

# ***Use Custom Display Variants***

**L61217  
AG**

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Honeywell Inc.  
Industrial Automation and Control  
Automation College  
2820 West Kelton Lane  
Phoenix, AZ 85053-3028  
**1-800 852-3211**

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## References

<b>Publication Title</b>	<b>Publication Number</b>	<b>Binder Title</b>	<b>Binder Number</b>
<i>Picture Editor Reference Manual</i>	SW09-650	Implementation/Engineering Operations-2	TPS 3032-2



# INTRODUCTION

## Module Overview

### About this module

This course module reviews the syntax for writing Variants in Custom Displays. After looking at on-line displays that show you the syntax diagrams, rules, tips, and techniques related to Variants, you will correct syntax errors in prebuilt Variants.

### Objectives

Given syntax diagrams and Variants with syntax errors, correct the errors so that the Variants enter successfully.

### Sample test item

This course module's Criterion Test includes the following item:

1. Demonstrate the corrected schematics to your course manager.
2. Explain your corrections to your course manager.



# LAB EXERCISE

## Variants

### Objective

In this lab exercise you will review the syntax for Variants, then correct syntax errors in prebuilt Variants.

### Instructions

About Variants:

1. Call up MOOSE, then select VARIANTS.
2. Investigate all of the targets.

NOTE: The VARIANT SYNTAX target does not have a display; you will build the display as an exercise.

Modify Variant Syntax Diagram:

3. Copy the display COND\_IF (AGB2) to your WORK directory (AGB1) as VAR\_IF:  

```
CP $Fs>SYNT>COND_IF.DS $Fd>WORK>VAR_IF
```
4. Go into PE. Read VAR\_IF. Modify VAR\_IF as shown in Figure 1 to be the syntax diagram for a Variant as shown in Figure 2.

*Before you begin*, read the following HINT, then ask your course manager if you have questions on how to draw the diagram.

HINT—When modifying lines on the syntax diagram, use the PE command Set Text Size Small (S TS S) to set small text size. This gives you a cursor position in the middle of the two large cursor positions. This becomes convenient for drawing lines, as shown in Figure 3.

5. Use Replace command to put in new RIGHT arrows:

```
RE S ARROWR $Fn>SYNT>ARROWR
```

where n = right drive

RESULT: Arrows are too big.

- Press [CANCEL], then replace the arrows at their original size:

RE S ARROWR \$Fn>SYNT>ARROWR ORIG

where n = right drive

RESULT: Small arrows appear.

- Put in new UP arrow (ARROWU).
- Compile VAR\_IF.
- When you finish the syntax diagram, copy it to directory SYNT (AGB2):

CP \$Fs>WORK>VAR\_IF.\* \$Fd>SYNT>=

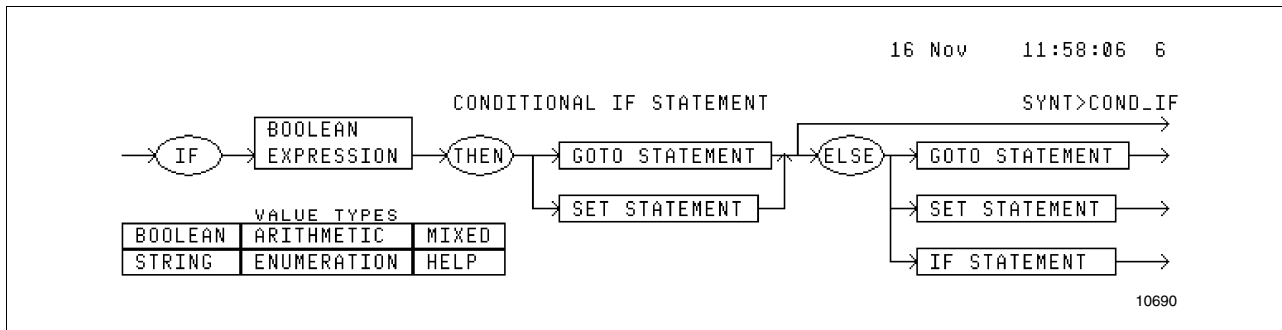


Figure 1 - Before—COND\_IF Syntax Diagram

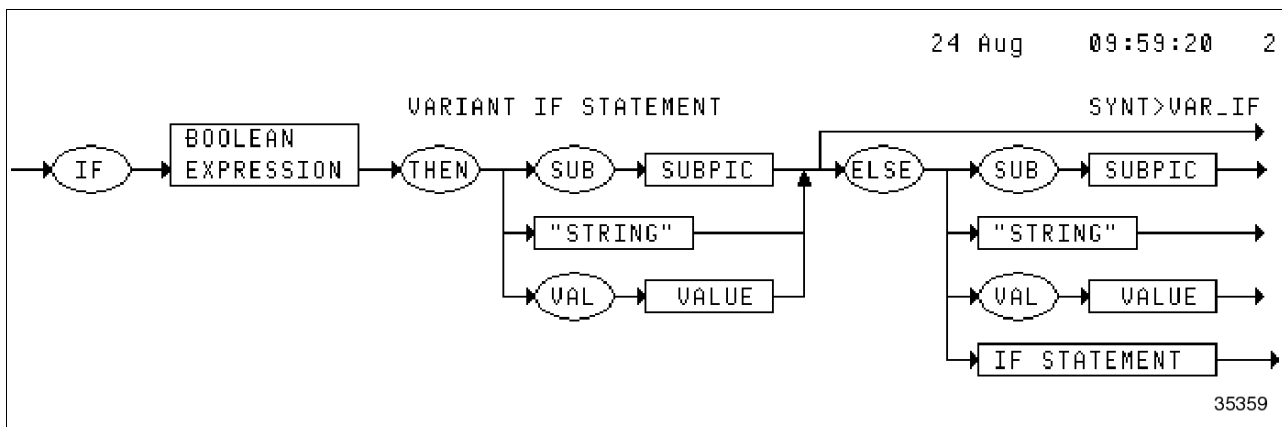
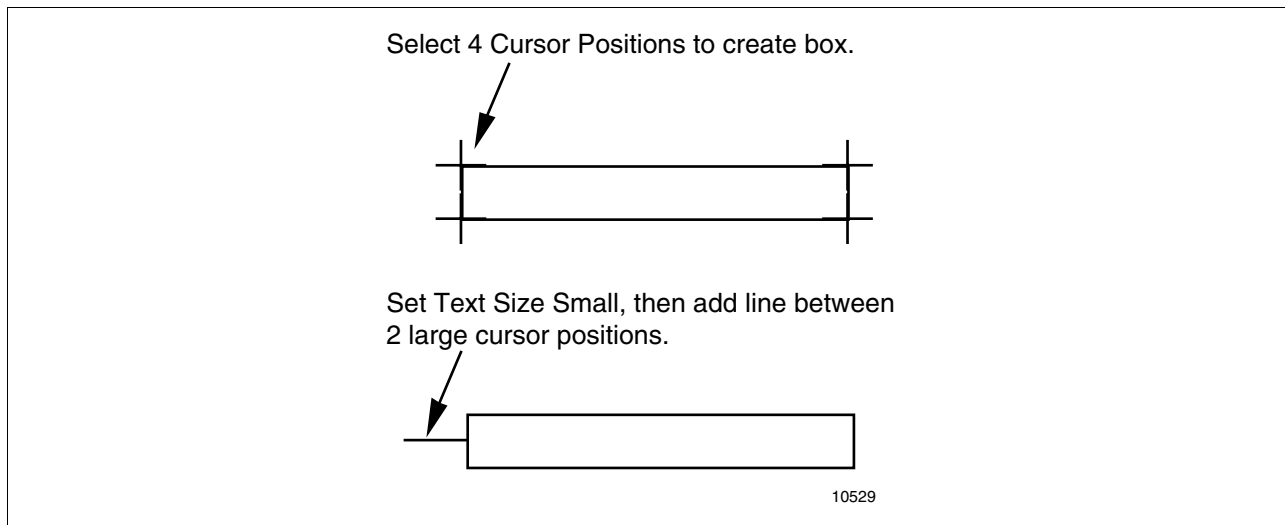


Figure 2 - After—Variant Syntax Diagram





**Figure 3 - Set Text Size**

**Correcting Errors:**

10. Directories VAR1, VAR2, and VAR3 (disk AGB1) contain Variants with errors. VAR1 and VAR2 contain classic problems that occur with Variants:

VAR1 Something extra in one of the subs used by the Variant.

VAR2 Demonstrates how a Variant window affects the display (see Windowing).

Your mission, should you choose to accept it, is to modify the Variants to eliminate the syntax errors, following the instructions in Tables 1, 2, 3, and 4. If you have questions about the exercises, ask your course manager for assistance.

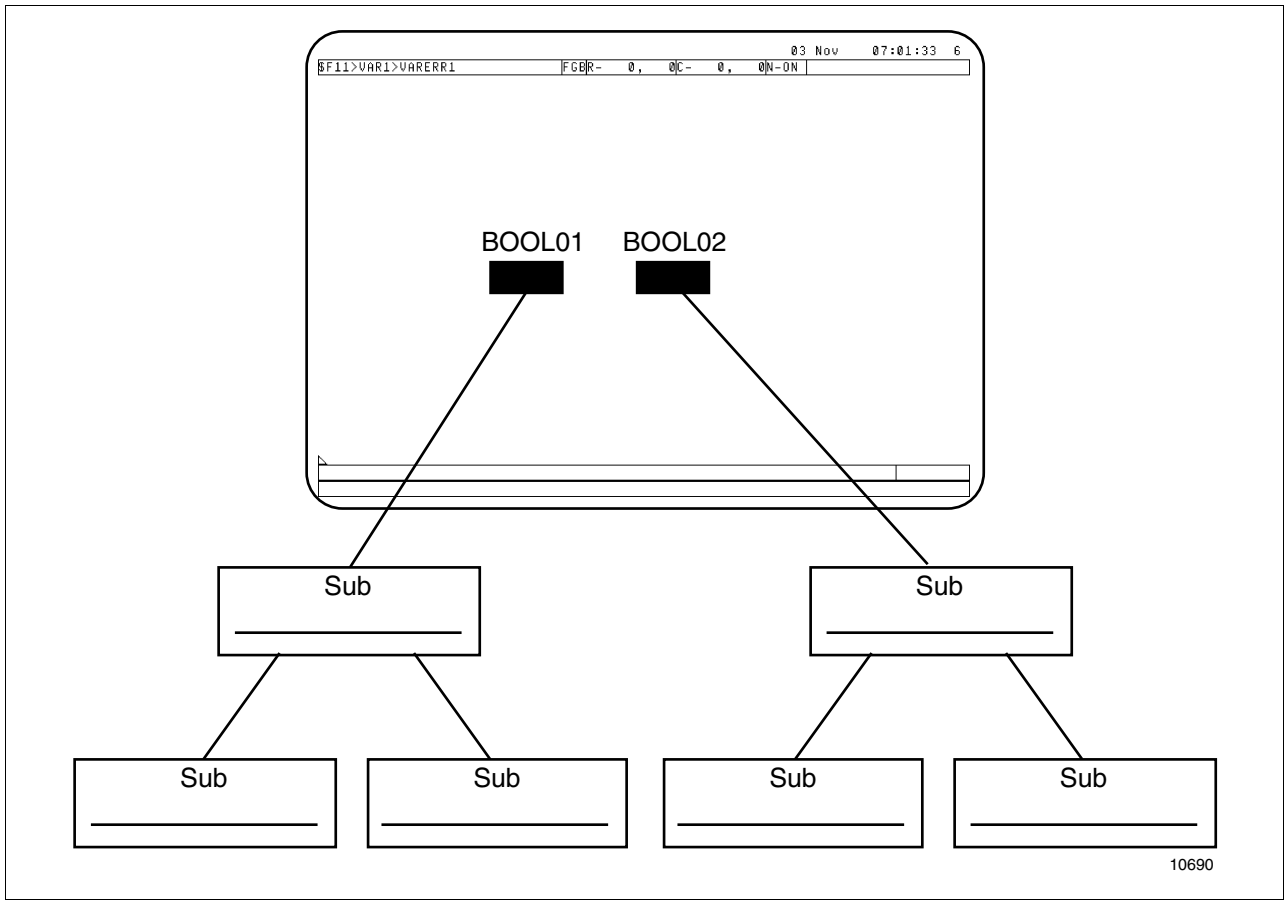
**Windowing**

Windowing is the technique of using a Variant to create an area in a schematic through which many different functions can be activated. You should make sure there is a provision for closing the window when it is not in use.

Follow the procedure in Table 1 to correct the error in directory VAR1.

**Table 1 – VAR1 Exercise**

Step	Action
<b>1</b>	<b>Before you begin</b> —Set your user path to WORK (AGB1).
<b>2</b>	Copy all files in directory VAR1 to WORK (AGB1).  CP VAR1>*.* =
<b>3</b>	Call up Custom Display VARERR1.
<b>4</b>	Touch the button targets and notice that the text above the buttons disappears.  It is not supposed to disappear. In this exercise, you will find the cause and correct it.
<b>5</b>	Investigate the buttons to determine the names of the subpictures. Write the names in Figure 4.
<b>6</b>	Read HINT 1.
<b>7</b>	When you find the problem, fix it and write the subpicture. Read-in the subpicture that references the problem subpicture, then use the Replace command to replace the problem subpicture with your fixed version.
<b>8</b>	Read-in the main display VARERR1, then use the Replace command to replace the subpicture that references the problem subpicture.
<b>9</b>	After fixing the problem, compile the display.
<b>HINT 1</b>  There is something extra in one of the subpictures accessed by a Variant in BUTTSUB, causing part of the screen to disappear. A technique for finding this type of problem is to: <ol style="list-style-type: none"> <li>1. Draw a large solid rectangle that takes up most of the screen.</li> <li>2. Enter A VAR, then select near the bottom of the solid.</li> <li>3. Enter a simple variant such as                 IF ON THEN S name                 RESULT: This will show you the size of each subpicture.</li> </ol>	



**Figure 4 - VARERR1 Subpictures**

Follow the procedure in Table 2 to correct the error in directory VAR2.

**Table 2 – VAR2 Exercise**

Step	Action
1	Copy all files in directory VAR2 to WORK (AGB1).  CP VAR2>*.* =
2	Call up the Picture Editor and read in VARERR2.
3	Select any line inside the box.  Notice that something flashes in the upper-right corner.  If you didn't see it flash, press [CANCEL] and it will flash again.
4	Your assignment is to find the problem. (Read HINT 2.)
5	Perform steps described in HINT 2.
<b>HINT 2</b>  The idea is to move the comment braces to isolate the subpictures that have the problems: <ol style="list-style-type: none"> <li>1. Enter SEL VAR; M; RESULT: Command executes. Slick Trick: Trailing ; causes an error, but leaves the command intact, so that it can be executed again.</li> <li>2. Select below the blue boxes. This shows you the Variant body.</li> <li>3. Make all but the first subpicture of the Variant into a comment {...} to determine which subpictures have a problem.</li> </ol> <pre>           IF BOOL01 THEN S ACTRUL8B {ELSE           IF BOOL02 THEN S ACTRUL8C ELSE           .           .           .                                      }           </pre>	
6	Because subpicture ACTRUL8B does not have a problem, return to the display to see how the display should look.
7	Now that you know where the Variant is, press [ENTER] to execute the command.
8	This time move the comment brace so that it follows ACTRUL8C: <pre>           IF BOOL01 THEN S ACTRUL8B ELSE           IF BOOL02 THEN S ACTRUL8C {ELSE           .           .           .                                      }           </pre> Now there are two subpictures in the Variant.

Step	Action
9	<p>Once you have identified which subpictures have the problems, you will need to look at each one of them.</p> <p>Enter a Set Roll command to move the screen down two lines so you can see lines 25 and 26:</p> <pre>S R 0 2</pre> <p><b>REMEMBER:</b> A Custom display has 26 lines, but you only see 24 at a time.</p>
10	<p>After fixing the problems in the subpictures, read in VARERR2, then use the Replace command to bring in the new version of a subpicture:</p> <pre>RE S name name</pre> <p><b>NOTE:</b> The replace may not be necessary, depending on when you remove the braces.</p> <p>If you remove the braces after changing subpictures,. the Picture Editor brings in a copy of the subpictures when you press [ENTER].</p>
11	<p>When you finish replacing the sub(s), compile the display.</p>

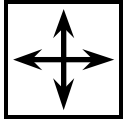
## VAR3

Follow the procedure in Table 3 to correct the error in directory VAR3.

**Table 3 – VAR3 Exercise**

Step	Action
1	Copy all files in directory VAR3 to WORK (AGB1).
2	Call up display VARERR3.
3	In the SET BEHAVIOR STATEMENT diagram, select <b>COLOR</b> , then select <b>INTENSITY</b> .
4	Notice that a portion of the line connecting <b>BLINK</b> disappears.  Your assignment is to determine the problem and correct it.
<b>HINT 3</b>  Record the names of the subpictures.  Reorder the IF statements by using the DEL and INS keys to see the rectangle formed by each subpicture.  While in the Picture Editor, the Variant displays the <i>first</i> subpicture.  <b>REMEMBER:</b> A Variant reserves a window large enough to accommodate all subs, even though it only brings in one at a time.	
5	After fixing the problem, compile the display.

## 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

Successful completion of the lab exercise satisfies the test requirement.  
To demonstrate that you successfully completed the exercise:

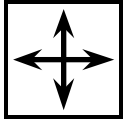
1. Demonstrate the corrected schematics to your course manager.
2. Explain your corrections to your course manager.

## Self-Evaluation

### Solutions

VAR1	<i>BUTTONP (point at 16, 328)</i>
VAR2	<i>Subs ACTRUL8E and ACTRUL8F, which the Variant uses, both had objects at the top of the screen that can be seen if Set Roll 0 2.</i>
VAR3	<i>Variant calls in these subs:</i> <i>COLORS</i> <i>INTENS</i> <i>BLINK (too wide)</i> <i>BACKG (too wide)</i>

## 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 assigned module.

If you have a question, ask your course manager.

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LAST PAGE

