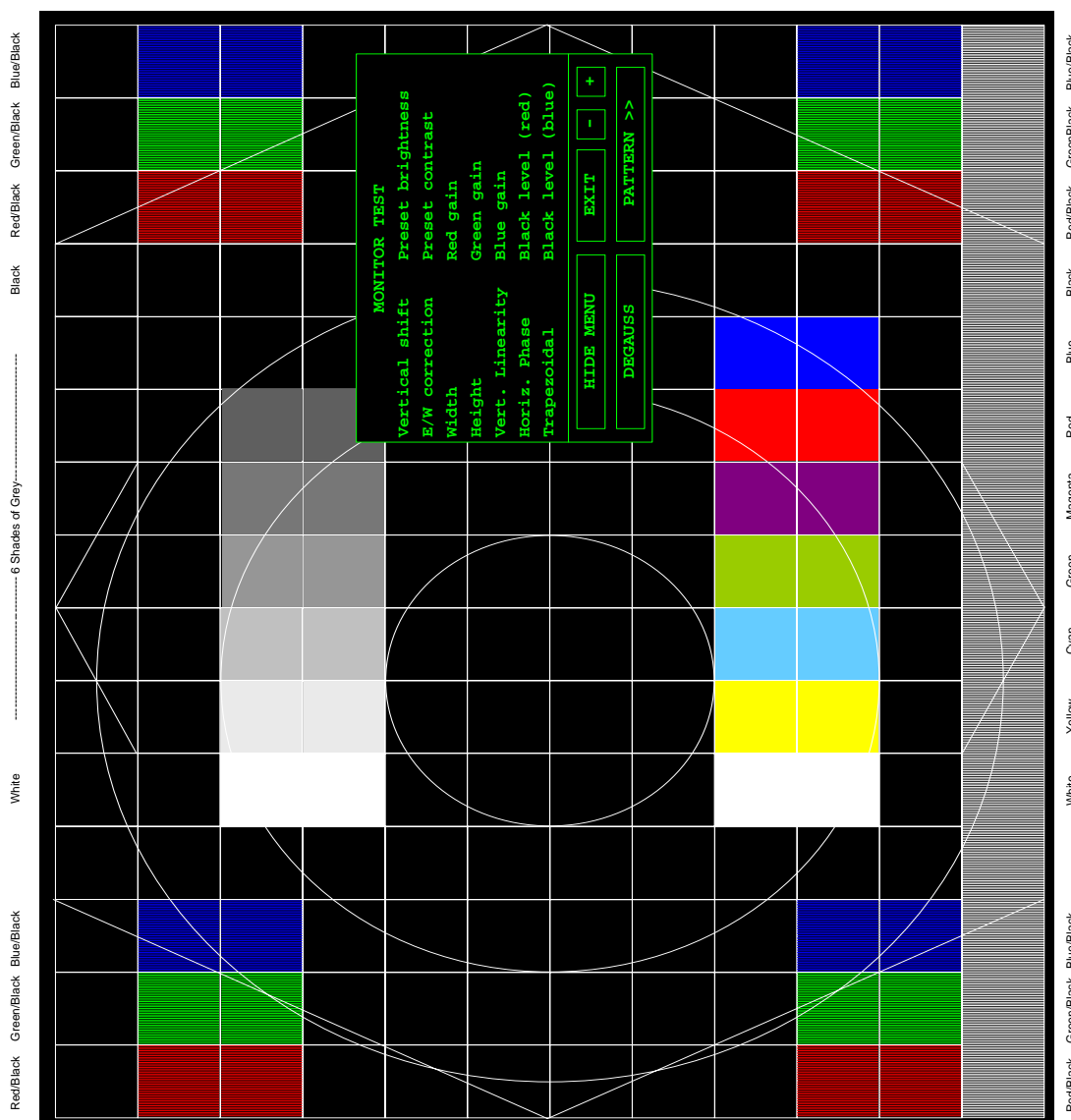


Product: Decca BridgeMaster E Series Radars

Subject: Testing of Flat Panel Displays

The test method depends on the model of FPD. Identify the model and use the appropriate sections in this document.

From the Standby screen, left click on the MONITOR TEST soft key. Although there are three test patterns available, only Test Pattern 1 as shown below is necessary to check a FPD monitor. Note the only functions in this Monitor Test Menu that operate are HIDE MENU, PATTERN and EXIT. Refer to the Ship's Manual, Chapter 5 for a full description of these functions. The EXIT key is used to return to the STANDBY mode from the Monitor Test Mode.



Note: That the black and white stripes across the bottom of the pattern may not be visible on some monitors depending on the format. The outside border should show as a double white line when properly adjusted (except where noted).

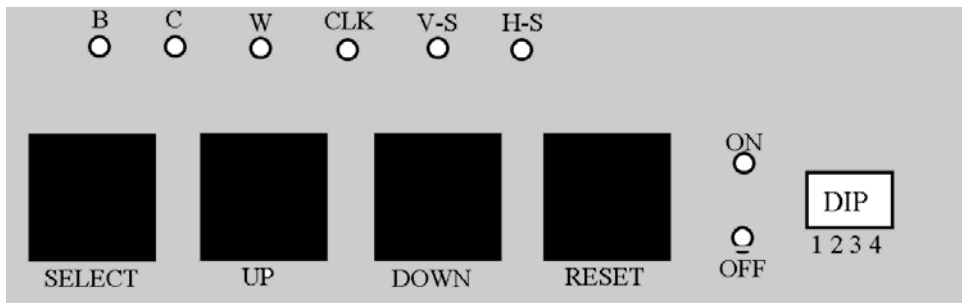
Testing Melford Kit Models

This section is for models **65815A, 65815D, 65817A, 65817D.**

Remove the small cover held by two screws on the front of the monitor fascia to reveal the 'set-up' controls. Turn the Contrast and Brightness controls fully clockwise. Check that the 'ON' LED adjacent to the set-up controls is illuminated. Illumination of the 'OFF' LED indicates a lack of video input sync signals.

Test Pattern 1 should be fully visible, and completely fill the screen, when you have adjusted the set-up controls correctly.

The set-up controls on the flat panel display are shown below:



The LEDs marked 'B', 'C', 'W', 'CLK', 'V-S' and 'H-S', and the DIP switches are non-operational.

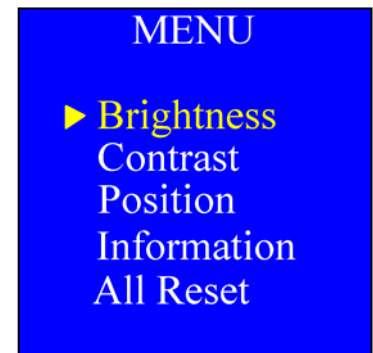
The set-up parameters are adjusted by means of on-screen menus.

The pushbuttons control the on-screen menus as indicated in the following table:

Button	Operation
SELECT	Chooses a Menu.
UP/DOWN	Changes value of Selected Parameter.
RESET	Used to return to previous menu.

Setting the parameters:

1. Push the 'Select' Button and the Main Menu appears.
2. Use the UP/DOWN buttons to scroll through each of the options. Use the 'Select' Button to enter the required option.
3. Use the 'Reset' Button to exit the chosen option and return to the Main Menu.



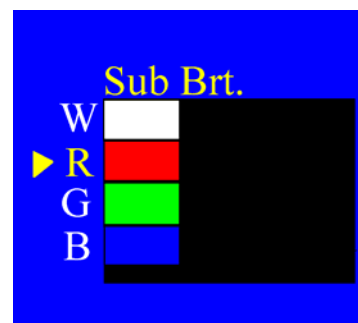
Note – Selection and adjustment is the same in all submenus. It is described fully in the Brightness Menu description below.

Brightness Menu:

Note – It should not be necessary to change this parameter from its factory default setting.

By selecting Brightness from the Main Menu and pressing 'Select', the Brightness menu appears.

Use the UP/DOWN keys to select one of the parameters then use the 'Select' Button to highlight the option. The arrow is removed and the selected option is shown with black text in a yellow box. Use the UP/DOWN keys to adjust its value.



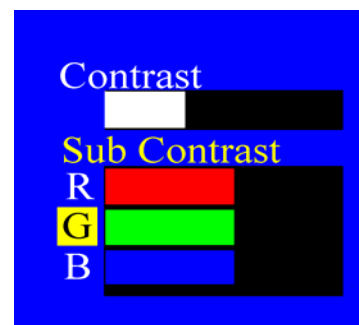
Reset each of the parameters to its default setting by selecting the required parameter and pressing 'Select' again. You are asked if you want to reset the parameter. Selecting YES will set it to default by using the UP/DOWN and the Select button. Selecting NO will set the parameter to the value set by the user.

The 'Reset' button de-selects the current parameter and the arrow reappears, as above, and allowing the next parameter to be selected. Pressing 'Reset' again will return to the Main Menu.

Contrast Menu

Note – It should not be necessary to change this parameter from its factory default setting.

This menu allows the user to control each individual RGB, as shown in the above figure and adjust its value. It can be reset back to its default condition as described in the Brightness Menu.

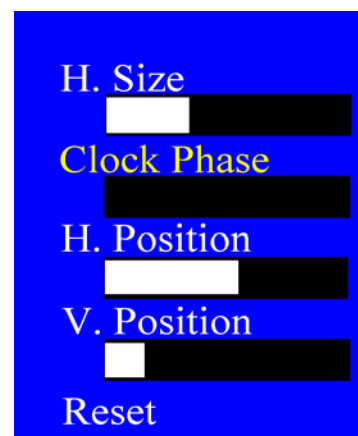


Position Menu

The position menu allows the user to adjust the Horizontal Size, Horizontal/Vertical Position and the Clock Phase.

Each of the parameters can be individually reset. If all parameters need to be reset then selecting Reset from the menu will list all the parameters to be reset. Use the UP/DOWN buttons to select YES and confirm with the 'Select' Button.

Note – Correct Clock Phase adjustment can only be achieved if the Horizontal Size is correctly set. After Clock Phase adjustment has been carried out, it may be necessary to re-adjust Horizontal Position to re-centre the image.



Information Menu

The information menu displays the current pixel size of the image along with Horizontal and Vertical frequencies.

All Reset

Selecting this option from the Main Menu allows the user to reset all parameters in all menus to their default values.

Testing Melford Desktop Models

This section is for models **65815C** and **65817C**.

Remove the bezel by undoing the four pozidriv screws. The bezel is attached to the chassis with an electrical earth bond wire. Do not allow the bezel to hang from the bond wire: either remove the bond wire or support the bezel.

Turn the brilliance control fully clockwise.

Test Pattern 1 should be fully visible, and completely fill the screen, when the set-up controls are correctly adjusted.

Note – 65815C monitors use CRT Test Pattern 1 and do not show the black and white striped pattern across the bottom of the screen and only show a single line border. 65817C monitors show a black and white striped pattern across the bottom of the screen and a double line border.

To the left of the brilliance control, there are four pushbuttons marked MENU, SELECT, MINUS and PLUS.

MENU is used to activate the On-Screen Display (OSD). Once the OSD is shown, the MENU pushbutton is used to enter and Exit a specific submenu.

SELECT scrolls through top level and submenus.

MINUS & PLUS adjust the selected value.

The menu structure is illustrated in Figure 1. To activate:

- 1 Press MENU.
- 2 Press SELECT to select the menu item (shown by the highlight).
- 3 Press MENU to open that submenu.
- 4 Use SELECT again to pick (highlight) the item required.
- 5 Use MINUS or PLUS to adjust the value (if applicable).

The menu screen will time-out after a default time of 60 seconds of inactivity.

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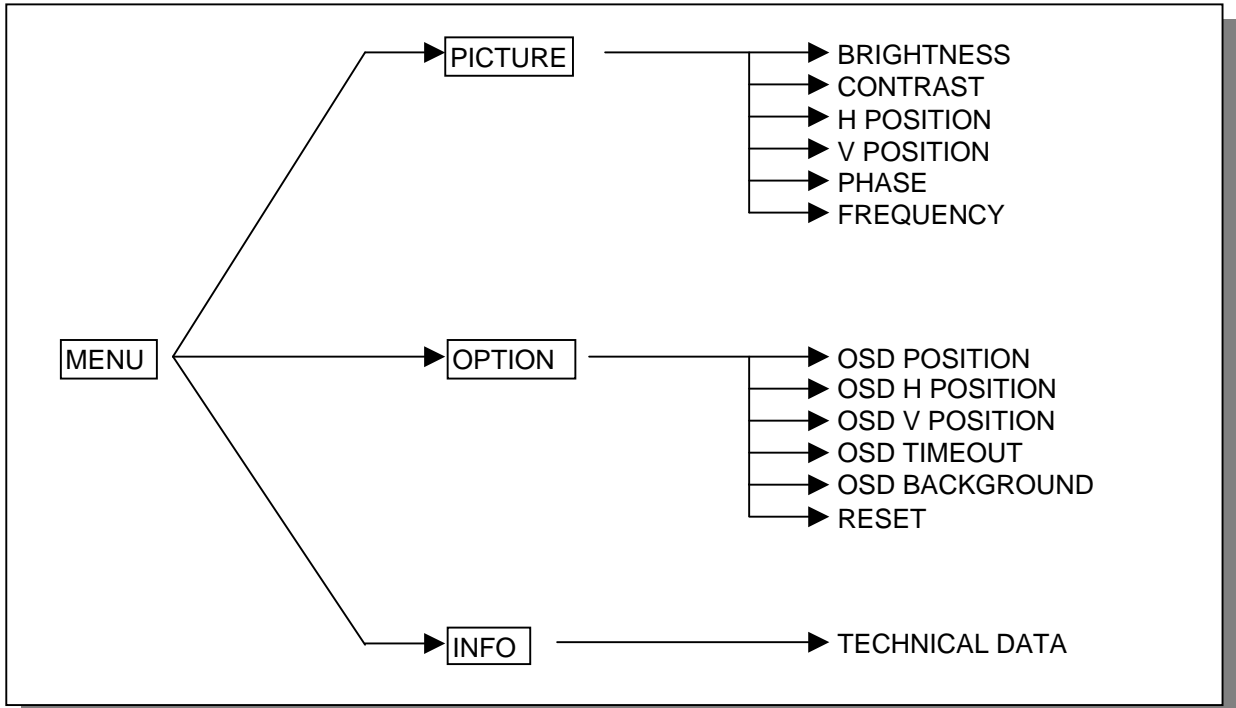


Figure 1

The typical values are:

Parameter	Setting	
	65815C	65817C
Brightness	17	18
Contrast	70	68
H Position	50	50
V Position	50	50
Frequency	1260	1744
OSD Position	Top Left	Top Left
OSD Timeout	60	60
OSD Background	Opaque	Opaque
Mode	7	13
Resolution	1024x768	1280x1024
H Frequency kHz	30,703	42,426 or 42,444
V Frequency Hz	38	39

Phase control

The phase control does not have a typical value as it varies from unit to unit. Adjust this parameter to make the picture as sharp as possible.

Reset

The RESET function, on the Option submenu, relies on the monitor being presented with full screen graphics in order to assess how the signal should be shown.

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Do NOT perform a RESET while showing the Radar graphics as it has poorly defined “edges”. Instead, use Test Pattern 1 (with the continuous border). After performing a reset, the brightness, contrast, OSD Position and OSD Timeout settings must be re-adjusted to their nominal values shown above.

Refitting the Bezel

When the picture has been properly aligned, ensure that the LCD surface and the inside face of the glass are clean before refitting the bezel. Do not rub the surface of the LCD with anything that can generate static electricity. The LCD surface should not be touched with bare fingers. The bezel glass can be cleaned with a soft lint free cloth. Dust on these surfaces is best removed with an air duster.

Testing Original Hatteland Models

This section is for models **65819A** that are fitted with five BNC connectors for the video and sync signals. 65819A models that are fitted with a 15-way D-Sub connector are described in the next section.






Remove the small cover held by two screws on the front of the monitor fascia to reveal the ‘set-up’ controls. Turn its Contrast/Brightness/Brilliance control(s) fully clockwise. Check that the LED adjacent to the set-up controls is illuminated green. A red illumination indicates a lack of video input sync signal(s).

Test Pattern 1 should be fully visible, and completely fill the screen, when the set-up controls are correctly adjusted.

Use the set-up buttons MENU, +/-DOWN, +/-UP and ENTER as follows:

Press the MENU button to display the Main Menu. Select ‘SETUP’ from this menu using +/-DOWN or +/-UP buttons, and press ENTER.

On the SETUP menu now displayed, check that the parameters are as follows:

SETUP	
	423
	1744
	22
	200
	0
Entry:	0
<input type="checkbox"/>	Store
<input type="checkbox"/>	Restore
<input type="checkbox"/>	Preset
Adj. H-Position	

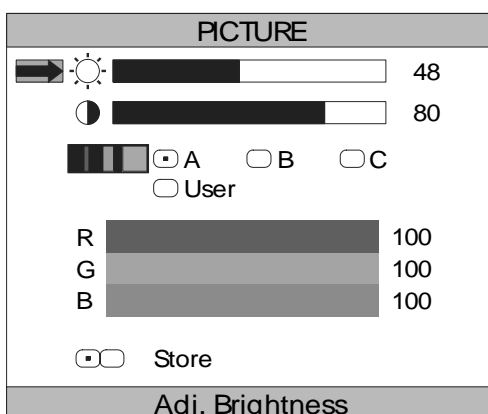
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If necessary, parameters can be adjusted by using the +/-DOWN and +/-UP buttons. Ensure that the left and right edges visible.

If any changes are made, select the 'Store' line in the menu and press the ENTER button.

An accurately positioned Radar Standby screen should now be displayed on the monitor.

Press the MENU button to return to the main menu, select the PICTURE menu, and check that the parameters are as follows:



If necessary, parameters can be adjusted by using the +/-DOWN and +/-UP buttons.

If any changes are made, select the 'Store' line in the menu and press the ENTER button.

A final check may now be required of the Clock Phase parameter on the SETUP menu.

If necessary, concentrate on the four RGB groups of squares in the test pattern (or on the screen-wide strip of white vertical lines at the bottom of the pattern, if present) when adjusting the clock phase, and adjust for maximum clarity and minimum noise (position and amplitude) on the fine vertical lines. As a final check, ensure that the vertical white lines on the pattern are noise free and have a similar appearance to each other across the screen.

If any changes are made, select the 'Store' line in the menu and press the ENTER button.

Note – Re-adjustment of the clock phase and horizontal position parameters may be required if the video cable is changed.

Testing New Hatteland Models

This section is for models **65817G, 65817H, 65819A, 65823A, 65823B, 65823E**. This 65819A has a 15-way D-SUB connector for the video and sync signals; the original had five BNC connectors and is described in the previous section.

For the 65823B desktop variant only, remove the bezel by undoing the five screws (two on the lower front surface and three across the top).

Remove the small cover held by two screws on the front of the monitor fascia to reveal the 'set-up' controls. Turn the Brilliance control fully clockwise. Check that the LED adjacent to the set-up controls is illuminated green. Red illumination indicates a lack of video input sync signals.

Test Pattern 1 should be fully visible, and completely fill the screen, when the set-up controls are correctly adjusted. The black and white striped band across the bottom of the pattern is not visible on the 65823 because of its picture format.

Use the set-up buttons "MENU", "UP", "DOWN", "+" and "-" to display an "On Screen Display" menu (OSD menu) and change parameters as follows:

- Press the "MENU" button to display the Main Menu.
- The selected sub menu icon is highlighted. The sub menu function is written toward the upper left of the OSD menu.
- Move to successive icons by pressing "MENU".
- Each OSD shows the present function of the "UP", "DOWN", "+" and "-" buttons. Typically, select options within a sub menu by pressing "UP" or "DOWN" buttons and adjust values by pressing the "+" and "-" buttons.
- Press the MENU button to return to the main menu from a sub menu.

There are two OSD main menus:

- Simplified OSD menu with a Hatteland logo, three icons across the top of the OSD and six icons across the bottom of the OSD.
- Advanced OSD menu without a logo, six icons across the top of the OSD and six icons across the bottom of the OSD.

It should not normally be necessary to access the Advanced OSD menu. Only those functions that are relevant to the operation of the BridgeMaster radar are described in detail in the above section. To access the Advanced OSD menu, press and hold the "DOWN" button while switching the power on.

Simplified OSD menu

Frequency and Phase

These functions modify the image horizontal size and fine-tune the image quality.

FREQUENCY has a default value of 0 and should not be changed.

PHASE adjusts the image quality. Concentrate on the four RGB groups of squares in the test pattern (or on the screen-wide strip of white vertical lines at the bottom of the pattern, if present) and adjust for maximum clarity and minimum noise (position and amplitude) on the fine vertical lines. As a final check, ensure that the vertical white lines on the pattern are noise free and have a similar appearance to each other across the screen. It is not possible to give a typical figure for this parameter, as each unit may be different.

SHARPNESS has a default value of 1 and should not be changed.

PICTURE TYPE should be at a default setting of "Still".

Status

This sub menu displays, but cannot adjust, the resolution and frequency as follows:

Parameter	Variant	Horizontal	Vertical
Resolution	65817, 65819	1280	1024
	65823	1296	972
Frequency	All	42.4kHz	39 or 40Hz

Position

These functions move the image within the display area.

The "+" and "-" buttons move the image right and left respectively. Ensure that the double lines are visible at left and right edges.

The "UP" and "DOWN" buttons move the image up and down respectively. Ensure that the picture is symmetrical with a white double line at top and bottom edges for the 65817 and 65819. The 65823 should have a white single line at the top and bottom edge.

Picture in Picture

The picture-in-picture parameters are set by this function but they are not used for BridgeMaster displays. There are two menu styles.

Ensure that PIP Size is set to "Off" if the menu displays Off, Size1, Size2 and Size 03.

Ensure that PIP Size is set to "0" if the menu displays a horizontal slider.

Language

This menu allows the user to choose between English, Danish and Simplified Chinese for the text and messages in the OSD menus.

Video Source

This menu displays the video source. It is preset to Analog RGB and must not be changed.

Utilities

This menu displays several sub menus but only one may be of use for a BridgeMaster display.

The “OSD Setting” sub menu displays the following parameters with their default values:

Parameter	Default value	Notes
OSD H-Position	100	Do not change
OSD V-Position	100	Do not change
OSD Background	Translucent	User may prefer Opaque
OSD Menu Rotate	Normal	Do not change
User time Out	10s	User may need to increase this

Do not use sub menus “Direct Access 1”, “Direct Access 2”, “Calibrate RGB gain”, “Load Defaults” and “Test Pattern”.

Volume

This menu has no function for a BridgeMaster display.

Exit Menu

Selecting this menu will exit the OSD menu. Press “+” or “-“ to save the current settings and then exit.

Advanced OSD menu

If “Load Defaults” is activated in error, or the brilliance or aspect ratio are wrongly set, then it will be necessary to use the Advanced OSD menu functions to check and, if necessary, set some of the parameters.

All of the Simplified Menu functions are repeated on the Advanced OSD menus. Refer to the section above for their descriptions. Only the additional functions are described below.

Brightness and Contrast

The values set by activating Load Defaults are 50 for the Brilliance and 50 for the Contrast.

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Color Temperature

The default value is 8000K and must be set to this value.

Graphic Scaling Modes

The default setting is 'Fill to Aspect Ratio' and must be set to this value.

Utilities

Additional sub menus are shown compared with the Simplified OSD menu but the parameters must be set to their default values as follows:

Sub menu	Parameter	Default setting
User Setting	DPMS	Enable
	Display Input	Enable
	Auto Source Select	Off
	Gamma	1.0
Freeze		Not frozen
Zoom	Zoom Level	0
	Horizontal Pan	0
	Vertical Pan	0
Display Orientation	Orientation	Normal

Normal Operation – All FPD Models

Normal operation of the Flat Panel Display Monitor requires only the operation of its On/Off switch, Contrast and Brightness controls.

The Contrast and Brightness controls should be adjusted to maintain picture visibility in response to varying ambient lighting conditions.

Note – Power to these monitors is not switched by the On/Off switch associated with the radar display processor. To prolong the life of the backlight in these displays, it is recommended that the monitors be switched off when not in use.