Honeywell

TotalPlant Solutions

R500—R530

US Implementation

Lab Exercise and Evaluation

Build Custom System Status Display

L53431L

LCN

TotalPlant

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This module supports **TotalPlant** Solution (TPS) system network.

TPS is the evolution of TDC 3000^{X}.

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Lab Exercise

Overview

Objective

Use the Picture Editor to build and test a Custom System Status display that includes the following:

- small node object boxes for nodes on the LCN
- lines to represent LCN cabling with assigned PSDP behaviors
- text labels for display components
- a second custom display page with a large box for UCN access

Figures 1 and 4 provide worksheets for your custom displays.

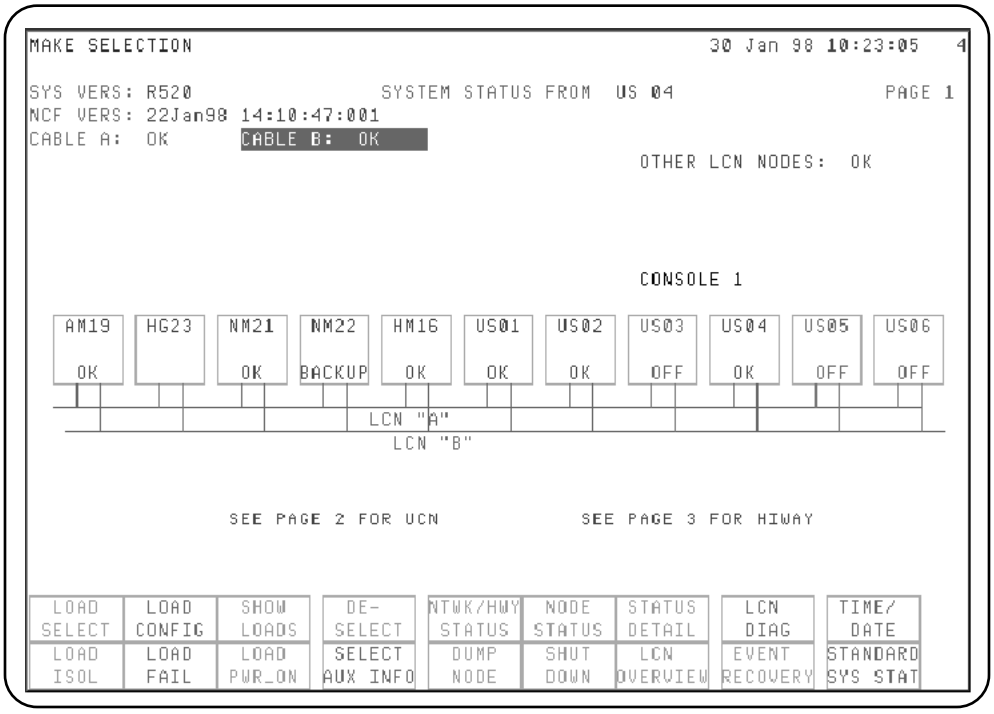
Implementing the Custom Display

Introduction

In this lab you will perform the following:

- design and build a 2-page Custom System Status display
- write and compile your source files to a working directory indicated by your instructor
- copy the object files to &DSY
- test your Custom System Status displays on the LCN
- delete your Custom System Status displays from the LCN

Figure 1 Custom System Status Display Page 1



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Fill in form

Given the LCN nodes indicated by your instructor for this lab, fill in the node object boxes in Figure 1 with the node type and number of each node.

Build Page One

Add display elements

Your Custom System Status display page 1 should be similar to the display shown in Figure 1. If you are on-site, you may include some or all of the nodes on your LCN.

Picture Editor tools used to build schematics can be used to build Custom System Status displays. You will apply some of those techniques here.

From the Engineering Main Menu, select the Picture Editor and perform the following steps to add

- subpictures
- lines
- text
- conditional behaviors
- targets

PSDP parameters

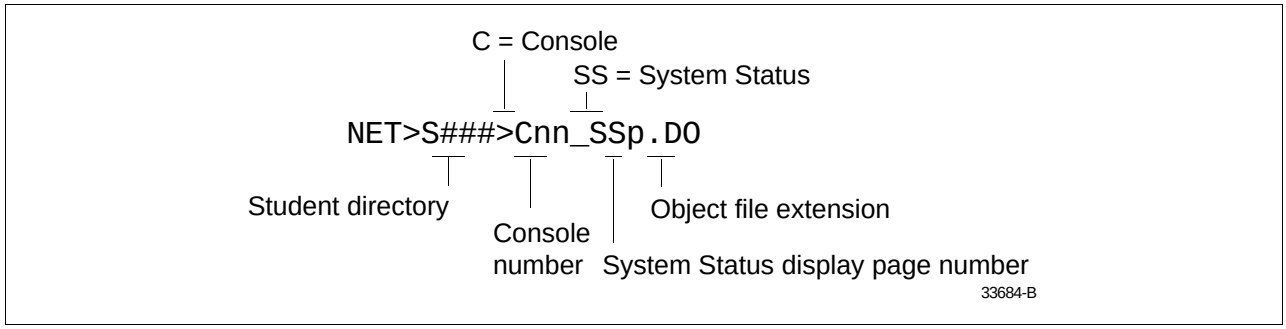
You will use Universal Station PSDP parameters to display cable status information. Section 22 of the *Engineer's Reference* manual describes additional PSDP parameters.

Set path

When you load the Picture Editor, set the path to your student directory on the HM as specified by your data base partition sheet.

Save (`WRITE`) to Custom System Status display filename Cnn_SSp, where nn is your console number, and p is the Custom System Status display page number, as shown in Figure 2.

Figure 2 Custom Display Filename

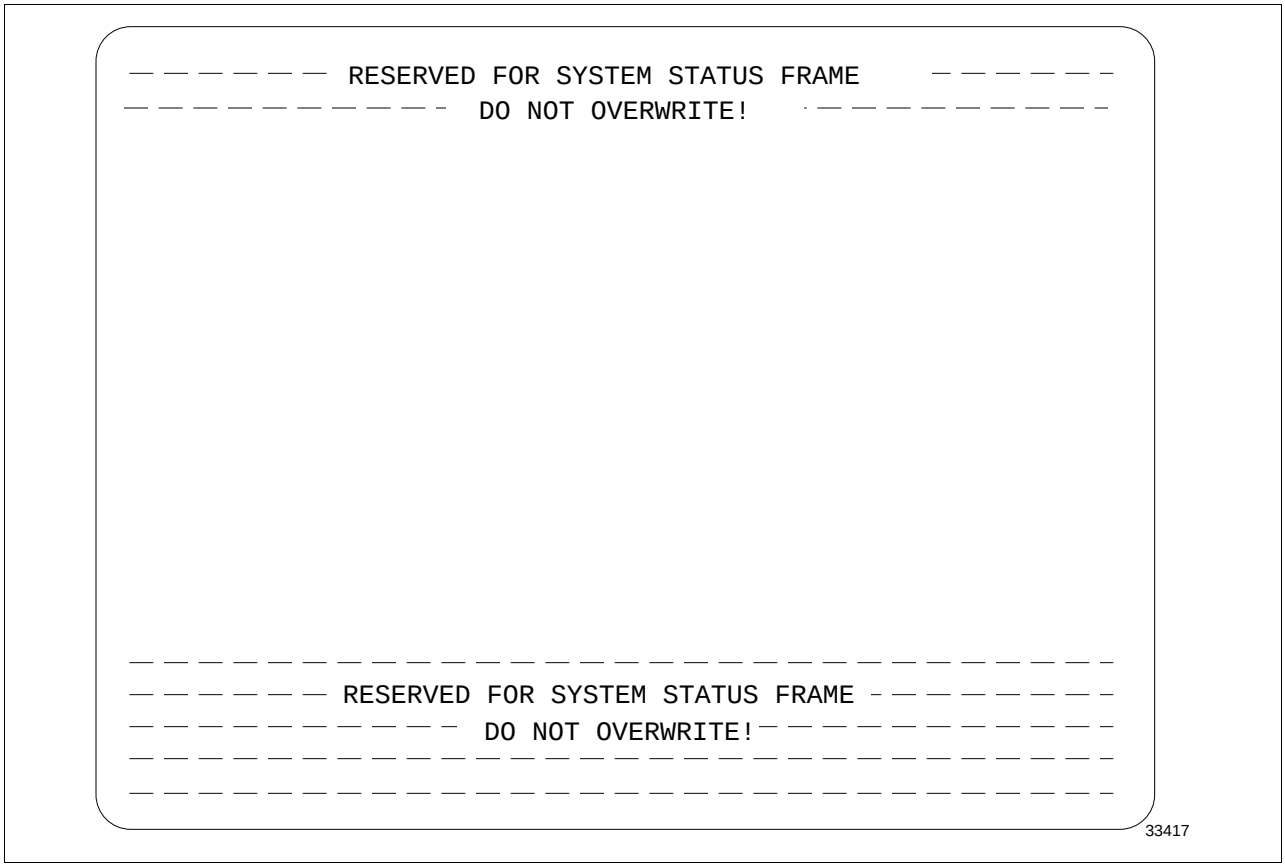


Build Page One, Continued

Lab procedure

Step	Action
1	Begin by adding the background. **ADD SUB SS_FRAME** **at Origin 0,0** NOTE: The SS_FRAME background produces status lines on the display (Figure 3). When adding nodes or other subpictures, keep the subpictures clear of the blocked out areas. TIP: The SS_FRAME subpicture fills the entire screen and must be deselected each time you select one of your display elements. If you are building a detailed custom status display on site, you may want to add a horizontal line across the top and bottom of your work area to define the blocked out areas. You can then delete the SS_FRAME, build your nodes, lines, and other display elements, then put the SS_FRAME back in last.

Figure 3 SS_FRAME



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Build Page One, Continued

Lab procedure, continued

Step	Action
2	Add a small node object box for each node: **ADD SUB SS_PN_SM**
3	Add lines to represent cables A and B, then add lines to connect the cables to the nodes. **ADD LINE**
4	Label the Console and both LCN cables with separate text entries as in Figure 1. **ADD TEXT**
5	Add conditional behavior for Universal Station PSDP parameter ACTIVCBL. ($PRSTSnn.ACTIVCBL = 0 if this node is on cable A. = 1 if this node is on cable B.) Select the line representing Cable A: **ADD COND** **IF $PRSTSnn.ACTIVCBL=0 THEN SET FULL YELLOW ELSE SET HALF YELLOW** where nn=LCN node number of your designated US from Figure 1.
6	Select the line representing Cable B: **ADD COND** **IF $PRSTSnn.ACTIVCBL=1 THEN SET FULL GREEN ELSE SET HALF GREEN** where nn=LCN node number of your designated US from Figure 1.
7	Compile the display. **COM** Your Page One file will be written to a .DS source file and a .DO object file in your working directory.

Build Page Two

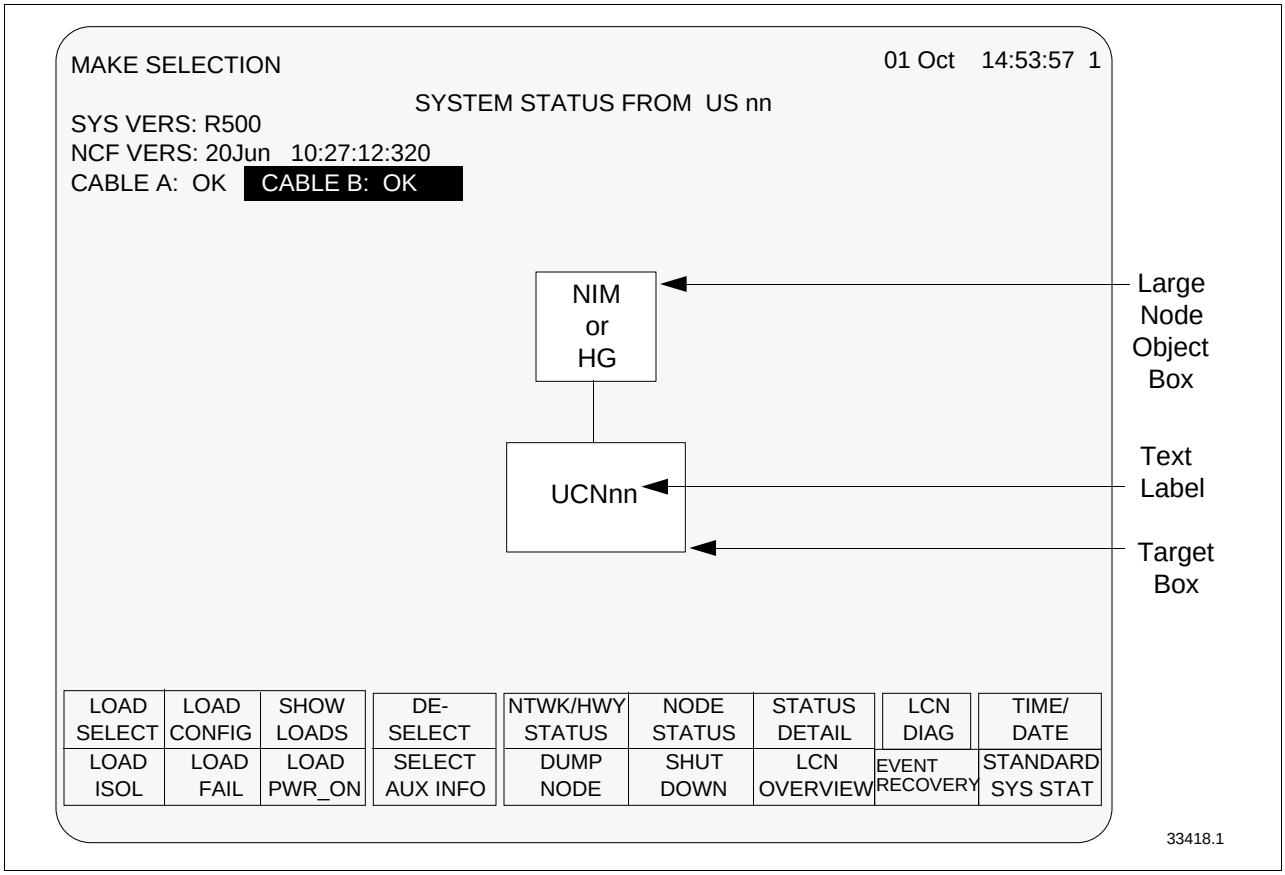
Fill in form

Fill in the upper box in Figure 4 with your designated NIM or HG and its number, and write your Process Network number in the lower box, as indicated.

Add UCN elements

Add a large node subpicture and build a target to jump to the UCN Status display.

Figure 4 Custom System Status Display Page 2



Lab procedure

Step	Action
1	Use the **NEW** command to clear the Picture Editor screen, and **WRITE** to file Cnn_SS2, in your working directory where nn is your console number from Figure 1 and SS2 indicates page two of your custom display. Begin Custom System Status display page two the same way you built page one, adding subpicture SS_FRAME at origin 0,0.

Continued on next page

Build Page Two, Continued

Lab procedure,
continued

Step	Action
2	Add a large node object box subpicture to represent the NIM or HG as in Figure 4. **`ADD SUB  SS_PN_LG`**
3	Build a target to call up the UCN or Hiway Status display. **`ADD TAR`** **`Solid/Box/Invisible = BOX`** Action: **`UCN_STAT(nn) or HWY_STAT(nn)`** where nn is the UCN or Hiway Network number.
4	Add text to the target box: UCNnn, where nn is the UCN Network number. **`ADD TEXT`** Add a line to connect the NIM to the UCN target.
5	Compile the display. Save to your working directory. **`COM`**
6	**STOP!** DO NOT COMPLETE THIS STEP BEFORE CONSULTING WITH YOUR INSTRUCTOR! **After you have instructor approval**, copy your object files to the &DSY volume. **CAUTION**: After performing an Area change on each station to load the custom display into station memory, the custom display will appear automatically for ALL STATIONS ON THE LCN when the [SYST STAT] button on the operator keyboard is pressed. Be certain before loading that you copy your file to the correct LCN.

Test Your Custom Displays

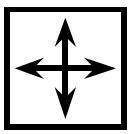
Test your displays

Perform these steps **with your instructor** to view and test your Custom System Status displays for node and cable operation.

Step	Action
1	Perform an Area Change from the US. **WARNING**: Make certain that it is appropriate to perform an Area Change before testing your display. **CAUTION**: After performing an Area change on each station to load the custom display into station memory, the custom display will appear automatically for ANY STATIONS ON THE LCN when the [SYST STAT] button on a station's operator keyboard is pressed. Be certain before loading that you copy your file to the correct LCN. RESULT: Page one of your custom display appears when you select the [SYST STATS] button on the operator keyboard.
2	Select the [PAGE FORWARD] button on the operator keyboard. RESULT: Page two of your custom display appears.
3	Perform the following test checklist: • See your course manager for a node you may shut down and reload using the SHUT DOWN and LOAD SELECT targets. • Check node object box status indicators. • Observe cable line-intensity change during cable swap. • Select the UCN target to jump to the UCN Status display. • Use the STANDARD SYS STAT target to return to the Standard System Status display. RESULT: Your Custom System Status display works!

Delete the file

After you have demonstrated your display to your instructor, use the Command Processor to delete the Cnn_SS1.DO and Cnn_SS2.DO files (that you created for your console) from the &DSY volume.



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

If you are satisfied that you have achieved the objective of the course module, continue with the Student Proficiency Evaluation.

Student Proficiency Evaluation

Criterion Test

Part 1—completion of lab exercise

Completion of the lab exercise satisfies part of the test requirements for this course module.

Be prepared to show your Custom System Status display to your course manager.

Part 2—test questions

Be prepared to answer the following questions and discuss them with your course manager.

1. On a US with a Custom System Status display, which display appears when you press the [SYST STATS] button, Standard or Custom?

2. What procedure must be performed after loading the Custom System Status display before the display can be called up?

3. List the Custom System Status display file name and describe what its numbers represent.

4. In which directory does it reside?

5. Can you call up the Standard System Status display from the Custom System Status display? If so, how?

Self-Evaluation

Part 1—completion of lab exercise

Completion of the lab exercise satisfies part of the test requirements for this course module.

Be prepared to show your Custom System Status display to your course manager.

Part 2—test questions

Be prepared to answer the following questions and discuss them with your course manager.

1. On a US with a Custom System Status display, which display appears when you press the [SYST STAT] button, Standard or Custom?

   Custom

2. What procedure must be performed after loading the Custom System Status display before the display can be called up?

   Area change

3. List the Custom System Status display file name and describe what its numbers represent.

   Cnn_SSp *nn is the console number*

   p is the display page number

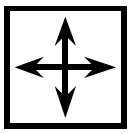
4. In which directory does it reside?

   &DSY

5. Can you call up the Standard System Status display from the Custom System Status display? If so, how?

   Yes. The STANDARD SYSTEM STATUS *display target is in the lower-right corner of the Custom display.*

Directions



DIRECTIONS—This is the end of this course module.

Use your course map to

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

If you have a question

- Ask your course manager.

LAST PAGE