M4
QLO
29/11/M1
28/4/M8
28/4/M9
QRQO
QEDI4
QEYB*
QEYA
Qe+
QXMI
QRNI
QRTO
QSM
QXSZ*
T
QEXNEG
QKLD
QTX
QEBY
28/2/M2
29/4/M1
29/2/M3
29/2/M8
QRMO
29/5/M8
29/5/M7
28/4/M10
SET MSD2 2·2L8
QLK2
QEYD*
QEAB
QEY2*
Qe−
QRLSO
29/5/M3
29/5/M4
29/6/M8
28/4/M12
29/5/M6
29/0/M5
28/32/M5
QKMD
QLK2
QKLD
QRNI
QKMD
QXND
QRMI
GROUND
QLND
QMULT
QLKI
29/9/M2
29/9/M8
29/9/M5
29/10/M2
28/30/M3
2·9M4 20/20/M5 δ=0
2·9Q3 20/20/M8 E-X NEG
20/20/M7 2·1 VB 9 29/6B
STANDARD-ISATION 28/25/18 28/19/12
29/4/M5
29/5/M10
29/5/M9
29/8/M3
29/8/M8
29/2/M8
29/4/M2
29/7/M8
QEBY
QEDB
RESET MSD1 2·2E6
29/10/M8
29/4/M4
QMX
+3V
2·2N8 27/10/M5 MSD2E
2·6M5 27/8/M4 SHIFT UP CODE 364
4/1 M6
24/1 M2
QRQO
29/3/M8
28/43/M1
QNMU
QKLU
27/6/M4
δ=0 20/20/M6 2·9M4
2·2N8 27/10/M1 MSD2E
2·2N8 MSD2E 27/10/M2
2·2D6 26/1/M1 MSD1
2·2D6 26/1/M2 MSD1
27/10/M4
2·2N8 27/10/M1 MSD2E
24/9/M3
QACC
2·4 4 2·4 4 2 TO STANDARDISATION 28/7/19 29/22/9
2·6L1 2·4M6 MULTIPLIER CODES AND XAM = -1
24/8
M4
QLO
+3V
N8
2K
RESET MSD1 29/5/M7 2·2K4
MSD1 26/1/M2 2·2K7
MSD1 26/1/M1 2·2K7
24/1
M1
M5
28/27
29/18
M10
QLK1
QLK2
MSD1 26/1/M1
28/46/M2
+3V
28/47
M1
M6
QMN
28/43/M6
844 26/10/M2
2·2D6 26/1/M2 MSD1
27/10/M4
MSD1 FT 2·2B2 26/1/M2 MSD1 2·2D7
24/7/M7
SET MSD2 2·2H4
2K
2·4 M7 2E-SET MSD2 29/25/M10
26/1/M4
26/1/M3
2·2L7 2·2K6 MSD2E
2·2K6 MSD2E 2·2D5
27/1C/M2
QNMD
27/4/M4 CODE 365
28/27
M7
29/8/M9
QKMD
QKLD
WAVEFORMS MARKED* ORD ON ED 2-10
REMAINDER OF Q PULSES ORD ON ED 2-11
SHIFT DOWN CODE 368 27/4/M4 2·6M4
ATLAS 2
ED52·2 MULTIPLICATION JUKE BOX
ACCUMULATOR


A
B
C
D
E
F
G
H
J
K
L
M
N
1
2
3
4
5
6
7
8
V MACHINE
SET ANS
TO DIVISION ONE-PLACE F/F
WAVEFORMS MARKED * O/P'D ON ED 2-10
REMAINDER OF Q PULSES O/P'D ON ED 2-11
ATLAS 2
ED. 52·3 DIVISION JUKE BOX
ACCUMULATOR



ATLAS 2 — ED. 52-4 STANDARDISATION JUKE BOX — ACCUMULATOR

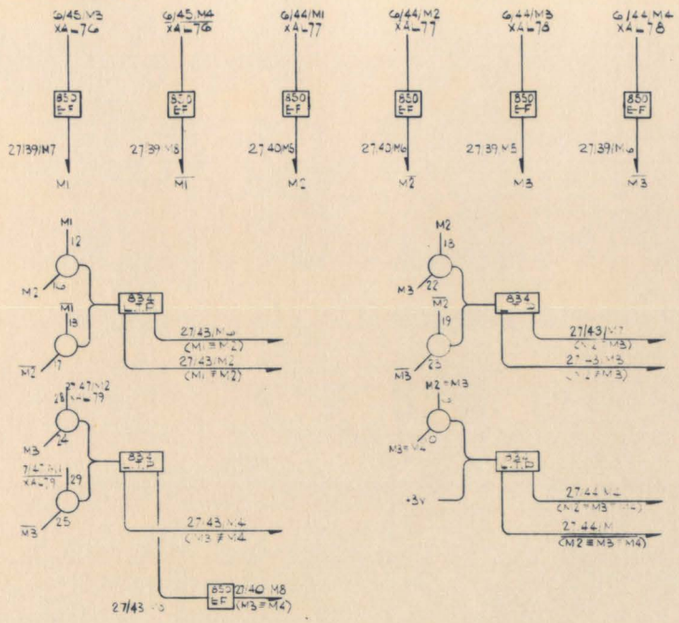

19/3/M5
SET OAT FREE
2·4N5
29/24.M12
COMPLEMENT DIVISION ENTRY
AFTER STANDARDISATION
25/39/M5
AS'
TO STORES REF
2·5 A2
2·20 J1
25/38/M8
AS
2·1
2·2
2·3
2·4
2·6K4
27/5/M7
CODE 366
2·4B4
TO STAND
QRL50
QRQ0
QRL0
28/47/M6
28/47/M2
2E-V*
XAMS-2
27/3/M2
2·9 L2
+3V
XAMS-2
27/3/M1
2·9M1
28/47/M3
QXM1 *
QXS0 *
28/47/M7
QRN1
QNX
QMN
28/8 V4
29/23M8
29/25/M8
28-8 M7
28/46 M5
28/14/M9
20/28/M2
TO STAND.
2.4A4
2·6M4
7.4 M7
CODE 367
28/14.M11
QEA5
QS0
29/34/M5
29/11/M7
2·9C3
27/3/M6
XS-2
28/48/M5
2·9C4
27/3/M7
XS-2
28/48/M6
28/47/M4
QXM0 *
QXS1 *
28/47/M8
2·6M5
27/1/M6
CODES
346 347
357 377
FAG3
25/7/M8
2·6D3
2·6C2
25/7/M1
FAGO
29/31 V7
QRM0
QEA128
29/32/M5
2·9 33 N2
QRL0
QRL50
QRQ0
2·6K3
27/6 M1
CODES
344 345
29/33 M3
QLO
CODE
344 2·6L3
27/6 V6
27/6/M5
CODE 345 2·6L3
29/32/M2
20/16 V5
X4 M1
29/30M7
QRM1
29/30M3
QROUND
29/32/M8
QACC
20/16/M1
X4 M1
29/30M8
QRM0
29/30M4
2·6K7
27/5/M1
CODE 354
28/26 M12
2·9G1
20/20/M0
X4 M
2·9C2
20/20/M9
X4 M
28/27/M2
827
29/16M1
QX50 *
QXM1 *
QRN1
842
28/41M3
854
28/45/M3
QNX
843
28/42/M2
QMN
843
28/42/M5
QACC
TO A.Ox
2·7N8
817
28/40/M5
+3V
WAVEFORMS MARKED * ORD ON ED 2·10
REMAINDER OF Q PULSES ORD ED 2·11
ATLAS 2
ED. 52.5 ODD CODES JUKE BOX
ACCUMULATOR



JTFA	19/3+/M11
JTFA	18/37/M3
ST.JTFA 1.	25/1/24MB
2	25/1/26 M10
AS	19/2/M5
AS'	25/9/M5
ST.QES0. 4	25/1/M11
5	25/1/M12

MISCELLANEOUS DECODING

① MULTIPLIER DECODING

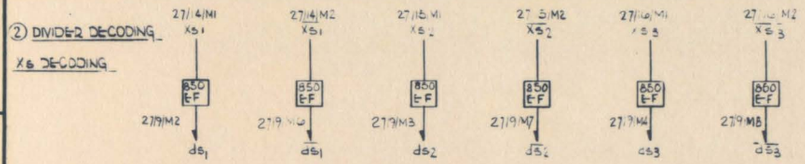


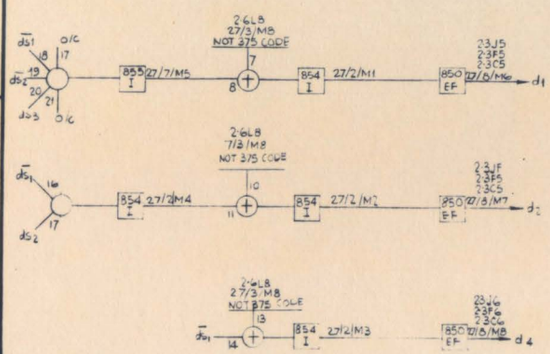
76	77	78		79		
0	0	0	·	0	+	0
0	0	1	·	0	+	d
0	1	0	·	0	+	2d
0	1	1	·	0	+	3d
1	0	0	·	0	−	4d
1	0	1	·	0	−	3d
1	1	0	·	0	−	2d
1	1	1	·	0	−	d
0	0	0	·	1	+	d
0	0	1	·	1	+	2d
0	1	0	·	1	+	3d
0	1	1	·	1	+	4d
1	0	0	·	1	−	3d
1	0	1	·	1	−	2d
1	1	1	·	1	−	d
1	1	1	·	1	−	0

ASM19	29/9/M5 2·2M2
QMULT	25/39/M2
STQMULT	26/38/M3

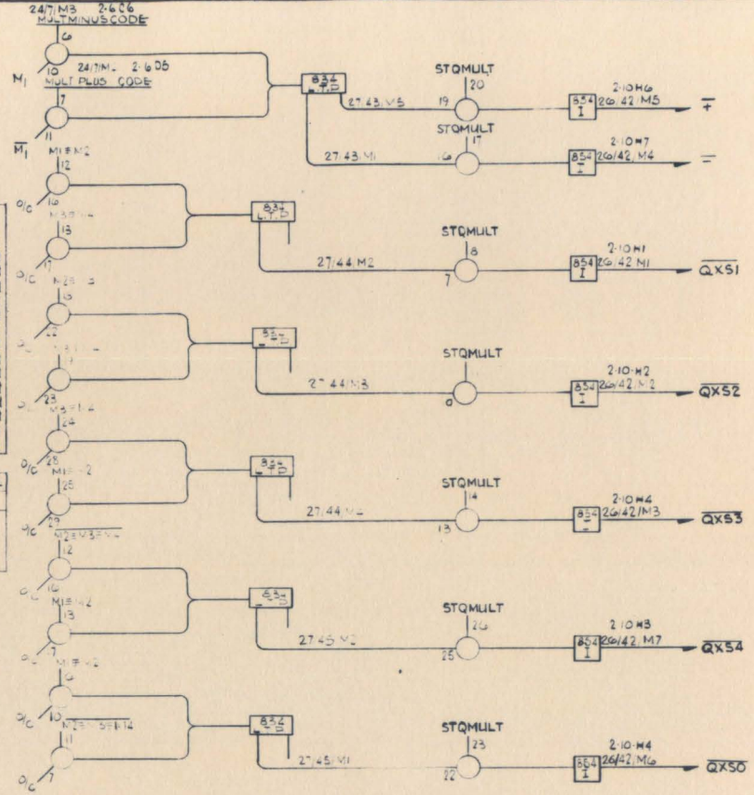
② DIVIDER DECODING

X6 DECODING

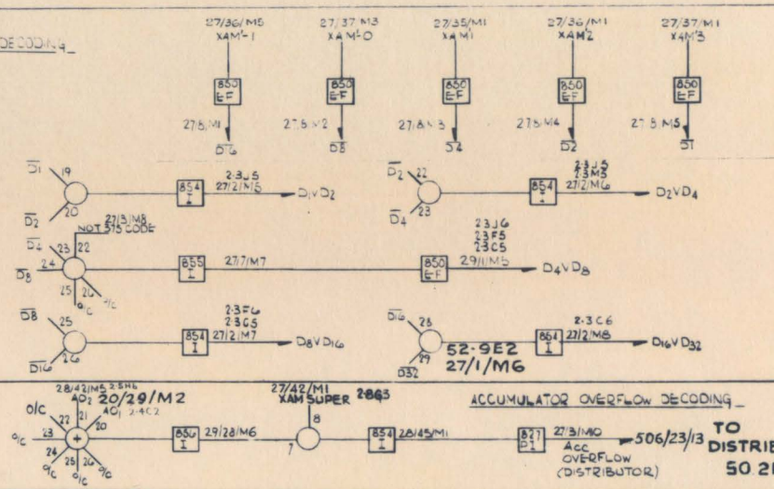




TRY	DIVIDER (d) -2 -1 0 1 2 3	REMANDER (D) -2 -1 0 1 2 3
-4d	000.166	1 5 2 6 6 6
		0 1 6 6 6 6
-2d	" "	0 0 1 6 6 6
		0 0 0 1 6 6
-1d	" "	0 0 0 0 1 6
		0 0 0 0 0 1
-4d	000 016	0 1 6 6 6 6
		0 0 1 6 6 6
-2d	" "	0 0 0 1 6 6
		0 0 0 0 1 6
-1d	" "	0 0 0 0 0 1
		0 0 0 0 0 0
-4d	000 001	0 0 1 6 6 6
		0 0 0 1 6 6
-2d	" "	0 0 0 0 1 6
		0 0 0 0 0 1
-1d	" "	0 0 0 0 1 6
		0 0 0 0 0 1

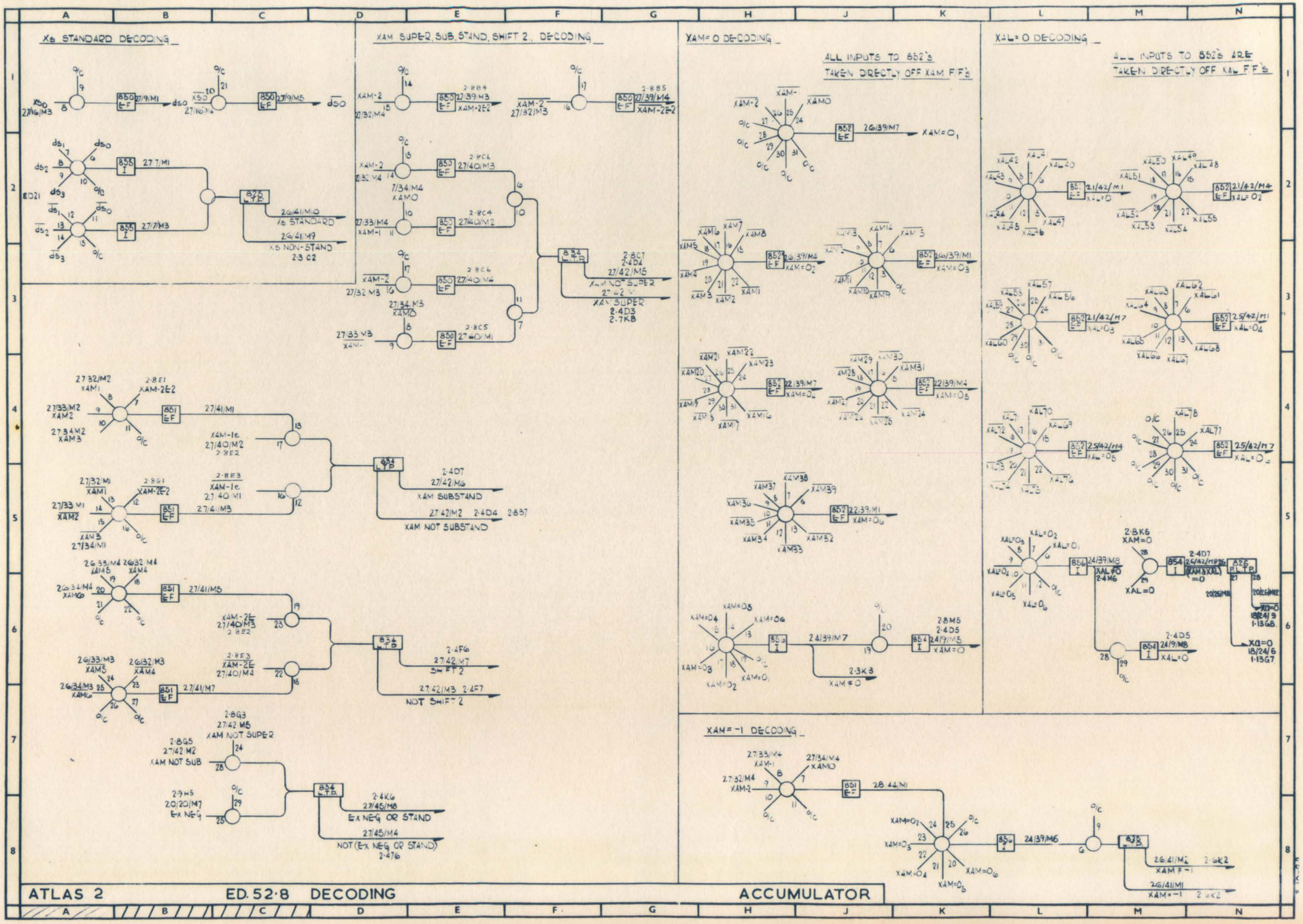


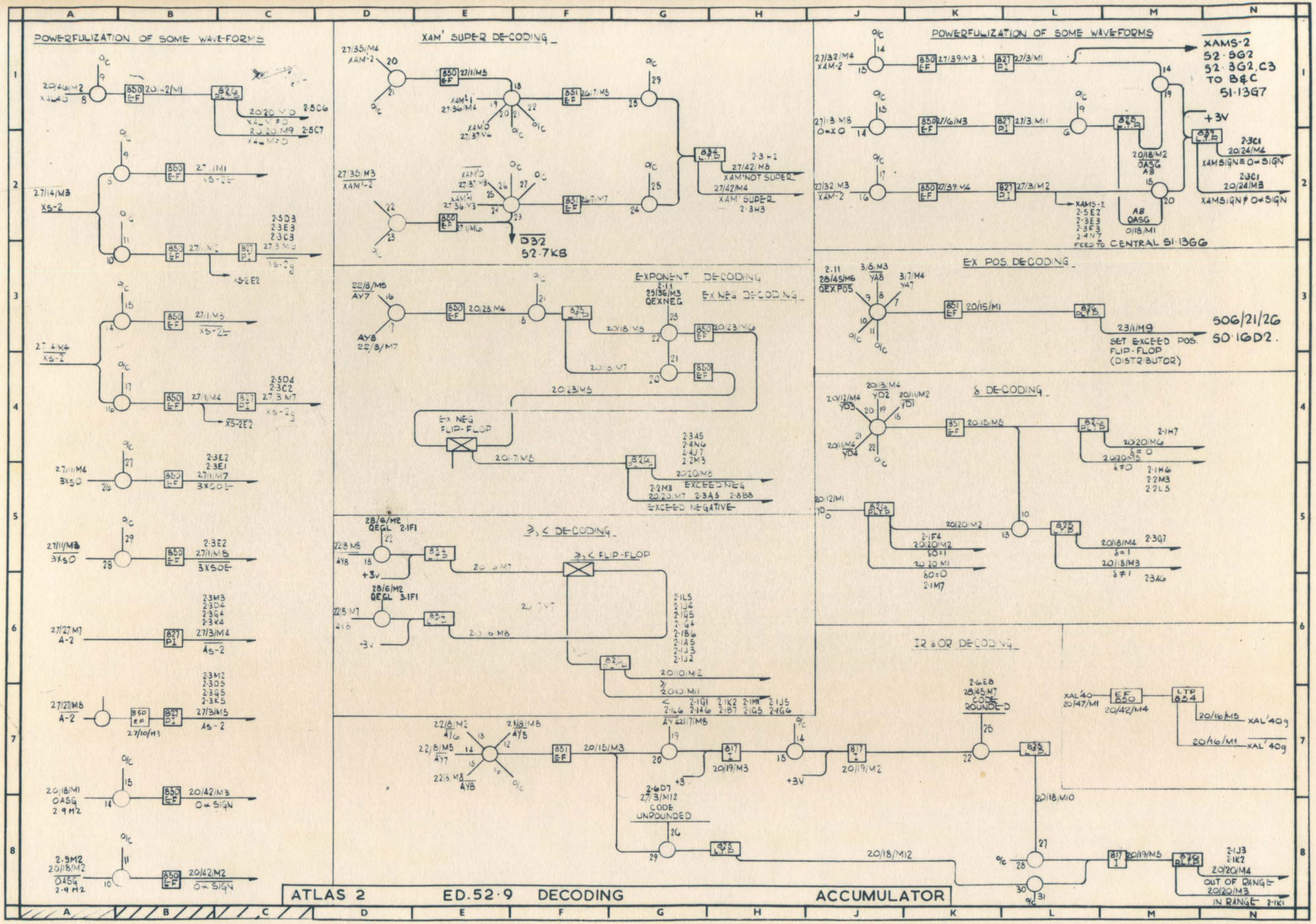
X4 DECODING

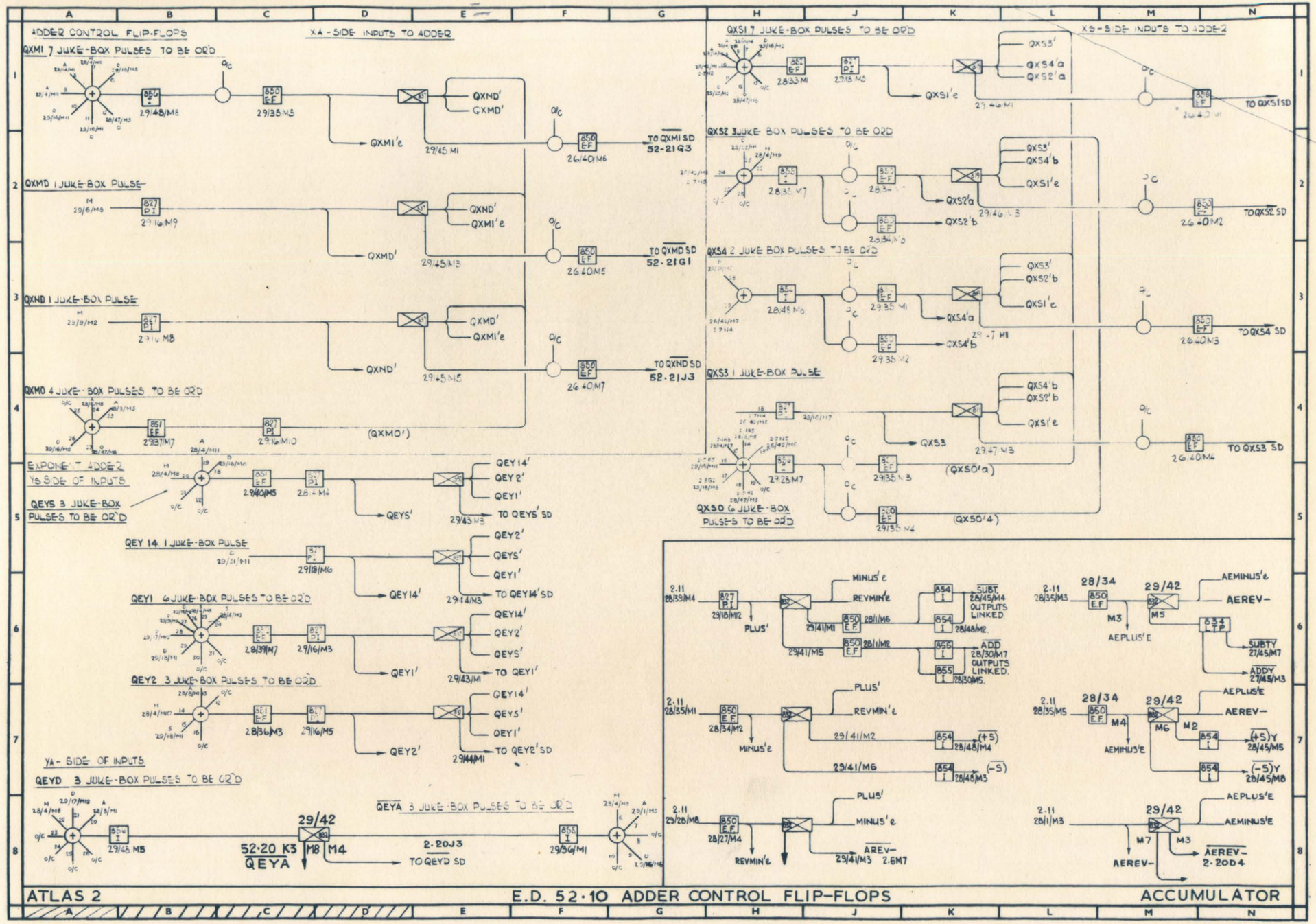


ACCUMULATOR OVERFLOW DECODING

ATLAS 2 ED. 52·7 DECODING ACCUMULATOR


XS STANDARD DECODING
XAM SUPER, SUB, STAND, SHIFT 2, DECODING
XAM=0 DECODING
ALL INPUTS TO 852's TAKEN DIRECTLY OFF XAM F.F.'s
XAL=0 DECODING
ALL INPUTS TO 852's ARE TAKEN DIRECTLY OFF XAL F.F.'s
XAM=-1 DECODING
XAM NOT SUPER
2-7 K2
XAM SUPER
2-4D3
2-7KB
XAM SUBSTAND
2-4D7
27/42/M6
XAM NOT SUBSTAND
2-4D4
2-8B7
SHIFT 2
2-4F6
27/42/M7
NOT SHIFT 2
2-4F7
EX NEG OR STAND
2-4K6
27/45/M6
NOT (EX NEG OR STAND)
2-4J6
XAM≠0
2-3K8
XAL≠0
2-4M6
XAL=0
2-4D5
XAM=0
2-8K6
ATLAS 2
ED. 52-8 DECODING
ACCUMULATOR


POWERFULIZATION OF SOME WAVE-FORMS
XAM' SUPER DE-CODING
EXPONENT DE-CODING
EX NEG DE-CODING
EX NEG FLIP-FLOP
EXCEED NEGATIVE
≥, ≤ DE-CODING
≥, ≤ FLIP-FLOP
EX POS. DECODING
SET EXCEED POS. FLIP-FLOP (DISTRIBUTOR)
δ DE-CODING
IR & OR DECODING
XAMS-2 52·5G2 52·3G2,C3 TO B&C 51·13G7
XAMS-2 2·5E2 2·3E3 2·3F3 2·4N7 FEED TO CENTRAL 51·13GG
D32 52·7KB
XAM'NOT SUPER 27/42/M8 2·3H2
XAM'SUPER 27/42/M4 2·3H3
CODE UNROUNDED 2·6D7 27/3/M12
CODE ROUNDED 2·6E8 28/45/M7
OUT OF RANGE 20/20/M4
IN RANGE 2·1K1
ATLAS 2 ED.52·9 DECODING ACCUMULATOR

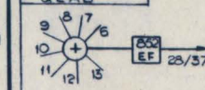

ADDER CONTROL FLIP-FLOPS
XA-SIDE INPUTS TO ADDER
QXM1 7 JUKE-BOX PULSES TO BE ORD
QXM1'e
QXND'
QXMD'
TO QXM1 SD 52-21G3
QXMD 1 JUKE-BOX PULSE
TO QXMD SD 52-21G1
QXND 1 JUKE-BOX PULSE
TO QXND SD 52-21J3
QXM0 4 JUKE-BOX PULSES TO BE ORD
(QXM0')
EXPONENT ADDER 2 YS SIDE OF INPUTS
QEYS 3 JUKE-BOX PULSES TO BE ORD
QEYS'
QEY1'
QEY2'
TO QEYS' SD
QEY 14 1 JUKE-BOX PULSE
QEY14'
TO QEY14' SD
QEY1 6 JUKE-BOX PULSES TO BE ORD
TO QEY1' SD
QEY2 3 JUKE-BOX PULSES TO BE ORD
TO QEY2' SD
YA-SIDE OF INPUTS
QEYD 3 JUKE-BOX PULSES TO BE ORD
52·20 K3
QEYA
TO QEYD SD
QEYA 3 JUKE-BOX PULSES TO BE ORD
2·20J3
QXS1 7 JUKE-BOX PULSES TO BE ORD
XB-SIDE INPUTS TO ADDER
QXS1'e
QXS3'
QXS4'a
QXS2'a
TO QXS1 SD
QXS2 3 JUKE-BOX PULSES TO BE ORD
QXS2'a
QXS2'b
QXS4'a
QXS4'b
QXS1'e
TO QXS2 SD
QXS4 2 JUKE-BOX PULSES TO BE ORD
TO QXS4 SD
QXS3 1 JUKE-BOX PULSE
TO QXS3 SD
QXS0 6 JUKE-BOX PULSES TO BE ORD
(QXS0'a)
(QXS0'4)
MINUS'e
REVMIN'e
PLUS'
SUBT. 28/45/M4 OUTPUTS LINKED.
ADD 28/30/M7 OUTPUTS LINKED.
AEMINUS'e
AEREV-
AEPLUS'e
SUBTY 27/45/M7
ADDY 27/45/M3
(+S)Y 28/45/M5
(-S)Y 28/45/M6
AEREV- 2·20D4
ATLAS 2
E.D. 52·10 ADDER CONTROL FLIP-FLOPS
ACCUMULATOR

ATLAS 2 — ED.52-11 STROBE OR-GATING — ACC.

A

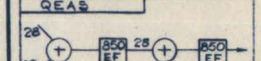
Q DIV ROUND — NO OR'ING
28/27/13M3 2·3 L8

QEAB



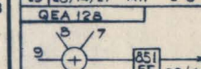
6	28/32/31	M8	2·3	N2
7	29/17/16	M6	2·4	H7
8	28/4/24	M10	2·2	H3
9	29/12/11	M2	2·3	D3
10	29/15/18	M4	2·3	H1
11	29/15/27	M7	2·3	K3
12	28/23/15	M3	2·4	J2
13	28/42/31	M8	2·3	M2

QEAS



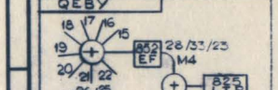
28	28/8/12	M2	2·1	M2
29	28/6/20	M8	2·1	L2
29	28/14/27	M11	2·5	C4

QEA 128



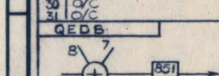
7	28/11/28	M5	2·4	E6
8	29/31/27	M7	2·5	K4
9	28/23/30	M8	2·4	K7
10	O/C			
11	O/C			

QEBY



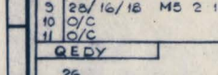
15	28/23/12	M2	2·4	H2
16	28/17/12	M2	2·1	J8
17	29/4/30	M8	2·3	D1
18	29/23/18	M4	2·4	G6
19	29/31/30	M8	2·4	G7
20	28/4/9	M1	2·2	F3
21	29/4/17	M2	2·2	L4
22	O/C			
24	29/15/15	M3	2·3	H1
25	29/18/8	M2	2·3	K2
26	29/31/15	M3	2·3	L2
27	29/18/11	M3	2·3	N2
28	29/23/24	M6	2·3	D7
29	O/C			
30	O/C			
31	O/C			

QEDB



7	29/17/31	M8	2·2	M4
8	29/23/27	M7	2·3	E6
9	28/16/18	M5	2·1	K6
10	O/C			
11	O/C			

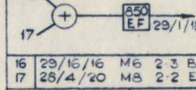
QEDY



26	28/2/27	M7	2·1	J1
27	28/6/7	M1	2·1	E1

C

QED 14



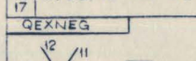
16	29/16/16	M6	2·3	B2
17	28/4/20	M8	2·2	E1

QEGL — NO ORING
28/6/8 M2 2·1 F1

QESO — NO ORING
19/2/28 M5 1·6

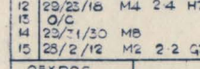
16	19/36/16	M6	1·6	N3
17				

QEXNEG



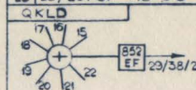
11	29/1/30	M5	2·3	D2
12	28/23/18	M4	2·4	H7
13	O/C			
14	29/1/30	M8		
15	28/2/12	M2	2·2	G2

QEXPOS



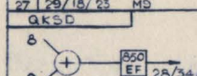
22	28/25/23	M9	2·4	N8
23	28/20/31	M8	2·3	D1

QKLD



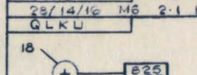
15	28/4/28	M12	2·2	L1
16	O/C			
17	28/4/11	M3	2·4	F2
18	25/2/12	M2	2·2	G2
19	28/14/11	M3	2·1	J5
20	29/18/23	M9	2·2	F8
21	28/6/23	M9	2·1	F5
22	29/5/16	M6	2·2	J1

QKMD



23	29/10/15	M5		
24	28/13/12	M2		
25	28/13/27	M7		
26	28/4/11	M3		
27	29/18/23	M9		

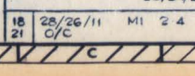
QKSD



8	28/19/9	M4	2·1	H4
9	28/13/24	M6	2·1	H4

QLKD — NO ORING
28/14/16 M6 2·1 K5

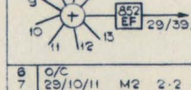
QLKU



18	28/26/11	M1	2·4	H5
21	O/C			

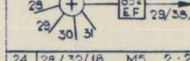
E

QLK1



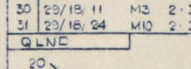
6	O/C			
7	29/10/11	M2	2·2	M2
8	O/C			
9	28/4/16	M6	2·4	G7
10	28/6/28	M12	2·1	H5
11	29/18/24	M10	2·2	J7
12	29/18/11	M3	2·3	N2
13	29/18/12	M4	2·3	N5

QLK2



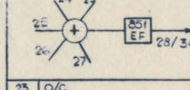
24	28/32/18	M5	2·2	K1
25	28/6/28	M12	2·1	H5
26	28/4/16	M6	2·4	G7
27	29/18/12	M4	2·3	N5
28	29/5/20	M8	2·2	H2
29	O/C			
30	29/18/11	M3	2·3	N2
31	29/18/24	M10	2·2	J7

QLND



20	29/9/31	M5	2·2	L2
21	28/13/30	M8	2·1	M6

QLC



23	O/C			
24	O/C			
25	28/4/23	M9	2·2	F2
26	29/32/20	M3	2·3	J6
27	O/C			

QMN

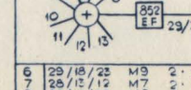
18	29/18/8	M2	2·3	K2
19	29/18/11	M3	2·3	N2
20	29/29/31	M8	2·3	J4
21	29/18/12	M4	2·3	M6
22	29/18/24	M10	2·2	J7
24	28/8/30	M8	2·1	D5
25	28/4/16	M6	2·4	G7
26	28/46/18	M5	2·5	L3
27	28/20/18	M5	2·1	M7
28	29/34/11	M2	2·3	M6
29	28/13/15	M3	2·1	H6
30	28/42/11	M2	2·5	F6
31	29/14/8	M5	2·3	H3

QMULT — NO ORING
29/9/18 M3 2·2 M8

QMX — NO ORING
29/10/31 M8 2·2 M5

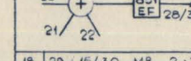
G

QNMD



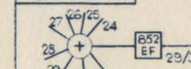
6	29/18/23	M9	2·2	F8
7	28/13/12	M7	2·1	H4
8	28/13/27	M2	2·1	K5
9	28/4/11	M3	2·4	F2
10	29/18/7	M1	2·3	J3
11	28/25/15	M3	2·3	L6
12	O/C			
13	O/C			

QNMU



18	29/15/30	M8	2·3	N2
19	28/4/15	M5	2·4	G8
20	28/18/27	M11	2·4	G5
21	28/31/25	M5	2·3	M6
22	28/48/9	M1	2·2	H5

QNX



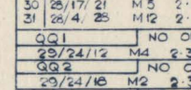
24	O/C			
25	28/48/27	M7	2·5	K2
26	28/40/30	M3	2·3	J4
27	29/15/24	M6	2·3	G3
28	28/45/15	M3	2·5	F6
29	28/8/24	M8	2·1	C5
30	28/17/21	M5	2·1	L7
31	28/4/28	M12	2·2	L1

QQ1 — NO ORING
29/24/12 M4 2·3 M4

QQ2 — NO ORING
29/24/18 M2 2·3 H4

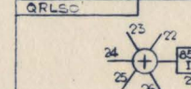
QQ4 — NO ORING
29/5/28 M12 2·3 E5

QRLO



12	29/32/14	M2	2·5	J5
13	28/40/18	M1	2·5	E3
14	29/4/27	M7	2·3	D1
15	28/7/27	M8	2·4	K7
16	28/2/24	M6	2·1	E3

QRLSC

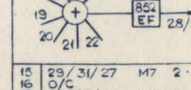


22	28/40/31	M1	(QE128)	
23	28/16/16	M6	2·3	B3
24	28/4/24	M10	2·2	H4
25	28/2/24	M6	2·1	E3
26	AS DIAGRAM ABOVE			
28	29/32/14	M2	2·5	J6
29	28/40/8	M1	2·5	E3

QRLSI — NO ORING
28/19/23 M5 2·4 N7

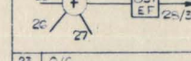
J

QRMO



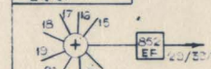
15	29/31/27	M7	2·5	K4
16	O/C			
17	29/29/15	M5	2·3	M7
18	29/30/26	M4	2·5	M6
19	28/7/27	M8	2·4	K7
20	28/17/27	M7	2·4	C6
21	29/27/31	M8	2·2	G2
22	28/8/20	M3		

QRMI



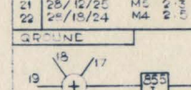
23	O/C			
24	29/30/20	M3	2·5	M5
25	29/4/15	M3	2·2	L2
26	28/17/20	M8	2·1	C6
27	O/C			

QRNI



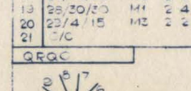
15	29/6/31	M8	2·2	K2
16	28/8/21	M5	2·1	E1
17	24/4/20	M8	2·2	F2
18	28/12/17	M2	2·1	J8
19	28/16/27	M11	2·5	E6
20	28/18/20	M8	2·3	G2
21	28/12/25	M5	2·3	E4
22	28/18/24	M4	2·5	H7

QRMUNE



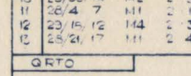
17	28/17/30	M8	2·4	L8
18	28/30/20	M3	2·5	E3
19	28/30/20	M1	2·4	N6
20	28/4/15	M2	2·2	L5
21	O/C			

QRQC



6	28/4/20	M8	2·2	F1
7	28/4/9	M1	2·2	E2
8	29/16/16	M6	2·3	E2
9	28/1/14	M5	2·2	E6
10	28/32/14	M2	2·5	J5
11	28/4/7	M1	2·1	B1
12	29/15/12	M4	2·3	N8
13	28/21/17	M1	2·4	C5

QRTO

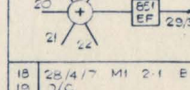


6	O/C			
7	28/4/15	M2	2·1	B4
8	28/4/20	M9	2·2	F2
9	29/16/16	M6	2·3	B3
10	O/C			

QSM — NO ORING
28/4/23 M9 2·2 F2

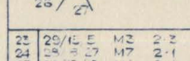
K

QSO



18	28/4/7	M1	2·1	B1
19	O/C			
20	29/4/21	M6	2·3	B2
21	28/14/27	M11	2·5	C4
22	O/C			

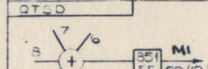
QST



23	29/15/5	M2	2·2	H1
24	28/8/27	M7	2·1	D4
25	28/13/18	M4	2·1	H8
26	O/C			
27	29/17/11	M2	2·3	D2

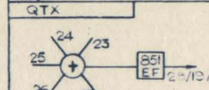
QSTD — NO ORING
28/34/19 M5 2·1 N5

QTSD



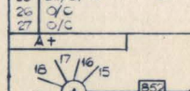
5	O/C			
7	28/13/24	M6	2·1	H4
8	29/12/31	M8	2·3	H2
9	O/C			
10	28/13/5	M1	2·1	K4

QTX



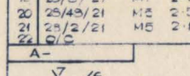
23	28/2/12	M2	2·2	G2
24	29/15/9	M1	2·3	D2
25	28/8/15	M4	2·1	C4
26	O/C			
27	O/C			

A+



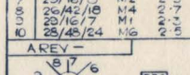
15	26/42/21	M5	2·7	N1
16	29/16/27	M11	2·5	E5
17	28/4/23	M9	2·2	F2
18	28/8/30	M5	2·1	D5
19	28/8/27	M7	2·1	D4
20	28/43/21	M8	2·5	E3
21	28/2/21	M5	2·1	E4
22	O/C			

A−



6	28/2/18	M4	2·1	E2
7	29/16/8	M2	2·3	D3
8	26/42/18	M4	2·7	N1
9	20/16/7	M1	2·3	E1
10	28/48/24	M6	2·5	F4

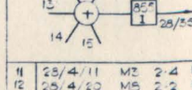
AREV−



6	28/48/12	M2	2·1	E2
7	28/30/8	M1	2·3	D2
8	28/47/14	M3	2·5	F2

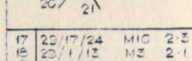
M

AE+



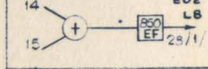
11	28/4/11	M2	2·4	F2
12	28/4/20	M8	2·2	F1
13	29/18/7	M1	2·2	J3
14	28/16/7	M1	2·3	L1
15	O/C			

AE−



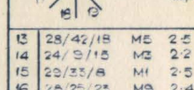
17	29/17/24	M10	2·3	M2
18	29/1/13	M2	2·1	D2
19	28/7/5	M1	2·1	J2
20	28/4/24	M10	2·2	H4
21	29/16/16	M6	2·3	B2

AREV−



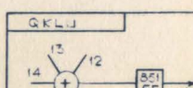
14	28/1/13	M3	2·1	H2
15	O/C			

QACC



13	28/42/18	M6	2·5	H8
14	24/9/18	M3	2·2	M7
15	29/33/8	M1	2·5	N5
16	28/25/23	M9	2·4	M7
17	29/34/11	M2	2·3	M7
18	20/40/24	M4	2·6	N8
19	O/C			

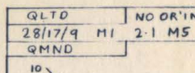
QKLU



12	29/15/30	M8	2·3	N2
13	28/4/15	M5	2·4	G4
14	29/18/27	M11	2·4	G5
15	28/31/25	M5	2·3	M6
16	28/45/9	M1	2·2	H6

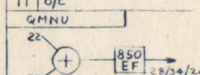
QLTD — NO ORING
28/17/9 M1 2·1 M5

QMND



10	28/13/30	M8	2·1	M5
11	O/C			

QMNU

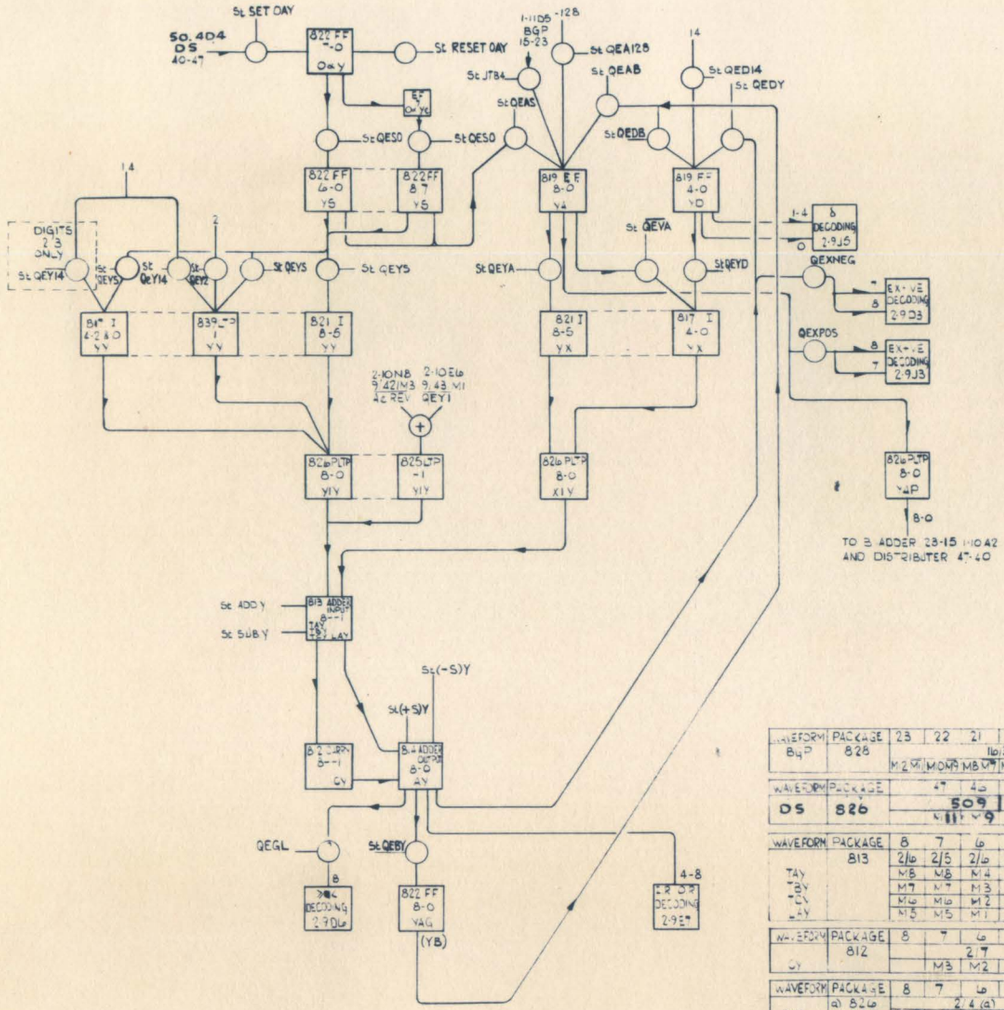


22	O/C			
23	28/26/11	M1	2·4	H6

STROBE	FUNCTION
QDYROUND	XAL 78 SET TO '1
QEAB	YB TO YA
QEAS	YS TO YA
QEA128	SET YA TO -128
QEBY	AE TO YB
QEDB	YB TO YD
QEDY	AE TO YD
QED14	SET YD TO 14
QEGL	SET ≥ < F/F TO SIGN AE
QESO	O∝Y TO YS AND FAA TO FAB
QEXNEG	SET EXCEED -VE FROM AE
QEXPOS	SET EXCEED +VE FROM YA
QEYA	YA TO AE
QEYD	YD TO AE
QEYS	YS TO AE
QEY1	1' TO AE
QEY2	'2' TO AE
QEY14	14 TO AE
QKLU	XAL 43-81 TO XAL' UP 3 BITS
QKLD	XAL 40-76 TO XAL' DOWN 3 BITS
QKMD	XAM 37-39 TO XAL' 40-42
QKSD	XS 37-39 TO XAL' 40-42
QLKD	XAL' TO XAL DOWN 3 BITS
QLKU	XAL' 43-78 TO XAL UP 3 BITS
QLK1	XAL' 43-79 TO XAL 43-79
QLK2	XAL' 40-42 TO XAL 40-42
QLND	XAM' 37-39 TO XAL 40-42
QLC	O∝X 1-39 TO XAL 40-78 O∝X_0 TO XAL' 40-42 AND L SIGN F/F
QMN	XAM' TO XAM

STROBE	FUNCTION
QMND	XAM' TO XAM DOWN 3 BITS
QMNU	XAM' TO XAM UP 3 BITS
QMULT	STROBES MULTIPLIER DECODER OUTPUTS TO ADDER CONTROL FLIP-FLOPS
QMX	ADDER TO XAM
QNMD	XAM TO XAM' DOWN 3 BITS
QNMU	XAM TO XAM' UP 3 BITS
QNX	ADDER TO XAM'
QQ1	SET XAL 81 TO '1'
QQ2	SET XAL 80 TO '1'
QQ4	SET XAL 79 TO '1'
QRLO	SET XAL TO '0's
QRLSO	SET L SIGN TO '0'
QRLSI	SET L SIGN TO '1'
QRMO	SET XAM TO '0's
QRM1	SET XAM TO '1's
QRNI	SET XAM TO 1S
QROUND	SET XAM 39 TO '1'
QRQO	SET XAL 79-81 TO '0's
QRTO	SET 3XS TO '0's
QSM	XAM TO XS
QSO	O∝X TO XS
QST	3XS TO XS
QSTD	3XS TO XS DOWN 3 BITS
QTSD	XS TO 3XS DOWN 3 BITS
QTX	ADDER TO 3XS
QXSO	ZERO TO ADDER ON XS SIDE
QXS1	XS TO ADDER
QXS2	2XS TO ADDER (XS UP 1 BIT)
QXS3	3XS TO ADDER

STROBE	FUNCTION
QXS4	4XS TO ADDER (XS UP 2 BITS)
QXMD	1/8 XAM TO ADDER (XAM DOWN 3 BITS)
QXND	1/8 XAM' TO ADDER (XAM' DOWN 3 BITS)
QXMO	ZERO TO ADDER ON XA SIDE
QXMI	XAM TO ADDER
QLTD	3XS 37-39 TO XAL 40-42
A+	SET UP ADDER FOR ADDITION (XA+XS)
A-	SET UP ADDER FOR SUBTRACTION (XA-XS)
AREV-	SET UP ADDER FOR REVERSE SUBTRACTION (XS-XA)
AE+	SET UP EXPONENT ADDER FOR ADDITION (YA+YS)
AE-	SET UP EXPONENT ADDER FOR SUBTRACTION (YA-YS)
AEREV-	SET UP EXPONENT ADDER FOR REVERSE SUBTRACTION (YS-YA)
QACC	SET OA2 FREE (END OF CURRENT ACCUMULATOR OPERATION)
AO 1&2	SET A0 F/F IF ACCUMULATOR IS SUPERSTANDARD



	J	K	L	M	N
XS AS ST QESO	19/2/M5 1-6 25 ONLY 20.5 M8 YS 0-4 20.5 M9 YS 0-4 22.10 M9 YS 5-8	QEYS 29.43 M3 2-10F5 QEYS 21.1 M7 STQEYS 20.5 M6 AE 0-4 22.0 M8 AE 5-8	QEY14 29.44 M3 2-10F6 QEY14 21.1 M1 AE 1234	QEY2 29.44 M4 2-10F7 QEY2 23.3 M4 AE 1	QEBY 28.45 M3 2-11B5 QEBY 20.22 M1 ST QEBY 21.2 M11 YB0&5 21.2 M12 YB0&7 22.10 M9 YB 6-8
QEAS QEAS STQEAS	29.35 M8 2-11 B2 21.1 M2 20.5 M3 YA0-4 20.5 M4 YA0-4 23.5 M1 YA5-8	QEDY 29.35 M7 2-11B8 QEDY 21.1 M5 STQEDY 20.4 M2 &0 13,4 20.14 M3 &2	QEAB 28.37 M1 2-11B1 QEAB 21.1 M6 20.14 M6 YA0,2,3 20.14 M8 YA1,4 23.5 M3 YA5-8	QEA28 29.40 M5 2-11B3 QEA28 22.40 M5 ST QEA28 20.5 M12 YA 0-4 23.5 M2 YA 5-8	QED14 29.11 M4 2-11D1 QED14 21.1 M8 ST QED14 20.14 M8 &1-3
QEYD QEYD STQEYD	29.42 M4 2-10D5 21.1 M3 20.14 M9 AE 0-4	QEYA 29.42 M8 2-10D6 QEYA 21.2 M7 STQEYA 20.5 M5 AE 0-4 23.5 M6 AE 5-8	JTB4 8-/M4 1-5E3 JTB4 8-3/M4 St JTB4 20.5 M11 YA0,2,3 20.5 M12 YA1,4 23.5 M4 YA5-8	(+S)Y 28.45 M5 2-10N7 (+S)Y 20.22 M9 St(+S)Y 21.2 M9 AE 024 21.2 M10 AE 135 22.10 M2 AE 678	(-S)Y 28.45 M8 2-10N7 (-S)Y 20.22 M4 St(-S)Y 21.2 M7 AE 024 21.2 M8 AE 135 22.10 M3 AE &7,8
ADDY ADDY St ADDY	27.45 M3 2-10N6 20.2 M5 21.2 M1 AE 2 21.2 M2 AE 3,4 21.2 M3 AE 0,1 22.0 M6 AE 5,6 22.0 M7 AE 8,9	SUBTY 27.45 M7 2-10N9 SUBTY 20.22 M4 St SUBTY 21.2 M4 AE 2 21.2 M5 AE 3,4 21.2 M6 AE 0,1 22.0 M4 AE 5,6 22.0 M5 AE 8,9	JRO 18/39/M2 1-6F4 JTFA 18/57/M3 STEERTOR 20.5 M10 0AY0-4 22.10 M10 0-YS7	J30 a 12/40/M10 1-6J4 b 36/2/M10 c 85/1/M10 SETDAY 20/22/M8, ST SETDAY 20.5/M11 DAY0-4 22.10 M11 DAY5-7	
QEDB QEDB STQEDB	28.38/M1 2-11B7 20.22 M2 20.14 M4 YD0,3,4 YD2	QEXPOS 29/45/M6	QEXNEG 29/54/M5		

a = MC/R UNIVERSITY ATLAS
b = ATLAS STANDARD
c = ATLAS II

WAVEFORM	PACKAGE	23	22	21	20	19	18	17	16	15
B4P	828					16.38				15.38
		M2	M1	M0	M9	M8	M7	M6	M5	M4	M3	M2	M1	M0	M9	M8

WAVEFORM	PACKAGE	47	46	45	44	43	42	41	40
DS	826	509		12				508	12
		M11	M9	M7	M5	M3	M1	M11	M9

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0	-1
TAY	813	2/6	2/5	2/6	2/5	1/5	1/4	1/3	1/5	1/4	1/3
		M8	M8	M4	M4	M8	M8	M8	M4	M4	M4
-TBY		M7	M7	M3	M3	M7	M7	M7	M3	M3	M3
-TCY		M6	M6	M2	M2	M6	M6	M6	M2	M2	M2
-TSY		M5	M5	M1	M1	M5	M5	M5	M1	M1	M1

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0	-1
SY	812			2/7				1/6			
			M3	M2	M1	M0	M5	M4	M3	M2	M1

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0	-1
Y1Y	a) 826			2.4 (a)				0.4 (a)			(a) 4 (b)
	b) 826	M11	M12	M9	M10	M5	M6	M3	M4	M1	M2	M7	M8

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YY	(a) 821 (b) 817 (c) 839			2/3 (a)			0 3 (b)		0 24 (c)	0/3 (b)
		M11	M9	M5	M3	M5	M4	M3	M1	M11

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YS	822			2/2				0/2		
		M7	M5	M3	M1	M9	M7	M5	M3	M1

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
OAY	822			2/1				0/1		
		M6	M4	M2	M0	M8	M6	M4	M2	

OCTAL DIGIT		1			2			3		
WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
	826		3/1			3/0			22/4	20/4
X4P		M7	M5	M3	M1		M1	M7	M6	M11

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
AY XY	84		2/8		1/8	1/7	1/8	1/7	1/8	1/7
		M7	M4	M1	M7	M7	M4	M4	M1	M1
		M8	M5	M2	M8	M8	M5	M5	M2	M2

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
X1Y	826			3/0				0/10		
		M9	M10	M7	M8	M5	M6	M3	M4	M1	M2

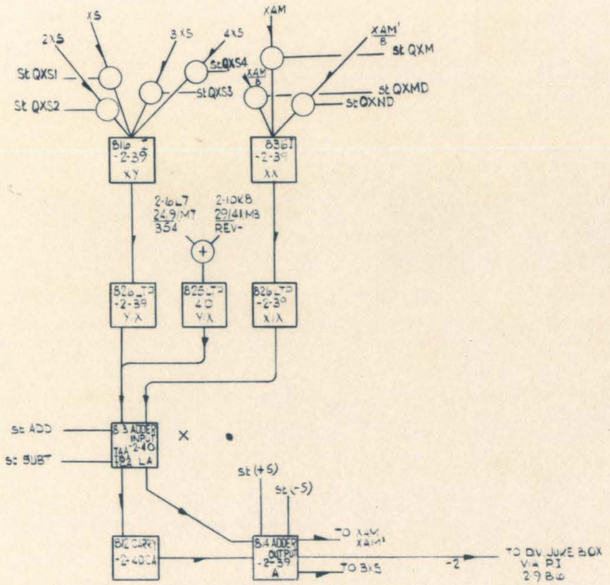
WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YX	(a) 821 (b) 817			3/9 (a)				0/9 (b)		
		M9	M7	M5	M3	M5	M4	M3	M2	M1

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YAG	822		2/9					1/9		
		M6	M4	M2	M12	M10	M8	M6	M4	M2

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YA	819	3/8	3/7	3/8	3/7	0/8	0/7	0/6	0/8	0/7
		M4	M4	M2	M2	M4	M4	M4	M2	M2

WAVEFORM	PACKAGE	8	7	6	5	4	3	2	1	0
YD	819					4	3	2	1	0
						0/11	0/12	0/13	0/11	0/12
						M3	M3	M3	M1	M1

ATLAS 2 ED. 52-20 EXPONENT ARITHMETIC ACC.



QXMD	2640M5	2-10G3
QXMD	2442M6	
ST.QXMD	2731M9	AIP-2-3
2	2631M5	4-9
3	2531M9	10-15
4	2431M5	16-21
5	2331M9	22-27
6	2231M5	28-33
7	2131M5	34-39
QXMD	2640M9	2-10G3
QXMD	2339M1	SPARE
QXS1	2640M	2-10N1
QXS1	2442M7	
ST.QXS1	2722M1	AIP-2-3
2	2622M1	4-9
3	2522M1	10-15
4	2422M1	16-21
5	2322M1	22-27
6	2222M1	28-33
7	2122M1	34-39
QXST	2640M	2-10N1
QXS1	2340M3	SPARE
QXMT	2640M6	2-10G2
QXM1	2442M2	
ST.QXM1	2731M5	AIP-2-3
2	2631M4	4-9
3	2531M8	10-15
4	2431M4	16-21
5	2331M5	22-27
6	2231M4	28-33
7	2131M4	34-39
QXMT	2640M6	2-10G2
QXM1	2339M2	SPARE
QXS2	2640M2	2-10N2
QXS2	2442M1	
ST.QXS2	2722M2	AIP-2-3
2	2622M2	4-9
3	2522M2	10-15
4	2422M2	16-21
5	2322M2	22-27
6	2222M2	28-33
7	2122M2	34-39
QXS2	2640M2	2-10N2
QXS2	2339M3	SPARE

QXS4	2640M3	2-10N3
QXS4	2441 M1	
ST.QXS4	2722M3	AIP-2-3
2	2622M3	4-9
3	2522M3	10-15
4	2422M3	16-21
5	2322M3	22-27
6	2222M3	28-33
7	2122M3	34-39
QXS4	2640M3	2-10N3
QXS4	2339M4	SPARE
QXS3	2640M4	2-10N4
QXS3	2441M2	
ST.QXS3	2722M4	AIP-2-3
2	2622M4	4-9
3	2522M4	10-15
4	2422M4	16-21
5	2322M4	22-27
6	2222M4	28-33
7	2122M4	34-39
QXS3	2640M4	2-10N4
QXS3	2339M5	SPARE
QXND	2640M7	2-10G4
QXND	2441M3	
ST.QXND1	2731M7	AIP-2-3
2	2631M8	4-9
3	2531M7	10-15
4	2431M3	16-21
5	2331M7	22-27
6	2231M3	28-33
7	2131M3	34-39
QXND	2640M7	2-10G4
QXND	2339M6	SPARE
(+S)	2848M4	2-10K7
(+S)	2648M4	
ST(+S)	2731M	ADDER-2-3
2	2631M0	4-9
3	2531M2	10-15
4	2431M0	16-21
5	2331M	22-27
6	2231M0	28-33
7	2131M0	34-39
(-S)	2848M3	2-10K7
(-S)	2648M3	
ST(-S)	2731M3	ADDER-2-3
2	2631M	4-9
3	2531M3	10-15
4	2431M1	16-21
5	2331M3	22-27
6	2231M1	28-33
7	2131M	34-39

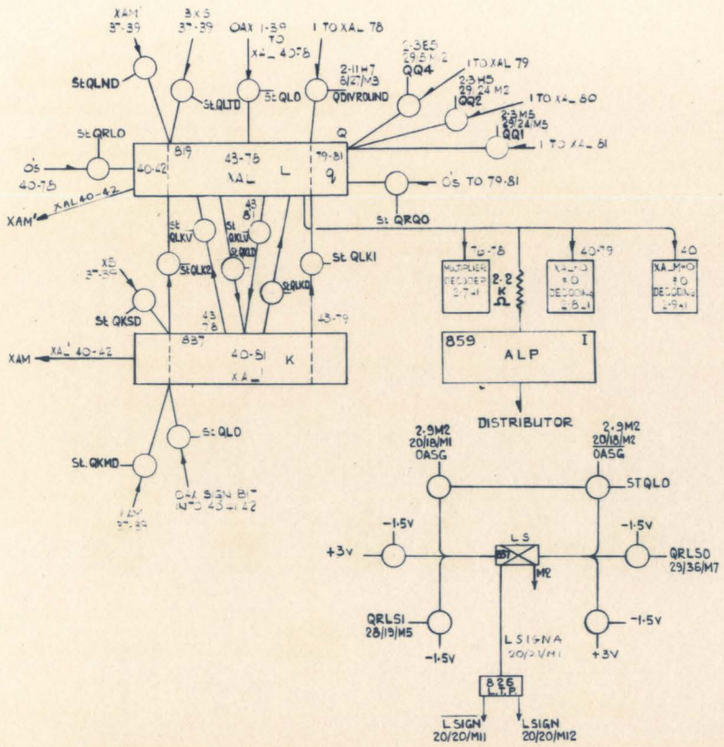
ADD	2838M7	2-10K6
ADD	2539M2	
St ADD1	2722M5	ADDER 0 3
2	2622M7	1 2
3	2522M9	4-7
4	2422M5	6 9
5	2322M7	8 11
6	2222M5	12 15
ADD	2838M7	2-10K6
ADD	2340M2	
St ADD8	2722M7	ADDER 13 14
8	2622M9	10 1
9	2522M9	16 21
10	2422M7	19 20
11	2322M9	1 2
12	2222M7	24 27
13	2122M7	28 29
ADD	2838M7	2-10K6
ADD	2340M2	
St ADD15	2722M9	ADDER 22 23
16	2622M5	30 33
17	2522M7	31 32
15	2422M9	28 27
19	2322M5	36 39
20	2222M9	35 38
21	2122M9	34 35
SUBT	2849M4	2-10K6
SUBT	2539M7	
St SUBT	2731M	ADDER 0 3
2	2631M0	1 2
3	2531M0	4-7
4	2431M2	6 9
5	2331M8	7 8
6	2231M0	4 5
7	2131M2	12 15
SUBT	2848M2	2-10K6
SUBT	2340M3	
St SUBT	2722M5	ADDER 13 14
9	2622M7	10 11
10	2522M5	18 21
11	2422M7	19 20
12	2322M5	1 2
13	2222M7	24 27
14	2122M5	28 29

SUBT	2848M2	2-10K6
SUBT	2342M6	
St SUBT	2322M6	ADDER 22 23
16	2222M8	30 33
17	2122M8	31 32
18	2222M0	28 27
19	2122M0	36 39
20	2122M8	35 38
21	2122M0	34 35

WAVEFORM	PACKAGE	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
XY	816	7.18	7.19	7.20	7.18	7.19	7.20	6.18	6.19	6.20	6.18	6.19	6.20	5.18	5.19	5.20	5.18	5.19	5.20	4.18	4.19	4.20	4.18	4.19	4.20	3.18	3.19	3.20	3.18	3.19	3.20	2.18	2.19	2.20	2.18	2.19	2.20	1.18	1.19	1.20				
		M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI	M2	M2	M2	MI	MI	MI			
YIX	825(a)	7.21(a)									(b)2I(a)						5.21(a)						4.21(a)						3.21(a)						2.21(a)						1.21(a)				(b)4.8
	825(b)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
TAA	813	7.23	7.24	7.25	7.23	7.24	7.25	6.23	6.24	6.25	6.23	6.24	6.25	5.23	5.24	5.25	5.23	5.24	5.25	4.23	4.24	4.25	4.23	4.24	4.25	3.23	3.24	3.25	3.23	3.24	3.25	2.23	2.24	2.25	2.23	2.24	2.25	1.23	1.24	1.25	1.23	1.24	1.25	0.25
		M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	M8	M8	M8	M4	M4	M4	
TBA		M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	M7	M7	M7	M3	M3	M3	
TCA		M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	M6	M6	M6	M2	M2	M2	
LA		M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	M5	M5	M5	M1	M1	M1	
CA	812	7.26						6.26						5.26						4.26						3.26						2.26						1.26						
		M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	
A	814	7.27	7.28	7.27	7.28	7.27	7.28	6.27	6.28	6.27	6.28	5.27	5.28	5.27	5.28	5.27	5.28	5.27	5.28	4.27	4.28	4.27	4.28	3.27	3.28	3.27	3.28	3.27	3.28	2.27	2.28	2.27	2.28	2.27	2.28	1.27	1.28	1.27	1.28			
	S 5	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8	M7	M8			
XIX	826	7.29						6.29						5.29						4.29						3.29						2.29						1.29						
XX	836	7.30						6.30						5.30						4.30						3.30						2.30						1.30						
		M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	M6	M5	M4	M3	M2	M1	
XS	819	7.14	7.15	7.16	7.14	7.15	7.16	6.14	6.15	6.16	6.14	5.15	5.16	5.14	5.15	5.16	5.14	5.15	5.16	4.14	4.15	4.16	4.14	4.15	4.16	3.14	3.15	3.16	3.14	3.15	3.16	2.14	2.15	2.16	2.14	2.15	2.16	1.14	1.15	1.16	1.14	1.15	1.16	
		M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	M3	M3	M3	M1	M1	M1	
3XS	838	7.11	7.12	7.11	7.12	7.11	7.12	6.11	6.12	6.11	6.12	5.11	5.12	5.11	5.12	5.11	5.12	5.11	5.12	4.11	4.12	4.11	4.12	3.11	3.12	3.11	3.12	3.11	3.12	2.11	2.12	2.11	2.12	2.11	2.12	1.11	1.12	1.11	1.12	1.11	1.12	
		M2	M2	M4	M4	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	
XAM	819	7.31	7.33	7.34	7.32	7.33	7.34	6.32	6.33	6.34	6.32	6.33	6.34	5.32	5.33	5.34	5.32	5.33	5.34	4.32	4.33	4.34	4.32	4.33	4.34	3.32	3.33	3.34	3.32	3.33	3.34	2.32	2.33	2.34	2.32	2.33	2.34	1.32	1.33	1.34	1.32	1.33	1.34	
		M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	
XAM'	819	7.35	7.36	7.37	7.35	7.36	7.37	6.35	6.36	6.37	6.35	6.36	6.37	5.35	5.36	5.37	5.35	5.36	5.37	4.35	4.36	4.37	4.35	4.36	4.37	3.35	3.36	3.37	3.35	3.36	3.37	2.35	2.36	2.37	2.35	2.36	2.37	1.35	1.36	1.37	1.35	1.36	1.37	
		M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	M4	M4	M4	M2	M2	M2	

BOX NUMBERS ARE IN 20 SERIES UNLESS SHOWN OTHERWISE.

ATLAS 2 ED. 52-21 FRACTIONAL ARITHMETIC ADDER ACCUMULATOR



QLTD	25·17 M1	2·11N7
QLTD	24·40 M8	
STQLTD	20·48 M1	XAL 40-41-42
QLKD	28·14 M8	2·11D7
QLKD	25·40 M3	
STQLKD	21·48 M3	XAL 43-48
	21·48 M4	" 43-48
	22·48 M2	" 49-54
	22·48 M1	" 49-54
	23·48 M3	" 55-60
	23·48 M4	" 55-60
QLKD	28·14 M6	2·11D7
QLKD	25·41 M3	
STQLKD	24·48 M6	XAL 61-66
	24·48 M7	" 61-66
	25·48 M3	" 67-72
	25·48 M4	" 67-72
	26·48 M1	" 73-78
	26·48 M7	" 73-78
QLKD	29·35 M4	2·11D4
QLKD	25·40 M3	
STQLKD	27·35 M8	XAL' 79-81
	21·48 M7	" 43-48
	21·48 M8	" 43-48
	22·48 M3	" 49-54
	22·48 M4	" 49-54
	23·48 M1	" 55-60
	23·48 M2	" 55-60
QLKD	29·35 M4	2·11D4
QLKD	28·41 M5	
STQLKD	24·48 M9	XAL 61-63
	24·48 M10	" 64-66
	25·48 M6	" 67-69
	25·48 M7	" 70-72
	26·48 M5	" 73-75
	26·48 M8	" 76-78
QLKI	29·39 M1	2·11E1
QLKI	28·41 M3	
STQLKI	21·45 M10	XAL 48-46
	22·48 M1	" 47485354
	22·48 M2	" 49-52
	23·48 M4	" 55-58
QLKI	29·39 M1	2·11E1
QLKI	25·40 M3	
STQLKI	24·48 M1	XAL 58-60-62-64
	24·48 M2	" 61-64
	25·48 M10	" 67-70
	26·48 M1	" 71-72-73-78
	26·48 M2	" 73-77
	27·39 M7	" 79-81

QKSD	28·34 M1	2·11D7
QKSD	25·39 M1	
STQKSD	20·45 M7	XAL 40-42
QKMD	20·45 M7	2·11D6
QKMD	28·39 M3	
STQKMD	20·48 M1	XAL 40-42
QLND	28·37 M6	2·11E4
QLND	24·41 M7	
STQLND	20·48 M10	XAL 40-42
QKLV	28·38 M3	2·11N6
QKLV	23·41 M8	
STQKLV	20·45 M6	XAL 40-42
	21·48 M8	" 43-48
	21·48 M9	" 43-48
	22·48 M11	" 49-51
	22·48 M12	" 52-54
	23·48 M8	" 55-57
	23·48 M9	" 58-60
QKLV	28·38 M3	2·11N6
QKLV	23·41 M8	
STQKLV	24·48 M11	XAL 61-63
	24·48 M12	" 64-66
	25·48 M9	" 67-69
	25·48 M10	" 70-72
	26·48 M11	" 73-75
	27·39 M6	" 79-81
QLKV	29·24 M8	2·11D8
QLKV	23·40 M1	
STQLKV	20·45 M11	XAL 40-42
	21·48 M11	" 43-48
	21·48 M12	" 43-48
	22·48 M4	" 49-54
	22·48 M5	" 49-54
	23·48 M1	" 55-60
	23·48 M2	" 55-60
QLKV	29·24 M8	2·11D8
QLKV	25·40 M8	
STQLKV	24·48 M5	XAL 61-66
	24·48 M6	" 61-66
	25·48 M1	" 67-72
	25·48 M2	" 67-72
	26·48 M4	" 73-78
	26·48 M5	" 73-78

QRLO	28·44 M3	2·11G5
QRLO	24·41 M8	
STQRLO	21·48 M5	XAL 43-48
	22·48 M6	" 49-54
	23·48 M2	" 55-60
	24·48 M3	" 61-66
	25·48 M5	" 67-72
	26·48 M3	" 73-78
QLO	28·36 M7	2·11E4
QLO	23·42 M3	
STQLO	20·45 M3	XAL 40-42
	20·48 M1	" 40-42
	20·48 M5	XAL 40-42
	21·48 M11	" 43-48
	21·48 M12	" 43-48
	22·48 M3	" 49-52
QLO	28·36 M7	2·11E4
QLO	25·40 M4	
STQLO	23·48 M3	XAL 55-58
	23·48 M4	" 59-60
	24·48 M1	" 61-64
	24·48 M2	" 67-70
	25·48 M11	" 67-70
	25·48 M12	" 71-74
	26·48 M3	" 75-78
QLK2	20·38 M7	2·11E2
QLK2	24·40 M6	
STQLK2	20·45 M4	XAL 40-42
QRQO	25·39 M2	2·11J6
QRQO	25·39 M2	
STQRQO	27·35 M1	XAL 79-81

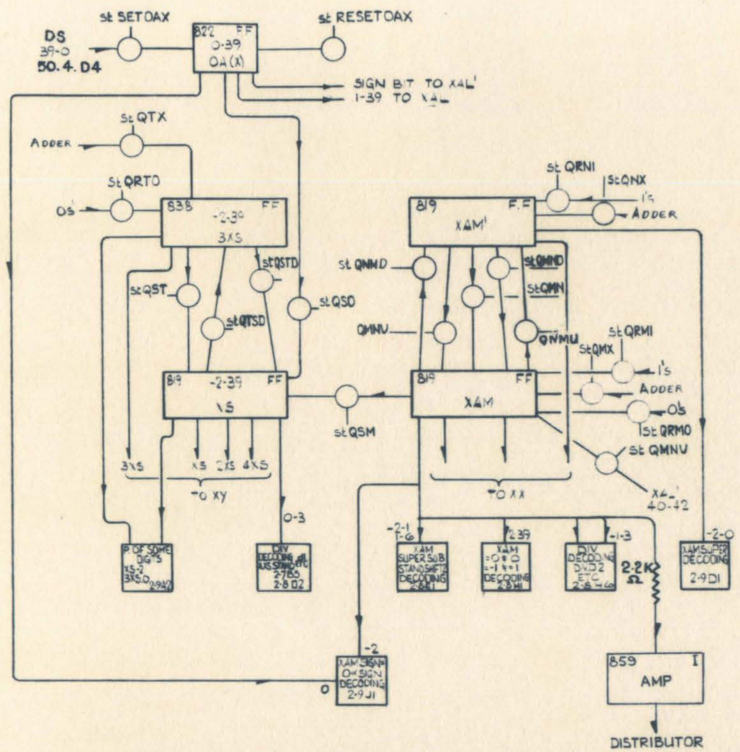
L SIGN F/F

WAVEFORM	PACKAGE	37	38	39
BXS	838	1/12 M4	1/11 M2	1/12 M2
XS	819	1/14 M1	1/15 M1	1/16 M1
XAM	819	1/33 M2	1/33 M2	1/34 M2
XAM'	819	1/33 M2	1/30 M2	1/31 M2

WAVEFORM	PACKAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
OAX	822	7/13			6/13						5/13						4/13						3/13						2/13						1/13					
		M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	V6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	V6	M4	M2

WAVEFORM	PACKAGE	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81
XAL	838 (C)	0/46(a)	0/45(a)	0/44(a)	1/46(b)		1/45(b)		1/44(b)		2/46(b)		2/45(b)		2/44(b)		3/46(b)		3/45(b)		3/44(b)		4/46(b)		4/45(b)		4/44(b)		5/46(b)		5/45(b)		5/44(b)		6/46(b)		6/45(b)		6/44(b)		7/47(c)	T48(c)
	838 (D)	M2	M2	M2	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M1	M3	M2	M4	M2		
XAL'	819 (A)	0/47(a)	0/43(a)		1/47(b)		1/43(b)				2/47(b)		2/45(b)				3/47(b)		3/43(b)				4/47(b)		4/43(b)				5/47(b)		5/43(b)				6/47(b)		6/43(b)			7/46(c)	
	837 (B)																																									
	838 (C)	M1	M3	M1	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M2	M4	M1	M3	M5		
ALP	859	20/37			20/38						20/39						21/39						21/40						21/41						22/41						
		M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6			
OCTAL DIGIT		1			2			3			4			5			6			7			8			9			10			11			12			13					

ATLAS 2 — ED. 52·22 FRACTIONAL ARITHMETIC LS. — ACCUMULATOR



QMND (bar)	29/1/M2	2·11E7
QMND	25/41/M1	
ST.QMND1	27/38/M1	XAM-1,0,2,3
2	27/38/M2	-2,1,4,7
3	26/38/M7	5,6,8,9
4	25/38/M1	10,13,16,19
5	25/38/M2	11,12,14,15
QMND (bar)	29/1/M2	2·11E7
QMND	23/40/M1	
ST.QMND6	24/38/M7	XAM 17,18,20,21
7	23/38/M1	22,25,28,31
8	23/38/M2	23,24,26,27
9	22/38/M7	29,30,32,33
10	21/38/M3	35,36,38,39
11	21/38/M4	34,37
QMX (bar)	26/40/M8	2·11E8
QMX	24/42/M8	
STQMX1	27/31/M11	XAM-2-3
2	26/31/M7	4-9
3	25/31/M11	10-15
4	24/31/M7	16-21
5	23/31/M11	22-27
6	22/31/M7	28-33
7	21/31/M7	34-39
QMX (bar)	26/40/M1	SPARE
QMX	24/41/M2	
QSO (bar)	29/37/M5	2·11L1
QSO	24/42/M6	
STQSO1	27/17/M7	XS -2-3
2	27/17/M8	2-3
3	26/17/M1	4-9
4	26/17/M2	4-9
5	25/17/M7	10-15
6	25/17/M8	10-15
QSO (bar)	29/37/M5	2·11L1
QSO	23/41/M4	
STQSO7	24/17/M1	XS 16-21
8	24/17/M2	16-21
9	23/17/M7	22-27
10	23/17/M8	22-27
11	22/17/M1	28-33
12	22/17/M2	28-33
13	21/17/M1	34-39
14	21/17/M2	34-39
QRMO (bar)	28/37/M4	2·11J1
QRMO	24/42/M3	
StQRMO1	27/31/M2	XAM-2-3
2	26/31/M8	4-9
3	25/31/M12	10-15
4	24/31/M8	16-21
5	23/31/M12	22-27
6	22/31/M8	28-33
7	21/31/M8	34-39

QTX (bar)	28/19/M7	2·11L5
QTX	24/40/M7	
STQTX1	27/22/M11	3XS-2-3
2	25/17/M5	4-9
3	25/17/M4	10-15
4	24/10/M8	16-21
5	24/10/M7	22-27
6	21/10/M12	28-33
7	21/10/M11	34-39
QMNU (bar)	28/34/M6	2·11E7
QMNU	25/41/M4	
StQMNU1	27/31/M5	XAM-2-3
2	27/31/M6	-2-3
3	26/31/M1	4-9
4	26/31/M2	4-9
5	25/31/M5	10-15
6	25/31/M6	10-15
QMNU (bar)	28/34/M6	2·11E7
QMNU	23/40/M5	
StQMNU7	24/31/M1	XAM 16-21
8	24/31/M2	16-21
9	23/31/M5	22-27
10	23/31/M6	22-27
11	22/31/M1	28-33
12	22/31/M2	28-33
13	21/31/M1	34-39
14	21/31/M2	34-39
QSM (bar)	28/4/M9	2·11J8
QSM	25/41/M5	
STQSM1	27/17/M3	XS -1,0,2,3
2	26/17/M12	-2,1,4,7
3	26/17/M11	5,6,8,9
4	25/17/M3	11,12,14,15
5	24/17/M12	10,13,16,19
QSM (bar)	28/4/M9	2·11J8
QSM	23/40/M6	
STQSM6	24/17/M11	XS 17,18,20,21
7	23/17/M3	23,24,26,27
8	22/17/M2	22,25,28,31
9	22/17/M11	29,30,32,33
10	21/17/M7	35,36,38,39
11	21/17/M8	34,37
QRTO (bar)	29/37/M11	2·11J7
QRTO	24/41/M4	
StQRTO1	27/17/M4	3XS-2-3
2	26/17/M8	4-9
3	26/17/M7	10-15
4	24/10/M2	16-21
5	24/10/M1	22-27
6	21/10/M6	28-33
7	21/10/M5	34-39
QRTO (bar)	29/37/M1	2·11J7
QRTO	22/40/M6	SPARE

QRNI (bar)	29/39/M4	2·11J3
QRNI	24/41/M5	
STQRNI1	27/31/M4	XAM'-2-3
2	26/31/M9	4-9
3	25/31/M4	10-15
4	24/31/M9	16-21
5	23/31/M4	22-27
6	22/31/M9	28-33
7	21/31/M9	34-39
QRNI (bar)	29/39/M4	2·11J3
QRNI	22/40/M7	SPARE
QNX (bar)	29/39/M7	2·11G3
QNX	24/41/M6	
STQNX1	27/38/M11	XAM-2-3
2	26/38/M1	4-9
3	25/38/M11	10-15
4	24/38/M1	16-21
5	23/38/M11	22-27
6	22/38/M1	28-33
7	21/31/M12	34-39
QNX (bar)	29/39/M7	2·11G3
QNX	22/40/M8	SPARE
QST (bar)	28/44/M7	2·11L2
QST	25/41/M6	
STQST1	27/17/M2	XS-1,0,2,3
2	27/17/M1	-2,1,4,7
3	26/17/M10	5,6,8,9
4	25/17/M2	11,12,14,15
5	25/17/M1	10,13,16,19
QST (bar)	28/44/M7	2·11L2
QST	23/40/M7	
STQST6	24/17/M10	XS 17,18,20,21
7	23/17/M2	23,24,26,27
8	23/17/M1	22,25,28,31
9	22/17/M10	29,30,32,33
10	21/17/M5	35,36,38,39
11	21/17/M6	34,37
QMN (bar)	29/33/M8	2·11F6
QMN	25/41/M7	
STQMN1	27/38/M4	XAM-1,0,2,3
2	27/38/M3	-2,1,4,7
3	26/38/M8	5,6,8,9
4	25/38/M4	11,12,14,15
5	25/38/M3	10,13,16,19
QMN (bar)	29/33/M8	2·11F6
QMN	23/40/M8	
STQMN6	24/38/M8	XAM 17,18,20,21
7	23/38/M4	23,24,26,27
8	23/38/M3	22,25,28,31
9	22/38/M5	29,30,32,33
10	21/38/M5	35,36,38,39
11	21/38/M6	34,37

QTSD (bar)	28/36/M11	2·11L3
QTSD	25/41/M9	
STQTSD1	27/17/M5	3XS-1,1,3
2	27/17/M6	-2,0,2
3	26/31/M12	5,7,9
4	26/22/M12	4,6,8
5	26/22/M11	11,13,15
6	26/17/M9	10,12,14
QTSD (bar)	28/36/M1	2·11L3
QTSD	23/41/M1	
STQTSD7	24/10/M6	3XS 17,19,21
8	24/10/M5	16,18,20
9	24/10/M4	23,25,27
10	24/10/M3	22,24,26
11	21/10/M10	29,31,33
12	21/10/M9	28,30,32
13	21/10/M8	35,37,39
14	21/10/M7	34,36,38
QNMD (bar)	29/38/M1	2·11G1
QNMD	25/40/M1	
STQMND1	27/38/M6	XAM'-1,0,2,3,
2	26/38/M2	-2,1,4,7
3	26/38/M11	5,6,8,9
4	25/38/M6	11,12,14,15
5	24/38/M12	10,13,16,19
6	24/38/M11	17,18,20,21
QNMD (bar)	29/38/M1	2·11G1
QNMD	23/41/M2	
STQNMD7	23/38/M6	XAM' 23,24,26,27
8	22/38/M12	22,25,28,31
9	22/38/M11	29,30,32,33
10	21/38/M9	35,36,38,39
11	21/38/M10	34,37
QSTD (bar)	28/34/M5	2·11L3
QSTD	23/41/M6	
STQSTD1	27/17/M9	XS-2-3
2	27/17/M10	-2-3
3	26/17/M3	4-9
4	26/17/M4	4-9
5	25/17/M9	10-15
6	25/17/M10	10-15
7	24/17/M3	16-21
8	24/17/M4	16-21
QSTD (bar)	28/34/M5	2·11L3
QSTD	25/40/M6	
STQSTD9	23/17/M9	XS 22-27
10	23/17/M10	22-27
11	22/17/M3	28-33
12	22/17/M4	28-33
13	21/17/M3	34-39
14	21/17/M4	34-39

QNMU (bar)	28/38/M5	2·11G2
QNMU	25/40/M7	
STQNMU1	27/38/M5	XAM-1,0,2,
2	26/38/M10	-2,1,4,7
3	26/38/M9	5,6,8,9
4	25/38/M5	11,12,14,15
5	24/38/M10	10,13,16,19
6	24/38/M9	17,18,20,21
QNMU (bar)	28/35/M5	2·11G2
QNMU	23/41/M7	
STQNMU7	23/38/M5	XAM' 23,24,26,27
8	22/38/M10	22,25,28,31
9	22/38/M9	29,30,32,33
10	21/38/M7	35,36,38,39
11	21/38/M8	34,37
QRMI (bar)	28/38/M7	2·11J1
QRMI	24/40/M1	
STQRMI1	27/31/M10	XAM-2-3
2	26/31/M6	4-9
3	25/31/M10	10-15
4	24/31/M6	16-21
5	23/31/M10	22-27
6	22/31/M6	28-33
7	21/31/M6	34-39
JRO (bar)	19/39/M2	1·6F4
RESETOAX	18/40/M3	
STRESETOAX	21/17/M9	OAX 34-39
2	22/17/M5	28-33
3	23/17/M11	22-27
4	24/17/M5	16-21
5	25/17/M11	10-15
6	26/17/M5	4-9
7	27/17/M11	0-3
SETOAX	24/40/M3	
STSETOAX1	21/17/M10	OAX 34-39
2	22/17/M6	28-33
3	23/17/M12	22-27
4	24/17/M6	16-21
5	25/17/M12	10-15
6	26/17/M6	4-9
7	27/17/M12	0-3
JSO (bar)		1·6J4
a	12/40/M10	
b	30/2/M10	
c	03/7/M10	

a = MANCHESTER UNIVERSITY ATLAS
b = ATLAS STANDARD
C = ATLAS II

	506/21		506/27		
	M12	M4	M8	M7	M6
DIGIT	E0	D0	12/13	QS	A0
MONITOR	07/31 M2	07/31 M10	07/27 M7	07/27 M8	07/39 M5
V-STORE ADDRESS	1/29	1/25	6/29	6/28	6/27

ACCUMULATOR DIGITS IN V-MACHINE.
[IN ORDER OF ACC. TESTS FAULT PRINT.]
50.16 E2, L2, E4, F4, M4

WAVEFORM	PACKAGE			39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
DS	826			508/12				507/12						506/12						505/12						504/12						503/12						502/12					
				M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1	M11	M9	M7	M5	M3	M1

WAVEFORM	PACKAGE	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
A	814 S 5	7/27 M7M8	7/28 M7M8	7/27 M4M5	7/28 M4M5	7/27 M1M2	7/28 M1M2	6/27 M7M8	6/28 M7M8	6/27 M4M5	6/28 M4M5	6/27 M1M2	6/28 M1M2	5/27 M7M8	5/28 M7M8	5/27 M4M5	5/28 M4M5	5/27 M1M2	5/28 M1M2	4/27 M7M8	4/28 M7M8	4/27 M4M5	4/28 M4M5	4/27 M1M2	4/28 M1M2	3/27 M7M8	3/28 M7M8	3/27 M4M5	3/28 M4M5	3/27 M1M2	3/28 M1M2	2/27 M7M8	2/28 M7M8	2/27 M4M5	2/28 M4M5	2/27 M1M2	2/28 M1M2	1/27 M7M8	1/28 M7M8	1/27 M4M5	1/28 M4M5	1/27 M1M2	1/28 M1M2

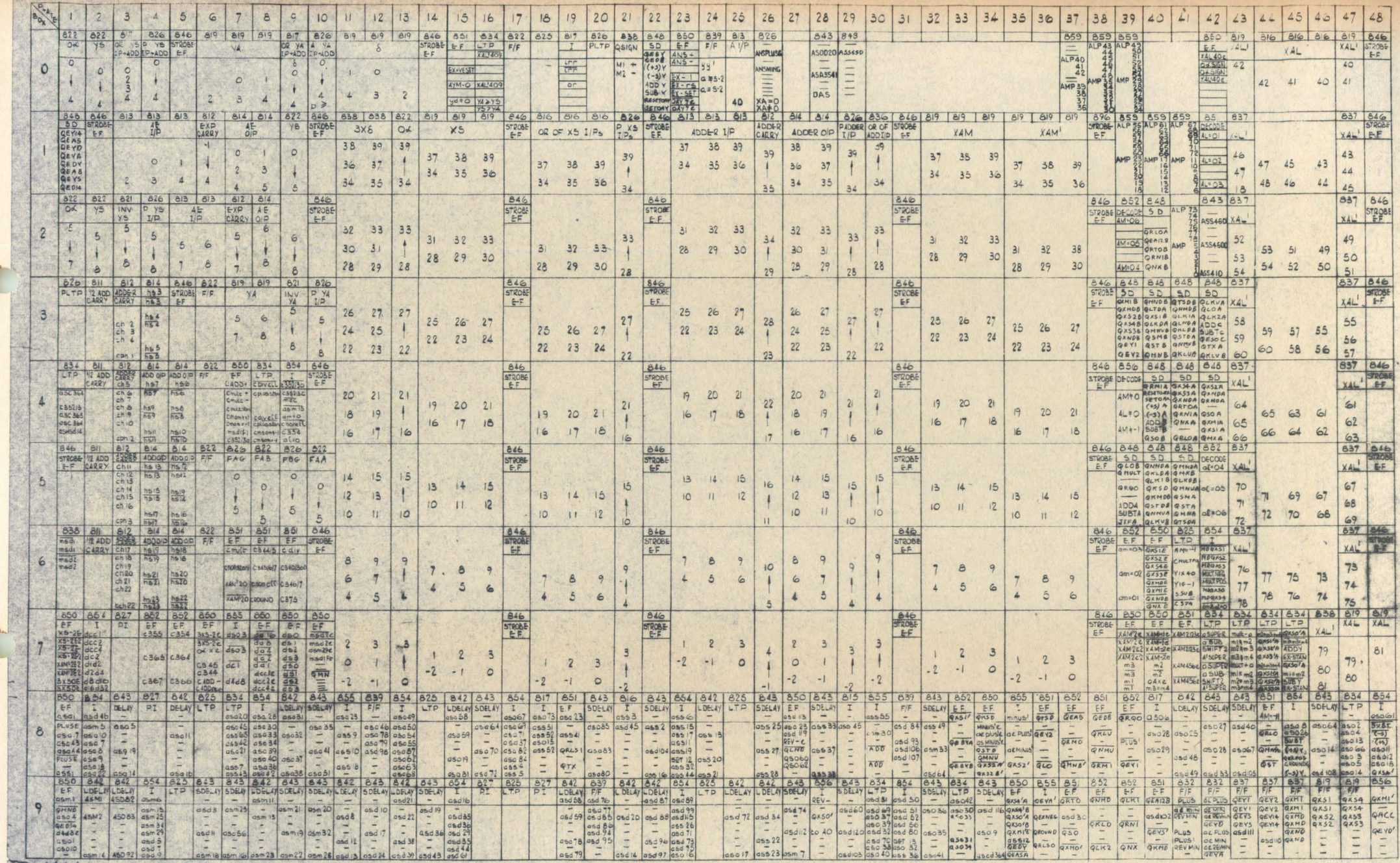
WAVEFORM	PACKAGE	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
0<X	822			7/13 M8	M6	M4	M2	6/13 M12	M10	M8	M6	M4	M2	5/13 M12	M10	M8	M6	M4	M2	4/13 M12	M10	M8	M6	M4	M2	3/13 M12	M10	M8	M6	M4	M2	2/13 M12	M10	M8	M6	M4	M2	1/13 M12	M10	M8	M6	M4	M2
3XS	838	7/11 M6	7/12 M6	7/11 M4	7/12 M4	7/11 M2	7/12 M2	6/11 M6	6/12 M6	6/11 M4	6/12 M4	6/11 M2	6/12 M2	5/11 M6	5/12 M6	5/11 M4	5/12 M4	5/11 M2	5/12 M2	4/11 M6	4/12 M6	4/11 M4	4/12 M4	4/11 M2	4/12 M2	3/11 M6	3/12 M6	3/11 M4	3/12 M4	3/11 M2	3/12 M2	2/11 M6	2/12 M6	2/11 M4	2/12 M4	2/11 M2	2/12 M2	1/11 M6	1/12 M6	1/11 M4	1/12 M4	1/11 M2	1/12 M2
XS	819	7/14 M3	7/15 M3	7/16 M3	7/14 M1	7/15 M1	7/16 M1	6/14 M3	6/15 M3	6/16 M3	6/14 M1	6/15 M1	6/16 M1	5/14 M3	5/15 M3	5/16 M3	5/14 M1	5/15 M1	5/16 M1	4/14 M3	4/15 M3	4/16 M3	4/14 M1	4/15 M1	4/16 M1	3/14 M3	3/15 M3	3/16 M3	3/14 M1	3/15 M1	3/16 M1	2/14 M3	2/15 M3	2/16 M3	2/14 M1	2/15 M1	2/16 M1	1/14 M3	1/15 M3	1/16 M3	1/14 M1	1/15 M1	1/16 M1
XAM	819	7/32 M4	7/33 M4	7/34 M4	7/32 M2	7/33 M2	7/34 M2	6/32 M4	6/33 M4	6/34 M4	6/32 M2	6/33 M2	6/34 M2	5/32 M4	5/33 M4	5/34 M4	5/32 M2	5/33 M2	5/34 M2	4/32 M4	4/33 M4	4/34 M4	4/32 M2	4/33 M2	4/34 M2	3/32 M4	3/33 M4	3/34 M4	3/32 M2	3/33 M2	3/34 M2	2/32 M4	2/33 M4	2/34 M4	2/32 M2	2/33 M2	2/34 M2	1/32 M4	1/33 M4	1/34 M4	1/32 M2	1/33 M2	1/34 M2
XAM'	819	7/35 M4	7/36 M4	7/37 M4	7/35 M2	7/36 M2	7/37 M2	6/35 M4	6/36 M4	6/37 M4	6/35 M2	6/36 M2	6/37 M2	5/35 M4	5/36 M4	5/37 M4	5/35 M2	5/36 M2	5/37 M2	4/35 M4	4/36 M4	4/37 M4	4/35 M2	4/36 M2	4/37 M2	3/35 M4	3/36 M4	3/37 M4	3/35 M2	3/36 M2	3/37 M2	2/35 M4	2/36 M4	2/37 M4	2/35 M2	2/36 M2	2/37 M2	1/35 M4	1/36 M4	1/37 M4	1/35 M2	1/36 M2	1/37 M2
AMP	859			22/41 M12	M11	M10	M9	M8	M7	21/41 M12	M11	M10	M9	M8	M7	21/40 M12	M11	M10	M9	M8	M7	21/39 M12	M11	M10	M9	M8	M7	20/39 M12	M11	M10	M9	M8	M7	20/38 M12	M11	M10	M9	M8	M7	20/37 M12	M11	M10	M9
OCTAL DIGIT		SIGN			1			2			3			4			5			6			7			8			9			10			11			12			13		

BOX NUMBERS ARE IN 20 SERIES UNLESS SHOWN OTHERWISE.

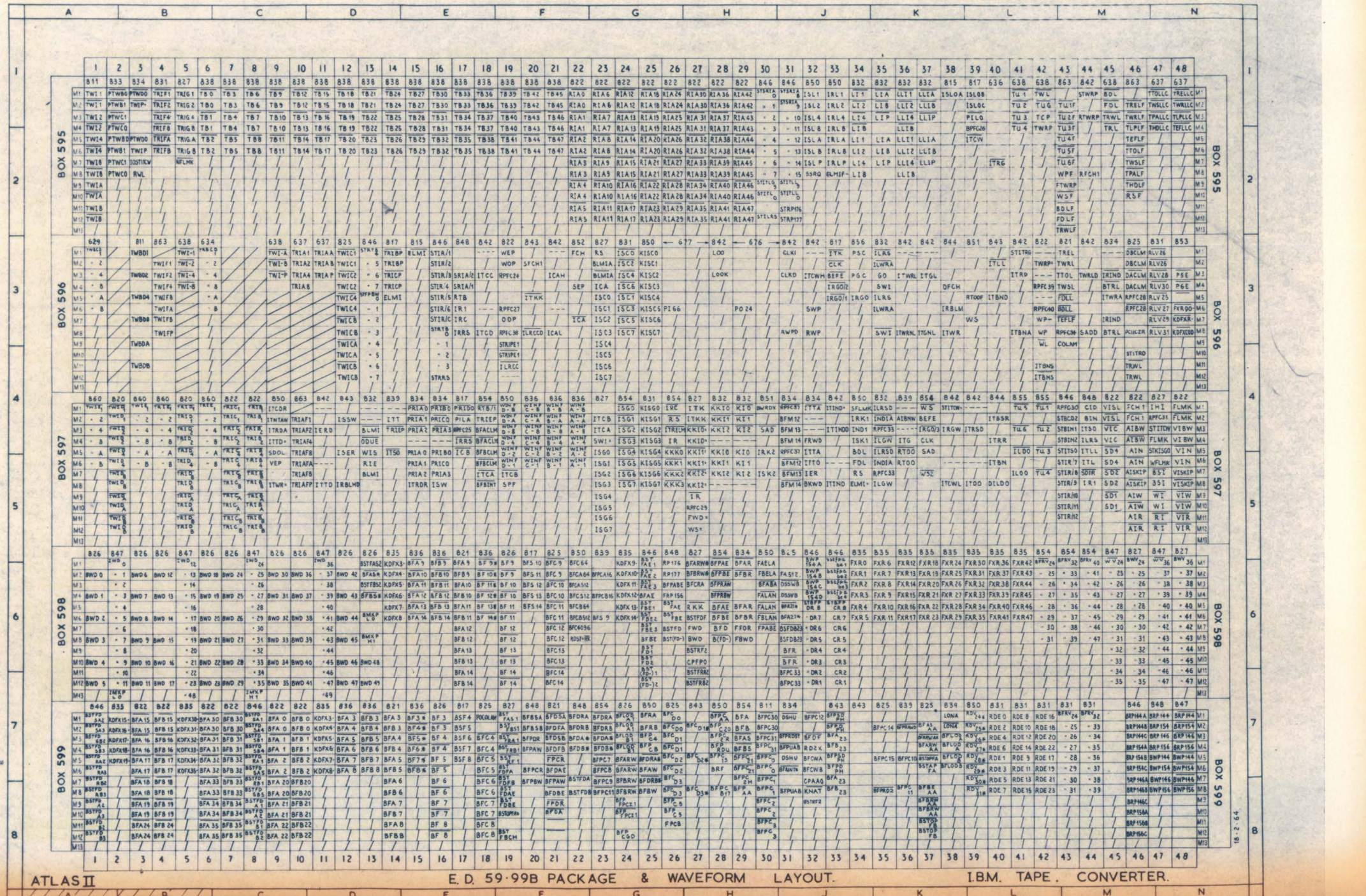
ATLAS 2

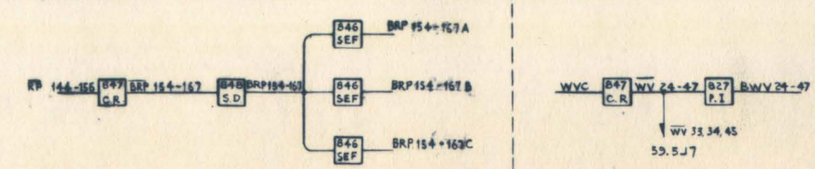
ED. 52·23 FRACTIONAL ARITHMETIC M.S.

ACCUMULATOR


ATLAS
ED 299 PLATE LAYOUT DIAGRAM
ACCUMULATOR

BOX 590
BOX 591
BOX 592
BOX 593
BOX 594
BOX
852 817
MSGO
842 850 842 851 842 822
WLF
2T8
IRQ8
FLMK
IRQBD
FCH1
STOPPED
SDSRQ
ITBNAD
FMSTP
FBLA
STOPRQ
ATLAS II
E D 59 99A
PACKAGE & WAVEFORM LAYOUT
I B M TAPE CONVERTER


BOX 595
BOX 596
BOX 597
BOX 598
BOX 599
ATLAS II
E. D. 59-99B PACKAGE & WAVEFORM LAYOUT.
I.B.M. TAPE. CONVERTER.



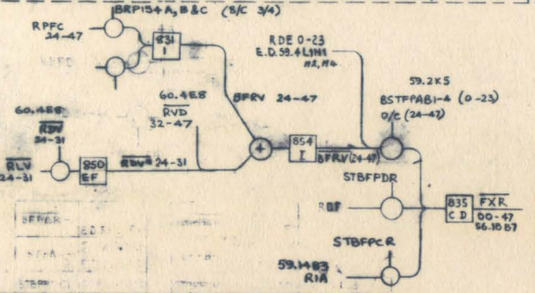
NOTE
154 - IBM
155 - DISC
166 } EXTRA
167 } FAST CHANNEL

	$\overline{FRP_L}$	RP_L	$STBP_L$
176	598/45/13	598/24/M1	595/31/M11
177	598/47/M13	598/24/M2	595/31/M12
	$\overline{RP_L}$	BRP_L	FRP
156	585/11/M12	599/48/M9	598/24/M4

	$\overline{RP_L}$	$\overline{BRP_L}$	BRP_L	BRP_LA	BRP_LB	BRP_LC
154	586/8/M5	599/48/M1	599/47/M1	599/46/M1	599/46/M2	599/46/M3
155	586/11/M5	599/48/M2	599/48/M2	599/46/M3	599/46/M5	599/46/M6
			NOT JOINED			
166	586/8/M7	599/48/M3	599/47/M3	599/46/M7	599/46/M8	599/46/M9
167	586/11/M7	599/48/M4	599/47/M4	599/46/M10	599/46/M11	599/46/M12

	$\overline{WP_L}$	$\overline{BWP_L}$	BWP_L	BWP_LA	BWP_LB	BWP_LC	BPW_LD
154	586/8/M6	599/48/M5	599/47/M5	598/32/M1	598/32/M2		
155	586/11/M6	599/48/M6	599/47/M6				
166	586/8/M8	599/48/M7	599/47/M7				
167	586/11/M8	599/48/M8	599/47/M8				

FAST PERIPHERAL CHANNEL V-STORE READ & WRITE ADDRESSES



BFPAR	599/21/M5	59.2M6	BFPBR	599/21/M9	59.2M7
BFPCR	599/20/M3		BFPCR	599/20/M6	
STBFPDR1	598/23/M8		STBFPCR1	598/32/M12	
2	M11		2	M11	
3	M10		3	M10	
4	M9		4	M9	
5	M8		5	M8	
6	M7		6	M7	
7	M6		7	M6	
8	M5		8	M5	

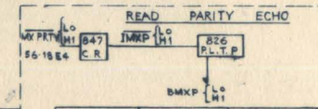
NOTE:— RPFC = 18.M

FAST PERIPHERAL CHANNEL V-STORE WRITE DIGITS

	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
WVC	586/4								586/5								586/6							
	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8
$\overline{WV}$	598/45												598/47											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
BWV 827	598/46												598/48											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12

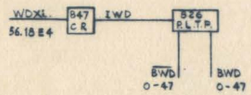
FAST PERIPHERAL WRITE V DIGITS

READ PARITY ECHO



	LO	HI
MXPRTY	567/28/M3	567/28/M4
$\overline{IMXP}$	598/2/M13	598/8/M13
BMXP	598/13/M5	598/13/M7

FAST PERIPHERAL WRITE DATA HIGHWAY



	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
WDX_L	567/4												567/10												567/16												567/22													
	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M12		
IWD_L	598/2												598/5												598/8												598/11												598 S	598 M
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M15
$\overline{BWD_L}$	598/1												598/3												598/4												598/6													
	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11		
BWD_L	598/7												598/9												598/10												598/12													
	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12		

* DIGITS 48 & 49 ARE PARITIES FOR L.S & M.S. HALF WORDS RESPECTIVELY.

FAST PERIPHERAL CHANNEL V-READ AND INFORMATION READ HIGHWAY

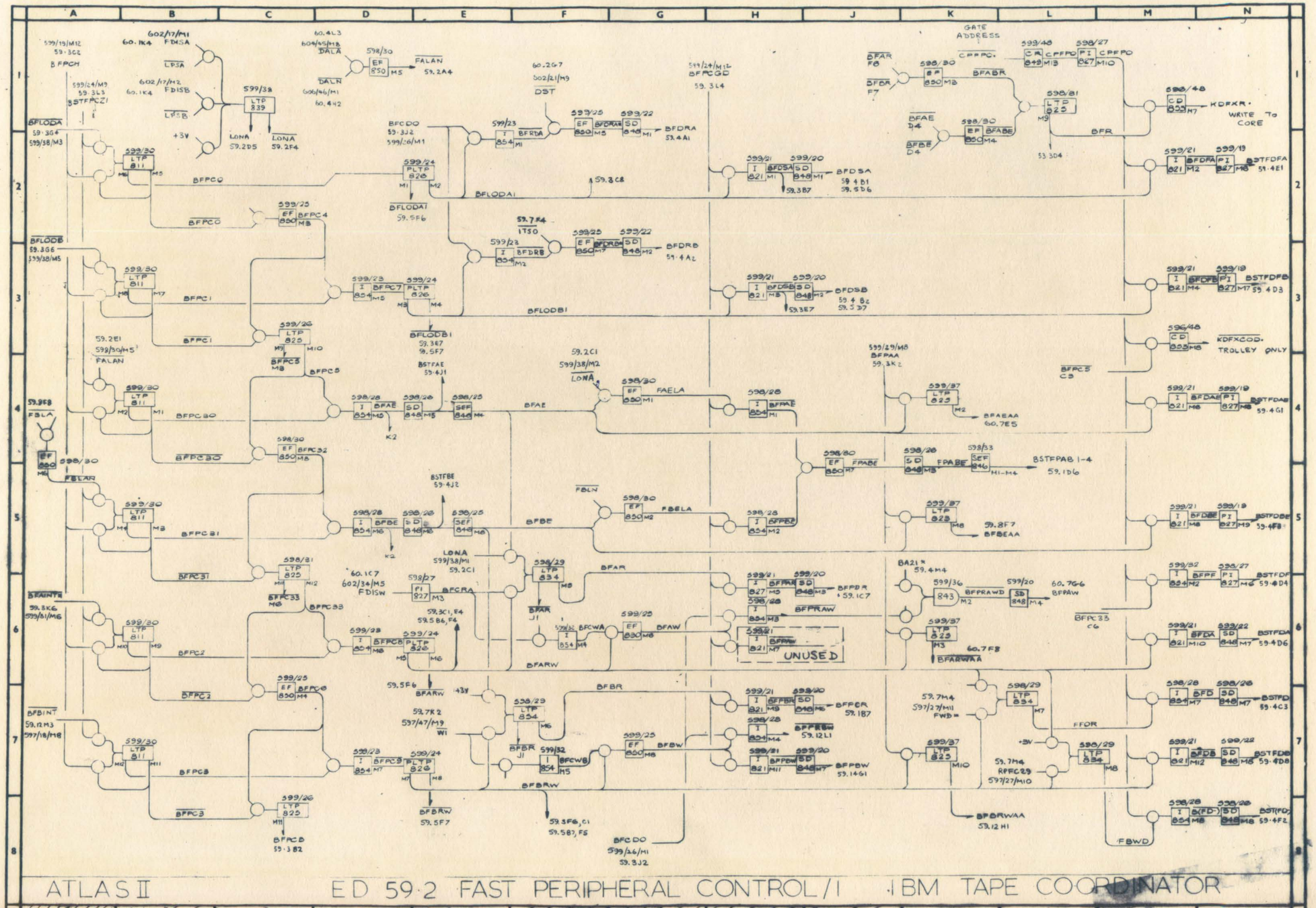
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
$\overline{RDV}$																									606/40								606/41								606/42							
																									M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8
RPFC																									597 17 #5 E3 59.11 E6	595 39 #4 E3 59.4 #6	594 46 M5 ED 59.8 E6	595 27 M10 ED 59.7 #4	597 43 M1 E.D. 59.7 A3	597 47 M2 E.D. 59.7 C2			598 35 M7 E.D. 59.7 F7				597 13 M8 E.D. 59.12 M5											
831 BFRV																									(STROBE 'A') 599/43								(STROBE 'B') 599/44								(STROBE 'C') 599/45							
																									M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8
BFRV 24-47 RDE 0-23	599/40								599/41								599/42								598/42								598/43								598/44							
	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M5	M2	M6	M3	M7	M4	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8	M1	M2	M3	M4	M5	M6	M7	M8
RIA	595/22								595/23								595/24								595/25								595/26								595/27							
	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
RDF	607/25												607/26												607/19								607/22													
835 FXR	598/34								598/35								598/36								598/37								598/38								598/39							
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
STROBES	STBFPCR 1 STBFPDR 1								STBFPCR 2 STBFPDR 2								STBFPCR 3 STBFPDR 3								STBFPCR 4 STBFPDR 4								STBFPCR 5 STBFPDR 5								STBFPCR 6 STBFPDR 6							
$\overline{RVD}$																									599/39																								
																									M1	M2	M3	M4	M5	M6	M7	M8																		

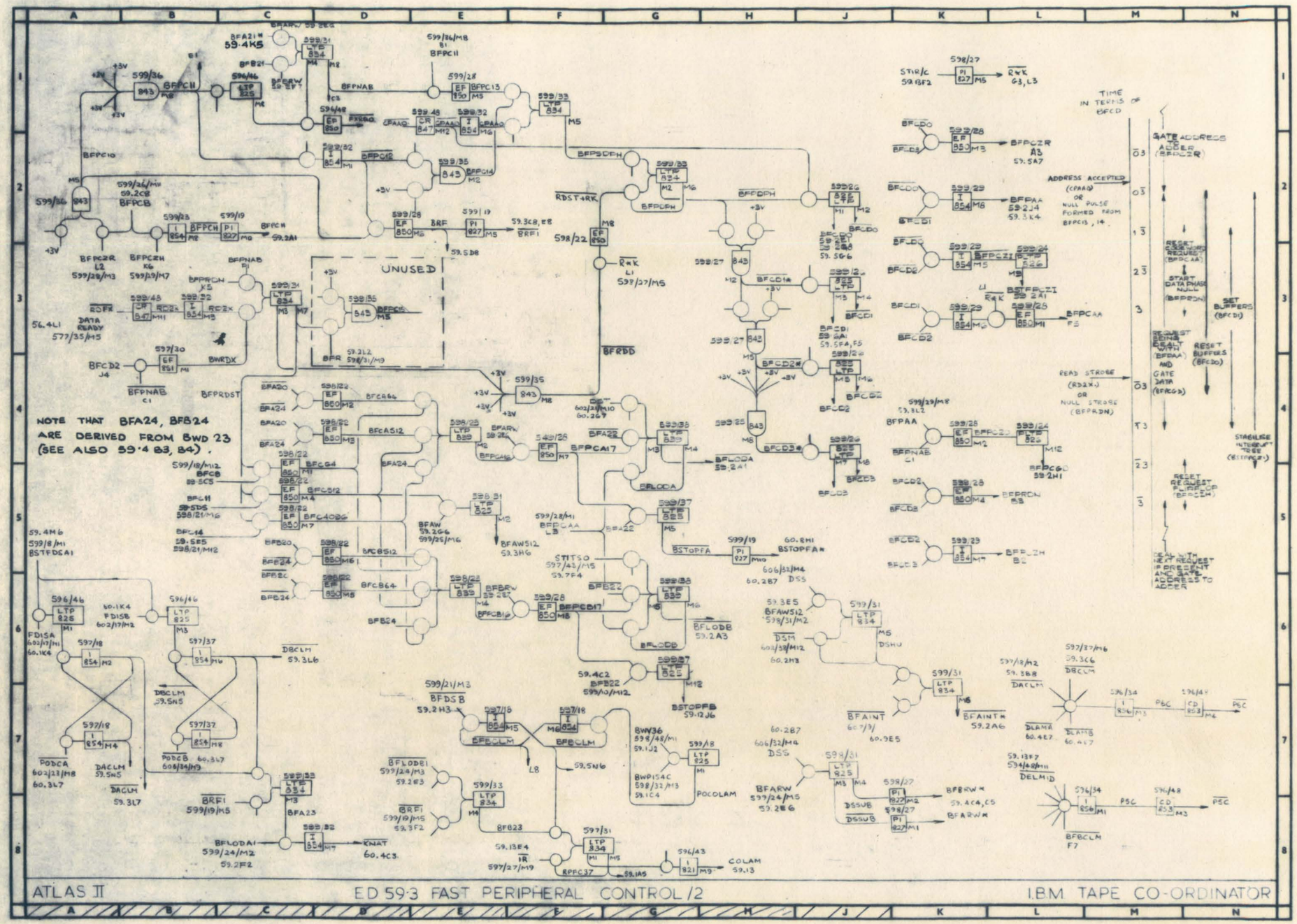
STBFPCR 7 STBFPDR 7								STBFPCR 8 STBFPDR 8							

ATLAS II

E.D 59.1 FAST PERIPHERAL CHANNELS . READ & WRITE HIGHWAYS

I.B.M. TAPE CONVERTER


ATLAS II
ED 59.2 FAST PERIPHERAL CONTROL/I
IBM TAPE COORDINATOR


NOTE THAT BFA24, BFB24 ARE DERIVED FROM BWD 23 (SEE ALSO 59·4 83, 84).
UNUSED
TIME IN TERMS OF BFCD
ATLAS II
ED 59·3 FAST PERIPHERAL CONTROL /2
I.B.M. TAPE CO-ORDINATOR

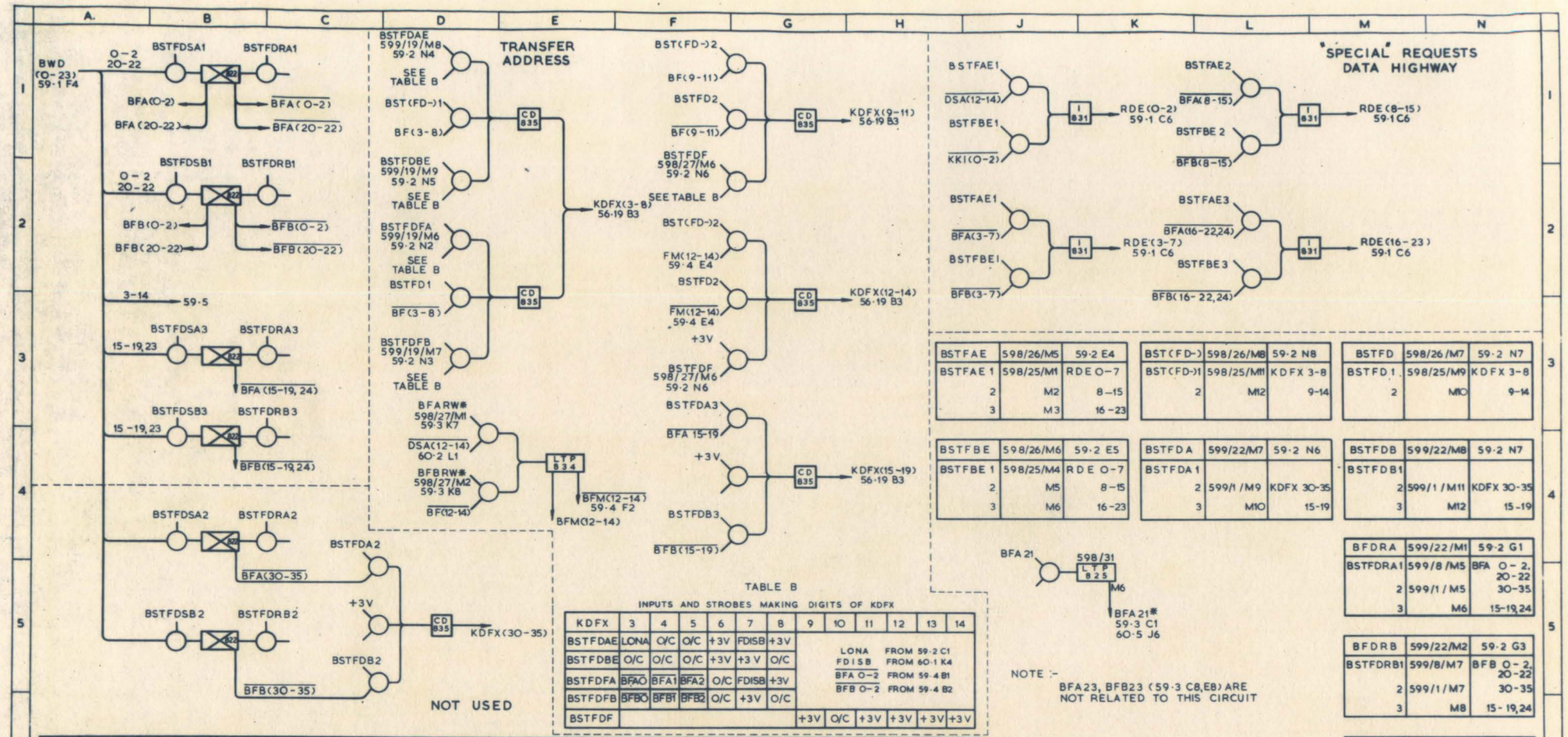


TABLE B

INPUTS AND STROBES MAKING DIGITS OF KDFX

KDFX	3	4	5	6	7	8	9	10	11	12	13	14
BSTFDAE	LONA	O/C	O/C	+3V	FDISB	+3V	LONA FROM 59·2 C1					
BSTFDBE	O/C	O/C	O/C	+3V	+3V	O/C	FDISB FROM 60·1 K4					
BSTFDFA	BFAO	BFA1	BFA2	O/C	FDISB	+3V	BFA O–2 FROM 59·4 B1					
BSTFDFB	BFBO	BFB1	BFB2	O/C	+3V	O/C	BFB O–2 FROM 59·4 B2					
BSTFDF							+3V	O/C	+3V	+3V	+3V	+3V

BSTFAE	598/26/M5	59·2 E4
BSTFAE 1	598/25/M1	RDE O–7
2	M2	8–15
3	M3	16–23

BST(FD-)	598/26/M8	59·2 N8
BST(FD-)1	598/25/M11	KDFX 3–8
2	M12	9–14

BSTFD	598/26/M7	59·2 N7
BSTFD 1	598/25/M9	KDFX 3–8
2	M10	9–14

BSTFBE	598/26/M6	59·2 E5
BSTFBE 1	598/25/M4	RDE O–7
2	M5	8–15
3	M6	16–23

BSTFDA	599/22/M7	59·2 N6
BSTFDA 1		
2	599/1 /M9	KDFX 30–35
3	M10	15–19

BSTFDB	599/22/M8	59·2 N7
BSTFDB1		
2	599/1 /M11	KDFX 30–35
3	M12	15–19

BFDRA	599/22/M1	59·2 G1
BSTFDRA1	599/8 /M5	BFA O – 2, 20–22
2	599/1 / M5	30–35
3	M6	15–19,24

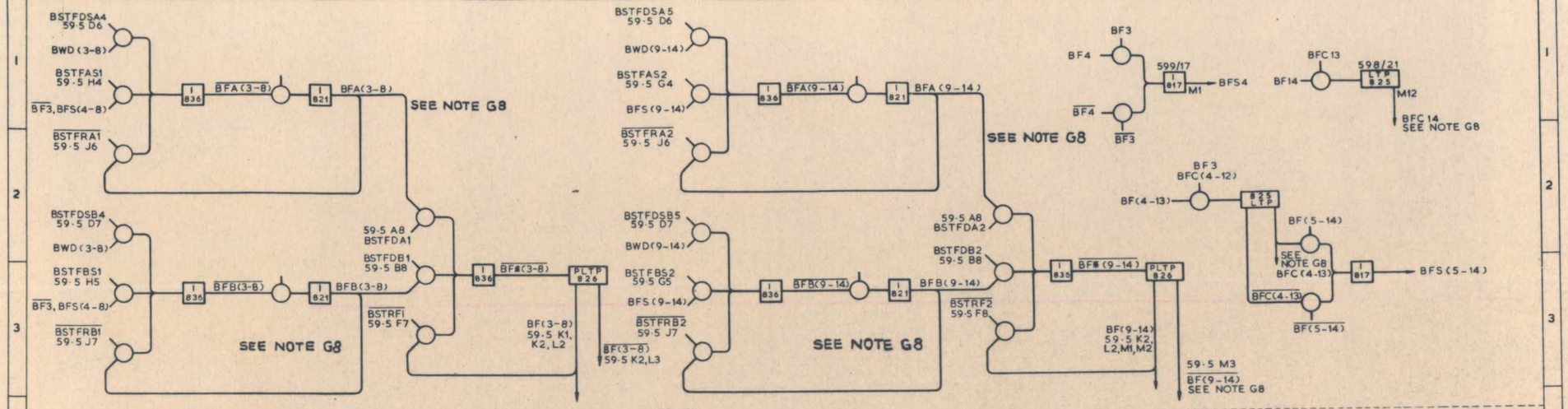
BFDRB	599/22/M2	59·2 G3
BSTFDRB1	599/8/M7	BFB O – 2, 20–22
2	599/1 / M7	30–35
3	M8	15–19,24

BFDSA	599/20/M1	59·2 J2
BSTFDSA1	599/8 /M1	BFA O – 2, 20–22
2	599/1 /M1	30–35
3	M2	15–19,24
4	599/8 /M2	3–8
5	M6	9–14

BFDSB	599/20/M2	59·2 J3
BSTFDSB1	599/8 / M3	BFB O – 2, 20–22
2	599/1 /M3	30–35
3	M4	15–19,24
4	599/8/M4	3–8
5	M8	9–14

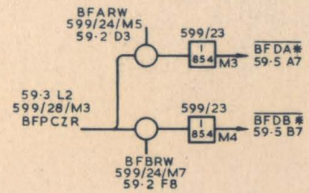
W.F.M.	PKGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	30	31	32	33	34	35
BWD	826	598/1								598/3						598/4						598/6					598/9					
		M2	M4	M6	M8		M10	M12		M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12		M2	M4	M6	M8	M10	M12
BFA	821a 822b	599/9b			599/14a						598/17a						599/3b			599/9b					599/3b		599/6b					
		M2	M4	M6	M1		M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M2	M4	M6	M8	M10	M8	M10	M12	M12		M2	M4	M6	M8	M10	M12
$\overline{BFA}$	836a 822b	599/9b			599/12a						598/15a						599/3b			599/9b					599/3b		599/6b					
		M1	M3	M5	M1		M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M3	M5	M7	M9	M7	M9	M11	M11		M1	M3	M5	M7	M9	M11
BFB	821a 822b	599/10b			599/14a						598/17a						599/4b			599/10b					599/4b		599/7b					
		M2	M4	M6	M2		M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M8	M10	M12	M12		M2	M4	M6	M8	M10	M12
$\overline{BFB}$	836a 822b	599/10b			599/13a						598/16a						599/4b			599/10b					599/4b		599/7b					
		M1	M3	M5	M1		M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6	M1	M3	M5	M7	M9	M7	M9	M11	M11		M1	M3	M5	M7	M9	M11
BF	826				599/16							598/19																				
					M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6												
KKI=	827	597/27																														
		M3	M5	M7																												
DSA	834													602/47																		
														M1	M2	M3																
BFM	834													597/31																		
														M2	M6	M3	M7	M4	M8													
RDE	831	599/40									599/41											599/42										
		M1	M5	M2	M6		M3	M7		M4	M8	M1		M5	M2	M6	M3	M7		M4	M8	M1	M5	M2	M6	M3	M7	M4	M8				
KDFX	835				598/14 & 599/11							598/24						599/2											599/5				
					M1		M2	M3		M4	M5	M6	M1	M2	M3		M4	M5	M6	M1	M2	M3	M4	M5					M1	M2	M3	M4	M5	M6

ATLAS 2 E.D. 59·4 FAST PERIPHERAL BUFFER & ADDRESS ROUTING. IBM CONVERTER



WFM	PKGE	3	4	5	6	7	8	9	10	11	12	13	14
BWD	826		598/1			598/3					598/4		
		M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6
$\overline{BFA}$	836		599/12					598/15					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
BFA	821		599/14					598/17					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11
$\overline{BFB}$	836		599/13					598/16					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
BFB	821		599/14					598/17					
		M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12
$\overline{BF\#}$	836		599/15					598/18					
		M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
BF	826		599/16					598/19					
		M1 $\overline{M2}$	M3 $\overline{M4}$	M5 $\overline{M6}$	M7 $\overline{M8}$	M9 $\overline{M10}$	M11 $\overline{M12}$	M1 $\overline{M2}$	M3 $\overline{M4}$	M5 $\overline{M6}$	M7 $\overline{M8}$	M9 $\overline{M10}$	M11 $\overline{M12}$
BFC	825			599/18				598/21					
			$\overline{M3}$ M4	$\overline{M5}$ M6	$\overline{M7}$ M8	M9 M10	$\overline{M11}$ M12	$\overline{M1}$ M2	$\overline{M3}$ M4	$\overline{M5}$ M6	$\overline{M7}$ M8	M9 M10	$\overline{M11}$ M12
BFS	817a 839b			599/17a				598/23b	598/20a				
			M1	M2	M3	M4	M5	M5	M1	M2	M3	M4	M5

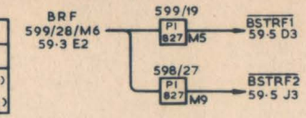
BWD 3-14 FROM 59-1. THIRD INPUT GATE TO 598/23/M5 (BFS 9) HELD OFF BY +3V

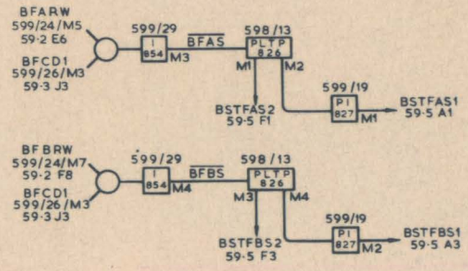


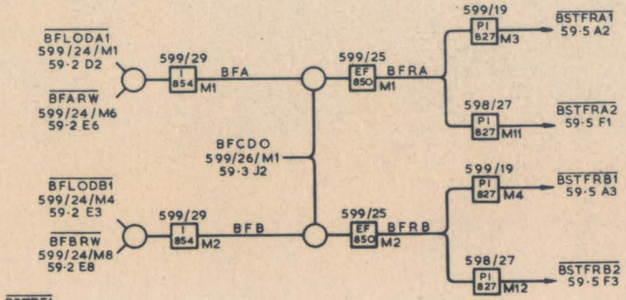
BFDSA	599/20/M1	59·2 J2
BSTFDSA4 5	599/8/M2 M6	BWD(3-8) (9-14)

BFDSB	599/20/M2	59·2 J3
BSTFDSB4 5	599/8/M4 M8	BWD(3-8) (9-14)

$\overline{BFDA\#}$	599/23/M3	59·5 B6	$\overline{BFDB\#}$	599/23/M4	59·5 B7
BFDA#	599/22/M3		BFDB#	599/22/M4	
BSTFDA1 2	599/8/M9 M10	BFA(3-8) (9-14)	BSTFDB1 2	599/8/M11 M12	BFB(3-8) (9-14)

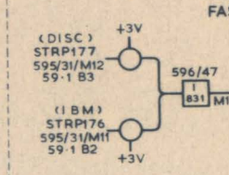






NOTE.
OUTPUTS OF THE CIRCUIT ARE
BFC8, 11, 14 TO 59·3 B5
BF3-14 TO 59·4 D1, D3, D4, F1
BFA, BFB 3-15 TO 59-4 J2, L1

FAST CHANNEL LOOK-AT-ME'S

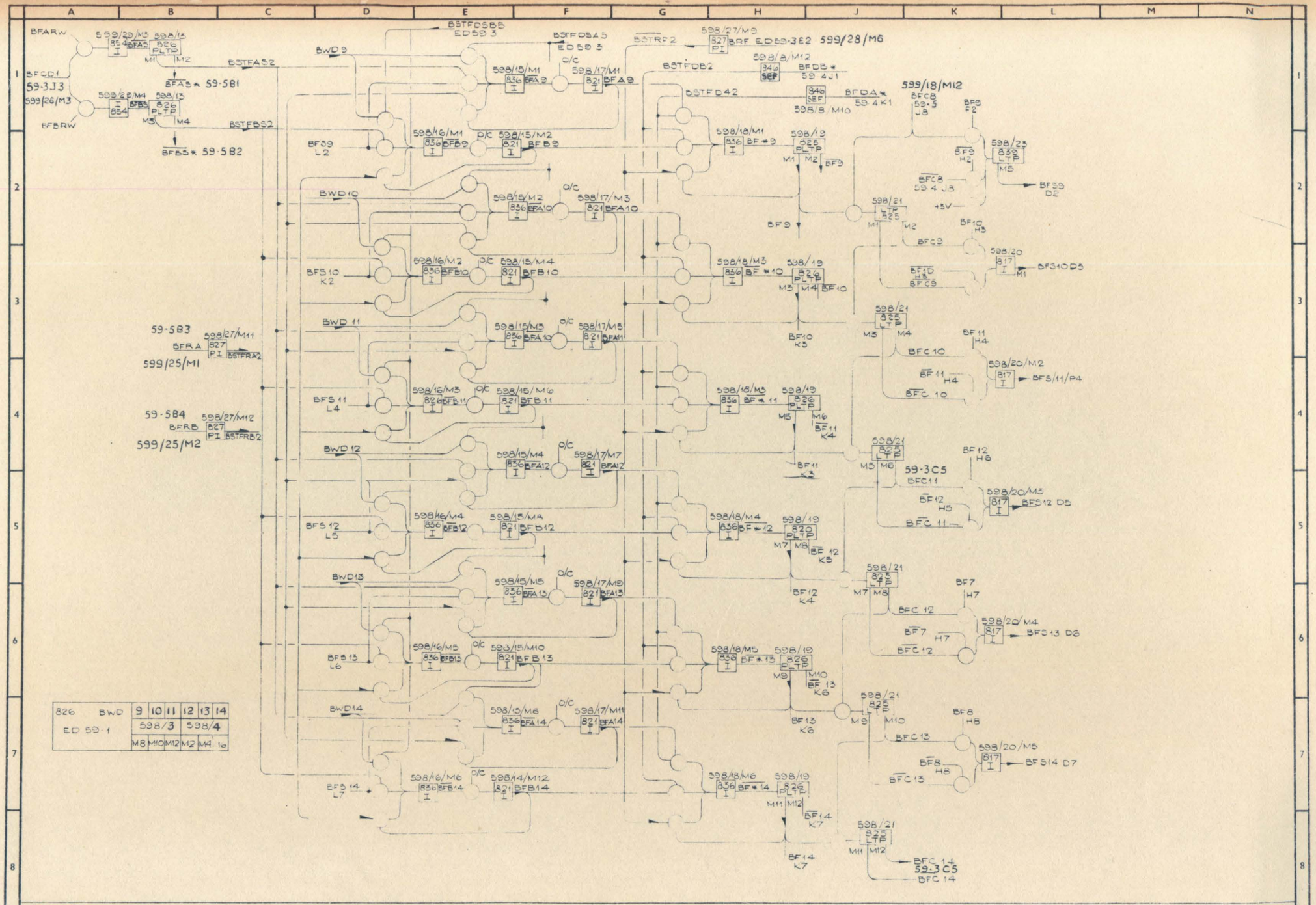


$\overline{RLV}$	24	25	26	27	28	29	30	31
596/47	M1	M5	M2	M6	M3	M7	M4	M8
STROBED WITH STRP177 STRP176	+3V +3V	+3V +3V	+3V DELMID	+3V +3V	DLAMB +3V	DLAMA +3V	DBCLM BFBCLM	DACLM +3V

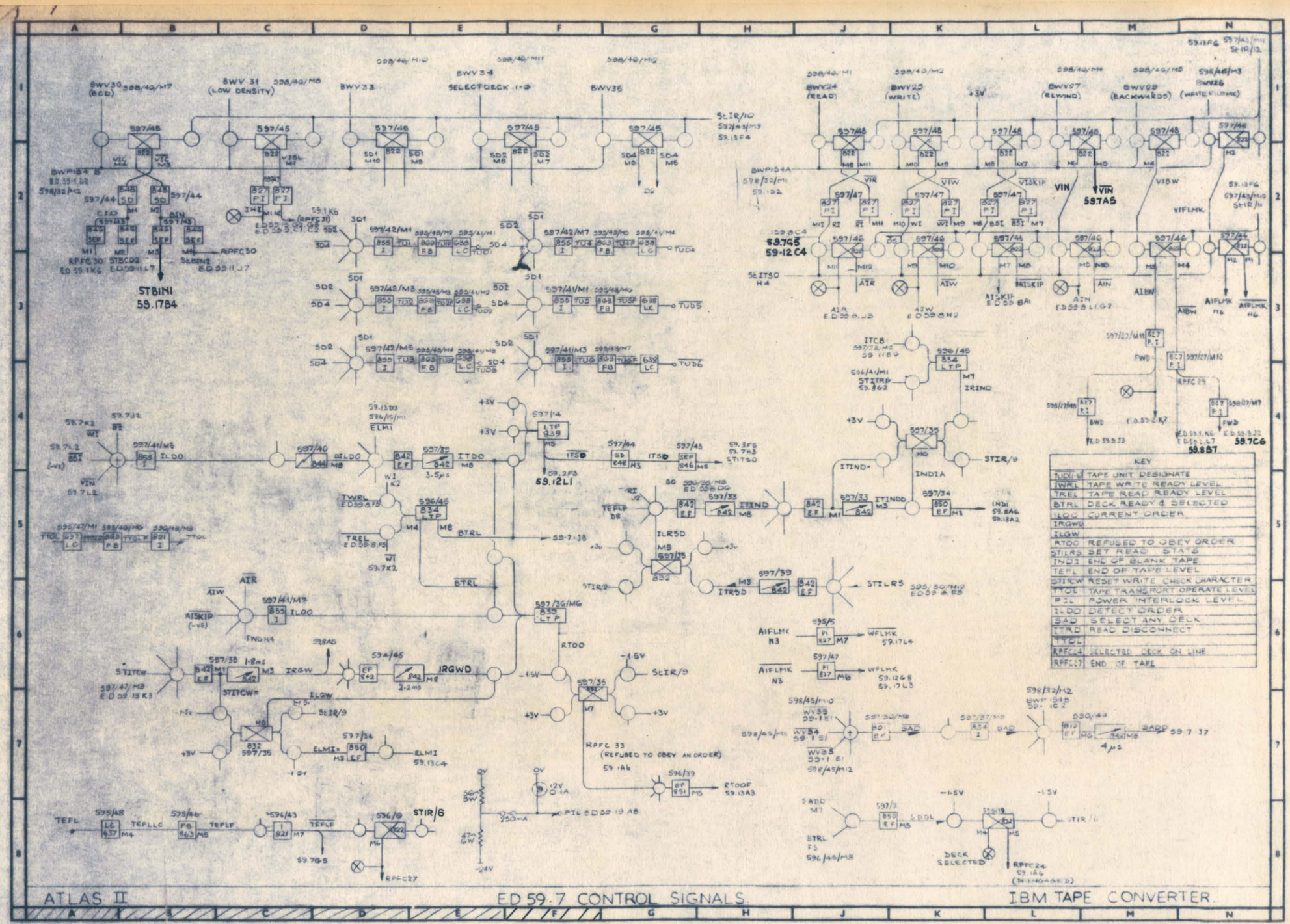
DELMID FROM 59·13 G8
DACLM, DBCLM FROM 59·3 B7
BFBCLM FROM 59·3 F7
DLAMA, DLAMB FROM 60·4 E7
$\overline{RLV}$ 24-31 TO 59·1A6

NOTE. STRP177, 176
THESE STROBE NAMES ARE DRIVEN FROM ADDRESSES 176 & 175 RESPECTIVELY.

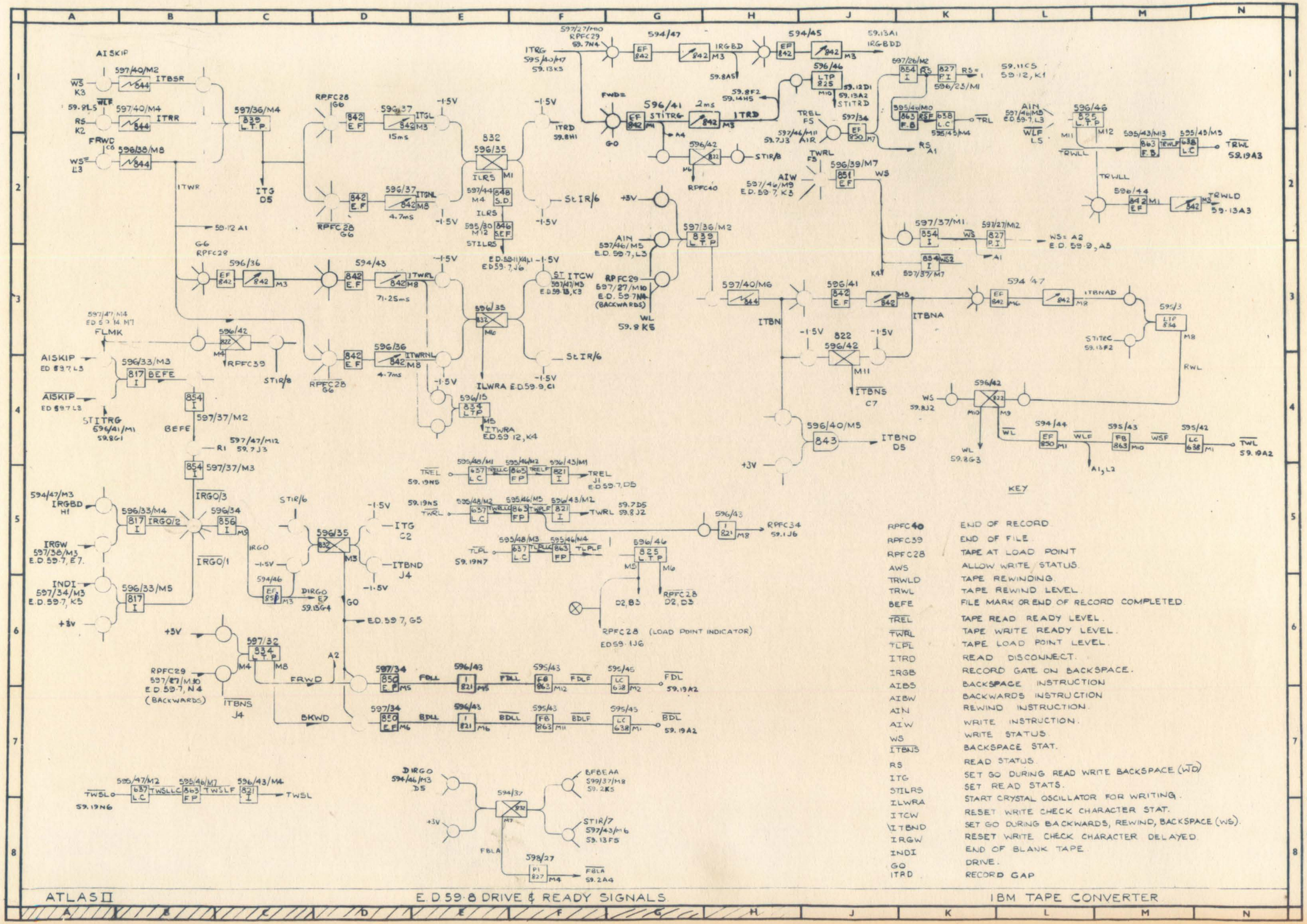
ATLAS 2 — 59·5 FAST PERIPHERAL HALF-ADDER. — IBM CONVERTER

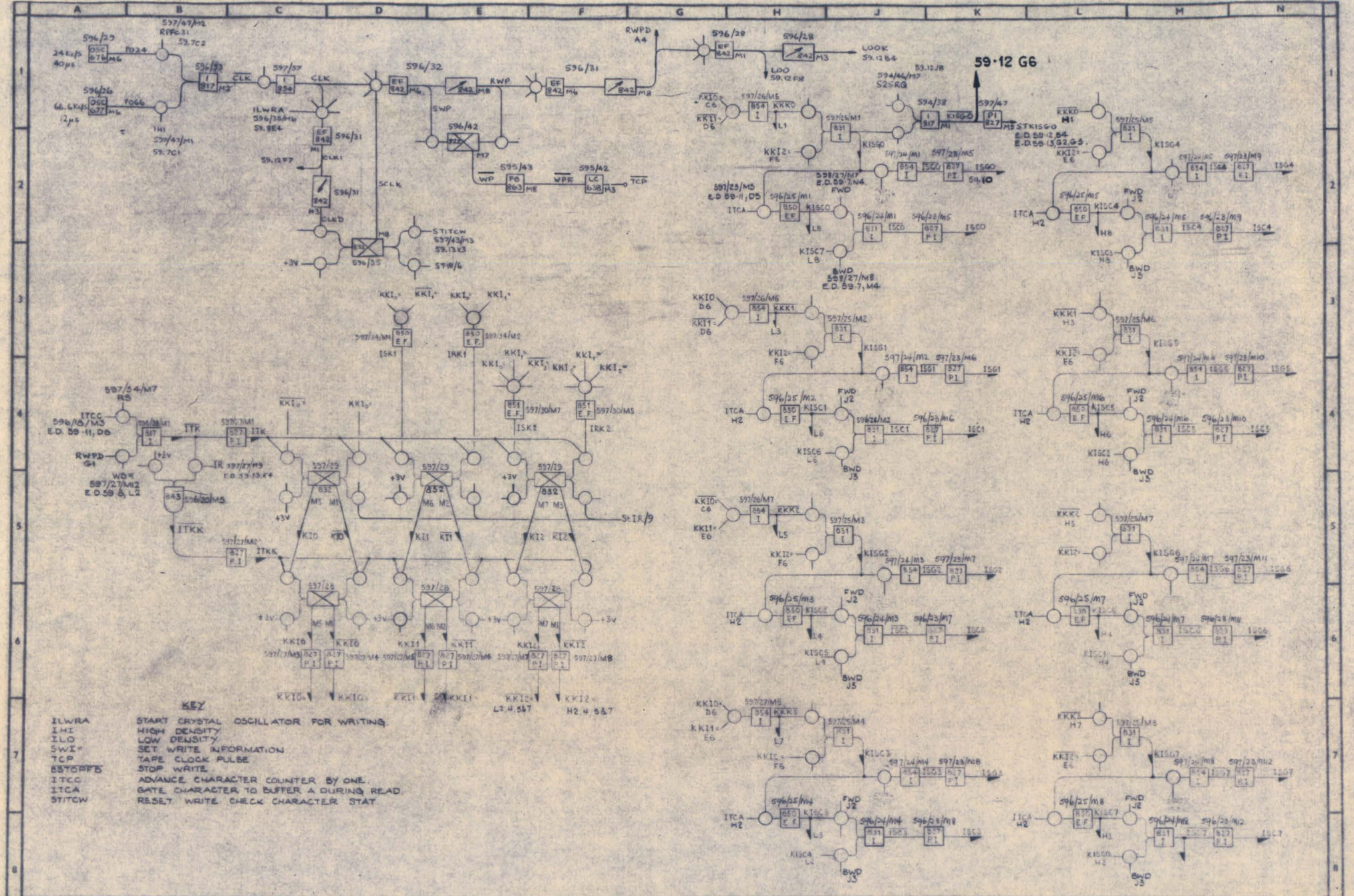


ATLAS II — ED596 FAST PERIPHERAL HALF ADDER 2 — IBM TAPE CONVERTER

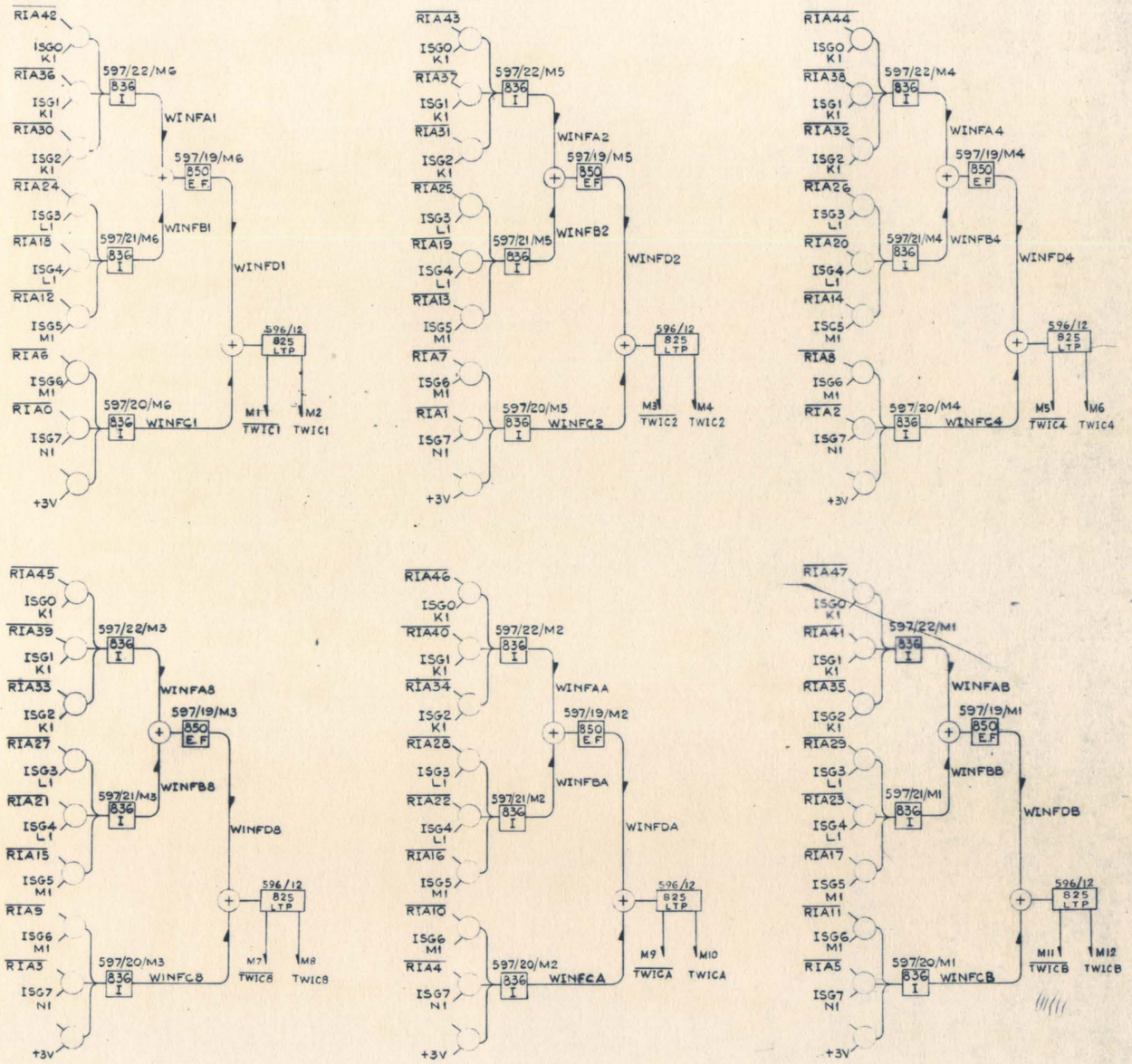


ATLAS II — ED 59.7 CONTROL SIGNALS — IBM TAPE CONVERTER


AISKIP
597/40/M2
ITBSR
WS K3
59.9L5
597/40/M4
ITRR
RS K2
FRWD C6
596/38/M8
WS L3
597/36/M4
839 L.T.P.
ITG D5
59.12 A1
RPFC28 G6
596/37
ITGL
15ms
596/37
ITGNL
4.7ms
596/35
832
ILRS M1
597/44 M4
848 S.D.
595/30 M12
846 S.E.F.
STILRS
ED.59.11 K4, L1
ED 59.7, L6
-1.5V
ITRD 59.8H1
GO
StIR/6
596/36
842 E.F.
842 M3
594/43
842 M8
71.25ms
ITWRL
596/36
842 M8
4.7ms
ITWRNL
596/35
832 M6
ILWRA ED.59.9, C1
596/15
834 L.T.P.
M5
ITWRA ED.59.12, K4
StIR/6
597/47/M4 ED 59.14, M7
FLMK
596/42
822 M4
RPFC39
STIR/8
AISKIP ED 59.7 L3
596/33/M3
817 I
BEFE
AISKIP ED 59.7 L3
STITRG 596/41/M1 59.8G1
854 I
597/37/M2
BEFE
597/47/M12 59.7 J3
R1
854 I
597/37/M3
IRGO/3
IRGO/2
IRGO/1
IRGO
594/47/M3 IRGBD H1
596/33/M4
817 I
596/34
856 I M3
IRGW 597/36/M3 E.D. 59-7, E7.
INDI 597/34/M3 E.D. 59-7, K5
596/33/M5
817 I
+8V
+5V
597/32
834 L.T.P.
M4
M8
RPFC29 597/87/M10 E.D. 59-7, N4 (BACKWARDS)
ITBNS J4
FRWD
BKWD
A2
-1.5V
594/46
DIRGO E7
59.15G4
596/35
832 M3
ITG C2
ITBND J4
GO
E.D. 59 7, G5
597/34
850 E.F. M5
596/43
821 M5
595/43
FB 863 M12
595/46
LC 638 M2
FDL
59.19A2
597/34
850 E.F. M6
596/43
821 M6
595/43
FB 863 M11
595/43
LC 638 M1
BDL
59.19A2
597/27/M10 RPFC29 59.7N4
ITRG 595/40/M7 59.13K5
594/47
IRGBD M3
59.8A5
594/45
842 M3
59.13A1 IRGBDD
596/46
825 L.T.P. M10
59.12D1 59.13A2 STITRD
59.8F2 59.14H5
FWD=
596/41
STITRG
2ms
ITRD
M5
A4
596/42
822 M6
STIR/8
RPFC40
597/26/M2
854 I
827 PI
RS=1
596/23/M1
595/46/M10
863 F.B.
858 L.C.
595/45/M4
TRL
RS A1
TREL FS
597/46/M11 A1R 59.7J3
597/34
950 M7
TWRL FS
596/39/M7
851 E.F.
WS
AIW 597/46/M9 E.D. 59.7 K3
AIN 597/46/M5 E.D. 59.7, L3
597/36/M2
839 L.T.P.
RPFC29 597/27/M10 E.D. 59.7N4 (BACKWARDS)
WL 59.9 K5
597/37/M1
854 I
597/27/M2
827 PI
WS= A2 E.D. 59-9, A5
A1
597/37/M7
854 I
WS2
K4
597/40/M6
844
ITBN
596/41
842 E.F.
842 M5
ITBNA
594/47
842 M6
842 M8
ITBNAD
595/3
LTP 854
M8
RWL
-1.5V
822
596/42
M11
ITBNS C7
596/42
822 M10
M9
WS 59.8J2
WL 59.8G3
596/40/M5
843
ITBND D5
+3V
594/44
850 E.F. M1
WLF
595/43
FB 863 M10
WSF
595/42
LC 638 M1
TWL 59.19A2
A1, L2
596/46
825 L.T.P.
M11
M12
595/43/M3
863 F.B.
TRWLF
638 L.C.
TRWL 59.19A3
TRWLL
596/44
842 E.F. M1
842 M3
TRWLD 59.13A3
AIN 597/46/M5 E.D. 59-7, L3
WLF L5
595/48/M1
637 L.C.
595/46/M2
863 F.P.
TRELF
596/43/M1
821 I
TREL J1 E.D. 59-7, D5
59.19N5
595/48/M2
637 L.C.
595/46/M5
863 F.P.
TWRLF
596/43/M2
821 I
59.7D5 59.8J2
TWRL
596/43
821 I M8
RPFC34 59.1J6
595/48/M3
637 L.C.
595/46/M4
863 F.P.
TLPLF
TLPL 59.19N7
596/46
825 L.T.P.
M5
M6
D2, B3
D2, D3
RPFC28 (LOAD POINT INDICATOR)
ED59.1J6
595/46/M7
637 L.C.
TWSLLC
863 F.P.
TWSLF
596/43/M4
821 I
TWSL
TWSLO 59.19N6
DIRGO 594/46/M3 D5
+3V
594/37
850 M7
FBLA
BFBEAA 599/37/M8 59.2K5
STIR/7 597/43/M6 59.13F5
598/27
PI 827 M4
FBLA 59.2A4
KEY
RPFC40 END OF RECORD
RPFC39 END OF FILE
RPFC28 TAPE AT LOAD POINT
AWS ALLOW WRITE STATUS
TRWLD TAPE REWINDING
TRWL TAPE REWIND LEVEL
BEFE FILE MARK OR END OF RECORD COMPLETED
TREL TAPE READ READY LEVEL
TWRL TAPE WRITE READY LEVEL
TLPL TAPE LOAD POINT LEVEL
ITRD READ DISCONNECT
IRGB RECORD GATE ON BACKSPACE
AIBS BACKSPACE INSTRUCTION
AIBW BACKWARDS INSTRUCTION
AIN REWIND INSTRUCTION
AIW WRITE INSTRUCTION
WS WRITE STATUS
ITBNS BACKSPACE STAT.
RS READ STATUS
ITG SET GO DURING READ WRITE BACKSPACE (WD)
STILRS SET READ STATS
ILWRA START CRYSTAL OSCILLATOR FOR WRITING
ITCW RESET WRITE CHECK CHARACTER STAT.
ITBND SET GO DURING BACKWARDS, REWIND, BACKSPACE (WS)
IRGW RESET WRITE CHECK CHARACTER DELAYED
INDI END OF BLANK TAPE
GO DRIVE
ITRD RECORD GAP
9-1-64
ATLAS II
E.D 59-8 DRIVE & READY SIGNALS
IBM TAPE CONVERTER



ATLAS II E.D. 59.9 WRITE CONTROL AND CHARACTER COUNT. I.B.M. TAPE CONVERTER

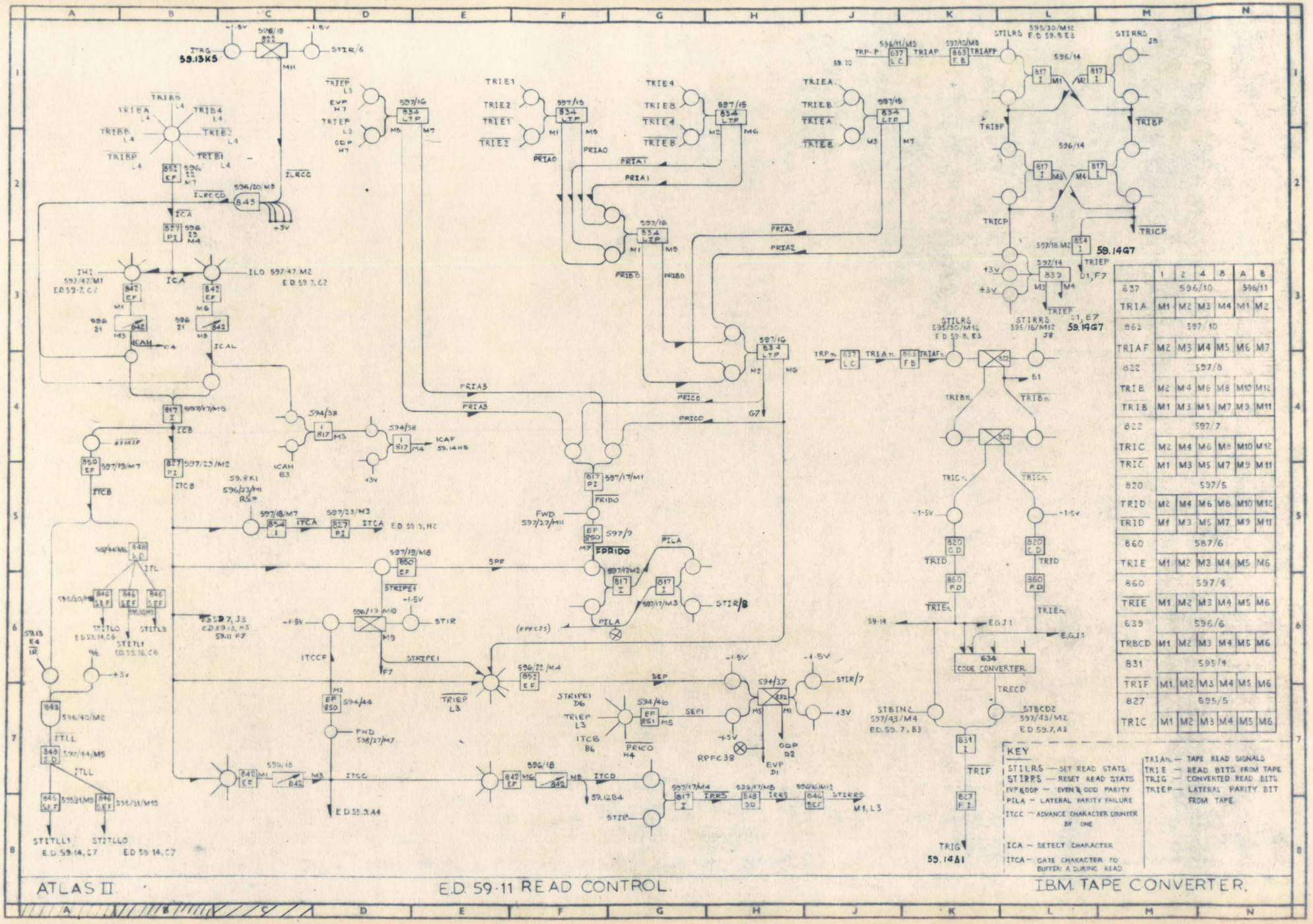


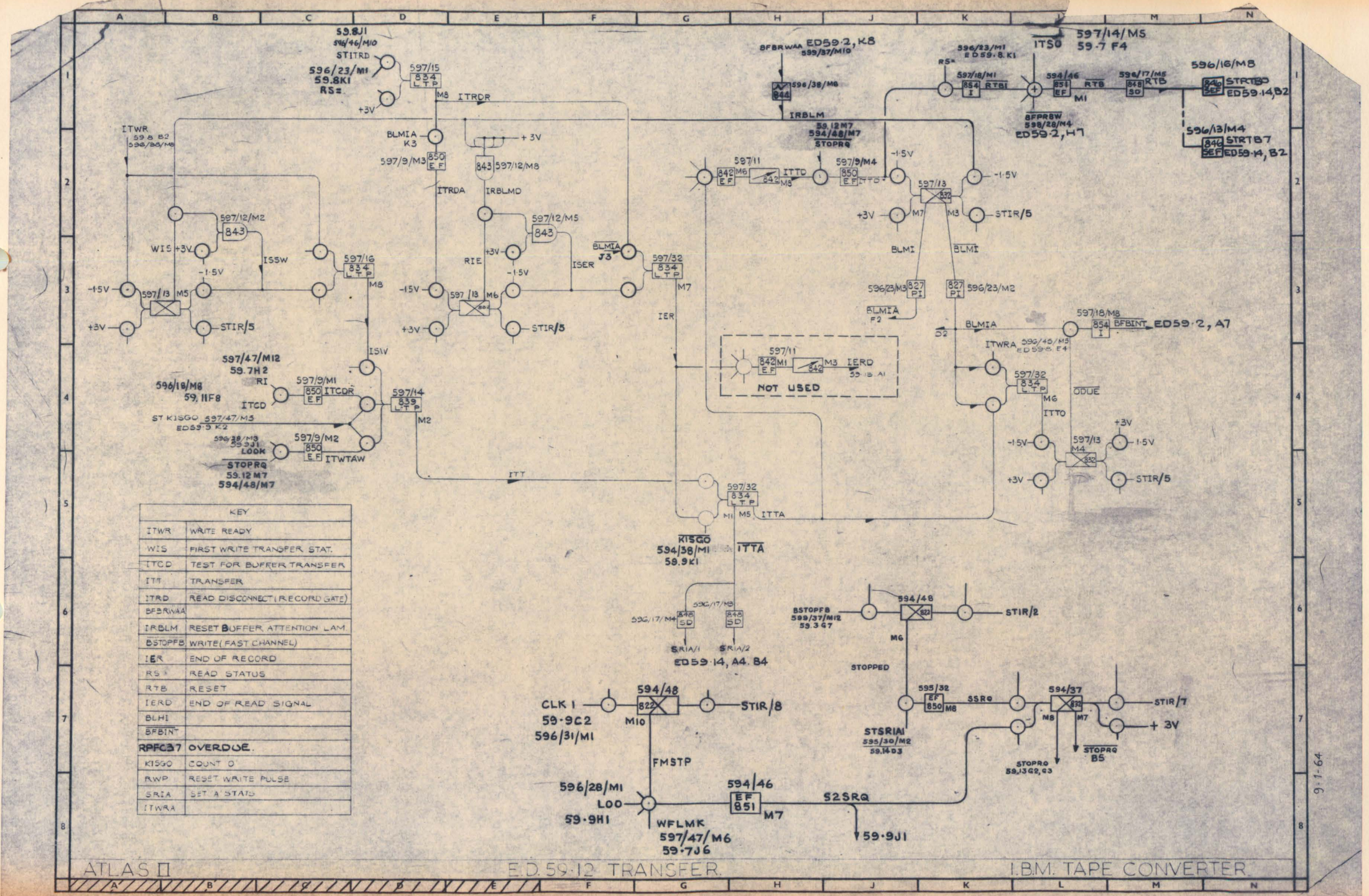
	0	1	2	3	4	5	6	7
ISG	597/23/M5 59·9 K2	597/23/M6 59·9 K4	597/23/M7 59·9 K5	597/23/M8 59·9 K7	597/23/M9 59·9 N2	597/23/M10 59·9 N4	597/23/M11 59·9 N5	597/23/M12 59·9 N7

NOTE: RIA WAVEFORMS ORIGINATE FROM E.D. 59·14
ISG. WAVEFORMS ORIGINATE FROM E.D. 59·9
$\overline{\text{TWIC}}$ WAVEFORMS TO E.D. 59·17

9-1-64

ATLAS II — E.D 59·10 WRITE BYTES. — IBM TAPE CONVERTER

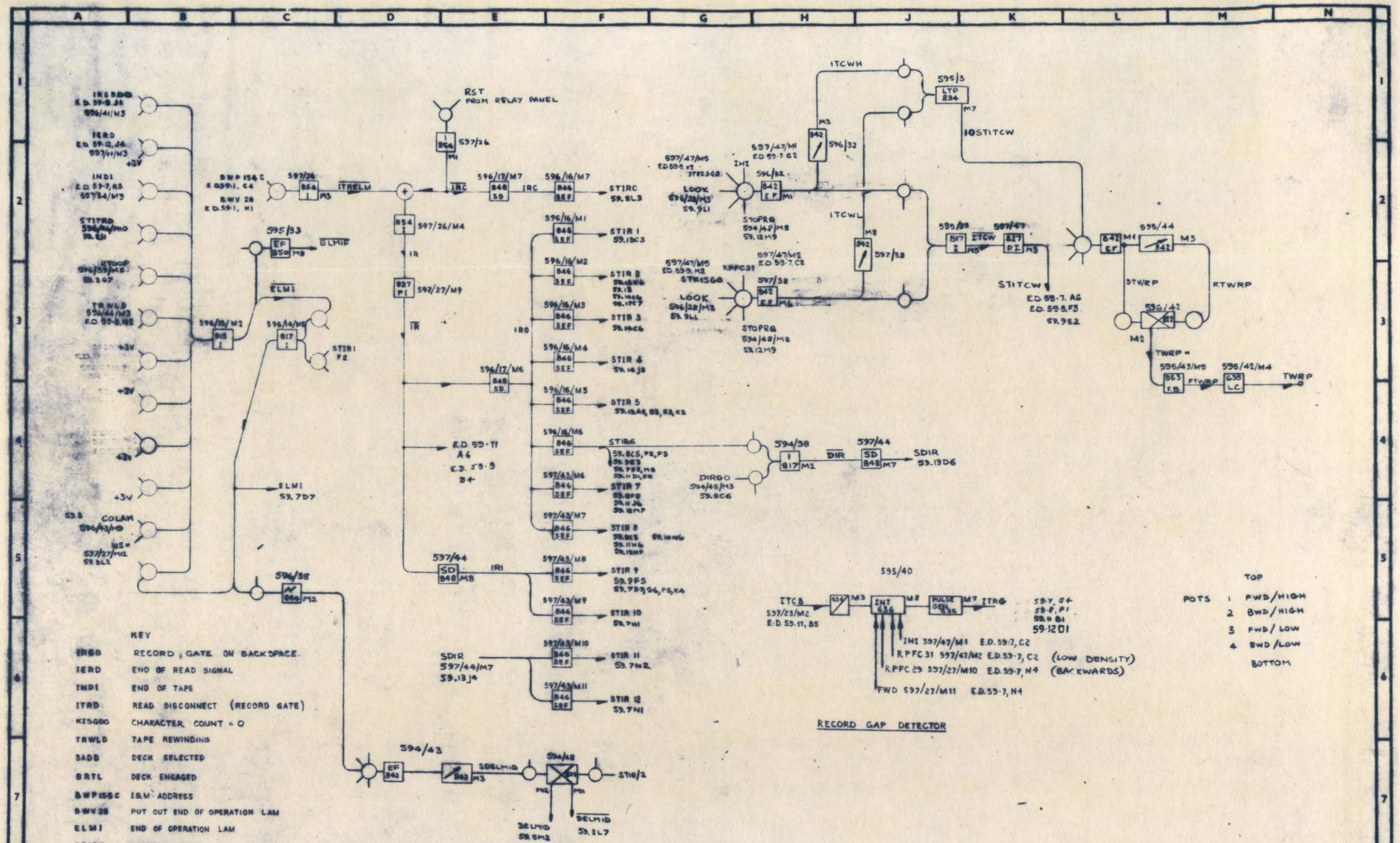

ATLAS II.
E.D. 59-11 READ CONTROL.
I.B.M. TAPE CONVERTER.
KEY
STILRS — SET READ STATS
STIRRS — RESET READ STATS
EVP & ODP — EVEN & ODD PARITY
PILA — LATERAL PARITY FAILURE
ITCC — ADVANCE CHARACTER COUNTER BY ONE
ICA — DETECT CHARACTER
ITCA — GATE CHARACTER TO BUFFER A DURING READ
TRIA n — TAPE READ SIGNALS
TRIE — READ BITS FROM TAPE
TRIG — CONVERTED READ BITS
TRIEP — LATERAL PARITY BIT FROM TAPE.
634 CODE CONVERTER
59.14A1
59.14G7
59.13K5



KEY	
ITWR	WRITE READY
WIS	FIRST WRITE TRANSFER STAT.
ITCD	TEST FOR BUFFER TRANSFER
ITT	TRANSFER
ITRD	READ DISCONNECT (RECORD GATE)
BFBRWAA	
IRBLM	RESET BUFFER ATTENTION LAM
BSTOPFB	WRITE (FAST CHANNEL)
IER	END OF RECORD
RS=	READ STATUS
RTB	RESET
IERD	END OF READ SIGNAL
BLHI	
BFBINT	
RPFC37	OVERDUE.
KISGO	COUNT 0
RWP	RESET WRITE PULSE
SRIA	SET A STATS
ITWRA	

ATLAS II — E.D. 59-12 TRANSFER — I.B.M. TAPE CONVERTER

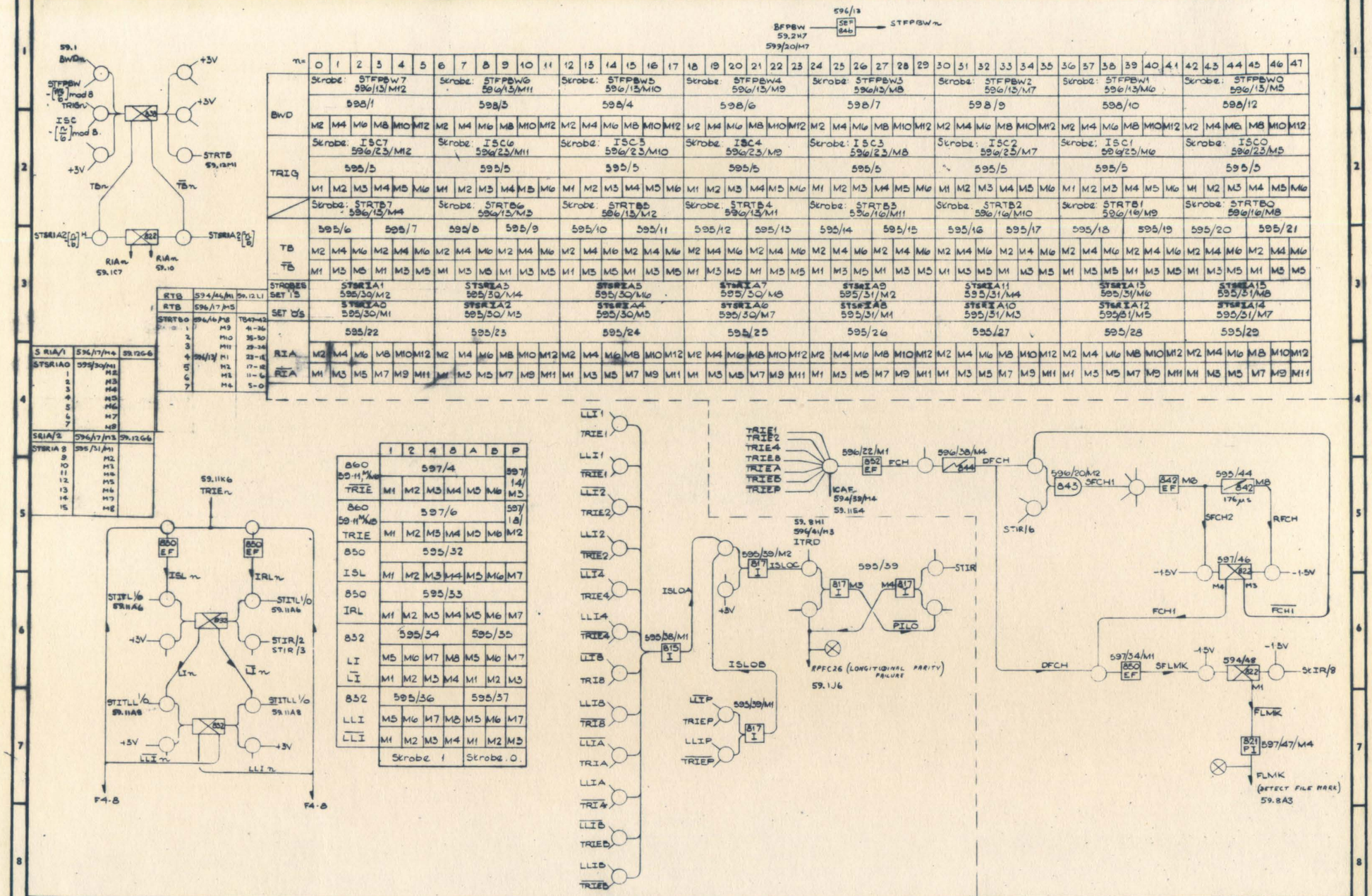
9-1-64



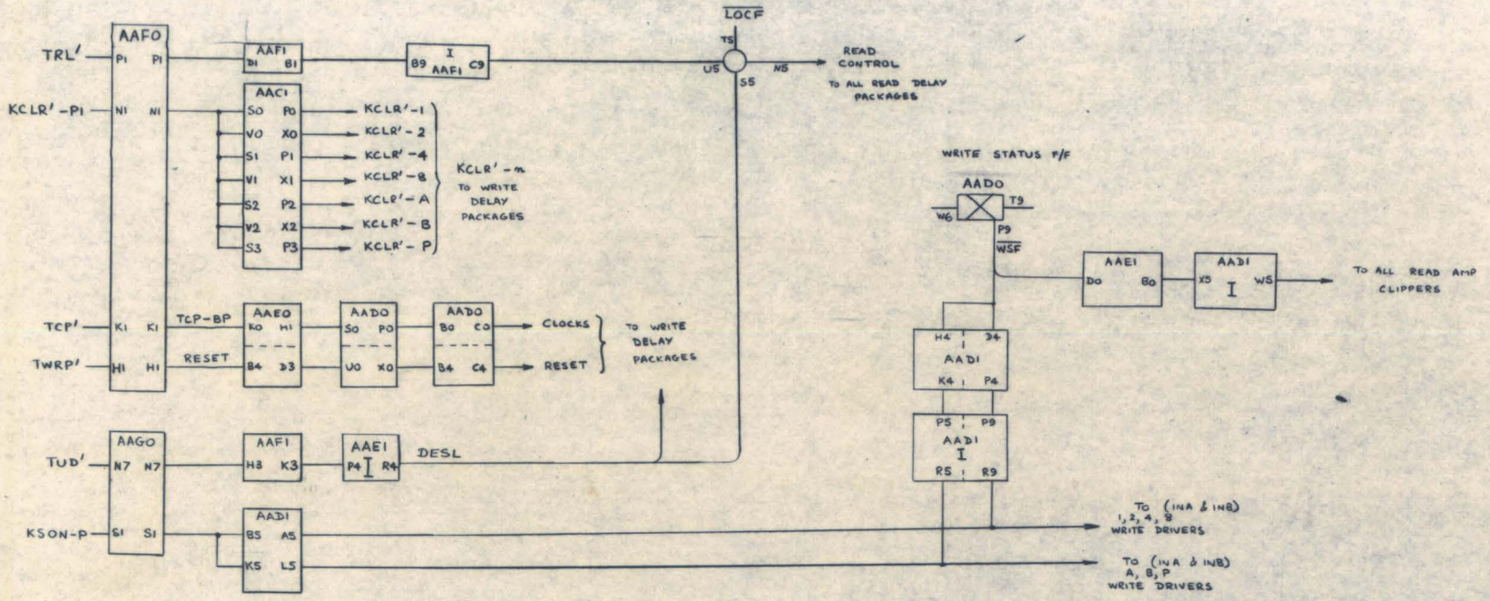
KEY

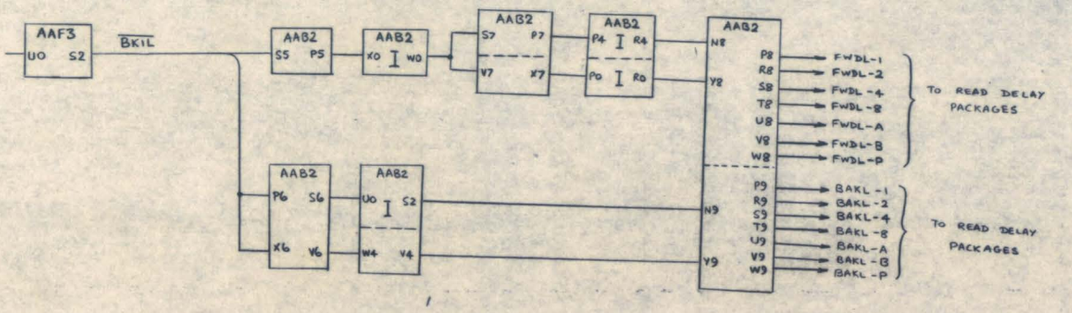
IRGB	RECORD GATE ON BACKSPACE
IERD	END OF READ SIGNAL
INDI	END OF TAPE
ITRD	READ DISCONNECT (RECORD GATE)
KISGOO	CHARACTER COUNT = 0
TRWLD	TAPE REWINDING
SADB	DECK SELECTED
BRTL	DECK ENGAGED
BWP156C	I.B.M. ADDRESS
BWV28	PUT OUT END OF OPERATION LAM
ELMI	END OF OPERATION LAM
STIRC	CONSOLE RESET
STIR	I.B.M. RESET
BSTOPRB	STOP WRITE.
RWP	RESET WRITE PULSE.
STITCW	SET WRITE CHECK CHARACTER
TWRP	TAPE WRITE RESET PULSE
IHI/ILO	HIGH/LOW DENSITY

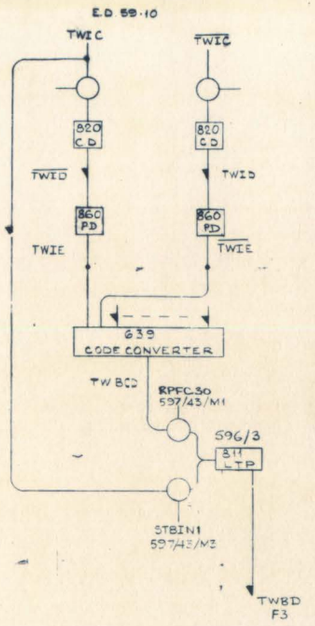
ATLAS II — E.D. 59.13 END OF ORDER & WRITE LONGITUDINAL CHECK CHARACTER — I.B.M. TAPE CONVERTER



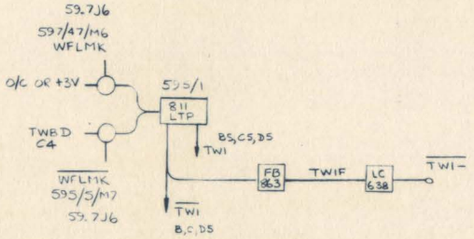
ATLAS II — E.D.59·14 TWO-STAGE BUFFER, FILE MARK & LONGITUDINAL PARITY — I.B.M. TAPE CONVERTER.

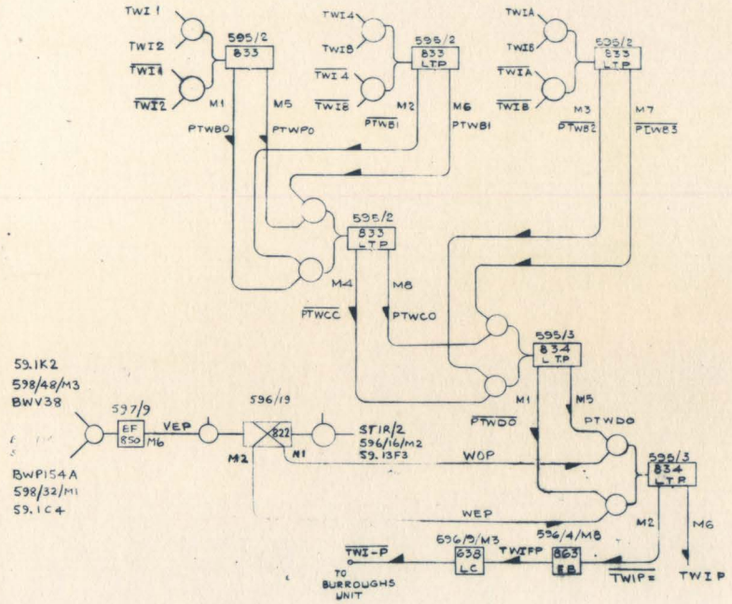

AAFO
TRL'
KCLR'-P1
TCP'
TWRP'
TUD'
KSON-P
AAF1
AAC1
KCLR'-1
KCLR'-2
KCLR'-4
KCLR'-8
KCLR'-A
KCLR'-B
KCLR'-P
KCLR'-m TO WRITE DELAY PACKAGES
AAE0
TCP-BP
RESET
AADO
CLOCKS
RESET
TO WRITE DELAY PACKAGES
AAGO
AAE1
DESL
LOCF
READ CONTROL
TO ALL READ DELAY PACKAGES
WRITE STATUS F/F
AADO
WSF
AAE1
AADI
TO ALL READ AMP CLIPPERS
TO (INA & INB) 1, 2, 4, 8 WRITE DRIVERS
TO (INA & INB) A, B, P WRITE DRIVERS


AAF3
BKIL
AAB2
FWDL-1
FWDL-2
FWDL-4
FWDL-8
FWDL-A
FWDL-B
FWDL-P
TO READ DELAY PACKAGES
BAKL-1
BAKL-2
BAKL-4
BAKL-8
BAKL-A
BAKL-B
BAKL-P
TO READ DELAY PACKAGES

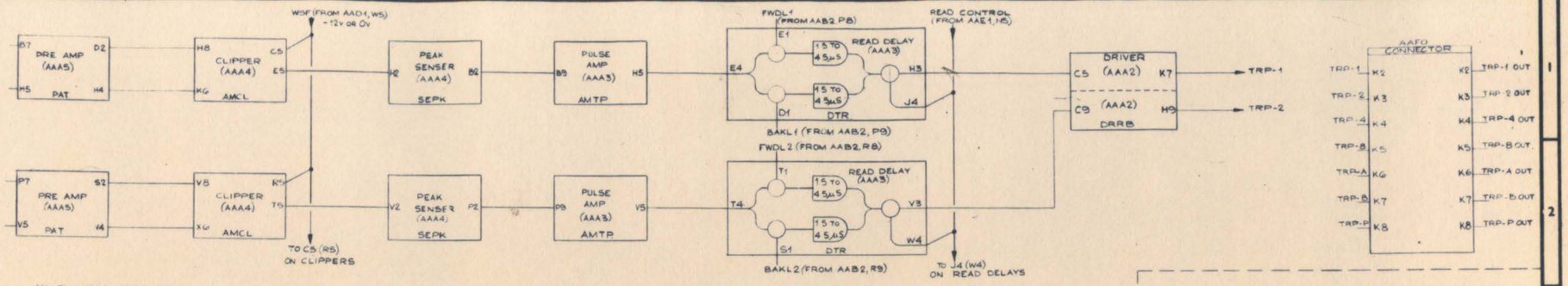


	1	2	4	8	A	B	P
820	597/2						
TWID	M2	M4	M6	M8	M10	M12	
$\overline{\text{TWID}}$	M1	M3	M5	M7	M9	M11	
860	597/3						
TWIE	M1	M2	M3	M4	M5	M6	
860	597/1						
$\overline{\text{TWIE}}$	M1	M2	M3	M4	M5	M6	
639	596/1						
TWBCD	M1	M2	M3	M4	M5	M6	
811	596/3						
TWBD	M1	M3	M5	M7	M9	M11	
811	595/1						595/3
TWI	M1	M3	M5	M7	M9	M11	M6
$\overline{\text{TWI}}$	M2	M4	M6	M8	M10	M12	M2
GATED WITH WFLMK	o/c	o/c	o/c	o/c	+3V	+3V	
863	596/4						
TWIF	M2	M3	M4	M5	M6	M7	M8
638	596/5				596/9		
$\overline{\text{TWI}}$-	M1	M2	M3	M4	M1	M2	M3





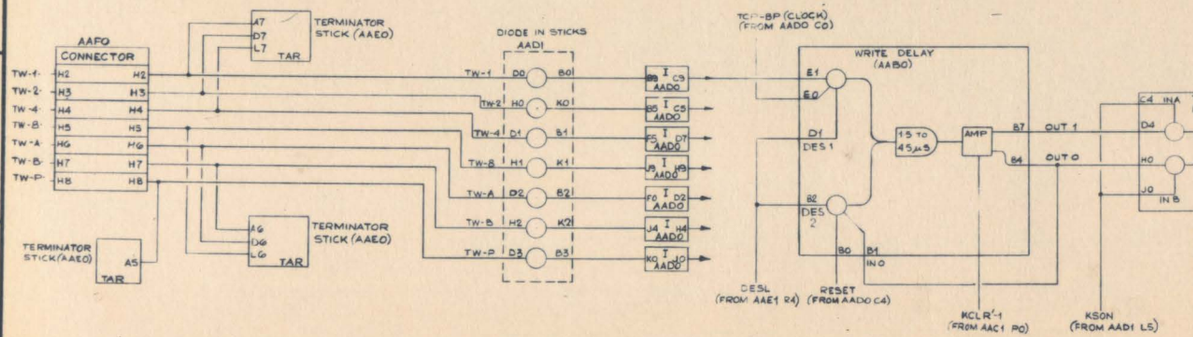
ATLAS II E.D. 59·17 WRITE CODE CONVERSION & PARITY GENERATION IBM TAPE CONVERTER.



ALL PACKAGES PREFIXED AA

	PRE AMP			CLIPPER				PEAK SENSER			PULSE AMP			READ DELAY									DRIVER			FWDLn & BAKLn			
	PACKAGE	IN	OUT	PACKAGE	IN	OUT	WSF	PACKAGE	IN	OUT	PACKAGE	IN	OUT	PACKAGE	IN	OUT	READCONTR	FWDL n		BAKL n			PACKAGE	IN	OUT	NO	PACKAGE	FWDL n OUT	BAKL n OUT
TRK 1	A5	B7, H5	D2, H4	A4	H8, K6	E5	C5	A4	H2	B2	A3	B9	H5	A3	E4	H3	J4	FWDL 1	E1	BAKL 1	D1		A2	C5	K7	1	AAB2	P8	P9
TRK 2	A5	P7, V5	S2, V4	A4	V8, X6	T5	R5	A4	V2	P2	A3	P9	V5	A3	T4	V3	W4	FWDL 2	T1	BAKL 2	S1		A2	C9	H9	2	AAB2	R8	R9
TRK 4	B5	B7, H5	D2, H4	B4	H8, V6	E5	C5	B4	H2	B2	B3	B9	H5	B3	E4	H3	J4	FWDL 4	E1	BAKL 4	D1		B2	C5	K7	4	AAB2	S8	S9
TRK 8	B5	P7, V5	S2, V4	B4	V8, X6	T5	R5	B4	V2	P2	B3	P9	V5	B3	T4	V3	W4	FWDL 8	T1	BAKL 8	S1		B2	C9	H9	8	AAB2	T8	T9
TRK A	C5	B7, H5	D2, H4	C4	H8, V6	E5	C5	C4	H2	B2	C3	B9	H5	C3	E4	H3	J4	FWDL A	E1	BAKL A	D1		C2	C5	K7	A	AAB2	U8	U9
TRK B	C5	P7, V5	S2, V4	C4	V8 X6	T5	R5	C4	V2	P2	C3	P9	V5	C3	T4	V3	W4	FWDL B	T1	BAKL B	S1		C2	C9	H9	B	AAB2	V8	V9
TRK P	D5	B7, H5	D2, H4	D4	H8, V6	E5	C5	D4	H2	B2	D3	B9	H5	D3	E4	H3	J4	FWDL P	E1	BAKL P	D1		D2	C5	K7	P	AAB2	W8	W9

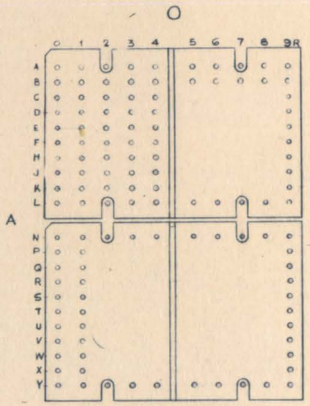
READ DATA PATH



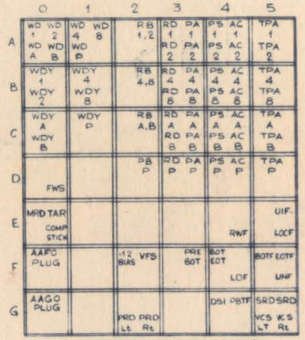
ALL PACKAGES PREFIXED BY AA

	WRITE DELAY										TAPE WRITE DRIVER								KCLRn		
	PACKAGE	TCP-BP	DESL DES 1	DESL DES 2	RESET	TWn	IN '0'	KCLRn	OUT '0'	OUT '1'	KSON IN 'A'	KSON IN 'B'	IN '1'	IN '0'	WTCOIL '1'	WTCOIL '0'	CENTRE TAP	PACKAGE	NO	PACKAGE	OUT
TW-1	B0	E0	D1	B2	B0	E1	B1	E4	B4	B7	C4	J0	D4	H0	H4	D0	F1	A0	KCLR-1	C1	P0
TW-2	B0	T0	S1	P2	P0	T1	P1	T4	P4	P7	C9	J5	D9	H5	H9	D5	F6	A0	KCLR-2	C1	X0
TW-4	B1	E0	D1	B2	B0	E1	B1	E4	B4	B7	C4	J0	D4	H0	H4	D0	F1	A1	KCLR-4	C1	P1
TW-8	B1	T0	S1	P2	P0	T1	P1	T4	P4	P7	C9	J5	D9	H5	H9	D5	F6	A1	KCLR-8	C1	X1
TW-A	C0	E0	D1	B2	B0	E1	B1	E4	B4	B7	C4	J0	D4	H0	H4	D0	F1	A0	KCLR-A	C1	P2
TW-B	C0	T0	S1	P2	P0	T1	P1	T4	P4	P7	C9	J5	D9	H5	H9	D5	F6	A0	KCLR-B	C1	X2
TW-P	C1	E0	D1	B2	B0	E1	B1	E4	B4	B7	C4	J0	D4	H0	H4	D0	F1	A1	KCLR-P	C1	P3

WRITE DATA PATH



PACKAGE PIN LAYOUT FROM WIRE/WRAP SIDE

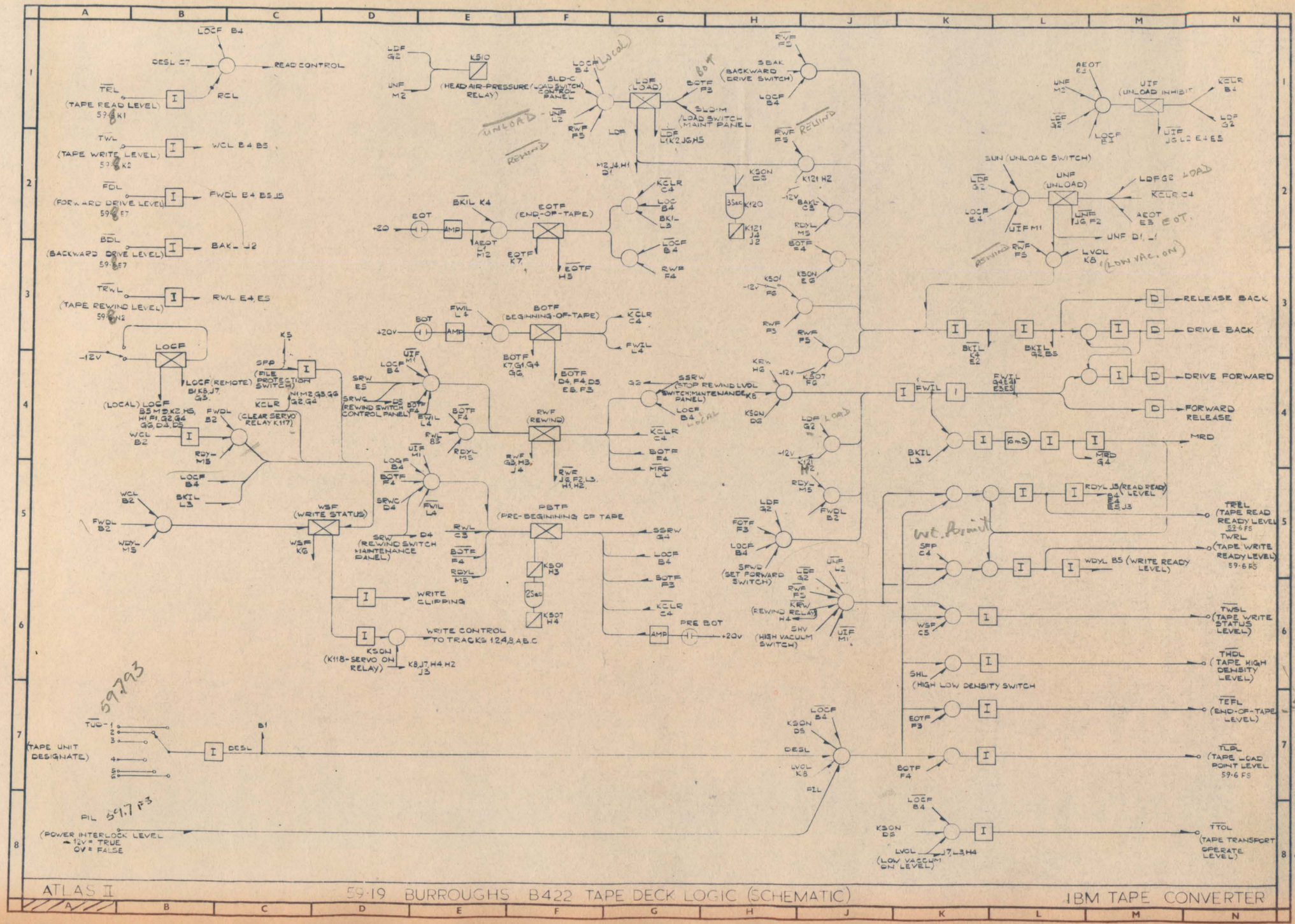


BACKPLANE PACKAGES (AA) VIEW FROM WIRE/WRAP SIDE

BACKPLANE LAYOUT

WDn = WRITE DRIVER
RBn = READ BUSS DRIVER
WDY n = WRITE DELAY
RD = READ DELAY
PA = PULSE AMP
PS = PEAK SENSER
AC = AMP CLIPPER
TPA = TAPE PRE-AMP
SRD = SERVO REWIND DRIVER
VCS = VACUUM COLUMN SENSER
VFS = VOLT FAIL SENSER
PRD = PINCH ROLLER DRIVE
DSI = DELAY STANDARD INDEX
TAR = TERMINATING RESISTOR
UIF = UNLOAD INHIBIT F/F
LOCF = LOCAL F/F
RWF = REWIND F/F
UNF = UNLOAD F/F

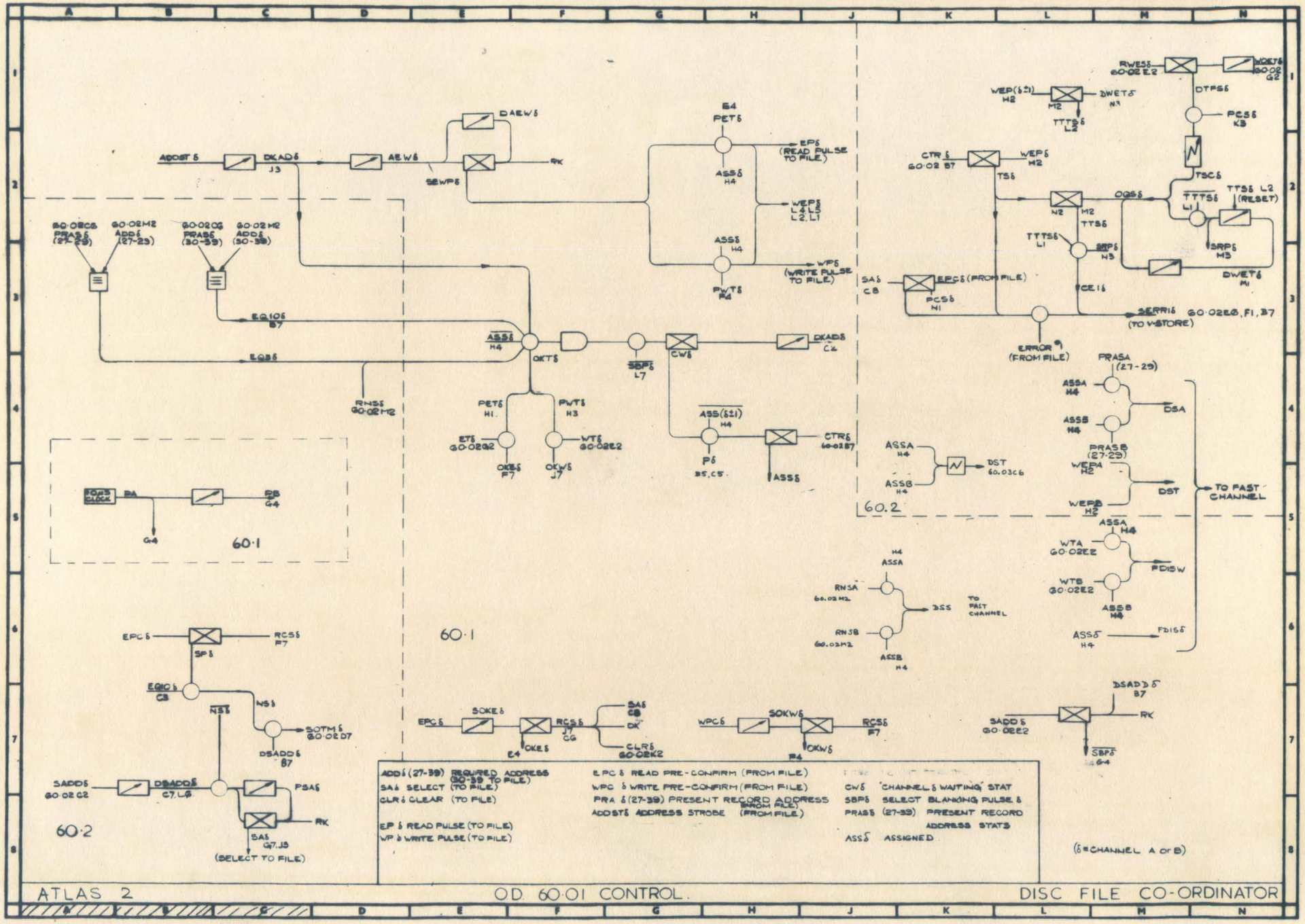
ATLAS II **ED 59-18 READ & WRITE CHANNELS, BURROUGHS DECK** I.B.M. TAPE CONVERTER.

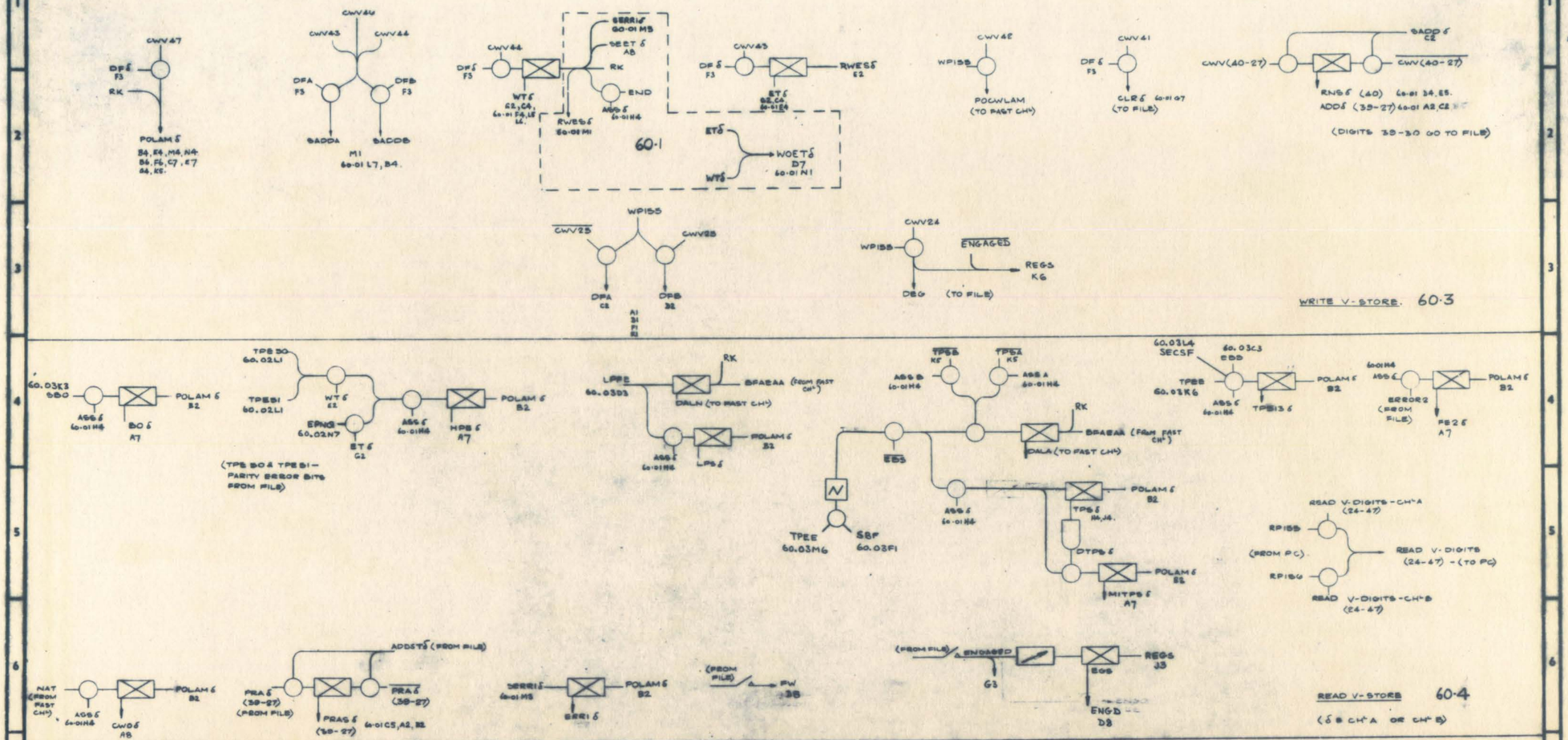


ATLAS II

59-19 BURROUGHS B422 TAPE DECK LOGIC (SCHEMATIC)

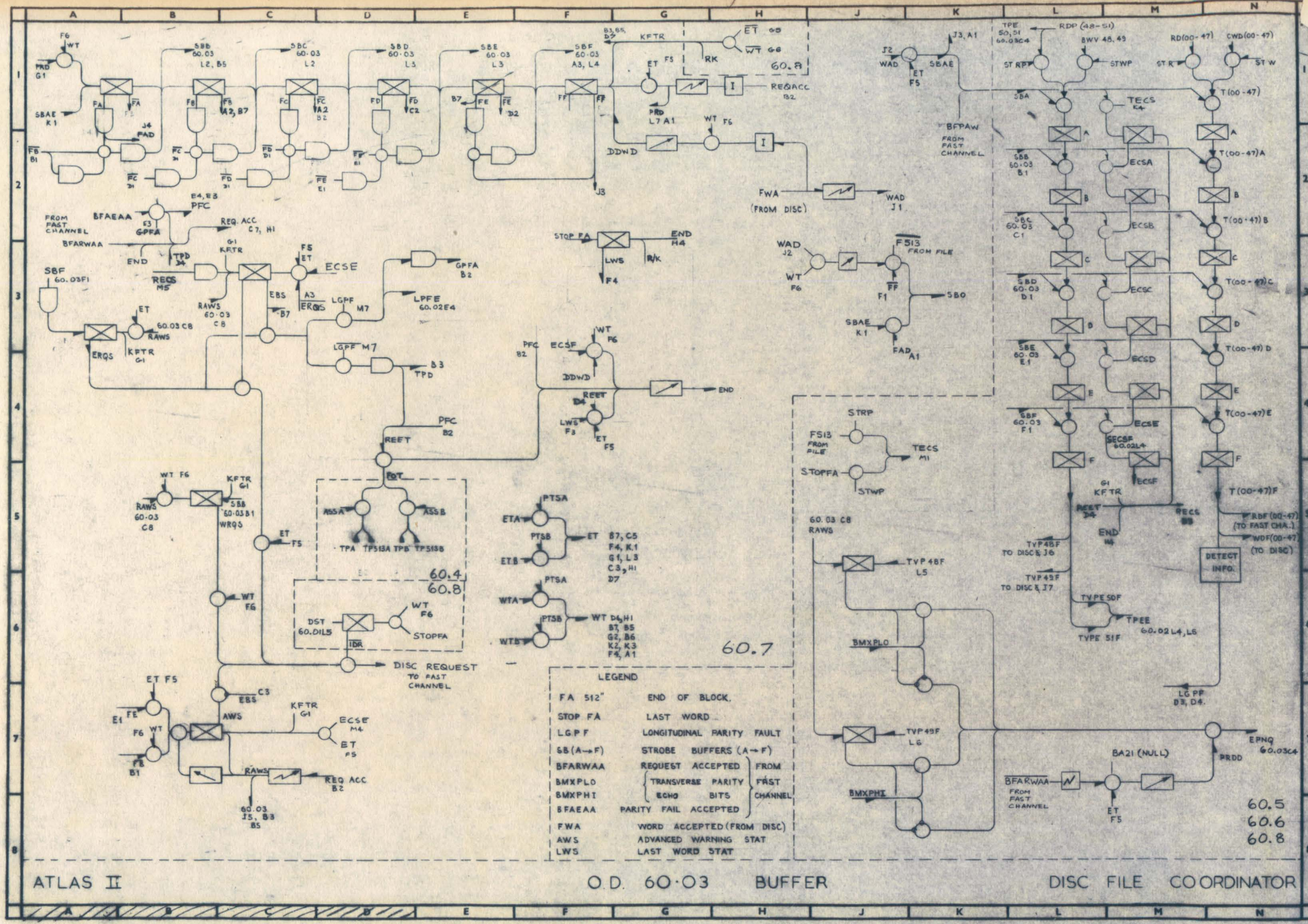
IBM TAPE CONVERTER

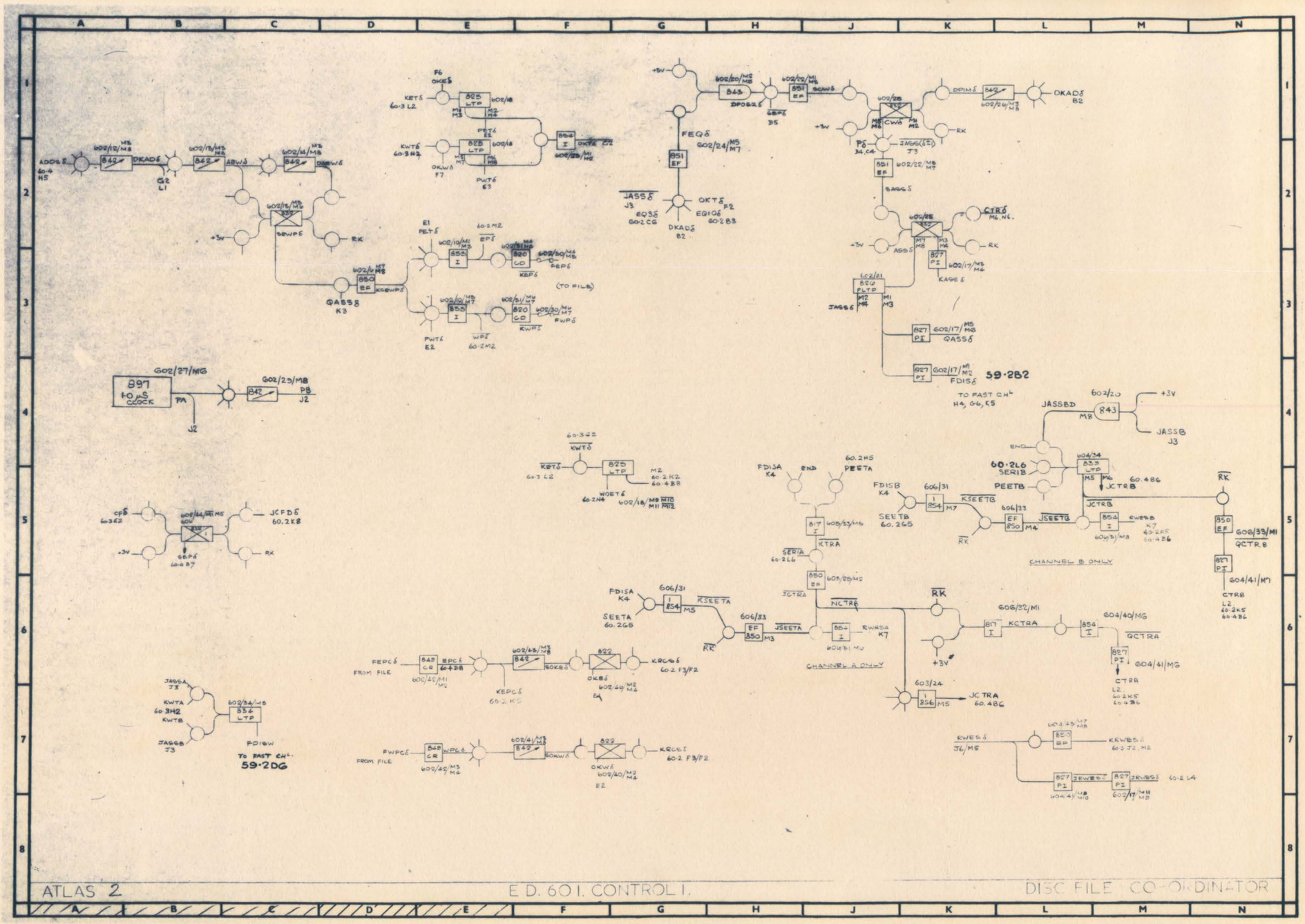

ATLAS 2
OD 60.01 CONTROL.
DISC FILE CO-ORDINATOR
60.1
60.2
ADD δ (27-39) REQUIRED ADDRESS (30-39 TO FILE)
SA δ SELECT (TO FILE)
CLR δ CLEAR (TO FILE)
EP δ READ PULSE (TO FILE)
WP δ WRITE PULSE (TO FILE)
EPC δ READ PRE-CONFIRM (FROM FILE)
WPC δ WRITE PRE-CONFIRM (FROM FILE)
PRA δ (27-39) PRESENT RECORD ADDRESS (FROM FILE)
ADDST δ ADDRESS STROBE (FROM FILE)
CW δ 'CHANNEL δ WAITING' STAT
SBP δ SELECT BLANKING PULSE δ
PRAS δ (27-39) PRESENT RECORD ADDRESS STATS
ASS δ ASSIGNED
(δ = CHANNEL A or B)

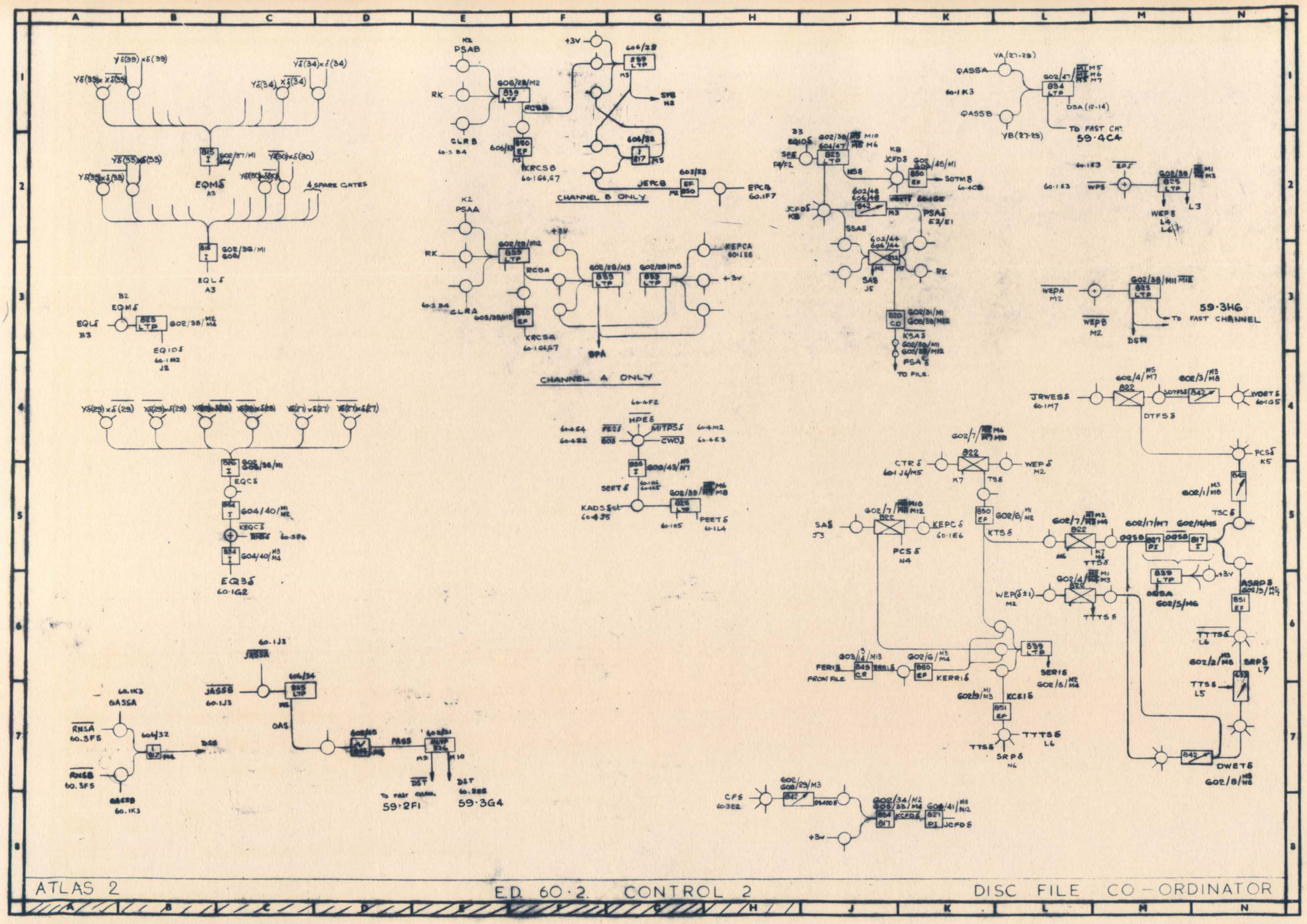


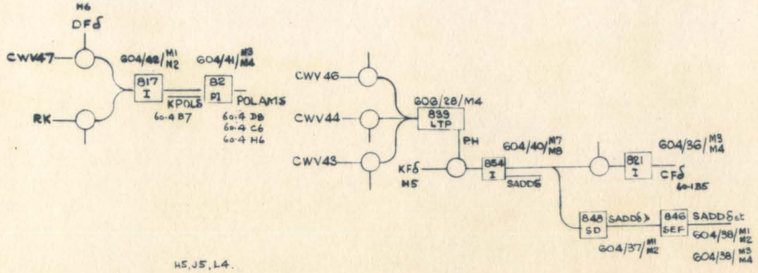
	47	46	45	44	43	42	41	40	39 38 37 36 35 34	33 32 31 30	29 28 27	26	25	24
WRITE V-STORE	PUT OUT BAND OF OPERN LAM	POSITION HEAD		SET WRITE	SET READ	PUT OUT CODE WORD LAM	CLEAR	4096 MODE. (ENS)	TRACK ADDRESS (i.e. POSITION ADDRESS)	DISC ADDRESS	STARTING SECTOR ADDRESS		O=A 1=B	DISENG-AGE
READ V-STORE (LAM)	BOS BUFFER OVER-FLOW	HPES TRANS-MISSION PARITY ERROR	LPS5 LONG-ITUDINAL PARITY ERROR	TPS5 TRANS-VERSE PARITY ERROR	MITPS5 TRANS-VERSE PARITY ERROR	TPSI36 TRANS-VERSE PARITY ERROR ON BIT "36" WORD	FE25 DATA ERROR (ERROR # 2)	CWO5 CODE WORD OVER-FLOW	PRAS5 (39-34) PRESENT TRACK ADDRESS (i.e. POSITION ADDRESS)	PRAS5 (33-30) PRESENT DISC ADDRESS	PRAS5 (29-27) PRESENT SECTOR ADDRESS	ERRI5 POSITIONING ERROR (ERROR # 1)	F.W. FILE WARNING	ENGD DISENGAGED

ATLAS 2 — OD 60.02 V-STORE AND LAM — DISC FILE CO-ORDINATOR

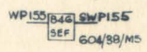

LEGEND
FA 512" END OF BLOCK.
STOP FA LAST WORD
LGPF LONGITUDINAL PARITY FAULT
SB(A→F) STROBE BUFFERS (A→F)
BFARWAA REQUEST ACCEPTED FROM
BMXPLO TRANSVERSE PARITY FAST
BMXPHI ECHO BITS CHANNEL
BFAEAA PARITY FAIL ACCEPTED
FWA WORD ACCEPTED (FROM DISC)
AWS ADVANCED WARNING STAT
LWS LAST WORD STAT
ATLAS II
O.D. 60·03 BUFFER
DISC FILE COORDINATOR
60.5
60.6
60.8
60.7
60.4
60.8
DISC REQUEST TO FAST CHANNEL
DETECT INFO.

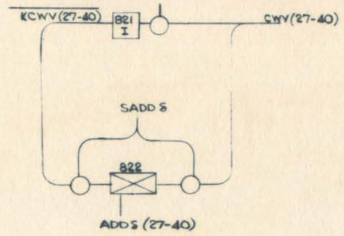

ATLAS 2
E.D. 601. CONTROL I.
DISC FILE CO-ORDINATOR
59·282
59·2D6
897
1·0 μS CLOCK
CHANNEL B ONLY
CHANNEL A ONLY
TO FAST CH.
FROM FILE
(TO FILE)

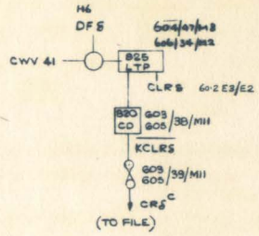

EQMδ
EQLδ
EQ1δ
4 SPARE GATES
EQCδ
EQ3δ
PSAB
PSAA
CLRB
CLRA
KRCSB
KRCSA
CHANNEL B ONLY
CHANNEL A ONLY
EPCB
KEPCA
SPB
SPA
JCFDδ
PSAδ
SSAδ
SAB
KSAδ
TO FILE.
HPEδ
SEETδ
KADSδ
PEETδ
JRWESδ
DTFSδ
CTRδ
WEPδ
PCSδ
KTSδ
TTSδ
TSCδ
ASAPδ
SRPδ
TTTSδ
KERRδ
KCEIδ
SERIδ
FERIδ
FROM FILE
DWETδ
CFSδ
JASSA
JASSB
OASSA
OASSB
RNSA
RNSB
DSA (12-14)
TO FAST CH:
59·4C4
59·3H6
TO FAST CHANNEL
DSM
WEPB
L3
L4
L6
59·2F1
59·3G4

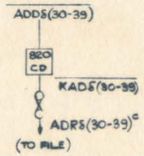


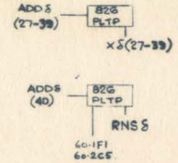
H5, J5, L4.

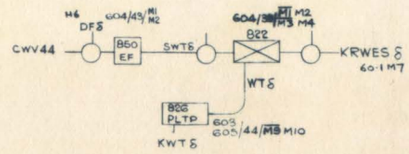


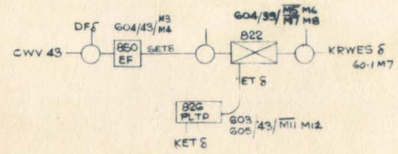


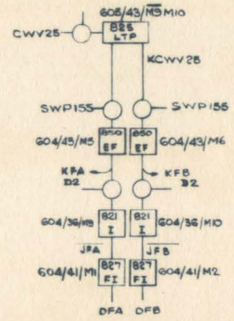


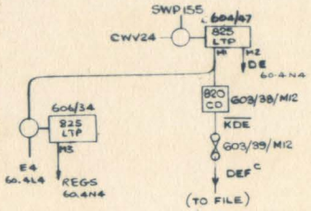


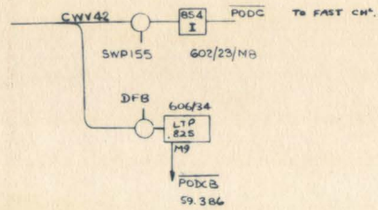






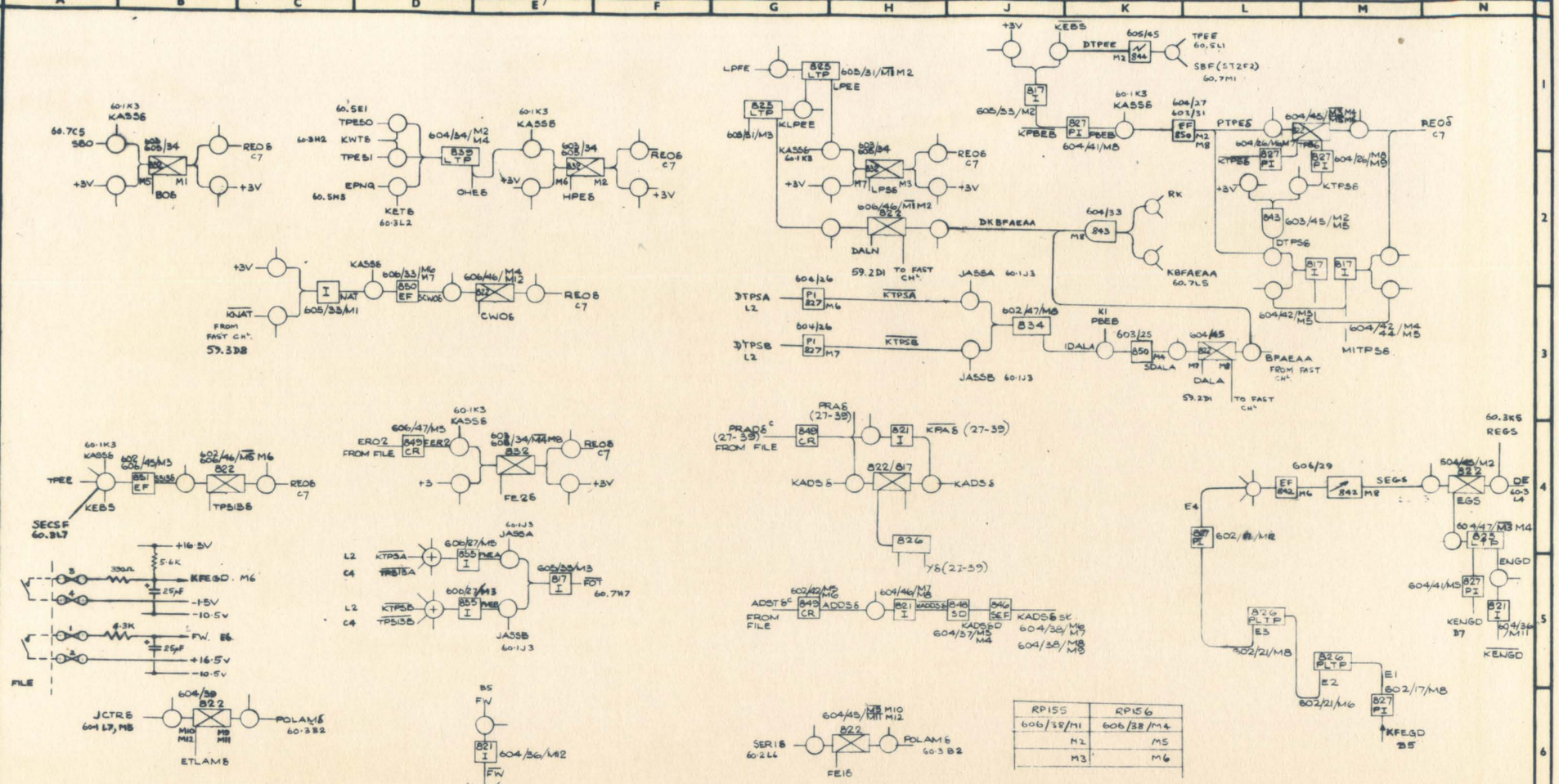






W.F.M.	PACKAGE TYPE	DIGIT 40	39	38	37	36	35	34	33	32	31	30	29	28	27
		607													
C.W.V		17/M5	17/M4	17/M3	17/M2	17/M1	14/M12	14/M11	14/M10	14/M9	14/M8	14/M7	14/M6	14/M5	14/M4
		604													
KCWV	821	36/M2	36/M1	35/M12	35/M11	35/M10	35/M9	35/M8	35/M7	35/M6	35/M5	35/M4	35/M3	35/M2	35/M1
		603 / 605													
ADD A ADD B	822	37/M4	37/M2	38/M12	38/M10	38/M8	38/M6	36/M4	36/M2	35/M12	35/M10	35/M8	35/M6	35/M4	35/M2
		603 / 605													
X A X B	825		43/M8	43/M6	43/M4	43/M2	42/M12	42/M10	42/M8	42/M6	42/M4	42/M2			
													603 / 605		
X A X B	826												44/M6	44/M4	44/M2
		603/605													
RNSA RNSB	826	44/M8													
		603/605													
KADD A KADD B	820		39/M10	38/M9	38/M8	38/M7	38/M6	38/M5	38/M4	38/M3	38/M2	38/M1			
		603/605													
ADR A ADR B	863		39/M10	39/M9	39/M8	39/M7	39/M6	39/M5	39/M4	39/M3	39/M2	39/M1			

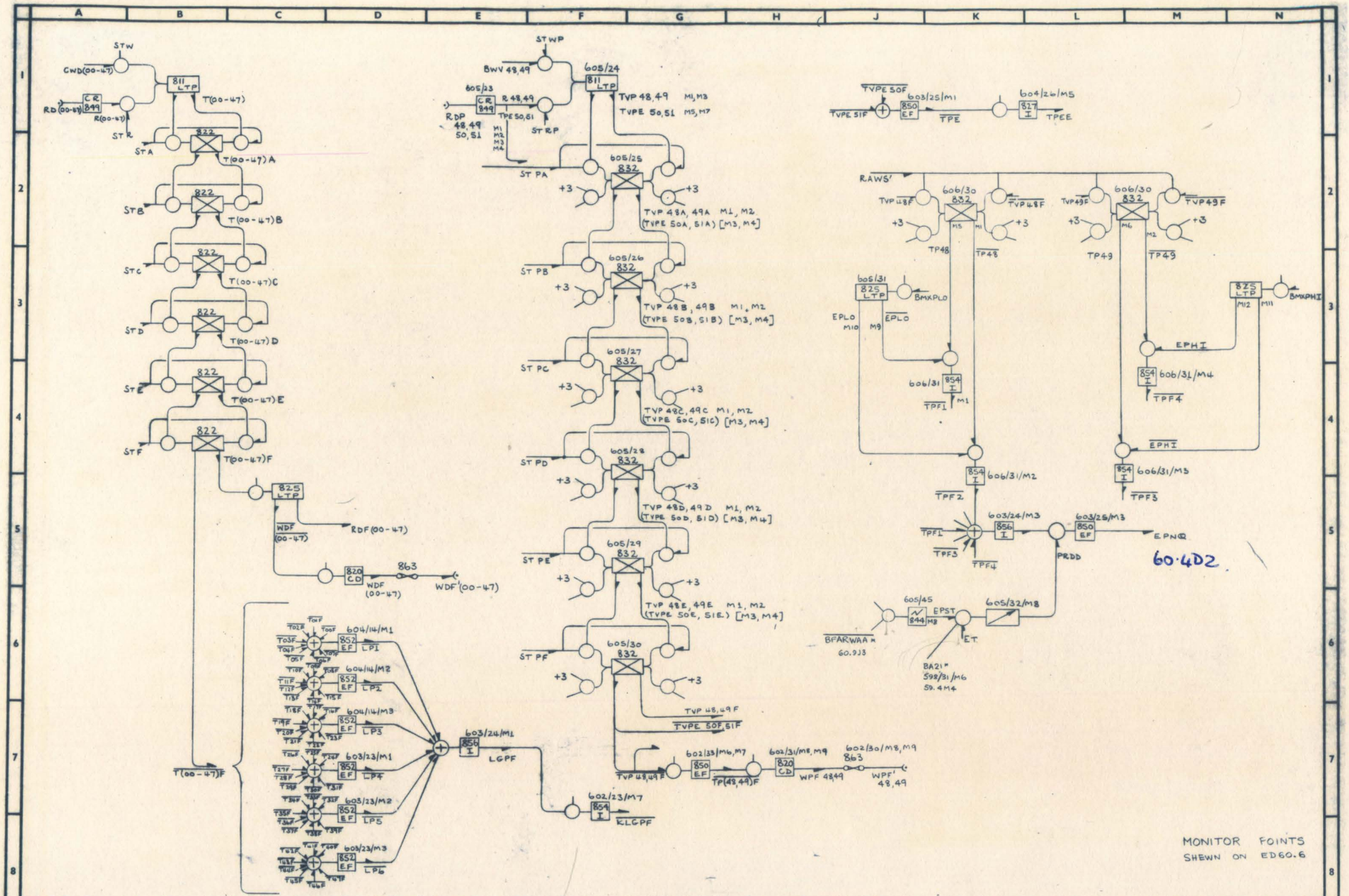
ATLAS 2 E.D.603 WRITE V STORE DISCFILE COORDINATOR



RP155	RP156
606/38/M1	606/38/M4
M2	M5
M3	M6

WFM	DIGIT PKGE	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24
PRAA	849									603/605															
PRAB										47/M3	47/M2	47/M1	47/M0	47/M9	47/M8	47/M7	47/M6	47/M5	47/M4	47/M3	47/M2	47/M1			
KPAA	821									604						603/605									
KPAB										30/M5 M6	46/M2	46/M1	46/M0	46/M9	46/M8	46/M7	46/M6	46/M5	46/M4	46/M3	46/M2	46/M1			
PASA	27-38 (822)									604						603/605									
PASB	39 (817)									44/M2 M4	41/M12	41/M11	41/M10	41/M9	41/M8	41/M7	41/M6	41/M5	41/M4	41/M3	41/M2	40/M1	40/M0	40/M9	40/M8
YA	826									603		604				603/605									
YB										43/M10 M12	48/M6 M2	48/M4 M10	48/M3 M8	48/M2	48/M0	48/M8	48/M6	48/M4	48/M2						
YA	826																			604					
YB																				M6 46/M2	46/M4 M10	46/M2 M8			
RVD	831									606															
		42/M8	42/M7	42/M6	42/M5	42/M4	42/M3	42/M2	42/M1	41/M8	41/M7	41/M6	41/M5	41/M4	41/M3	41/M2	41/M1	40/M8	40/M7	40/M6	40/M5	40/M4	40/M3	40/M2	40/M1

ATLAS 2 ED60·4 READ V-STORE AND LAM. DISC FILE CO-ORDINATOR


STW
CWD(00-47)
RD(00-47)
R(00-47)
ST R
811 LTP
T(00-47)
ST A
822
T(00-47)A
ST B
T(00-47)B
ST C
T(00-47)C
ST D
T(00-47)D
ST E
T(00-47)E
ST F
T(00-47)F
825 LTP
WDF (00-47)
RDF(00-47)
820 CD
863
WDF'(00-47)
STWP
BWV 48,49
605/24
TVP 48,49 M1,M3
TVPE 50,51 M5,M7
605/23
CR 849
R 48,49
TPE 50,51
RDP 48,49 50,51
M1 M2 M3 M4
ST RP
ST PA
605/25
832
TVP 48A, 49A M1, M2
(TVPE 50A, 51A) [M3, M4]
ST PB
605/26
TVP 48B, 49B M1, M2
(TVPE 50B, 51B) [M3, M4]
ST PC
605/27
TVP 48C, 49C M1, M2
(TVPE 50C, 51C) [M3, M4]
ST PD
605/28
TVP 48D, 49D M1, M2
(TVPE 50D, 51D) [M3, M4]
ST PE
605/29
TVP 48E, 49E M1, M2
(TVPE 50E, 51E) [M3, M4]
ST PF
605/30
TVP 48,49F
TVPE 50F, 51F
602/33/M6, M7
602/31/M8, M9
602/30/M8, M9
TP(48,49)F
WPF 48,49
WPF' 48,49
602/23/M7
KLGPF
603/24/M1
LGPF
604/14/M1
LP1
604/14/M2
LP2
604/14/M3
LP3
603/23/M1
LP4
603/23/M2
LP5
603/23/M3
LP6
TVPE 50F
TVPE 51F
603/25/M1
TPE
604/26/M5
TPEE
RAWS'
606/30
TP48F
TP48
TP49F
TP49
605/31
BMXPLO
EPLO
606/31
TPF1
606/31/M2
TPF2
825 LTP
BMXPHI
EPHI
606/31/M4
TPF4
606/31/M3
TPF3
603/24/M3
603/25/M3
EPNQ
PRDD
60.4D2
605/45
EPST
605/32/M8
ET
BFARWAA
60.9J3
BA21"
598/31/M6
59.4M4
MONITOR POINTS SHEWN ON ED60.6
ATLAS 2
ED 60.5 BUFFER & PARITY CIRCUITS
DISC FILE CO-ORDINATOR

PKG	W/F	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	=(n)
849	R(n)	603/3												605/3												603/14												605/14												
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	
811	T(n)	603/4						604/4						605/4						606/4						603/15						604/15						605/15						606/15					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)A	603/5						604/5						605/5						606/5						603/16						604/16						605/16						606/16					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)B	603/6						604/6						605/6						606/6						603/17						604/17						605/17						606/17					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)C	603/7						604/7						605/7						606/7						603/18						604/18						605/18						606/18					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)D	603/8						604/8						605/8						606/8						603/19						604/19						605/19						606/19					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)E	603/9						604/9						605/9						606/9						603/20						604/20						605/20						606/20					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
822	T(n)F	603/10						604/10						605/10						606/10						603/21						604/21						605/21						606/21					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
825	$\overline{WDF}$(n)	603/11						604/11						605/11						606/11						603/22						604/22						605/22						606/22					
		M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	M1	M3	M5	M7	M9	M11	
825	RDF(n)	603/11						604/11						605/11						606/11						603/22						604/22						605/22						606/22					
		M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M11	M12	M4	M6	M8	M10	M12	M2	M4	M6	M8	M10	M12	
820	WDF(n)	603/12												605/12												604/23												606/23											
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	
863	WDF(n)	603/13												605/13												604/24												606/24											
		M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	

		(X)					
PKG	W/F	A	B	C	D	E	F
836, 843	SB(X)	603					
		M1	M2	M3	M4	M5	M6
848	S1(X)	604/25					
		M6	M1	M2	M3	M4	M5
848	S2(X)	606/25					
		M6	M1	M2	M3	M4	M5

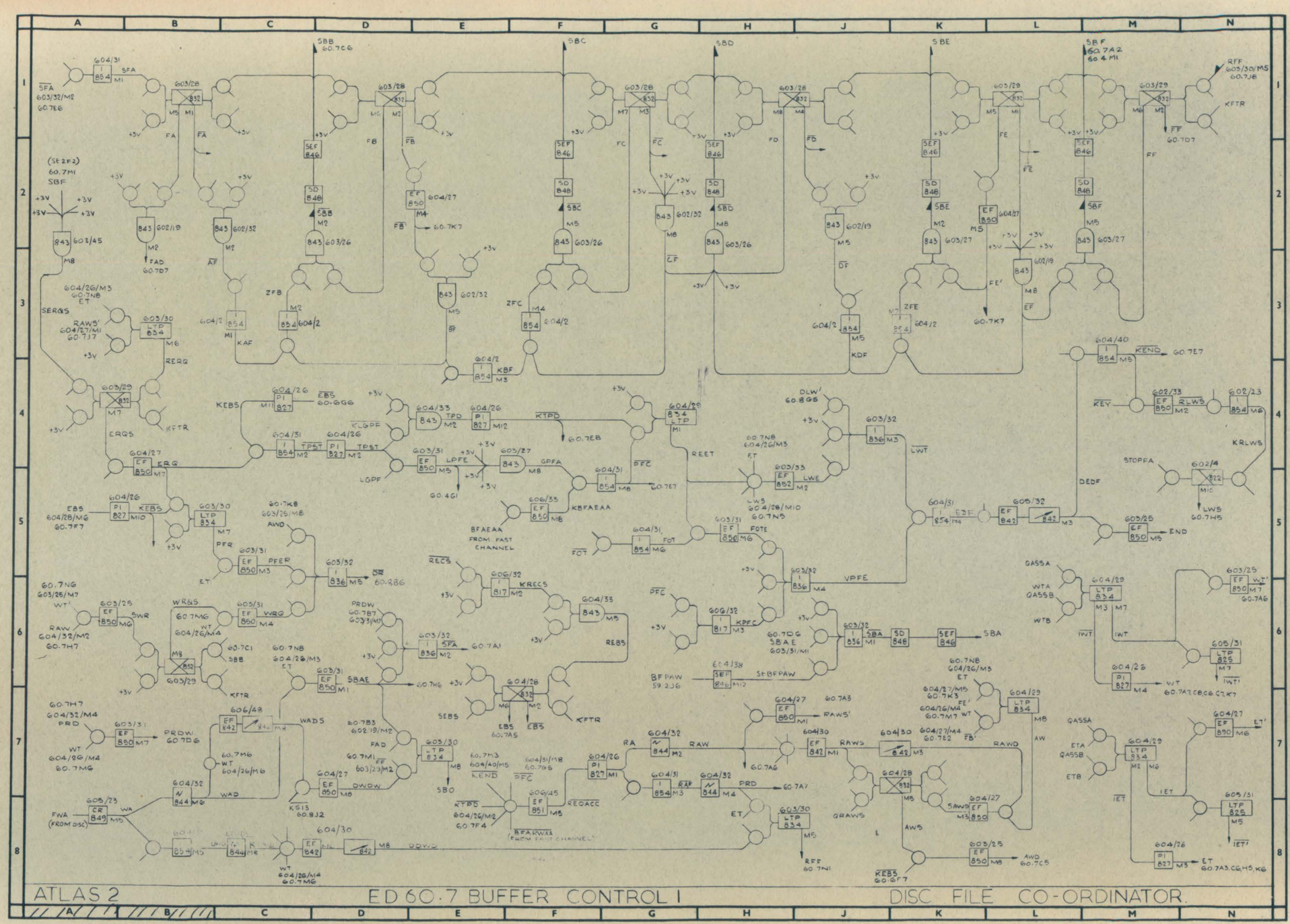
846	St(X)1	604/12						STROBE
		M1	M2	M3	M4	M5	M6	BITS (0-5)
846	St(X)2	604/13						STROBE
		M1	M2	M3	M4	M5	M6	BITS (24-29)
846	St(X)3	606/12						STROBE
		M7	M8	M9	M10	M11	M12	BITS (6-11)
846	St(X)4	606/13						STROBE
		M7	M8	M9	M10	M11	M12	BITS (30-35)
846	St(X)5	606/14						STROBE
		M1	M2	M3	M4	M5	M6	BITS (12-17)
846	St(X)6	606/15						STROBE
		M1	M2	M3	M4	M5	M6	BITS (36-41)
846	St(X)7	606/12						STROBE
		M7	M8	M9	M10	M11	M12	BITS (18-23)
846	St(X)8	606/13						STROBE
		M7	M8	M9	M10	M11	M12	BITS (42-47)
846	St(X)9	606/14						STROBE
		M1	M2	M3	M4	M5	M6	BITS (48-51)

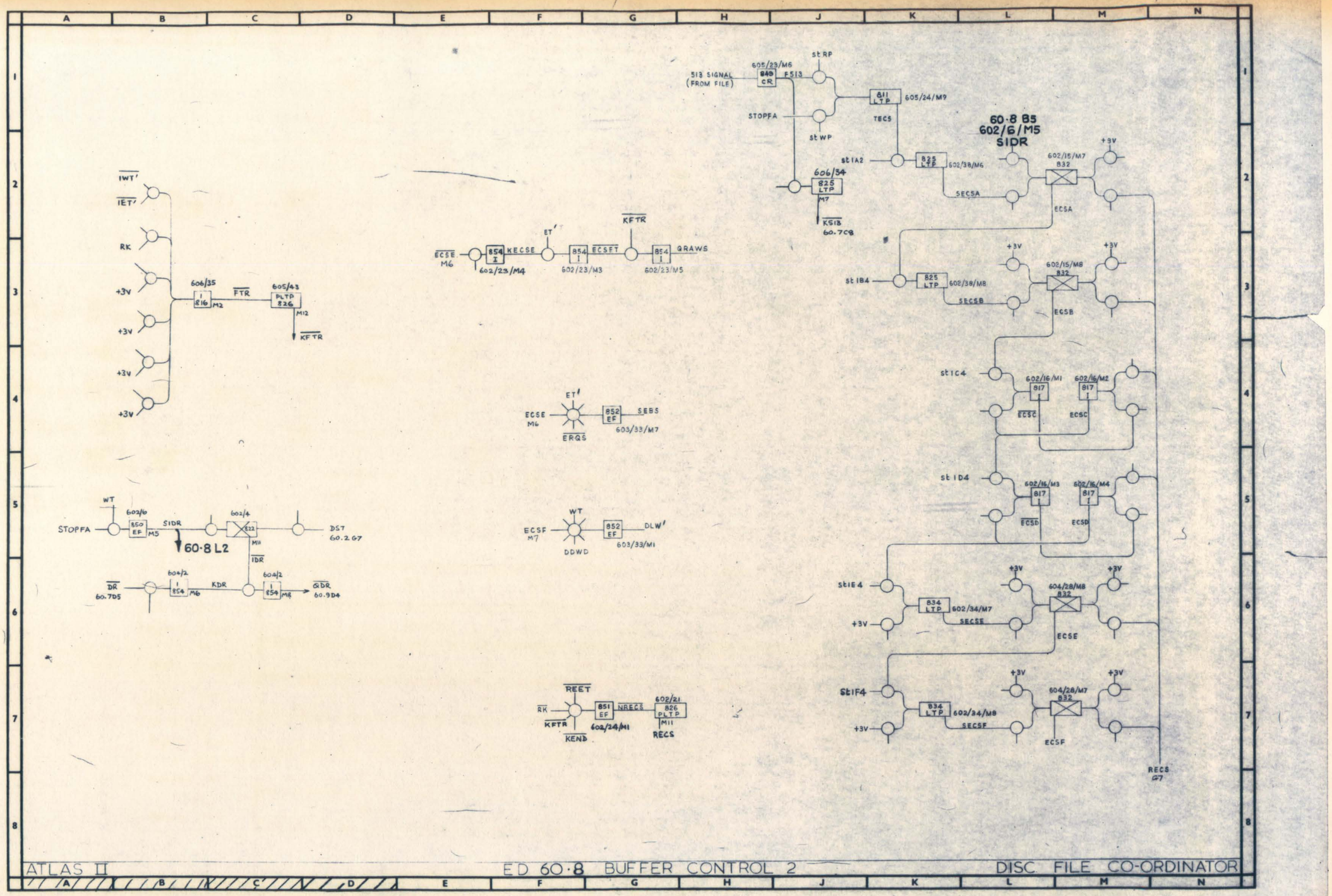
PKG	W/F	M P	W/F	M P	
834	$\overline{IET}$	604/29/M2	$\overline{IWT}$	604/29/M3	
848	SR1	604/25/M7	SW1	604/25/M8	
846	St R1	604/3/M5	St W1	604/3/M6	STROBE BITS 0-5
846	St R2	604/3/M1	St W2	604/3/M2	STROBE BITS 24-29
846	St R3	604/3/M7	St W3	604/3/M8	STROBE BITS 6-11
846	St R4	604/3/M3	St W4	604/3/M4	STROBE BITS 30-35
846	St R5	604/3/M9	St W5	604/3/M10	STROBE BITS 12-17

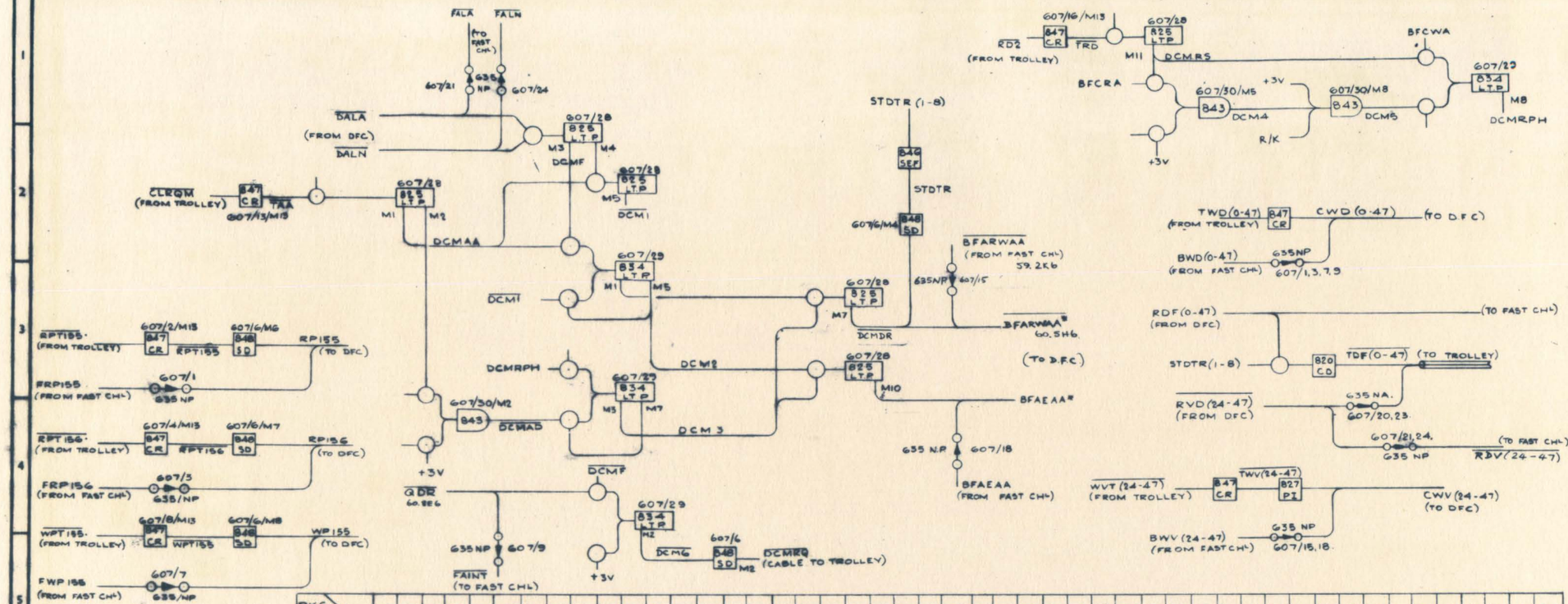
PKG	W/F	M.P	W/F	M.P	
825	$\overline{IET}$	605/31/M5	$\overline{IWT}$	605/31/M7	
848	SR2	606/25/M7	SW2	606/25/M8	
846	St R6	606/14/M9	St W6	606/14/M10	STROBE BITS 36-41
846	St R7	604/3/M11	St W7	604/3/M12	STROBE BITS 18-23
846	St R8	606/14/M11	St W8	606/14/M12	STROBE BITS 42-47
846	St RP	606/14/M7	St WP	606/14/M8	STROBE BITS 48-51

E D 60-6 BUFFER STATS AND STROBES

DISC FILE CO-ORDINATOR

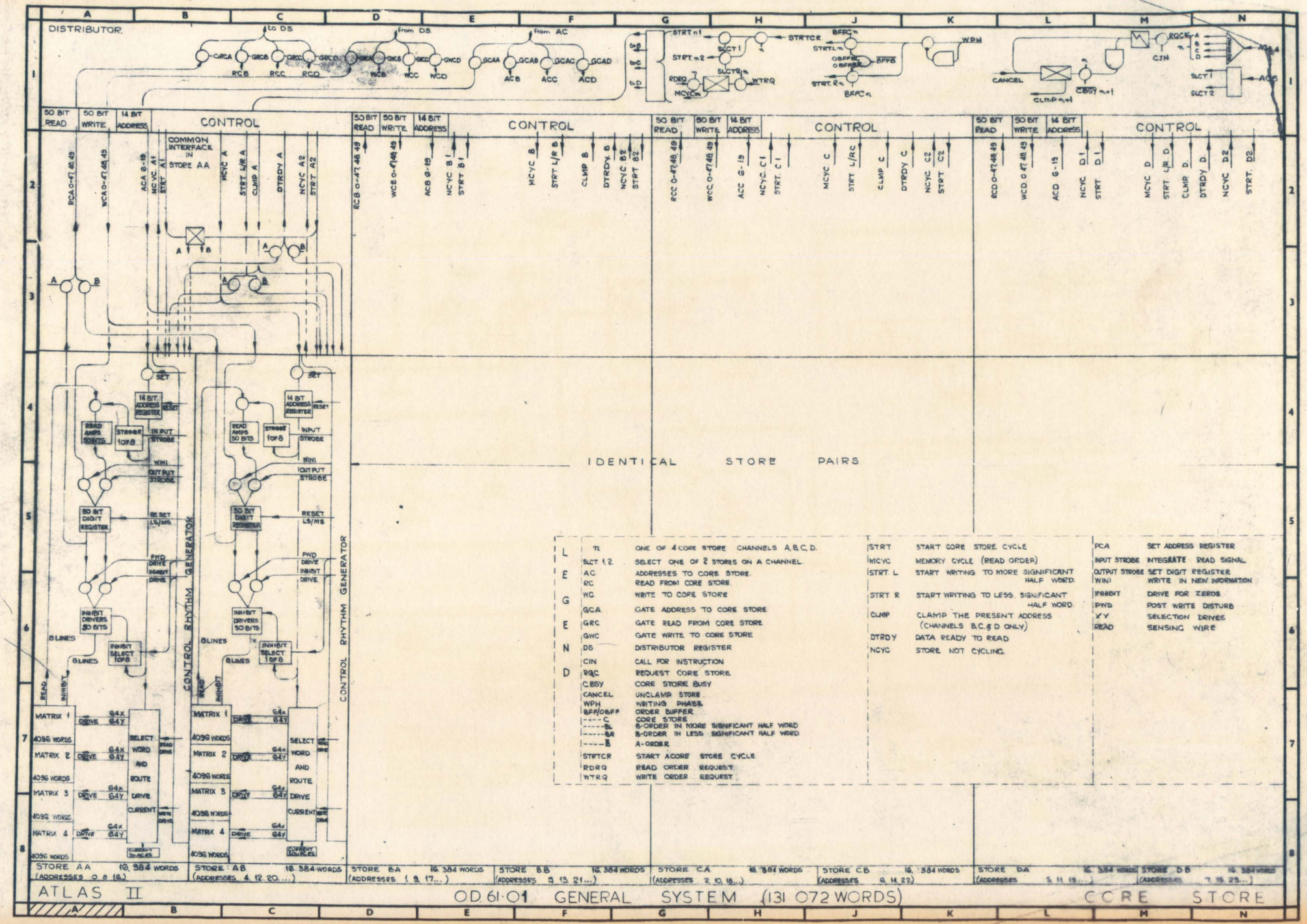

ATLAS 2
ED 60·7 BUFFER CONTROL I
DISC FILE CO-ORDINATOR

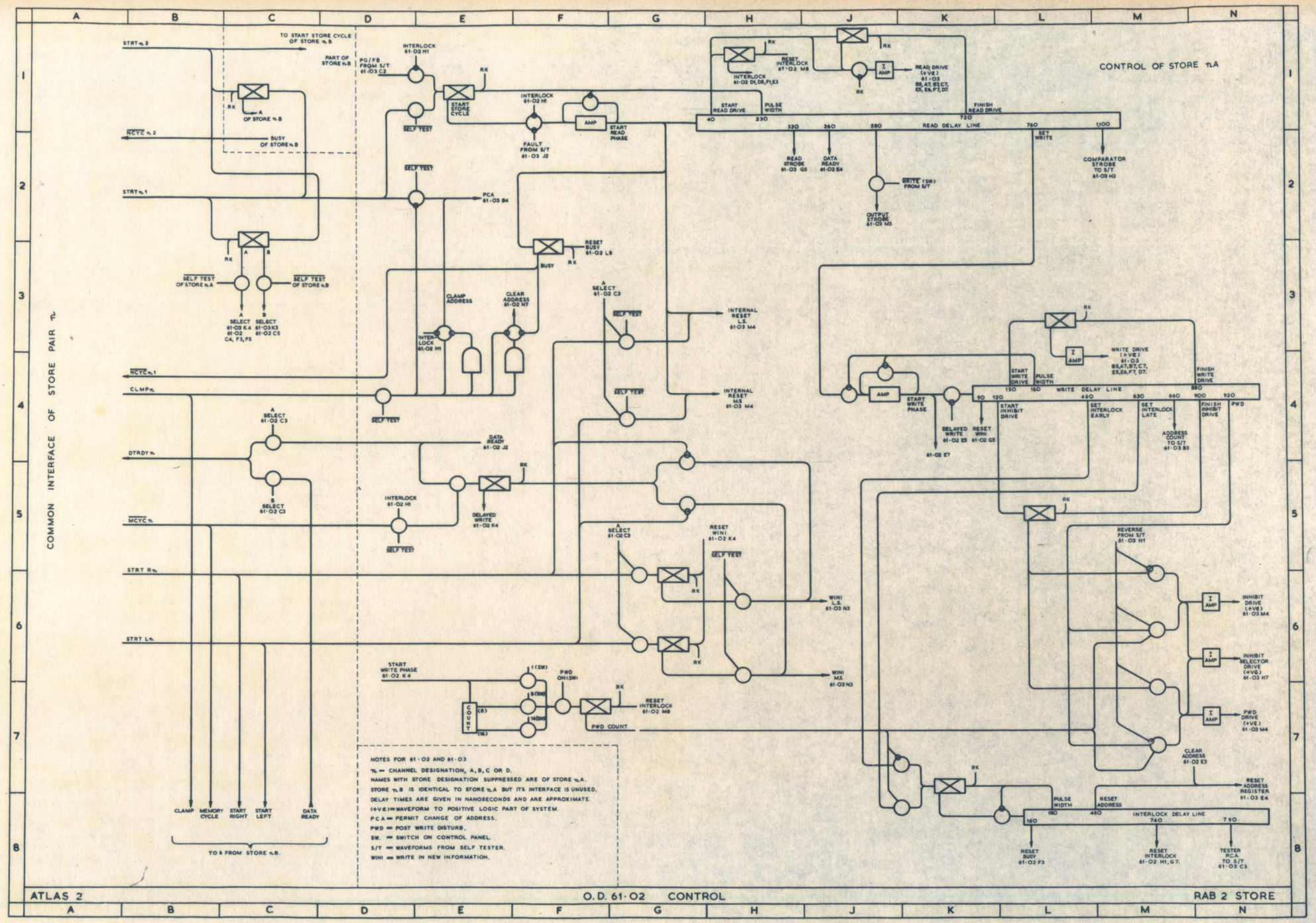

513 SIGNAL (FROM FILE)
605/23/M6
849 CR
F513
st RP
STOPFA
st WP
811 LTP
605/24/M9
TECS
60·8 B5
602/6/M5
SIDR
st IA2
825 LTP
602/38/M6
SECSA
606/34
825 LTP M7
KSIB
60.7C8
602/15/M7
832
+3V
ECSA
st IB4
825 LTP
602/38/M8
SECSB
602/15/M8
832
ECSB
st IC4
602/16/M1
817
602/16/M2
817
ECSC
st ID4
602/16/M3
817
602/16/M4
817
ECSD
st IE4
834 LTP
602/34/M7
SECSE
604/28/M8
832
ECSE
st IF4
834 LTP
602/34/M8
SECSF
604/28/M7
832
ECSF
RECS
G7
IWT'
IET'
RK
+3V
606/35
816 M2
FTR
605/43
PLTP 826
M12
KFTR
ECSE M6
854 I
KECSE
ET'
602/23/M4
854 I
ECSET
602/23/M3
KFTR
854 I
QRAWS
602/23/M5
ET'
ECSE M6
852 EF
SEBS
ERQS
603/33/M7
WT
602/6
STOPFA
850 EF M5
SIDR
60·8 L2
602/4
832
M11
DST
60.2 G7
IDR
DR
60.7D5
604/2
854 M6
KDR
604/2
854 M8
DR
60.9D4
WT
ECSF M7
852 EF
DLW'
DDWD
603/33/M1
REET
RK
KFTR
KEND
851 EF
NRECS
602/24/M1
602/21
826 PLTP M11
RECS



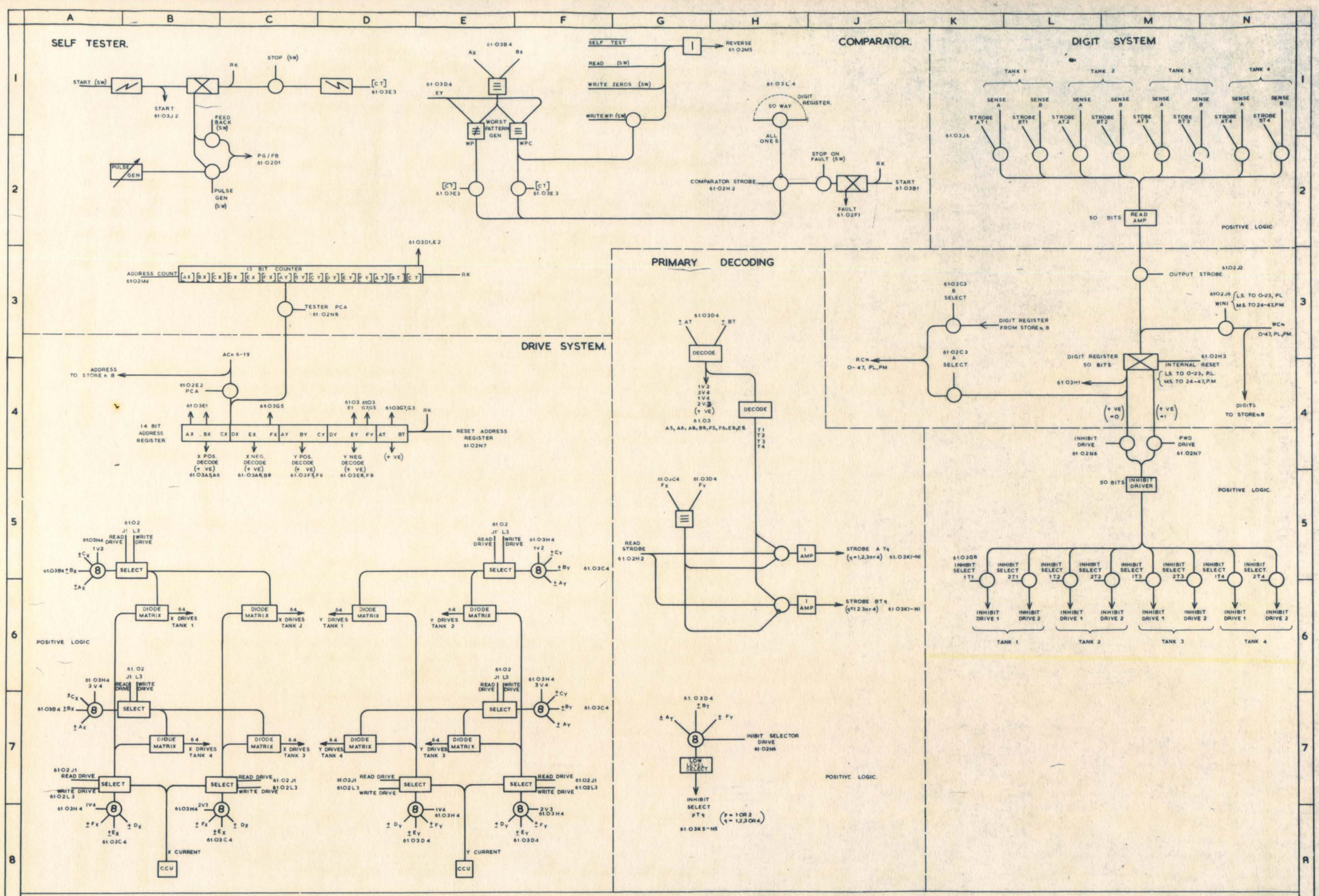
PKG TYPE / n	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
CWDn 847	607/10												607/8												607/4												607/2											
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1
BWDn	598/12						598/10						598/9						598/7						598/6						598/4						598/3						598/1					
	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2
RDFn 825	606/22						605/22						604/22						603/22						606/11						605/11						604/11						603/11					
	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2		M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2	M12	M10	M8	M6	M4	M2
TDFn 820	607/22												607/19												607/26												607/23											
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1
RVDn 831/830	606/42								606/41								606/40																															
	M8	M7	M6	M5	M4	M3	M2	M1	M8	M7	M4	M5	M4	M3	M2	M1	M8	M7	M6	M5	M4	M3	M2	M1																								
TWVn 847	607/16												607/13																																			
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1																								
CWVn 827	607/17												607/14																																			
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1																								
BWVn 827	598/48												598/46																																			
	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1																								

STROBE	M.P.	BITS STROBED
STDTR1	607/27/M5	0. 2. 4. 6. 8. 10
STDTR2	607/27/M6	1, 3. 5. 7. 9. 11.
STDTR3	607/27/M7	12. 14. 16. 18. 20. 22
STDTR4	607/27/M8	13. 15. 17. 19. 21. 23
STDTR5	607/27/M9	24. 26. 28. 30. 32. 34.
STDTR1	607/27/M10	25, 27, 29. 31. 33 35.
STDTR7	607/27/M11	36, 38. 40. 42. 44. 46
STDTR8	607/27/M12	37. 39, 41. 43. 45. 47


DISTRIBUTOR
to DS
From DS
From AC
50 BIT READ
50 BIT WRITE
14 BIT ADDRESS
CONTROL
COMMON INTERFACE IN STORE AA
IDENTICAL STORE PAIRS
CONTROL RHYTHM GENERATOR
14 BIT ADDRESS REGISTER
READ AMPS 50 BITS
STROBE 1 OF 8
INPUT STROBE
WIN
OUTPUT STROBE
50 BIT DIGIT REGISTER
RESET LS/MS
PWD DRIVE
INHIBIT DRIVE
INHIBIT DRIVERS 50 BITS
INHIBIT SELECT 1 OF 8
8 LINES
READ
INHIBIT
MATRIX 1
MATRIX 2
MATRIX 3
MATRIX 4
4096 WORDS
64X
64Y
SELECT WORD AND ROUTE DRIVE CURRENT
STORE AA 16 384 WORDS (ADDRESSES 0 8 16...)
STORE AB 16 384 WORDS (ADDRESSES 4 12 20...)
STORE BA 16 384 WORDS (ADDRESSES 1 9 17...)
STORE BB 16 384 WORDS (ADDRESSES 5 13 21...)
STORE CA 16 384 WORDS (ADDRESSES 2 10 18...)
STORE CB 16 384 WORDS (ADDRESSES 6 14 22)
STORE DA 16 384 WORDS (ADDRESSES 3 11 19...)
STORE DB 16 384 WORDS (ADDRESSES 7 15 25...)
LEGEND
TL ONE OF 4 CORE STORE CHANNELS A,B,C,D.
SLCT 1,2. SELECT ONE OF 2 STORES ON A CHANNEL.
AC ADDRESSES TO CORE STORE.
RC READ FROM CORE STORE.
WC WRITE TO CORE STORE
GCA GATE ADDRESS TO CORE STORE
GRC GATE READ FROM CORE STORE
GWC GATE WRITE TO CORE STORE
DS DISTRIBUTOR REGISTER
CIN CALL FOR INSTRUCTION
RQC REQUEST CORE STORE
CBSY CORE STORE BUSY
CANCEL UNCLAMP STORE
WPH WRITING PHASE
BFF/OBFF ORDER BUFFER
----C CORE STORE
----BL B-ORDER IN MORE SIGNIFICANT HALF WORD
----BR B-ORDER IN LESS SIGNIFICANT HALF WORD
----B B-ORDER
STRTCR START ACORE STORE CYCLE
RDRQ READ ORDER REQUEST
WTRQ WRITE ORDER REQUEST
STRT START CORE STORE CYCLE
MCYC MEMORY CYCLE (READ ORDER)
STRT L START WRITING TO MORE SIGNIFICANT HALF WORD.
STRT R START WRITING TO LESS SIGNIFICANT HALF WORD.
CLMP CLAMP THE PRESENT ADDRESS (CHANNELS B,C,& D ONLY)
DTRDY DATA READY TO READ
NCYC STORE NOT CYCLING.
PCA SET ADDRESS REGISTER
INPUT STROBE INTEGRATE READ SIGNAL
OUTPUT STROBE SET DIGIT REGISTER
WIN WRITE IN NEW INFORMATION
INHIBIT DRIVE FOR ZEROS
PWD POST WRITE DISTURB
X Y SELECTION DRIVES
READ SENSING WIRE
ATLAS II
OD 61-01 GENERAL SYSTEM (131 072 WORDS)
CORE STORE



ATLAS 2 — O.D. 61-02 CONTROL — RAB 2 STORE



ATLAS 2. O.D. 61.03 DRIVE AND DIGIT SYSTEM. RAB2 STORE

MACHINE ADDRESS	19	18	17	16	15	14	13	12	11	10	9	8	7	6
STORE ADDRESS	B_T	A_T	F_Y	E_Y	D_Y	C_Y	B_Y	A_Y	F_X	E_X	D_X	C_X	B_X	A_X

NOTE :- 17, 18, 19, MAY BE PERMUTED FROM 3,4,5 (SEE 50·13)

R = READ DRIVE 1/36/M1(M2)

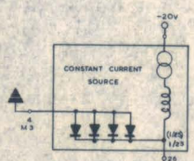
W = WRITE DRIVE 1/36/M5(M6)

TANK DECODE: $\bar{B}_T$ & $\bar{A}_T$ = 4

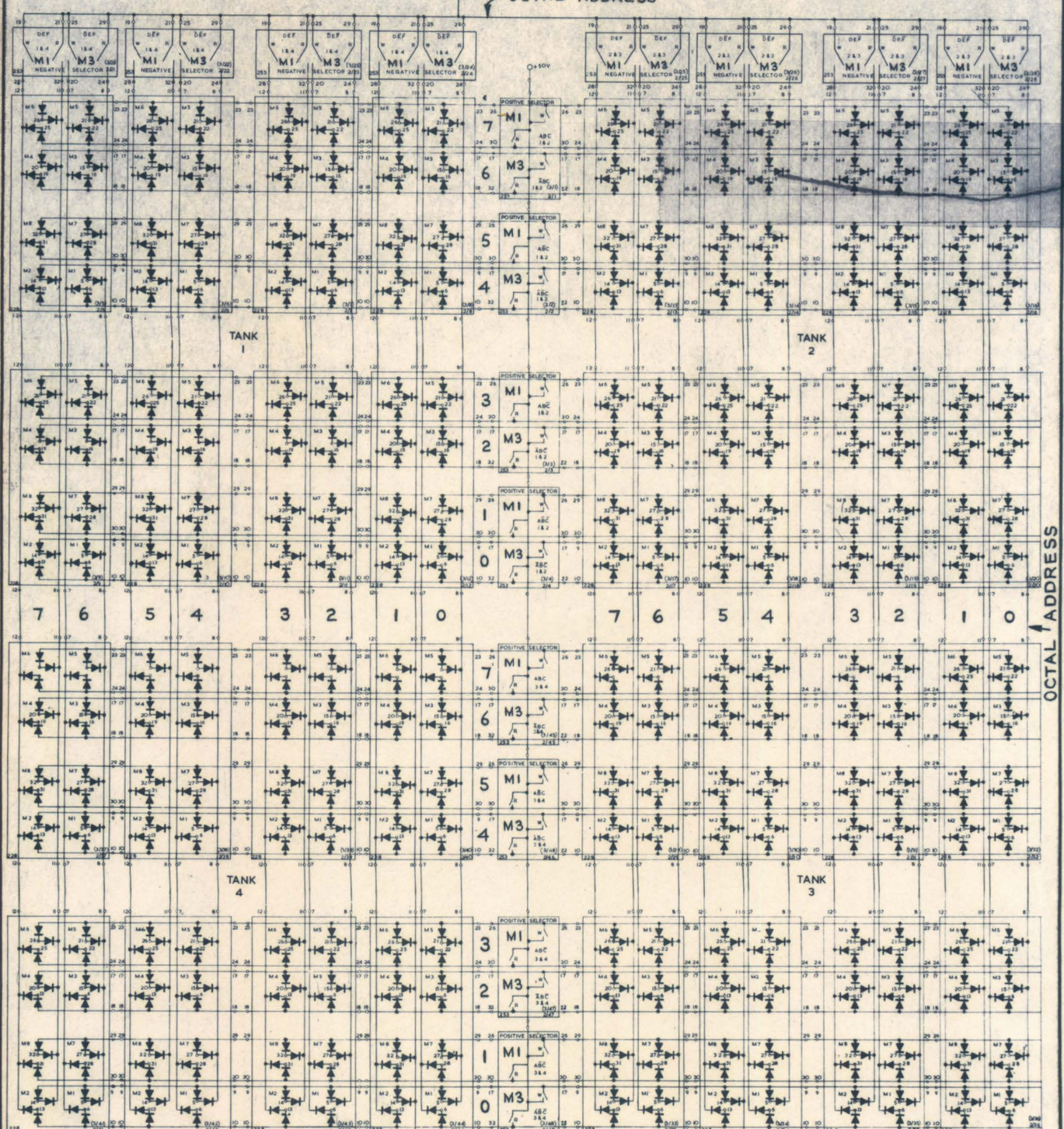
$\bar{B}_T$ & A_T = 3

B_T & $\bar{A}_T$ = 2

B_T & A_T = 1



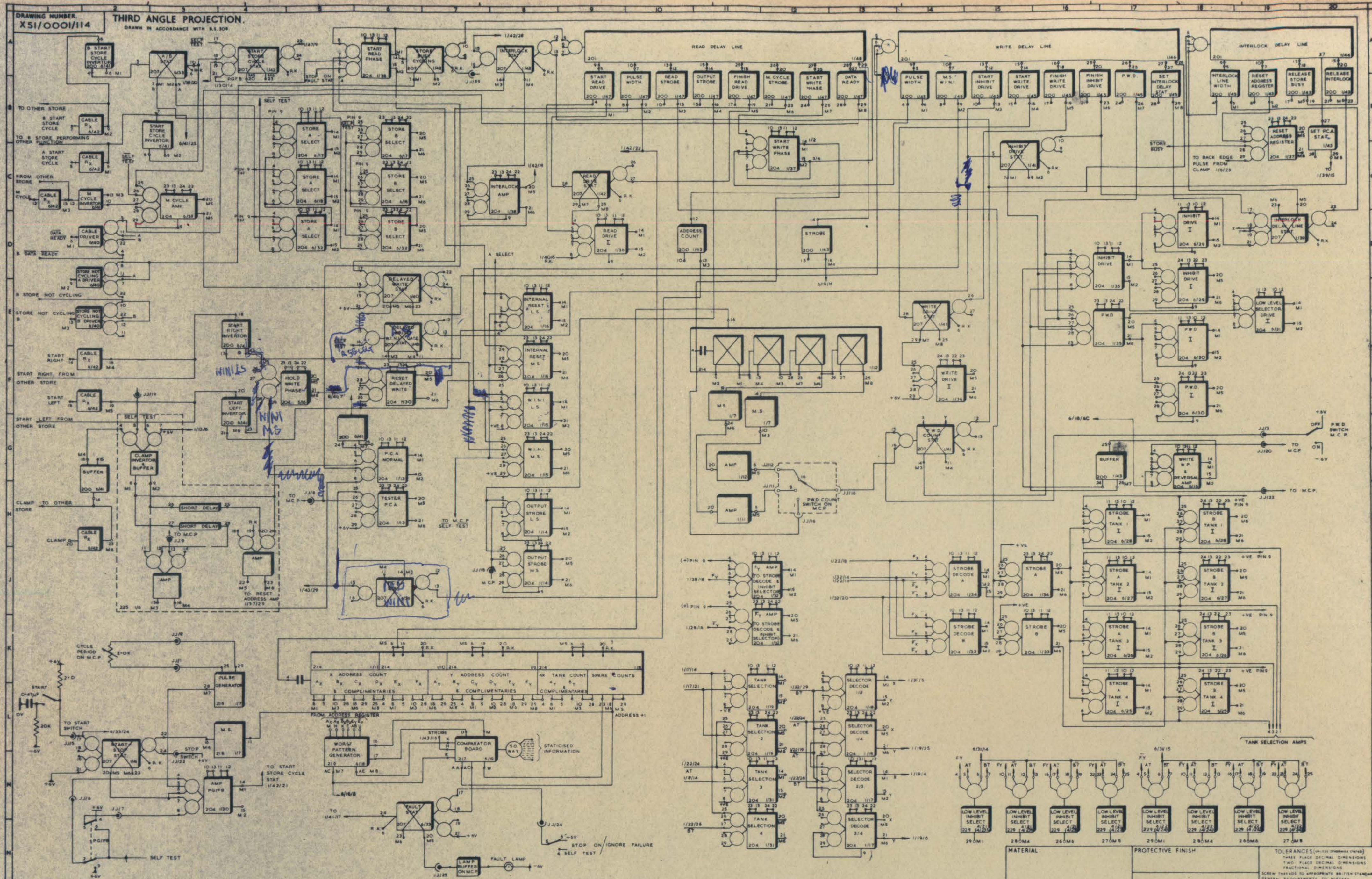
OCTAL ADDRESS



BOARD POSITIONS IN BRACKETS ARE THOSE OF THE Y ADDRESS DRIVING SYSTEM

ATLAS 2	61·4 X ADDRESS DRIVING SYSTEM.	RAB 2 STORE

A	B	C	D	E	F	G	H	J



ISSUE NO.	1	2
DATE	28-2-64	18-8-64
CHANGE NOTE NO.		
CERTIFIED		
A.S. OR MOD. NO.		

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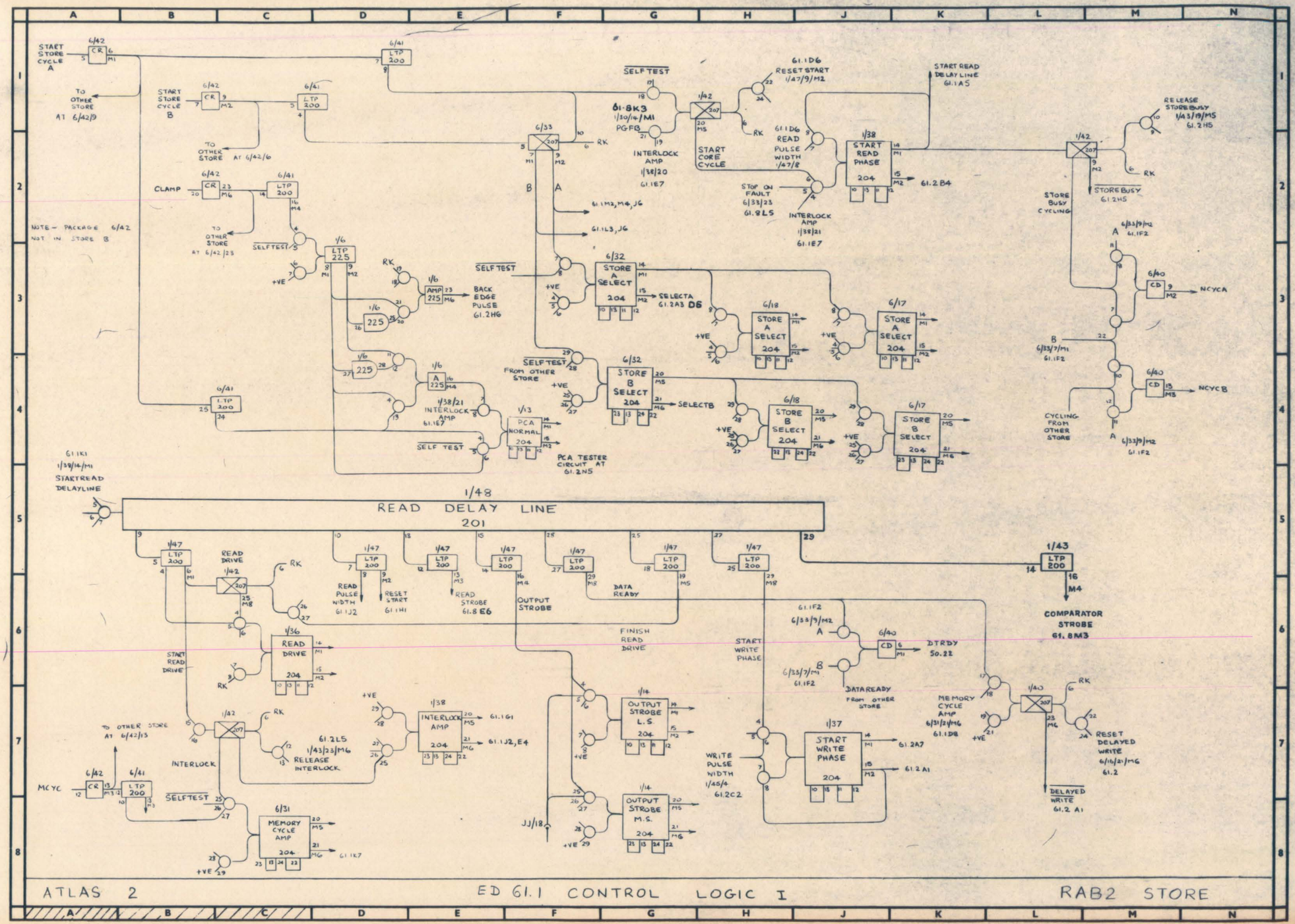
DRAWN V.E.J. | TRACED | CHECKED | APPROVED | CUSTOMERS REF.

DIMS. IN INCHES | SCALE | TITLE: CONTROL LOGIC DIAGRAM ATLAS II

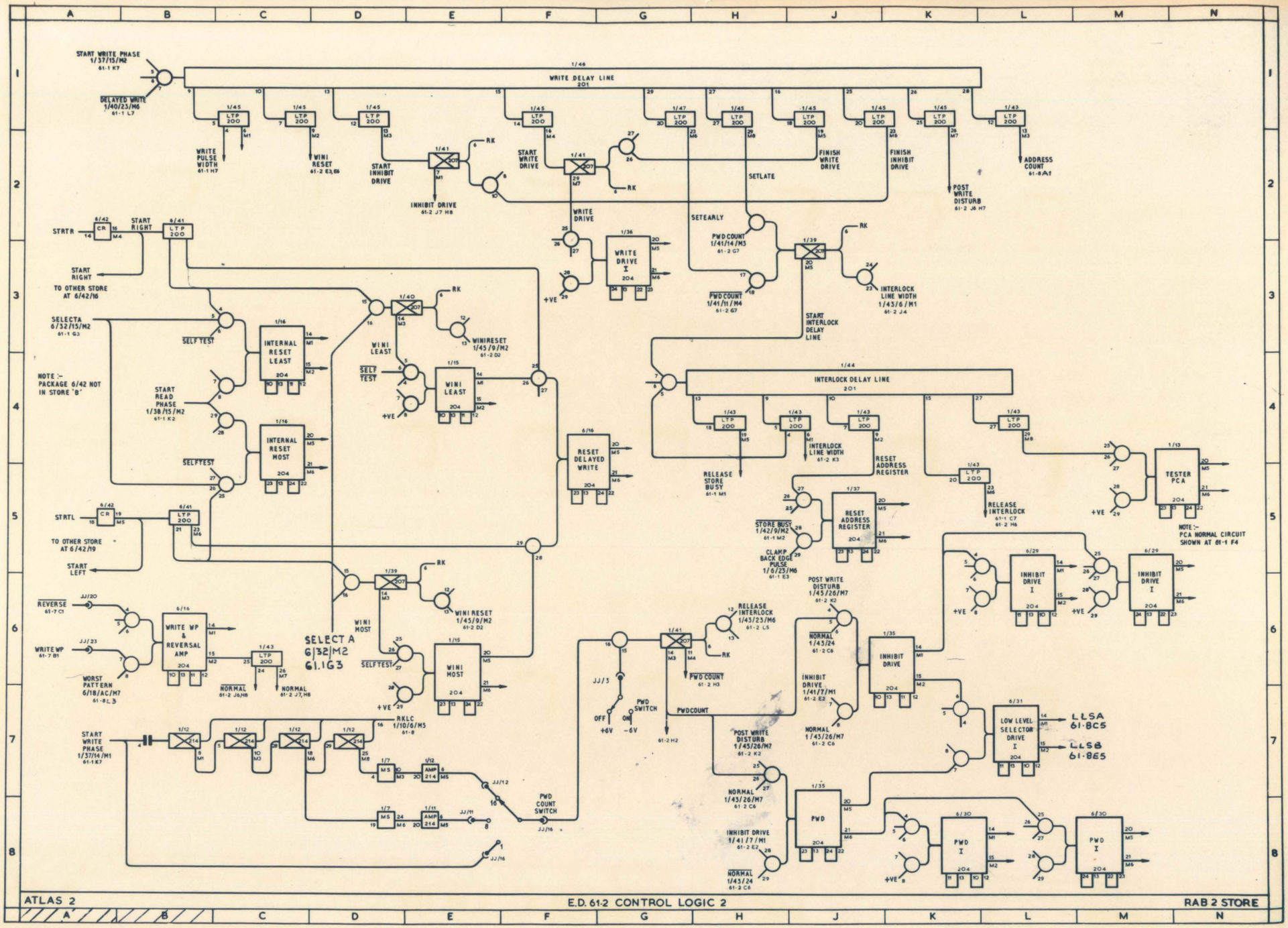
MATERIAL: | PROTECTIVE FINISH | TOLERANCES

SERVICE LETTERS | CONTROL AND NUCLEONICS DIVISION

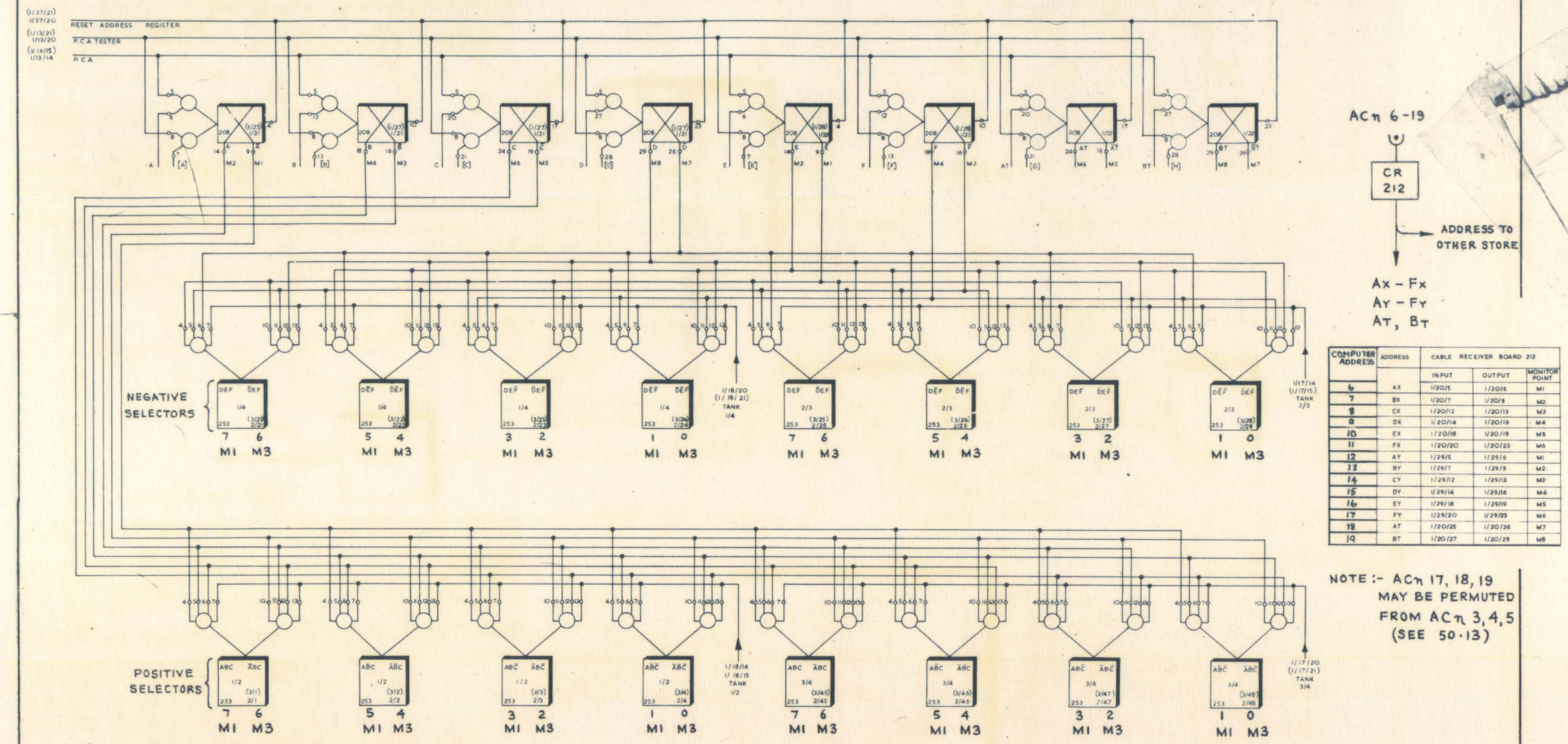
DRAWING NUMBER X51/0001/114



ATLAS 2 ED 61.1 CONTROL LOGIC I RAB2 STORE


START WRITE PHASE 1/37/15/M2
DELAYED WRITE 1/40/23/M6
WRITE DELAY LINE 201
WRITE PULSE WIDTH
WINI RESET
START INHIBIT DRIVE
INHIBIT DRIVE
START WRITE DRIVE
FINISH WRITE DRIVE
FINISH INHIBIT DRIVE
SETLATE
POST WRITE DISTURB
ADDRESS COUNT
WRITE DRIVE
SETEARLY
PWD COUNT 1/41/14/M3
PWD COUNT 1/41/11/M4
INTERLOCK LINE WIDTH 1/43/6/M1
START INTERLOCK DELAY LINE
STRTR
START RIGHT
TO OTHER STORE AT 6/42/16
SELECTA 6/32/15/M2
SELF TEST
INTERNAL RESET LEAST
INTERNAL RESET MOST
START READ PHASE 1/38/15/M2
SELFTEST
NOTE :- PACKAGE 6/42 NOT IN STORE 'B'
WINI LEAST
WINIRESET 1/45/9/M2
WINI MOST
RESET DELAYED WRITE
STRTL
TO OTHER STORE AT 6/42/19
START LEFT
INTERLOCK DELAY LINE 201
RELEASE STORE BUSY
RESET ADDRESS REGISTER
STORE BUSY 1/42/9/M2
CLAMP BACK EDGE PULSE 1/6/23/M6
RELEASE INTERLOCK
TESTER PCA
NOTE :- PCA NORMAL CIRCUIT SHOWN AT 61-1 F4
INHIBIT DRIVE I
REVERSE
WRITE WP
WORST PATTERN 6/18/AC/M7
WRITE WP & REVERSAL AMP
NORMAL
SELECT A 6/32/M2 61.1G3
RELEASE INTERLOCK 1/45/23/M6
POST WRITE DISTURB 1/45/26/M7
PWD COUNT
PWD SWITCH
OFF
ON
+6V
-6V
INHIBIT DRIVE 1/41/7/M1
LOW LEVEL SELECTOR DRIVE I
LLSA 61-8C5
LLSB 61-8E5
START WRITE PHASE 1/37/14/M1
RKLC 1/10/6/M5
PWD COUNT SWITCH
PWD
PWD I
ATLAS 2
E.D. 61-2 CONTROL LOGIC 2
RAB 2 STORE

AT & BT DIGITS
TO 61·8A, C, E2 - 5, H5, K5



ACn 6-19

CR 212

ADDRESS TO OTHER STORE

Ax - Fx
Ay - Fy
AT, BT

COMPUTER ADDRESS	ADDRESS	CABLE RECEIVER BOARD 212		
		INPUT	OUTPUT	MONITOR POINT
6	AX	1/20/5	1/20/6	M1
7	BX	1/20/7	1/20/9	M2
8	CX	1/20/12	1/20/13	M3
9	DX	1/20/14	1/20/16	M4
10	EX	1/20/18	1/20/19	M5
11	FX	1/20/20	1/20/23	M6
12	AY	1/29/5	1/29/6	M1
13	BY	1/29/7	1/29/9	M2
14	CY	1/29/12	1/29/13	M3
15	DY	1/29/14	1/29/16	M4
16	EY	1/29/18	1/29/19	M5
17	FY	1/29/20	1/29/23	M6
18	AT	1/20/25	1/20/26	M7
19	BT	1/20/27	1/20/29	M8

NOTE :- ACn 17, 18, 19 MAY BE PERMUTED FROM ACn 3, 4, 5 (SEE 50·13)

NOTE THE BOARD POSITIONS IN BRACKETS ARE THOSE FOR THE 'Y' ADDRESS SYSTEM

A	B	C	D	E	F	G	H	J	K	L	M	N

ATLAS 2 — ED. 61.3 X ADDRESS SYSTEM. — RAB2 STORE

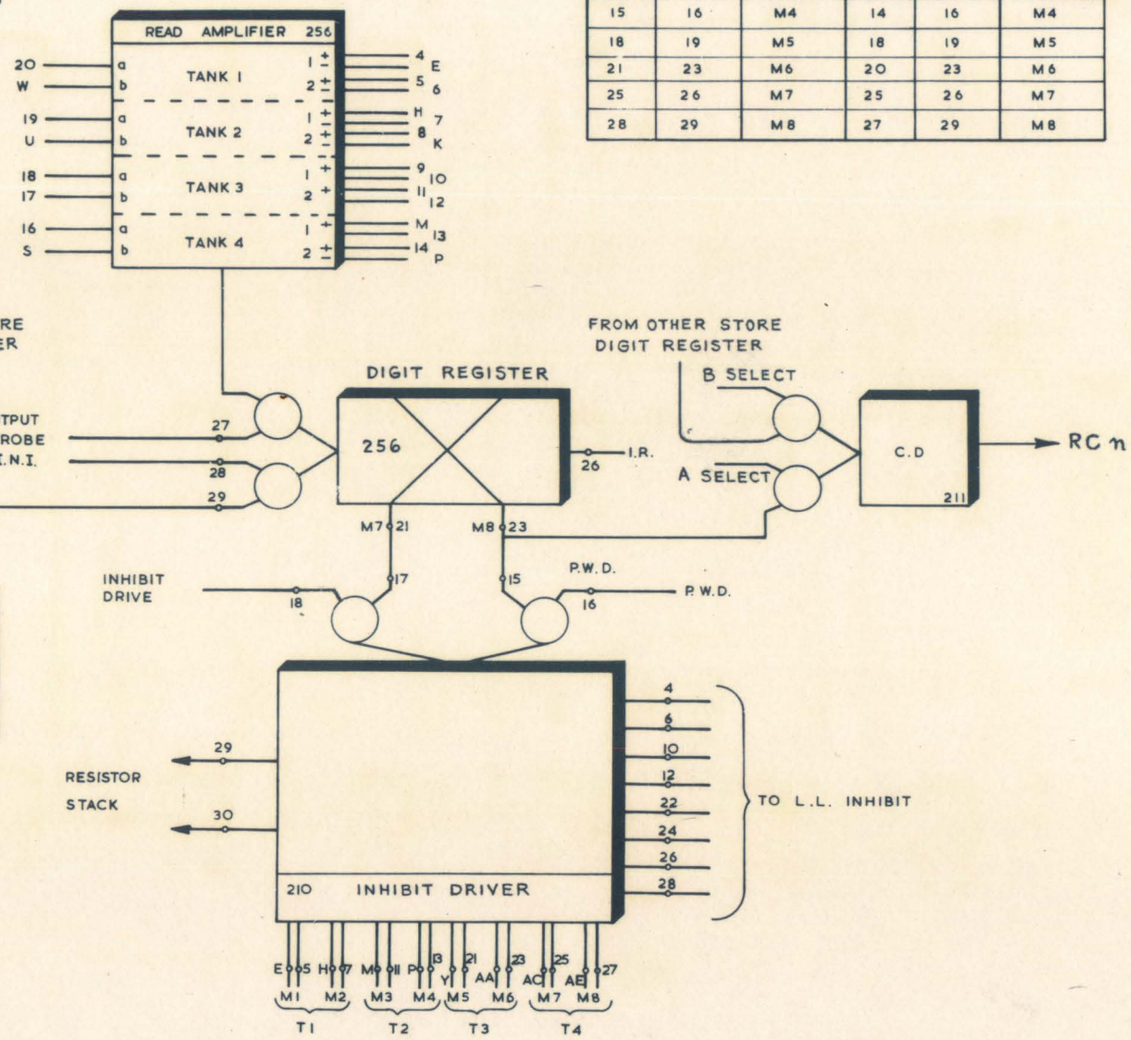
PACKAGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CR 212	M1	M2	M3	6/43 M4	M5	M6	M7	M8	M1	M2	M3	6/44 M4	M5	M6	M7	M8
RA 256	5/1	5/2	5/3	5/4	5/5	5/6	5/7	5/8	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16
ID 210	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8	4/9	4/10	4/11	4/12	4/13	4/14	4/15	4/16
CD 211	M1	M2	M3	6/34 M4	M5	M6	M7	M8	M1	M2	M3	6/35 M4	M5	M6	M7	M8

PACKAGE	16	17	18	19	20	21	22	23	PL	PM
CR 212	M1	M2	M3	6/45 M4	M5	M6	M7	M8	M7	6/42 M8
RA 256	5/17	5/18	5/19	5/20	6/21	6/22	6/23	6/24	6/3	6/4
ID 210	4/17	4/18	4/19	4/20	5/21	5/22	5/23	5/24	6/1	6/2
CD 211	M1	M2	M3	6/36 M4	M5	M6	M7	M8	M7	6/40 M8

PACKAGE	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
CR 212	M1	M2	M3	6/46 M4	M5	M6	M7	M8	M1	M2	M3	6/47 M4	M5	M6	M7	M8
RA 256	5/25	5/26	5/27	5/28	5/29	5/30	5/31	5/32	5/33	5/34	5/35	5/36	5/37	5/38	5/39	5/40
ID 210	4/25	4/26	4/27	4/28	4/29	4/30	4/31	4/32	4/33	4/34	4/35	4/36	4/37	4/38	4/39	4/40
CD 211	M1	M2	M3	6/37 M4	M5	M6	M7	M8	M1	M2	M3	6/38 M4	M5	M6	M7	M8

PACKAGE	40	41	42	43	44	45	46	47
CR 212	M1	M2	M3	6/48 M4	M5	M6	M7	M8
RA 256	5/41	5/42	5/43	5/44	5/45	5/46	5/47	5/48
ID 210	4/41	4/42	4/43	4/44	4/45	4/46	4/47	4/48
CD 211	M1	M2	M3	6/39 M4	M5	M6	M7	M8

CABLE DRIVER BOARD 211			CABLE RECEIVER BOARD 212		
INPUT	OUTPUT	MONITOR POINT	INPUT	OUTPUT	MONITOR POINT
5	6	M1	5	6	M1
8	9	M2	7	9	M2
12	13	M3	12	13	M3
15	16	M4	14	16	M4
18	19	M5	18	19	M5
21	23	M6	20	23	M6
25	26	M7	25	26	M7
28	29	M8	27	29	M8



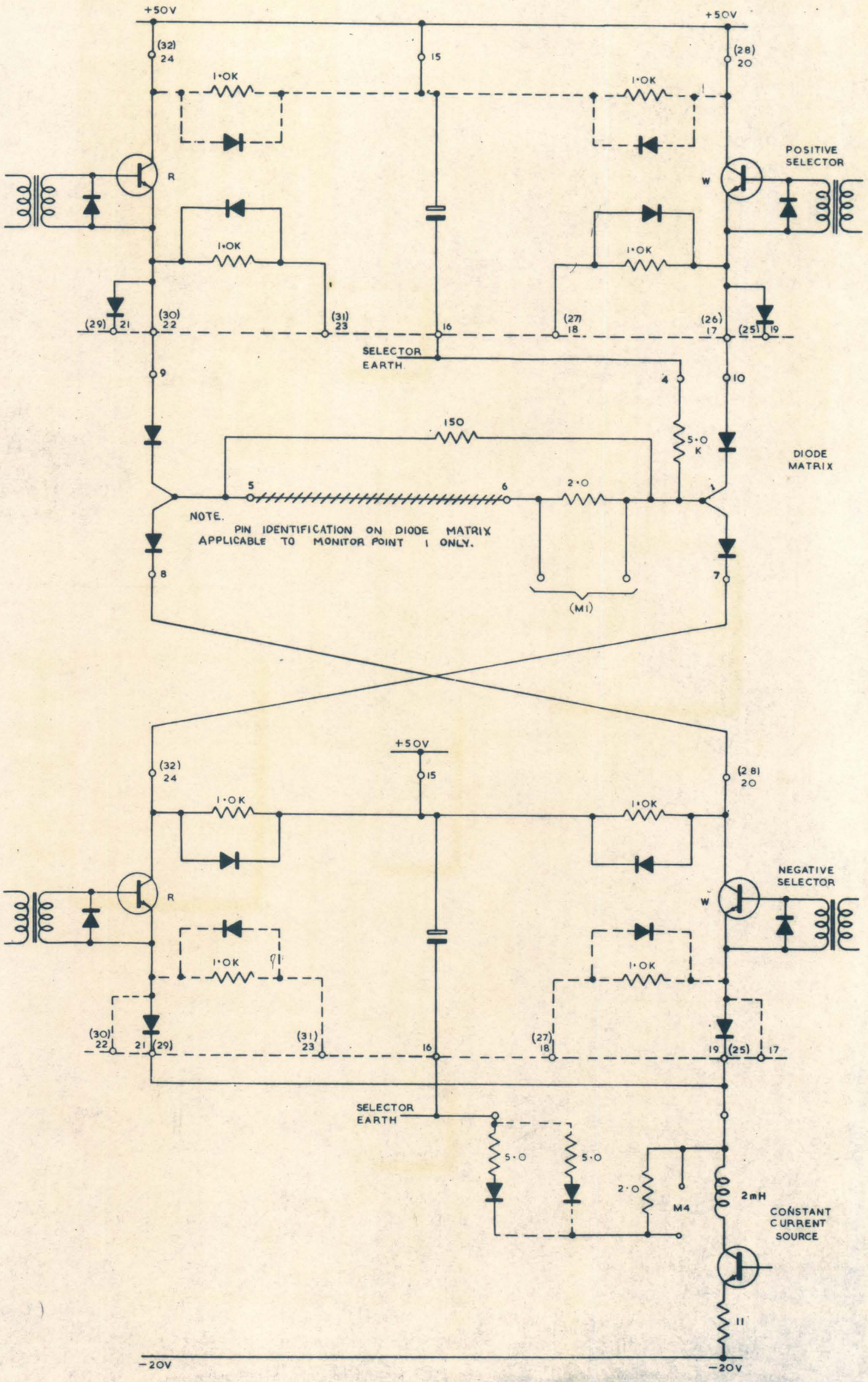
A	B	C	D	E	F	G	H	J	K	L	M	N

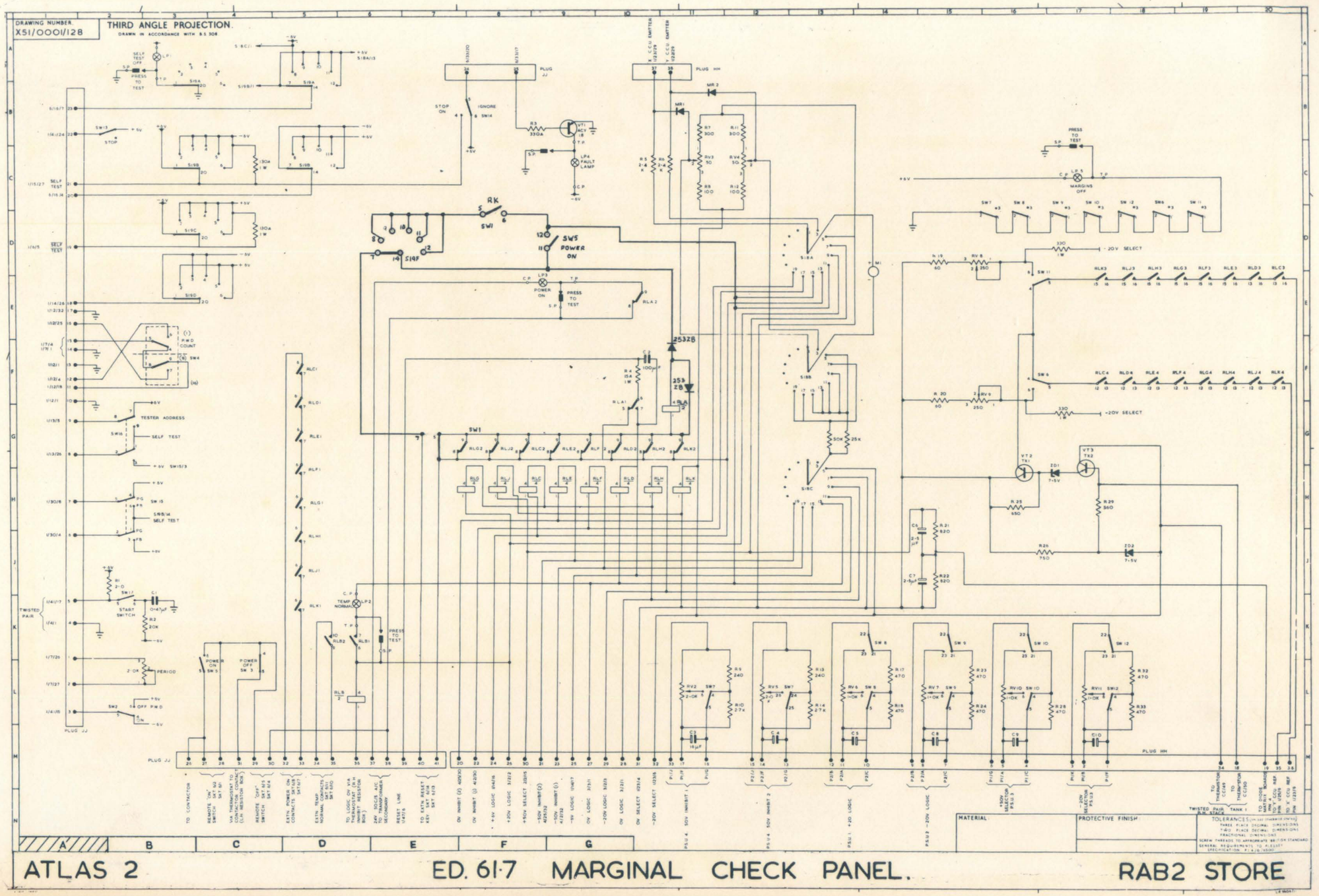
ATLAS 2 — ED 61·5 DIGIT PATHS. — RAB2 STORE

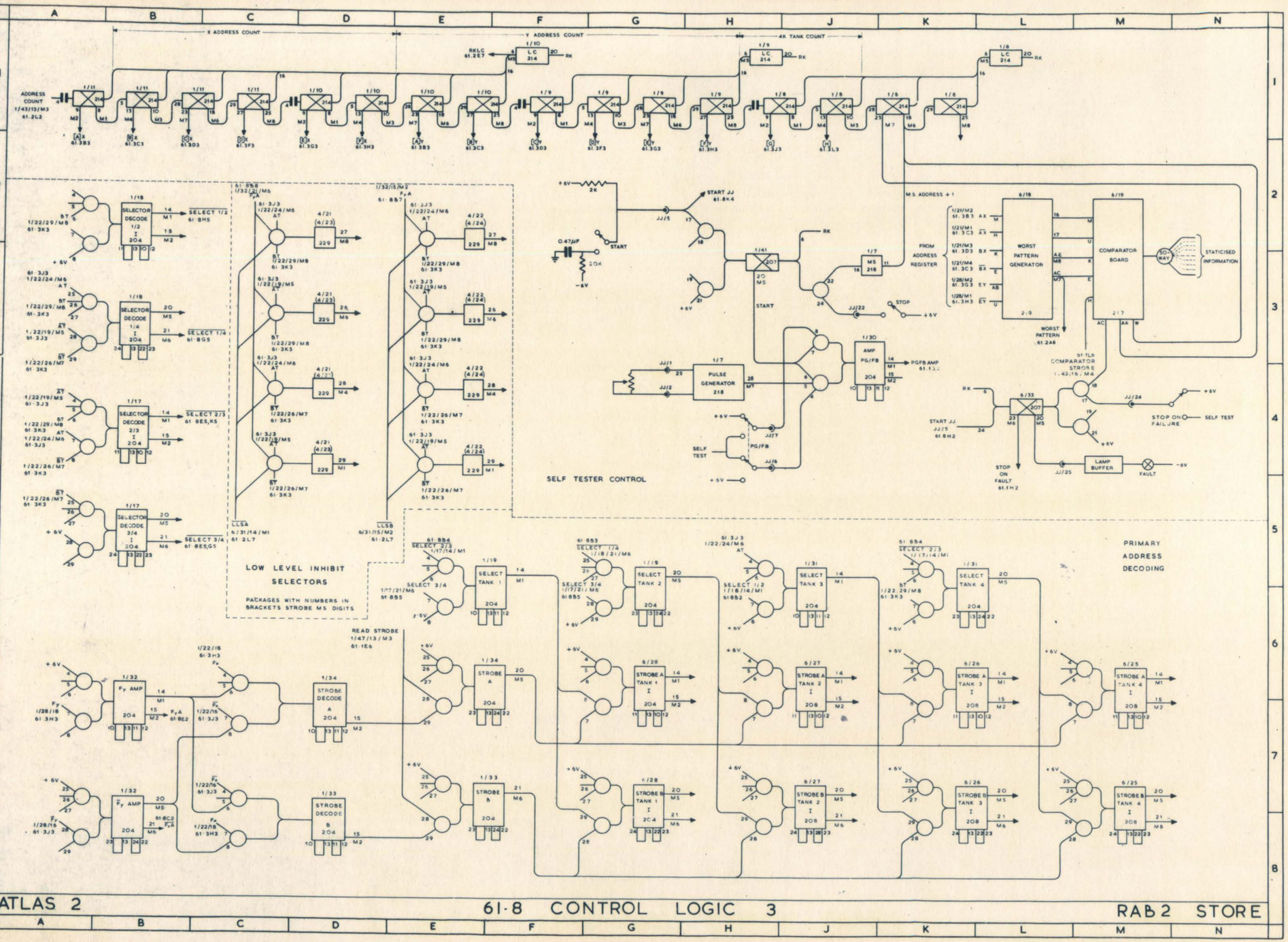
ATLAS 2

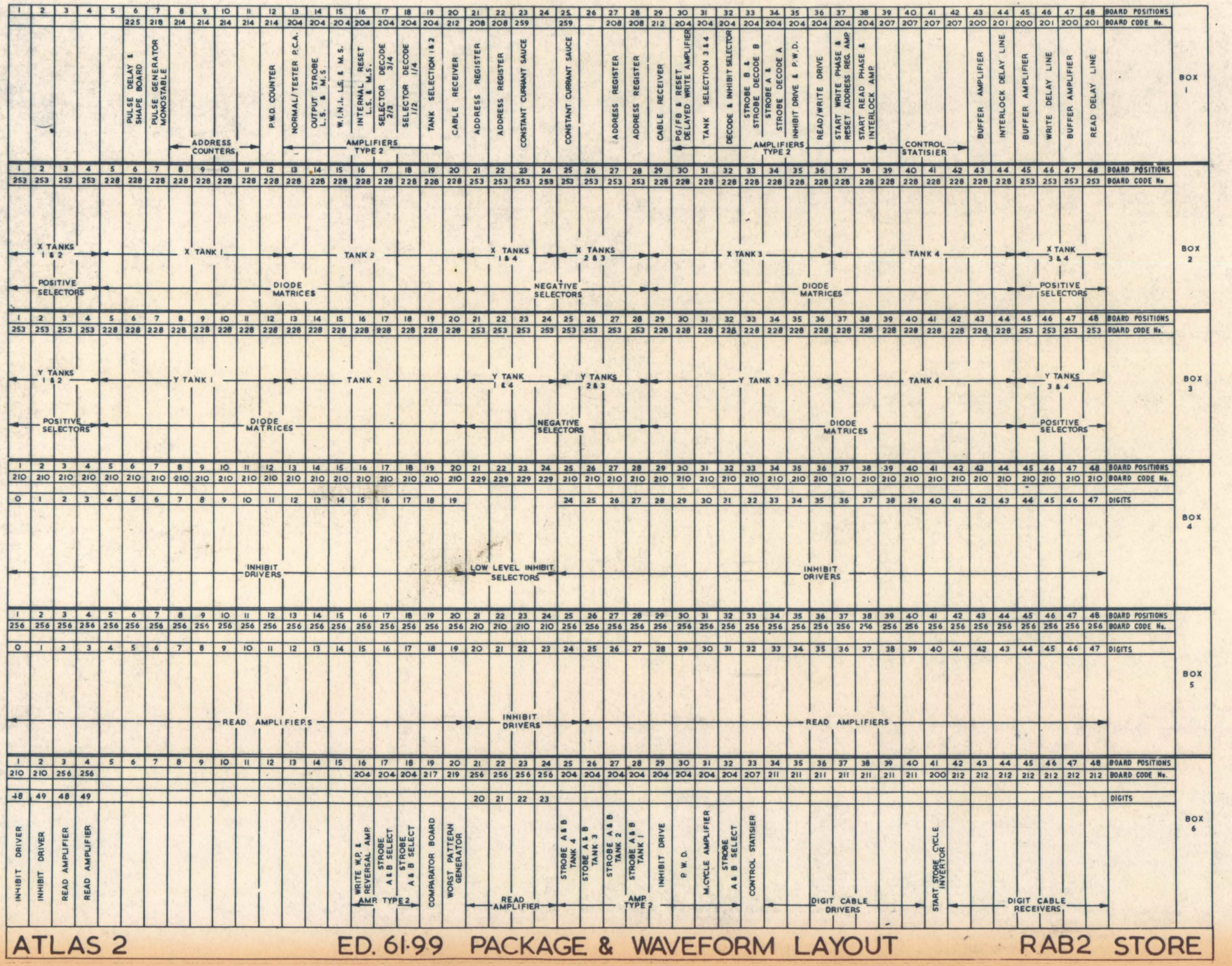
ED. 61-6 CURRENT PATH

RAB2 STORE




DRAWING NUMBER
X51/0001/128
THIRD ANGLE PROJECTION.
DRAWN IN ACCORDANCE WITH B.S. 308
SELF TEST OFF
PRESS TO TEST
STOP
IGNORE
SW1
SW5 POWER ON
POWER ON
PRESS TO TEST
TESTER ADDRESS
SELF TEST
START SWITCH
PERIOD
OFF PWD
ON
PWD COUNT
MARGINS OFF
-20V SELECT
+20V SELECT
TEMP NORMAL
FAULT LAMP
PLUG JJ
PLUG HH
MATERIAL
PROTECTIVE FINISH
TOLERANCES
ATLAS 2
ED. 61-7 MARGINAL CHECK PANEL.
RAB2 STORE


X ADDRESS COUNT
Y ADDRESS COUNT
4K TANK COUNT
ADDRESS COUNT 1/43/13/M3 61·2L2
SELECT 1/2 61·8HS
SELECT 1/4 61·8GS
SELECT 2/3 61·8ES,KS
SELECT 3/4 61·8ES,GS
LLSA 6/31/14/M1 61·2L7
LLSB 6/31/15/M2 61·2L7
LOW LEVEL INHIBIT SELECTORS
PACKAGES WITH NUMBERS IN BRACKETS STROBE MS DIGITS
SELF TESTER CONTROL
START
PULSE GENERATOR 218
WORST PATTERN GENERATOR
COMPARATOR BOARD
STATICISED INFORMATION
FROM ADDRESS REGISTER
WORST PATTERN 61.2A6
COMPARATOR STROBE 1·43/15/M4
STOP ON FAILURE
SELF TEST
LAMP BUFFER
FAULT
STOP ON FAULT 61.1H2
PGFB AMP 61.1J2
READ STROBE 1/47/13/M3 61·1E6
SELECT TANK 1
SELECT TANK 2
SELECT TANK 3
SELECT TANK 4
STROBE A
STROBE B
STROBE DECODE A
STROBE DECODE B
PRIMARY ADDRESS DECODING



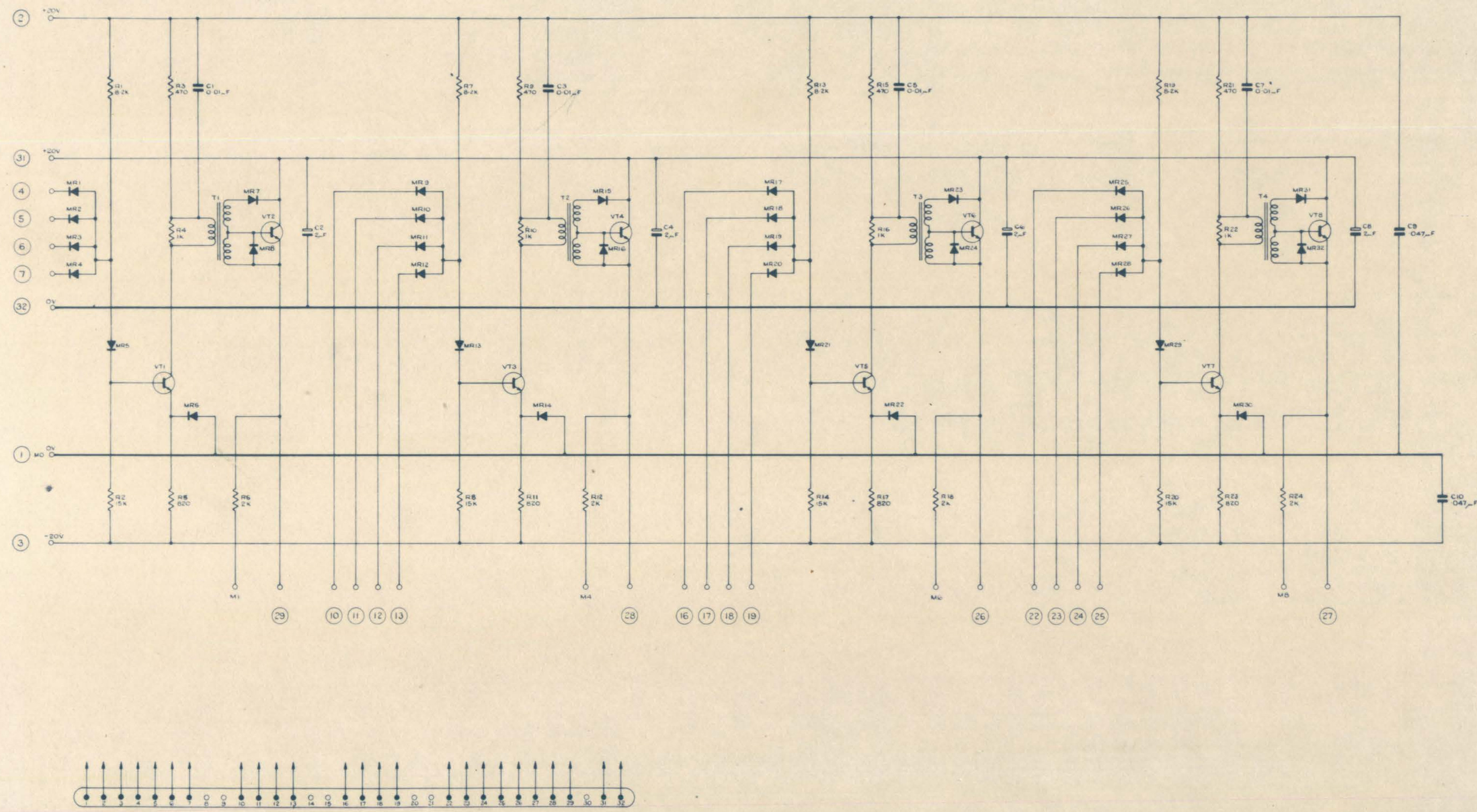
ATLAS 2 ED. 61-99 PACKAGE & WAVEFORM LAYOUT RAB2 STORE

DRAWING NUMBER 612/6/13861

THIRD ANGLE PROJECTION

DRAWN IN ACCORDANCE WITH B.S. 308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
MISCELLANEOUS	MR1 MR2 MR3 MR4 MR5 VT1 MR6 T1 MR7 MR8 VT2 MR9 MR10 MR11 MR12 MR13 VT3 MR14 T2 MR15 MR16 VT4 MR17 MR18 MR19 MR20 MR21 VT5 MR22 T3 MR23 MR24 VT6 MR25 MR26 MR27 MR28 MR29 VT6 MR30 T4 MR31 MR32 VT8



MATERIAL	PROTECTIVE FINISH	TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS / TWO PLACE DECIMAL DIMENSIONS / FRACTIONAL DIMENSIONS / SCREW THREADS TO APPROPRIATE BRITISH STANDARD / GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION PLA/S/3500

ISSUE NO.	1
DATE	6-12-63
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD. NO.	

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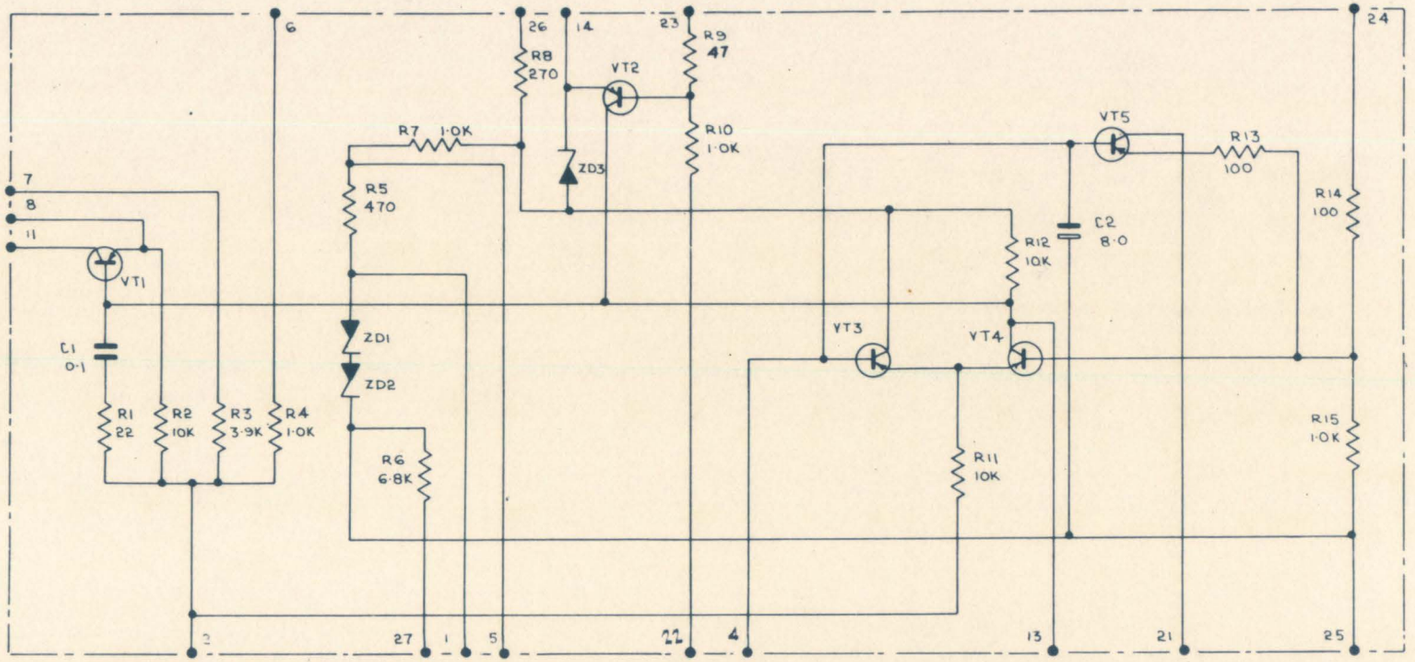
DRAWN	TRACED	CHECKED	APPROVED	CUSTOMERS REF	SERVICE LETTERS
M.G.					

DIMS. IN INCHES | SCALE | TITLE: LOW LEVEL INHIBIT SELECTOR | CODE Nº 229

DRAWING NUMBER 612/6/13861

DRAWING NUMBER	THIRD ANGLE PROJECTION
605/6/C:042	DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15
CAPACITORS	C1 C2
MISCELLANEOUS	VT1 ZD1 ZD2 ZD3 VT2 VT3 VT4 VT5



NOTE
ALL CAPACITOR VALUES ARE SHOWN IN μF

ISSUE NO	1	2	3	4						
DATE	27·5·63	9/12/63	13·2·64	20·2·64						
CHANGE NOTE NO		67608	67811	67827						
CERTIFIED										
A.S. OR MOD. NO										

MATERIAL

PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS
TWO PLACE DECIMAL DIMENSIONS
FRACTIONAL DIMENSIONS
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION PLA/GASK

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DRAWN: Y.JARMAN | TRACED | CHECKED | APPROVED | CUSTOMER'S REFERENCE

SERVICE LETTERS

WAS 5432B/080

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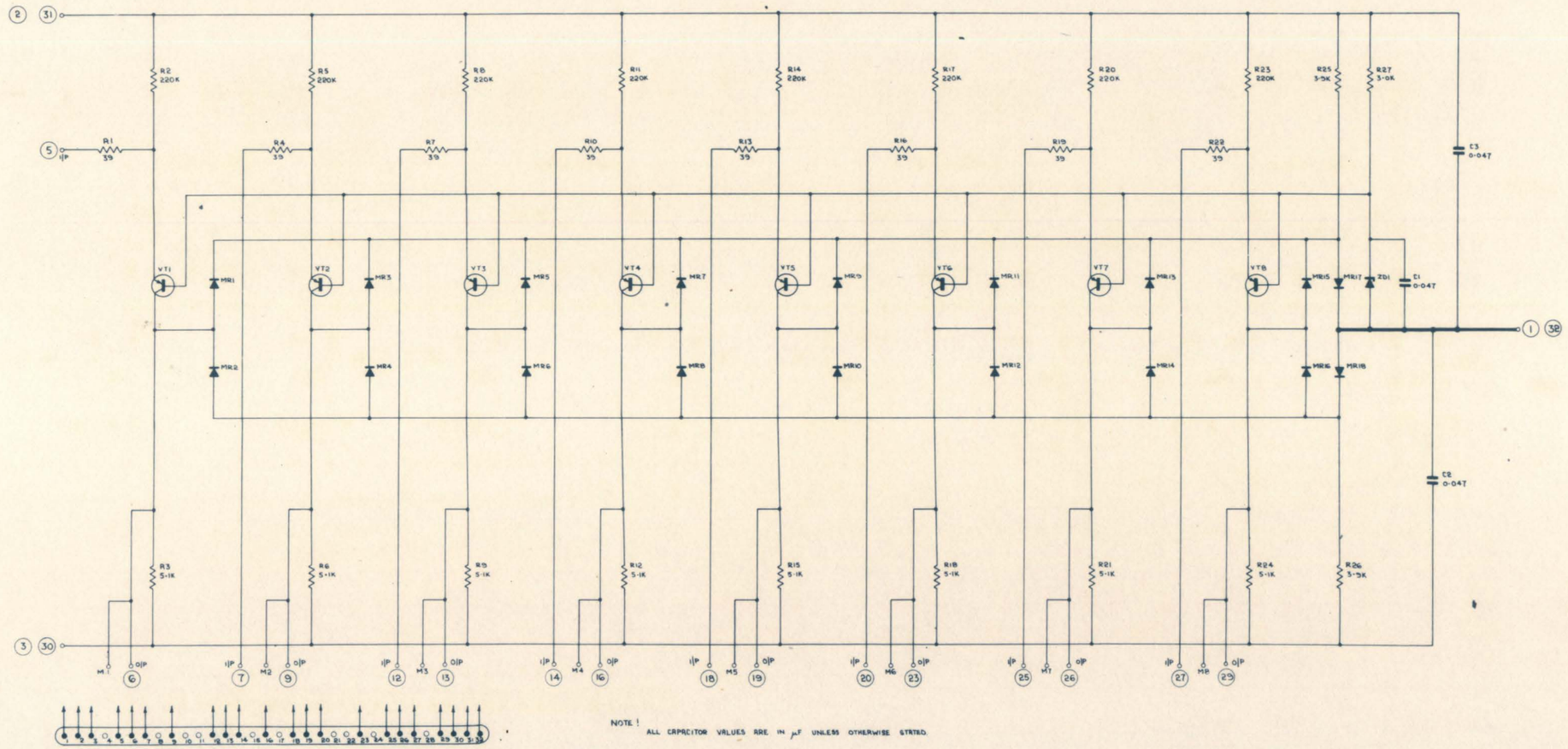
DIMS. IN INCHES | SCALE

TITLE
CIRCUIT DIAGRAM P.C.B T24/7 -24/13

DRAWING NUMBER
605/6/01042

DRAWING NUMBER	THIRD ANGLE PROJECTION.
612/6/07968	DRAWN IN ACCORDANCE WITH B.S. 308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27
CAPACITORS	C1 C2 C3
MISCELLANEOUS	VT1 MR1 MR2 VT2 MR3 MR4 VT3 MR5 MR6 VT4 MR7 MR8 VT5 MR9 MR10 VT6 MR11 MR12 VT7 MR13 MR14 VT8 MR15 MR16 MR17 MR18 ZD1



NOTE!
ALL CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE STATED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

ISSUE NO.	1
DATE	28-10-64
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD. NO.	

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMERS REF.	
Y.JARMAN					
DIMS. IN INCHES	SCALE	TITLE: CIRCUIT DIAGRAM CABLE RECEIVER. BOARD NO. 212.			

MATERIAL:	PROTECTIVE FINISH:	TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS ±0.005 TWO PLACE DECIMAL DIMENSIONS ±0.01 FRACTIONAL DIMENSIONS ±1/64 SCREW THREADS TO APPROPRIATE BRITISH STANDARD. GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.L.1/0/5000.
	SERVICE LETTERS	
		DRAWING NUMBER 612/6/07968

DRAWING NUMBER 612/6/07965

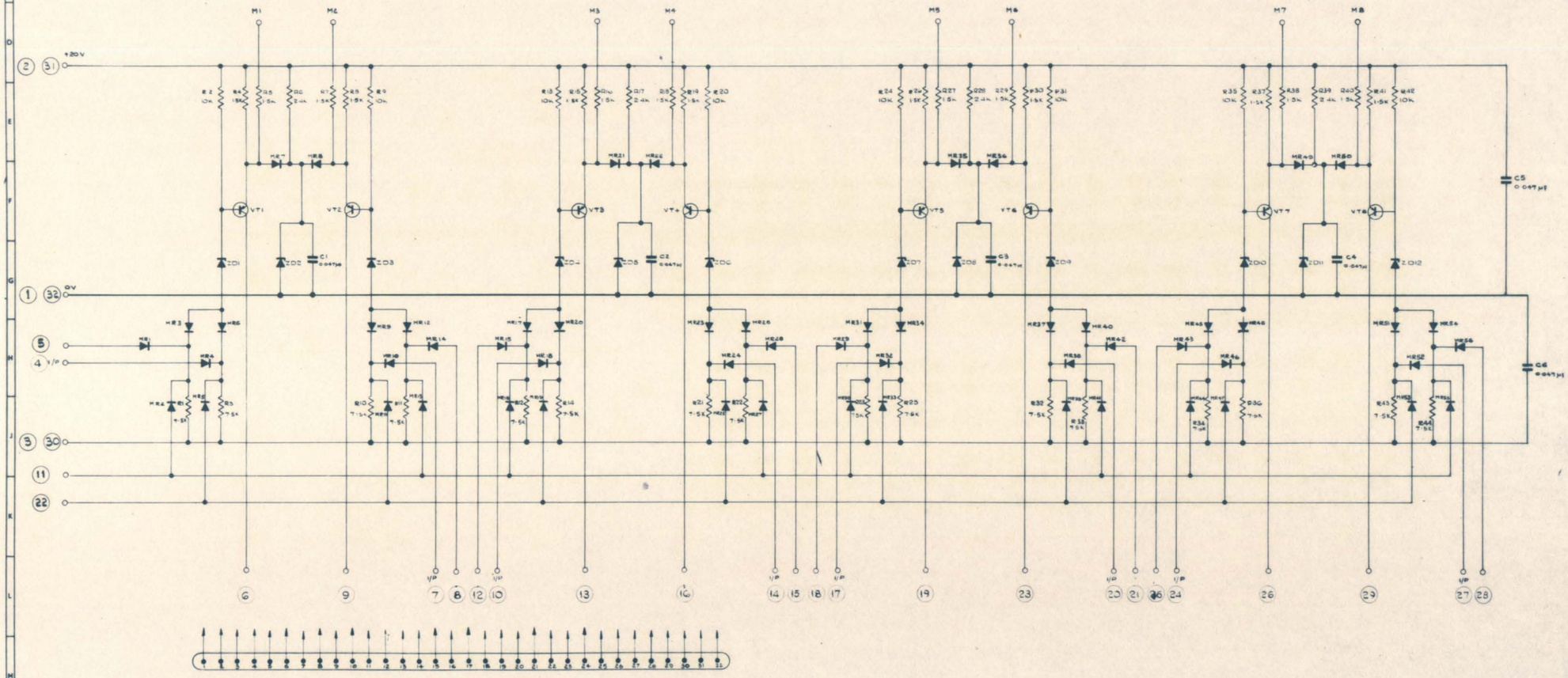
THIRD ANGLE PROJECTION.

DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS: R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44

CAPACITORS: C1 C2 C3 C4 C5 C6

MISCELLANEOUS: HR1 HR2 HR3 HR4 HR5 ZD1 HR6 ZD2 HR7 HR8 ZD3 HR9 HR10 HR11 HR12 HR13 HR14 HR15 HR16 HR17 HR18 HR19 ZD4 HR20 ZD5 HR21 HR22 ZD6 HR23 HR24 HR25 HR26 HR27 HR28 HR29 HR30 HR31 HR32 HR33 ZD7 HR34 HR35 ZD8 HR36 HR37 HR38 ZD9 HR39 HR40 HR41 HR42 HR43 HR44 HR45 HR46 HR47 HR48 ZD10 HR49 ZD11 HR50 HR51 HR53 ZD12 HR54 HR55 HR56



ISSUE NO.	1
DATE	10-6-68
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD NO.	

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DRAWN G.R.B.	TRACED	CHECKED	APPROVED	CUSTOMERS REF
DIMS. IN INCHES	SCALE			

MATERIAL

PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS ±
TWO PLACE DECIMAL DIMENSIONS ±
FRACTIONAL DIMENSIONS ±
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.-/G/6500

SERVICE LETTERS

TITLE 211 CABLE DRIVER

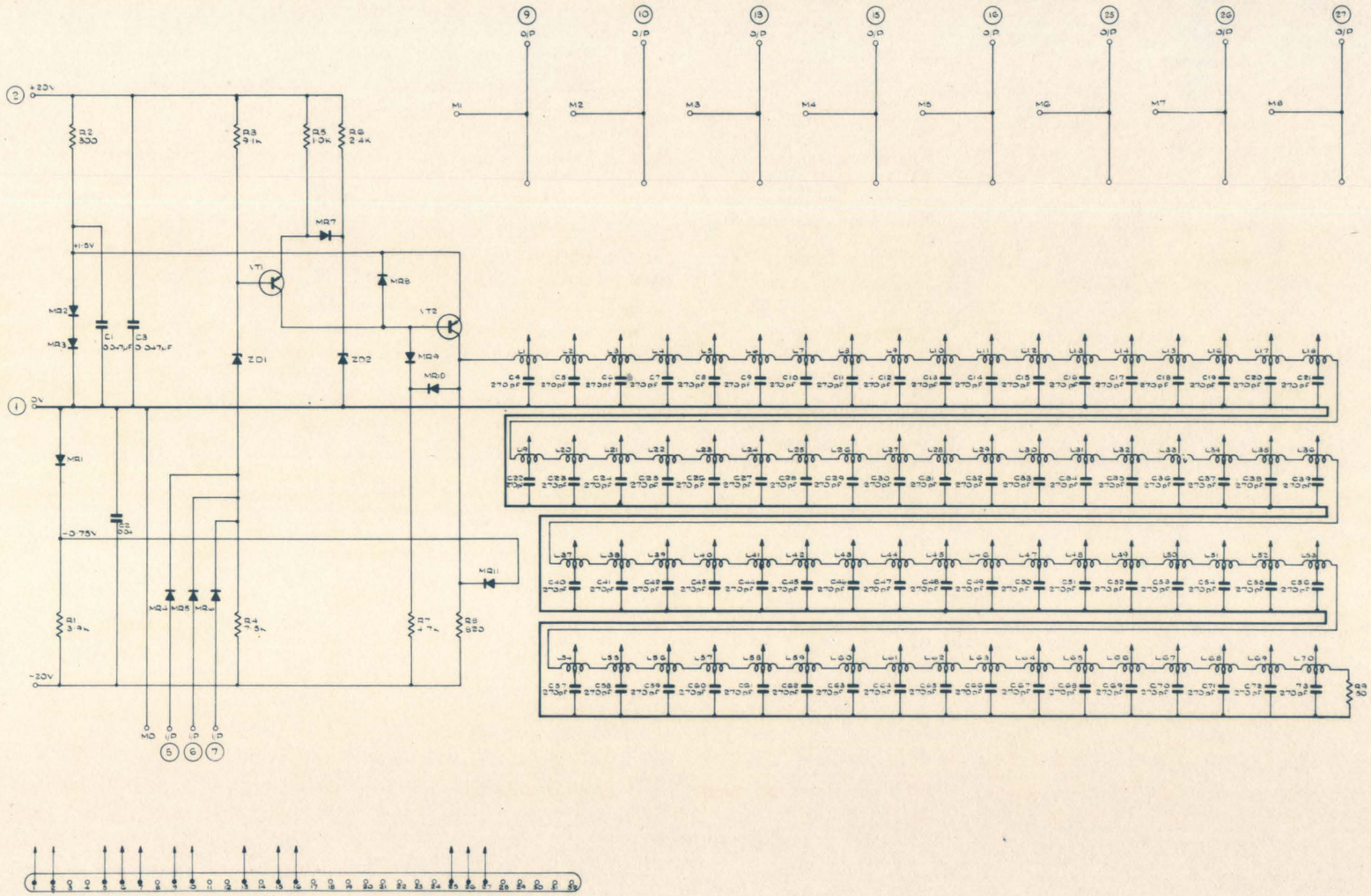
DRAWING NUMBER 612/6/07965

DRAWING NUMBER 612/6/07935

THIRD ANGLE PROJECTION.

DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47 C48 C49 C50 C51 C52 C53 C54 C55 C56 C57 C58 C59 C60 C61 C62 C63 C64 C65 C66 C67 C68 C69 C70
MISCELLANEOUS	MR1 MR2 MR3 MR4 MR5 MR6 ZD1 VT1 MR7 ZD2 MR8 MR9 MR10 ZD2 MR11 L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19



ISSUE NO.	1	THE PLESSEY COMPANY LIMITED OWNS THE COPYRIGHT OF THIS DRAWING WHICH IS SUPPLIED IN CONFIDENCE AND WHICH MUST NOT BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS SUPPLIED, AND MUST NOT BE REPRODUCED WITHOUT PERMISSION IN WRITING FROM THE OWNERS.	DRAWN J.L.	TRACED	CHECKED	APPROVED	CUSTOMERS REF.	MATERIAL	PROTECTIVE FINISH
DATE	26-3-63								
CHANGE NOTE NO.									
CERTIFIED									
A.S. OR MOD. NO.									

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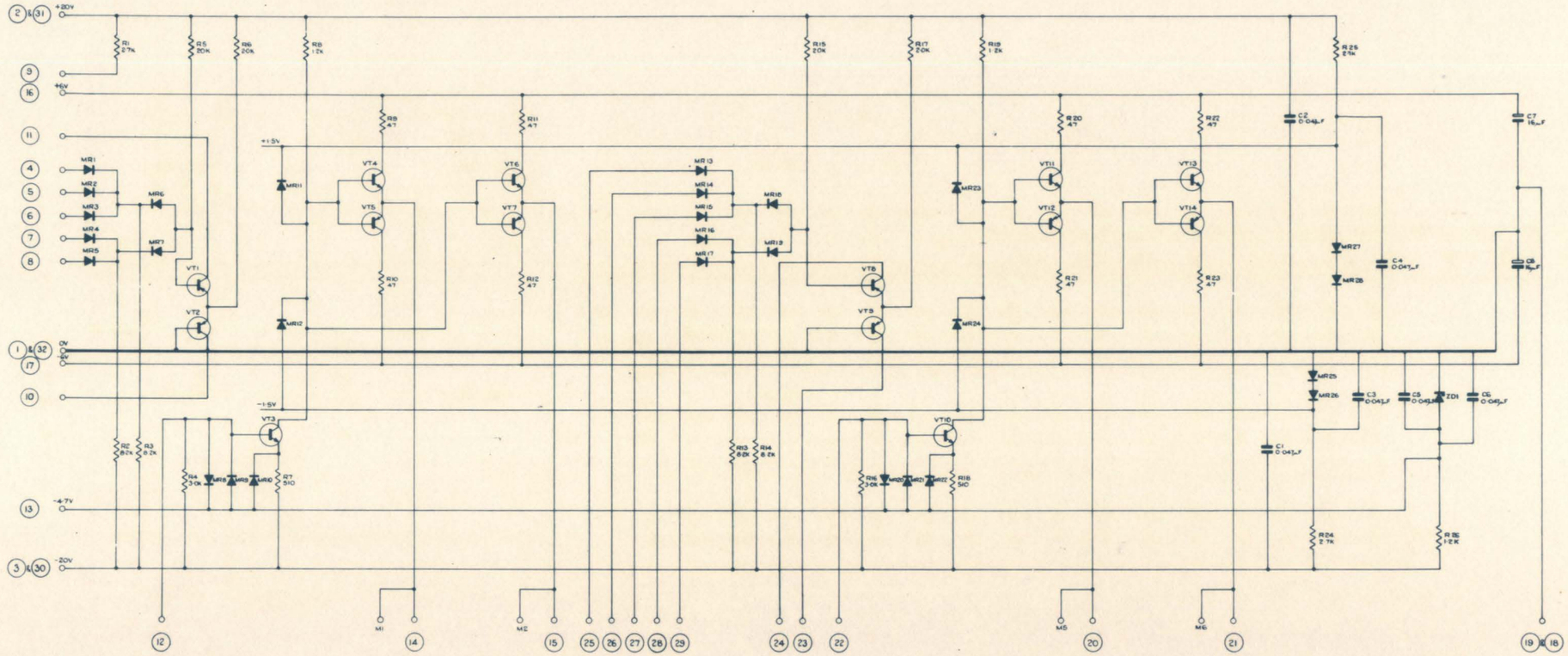
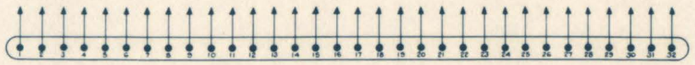
DIMS. IN INCHES | SCALE | TITLE: DELAY LINE CODE 201 | SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS ±0.005 TWO PLACE DECIMAL DIMENSIONS ±0.01 FRACTIONAL DIMENSIONS ±1/64 SCREW THREADS TO APPROPRIATE BRITISH STANDARD. GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION FL1/8/5000

DRAWING NUMBER 612/6/07935

DRAWING NUMBER	612/6/07944
	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S.308
RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8
MISCELLANEOUS	MR1 MR2 MR3 MR4 MR5 MR6 MR7 VT1 VT2 MR8 MR9 MR10 MR11 MR12 VT3 VT4 VT5 VT6 VT7 MR13 MR14 MR15 MR16 MR17 MR18 MR19 VT8 VT9 MR20 MR21 MR22 MR23 MR24 VT10 VT11 VT12 VT13 VT14 MR25 MR26 MR27 MR28 ZD1





ISSUE NO.	1								
DATE	28-10-63								
CHANGE NOTE NO.									
CERTIFIED									
A.S. OR MOD. NO.									

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DRAWN M.G.	TRACED	CHECKED	APPROVED	CUSTOMERS REF.	
DIMS. IN INCHES	SCALE	TITLE: AMPLIFIER TYPE 2		CODE 204	DRAWING NUMBER 612/6/07944

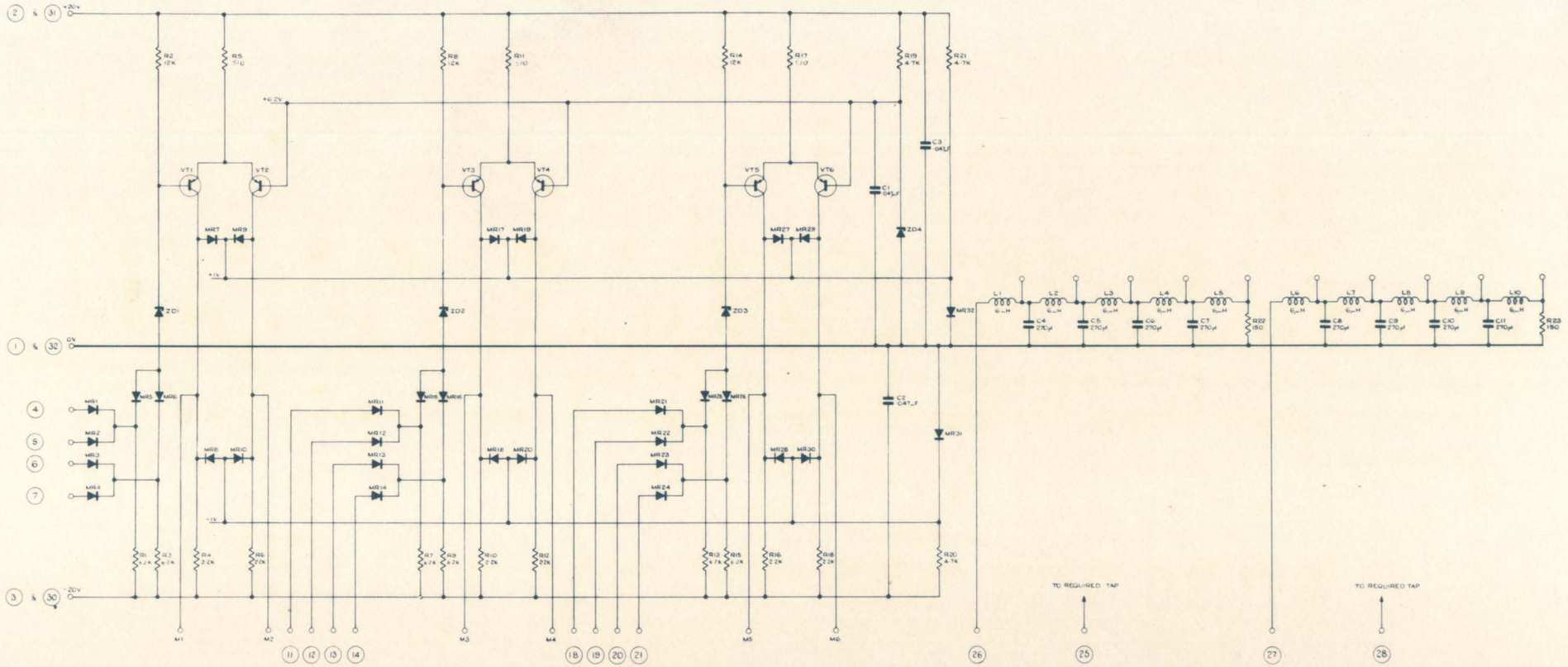
MATERIAL:

PROTECTIVE FINISH:

SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS ±0.005
TWO PLACE DECIMAL DIMENSIONS ±0.01
FRACTIONAL DIMENSIONS ±1/64
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.L.S/S/5000

DRAWING NUMBER 612/6/12926	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S. 308
RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11
MISCELLANEOUS	MR1 MR2 MR3 MR4 MR5 ZD1 MR6 VT1 MR7 MR8 MR9 MR10 VT2 MR11 MR12 MR13 MR14 MR15 ZD2 MR16 VT3 MR17 MR18 MR19 MR20 VT4 MR21 MR22 MR23 MR24 MR25 ZD3 MR26 VT5 MR27 MR28 MR29 MR30 VT6 ZD4 MR31 MR32 L1 L2 L3 L4 L5 L6 L7 L8 L9 L10



ISSUE NO.	1	2	3
DATE	11-11-63	26-11-64	17-12-64
CHANGE NOTE NO.		6/1547	6/1564
CERTIFIED			
A.S. OR MOD. NO.			

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DRAWN MG	TRACED	CHECKED	APPROVED	CUSTOMERS REF
DIMS. IN INCHES	SCALE			

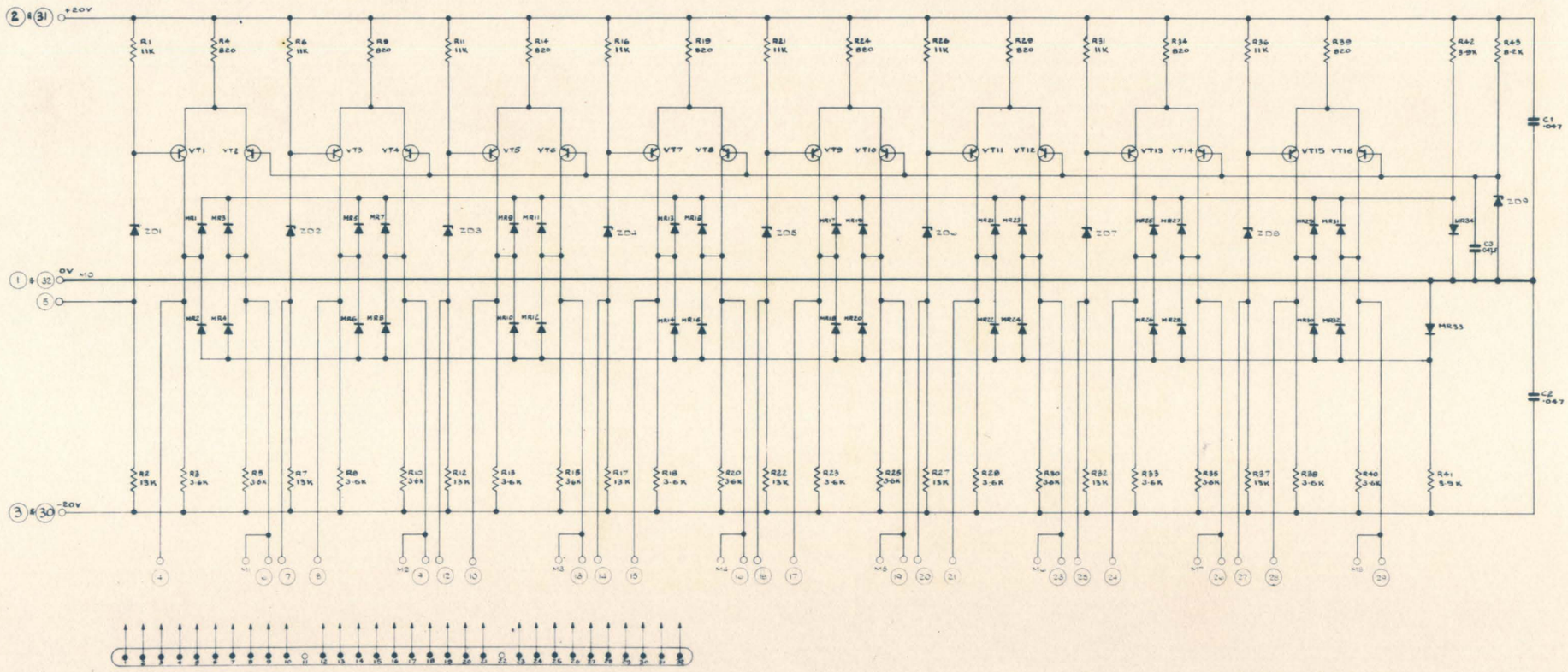
MATERIAL	PROTECTIVE FINISH	SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS ±.005 TWO PLACE DECIMAL DIMENSIONS ±.01 FRACTIONAL DIMENSIONS ±1/64 CLEAN THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.S.S. 9100

TITLE PULSE DELAY & SHAPE CODE Nº 225

DRAWING NUMBER 612/6/12926

DRAWING NUMBER 612/6/07932	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S. 308.
RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41
CAPACITORS	C3 C1 C2
MISCELLANEOUS	ZD1 VT1 MR1 MR3 MR2 MR4 VT2 ZD2 VT3 MR5 MR7 MR6 MR8 VT4 ZD3 VT5 MR9 MR11 MR10 MR12 VT6 ZD4 VT7 MR13 MR15 MR14 MR16 VT8 ZD5 VT9 MR17 MR19 MR18 MR20 VT10 ZD6 VT11 MR21 MR23 MR22 MR24 VT12 ZD7 VT13 MR25 MR27 MR26 MR28 VT14 ZD8 VT15 MR29 MR31 MR30 MR32 VT16 MR33 MR34 ZD9



ISSUE NO.	1
DATE	5-6-63
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD. NO.	

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DRAWN G.R.S.	TRACED	CHECKED	APPROVED	CUSTOMERS REF.
DIMS. IN INCHES	SCALE	TITLE	BUFFER AMPLIFIER CODE Nº 200	DRAWING NUMBER 612/6/07932

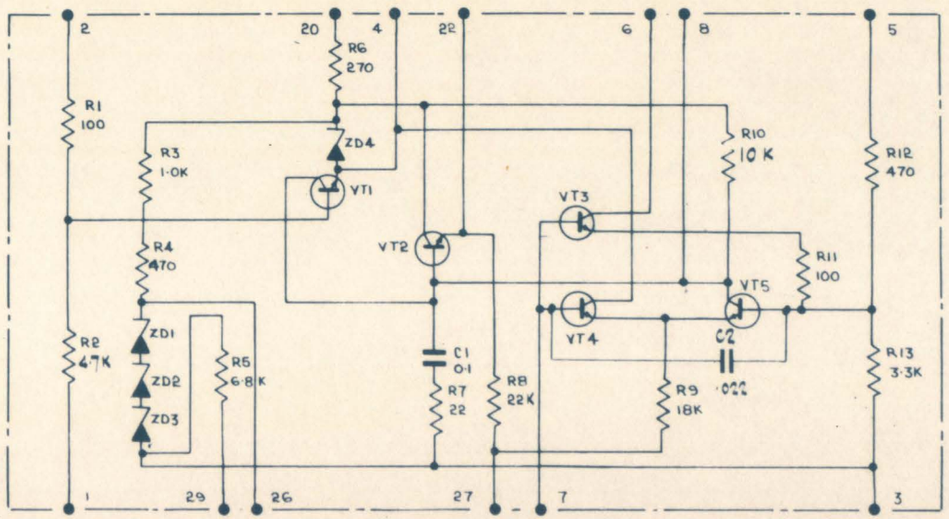
MATERIAL	PROTECTIVE FINISH	TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS ±·010 PLACE DECIMAL DIMENSIONS FRACTIONAL DIMENSIONS SCREW THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.S.A/S/3000
	SERVICE LETTERS	

DRAWING NUMBER
605/6/01071

THIRD ANGLE PROJECTION

DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13
CAPACITORS	C1 C2
MISCELLANEOUS	ZD1 ZD2 ZD3 VT1 ZD4 VT2 VT3 VT4 VT5



NOTE

ALL CAPACITOR VALUES ARE μF

ISSUE NO	1	2	3	4															
DATE	27.8.63	9.12.63	28.1.64	9.4.64															
CHANGE NOTE NO		67608	67852	67953															
CERTIFIED																			
A.S. OR MOD. NO																			

MATERIAL

PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS
TWO PLACE DECIMAL DIMENSIONS
FRACTIONAL DIMENSIONS
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION PLA/GA/00

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REFERENCE
V.JARMAN				

SERVICE LETTERS

WAS 54328/083

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DIMS. IN INCHES

SCALE

TITLE
CIRCUIT DIAGRAM FOR PCB T 50/5

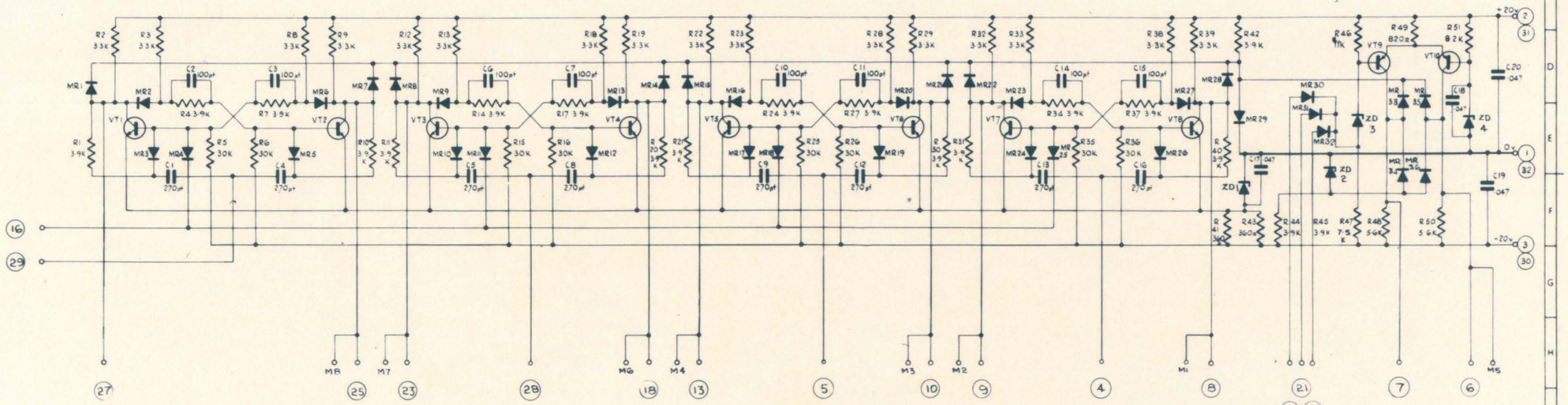
DRAWING NUMBER
605/6/01071

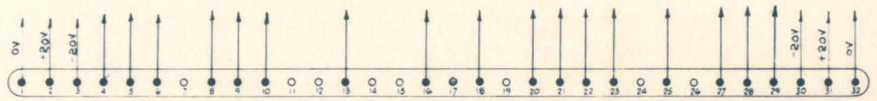
DRAWING NUMBER 612/6/07974

THIRD ANGLE PROJECTION

DRAWN IN ACCORDANCE WITH B S 308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44 R45 R46 R47 R48 R49 R50 R51
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20
MISCELLANEOUS	MR1 MR2 VT1 MR3 MR4 MR5 MR6 VT2 MR7 MR8 MR9 VT3 MR10 MR11 MR12 MR13 VT4 MR14 MR15 MR16 VT5 MR17 MR18 MR19 MR20 VT6 MR21 MR22 MR23 VT7 MR24 MR25 MR26 VT8 MR27 MR28 MR29 ZD1 MR30 MR31 MR32 ZD2 ZD3 VT9 MR33 MR34 MR35 MR36 VT10 ZD4





ISSUE NO	8			DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REF	MATERIAL	PROTECTIVE FINISH	TOLERANCES UNLESS OTHERWISE STATED THREE PLACE DECIMAL DIMENSIONS ±.005 TWO PLACE DECIMAL DIMENSIONS ±.01 FRACTIONAL DIMENSIONS ±1/64 SCREW THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS OF PLESSEY SPECIFICATION P.S.A. 5001
DATE	27-11-63			JMA						SERVICE LETTERS	
CHANGE NOTE NO											
CERTIFIED											
A.S. OR MOD NO											

THE PLESSEY COMPANY LIMITED 1963

Plessey

DIMS IN INCHES | SCALE

TITLE Counter Circuit

DRAWING NUMBER 612/6/07974

DRAWING NUMBER
612/DC/13650

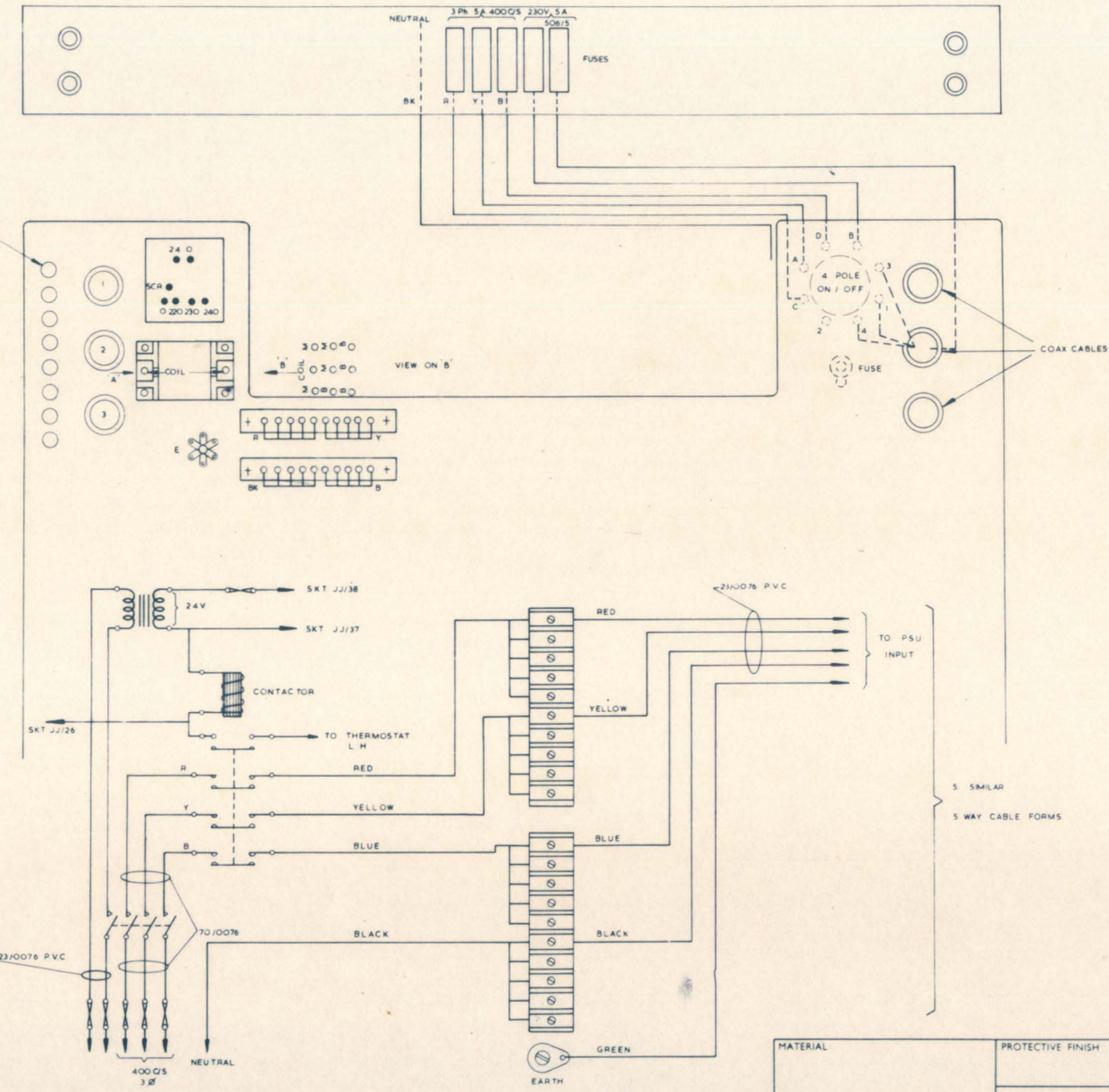
THIRD ANGLE PROJECTION
DRAWN IN ACCORDANCE WITH B.S. 308

NOTE
① USE GROMMET 1 TO BRING MAINS SUPPLY TO TOP OF PANEL EN ROUTE TO TRANSFORMER & CONTACTOR
② USE GROMMETS 2 & 3 FOR MAINS FEED TO P.S.U's

BUS-BAR ORDER

+ 20v LOGIC	
0 v LOGIC	
- 20v LOGIC	
+ 50v SELECTOR	
0 v SELECTOR	
- 20v SELECTOR	
+ 50v INHIBIT 1	
0 v INHIBIT 1	
+ 50v INHIBIT 2	
0 v INHIBIT 2	

BRING P.S.U. O/P's THROUGH THESE HOLES TO BUS-BARS



ISSUE NO	1
DATE	23-4-64
CHANGE NOTE NO	
CERTIFIED	
A.S. OR MOD NO	

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REF
B.D. SCOTT		I.W. HOULTING		

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DIMS. IN INCHES | SCALE

MATERIAL | PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS
TWO PLACE DECIMAL DIMENSIONS
FRACTIONAL DIMENSIONS
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION PLA/C/6500

SERVICE LETTERS

TITLE ATLAS II MAINS SUPPLY

DRAWING NUMBER 612/DC/13650

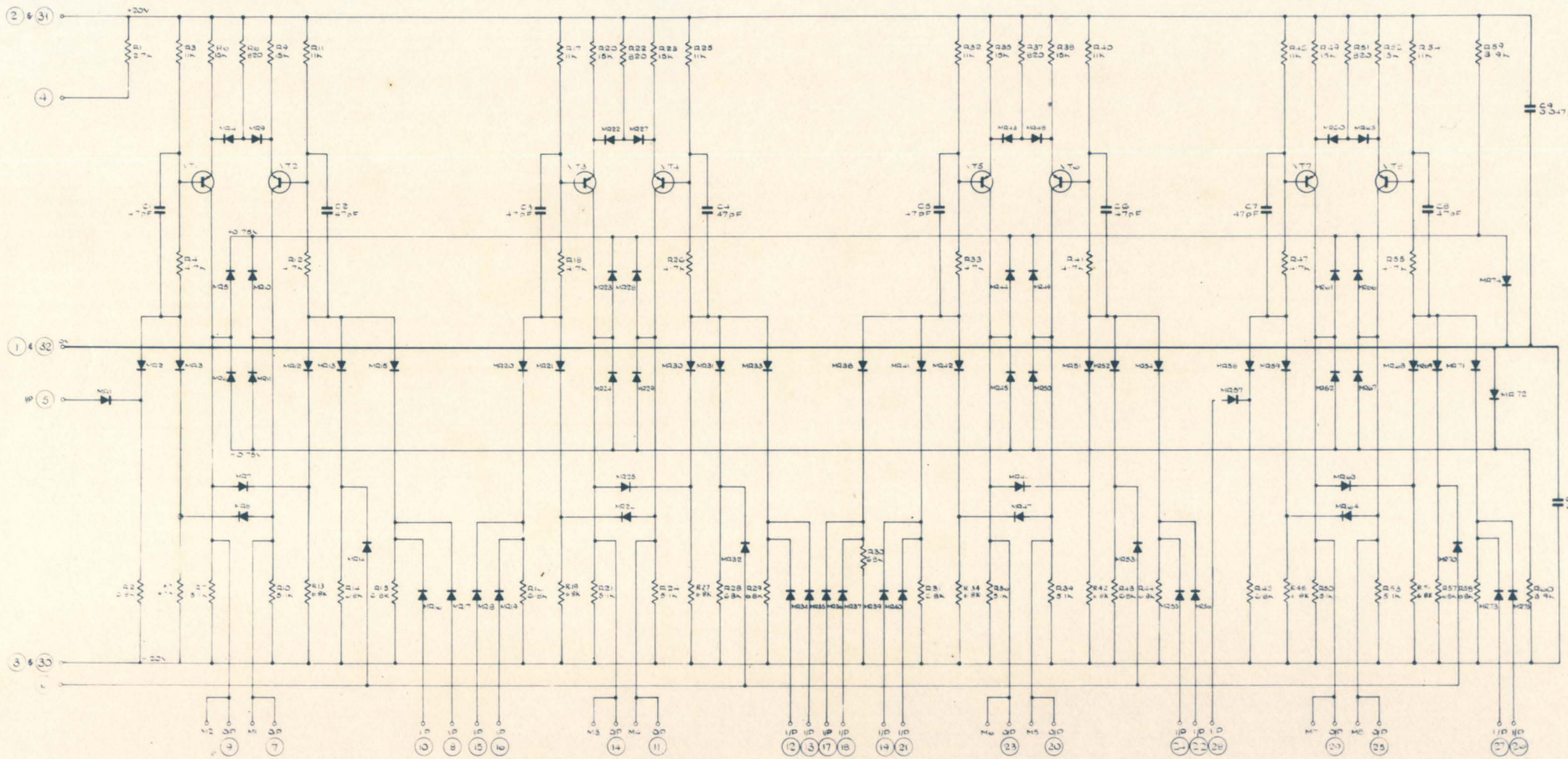
DRAWING NUMBER
C12/C/07953

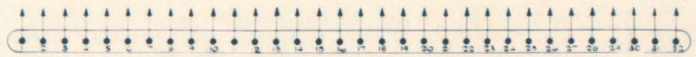
THIRD ANGLE PROJECTION.
DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS

CAPACITORS

MISCELLANEOUS





ISSUE NO.									
DATE	22.6.67								
CHANGE NOTE NO.									
CERTIFIED									
A.S. OR MOD NO.									

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMERS REF
J.C.		J.		

DIMS. IN INCHES

SCALE

MATERIAL

PROTECTIVE FINISH

SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS ±.005
TWO PLACE DECIMAL DIMENSIONS ±.01
FRACTIONAL DIMENSIONS ±1/64
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.L.2/0/5000

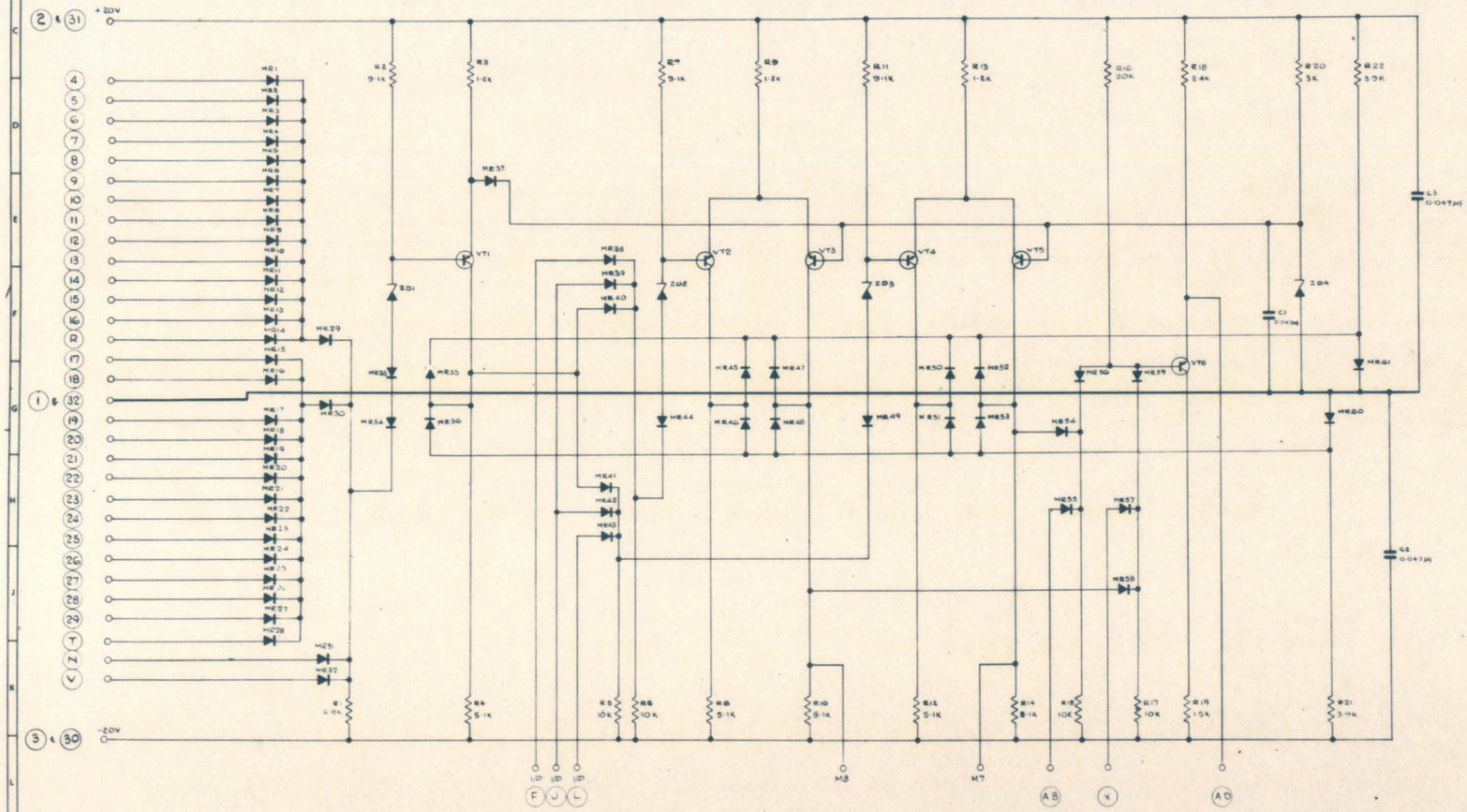
TITLE
CONTROL STATICISER CODE No 207

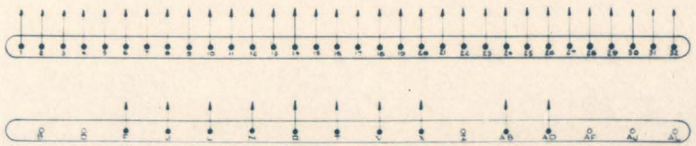
DRAWING NUMBER
C12/C/07953

DRAWING NUMBER 612/6/12902

THIRD ANGLE PROJECTION.
DRAWN IN ACCORDANCE WITH B.S. 308.

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22
CAPACITORS	C1 C2 C3
MISCELLANEOUS	MR1 to 28 MR29 MR30 MR31 MR32 ZD1 MR33 MR34 MR35 MR36 VT1 MR37 MR38 - MR43 MR44 ZD2 VT2 MR45 MR46 MR47 MR48 VT3 MR49 ZD3 VT4 MR50 MR51 MR52 MR53 VT5 MR54 MR55 MR56 MR57 MR58 MR59 VT6 ZD4 MR60 MR61





ISSUE NO.	1
DATE	15-10-63
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD NO.	

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DRAWN G.R.S	TRACED	CHECKED	APPROVED	CUSTOMERS REF.	
DIMS. IN INCHES	SCALE	TITLE	COMPARATOR BOARD		

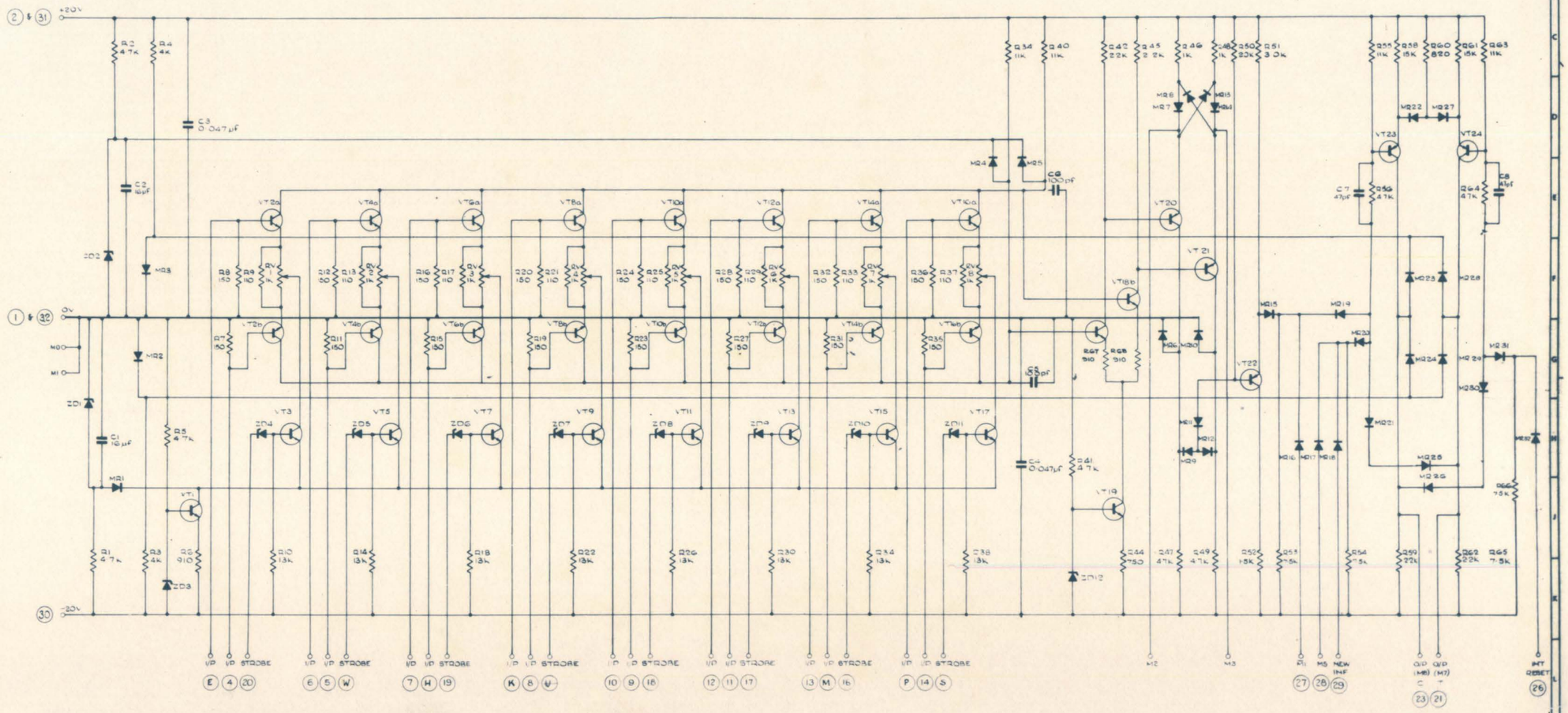
MATERIAL | PROTECTIVE FINISH | SERVICE LETTERS

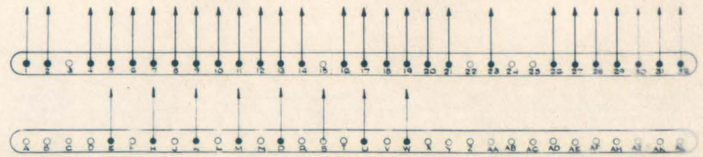
TOLERANCES (unless otherwise stated)
THREE PLACE DECIMAL DIMENSIONS ±
TWO PLACE DECIMAL DIMENSIONS ±
FRACTIONAL DIMENSIONS ±
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION FL1/6/5500

DRAWING NUMBER 612/6/12902

DRAWING NUMBER	G12/2.13964
	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S.308

RESISTORS	R1 R3 R5 R7 R9 RV1 R11 R13 RV2 R15 R17 RV3 R19 R21 RV4 R23 R25 RV5 R27 R29 RV6 R31 R33 RV7 R35 R37 RV8 R39 R40 R41 R42 R43 R44 R46 R48 R50 R51 R53 R54 R55 R58 R60 R61 R63 R66 R2 R4 R6 R8 R10 R12 R14 R16 R18 R20 R22 R24 R26 R28 R30 R32 R34 R36 R38 R45 R47 R49 R52 R56 R59 R62 R64
CAPACITORS	C1 C2 C3 C4 C5 C6 C7 C8
MISCELLANEOUS	ZD1 ZD2 ZD3 ZD4 ZD5 ZD6 ZD7 ZD8 ZD9 ZD10 ZD11 ZD12 MR1 MR2 MR3 VT1 VT2a VT2b VT3 VT4a VT4b VT5 VT6a VT6b VT7 VT8a VT8b VT9 VT10a VT10b VT11 VT12a VT12b VT13 VT14a VT14b VT15 VT16a VT16b VT17 MR4 MR5 VT18a VT18b VT19 MR6 MR7 VT20 MR8 MR9 MR10 MR11 MR12 MR13 VT21 MR14 MR15 VT22 MR16 MR17 MR18 MR19 MR20 MR21 VT23 VT24 MR22 MR23 MR24 MR25 MR26 MR27 MR28 MR29 MR30 MR31 MR32





ISSUE NO.	1	2	3
DATE	4-11-63	2-FEB 64	29.4.64
CHANGE NOTE NO.			6708/62
CERTIFIED			
A.S. OR MOD. NO.			

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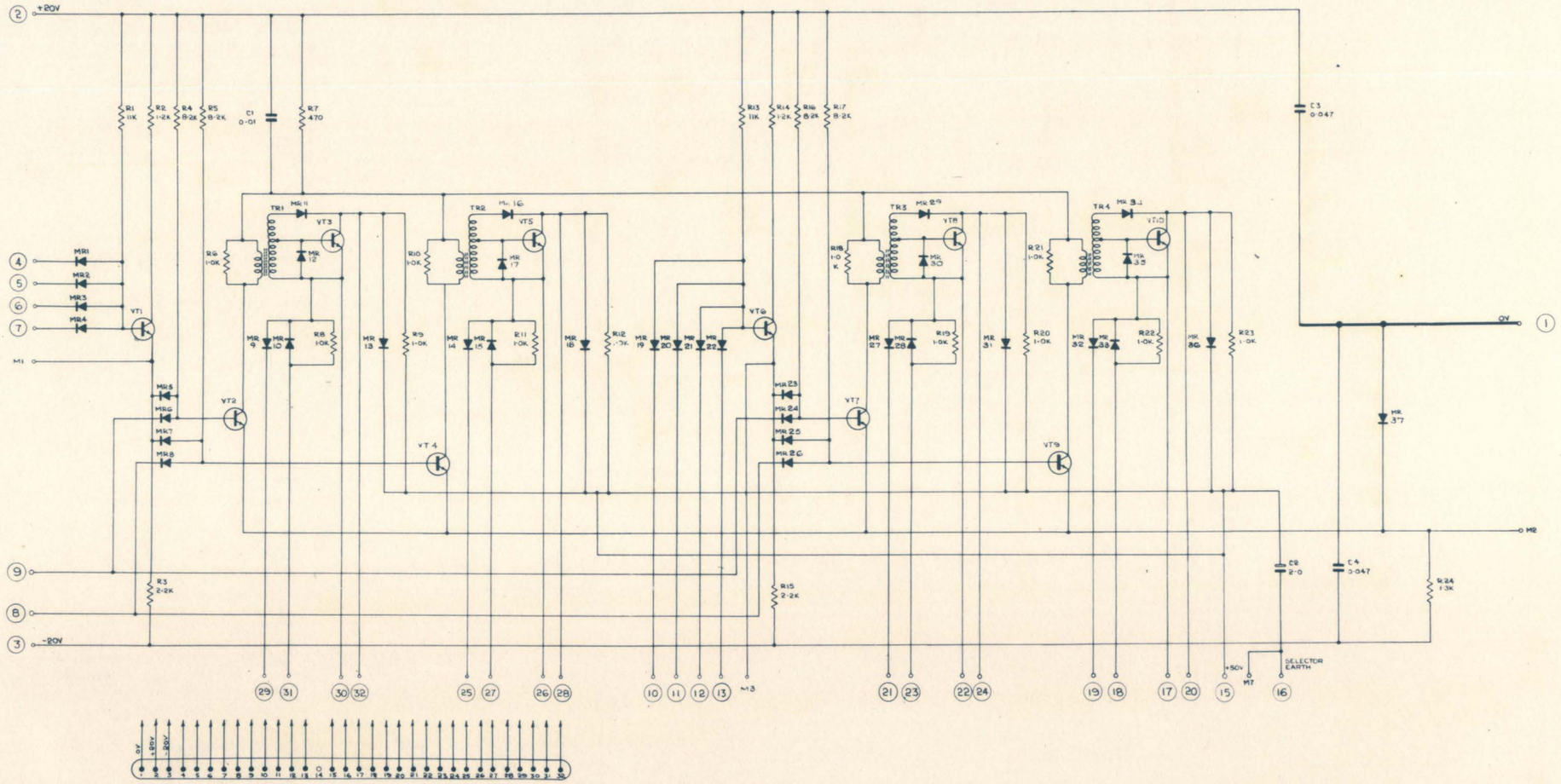
DRAWN J.L.	TRACED	CHECKED J.J.	APPROVED A.T.	CUSTOMERS REF	MATERIAL	PROTECTIVE FINISH	TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS ±0.005 TWO PLACE DECIMAL DIMENSIONS ±0.01 FRACTIONAL DIMENSIONS ±1/64 SCREW THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION 71/1/2 (1960)
DIMS. IN INCHES	SCALE	TITLE: 2µs READ AMPLIFIER CODE 256				SERVICE LETTERS	DRAWING NUMBER G12/G/13964

DRAWING NUMBER G12/6/07941

THIRD ANGLE PROJECTION.
DRAWN IN ACCORDANCE WITH B.S 308

RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24
CAPACITORS	C1 VT9 C2 C3 C4
MISCELLANEOUS	MR1-MR4 VT1 MR5 MR8 VT2 TR1 MR9 MR10 VT3 MR11-MR12 MR13 VT4 TR2 MR14 MR15 VT5 MR16-MR17 MR18 MR19 MR20 MR21 MR22 VT6 MR23 MR26 VT7 TR3 MR27 MR28 VT8 MR29 MR30 MR31 TR4 MR32 MR33 VT10 MR34 MR35 MR36 MR37



ISSUE NO.	1
DATE	26-11-63
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD. NO.	

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DRAWN V.JARMAN	TRACED	CHECKED	APPROVED	CUSTOMERS REF.
DIMS. IN INCHES	SCALE -	TITLE SELECTOR & DECODE CIRCUIT BOARD No. 203		

MATERIAL

PROTECTIVE FINISH

SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS ±
TWO PLACE DECIMAL DIMENSIONS ±
FRACTIONAL DIMENSIONS ±
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION FL1/5/5000

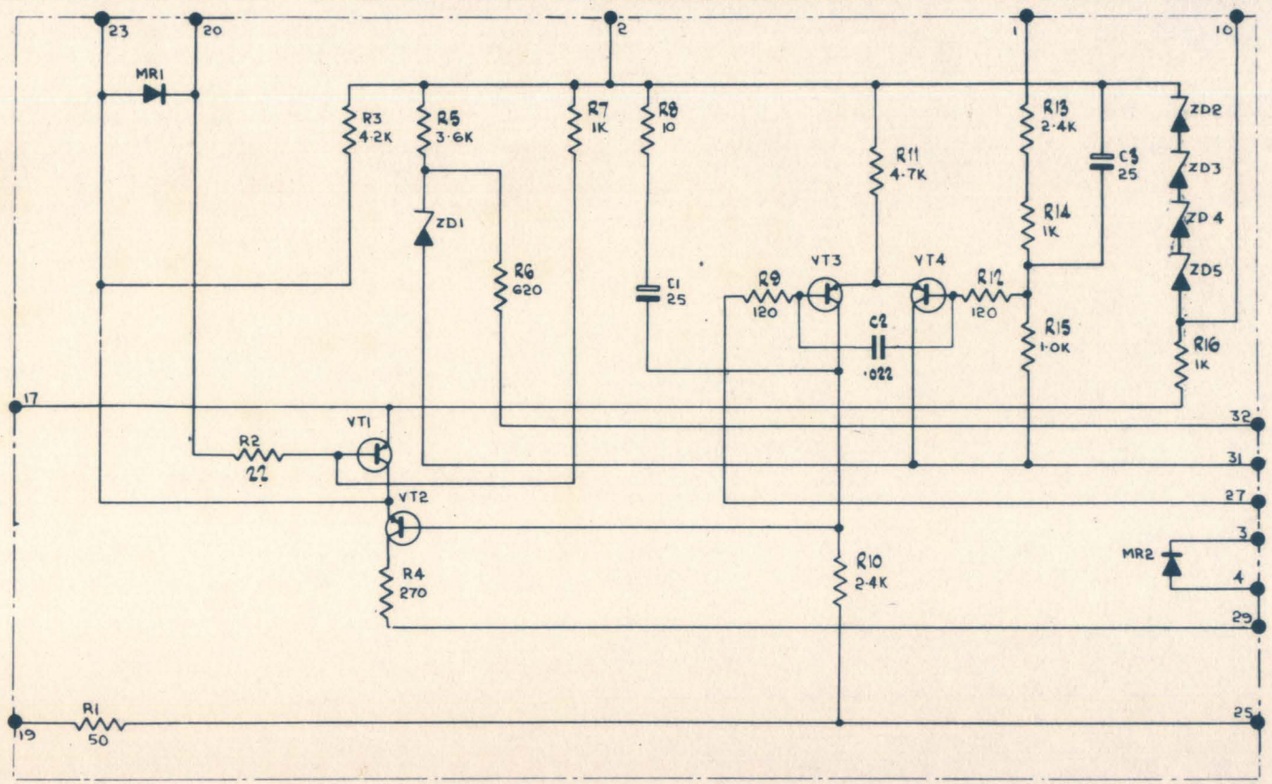
DRAWING NUMBER G12/6/07941

DRAWING NUMBER. 605/6/01094

THIRD ANGLE PROJECTION.

DRAWN IN ACCORDANCE WITH B.S. 308

RESISTOR.	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16
CAPACITOR.	C1 C2 C3
MISCELLANEOUS.	MR1 VT1 ZD1 VT2 VT3 VT4 ZD2 MR2 ZD3 ZD5 ZD4



NOTE! ALL CAPACITORS ARE IN μF.

ISSUE NO	1	2	3										
DATE	27·8·63	28·2·64	3·4·64										
CHANGE NOTE NO		6-852	6-962										
CERTIFIED													
A.S. OR MOD. NO													

MATERIAL

PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS
TWO PLACE DECIMAL DIMENSIONS
FRACTIONAL DIMENSIONS
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.L.A/G/6500

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REFERENCE
V.J.BARMAN				

SERVICE LETTERS

WRS 5432B/084

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DIMS. IN INCHES | SCALE

TITLE
CIRCUIT DIAGRAM FOR P.C.B. T50/7

DRAWING NUMBER
605/6/01094

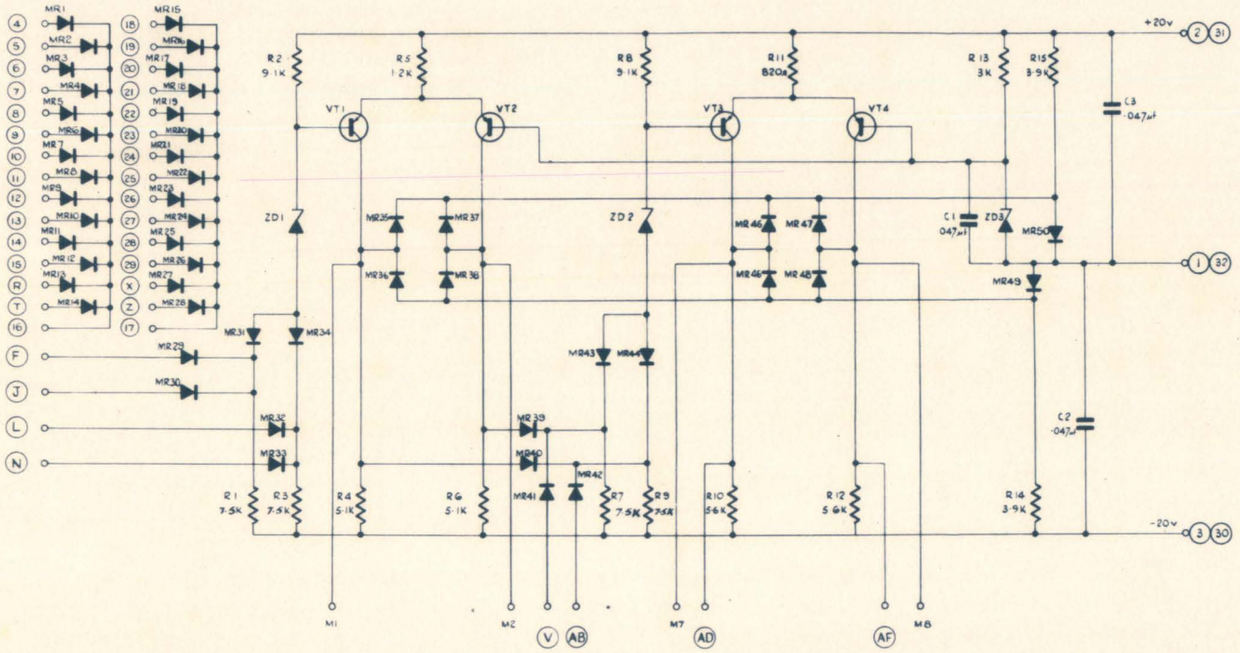
LR 9602/6

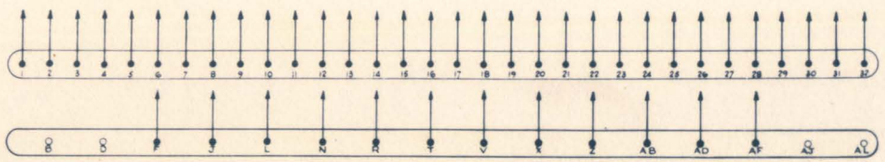
DRAWING NUMBER G12/6/12908

THIRD ANGLE PROJECTION

DRAWN IN ACCORDANCE WITH B.S. 308

RESISTOR	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15
CAPACITOR	C1 C2 C3
MISCELLANEOUS	MR1-MR14 MR15-MR28 MR29 MR30 MR31 MR32 MR33 MR34 ZD1 VT1 MR35 MR36 MR37 MR38 VT2 MR39 MR40 MR41 MR42 ZD2 MR43 MR44 VT3 MR45 MR46 MR47 MR48 VT4 ZD3 MR49 MR50





ISSUE NO	A	1
DATE	4.7.63	24.3.64
CHANGE NOTE NO		67925
CERTIFIED		
A.S. OR MOD NO		

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REF.
J.MA.				

DIMS. IN INCHES | SCALE

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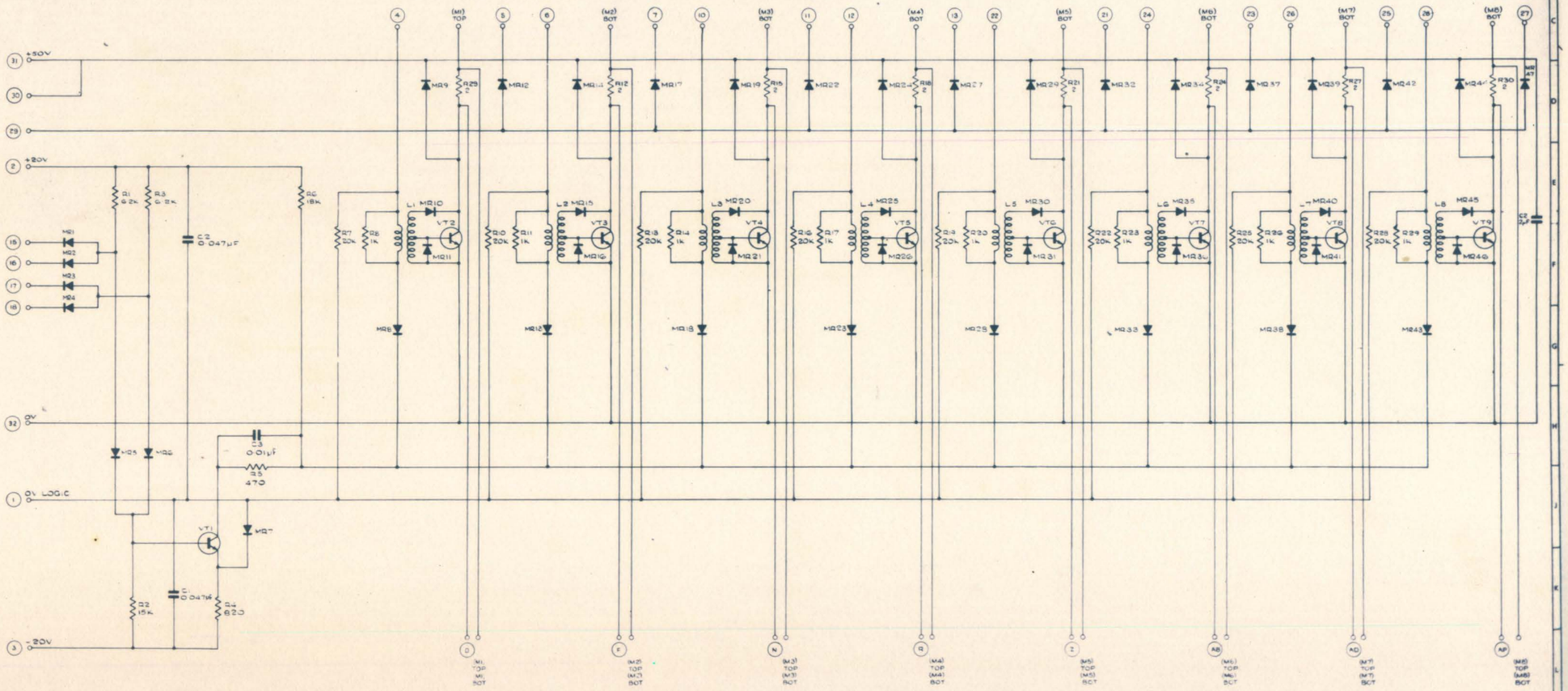
MATERIAL | PROTECTIVE FINISH | SERVICE LETTERS

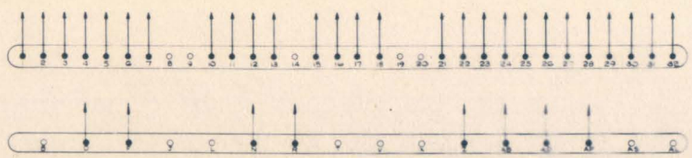
TOLERANCES UNLESS OTHERWISE STATED:
THREE PLACE DECIMAL DIMENSIONS ±
TWO PLACE DECIMAL DIMENSIONS ±
FRACTIONAL DIMENSIONS ±
SCREW THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS SPECIFICATION

TITLE: WORST PATTERN GENERATOR & COMPARATOR GATE CODE No. 219

DRAWING NUMBER G12/6/12908

DRAWING NUMBER	612/6/07962
	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S. 308
RESISTORS	R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30
CAPACITORS	C1 C2 C3 C4
MISCELLANEOUS	MR1 MR2 MR3 MR4 MR5 MR6 VT1 MR7 L1 MR8 MR9 VT2 MR10 MR11 MR12 L2 MR13 MR14 VT3 MR15 MR16 MR17 L3 MR18 MR19 VT4 MR20 MR21 MR22 L4 MR23 MR24 VT5 MR26 MR26 MR27 L5 MR28 MR29 VT6 MR30 MR31 MR32 L6 MR33 MR34 VT7 MR35 MR36 MR37 L7 MR38 MR39 VT8 MR40 MR41 MR42 L8 MR43 MR44 VT9 MR45 MR46 MR47





BOT DENOTES COMPONENTS SIDE OF BOARD

ISSUE NO.	1	2
DATE	21-12-64	
CHANGE NOTE NO.	68000	
CERTIFIED		
A.S. OR MOD. NO.		

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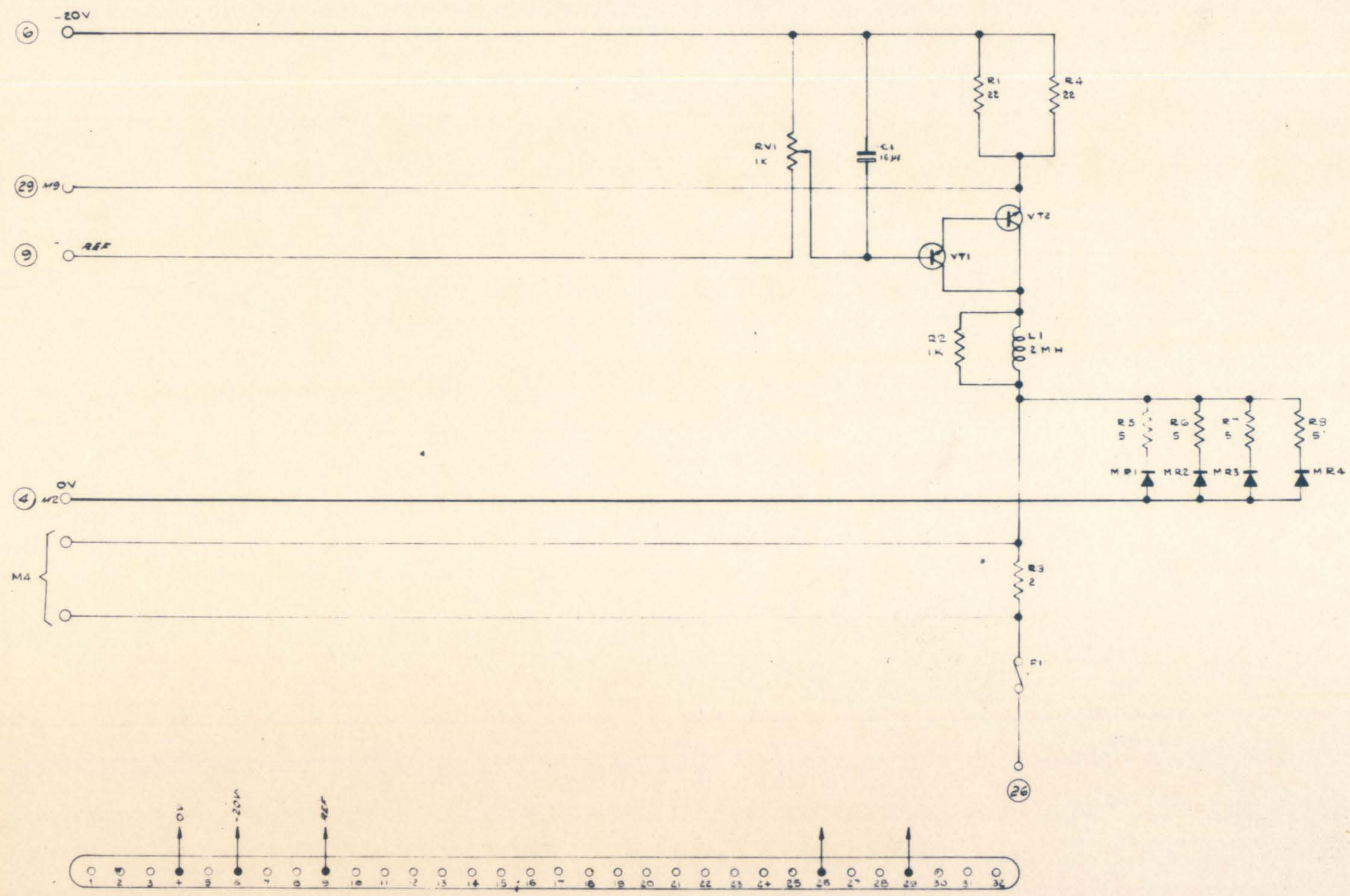
DRAWN J.L.	TRACED	CHECKED T.W.	APPROVED	CUSTOMERS. REF.	MATERIAL	PROTECTIVE FINISH
DIMS. IN INCHES	SCALE	TITLE: 8 WAY INHIBIT BOARD ALDERMASTON CODE 210			SERVICE LETTERS	DRAWING NUMBER 612/6/07962

TOLERANCES (unless otherwise stated) THREE PLACE DECIMAL DIMENSIONS ± .005" TWO PLACE DECIMAL DIMENSIONS ± .01" FRACTIONAL DIMENSIONS ± 1/64" SCREW THREADS TO APPROPRIATE BRITISH STANDARD GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.S.1.3500

DRAWING NUMBER 612/6/13967	THIRD ANGLE PROJECTION DRAWN IN ACCORDANCE WITH B.S. 308
RESISTORS & VARIABLE RESISTOR	RV1 R1 R2 R3 R4 R5 R6 R7 R8
CAPACITORS	C1
MISCELLANEOUS	VT1 VT2 L1 F1



ISSUE NO	1	2
DATE	31-12-63	5-3-64
CHANGE NOTE NO		67865
CERTIFIED		
A.S. OR MOD. NO		

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMER'S REF
G R S				

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DIMS. IN INCHES | SCALE

MATERIAL | PROTECTIVE FINISH

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS
TWO PLACE DECIMAL DIMENSIONS
FRACTIONAL DIMENSIONS
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.A.G. 6500

SERVICE LETTERS

TITLE: CONSTANT CURRENT SOURCE

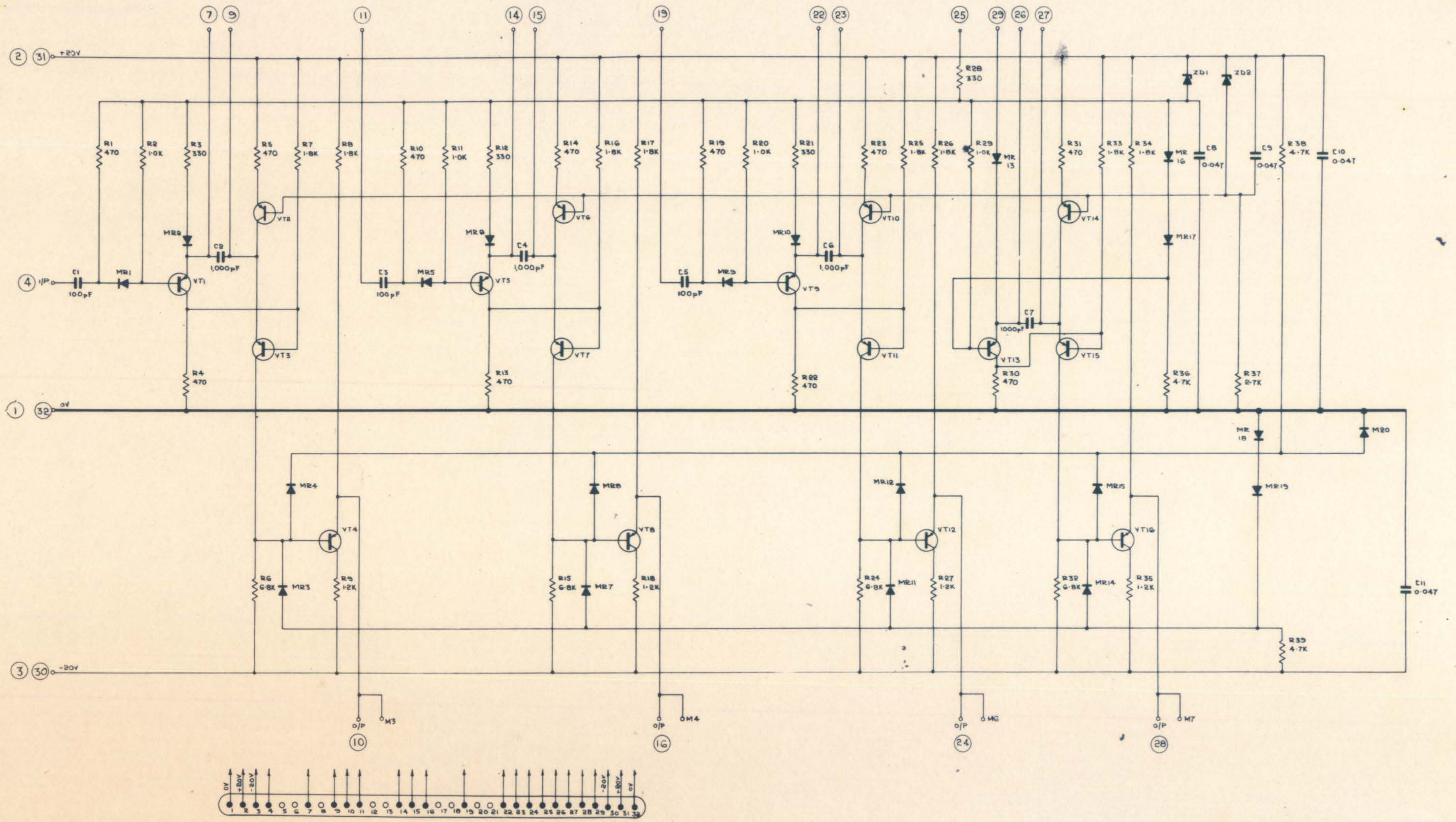
DRAWING NUMBER: 612/6/13967

DRAWING NUMBER 612/6/12905

THIRD ANGLE PROJECTION.

DRAWN IN ACCORDANCE WITH B.S. 308

RESISTORS	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39
CAPACITORS	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11
MISCELLANEOUS	MR1, VT1, MR2, VT2, VT3, MR3, MR4, VT4, MR5, VT5, MR6, VT6, VT7, MR7, MR8, VT8, MR9, VT9, MR10, MR11, MR12, VT10, VT11, VT12, VT13, MR13, VT14, VT15, MR14, MR15, VT16, MR16, MR17, ZD1, ZD2, MR18, MR19, MR20



MATERIAL	PROTECTIVE FINISH	TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS, TWO PLACE DECIMAL DIMENSIONS, FRACTIONAL DIMENSIONS. SCREW THREADS TO APPROPRIATE BRITISH STANDARD. GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION P.L.A./6/3500

ISSUE NO.	1
DATE	31-12-63
CHANGE NOTE NO.	
CERTIFIED	
A.S. OR MOD. NO.	

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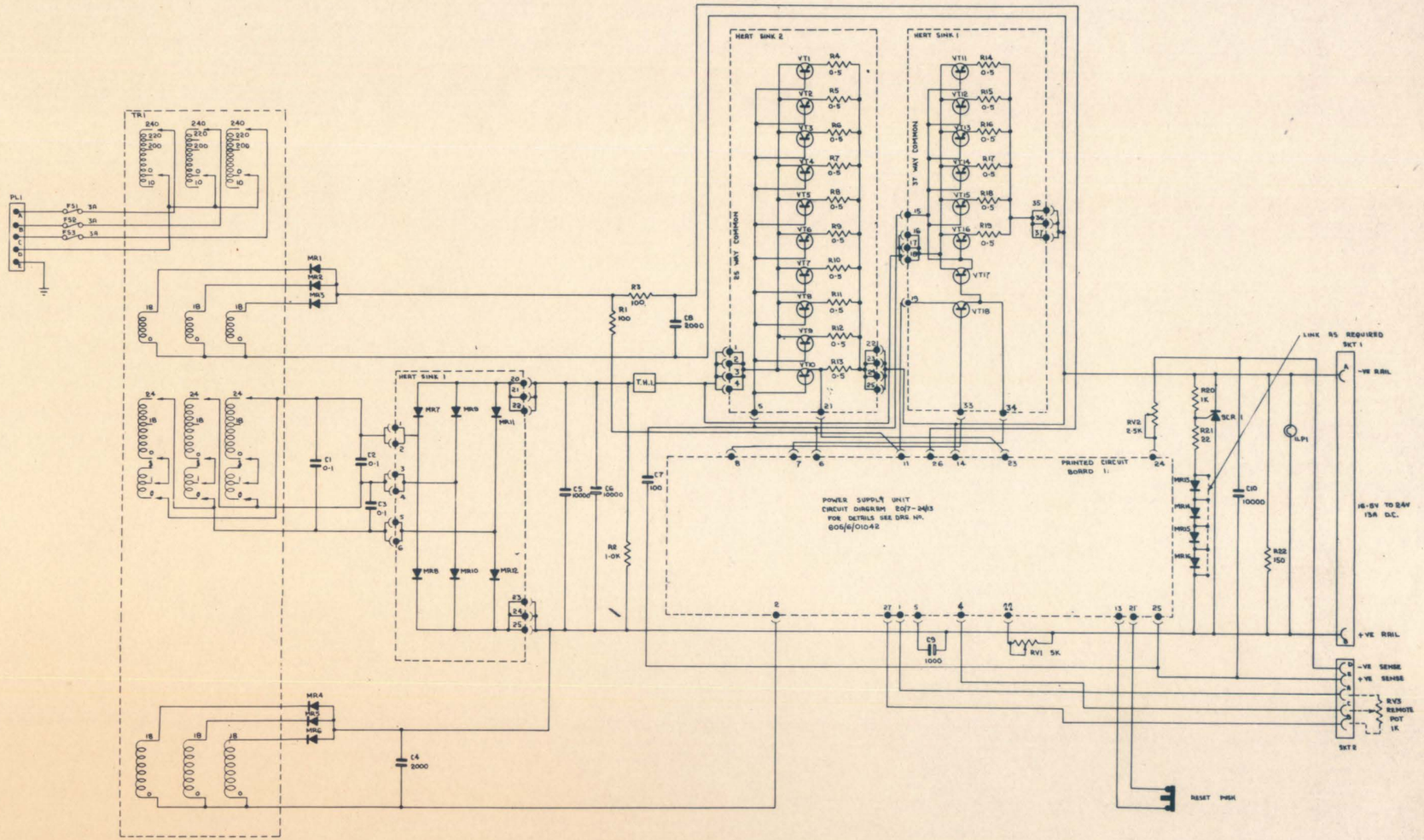
DRAWN	TRACED	CHECKED	APPROVED	CUSTOMERS REF	SERVICE LETTERS
V. JARMAN.					

DIMS. IN INCHES	SCALE	TITLE: PULSE GENERATOR & MONOSTABLE BOARD	DRAWING NUMBER 612/6/12905

DRAWING NUMBER 605/6/01001	THIRD ANGLE PROJECTION. DRAWN IN ACCORDANCE WITH B.S 308																		
RESISTORS							R1 R2 R3			R4 – R13			R14 – R15		RV1	RV2	R20 R21	R22	RV3
CAPACITORS				C1	C2 C3 C4			C5	C6	C7	C8		C9				C10		
MISCELLANEOUS	PL1		TR1		MR1 – MR6		MR7 MR8	MR9 MR10	MR11 MR12	TH1		VT1 – VT10		VT11 – VT18		P.C.B	MR13 – MR16 SCR1		LLP1	SKT1 SKT2



NOTE! ALL CAPACITOR VALUES ARE SHOWN IN μF

ISSUE NO.	1	2	3
DATE	27-8-63	20-1-64	3-3-64
CHANGE NOTE NO.		6721	6781
CERTIFIED			
A.S. OR MOD. NO.			

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DRAWN	TRACED	CHECKED	APPROVED	CUSTOMERS REF.
V.JARMAN				

DIMS. IN INCHES

SCALE

TITLE: CIRCUIT DIAGRAM POWER SUPPLY UNIT T24/13

MATERIAL:

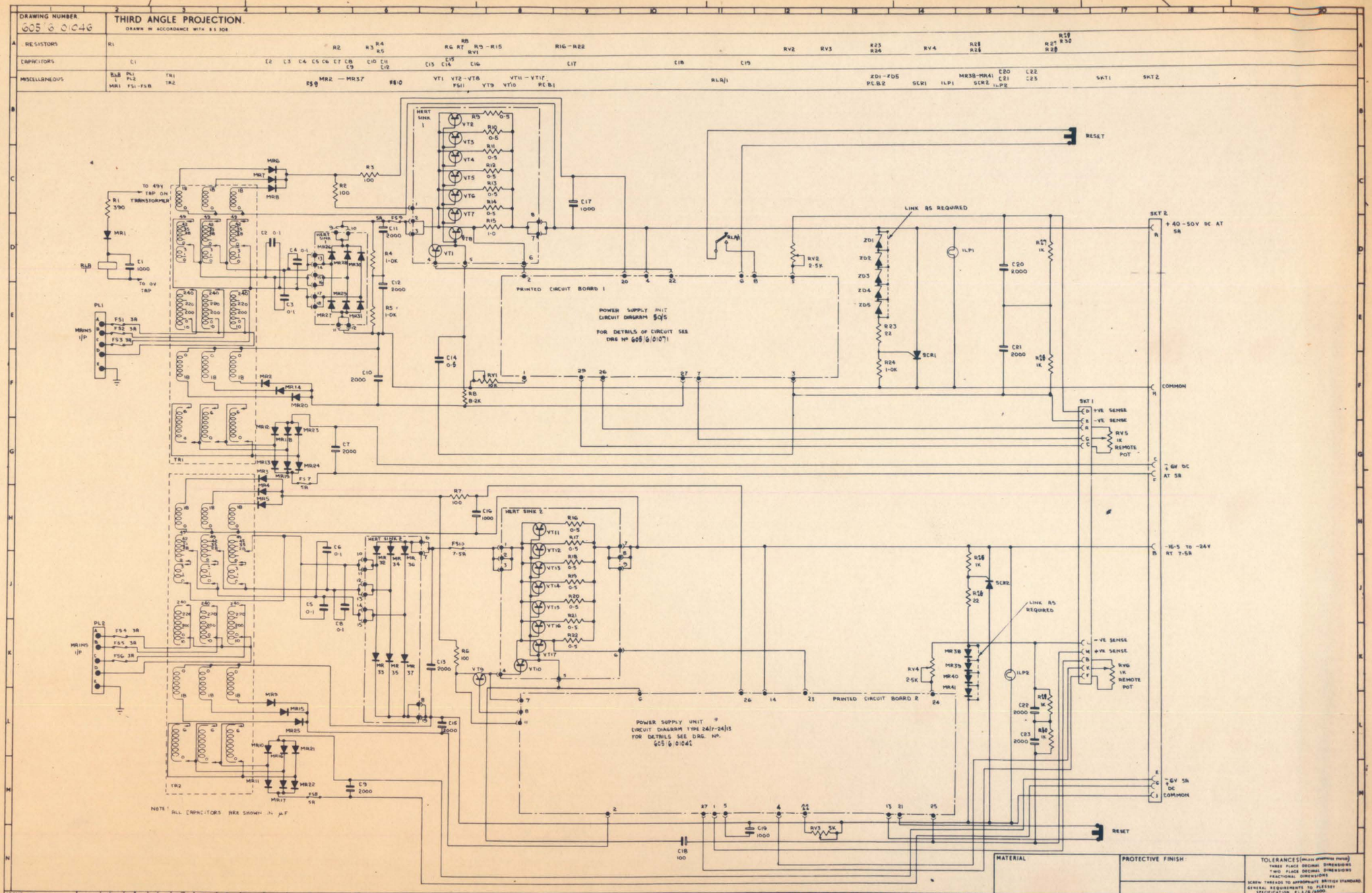
PROTECTIVE FINISH:

TOLERANCES (UNLESS OTHERWISE STATED) THREE PLACE DECIMAL DIMENSIONS TWO PLACE DECIMAL DIMENSIONS FRACTIONAL DIMENSIONS SCREW THREADS TO APPROPRIATE BRITISH STANDARD. GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION PL4/6/5500.

SERVICE LETTERS

WAS 5432D/044

DRAWING NUMBER 605/6/01001



ISSUE NO.	1	2	3	4	5	6	7
DATE	27.9.65	30.9.65	5.10.65	20.10.65	3.11.65	9.4.66	9.4.66
CHANGE NOTE NO		67868	67972	67511	68277	68875	69955
CERTIFIED							
A.S. OR MOD NO							

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DRAWN V. JARMAN	TRACED	CHECKED	APPROVED	CUSTOMERS REF	MATERIAL
DIMS. IN INCHES	SCALE				PROTECTIVE FINISH

TITLE: CIRCUIT DIAGRAM POWER SUPPLY UNIT T60/5-24/7

SERVICE LETTERS

TOLERANCES (UNLESS OTHERWISE STATED)
THREE PLACE DECIMAL DIMENSIONS ±0·005
TWO PLACE DECIMAL DIMENSIONS ±0·01
FRACTIONAL DIMENSIONS ±1/64
SCREW THREADS TO APPROPRIATE BRITISH STANDARD
GENERAL REQUIREMENTS TO PLESSEY SPECIFICATION FL/A/8500

WAS 54320/043

DRAWING NUMBER 605/6/01046