
14" CDU 3814/C COLOUR MONITOR UNIT

This monitor is manufactured by **SONY**.

CHARACTERISTICS

Colour analagous monitor, compatible VGA

- Input voltage: 110 - 120 V a.c.
220 - 240 V a.c.
Network frequency: 50 - 60 Hz
- Horizontal synchronism:
Frequency: 31.469 KHz
Polarity: Negative or positive
Level: TTL
- Vertical synchronism:
Frequency: 60 - 70 Hz
Polarity: Negative or positive
Level: TTL
- Input monitor signals:
Monitor signal: Analog
Amplitude: 0.7 Vpp (0 - 0.7 Vpp)
- Displayed resolutions: 640 x 350 lines by columns
720 x 400 lines by columns
640 x 480 lines by columns
1024x768 lines by columns
- External controls: Brightness
Contrast

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CAUTION:

Discharge the CRT anode before starting to disassemble the monitor.

REMOVING THE CASING AND DISASSEMBLY

1. Place the monitor on a soft cloth.
2. Remove the swivel base pressing on the base-plate to release the two plastic pins.
3. Remove the swivel base pushing upwards.
4. Loosen the five screws indicated in the figure.

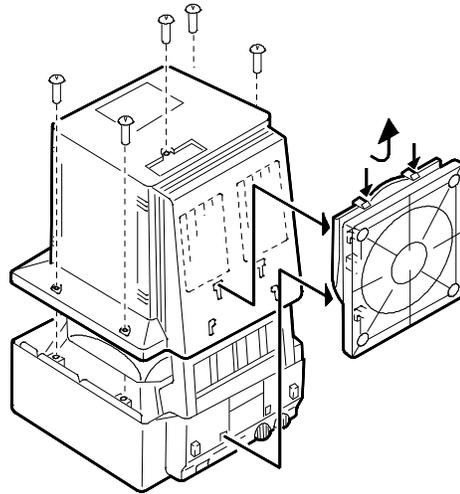


Fig. 12-1 Swivel base and video casing removal

REMOVING THE BOARD WITH THE SYNCHRONISM LOGIC CIRCUITS (A)

5. Loosen the screws indicated in the figure.
6. Remove the board with its supporting frame.

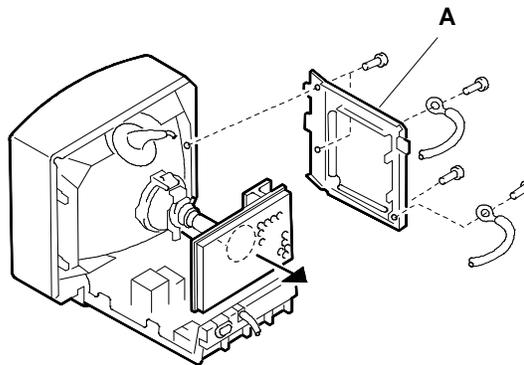


Fig. 12-2 Removal of board with synchronism logic circuits

REMOVING THE VIDEO AMPLIFIER BOARD (V)

7. Loosen the screws on the band (B)
8. Disconnect all the cables connected to the video amplifier board.
9. Remove the board pulling it in the direction indicated in the figure.

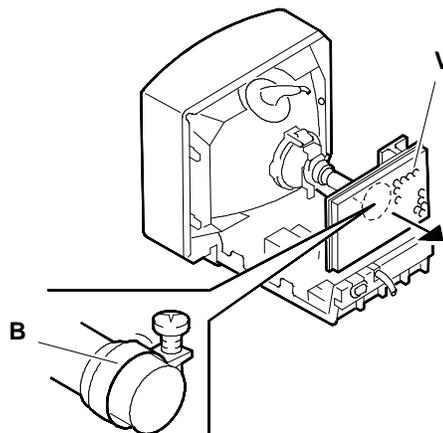


Fig. 12-3 Video amplifier board removal

REMOVING THE MOTHERBOARD

10. Remove the board with the synchronism logic circuits and the video amplifier board as described previously.
11. Loosen the two ground cable screws (V).
12. Loosen screw (V1).
13. Release the pins (P) indicated in the figure.
14. Remove the motherboard support from the monitor casing.

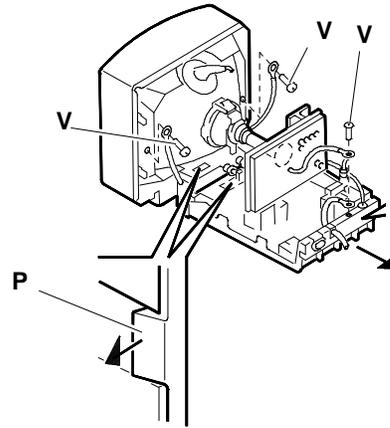
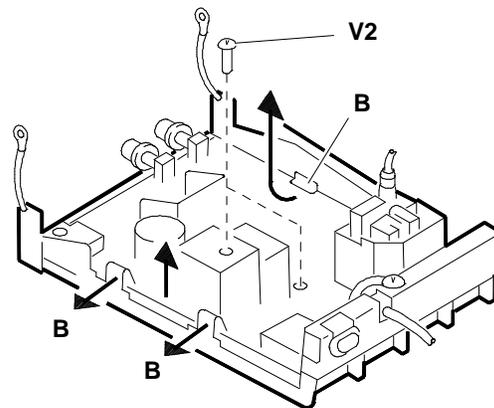


Fig. 12-4 Motherboard support removal

15. Loosen the two screws (V2) that secure the motherboard to its support.
16. Release the pins (B) indicated in the figure and remove the motherboard from its support.



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Fig. 12-5 Motherboard removal from support

REMOVING THE CRT

17. Remove the CRT anode (C) as illustrated in the figure.
Discharge the high voltage before starting this operation. Use a screwdriver connected to ground by a cable as illustrated in the figure.

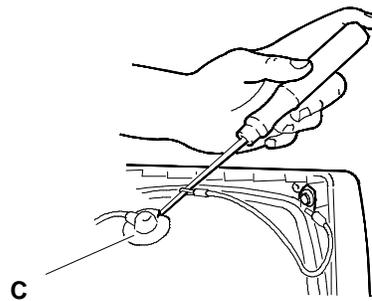


Fig. 12-6 Screwdriver connection to ground discharge high voltage on CRT anode

18. Remove the board with the synchronism logic circuits, the video amplifier board and the motherboard as described previously.
19. Remove the four screws that secure the CRT to the monitor casing.
20. Remove the CRT protection screen (S).
21. Remove the CRT.

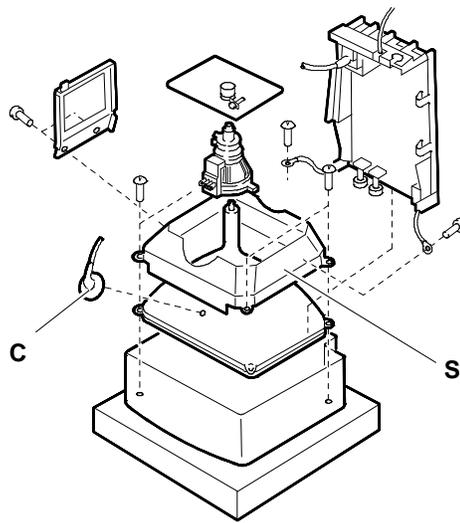


Fig. 12-7 CRT removal

ADJUSTING THE MONITOR

The adjustment points are on the boards of the monitor.

- Board with the synchronism logic circuits
- Video amplifier board
- Motherboard.

Some of the motherboard potentiometers are accessible without disassembling the monitor. These can be seen in the next figure and are on the left-hand side of the monitor.

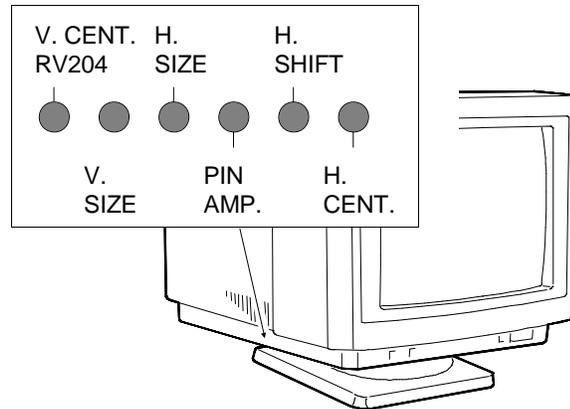


Fig. 12-8 Adjustment point positions accessible without disassembling the video

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ADJUSTING THE HORIZONTAL CENTERING

- System Test: *GREY OR COLOUR BARS*.
- Adjust potentiometer RV506 (H. CENT.) until the picture is horizontally centered on the screen.

ADJUSTING THE VERTICAL CENTERING

- System Test: *GREY OR COLOUR BARS*.
- Adjust potentiometer RV204 (V. CENT.) until the picture is vertically centered on the screen.

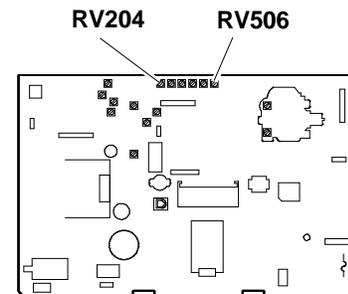


Fig. 12-9 - Horizontal centering adjustment
- Vertical centering adjustment

ADJUSTING THE HORIZONTAL WIDTH

- System Test: *GRAPHICS 640 x 480*.
- Adjust RV 312 (H. SIZE) until a picture is obtained on the screen that is 240 mm +/- 3.5 mm wide.
- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 311 to obtain a picture on the screen that is 240 mm +/- 3.5 mm wide.

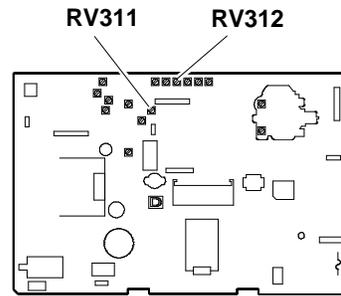


Fig. 12-10 Horizontal width adjustment

ADJUSTING THE VERTICAL WIDTH

- System Test: *GRAPHICS 640 x 480*.
- Adjust RV 204 (V. CENT.) to obtain a picture on the screen with a height of 180 mm +/- 3 mm.
- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 201 (V. SIZE) to obtain a picture on the screen with a height of 180 mm +/- 3 mm.

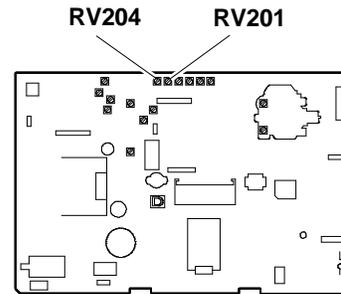


Fig. 12-11 Vertical width adjustment

ADJUSTING THE VERTICAL LINEARITY

- System Test: *GREY OR COLOUR BARS*.
- Adjust RV 202 to obtain an equal vertical space between the bars on the screen.

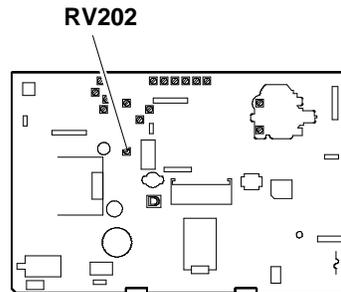
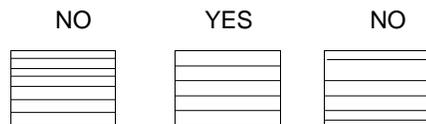


Fig. 12-12 Vertical linearity adjustment

ADJUSTING THE VERTICAL WIDTH

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 303 (PIN. AMP.) to obtain a picture on the screen with vertical lines without bends.

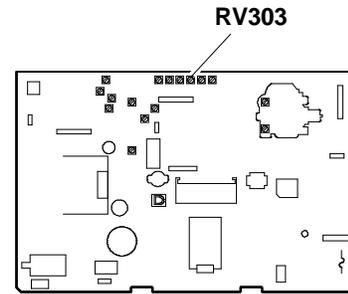
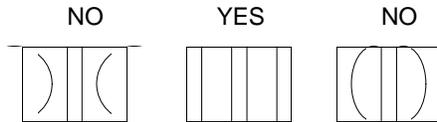
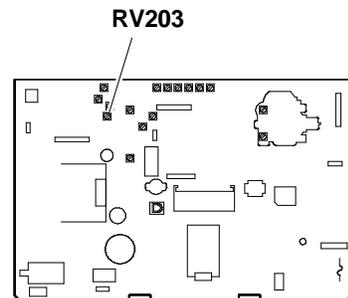
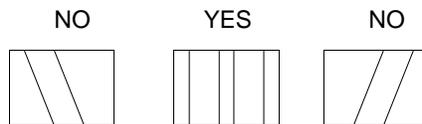


Fig. 12-13 Vertical width adjustment

ADJUSTING THE VERTICAL SLOPING

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 203 to obtain a picture on the monitor with vertical lines that do not slope to the right or to the left.



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Fig. 12-14 Vertical slope adjustment

ADJUSTING THE ANGULAR CORRECTION

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 306 to obtain a picture on the screen with 90 degree angles.

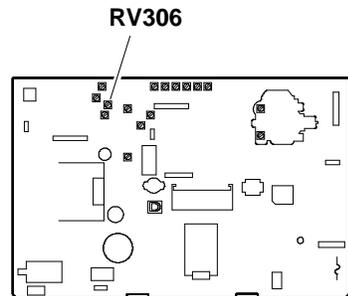
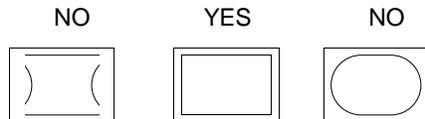
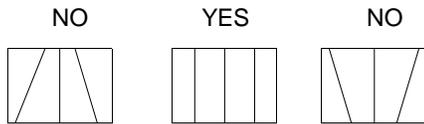


Fig. 12-15 Angular correction adjustment

ADJUSTING THE PHASES

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 304 until there is no phase displacement between the monitor center and the peripheral area.



RV304

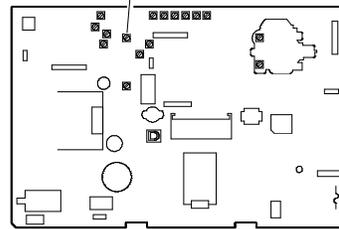
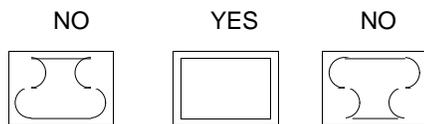


Fig. 12-16 Phase adjustment

ADJUSTING THE SIDE PHASE-DISPLACEMENT

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 305 until there is no phase-displacement between the monitor centre and the upper or lower part.



RV305

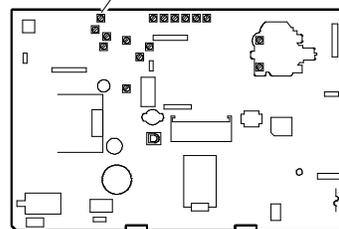
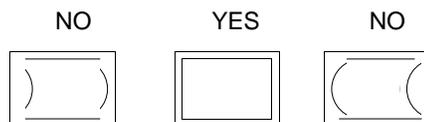


Fig. 12-17 Side displacement adjustment

ADJUSTING THE SIDE BALANCING

- System Test: *GRAPHICS 1024 x 768*.
- Adjust RV 307 until the picture on the screen is correct.



RV307

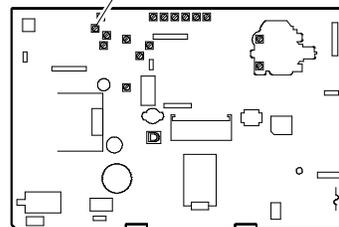


Fig. 12-18 Side balancing adjustment

CORRECTING THE BARREL DISTORTION

- System Test: *GRAPHICS 640 x 480*.
- Adjust RV 301 until the picture on the screen is correct.

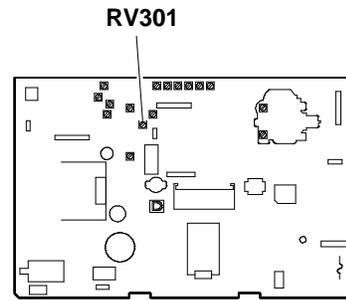
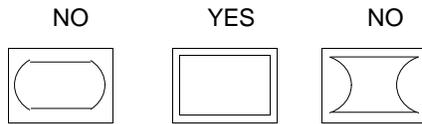
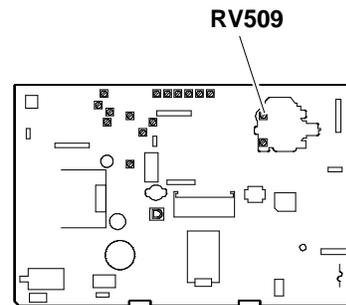


Fig. 12-19 Barrel distortion adjustment

ADJUSTING THE FOCUS

- System Test: *GREY OR COLOUR BARS*.
- Adjust RV 509 until the picture on the screen is focussed.



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Fig. 12-20 Focus adjustment