

Implement Virtual Printers

L53902

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Acronyms

HM.....	History Module
NET	Network History Module
US	Universal Station
VP	Virtual Printer

Parameters

PV	Process Variable	11
----	------------------------	----

References

Publication Title	Publication Number	Binder Title	Binder Number
<i>Engineer's Reference Manual</i>	SW09-505	Implementation/Startup & Reconfiguration - 2	TPS 3030-2
<i>Actor's Manual</i>	SW09-555	Implementation/Engineering Operations - 2	TPS 3032-2

Introduction

Module Overview

About this module

The purpose of this course module is to describe the procedures required to implement virtual printers. Virtual printers allow you to print reports to files:

- Any report that can be invoked from the Report Menu (except the Printed Trend), Event History display, or through Event Initiated Reports, can be written to a virtual printer (a file on the HM or removable media).
 - Replay of these reports for viewing is accomplished with actors in a Schematic: DSP_FILE or PRT_FILE, or with the PR command from the Command Processor.
-

Objectives

Given reference documentation and an operating **TotalPlant** Solution (TPS) system, do the following:

- Retrieve and interpret the virtual printer configuration for a console.
 - Print a report to a virtual printer, then use the Command Processor to look at the resulting report file.
 - Respond to a virtual printer alarm annunciated on the Console Status display.
-

Sample test items

This course modules Criterion Test includes the following tasks:

1. Retrieve and interpret the virtual printer configuration for your assigned console. Show your course manager your printout of VPCONFnn.XX and be prepared to discuss the purpose of each file record with your course manager.
 2. Using your cartridge disk as the report media, print a report to a virtual printer assigned to your station, then use the Command Processor to look at the resulting report file. Show your course manager your printout and be prepared to demonstrate to your course manager that your report can be retrieved from your cartridge disk.
 3. Cause a virtual printer media error, then demonstrate to your course manager how to respond to the resulting alarm annunciated on the console Status display.
-

Virtual Printers

What is a Virtual Printer?

Description

Virtual printers (VPs) are files on the History Module or removable media to which you can output reports, logs, etc. The pathnames of these files (up to 20 per console) must be specified in a file referred to as a virtual printer configuration file (one per console).

On R400 and later, you can print reports, logs, and journals to the virtual printer files, then display or print the files from either Schematics or the Command Processor, or copy the files through the Computing Module to a host computer (VAX).

Configuration file

Using the Text Editor, the user may build a virtual printer configuration file for each console. The records in the VP file define the virtual printers for a console.

In each configuration file, the user may define up to 20 virtual printers.

The virtual printer configuration files must reside in the &ASY directory.

When a US is loaded, its console's virtual printer configuration is loaded, along with the other required files in the &ASY directory.

The name of a VP configuration file must be:

VPCONFnn.XX (nn - **console number** 1 to 10).

Printing to a VP

You send reports to a virtual printer as you would to a physical printer. For example, you can enter a virtual printer number as the PRINTER ID of a standard log (see Figure 1).

The console printer numbers are:

- physical printers = 1 through 10
 - virtual printers = 11 through 30.
-

Continued on next page

What is a Virtual Printer?, Continued

Printing to a VP, continued

Figure 1 Standard Log PED

28 Jan 10:06:28 1

PED >>>>>> POINT:\$OLOG(1) AREA:01 PAGE 01 OF 02

STANDARD LOG CONFIGURATION

LOG NUMBER

1

LOG NAME

HTRILOG

LOG DESCRIPTION

UNIT 01 FEED HEATER LOG

INVOCATION TYPE

DEMAND

PERIODIC

PRINTER ID

1

HEADER SUPPRESSION

YES

NO

FORMAT

VERTICAL

HORIZONTAL

DATA TYPE

CURRENT

HOURLY

SHIFT

DAILY

MONTHLY

REAL

USER

NUMBER OF VALUES PER POINT

1

NUMBER OF POINTS

7

POINTS IN THE LOG

F1=PED

F3=

F5=OVERWRITE

F7=RECON

F9 =WLK BACK

F11=

F2=RECALL DISP

F4=

F6=

F8=PED STATUS

F10=WRITE

F12=LOAD

9104

Continued on next page

What is a Virtual Printer?, Continued

Example

Figure 2 illustrates that there can be up to 10 virtual printer configuration files residing in the &ASY directory, because there can be up to 10 consoles on an LCN.

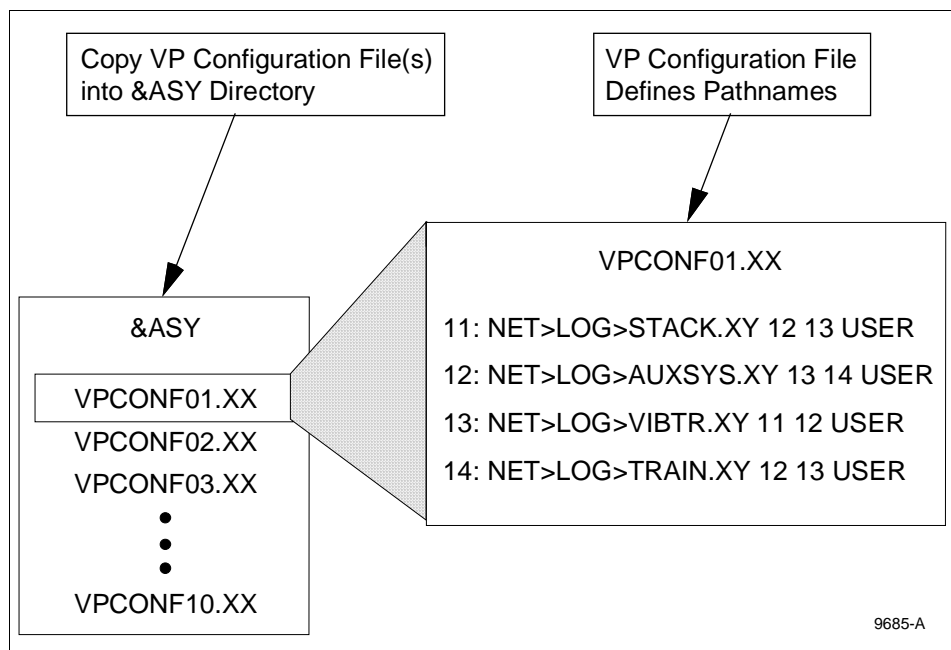
In our example, the contents of file VPCONF01.XX defines virtual printers 11, 12, 13, and 14 for console 1. The first record in the file defines virtual printer 11:

```
11:NET>LOG>STACK.XY 12 13 USER
```

- 11:NET>LOG>STACK.XY (file pathname)—output to virtual printer 11 is stored to file STACK.XY.
- 12, 13 (failover virtual printers)—If media errors occur on virtual printer 11, printing is set to the defined failover virtual printer. If printing to the first failover printer fails, printing is sent to the second failover printer, and so on.
- USER (error handling responsibility)—The user, not the system, is responsible for handling media errors to this virtual printer.

In the VP configuration file example in Figure 2, all of the virtual printer files are on the NET. You also have the option of using PN:nn or removable media (\$Fn).

Figure 2 VP Configuration file in &ASY Directory



Configuring VPs

File format

The format for each record in a VP configuration file is shown below:

VP: DEV>VOL/DIR>FILENAME.EXT FO FO ERROR

VP = virtual printer number 11-30

DEV>VOL/DIR>FILENAME.EXT = pathname

- Media device can be NET, PN:nn, or \$Fn.
- Volume or directory name cannot start with ! or &.
- Wild cards (?) may be used in filename and extension (system assigns a random number).
- On R400, file extension cannot end with X. On R410 and later, the restriction does not apply.

FO = 2-digit number for failover virtual printer(s). This is optional.

ERROR = USER or SYStem error handling (blank = USER)

- **SYS:**
 1. System deletes all unprotected files in VP directory and retries the print.
 2. If error still occurs, system uses the virtual printer configured as the failover printer.
 3. If error still occurs, system goes to the USER specified error handling.
- **USER:**

An alarm is annunciated on the US Console Status display. The US Status Detail display presents error recovery targets for the user to select a recovery option.

Retry—After the problem is fixed.

Retry with a different VP.

Abort action.

Continued on next page

Configuring VPs, Continued

Status Notification log details

After loading a US, if configuration errors exist in the VP Configuration File, this message is displayed in the US Status Detail display along with the WARNING status:

```
Syntax errors in file.  Status Notification Log
has details.
```

The Status Notification Event History accessed from the US Status Detail display contains detailed messages describing the cause of VP Configuration errors.

Examples:

If the following error exists in the configuration file,

```
11:  $f1>TEST>TEST.xx  12  13  MOOSE
                                ↑ (invalid entry in field)
```

this message is journaled:

```
While processing media full keyword in VP # 11
```

If the following error exists in the configuration file,

```
11  $f1>TEST>TEST.xx  12  13
    ↑ (missing colon)
```

this message is journaled:

```
While processing VP # in line # 01
```

NOTE: The *Engineer's Reference Manual* describes all of the VP error messages.

Continued on next page

VP Error Handling

Media Errors

For each virtual printer, you specify whether the operator is to handle virtual printer media errors or whether the system is to automatically attempt to recover from errors. The following conditions may cause errors that prevent the print from finishing:

- media full
 - write errors
 - drive failure
 - door opened on removable media drive while it was being used as a virtual printer.
-

Alarm annunciation

There are two causes of virtual printer alarms:

- The virtual printer configuration file did not load into the station successfully or is configured incorrectly.
- Media errors (described above).

The virtual printer configuration file is for printing. Alarm annunciation is independent of the virtual printer configuration and is based on Area assignments of USs within a console.

Each US annunciates ìreport mediaî (virtual printer) errors that are associated with certain virtual printers.

The lowest numbered US within a particular area on a console always annunciates errors associated with virtual printer number 11. The next higher numbered US in the same Area annunciates errors for virtual printer 12. Assignment of alarm annunciation continues until all 20 virtual printers are assigned to a US.

All 20 virtual printer numbers are assigned in station number order, from the lowest station number to the highest station number. Node numbers are not taken into consideration.

Continued on next page

VP Error Handling, Continued

US Status Detail display

Two objects on the US Status Detail display reflect virtual printer errors (see Figure 3):

- Report Media—indicates media errors (SEVERE status)
 - Virtual printer configuration—indicates virtual printer configuration file errors or loading problems (WARNING status).
-

Continued on next page

VP Error Handling, Continued

US Status Detail display, continued

Figure 3 VP Error Indication on US Status Detail Display

10 Aug 15:10:06 2

STATUS DETAIL DISPLAY FOR NODE 2

DATE/TIME	NOTIFICATION
08/10/93 14:25	Custom Names (OK ->OK):Custom Names were successfull
08/10/93 14:25	Dup Par XRef (OK ->OK):Custom/Standard parameter dup
08/10/93 14:27	Mem Displays (WARNING ->OK):All displays were successfull
08/10/93 14:25	Button File (OK ->OK):Button file was successfully
08/10/93 15:08	Report Media (OK ->SEVERE):VP# 13 \$F3 VP13 File manageme
08/10/93 14:25	VP Config (OK ->WARNING):Syntax errors in file. Status
08/10/93 14:25	EQ_LIST Actr (->OK):

NODE COMMENT :
08-10-93 14:24 Null comment

ROLL
RIGHT

EDIT NODE
COMMENT

HISTORY
DETAIL

10 Aug 15:12:05 2

STATUS DETAIL DISPLAY FOR NODE 2

DATE/TIME	NOTIFICATION
->OK):Custom Names were successfully loaded
->OK):Custom/Standard parameter duplicate XRef created 0000-R00520
RNING ->OK):All displays were successfully copied to memory.
->OK):Button file was successfully copied to memory.
->SEVERE):VP# 13 \$F3 VP13 File management error. Status =32
->WARNING):Syntax errors in file. Status Notification log has details.
->OK):

NODE COMMENT :
08-10-93 14:24 Null comment

ROLL
LEFT

EDIT NODE
COMMENT

HISTORY
DETAIL

10073

Continued on next page

Example 1

Let's say we have a console with four Universal Stations. The station numbers are 1, 2, 3, and 4. Table 1 shows the alarm annunciation of virtual printers in this situation. All of the stations are loaded with Area 1.

Based on the example in Table 1, errors involving virtual printer 12 would be annunciated on station #2 and logged in the Notification Message Event History against station #2.

Table 1 VP Alarm Annunciation—Example 1

Station Number	Console Virtual Printers (Area 1 loaded in all stations)				
1	11	15	19	23	27
2	12	16	20	24	28
3	13	17	21	25	29
4	14	18	22	26	30

Example 2

Now let's look at a console that has two areas instead of just one. Let's say there is a console with four USs:

- two stations are loaded with Area 1, and
- two stations are loaded with Area 2.

Table 2 shows the alarm annunciation for virtual printers in this situation.

Table 2 VP Alarm Annunciation—Example 2

Station Number	Console Virtual Printers (Area 1 loaded in all stations)				
1 (Area 1)	11	13	15	17	19
2 (Area 1)	12	14	16	18	20
3 (Area 2)	11	13	15	17	19
4 (Area 2)	12	14	16	18	20

Alarms involving Area 1 reports, logs, and journals that output to virtual printer 12 are annunciated on Station 2.

Alarms involving Area 2 reports, logs, and journals that output to virtual printer 12 are annunciated on Station 4.

Continued on next page

Rules

The following rules apply to virtual printers:

- You must reload the US for a new VP configuration to become effective.
- If you add a US to a console, the virtual printer assignments are adjusted accordingly.
- If power is turned OFF a US, the virtual printer assignments are adjusted accordingly, as if the station did not exist.
- The VP feature does not apply to Printed Trends.
- Assume that where VP errors are annunciated on a console will vary, because of failovers, area changes, USs that are OFF, and US additions to the console.

Exception

On R400, operator *demand* Reports, Logs, Journals, PV Retrieval output, and Event History Retrieval output to virtual printers do not annunciate a console alarm if media errors are encountered.

On R410 and later, virtual printer media errors for both periodic and demanded prints are annunciated on the assigned US.

Recovery procedure

The US is alarmed when the VP configuration file specifies the USER error handling method, or when the system has exhausted all attempts using the SYStem error handling sequences and has reverted to the USER error handling. The operator may recover from the error using the procedure in Table 3.

Continued on next page

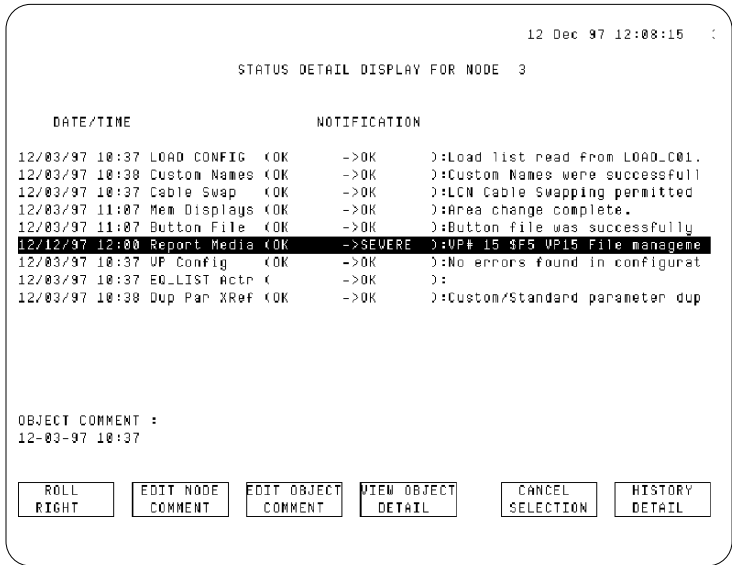
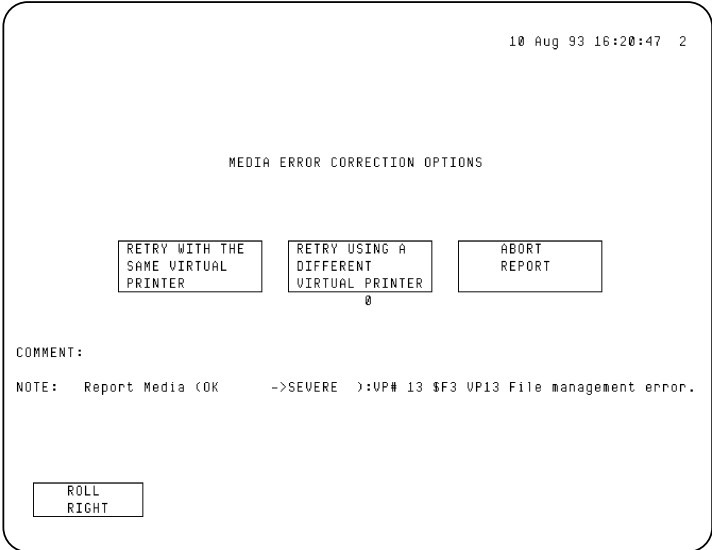
VP Error Handling, Continued

Table 3 VP Error Recovery Procedure

Step	Action
1	From any station on the console, call up the Console Status display.
2	<p>Select the US with a SEVERE status (see below).</p> <p>Result: Station number is highlighted white.</p> <pre> SELECT FUNCTION 12 Dec 97 12:07:22 3 CONSOLE STATUS AND ASSIGNMENT CONSOLE 1 - MANUFACTURING LOCAL STA ADB: 24Nov97 08:53:48:196 STN NODE TYPE STATUS AREA PERIPHS PRTRS DRIVES PENS ACCESS MAINT 1 1 UNVL OK :SOUTH_2 SERVICE 1 1, 2 ENGR 2 2 UNVL OK :POWER1_5 OK 2 3, 4 ENGR * 3 3 UNVL SEVERE :EAST_3 OK 3 5, 6 ENGR 4 4 UNVL OK :WEST_4 SERVICE 4 7, 8 ENGR 5 5 US OFF ??? 6 6 US OFF ??? 10 33 US OFF ??? ENB AUTO LOAD/DMP LOAD/DMP ACCESS CHG AREA CHG UNIT DISPLAY STATUS DETAIL SHUT DOWN MAINT INFO PRTR ASSIGN PERIPH STATUS ENTER 9986-A </pre>
3	<p>Select STATUS DETAIL.</p> <p>Result: US Status Detail display appears with REPORT_MEDIA object indicating SEVERE status.</p>

Continued on next page

Table 3 VP Error Recovery Procedure, *continued*

Step	Action																				
4	Select the REPORT_MEDIA object.																				
	 <p>12 Dec 97 12:08:15</p> <p>STATUS DETAIL DISPLAY FOR NODE 3</p> <table border="1"> <thead> <tr> <th>DATE/TIME</th> <th>NOTIFICATION</th> </tr> </thead> <tbody> <tr> <td>12/03/97 10:37</td> <td>LOAD CONFIG (OK) ->OK (Load list read from LOAD.C01.</td> </tr> <tr> <td>12/03/97 10:38</td> <td>Custom Names (OK) ->OK (Custom Names were successful</td> </tr> <tr> <td>12/03/97 10:37</td> <td>Cable Swap (OK) ->OK (LCN Cable Swapping permitted</td> </tr> <tr> <td>12/03/97 11:07</td> <td>Mem Displays (OK) ->OK (Area change complete.</td> </tr> <tr> <td>12/03/97 11:07</td> <td>Button File (OK) ->OK (Button file was successfully</td> </tr> <tr> <td>12/12/97 12:00</td> <td>Report Media (OK) ->SEVERE (VP# 15 \$F5 VP15 File management error.</td> </tr> <tr> <td>12/03/97 10:37</td> <td>VP Config (OK) ->OK (No errors found in configurat</td> </tr> <tr> <td>12/03/97 10:37</td> <td>EQLIST Actr (OK) ->OK (</td> </tr> <tr> <td>12/03/97 10:38</td> <td>Dup Par XRef (OK) ->OK (Custom/Standard parameter dup</td> </tr> </tbody> </table> <p>OBJECT COMMENT : 12-03-97 10:37</p> <p>ROLL RIGHT EDIT NODE COMMENT EDIT OBJECT COMMENT VIEW OBJECT DETAIL CANCEL SELECTION HISTORY DETAIL</p> <p>9687 A</p>	DATE/TIME	NOTIFICATION	12/03/97 10:37	LOAD CONFIG (OK) ->OK (Load list read from LOAD.C01.	12/03/97 10:38	Custom Names (OK) ->OK (Custom Names were successful	12/03/97 10:37	Cable Swap (OK) ->OK (LCN Cable Swapping permitted	12/03/97 11:07	Mem Displays (OK) ->OK (Area change complete.	12/03/97 11:07	Button File (OK) ->OK (Button file was successfully	12/12/97 12:00	Report Media (OK) ->SEVERE (VP# 15 \$F5 VP15 File management error.	12/03/97 10:37	VP Config (OK) ->OK (No errors found in configurat	12/03/97 10:37	EQLIST Actr (OK) ->OK (12/03/97 10:38	Dup Par XRef (OK) ->OK (Custom/Standard parameter dup
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12/03/97 11:07	Mem Displays (OK) ->OK (Area change complete.																				
12/03/97 11:07	Button File (OK) ->OK (Button file was successfully																				
12/12/97 12:00	Report Media (OK) ->SEVERE (VP# 15 \$F5 VP15 File management error.																				
12/03/97 10:37	VP Config (OK) ->OK (No errors found in configurat																				
12/03/97 10:37	EQLIST Actr (OK) ->OK (
12/03/97 10:38	Dup Par XRef (OK) ->OK (Custom/Standard parameter dup																				
5	Select VIEW OBJECT DETAIL . The media error corrections DISPLAY APPEARS (SEE BELOW).																				
	 <p>10 Aug 93 16:20:47 2</p> <p>MEDIA ERROR CORRECTION OPTIONS</p> <p>RETRY WITH THE SAME VIRTUAL PRINTER RETRY USING A DIFFERENT VIRTUAL PRINTER ABORT REPORT</p> <p>COMMENT:</p> <p>NOTE: Report Media (OK) ->SEVERE (VP# 13 \$F3 VP13 File management error.</p> <p>ROLL RIGHT</p> <p>9688</p>																				
6	Select one of the options to recover from the error condition.																				

Hot Tips

Event initiated report

An event initiated report can be output to a virtual printer file.

The CL program that initiates the report can include a file descriptor command (\$DESC) that assigns a file descriptor to the report file.

SEND: \$OUT_RPT (report name) \$DESC (36 char. descriptor)

The date and time are automatically written into the file descriptor. The format of the complete file descriptor is:

1-8	10-17	19-26	28-64
date	time	report name	36-char. descriptor

File descriptors can be viewed from the Command Processor:

```
LS NET>Pathname -FD
```

Schematic access

Two new Picture Editor actors allow the operator to display and print a report file:

- DSP_FILE (Pathname)
 - PRT_FILE (Pathname)
-

REFERENCE—Additional information about virtual printers is provided in the *Engineers Reference Manual*, Section 32, Binder TPS 3030-2.

For more information on Event Initiated Reports, refer to the *Engineers Reference Manual*, Sections 30 and 32.4, Binder 3030-2.

For more information on the Display/Print File actors, refer to the *Picture Editor Actor's Manual*, Binder 3032-2.

Lab Exercise

Introduction

Description

In this lab exercise, you will

- Retrieve and interpret the virtual printer configuration for your assigned console.
- Demand print a report to a virtual printer, then use the Command Processor to look at the resulting file.

Instructions

Use your assigned US.

Obtain a cartridge or floppy disk from your course manager.

Interpret BP Configuration

Print VPCONFnn.XX

From the Command Processor, print the virtual printer configuration file for your assigned console:

DO \$pn (n = your station's printer)

PR NET>&ASY>VPCONFnn.XX (nn = your console number)

DO

Print Report to VP

Introduction

In the next few steps, you will demand a journal to print out to a virtual printer that exists on removable media.

Select VP

From your printout of VPCONFnn.XX, determine the number and pathname of a virtual printer that is directed to *removable media* on your station:

VP Number	Drive Number	Directory	Filename
	\$F_ _ _	VP_ _ _	

Prepare media

Insert your disk into the drive specified above.

Determine the volume name of your disk.

Create the directory specified above on your cartridge or floppy disk.

CD \$Fn> (volume name of disk)> (space) VPnn (see above)

Your disk is now prepare to accept output to the VP specified above.

Check printer assignment

From the System Menu, call up the REPORT/LOG/TREND/JOURNAL MENU.

Select the journal named VPJOURNAL.

If the journal is not assigned to the virtual printer named above, use the

CHANGE PRINTER target to change the virtual printer number.

Print journal

Activate the journal.

Observe the LED on your disk drive. When the LED flashes, the journal is printing to your report media.

Continued on next page

Print Report to VP, Continued

Check results

Suspend (deactivate) the journal so you can look at the virtual printer output.

(You must suspend it because you cannot open a virtual printer file using the Command Processor, while it is open because of report output.)

Look at the resulting journal from the Command Processor:

```
PR $Fn>VPnn>*.*
```

Any additional printouts to this file are simply appended to the end of the file.

VP Error Handling

Determine console alarm annunciation

In the next few steps, you will cause a media error on a virtual printer.

To determine where virtual printer errors will be annunciated on your console, call up your Console Status Display.

Determine how many USs are on the console and record their station numbers and area in the table below (do not include stations that are OFF).

For each US, record the virtual printer numbers whose errors will be annunciated on that station (refer to Tables 1 and 2 for examples):

Console Station #	Area	Console Virtual Printer									

Whenever errors occur during prints to virtual printer files, the errors are annunciated on the appropriate station's Status Detail display.

Create error

Acknowledge all alarms on your Console Status display so that the keylamp is off or at least not flashing.

Remove your disk from the drive.

Return to the REPORT/LOG/TREND/JOURNAL MENU and activate the journal named VPJOURNAL. This journal is part of the Area database loaded into your station.

The journal will attempt to output to your disk drive. This should cause a media error. Note that the Console Status key is flashing, indicating a console alarm.

Deactivate the journal.

Continued on next page

VP Alarm Annunciation, Continued

Display error

Call up the Console Status Display. Notice the SEVERE status of a US.

View detail status

To look at more detailed information about the status, select the US, then select the STATUS DETAIL target.

The status Detail display lists the functions (objects) that are maintained by this US.

Notice that REPORT_MEDIA is in the SEVERE state (the current state appears on the right, previous state on the left).

Read the status notification message for REPORT_MEDIA (Select Report Media, then select the ROLL RIGHT target.).

View REPORT_MEDIA display

To view the display from which recovery action can be taken, select the VIEW OBJECT DETAIL target.

Perform recovery

Look over the display, then select the ABORT REPORT target, then press [ENTER].

NOTE: You may have to abort *several* print requests, because the journal was scheduled to print once a minute, it may have attempted several prints.

Event history

press [PRIOR DISP] to return to the US Status Detail display.

Select the HISTORY DETAIL target and display the STATUS NOTIFICATIONS for the US node that displayed the SEVERE status.

Notice that the report media alarms are logged in the event history.

End of Lab

Directions

DIRECTIONS—This is the end of the study material for this module. Discuss questions concerning the study material or the lab activities with a colleague or a course manager.

If you are satisfied that you have achieved the objectives of this module, continue with the next section, the Student Proficiency Evaluation.

Student Proficiency Evaluation

Criterion Test

Instructions

Using the *Engineer's Reference Manual* and this course module for reference, do the following test items.

Test item #1

Retrieve and interpret the virtual printer configuration for your assigned console. Show your course manager your printout of VPCONFnn.XX and be prepared to discuss the purpose of each file record with your course manager. Also be prepared to discuss how configuration errors are annunciated.

Test item #2

Using your cartridge disk as the report media, print a report to a virtual printer assigned to your station, then use the Command Processor to look at the resulting report file.

Show your course manager your file and be prepared to demonstrate to your course manager that your report can be retrieved from your cartridge disk.

Test item #3

Cause a virtual printer media error, then demonstrate to your course manager how to respond to the resulting alarm annunciated on the Console Status display.

Self-Evaluation

Test item #1—answer

Retrieve and interpret the virtual printer configuration for your assigned console. Show your course manager your printout of VPCONFnn.XX and be prepared to discuss the purpose of each file record with your course manager. Also be prepared to discuss how configuration errors are annunciated.

*From the Command Processor: DO \$Pn, then PR NET>&ASY>VPCONFnn.XX, where nn is your console number.
Each record in the file defines the pathname of the virtual printer, its failover printers, if any, and its error recovery mechanism (blank = user error recovery).
Configuration errors are annunciated on the US Status Detail display as SEVERE.*

Test item #2—answer

Using your cartridge disk as the report media, print a report to a virtual printer assigned to your station, then use the Command Processor to look at the resulting report file.

Show your course manager your file and be prepared to demonstrate to your course manager that your report can be retrieved from your cartridge disk.

*From the Report/Log/Journal Menu, select a report, change its printer to a virtual printer assigned to your station. Insert your report media into a drive. Print the report. From the Command Processor:
PR \$Fn>virtual printer directory name>virtual printer filename*

Test item #3—answer

Cause a virtual printer media error, then demonstrate to your course manager how to respond to the resulting alarm annunciated on the Console Status display.

Remove your report media from its drive, then print to the virtual printer assigned to that report media. Call up the Console Status display and respond to the error as defined in Table 3.

Directions

DIRECTIONS—This is the end of this module.

Use your course map to

- Get your course manager to sign off this module.
- Choose your next eligible module.

If you have a question

- Ask your course manager.

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