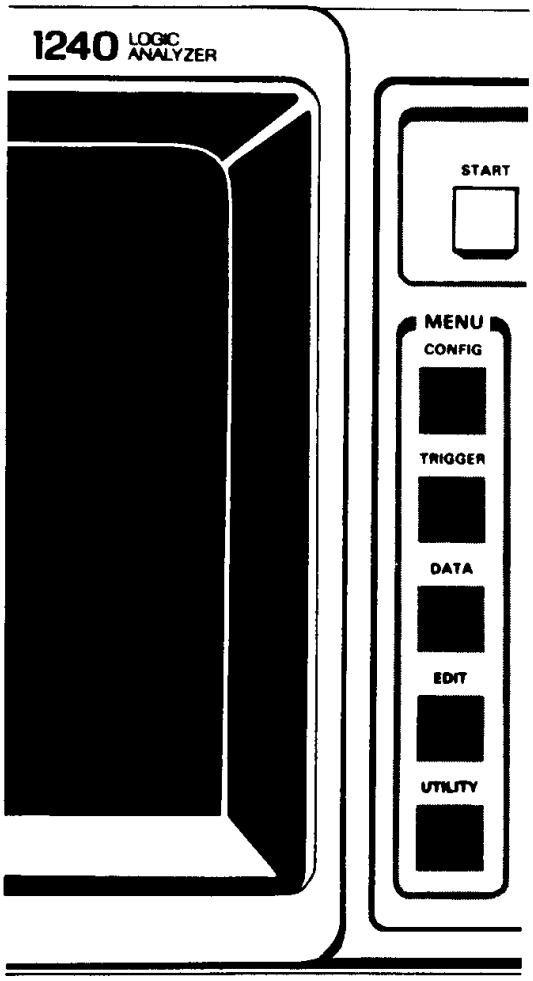
6


1240 LOGIC ANALYZER
START
MENU
CONFIG
TRIGGER
DATA
EDIT
UTILITY

EDIT

SEARCH PATTERN ENTRY 6-1
EDIT LINE VALUE Field 6-1
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Press the EDIT key on the front panel to access the Search Pattern Entry and the Reference Memory Editor menus. These menus provide methods for manipulating data in memory.

SEARCH PATTERN ENTRY

A search pattern consists of 1 to 8 lines of data in State Table format. The default pattern is one line with all values set to don't care (X); this setting matches any value, including no data.

The search pattern is used by the pattern highlighting function in the DATA menus. This function operates only if PATTERN SEARCH **ENABLED** is selected in the Search Pattern Entry menu (see callout 3 in Figure 6-1). Whenever the 1240 applies the search pattern to stored data, the message APPLYING SEARCH PATTERN — PLEASE WAIT is displayed at the top of the screen. If PATTERN SEARCH **ENABLED** is selected and you make a change to the search pattern then change to another menu, the new pattern is applied. If you do not need the pattern feature, select PATTERN SEARCH **DISABLED**.

Data lines in the pattern are displayed in the center of the menu (see Figure 6-1). Data is displayed according to the output radices specified in the Channel Grouping menu. A horizontal line across the screen marks the location of the "search data cursor" (see callout 6 in Figure 6-1). Move the search data cursor through the pattern with the SCROLL knob.

NOTE

The search data cursor is specific to this menu and is not related to the data cursors controlled in the State Table or Timing Diagram.

EDIT LINE VALUE Field. The value of the pattern line at the location of the search data cursor is displayed in the EDIT LINE VALUE field (see callout 5 in Figure 6-1). Data in these fields is displayed using input radices. If the input and output radices for a group are different, the text displayed in the EDIT LINE and at the location of the search data cursor will be different even though the value is the same.[1]

Use the data entry keys to modify the data in the EDIT LINE as required. As you enter changes, the pattern line at the location of the search cursor is updated.

The ENTER DATA FOR field (see callout 4 in Figure 6-1) controls the timebase(s) associated with the EDIT LINE VALUE. This field is only displayed if both timebases T1 and T2 are active. Selections are **T1 ONLY, T2 ONLY,** and **T1 AND T2**. As you move the search data cursor, this field is updated to reflect the timebase(s) associated with each pattern line. For example: if you move the search data cursor to a pattern line with both T1 and T2 data, this field displays **T1 AND T2**. If you then change this field to **T1 ONLY**, the data for groups associated with T2 is deleted from the EDIT LINE VALUE.

With certain grouping setups, all channels cannot be displayed on the EDIT LINE at once. The truncation symbol (►) will be displayed. Move the truncated channels onto the screen with the cursor keys. If the search pattern lines are truncated, you must change the display radix of one or more channel groups to see the truncated data.

The $ symbol is displayed in the EDIT LINE if glitch and non-glitch channels are combined into one digit of the input radix.

CLEAR PATTERN. Touch this soft key to return the search pattern to the default setup: one line with all values set to don't care. When you touch this soft key, PRESS "X" TO CONFIRM OPERATION (ANY OTHER HARD KEY CANCELS IT) is displayed at the top of the screen. The pattern is not cleared until you press the X key on the front panel.

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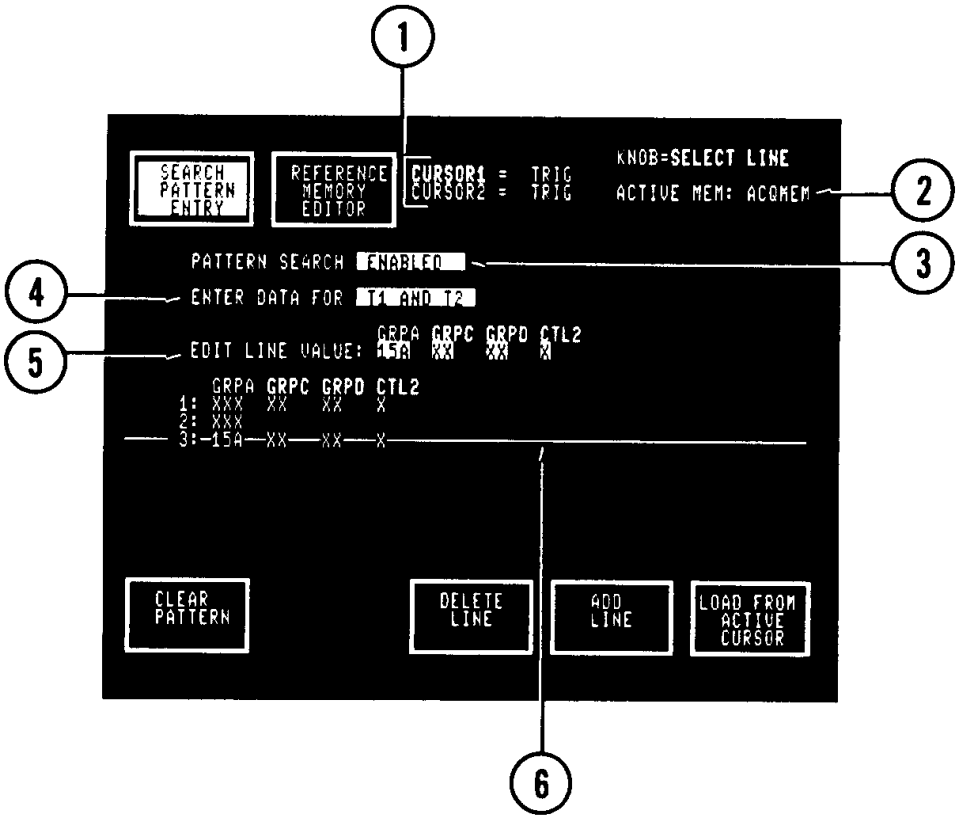
[1] Octal-Hex-ASCII and Octal-Hex-EBCDIC conversion charts are included in Section 8.



1 Location of the data cursors. The active cursor is highlighted.

2 Active Memory. Reminder of which memory (ACQMEM or REFMEM) was last displayed. This information is important when you use the LOAD FROM ACTIVE CURSOR soft key.

3 PATTERN SEARCH **ENABLED/DISABLED**. If you select **ENABLED**, the search pattern is compared to stored data. View the results of the comparison in the DATA menus with the HIGHLIGHT: **PATTERNS** selection. If you select **DISABLED**, the pattern feature does not operate.

4 Timebase(s) associated with the EDIT LINE VALUE. Displayed only if timebases T1 and T2 are active; selections are **T1 ONLY, T2 ONLY, T1 AND T2**.

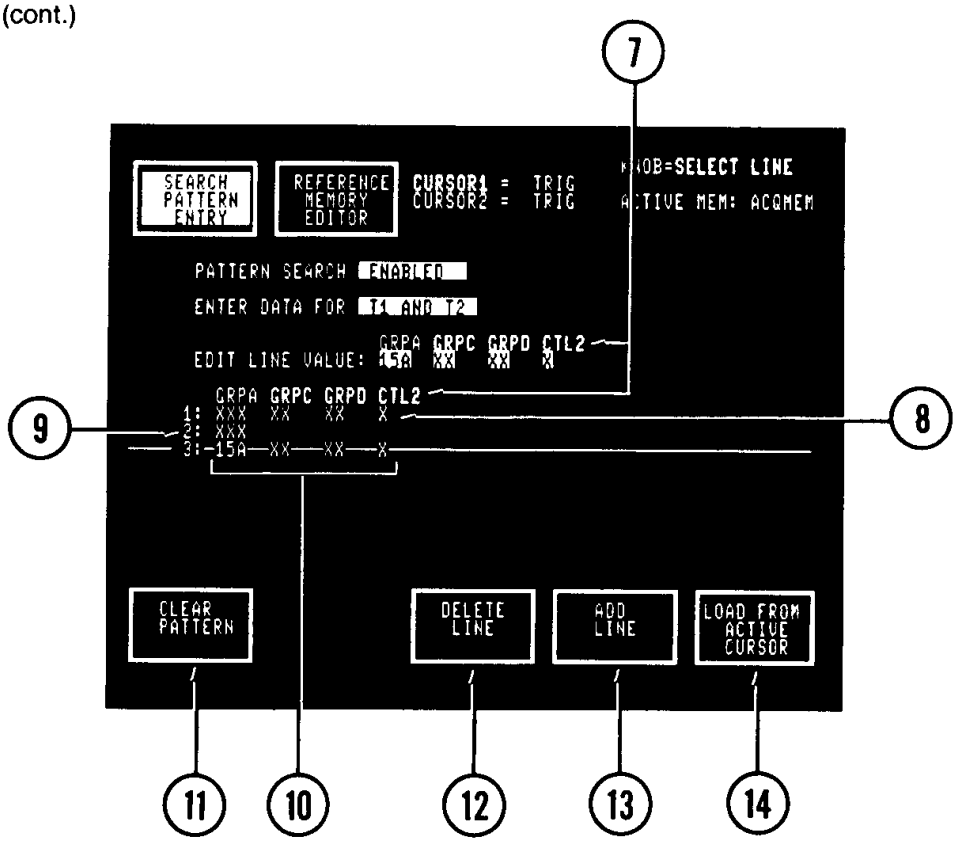
5 Value (in input radices) of the pattern line at the location of the search data cursor. Use the data entry keys to enter new values. As you make changes, the new values are displayed in the pattern line (in output radices).

6 Search Data Cursor. Move this cursor with the SCROLL knob. The value of the pattern line at the location of the cursor is displayed in the EDIT LINE VALUE field.

(cont.)

Figure 6-1. Sample Search Pattern Entry menu display. A search pattern consists of 1 to 8 lines of data in State Table format. The pattern in this display will match any three consecutive memory locations where the second location has only T1 data, and the third location has 15A in GPRA.

(cont.)



7 Group names. Groups associated with timebase T2 are highlighted.

8 This pattern line matches any value, including no data.

9 This pattern line matches any memory location with only T1 data; it will not match any location with T2 data.

10 This line matches any memory location with the specified T1 data. The pattern will not match if this location does not immediately follow a location with only T1 data (see callout 9).

11 Returns the search pattern to the default setup: one line with all values set to don't care. PRESS "X" TO CONFIRM OPERATION (ANY OTHER HARD KEY CANCELS IT) is displayed at the top of the screen when you touch this soft key. The pattern is not cleared until you press the X key.

12 Deletes the line at the location of the search data cursor.

13 Adds a new line to the pattern below the position of the search data cursor. The new line has the same data as the preceding line. The search data cursor moves down to the new line.

14 Loads the EDIT LINE VALUE with the same data as the location in active memory where the active data cursor is positioned.

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Figure 6-1. Sample Search Pattern Entry menu display (cont.).

DELETE LINE. Touch this soft key to delete the line at the location of the search data cursor. Deleting the only line in a pattern is the same as touching the CLEAR PATTERN soft key.

ADD LINE. Touch this soft key to add a new line to the pattern below the position of the search data cursor. The new line will have the same data as the preceding line. The search data cursor moves down to the new line and its value appears in the EDIT LINE.

LOAD FROM ACTIVE CURSOR. Touch this soft key to load the EDIT LINE with the same data as the location in active memory where the active data cursor is positioned. Active memory is the type of memory last displayed. For example: if you want a value from reference memory to be part of the pattern, the active data cursor must be positioned on that location and reference memory must be the last memory displayed. A line at the top of the menu shows whether acquisition memory (ACQMEM) or reference memory (REFMEM) is active (see callout 2 in Figure 6-1). The cursor display at the top of the menu shows the locations of data cursors 1 and 2; the active cursor is highlighted. (Refer to Section 5 for a complete description of the data cursors.)

This operation lets you build patterns from data in memory without writing down or trying to remember the data. (Select PATTERN SEARCH **DISABLED** while you are building the pattern to keep the pattern from being applied every time you switch to the DATA displays to move the active data cursor. Enable pattern search when the pattern is complete.)

REFERENCE MEMORY EDITOR

Use this menu to change data values in reference memory. You can also move the trigger event to a different location. It is not possible to add or delete locations, change channel values to don't care, or change the number or type of timebases for which data is valid.

Reference memory locations are displayed in the center of the menu [2] (see Figure 6-2) using the output radices specified in the Channel Grouping menu. Only locations around the active data cursor are displayed. The active cursor is controlled in this menu just like it is in the State Table or Timing Diagram: move the cursor with the SCROLL knob, and change the active role to the other cursor with the CHANGE ACTIVE CURSOR soft key. The cursor display at the top of the menu shows the locations of cursors 1 and 2 and the distance between them (CURSOR △);[3] the active cursor is highlighted.

The EDIT LINE VALUE (see callout 1 in Figure 6-2) shows the value of the memory location at the position of the active cursor. The value is displayed in the input radices specified for each group. If the input and output radices are different for a channel group, the text for that group in the EDIT LINE VALUE will be different from the text shown in the memory location, even though the value is the same.

Use the data entry keys to make changes in the EDIT LINE VALUE. As you make changes, the location in reference memory is updated. Don't care (X) is not a valid entry. The glitch symbol (♦) is valid only for 9-channel card groups assigned T1 ASYNC, and when glitch storage is enabled in the Memory Config menu.

With certain grouping setups, all channels cannot be displayed on the EDIT LINE VALUE at once. The truncation symbol (►) will be displayed. Move the truncated channels onto the screen with the cursor keys. If the reference memory data is truncated, you must change the display radix of one or more channel groups to see the truncated data.

The MOVE TRIGGER TO CURSOR soft key transfers the TRIG or STOP [4] label to the location of the active cursor. The new TRIG or STOP location is the zero point, and all other locations are renumbered accordingly. This operation does not rearrange memory locations; it renumbers them from a new starting point. This feature is useful when you want to change the trigger to other data in reference memory, then use the COMPARE ACQMEM TO REFMEM Auto-Run condition to compare data around the new trigger. It is also useful when you want to highlight memory differences with the memories aligned at a new location.

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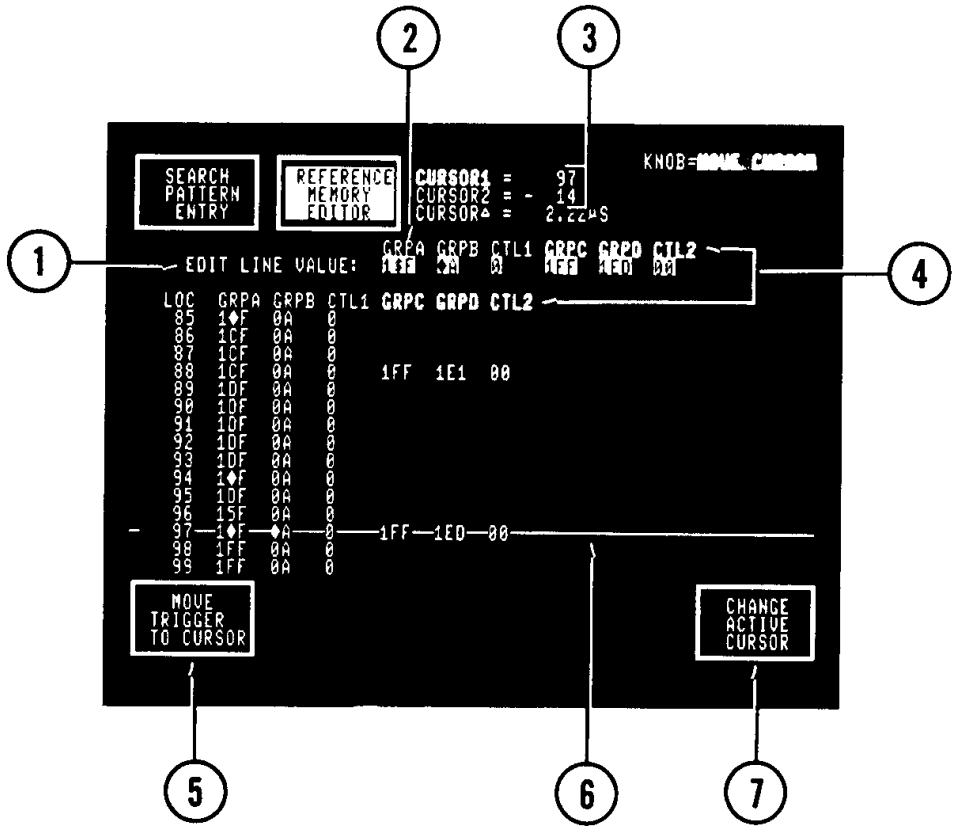
[2] Reference memory is not displayed if the memory width vs. depth and pod-timebase selections in effect when the memory was stored are not the same as the selections in the current setup. Refer to *Memory Configuration Requirements* in Section 5 for more information.

[3] Refer to *Data Scrolling and Cursor Control* in Section 5 for more information about CURSOR △.

[4] If you press the STOP key before the trigger occurs, the last location in acquisition memory is labeled STOP.



1 Value (in input radices) of the location in reference memory where the active cursor is positioned. The value at the active cursor changes when you make changes in this field with the data entry keys. (X is not a valid entry.) Memory locations are displayed in output radices.

2 $ indicates that glitch and non-glitch channels are combined into one digit of the input radix.

3 Location of the data cursors. Active cursor is highlighted.

4 Group names. Groups associated with timebase T2 are highlighted.

5 Moves the TRIG or STOP label to the location of the active cursor. All locations are renumbered accordingly, with TRIG (or STOP) as the zero point.

6 Cursor 1. In this example, Cursor 1 is the active cursor. The value at the active cursor is displayed in the EDIT LINE VALUE field (callout 1). The value at the active cursor changes when you alter the EDIT LINE VALUE.

7 Makes the other cursor active.

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Figure 6-2. Sample Reference Memory Editor menu display. This menu displays reference memory in State Table format. The EDIT LINE VALUE field lets you change the data at the location of the active cursor.