
17" CDU 1764MS COLOUR MONITOR UNIT

This monitor is manufactured by **SALORA**

CHARACTERISTICS

- Cathode ray tube (CRT) Triniton 17" diagonal tube.
Grid picture tube (Triniton)
Deflection angle 90°
- Monitor mask dimen.
(VGA, Ergo): Width: 313 mm +/- 5 mm
Height: 235 mm +/- 5 mm
- Monitor mask dimen.
(high resolution): Width: 294 mm +/- 5 mm
Height: 235 mm +/- 5 mm
- Power supply: 220 V: 170 - 264 Vac
110 V: 90 - 132 Vac
- Frequency: 50 Hz: 47 - 63 Hz
- Input signals
Monitor: R, G, B (Red, Green;Blue)
Input signals: Linear voltage steps (63 steps of 11 mV)
Level: 0 to 700 mV
Polarity: 75 Ohm positive
- Horizontal synchronism:
Frequency: 30 - 64 KHz
Polarity: Positive/Negative
Level: TTL
- Vertical synchronism:
Frequency: 48 - 100 KHz
Polarity: Positive/Negative
Level: TTL
- Resolutions:
640 x 350 (VGA standard mode) Horizontal positive - Vertical negative
640 x 400 (VGA standard mode) Horizontal negative - Vertical positive
640 x 480 (VGA standard mode) Horizontal negative - Vertical negative
640 x 480 (VGA ergo mode) Horizontal negative - Vertical negative
1024 x 768 (XGA mode) Horizontal positive - Vertical positive
1024 x 768 (VGA plus mode) Horizontal positive - Vertical positive
1280 x 1024 (High Resolution) Composite synchronism

REMOVING THE CASING AND DISASSEMBLY

1. Disconnect the signals cable (S) and power cable (A) from the connectors on the rear of the monitor.

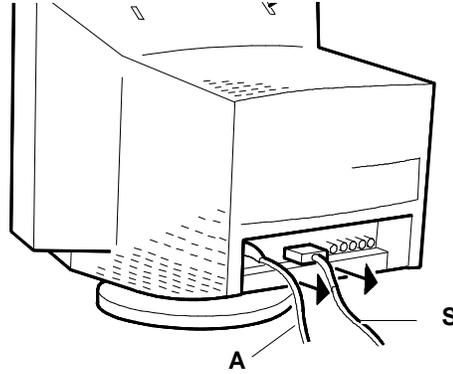


Fig. 14-1 Video cable disconnection

2. Remove the two screws (V) illustrated in the figure.

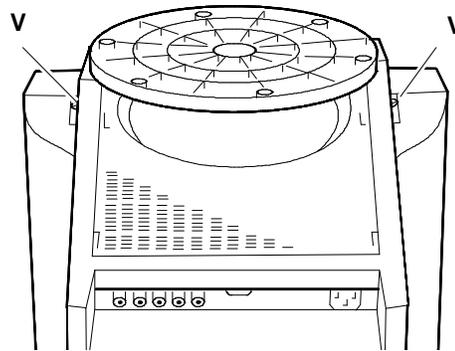


Fig. 14-2 Screws (V) position

3. Release the two plastic clips that secure the monitor casing, pressing on them with a flat screwdriver.
4. Remove the monitor casing.

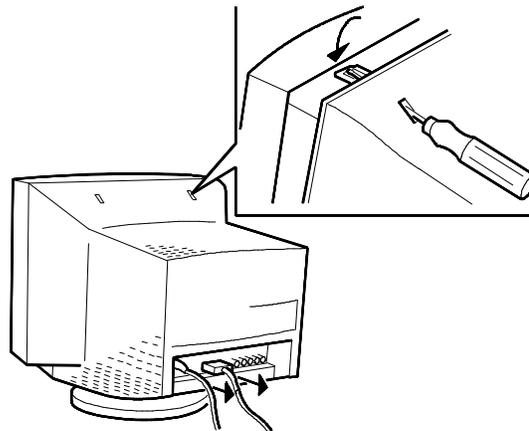


Fig. 14-3 Video casing removal

REMOVING THE VIDEO AMPLIFIER BOARD

- Remove the video amplifier board as illustrated in the figure.

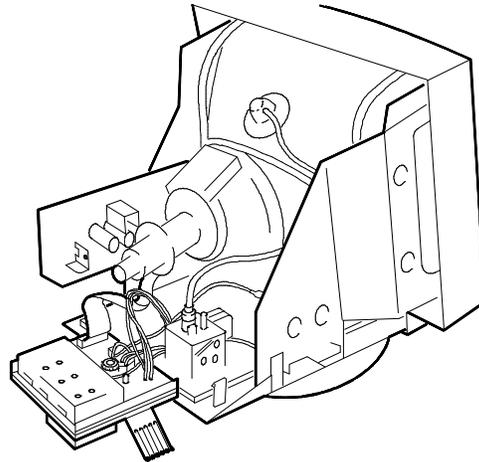


Fig. 14-4 Video amplifier board removal

- Separate the video amplifier board from the motherboard disconnecting these cables:

- Disconnect cable (A9) from the motherboard
- Disconnect cable (Q4) from the video amplifier board
- Remove the ground connectors (M) from the monitor casing
- Unsolder the black and white FOCUS (F) cables from the CRT interface connector.
- Unsolder the red SCREEN cable from connector (G2)

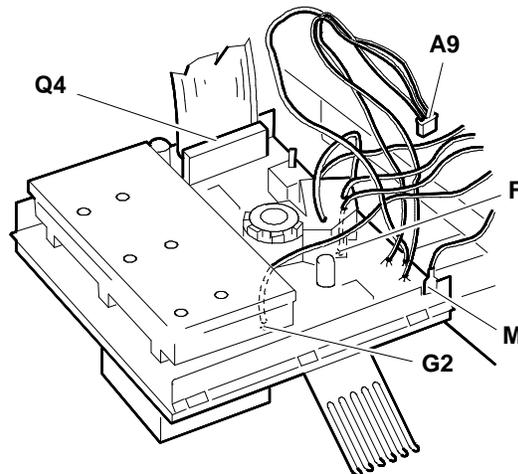


Fig. 14-5 Video cable disconnection

REMOVING THE POWER SUPPLY BOARD

7. Loosen screw (A) that secures the power supply board to the monitor casing.
8. Disconnect the degauss cable connector (Q3) from the power supply board.
9. Remove the power supply board from connectors (Q2) and (Q4).

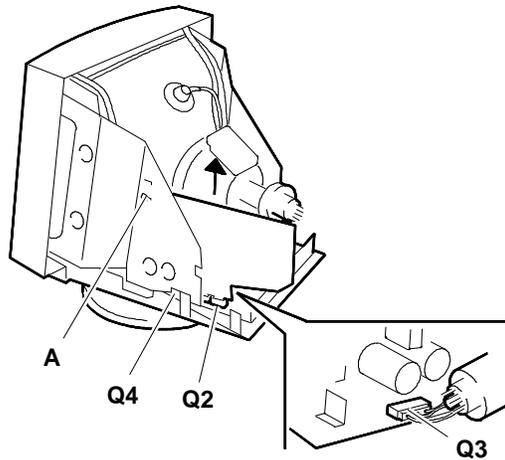


Fig. 14-6 Power supply board removal

REMOVING THE MOTHERBOARD

10. Discharge the CRT anode.
To discharge the CRT anode use a screwdriver connected to a grounding cable of the monitor frame.

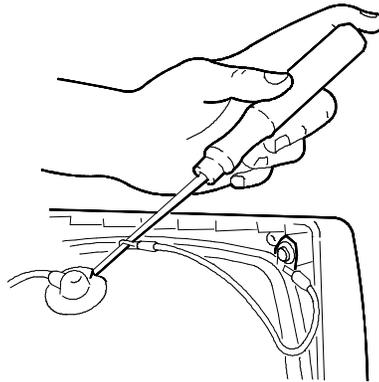


Fig. 14-7 Screwdriver ground connection

11. Loosen the two screws (B) that secure the board to the monitor frame.
12. Disconnect the cables from connectors A14 and A20 (deflection yoke).
13. Remove the motherboard pressing on the six retaining clips (R) illustrated in the figure and pulling it outwards from the monitor.

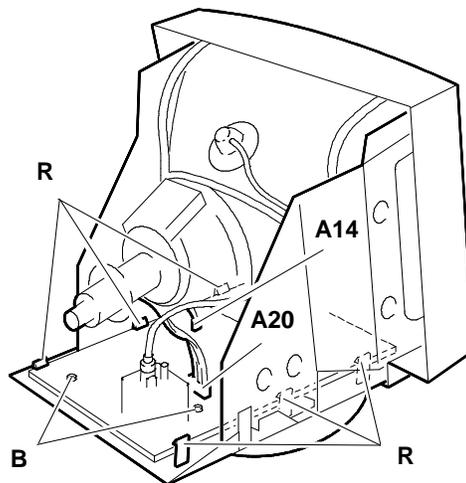


Fig. 14-8 Motherboard removal

REMOVING THE CRT

14. Position the monitor as indicated in the figure.
15. Loosen the six screws (C) that secure the monitor metal support and remove it.
16. Remove the monitor base.

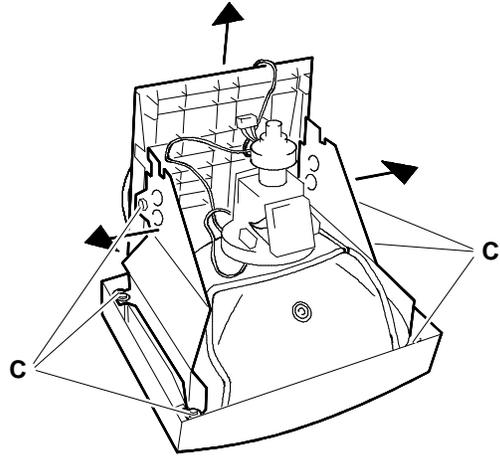
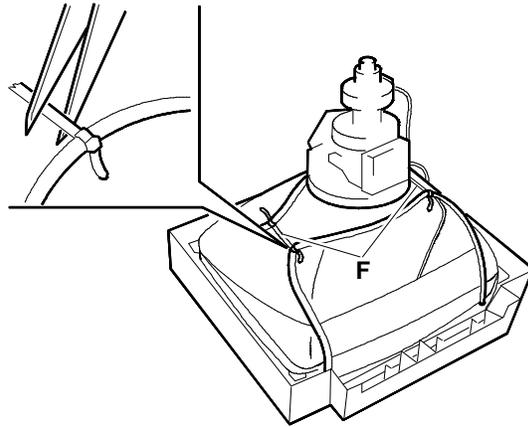


Fig. 14-9 Metal support and video base removal

17. Cut the two cable clamps (F) and remove the CRt from the front of the monitor.



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Fig. 14-10 CRT removal

ADJUSTING THE MONITOR

There are two types of adjustments

- User Mode and Service mode

USER MODE

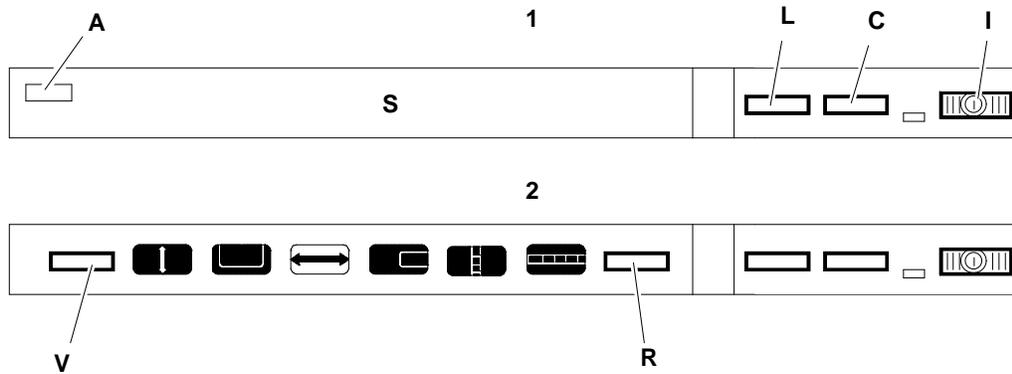


Fig. 14-11 1: Contrast - brightness adjustment switches
2: Control panel position to adjust picture on video. This panel is under the door (S).

ADJUSTING THE CONTRAST

- Adjust the contrast through the switch (C).

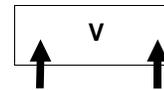
ADJUSTING THE BRIGHTNESS

- Adjust the brightness through the switch (L).

ADJUSTING THE PICTURE ON THE MONITOR

- Open the flap (S) with the device (A) to have access to the picture control panel.
- Press on switch (V) as illustrated in the figure to select the monitor picture parameter that is to be adjusted.

Pressing on the right of the switch the parameters to adjust are selected in the sequence described further on, pressing the left part of the switch will return backwards. The sequence of parameters that can be selected is the following:



Video picture height



Horizontal centering of video picture



Video picture vertical centering



Vertical convergence



Video picture width



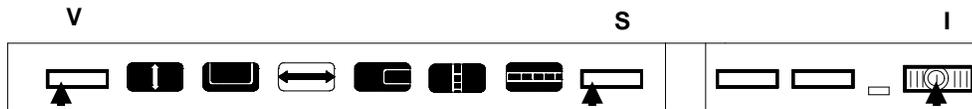
Horizontal convergence

- When a parameter is selected the relevant indicator switches on.
- Insert the System Test diskette in drive A.
- Select test: *CROSS HATCH WITH A CIRCLE IN THE CENTER OF SCREEN.*
- To adjust the selected parameter press switch (R).
Pressing the right part of the switch (+) increases the picture size or intensity, pressing the left part (-) decreases the parameters.
The adjustments are automatically stored.



HOW TO RETURN TO THE ORIGINAL MONITOR ADJUSTMENTS

- Switch off the monitor by the switch (I).
- Simultaneously press key (V) and key (S) on the left-hand part while the monitor switches on again. Release the two keys 5 seconds after the monitor has switched on.



NOTE: Symbols are used in the figures to indicate the operation for the switch. The meaning of the symbols are given in the tables that follow.



Switch pressed on the right-hand part



Switch released



Switch pressed for 5 seconds



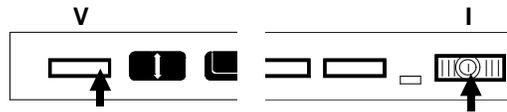
Switch pressed on the right and immediately switched over to the left.

SERVICE MODE

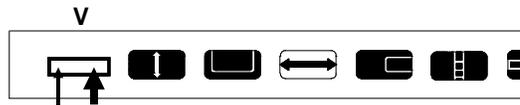
Only some adjustments can be made through the potentiometers (supply voltage, focus, convergence and horizontal linearity), all the other are by switches.

How to have access to service mode

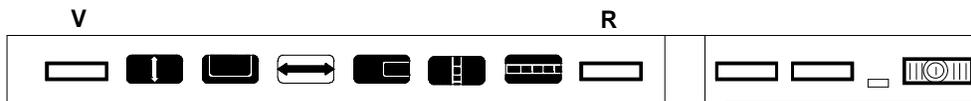
- Switch off the monitor.
- Press the switch (V) on the right and switch on again.



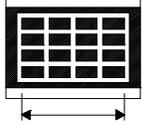
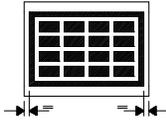
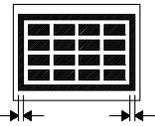
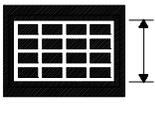
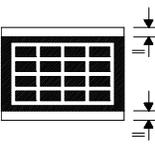
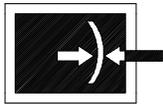
- When two of the parameter indicators light up, release the pressure on the right and press on the left part of the switch.



- At this point a tone of the speaker will indicate the entry into the monitor setting phase.
- The monitor is now ready for the first step of the adjusting sequence.
 - Press switch (V) to select the parameter to adjust.
 - Press Switch (R) to adjust the selected parameter.



The table that follows illustrates all 23 steps necessary to adjust the monitor.

STEP	ADJUSTMENT AND DISPLAY ON CONTROL PANEL	EFFECT	NOTE
1	Width of picture 	 Widens or narrows the picture horizontal dimensions	Use the System Test displaying: Cross hatch with a circle in the centre of screen
2	Horizontal centering of raster 	 Centers the raster horizontally on the screen	If the raster vertical edges are not visible, reduce the horizontal width as in Step 1 .System Test: Cross hatch ...
3	Horizontal picture centering within the raster (phase) 	 Centers the monitor picture horizontally inside the raster	System Test: Cross hatch ...
4	Not used		
5	Picture height 	 Adjusts the picture height.	System Test: Cross hatch ...
6	Vertical centering 	 Centers the picture vertically on the screen	System Test: Cross hatch ...
7	EAST/WEST correction 	 Corrects vertical barrel and pincushion distortion	Adjust the picture width (step 1) so that the vertical lines are near the edge of the mask System Test: Cross hatch ...
8	EAST/WEST balance 	 Straightens the vertical lines so they are symmetric	System Test: Cross hatch ...

STEP	ADJUSTMENT AND DISPLAY ON CONTROL PANEL	EFFECT	NOTE
9	Trapezium correction (type 1) 	 To straighten the trapezium distortion of the vertical lines	System Test: Cross hatch
10	Trapezium correction (type 2) 	 To straighten the trapezium distortion of the vertical lines	System Test: Cross hatch
11	G2 (SCREEN) potentiometer adjustment 	NOT TO BE USED	
12	G1 grey scale adjustment 	To modify the grey scale tones (or the colours on the screen).	Use the System Test displaying the mask: Check intensity and shade or colour
13	Red level in raster (Coarse adjustment) 	To change the quantity of background red (raster)	Adjust brightness to see the background (raster). Use the System Test displaying the mask High intensity white (or grey) field
14	Red level in raster (fine adjustment) 		

STEP	ADJUSTMENT AND DISPLAY ON CONTROL PANEL	EFFECT	NOTE
15	Green level in raster (coarse adjustment) 	To vary the quantity of green in the background (raster)	Adjust the brightness to be able to see the background (raster) Use the System Test displaying the mask: High intensity white (or grey) field
16	Green level in raster (fine adjustment) 		
17	Blue level in raster (coarse adjustment) 		
18	Blue level in raster (fine adjustment) 		
19	Green gain 	Adjusts the quantity of green in the data area (contrast gain)	Use the System Test displaying the mask High intensity green (or grey 2) field
20	Blue gain 	Adjusts the quantity of blue in the data area (contrast gain)	Use the System Test displaying the mask: High intensity blue (or grey 1) field
21	Maximum Contrast 		Use the System Test displaying the mask: High intensity white (or grey) field

STEP	ADJUSTMENT AND DISPLAY ON CONTROL PANEL	EFFECT	NOTE
22	Minimum contrast 		Use the System Test displaying the mask: High intensity white (or grey) field
23	S-capacitor 	Adjusts the data area so that the picture displayed in the centre is the same as that displayed at the edges of the mask	Use the System Test displaying the mask: Cross hatch with a circle in the centre of screen

Press the right part of switch (V) to store the adjustments and exit from SERVICE MODE.

ADJUSTING THE FOCUS

- Remove the monitor casing as previously illustrated.
- Adjust the focus potentiometers shown in the figure.

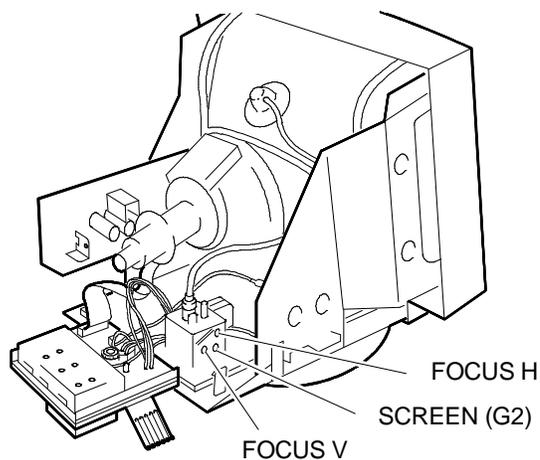


Fig. 14-12 Focus potentiometer position

