



2. PICTURE SETTINGS

Remarks:

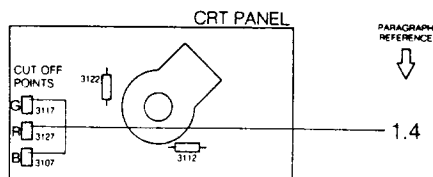
- The following adjustments only apply to monitors which are fitted with a replaceable deflection unit.
- In case of combi tube replacement, no picture settings are required because it has been done by factory already
- The colour purity and convergence adjustments described hereafter need only to be carried out if a completely new setting is required or if a new picture tube has been fitted. In other cases, for example after replacing the deflection unit, it will not usually be necessary to remove the rubber wedges (G in figure 3). Corrections by means of the multi-pole unit will then suffice.
- Focusing adjustment described in item 1.5 must be done prior to picture settings.

2.1 Colour purity, see figure 3

- Unscrew the fixing screw "F" on the deflection unit.
- Move the deflection unit and remove the three rubber wedges "G".
- Move the deflection unit forward as far as possible against the glass of the picture tube cone and tighten fixing screw "F" so that the deflection unit can only be shifted slightly.
- Place the multi-pole unit in the position drawn: tighten screw "A" and turn locking ring "B" anticlockwise.
- Position the monitor to face east or west and switch it on. Apply a cross-hatch pattern and set the brightness control to maximum. Allow the monitor to warm up for ten minutes.
- Adjust the static convergence using tags "C" and "D" (if necessary, refer to point 2.2.).
- Turn 3583 for the vertical centering to its mid-position. Switch off the green and blue guns by disconnecting resistors 3122 and 3112.
- By turning the colour purity rings with the "E" tags, the vertical red bar is brought as close as possible to the center of the screen, while the central horizontal line should be as straight as possible.
- Apply a white pattern signal and check that the red bar is in fact in the center of the screen. If not, switch on the cross-hatch pattern again and move the red bar in the right direction, ensuring that the picture does not move too much in the vertical direction.
- Apply the white pattern signal and move the deflection unit until the whole picture surface is uniformly red.
- Switch on the green and blue guns. There may be no colour patches in the white picture now obtained. If there are, a minor correction can be made by turning the colour purity rings "E" slightly and/or moving the deflection unit slightly.
- Tighten screw "F" securely.
- Adjust the vertical centering with 3583.
- Proceed to the static and then the dynamic convergence setting.

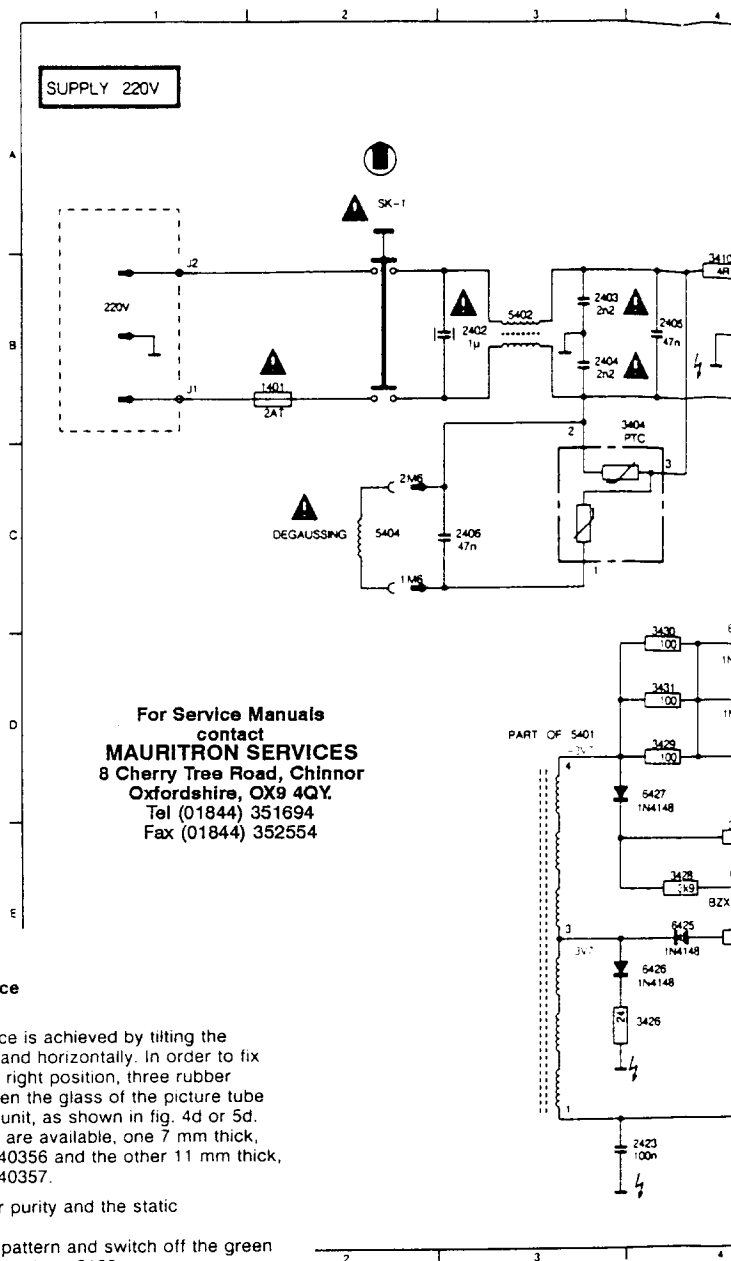
2.2 Static convergence, see figure 3

- Apply a cross-hatch pattern and allow the monitor to warm up for ten minutes.
- Switch off the green gun by disconnecting resistor 3122 and turn locking ring "B" anticlockwise.
- By turning the four-pole rings with the "C" tags the red and blue cross-hatch patterns are placed on top of each other in the center of the screen.
- Switch on the green gun by connecting resistor 3122 back to its original position and switch off the blue gun by disconnecting 3112.
- By turning the six-pole rings with the "D" tags the red and green patterns are placed on top of each other in the center of the screen.
- Switch on the blue gun by connecting resistor 3112 back to its original position and tighten ring "B".



CM-8833 MK II
CM-11342
CM-11342/00G
CM-11342/05G
CM-11342/10G
CM-11342/20G
CM-11342/75G
CM-11342/00M
CM-11342/05M
CM-11362
CM-11362/00T
CM-11362/05T
CM-11362/10T

POWER SUPPLY CIRCUIT DIAGRAM (on main panel)



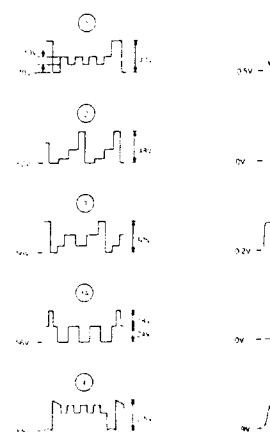
2.3 Dynamic convergence

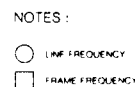
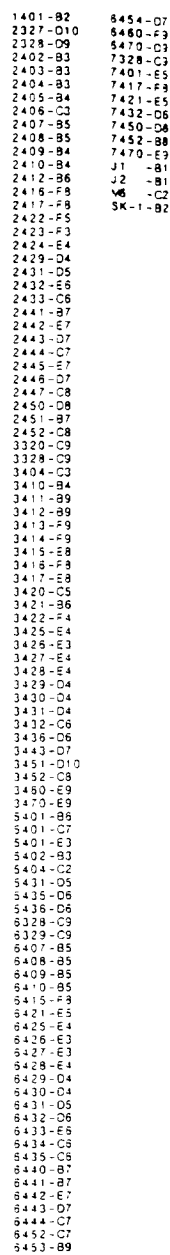
Remark:

The dynamic convergence is achieved by tilting the deflection unit vertically and horizontally. In order to fix the deflection unit in the right position, three rubber wedges are fitted between the glass of the picture tube cone and the deflection unit, as shown in fig. 4d or 5d. Two wedge thicknesses are available, one 7 mm thick, code number 4822 462 40356 and the other 11 mm thick, code number 4822 462 40357.

- First check the colour purity and the static convergence.
- Apply a cross-hatch pattern and switch off the green gun by disconnecting resistor 3122.
- Eliminate the crossing of the central horizontal blue and red line and the crossing of the central vertical blue and red line by vertically tilting the deflection unit. If the deflection unit is in the correct position, then place rubber wedge ①, without removing the paper strip, at the top (figure 4a) or at the bottom (figure 5a). Figure 4a applies when the unit is tilted upwards and figure 5a applies when the unit is tilted downwards.
- Through the horizontal tilting of the deflection unit, both the horizontal blue and red lines in the upper and lower halves of the picture and the vertical blue and red lines on the left and right-hand side of the picture are placed on top of each other. If the deflection unit is in the correct position, then place the wedges ② and ③, remove the paper strips and firmly press the adhesive side of these wedges against the glass of the picture tube as shown in figure 4b or 5b.
- Now place wedge ④ as shown in figure 4c or 5c, remove the paper strip and firmly press the adhesive side of this wedge against the glass of the picture tube cone.
- Remove wedge ① so that the situation according to figure 4d or 5d arises.
- Switch on the green gun by connecting resistor 3122 back to its original position.

WAVE FORMS





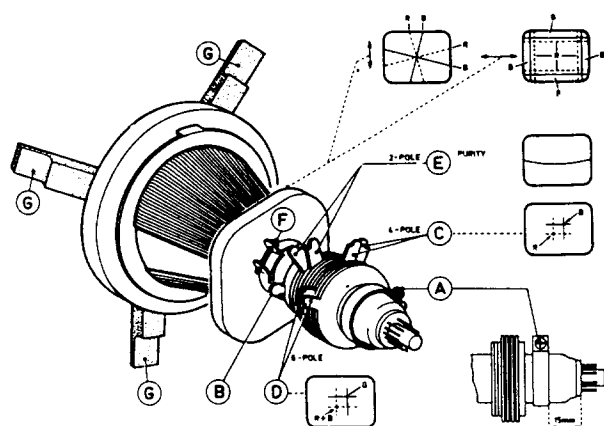


Fig. 3



Fig. 4a

Fig. 4b

Fig.

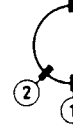


Fig. 5a

Fig. 5b

Fig.

GB CAUTION

- 1) Safety requirements stipulate that, during repair, the set should be restored to its original state and that parts identical to the specified ones, should be applied.
- 2) For safety reasons, the parts indicated with the sign **A** should be replaced by identical parts (for code numbers see electrical parts lists).
- 3) To avoid damage to ICs and transistors, flash-over of the high-tension should be avoided.
- 4) Be careful when performing measurements in the high-tension section and on the picture tube.
- 5) Never change parts when the set is still switched on.
- 6) Safety goggles must be worn during replacement of the picture tube.

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENTS ON THE CHASSIS

1.1 +128V supply voltage (3414)

- Apply video signal to the monitor.
- Set volume control 3295, brightness control 3662 and contrast control 3658 to minimum.
- Set trimming potentiometer 3414 in mid-position. (This is a presetting).
- Connect DC voltmeter to junction of resistor 3520 and diode 6453.
- Switch on monitor.
- With trimming potentiometer 3414 set the DC voltage at junction 3524/6453 to 128V.

1.2 Horizontal synchronization (3257)

- Apply video signal (cross-hatch pattern) to the monitor.
- Short capacitor 2270. (This capacitor is connected to pin 5 of IC 7270.)
- With trimming potentiometer 3257, adjust the picture so that it is straight.
- Remove the short-circuit on 2270.

1.3 Picture position

General: For the following adjustments apply a video signal (cross-hatch pattern) to the monitor.

1.3.1 East-west correction (3537)

- With potentiometer 3537, make the vertical lines on the left and right-hand side of the screen as straight as possible.

1.3.2 Picture width (3534)

- With potentiometer 3534, set the picture width for 14 blocks to 260 mm.

1.3.3 Horizontal picture centering (3264)

- With potentiometer 3264, set the correct horizontal centering.

1.3.4 Vertical picture centering (3583)

- With potentiometer 3583, set the correct vertical picture centering.

1.3.5 Picture height (3550)

- With potentiometer 3550, set the picture height for 10 blocks to 186 mm.

1.3.6 Vertical linearity (3573)

- Adjust the correct vertical linearity with Pre-set potentiometer 3573. If necessary repeat 1.3.5 and 1.3.6.

1.4 Setting of:

- VG2 (bottom knob on the line output transformer)
- cut-off points of the picture tube (3107, 3117 and 3127)
- white "D" (3671, 3680)
- Set the brightness to 1/4 of its range and set the contrast to minimum.
- Set the potentiometers 3107, 3117, 3127, 3671 and 3680 in mechanical mid-position.
- Set VG2 potentiometer to minimum.
- Set the signal generator in "pur" position and

- introduce the respective colours red, green and blue.
- Using potentiometers 3107, 3117 and 3127 with the corresponding colour pattern, set the voltage on the picture tube pins 8, 6 and 11 to 100V.
- Apply a white frame and adjust the VG2 potentiometer so that any colour among red, green or blue becomes visible.
- Set the pattern generator to purity with the colour that was first visible.
- Reset VG2 potentiometer to just visible light.
- Adjust the two remaining colours with their corresponding purity colour to the same light output using potentiometers 3107, 3117 or 3127.
- Return the signal generator to white frame and adjust the potentiometers 3107, 3117 and 3127 so that an optimum background colour is obtained.
- Using potentiometers 3671 and 3680 (with white frame) adjust the background colour so that at minimum brightness and maximum brightness the background colour is the same.

1.5 Focusing (top knob on line output transformer)

- Apply white pattern to monitor.
- Adjust focusing so that the picture at 2/3 of the diagonal lines (counting from center to four corners) of the displayed screen is as sharp as possible.

1.6 Subcarrier oscillator (2613)

- Apply colour bar pattern to monitor.
- Connect 470Ω resistor between point 11 of IC 7610 and earth.
- Adjust 2613 so that the colour picture on the screen is stationary.
- Remove the 470Ω resistor.

1.7 PAL delay line (3619, 5632)

- Apply DEM pattern from a pattern generator to the monitor.
- Set brightness control 3662, contrast control 3658 and colour saturation control 3654 to 3/4 of the range.
- Adjust 3619 so that the "venetian blinds" in the third bar disappear.
- Then adjust 5632 until the "venetian blinds" in the first and fourth bar disappear.
- Readjust 3619 as described above.

1.8 Chrominance suppression (5605)

- Apply colour bar pattern to the monitor.
- Connect oscilloscope to pin 15 of IC 7640.
- Set 5605 so that the chrominance signal is minimum. (The chrominance signal is superimposed on the grey steps of the luminance signal).

1.9 Audio balance (3298)

- Apply sinusoidal signal of 177mVrms (1KHz) to both audio inputs L/R.
- Set volume control in mid-position.
- Replace the two loudspeakers with a 16Ω resistor.
- Set 3298 so that the output level on both 16Ω resistors is the same.

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CRT PANEL

