

# **Button Configuration Form Instructions**

**SW12-570**

• • •

**Implementation  
Engineering Operations - 1**

***Button Configuration  
Form Instructions***

**SW12-570  
Release 520  
7/96**

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## About This Publication

This publication explains how to fill out the button configuration forms. This data will be entered into the Universal Station screen displays later using instructions in the *Button Configuration Data Entry* manual.

Before reading this publication, you should be familiar with the following:

*Button Configuration Forms*, SW88-570

*Actors Manual*, SW09-555

*Command Processor Operation*, SW11-507

This publication supports **TotalPlant**<sup>®</sup> Solution (TPS) System network release 500 - 520. TPS is the evolution of TDC 3000<sup>X</sup>.

Change bars are used to indicate paragraphs, tables, or illustrations containing changes that have been made effective in this manual by release 520. Pages revised only to correct minor typographical errors contain no change bars.



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## INTRODUCTION

### Section 1

#### 1.1 PURPOSE

This publication addresses Process Engineers and Honeywell Configuration Services Engineers and provides the following information:

- instructions on how to fill out Button Configuration forms
- definitions of button-configuration data that can be used to support the Button Configuration data-entry activity when using the *Button Configuration Data Entry* publication in the *Implementation/Engineering Operations - 1* binder.

#### 1.2 SCOPE

This publication covers instructions necessary to fill in the Button Configuration Forms to be used with the data-entry portion of the configuration. Examples show some of the ways to use the Configurable Buttons. Other actions that can be configured into buttons are described in the *Actors Manual*, in the *Implementation/Engineering Operations - 2* binder.

#### 1.3 PREREQUISITES

There are two categories of prerequisites for filling out button-configuration forms:

1. Prior knowledge and
2. Sources of Button Configuration Data.

Each category is described in the sections that follow.

##### 1.3.1 Prior Knowledge

Before using these instructions to fill out button-configuration forms, you should first read the *Configuration Data Collection Guide*, in the *Implementation/Startup & Reconfiguration* - 2 binder. This guide is a road map through the various **TotalPlant**<sup>®</sup> Solution (TPS) System configuration activities that use paper forms. It tells you where the Button Configuration paper forms fit into the overall configuration process.

##### 1.3.2 Sources of Button Configuration Data

Table 1-1 shows typical sources of data needed to complete the button-configuration forms.

Table 1-1 — Sources of Button Configuration Data

CONFIGURATION DATA	TYPICAL SOURCE	REMARKS
The Station Numbers within the Console for which these buttons are being configured	The console configuration installed, or to be installed	A logical console can have up to 10 stations. The Stations are numbered 1-10
Process Unit IDs (for which button alarm indicators might be desired) applicable to the Console (Area) for which this set of buttons is being configured	<i>Network Forms</i> publication	Network Forms list all Unit IDs
	<i>Area Forms</i> publication	Area Database Forms list Unit IDs assigned to each area or console
Pathnames of custom graphics, if custom graphic display call-up action is to be configured to a button	<i>Picture Editor Forms</i> publication	Picture Editor Forms list custom graphic Pathnames
Descriptions of Actors to be configured for a specific button	<i>Actors Manual</i>	Pay close attention to syntax used in the examples in this publication

## 1.4 DOCUMENTS REQUIRED

The *Button Configuration Forms* (SW88-570), in the *Implementation/Configuration Forms* binder are needed to list the button configuration data for each area.

Refer to the *Actors Manual* (SW09-555), for a complete list and description of the action procedures (Actors).

The *Keyboards* manual (SW09-508), contains a description of the various keyboards.

## GENERAL INSTRUCTIONS

### Section 2

*Two forms have been designed to collect configuration data for the configurable buttons. The Button Configuration form provides space to configure up to six buttons. The Button Name File form is used to collect new names for the configurable buttons. Use as many pages of the forms as needed to configure the buttons.*

#### 2.1 BUTTON CONFIGURATION FORM

Figure 2-1 illustrates the Button Configuration Form. Make adequate copies of the Button Configuration form. The form provides space to configure 6 buttons but you may want to configure as many as 136 buttons per area.

##### 2.1.1 Pathname Field

Enter a volume ID and Filename for the Button Configuration file. Typically this file is kept in the same directory as the Area database. For example Net>&Dnn>Buttons where nn is the area number. For systems with a Button Name File (discussed later), there is a requirement that both files have the same volume ID and filename. The Button Configuration file has an extension of .KO and the Button Name File has an extension of .KN.

##### 2.1.2 Keyboard Type Field

Indicate the type of keyboard to be configured at the top of the form. If buttons are being configured on more than one keyboard type, check all that apply. This form is used for the Universal Station's ABC or QWERTY Keyboards, the Integrated Keyboard, and various Engineering Keyboards with Programmable Function (PF) keys. In the latter case, these keyboards are used with Universal Station<sup>X</sup>, the Micro TDC Station, the Universal Work Station, and others.

Figures 2-2 through 2-4 illustrate the button layout for each type of keyboard. If you have an ABC or QWERTY keyboard, compare the labels on buttons 57 - 63 to determine the type.

#### NOTE

For those using R500 software, please note the following. Only the ABC keyboard image and the Engineer's keyboard image were displayed for button configuration purposes. Because configurable button numbers are the same on QWERTY and ABC keyboards, either can be configured using the ABC image.

Normally a set of buttons is configured for an area. Button 1 on any type of keyboard within the same area will invoke the same action as Button 1 on any other type of keyboard in the same area (some exceptions are discussed later). Identifying the keyboard type helps the person entering button data to select the most helpful screen image for the configuration task.

### 2.1.3 Button Number Field

Figure 2-2 shows the layout for Configurable Buttons 1 through 85 on the QWERTY and ABC Operator keyboards. Buttons 7 through 46 contain alarm indicator lamps as indicated by the small circles in the upper corners. Buttons 0-6 do not contain alarm indicator lamps. Note that the Alpha Shift Button (not illustrated), in the lower-right of these keyboards is not configurable by the user.

<b>Honeywell TDC 3000<sup>X</sup></b>	<b>BUTTON CONFIGURATION</b>	<b>Form SW88-570</b>
<b>Pathname</b> _____		<b>4/96</b>
<b>Keyboard Type:</b> <input type="checkbox"/> _ABC <input type="checkbox"/> _QWERTY <input type="checkbox"/> _Integrated <input type="checkbox"/> _Engineer (PF Keys)		
<hr/>		
<b>Button Number</b> _____	<b>Button Number</b> _____	
Action: _____	Action: _____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
Lamp Specific Data* _____	Lamp Specific Data* _____	
<hr/>		
<b>Button Number</b> _____	<b>Button Number</b> _____	
Action: _____	Action: _____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
Lamp Specific Data* _____	Lamp Specific Data* _____	
<hr/>		
<b>Button Number</b> _____	<b>Button Number</b> _____	
Action: _____	Action: _____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
Lamp Specific Data* _____	Lamp Specific Data* _____	
<hr/>		
*Unit = U/... Primod = P/..., Annunciator Group = A/....		
References: <i>Button Configuration Form Instructions, SW12-570</i> in the <i>Implementation/Engineering Operations - 2</i> binder. <i>Button Configuration Data Entry, SW11-570</i> in the <i>Implementation/Engineering Operations - 2</i> binder.		
		Rev
 <b>Figure 2-1 — Button Configuration-Form</b>		

BUTTON CONFIGURATOR		QWERTY KEYBOARD				PAGE 1 OF 5				DD MMM YY 14:05:41 1
		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	\$ 50	= 51	& 52	* 53	< 54	> 55	? 56	
Q 57	W 58	E 59	R 60	T 61	Y 62	U 63	I 64	O 65	P 66	
A 67	S 68	D 69	F 70	G 71	H 72	J 73	K 74	L 75	- 76	
SP 77	Z 78	X 79	C 80	V 81	B 82	N 83	M 84	^ 85		

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**a – QWERTY Keyboard**

BUTTON CONFIGURATOR		ABC KEYBOARD				PAGE 2 OF 5				DD MMM YY 14:05:41 1
		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	50	51	52	53	54	55	56	
A 57	B 58	C 59	D 60	E 61	F 62	G 63	H 64	I 65	J 66	
K 67	L 68	M 69	N 70	O 71	P 72	Q 73	R 74	S 75	T 76	
U 77	V 78	W 79	X 80	Y 81	Z 82	SP 83	- 84	^ 85		

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**b – ABC Keyboard**

**Figure 2-2 — Configurable Button-Selection Menu**

		DD MMM YY 14:05:41 1							
BUTTON CONFIGURATOR	INTEGRATED KEYBOARD	PAGE 3 OF 5							
<table style="margin: auto;"> <tr> <td style="border: 1px solid black; padding: 2px 10px;">1</td> <td style="border: 1px solid black; padding: 2px 10px;">2</td> <td rowspan="3" style="padding-left: 20px; vertical-align: middle;"> <b>PAGE FORWARD FOR BUTTONS 7 THRU 85</b> </td> </tr> <tr> <td style="border: 1px solid black; padding: 2px 10px;">3</td> <td style="border: 1px solid black; padding: 2px 10px;">4</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px 10px;">5</td> <td style="border: 1px solid black; padding: 2px 10px;">6</td> </tr> </table>			1	2	<b>PAGE FORWARD FOR BUTTONS 7 THRU 85</b>	3	4	5	6
1	2	<b>PAGE FORWARD FOR BUTTONS 7 THRU 85</b>							
3	4								
5	6								

		DD MMM YY 14:05:41 1																																								
BUTTON CONFIGURATOR	INTEGRATED KEYBOARD	PAGE 4 OF 5																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">7</td><td style="text-align: center;">8</td><td style="text-align: center;">9</td><td style="text-align: center;">10</td><td style="text-align: center;">11</td></tr> <tr><td style="text-align: center;">17</td><td style="text-align: center;">18</td><td style="text-align: center;">19</td><td style="text-align: center;">20</td><td style="text-align: center;">21</td></tr> <tr><td style="text-align: center;">47</td><td style="text-align: center;">48</td><td style="text-align: center;">49</td><td style="text-align: center;">50</td><td style="text-align: center;">51</td></tr> <tr><td style="text-align: center;">57</td><td style="text-align: center;">58</td><td style="text-align: center;">59</td><td style="text-align: center;">60</td><td style="text-align: center;">61</td></tr> </table> <p style="font-size: small; margin-top: 0;">LEFT QUADRANT</p>	7	8	9	10	11	17	18	19	20	21	47	48	49	50	51	57	58	59	60	61	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">12</td><td style="text-align: center;">13</td><td style="text-align: center;">14</td><td style="text-align: center;">15</td><td style="text-align: center;">16</td></tr> <tr><td style="text-align: center;">22</td><td style="text-align: center;">23</td><td style="text-align: center;">24</td><td style="text-align: center;">25</td><td style="text-align: center;">26</td></tr> <tr><td style="text-align: center;">52</td><td style="text-align: center;">53</td><td style="text-align: center;">54</td><td style="text-align: center;">55</td><td style="text-align: center;">56</td></tr> <tr><td style="text-align: center;">62</td><td style="text-align: center;">63</td><td style="text-align: center;">64</td><td style="text-align: center;">65</td><td style="text-align: center;">66</td></tr> </table> <p style="font-size: small; margin-top: 0;">LEFT MIDDLE QUADRANT</p>	12	13	14	15	16	22	23	24	25	26	52	53	54	55	56	62	63	64	65	66	
7	8	9	10	11																																						
17	18	19	20	21																																						
47	48	49	50	51																																						
57	58	59	60	61																																						
12	13	14	15	16																																						
22	23	24	25	26																																						
52	53	54	55	56																																						
62	63	64	65	66																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">27</td><td style="text-align: center;">28</td><td style="text-align: center;">29</td><td style="text-align: center;">30</td><td style="text-align: center;">31</td></tr> <tr><td style="text-align: center;">37</td><td style="text-align: center;">38</td><td style="text-align: center;">39</td><td style="text-align: center;">40</td><td style="text-align: center;">41</td></tr> <tr><td style="text-align: center;">67</td><td style="text-align: center;">68</td><td style="text-align: center;">69</td><td style="text-align: center;">70</td><td style="text-align: center;">71</td></tr> <tr><td style="text-align: center;">77</td><td style="text-align: center;">78</td><td style="text-align: center;">79</td><td style="text-align: center;">80</td><td style="text-align: center;">81</td></tr> </table> <p style="font-size: small; margin-top: 0;">RIGHT MIDDLE QUADRANT</p>	27	28	29	30	31	37	38	39	40	41	67	68	69	70	71	77	78	79	80	81	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">32</td><td style="text-align: center;">33</td><td style="text-align: center;">34</td><td style="text-align: center;">35</td><td style="text-align: center;">36</td></tr> <tr><td style="text-align: center;">42</td><td style="text-align: center;">43</td><td style="text-align: center;">44</td><td style="text-align: center;">45</td><td style="text-align: center;">46</td></tr> <tr><td style="text-align: center;">72</td><td style="text-align: center;">73</td><td style="text-align: center;">74</td><td style="text-align: center;">75</td><td style="text-align: center;">76</td></tr> <tr><td style="text-align: center;">82</td><td style="text-align: center;">83</td><td style="text-align: center;">84</td><td style="text-align: center;">85</td><td></td></tr> </table> <p style="font-size: small; margin-top: 0;">RIGHT QUADRANT</p>	32	33	34	35	36	42	43	44	45	46	72	73	74	75	76	82	83	84	85		
27	28	29	30	31																																						
37	38	39	40	41																																						
67	68	69	70	71																																						
77	78	79	80	81																																						
32	33	34	35	36																																						
42	43	44	45	46																																						
72	73	74	75	76																																						
82	83	84	85																																							

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**Figure 2-3 — Integrated Keyboard, Relegendable Keys**

Figure 2-3 illustrates Configurable Buttons 0 through 85 on the Integrated Keyboard. Buttons 0-6 are on the Operator's Control Panel and do not contain alarm indicator lamps. Buttons 7 - 85 make up the Relegendable Function Key Panel. Buttons 7 through 46 contain alarm indicator lamps as indicated by the small circles in the upper corners. Note that the LED TEST button (not illustrated), in the lower-right of this keyboard is not configurable by the user.

Figure 2-4 illustrates the 17 Programmable Function (PF1-PF17) keys that appear on various Engineering/Supervisory keyboards such as Micro TDC Station, the Universal Workstation, the Integrated Keyboard, and others.

These 17 buttons can be used alone (first field), with the Shift key held down (middle field), or with the Control key held down (lower field) to provide a total of 51 configurable choices. The buttons are numbered 86 through 136.

BUTTON CONFIGURATOR		ENGINEER KEYBOARD		DD MMM YY 14:05:41 1	
				PAGE 5 OF 5	
<b>NORMAL</b>					
PF1 86	PF2 87	PF3 88	PF4 89	PF5 90	PF6 91
PF7 92	PF8 93	PF9 94	PF10 95	PF11 96	PF12 97
PF13 98	PF14 99	PF15 100	PF16 101	PF17 102	
<b>SHIFT</b>					
PF1 103	PF2 104	PF3 105	PF4 106	PF5 107	PF6 108
PF7 109	PF8 110	PF9 111	PF10 112	PF11 113	PF12 114
PF13 115	PF14 116	PF15 117	PF16 118	PF17 119	
<b>CONTROL</b>					
PF1 120	PF2 121	PF3 122	PF4 123	PF5 124	PF6 125
PF7 126	PF8 127	PF9 128	PF10 129	PF11 130	PF12 131
PF13 132	PF14 133	PF15 134	PF16 135	PF17 136	

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**Figure 2-4 — Engineering/Supervisory Keyboard PF keys**

## 2.1.4 Action Field

The Action field (refer to Figure 2-1) is used to specify the Actor or group of Actors assigned to a specific button. The *Actors Manual* describes the actors and Section 3 of this manual provides some typical examples for this entry.

### Restrictions and Precautions

Unless specifically noted, any Actor or group of Actors can be used with a configurable button; however, observe the following restrictions and precautions:

- Actors triggered by a configurable button cannot access a custom graphic display's *local* Display Database (DDB). They can, however, access the system's *global* display database.
- When triggered by a configurable button, Actors that open a Text Input Port (TIP) can do so only on the top line of the screen (region 1); therefore, TIP coordinates are not requested during configuration.
- Trend actors cannot be called from a configurable button.

All of the Actors and associated parameters must fit inside the screen form's Action entry port. For each button the screen form allows 78 characters by 15 lines (1170 characters).

Before configuring any of the buttons numbered 57 through 85 (the alpha buttons) on ABC or QWERTY Keyboards, you should consider the following. These buttons are normally used to enter text such as group names, point names, etc., a letter at a time. The alpha buttons, like the others, can also be used to invoke the configurable functions (e.g., call up schematics, open ports, etc.).

If these buttons are configured, before making an entry the operator must make sure the keyboard is in the correct mode for the type of information to be entered. The operator must press the alpha shift button if necessary to switch between text mode and function mode. If you configure any of the alpha buttons, therefore, you should instruct Operating personnel to start with the Operator's keyboard in text mode and use the following procedure to select a configured-button function:

- Press the alpha shift button
- Press the desired function button
- Press the alpha shift button again so that the buttons are always left in text mode.

If none of the alpha buttons are configured, just leave the keyboard in text mode all the time.

Note that in all cases, the configuration actions you choose are effective only when the Operator's Personality is running in the station.

## 2.1.5 Lamp Specific Data Field

Forty of the Configurable Buttons each have a pair of Light Emitting Diode (LED) indicators; one red and one yellow. The Button Configuration screen for these buttons contains a corresponding Lamp Specific Data field. This field is used to specify a Process Unit ID, a Primmod point name, or an Annunciator Group title for use with the button indicators. When an alarm condition is detected from the specified source, the assigned LEDs turn on.

- For a Unit, enter U/ followed by the desired Unit identifier.
- For a Primmod name, enter P/ followed by the desired Primmod point name. In R520 and later systems, a multiple primmod string (\$MPROD) can also be used.
- For an Annunciator Group, enter A/ followed by the desired Annunciator Group Title.

The level of Unit Alarm that turns on the red indicator is specified during System Wide Values Configuration. Lower-priority Unit Alarms turn on the yellow LED indicator.

Only the buttons with lamp indicators can have a Lamp Specific Data entry. These are the buttons with small circles in the upper corners as illustrated in Figures 2-2 through 2-4.

### 2.1.5.1 Button LED Indicator Control by Program

For Release 520 and later systems, CL/Sequence programs can also control the button indicators. The CL message can be sent to all Universal Stations in certain specified groups such as a Console or an Area. Refer to the Send Statement in the AM/CL, MC/CL, or any of the Process Manager series CL manuals. Advanced Control Programs from upper level processors connected to the Computer Gateway can also control the button LEDs. Figure 2-5 illustrates how CL Send messages are used.

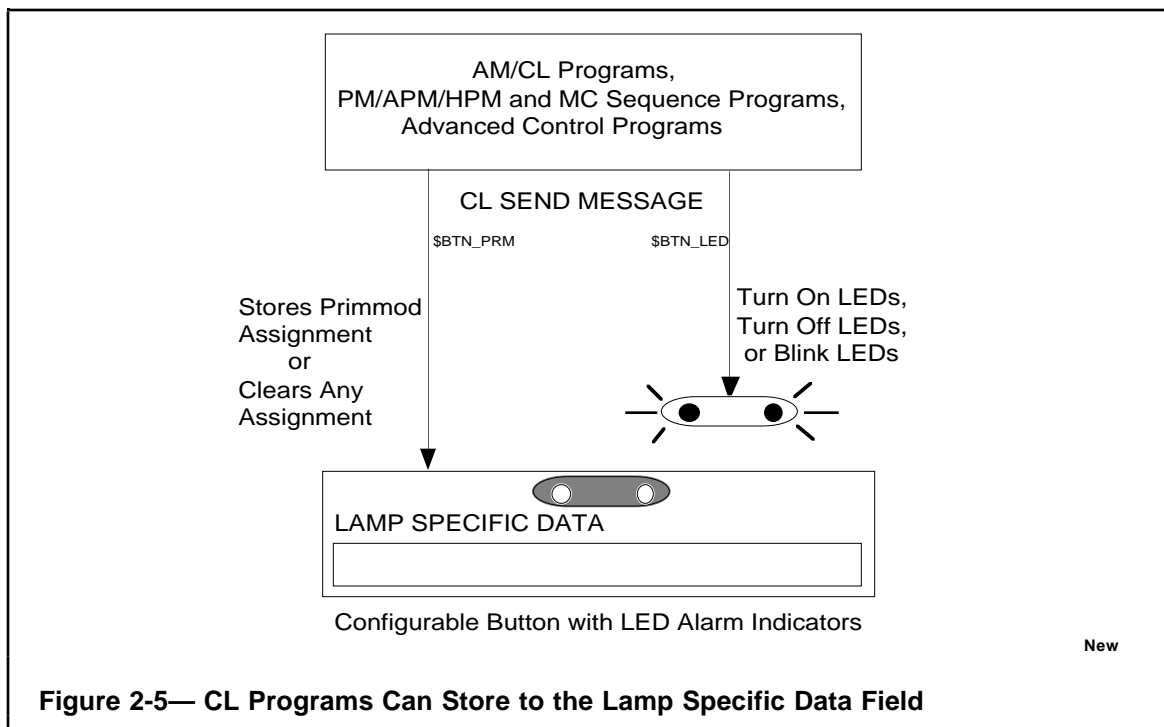


Figure 2-5— CL Programs Can Store to the Lamp Specific Data Field

Two forms of the CL Send message affect the Button LED Indicators—

A CL Send message with a **\$BTN\_LED** keyword can—

- turn on the red LED or the yellow LED or both LEDs
- turn off the red LED or the yellow LED or both LEDs
- blink the red LED or the yellow LED or both LEDs

If the LED indicators are assigned to a Unit, Primmod (or \$MPROD), or Annunciator Group as described in subsection 2.1.4, that assignment is not changed by a **\$BTN\_LED** CL message.

Note that either the assignment in the Lamp Specific Data field or the CL Send message can change the indicators at any time. If more than one Send statement or Lamp Specific Data assignee tries to control the LEDs simultaneously, the last one processed determines the LED(s) state.

A CL Send message with a **\$BTN\_PRM** keyword can—

- store a primmod (or \$MPROD) value into the lamp specific data field
- clear the lamp specific data field assignment

A valid **\$BTN\_PRM** CL message overwrites any current lamp specific data field assignment even if the LED indicators were assigned to a Unit, Primmod, or Annunciator Group.

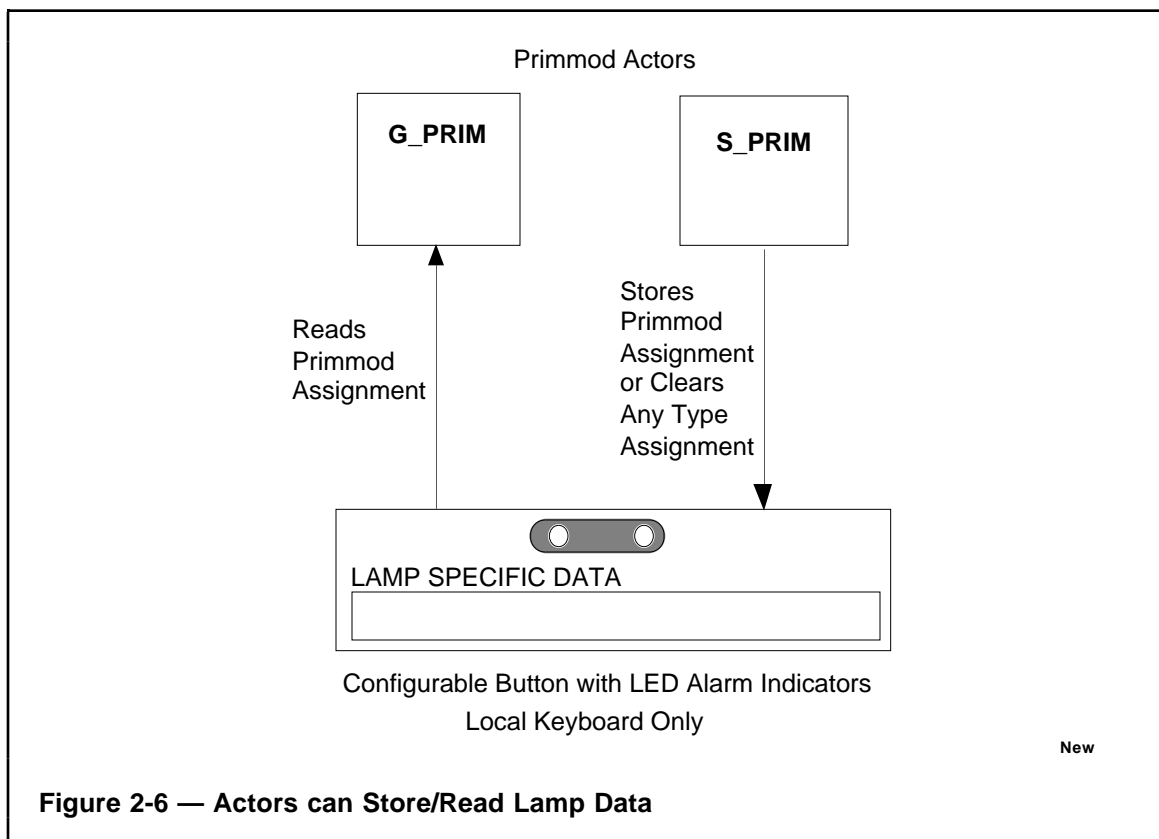
#### **NOTE**

Whenever a station is reloaded or an Area change is performed, all configurable buttons are cleared and re-initialized to the values specified in the Button Configuration file. Values previously stored by CL programs are overwritten on any US that is either reloaded or that changed its Area.

### 2.1.5.2 Button Indicator Control by Actors

For Release 520 and later systems actors can store primmod values to any of the configurable buttons with Lamp Specific Data fields or read a primmod value assigned to the Lamp Specific Data field. Note that these actors affect only configurable buttons with LED indicators and only on Universal Stations where the actors are executed. An \$MPROD value is handled in the same way as a primmod value for this discussion.

**Store Primmod Actor** —the S\_PRIM actor stores a (valid) primmod name to the lamp specific data field of a specified configurable button on the local Universal Station. The store occurs even if a Unit ID, Annunciator Group, or no value was previously assigned. The S\_PRIM actor can also clear any assignment to the Lamp Specific Data field. Note that if another actor or a CL program attempt to store a Primmod value to the same button at the same time, the last event processed determines what is stored.



**Get Primmod Actor**—the G\_PRIM actor can read a primmod value assigned to the Lamp Specific Data field of a button on the local keyboard.

Figure 2-6 illustrates how these actors work. For complete information refer to the Get Primmod actor and Store Primmod actors in Section 3 of the *Actors Manual*, SW09-555.

#### NOTE

Whenever a station is reloaded or an Area change is performed, all configurable buttons are cleared and re-initialized to the values specified in the Button Configuration file. Values previously stored by CL programs are overwritten on any US that is either reloaded or that changed its Area.

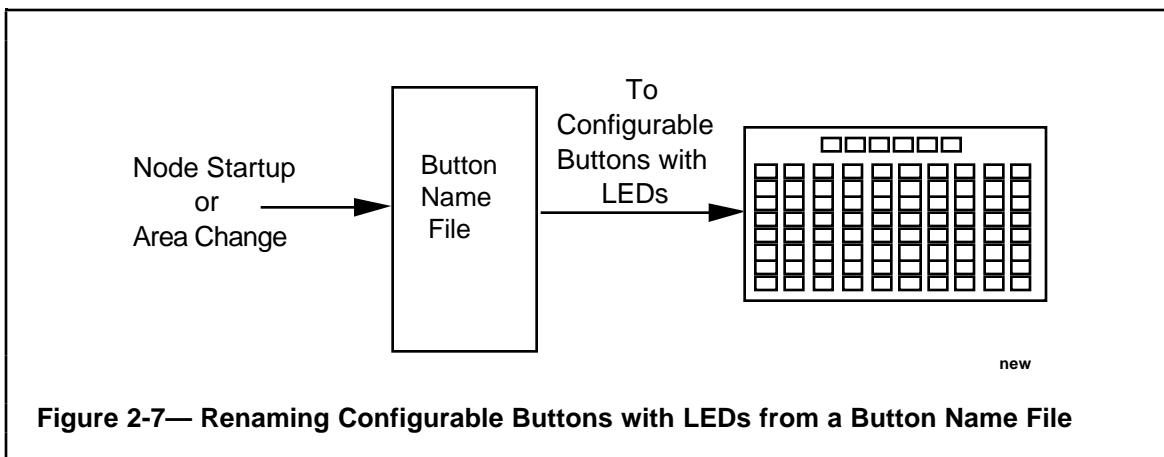
## 2.2 BUTTON NAME FORM

In Release 520 and later systems, an optional Button Name File can be used to customize the software names of the configurable buttons with LED indicators. The Button Name File is an Area file and the button names entered in this file change Standard Default Symbolic button names to User Defined Symbolic button names of your choice.

### 2.2.1 Use Of the Button Name File

Universal Stations load Standard Default Symbolic button names at startup or following an Area change but if a Button Name File is present, the User Defined Symbolic button names in this file will overwrite the default names.

If a Button Name File is not present, the Standard Default Symbolic names remain assigned to the configurable buttons. Entries in the Button Name File determine which button names are changed. If a name isn't specified in the Button Name File for one or more buttons, the corresponding button name or names are not changed. Only names for the 40 buttons with LED indicators can be changed. The Standard Default Symbolic names for these buttons are AN\_CNF7 - AN\_CNF46. For the complete list of Standard Default Symbolic names, refer to Appendix C in the Actors Manual. The Button Name Form, SW88-571 is used to collect User Defined Symbolic names of your choice for the configurable buttons.



**Figure 2-7— Renaming Configurable Buttons with LEDs from a Button Name File**

After a Button Name File is successfully loaded, CL programs, Actors, and other functions can access the button configuration fields using the User Defined Symbolic names that are assigned through the Button Name File. Button names that weren't changed can still be accessed by their Standard Default Symbolic names. Any of the Standard Default Symbolic button names that are overwritten with new user names from the Button Name file can no longer be accessed by their Default Symbolic names.



Figure 2-8 illustrates the Button Name File form. The paragraphs below explain how to fill in each section of the form. Make copies of the form if needed however note that there is a limit of 1000 lines total for button names and comments.

### 2.2.2 Pathname

Figure 2-8 shows an example of a Button Name File form. Indicate the pathname at the top of the form. This pathname must be the same as used for the Button Configuration file on Form SW88-570. The Button Name File must reside in the same directory as the Area Data Base file (typically &Dnn where nn = the Area number). If there is no Button Configuration file, use any valid 8-character file name of your choice. The Button Name file always has the suffix .KN; the Button Configuration object file always has a suffix of .KO. Thus, the button file name entered in the Pathname Catalog identifies both file names. There does not have to be a Button Configuration file but if not, you must specify the Button Name File in the Pathname Catalog and the volume where it is located or it cannot be read. Refer to the *Area Form Instructions* manual, SW12-580 for more information on the Pathname Catalog.

### 2.2.3 Comments

Comments are discussed first because any line is interpreted as a comment if that line contains one or more leading spaces. Figure 2-9 shows an example of a filled in Button Name Form where three lines are used as comment lines.

Also, after the Default Symbolic Button Name and User Defined Symbolic Button Name is entered, the balance of the line can be used for a comment.

### 2.2.4 Default Symbolic Button Name

In the left most column, list the Default Symbolic Button Name that you wish to re-define. Only the 40 configurable buttons with LED indicators can be re-defined. These are AN\_CNF7 - AN\_CNF46. They do not all have to be redefined. Any buttons that are not redefined can be accessed by their Default Symbolic names.

### 2.2.5 User Defined Symbolic Button Name

In the second column from the left, enter a 1 - 8 character symbolic name of your choice. The only restriction is that the name cannot contain a space. This name will become the new symbolic name for the button listed in the first column on the same line. For example, in Figure 2-9, button AN\_CNF9 is redefined as Button\_A. The remainder of the line can be used for a comment.

Note that the Button Configuration Data Entry manual explains how to build the actual Button Name File at a Universal Station using the entries on form SW88-571.





## EXAMPLES Section 3

### 3.1 DISPLAY CALL-UP EXAMPLE

To configure a button to call up a display, choose the desired display from the Display Actors listed in the *Actors Manual*. Enter the Actor, character-by-character, into the Action-entry columns. Refer to Figure 3-1 for an example.

Display Call-Up Actors have the following form:

Display Name (Param,Param)

The following is an example of the form:

**GROUP(230,1)**

Using the example above, this entry calls up Group 230 with Slot One preselected when the configured Button is pressed.

Note that required parameters are enclosed by parentheses and must be separated by commas. Correct punctuation and syntax must be maintained.

Honeywell TDC 3000 <sup>X</sup>		BUTTON CONFIGURATION		Form SW88-570
Pathname _____				4/96
Keyboard Type: <u>X</u> _ABC		__QWERTY	__Integrated	__Engineer (PF Keys)
Button Number <u>07</u>		Button Number _____		
Action: GROUP(230,1)		Action: _____		
_____		_____		
_____		_____		
_____		_____		
_____		_____		
Lamp Specific Data* _____		Lamp Specific Data* _____		
_____		_____		
				15029
				Rev

**Figure 3-1 — Display Call-Up Example (Group Call-Up, Group 230, Selected Point 1)**

## 3.2 CROSS-SCREEN/FROM-SCREEN DISPLAY CALL UP

The Configurable Buttons can be used to transfer displays or keystrokes to and from different Universal Stations that are in the same Console and have the same Area Database. Note that all stations with the same Area Database have the same button configuration.

### 3.2.1 Cross-Screen

The Cross-Screen Actor conditions the Universal Station to transfer the next requested display or keystroke to the specified screen (alphanumeric or cursor-control key functions are not sent). The Cross-Screen Actor has the following form:

CROSSCRN(Screen No)

Example 1: **CROSSCRN(01)**

If, for example, the next button pressed calls up the Real Time Journal (RTJ) display, that display would appear on screen 1.

Example 2:

Suppose an upper display (therefore one without a keyboard) is monitoring a condition that needs to be acknowledged. This can be done in two ways (assume display 6 for the following examples).

- If a button was configured CROSSCRN(6), the operator can press that button followed by the ACK key on the Operator's Keyboard.
- If a button was configured CROSSCRN(6);QUE\_KEY(ACK), pressing this one button would accomplish the same thing that required two buttons (above). The QUE\_KEY actor emulates the specified key.

The advantage of the first method is that any one of a number of keys could be pressed after the Crosscrn(6) button. The advantage of the second method is that the single button could be labeled ACK SCREEN 6.

### 3.2.2 From-Screen

The From-Screen Actor causes the display that currently appears on another screen to also appear on the screen at calling station.

The From-Screen Actor has the following form:

FRM\_SCRN(Screen No)

Example: **FRM\_SCRN(01)**

When the button is pressed, the display currently appearing on Screen 1, also appears on the station where the button was pressed.

#### Console Example

As illustrated by Figure 3-2, the screens within a Console are identified by Logical Screen Numbers from 1 to N, where N equals the number of screens in the Console. The Screen Number appears in the upper-right corner of the Screen.

Figure 3-2 shows how one button was configured for each screen in the Console to receive or send displays. Pressing any of the buttons labeled TO X invokes a Cross-Screen Actor. An additional button must be pressed to select the display that is transferred to screen X (X can be any screen number in the console). Pressing a button labeled FROM X, calls the display on screen X to screen 3 (in this case).

Figure 3-3 shows how the Button Configuration form was filled in for buttons 67 through 72 in this example.

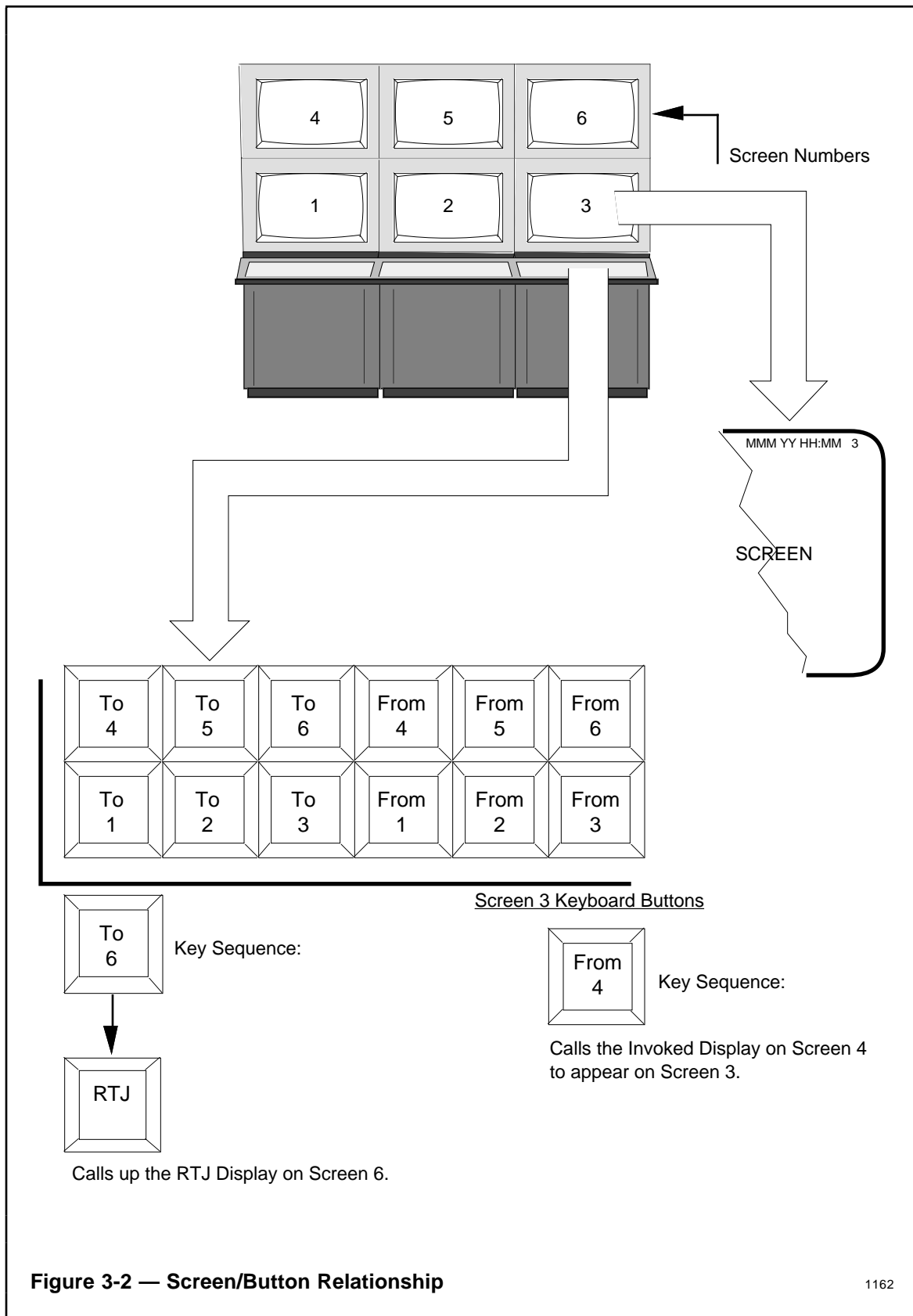


Figure 3-2 — Screen/Button Relationship

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Honeywell TDC 3000 <sup>X</sup>		BUTTON CONFIGURATION		Form SW88-570	
Pathname <u>Net&gt;&amp;D01&gt;Buttons</u>			4/96		
Keyboard Type::		<u>X</u> ABC	<u>_</u> QWERTY	<u>_</u> Integrated	<u>_</u> Engineer (PF Keys)
Button Number <u>67</u>			Button Number <u>68</u>		
Action: <u>CROSSCRN(04)</u>			Action: <u>CROSSCRN(05)</u>		
Button Number <u>69</u>			Button Number <u>70</u>		
Action: <u>CROSSCRN(06)</u>			Action: <u>FRM_SCRN(04)</u>		
Button Number <u>71</u>			Button Number <u>72</u>		
Action: <u>FRM_SCRN(05)</u>			Action: <u>FRM_SCRN(06)</u>		

15030

**Figure 3-3 — Cross-Screen Display Call-Up Example**

### 3.3 DISPLAY SETS

Display sets allow the operator to simultaneously call up a predetermined set of displays by pressing a single button. Each display set uses one configurable button. For example, Button 8 could be configured to call up the following:

- A Group Display on screen 2
- The Custom Graphic display FURN1 (Furnace 1) on screen 1
- The Overview Display on screen 3

For each screen in the set, a Cross-Screen Actor is combined with a display Actor. For example, **CROSSCRN(2);GROUP(1,0)** calls up Group Display 1 on screen 2. Figure 3-4 illustrates the Actors used to configure the 3-screen display set described above.

All screens named in a display set must be in the same area and in the same console. Actors must be separated by semicolons.

Honeywell TDC 3000 <sup>X</sup>		BUTTON CONFIGURATION		Form SW88-570
Pathname	Net>D01>Buttons			4/96
Keyboard Type:	<input checked="" type="checkbox"/> ABC	<input type="checkbox"/> QWERTY	<input type="checkbox"/> Integrated	<input type="checkbox"/> Engineer (PF Keys)
Button Number	08	Button Number		
Action:		Action:		
	CROSSCRN(2); GROUP(1,0);			
	CROSSCRN(1); SCHEM("FURN");			
	CROSSCRN(3); OVERVIEW			
Lamp Specific Data*		Lamp Specific Data*		

15031

**Figure 3-4 — Display Set Example (Display Set Called Up By Button 8)**

### 3.4 ADVANCED APPLICATION EXAMPLE

In addition to the simple display call-up actions that can be assigned to a Configurable Button, Actors can be combined to perform more complex actions such as Parameter Manipulation. For example, to indirectly turn on a Control Language Program bound to a Data Point, the Point's PPS (Point Process Special) Parameter could be set to TRUE, as follows:

In this example, AT101 is a Data Point with a Control Language Program bound (or attached) to the Data Point. When you press Button 10, a Screen Prompt tells you to type the word TRUE, to process the Data Point immediately instead of waiting for the normal processing time to elapse. The storing of a Boolean "TRUE" to the PPS (Point Process Special) parameter of the Data Point (Point ID of AT101) causes the Point to process immediately, and thus the attached Control Language Program executes. The screen is then updated to reflect any changes in status.

The Actor configured to accomplish these tasks is the Read Data and Store Into System Variable, symbolized as RS\_SYS. This Actor presents a Text Input Port (TIP) on the screen and allows the operator to type data into the TIP. The input is read and stored in the System Database. The Actor requires the following parameters: Point Name, TIP length, and Prompt Message (30-characters maximum). Refer to the *Actors Manual* for a detailed explanation of the parameters.

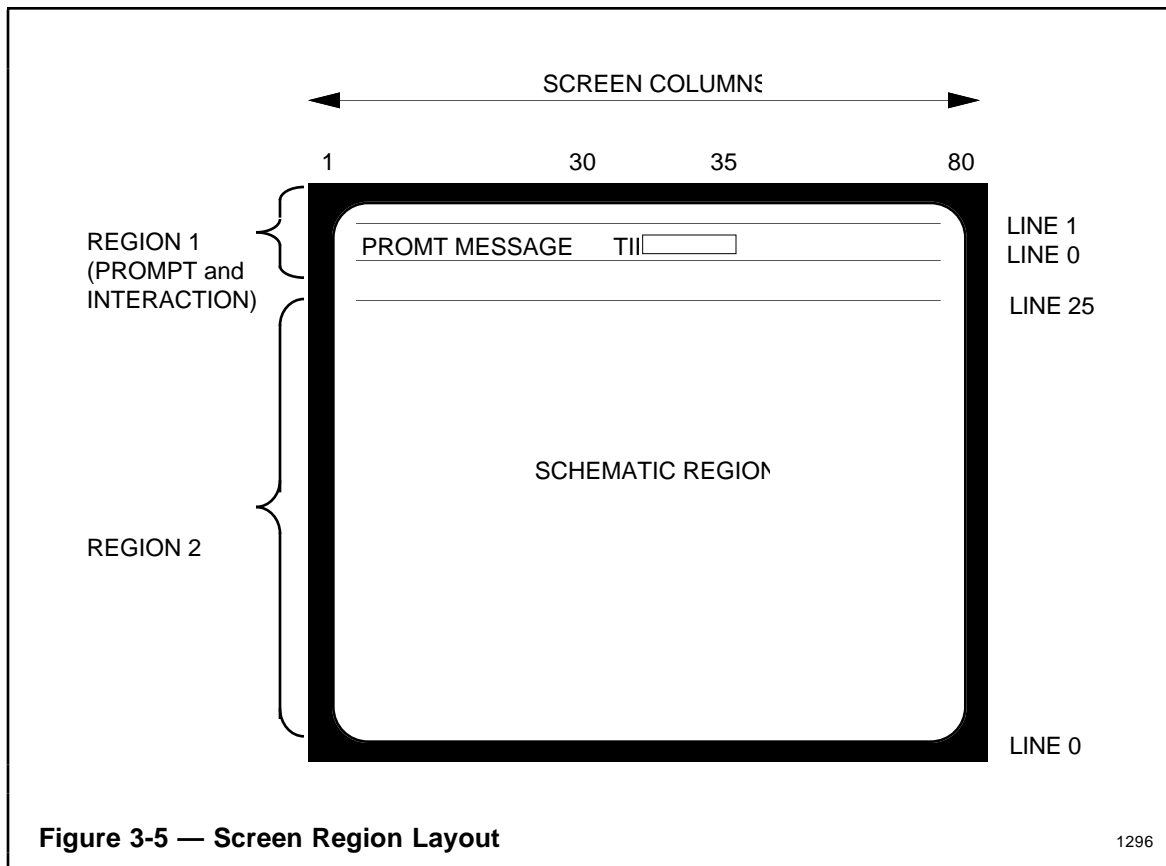
The Update Actor following the RS\_SYS Actor in the example is used to show the changes to the Schematic Region that could occur as a result of the operator action. The Update Actor requires only two variables: the Screen Region and the Demand Group (1= Local Variables, 0= All Groups).

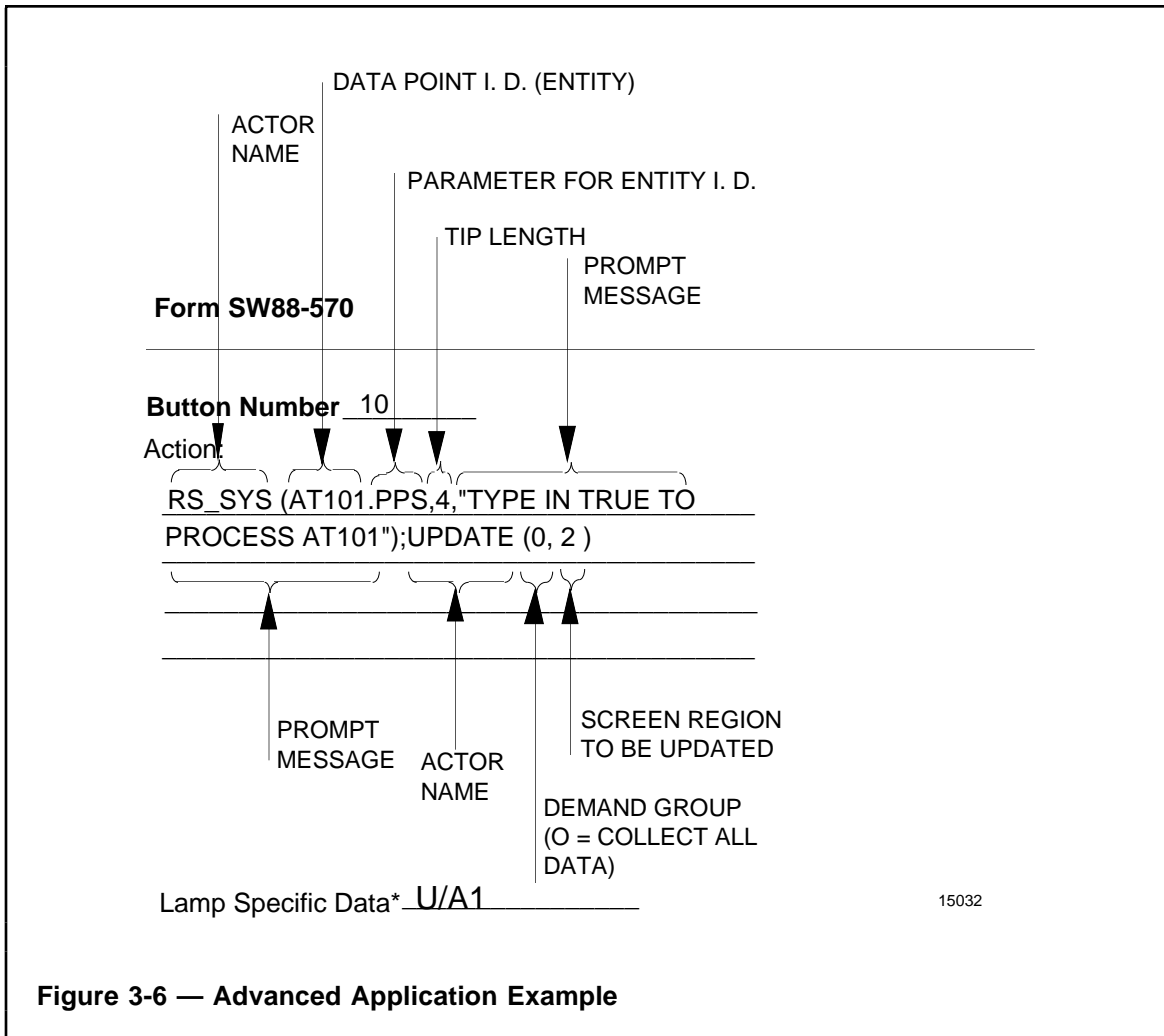
The layout of the Screen Regions used to configure this example is shown in Figure 3-5. Note that for Actors triggered by a configurable button, the Text Input Port is presented on Line 1.

Figure 3-6 gives the example as it appears on the Configuration Form with callouts that describe the parameters. Pay attention to the syntax in the example. The example shows that Button 10 is assigned to LED Unit number A1; therefore, when Process Unit A1 detects an alarm condition, a LED indicator on Button 10 is lit to indicate the alarm status.

Summary of syntax:

- Required parameters must be enclosed by parentheses.
- Multiple parameters must be separated by commas.
- Actors must be separated by semicolons.





Summary of operating sequence used in example:

1. Operator presses Button 10.
2. Prompt appears on Line 1 of Screen.
3. Operator types TRUE and presses ENTER key.
4. Point AT101 is processed and CL Program executes.
5. Screen is updated to reflect any changes.

### 3.5 QUE KEY

The Que Key actor has the form `QUE_KEY(Button ID)`. It allows a configurable button (or target) to emulate almost any key on the Universal Station or Universal Work Station keyboards. Refer to the *Actors Manual* for more information and the exact syntax for each button ID.

Example 1: The Universal Work Station's Supervisor Keyboard does not contain a keylock, but a configurable button with the action sequence `QUE_KEY(KEY_SUP)` will enable the Supervisor Function when pressed. You may want to configure such a button in an area separate from those normally used by the operators.

Example 2: The Universal Work Station's Engineering Keyboard contains 17 configurable buttons that can effectively be expanded to 51 by pressing the Shift or CTL key along with the configurable button. This keyboard can also be used in the Operating Personality by configuring buttons to emulate Operator Keyboard functions. For example, the action sequence `QUE_KEY(SIL)` will allow a button to emulate the Silence key.

Refer to the subsection 3.2 of this manual for an additional example of the Que Key actor.



## READER COMMENTS

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