770 Plus
K-14MV770
MSV-6000A
MV-775EV
SV-775E
SV-775LR

TAXA

SERVICE ADJUSTMENTS

PREPARATION BEFORE MAKING ADJUSTMENT

1. Measuring instruments and jigs required for adjustment.
   - RGB signal generator (make use of TTL Level and Anarog)
   - Oscilloscope
   - Voltmeter (Digital Voltmeter, Tester, etc.)
   - Knob screw driver
   - Hexagon core wrench
   - Scale
2. Turn the power on the unit to be adjusted and the measuring instruments at least 30 minutes beforehand for warming-up.
3. Before adjusting each section, confirm that the following rough adjustments have been completed.

(1) Confirm that the white balance has been adjusted. If it is out of order, adjust it by following the description in "White Balance Adjustment".
(2) Adjust the vertical synchronization by using the V HOLD VR, and confirm also that the horizontal synchronization is normal. If it is out of order, adjust it by following the descriptions in "H HOLD Adjustment".
(3) Display @ and confirm that the picture is in focus.

GENERAL ADJUSTMENT

1. Adjustment of B1 Voltage

(1) Confirm that the AC input voltage is 230 V.
(2) No video apply. (FH = 21.85 kHz)
(3) Adjust the voltage of TP-HB (located) on the CRT socket PB) to 126 V ±1 V by using the B1 ADJ VR(R1920).
(4) Confirm that the B1 voltage is 126 V ±1 V even if the AC input voltage is changed to 108 V ~ 132 V.

2. Adjustment of H Hold

(1) Display cross-hatch or white field pattern. (f_H = 21.85 kHz, f_V = 60 Hz)
(2) Initiate free running status by connecting the TP-B and TP-E.
(3) Adjust the H FREQ VR(R1521) until the pattern is almost stable.
(4) Check to see if horizontal synchronization is fully established even if the cabling in (2) is disconnected and FH is changed to 15.75 kHz(CGA), 21.85 kHz(EGA) or 30.5 kHz(PGC).

*) Note
If the monitor is not synchronized by 15.75 kHz or 30.5 kHz improper adjustment or trouble in the MA-A001A-W modules may be the cause.

3. Adjustment of High Voltage

* Confirm that the H HEIGHT has been adjusted and that the H HOLD and V HOLD have not been turned on.

(1) Be sure and connect the earth of high voltage meter with chassis frame.
(2) Connect the probe of high voltage meter with the anode of CRT.
(3) No video apply. FH = 21.85 kHz. (if raster is shown then adjust the BRIGHT VR or SCREEN VR until no raster)
(4) Adjust the HV ADJ VR(R1539) until the high voltage is 23 kV ±0.1 kV.
(5) Check to see the High Voltage is from 23.0 kV ±1 kV. When f_H is changed to 15.75 kHz(CGA) and 30.5 kHz(PGC).

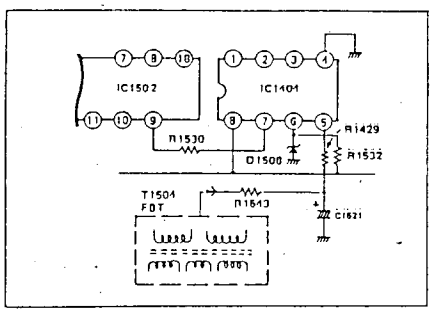
4. Focusing Adjustment

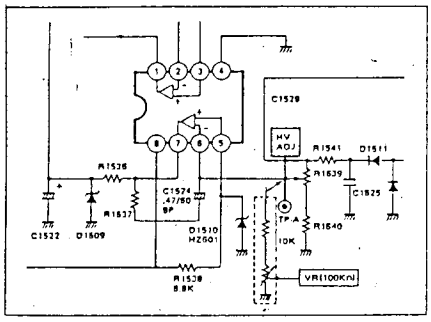
* Confirm that the HV and WHITE BALANCE have been adjusted.

(1) Display the @ mark over the entire screen (against the background).
(2) The CONTRAST VR should be turned to the position where @ mark is just before saturated.
(3) Adjust the FOCUS VR until the center and peripheral areas are uniformly in focus.

5. How to Check the High Voltage Protective Circuit

(1) High voltage protective circuit. After repair of the high voltage protective circuit shown in Fig. 5-1, this circuit shall be checked to operate correctly.
(2) Checking method of the high voltage protective circuit.
   1) Connect the resister (10 kΩ) and potentiometer (100 kΩ) at TP-A & Earth. (TP-E)
   2) Rotate the potentiometer so the resistance decrease.
   3) Confirm the picture goes out before high voltage reaches 26.5 kV.





■ Adjustment of SIZE/POSI VR Select

(1) Set the rear control VR(R1407, R1409, R1506 and R1511) to central (click) position.
(2) Turn the R4018, R4020 and R4024 fully clockwise.
(3) Set the both of preset cancel SW and over scan SW to the OFF(AUTO) position.
(4) After inputting the signal of f_H = 23.5 kHz, read the value on the digital voltmeter, and adjust the R4018 so that the voltage of TP-18 becomes the same value of the TP-f_V.
(5) After inputting the signal of f_H = 28.5 KHz, read the value on the digital voltmeter, and adjust the R4024 so that the voltage of TP-24 becomes the same value of the TP-f_V.
(6) Then, after inputting the signal of f_H = 17.125 kHz, read the value on the digital voltmeter, and adjust the R4020 so that the voltage of TP-20 becomes the same value of the TP-f_V.

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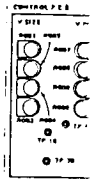

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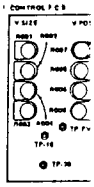

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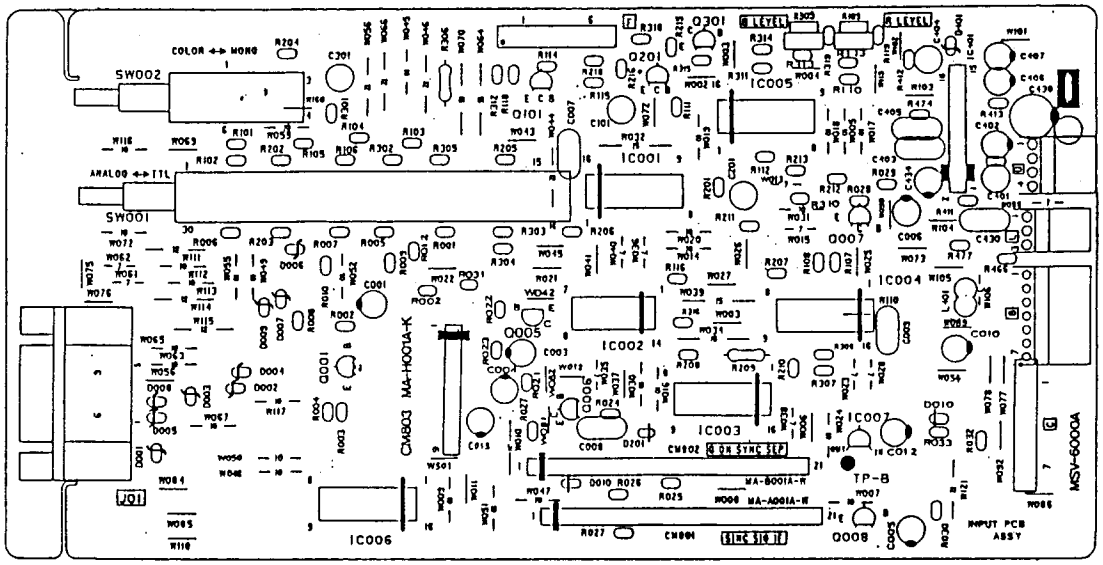

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Oxfordshire, OX9
Tel (01844) 351
Fax (01844) 352

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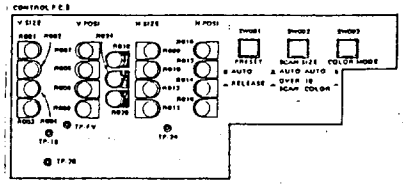
(7) By inputting the signals of CGA (15.75 kHz), EGA (21.85 kHz), TAXAN 555 (25.85 kHz) and PGC (30.5 kHz), confirm that each VR can be varied, respectively.

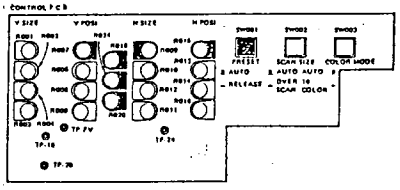


■ Confirmation of the Actions of PRESET SW and SCAN SIZE SW.

(1) Confirmation of PRESET SW
  1) Confirm that when PRESET SW is positioned at RELEASE (A: ON condition) is any of CGA (15.75 kHz), TAXAN 555 (25.85 kHz), EGA (21.85 kHz) or PGC (30.5 kHz) is input, the variable motion of H SIZE, H POSI, V SIZE and V POSI cannot be operated by PRESET VR of "A".
  2) Return the PRESET SW to AUTO(OFF condition) and input PGC (30.5 kHz) and readjust the size of H and V by PRESET VR of "A".

(2) Confirmation of SCAN SIZE SW
Confirm that when TAXAN555(25.85kHz), EGA and PGC are inputted, if SW is positioned at OVER SCAN(ON condition), the picture is in the condition of over scan.

* Don't rotate the R4018, R4020 and R4024 The R4001 R4018, R4020 and R4024 can be operated even if at RELEASE (A:ON condition) position.



■ Adjustment of Vertical Height

* Confirm that the H FREQ and HB ADJ have been adjusted.

(1) Display cross-hatch pattern. (f_H = 15.75 kHz, fv=60Hz, over scan mode)

(2) Set the V SIZE VR(C R1407 and R4004) to the maximum position.

(3) If SIZE/POSI VR not adjusted, Set the SCAN SIZE SW to OVER SCAN MODE.

(4) By rotating the V HEIGHT VR(R1428), adjust the voltage so that it becomes 5.2 V ±0.2 V.

(5) After the above adjustment, ensure that the height can be varied by rotating the V SIZE VR.

■ Adjustment of Vertical Linearity

* Confirm that the H HOLD and HV have been adjusted.

(1) Display cross-hatch pattern. (f_V = 60 Hz, f_H = 21.85 kHz)

(2) Set the height to its maximum by the V SIZE VR(R1407 & R4003).

(3) Adjust the upper and lower linearity to an optimum by the V LIN VR(R1430).

(4) After the above adjustment, ensure that the height can be varied by rotating the V SIZE VR(R1407).

(5) Change the input frequency fv to 50Hz, 90Hz and check to see if the linearity at this frequency is the same as in f_V=60Hz. Adjust the V LIN VR (R1430) again if the above is not true.

(6) Check to see if the V SIZE VR as in an input frequency f_V of 90 Hz when 50 Hz is selected.

■ Adjustment of H Center and V Center

* Confirm that the V HEIGHT and V LIN have been adjusted.

(1) No video apply. (f_H=21.85kHz fv = 60 Hz) & under scan SW set to ON.

(2) Adjust the BRIGHT VR until the raster on the screen is just barely visible.
  * If the raster overflowed the screen, reduce the screen size by rotating the H SIZE VR (A) and V SIZE VR (A) of the PRESET.

(3) Adjust the V CENTER VR(R1471) until the raster is vertically centered in the screen.

(4) Adjust the H CENTER SW(S1501, S1502) until the raster is horizontally centered in the screen. In case of can't H Center adjustment, change the position of H CENTER SW(S1503). Then readjust again.
  * The S1501 and S1502 should be changed simultaneously.

■ Adjustment of H Width, H Posi, V Height and V Posi (at PGC) [I]

* Confirm that the H HOLD, HV, V HEIGHT, V LIN, H CENT, V CENT, SIZE and the POSI VR SELECT have been adjusted.

(1) Set the contrast VR to max & Bright VR to central (click) position.

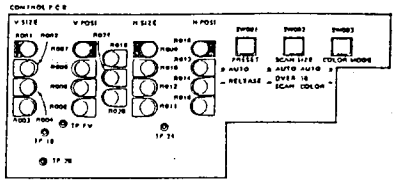
(2) Display cross-hatch pattern. (f_H = 30.5 kHz)

(3) Adjust the H SIZE VR(A: R4009) until the horizontal width becomes 252 mm ±4 mm.

(4) Adjust the H POSI VR(A: R4015) until the pattern becomes horizontally centered in the screen.

(5) Adjust the V SIZE VR(A: R4001) until the vertical height becomes 185 mm ±4 mm.

(6) Adjust the V POSI VR(A: R4007) until the pattern becomes vertically centered in the screen.



■ Adjustment of H Width, H Posi, V Height and V Posi (at TAXAN 555) [II]

* Confirm that the H HOLD, HV, V HEIGHT, V LIN, H CENT, V CENT, SIZE and the POSI VR SELECT have been adjusted.

(1) Set the CONTRAST VR to max, and BRIGHT VR to the center (click) position.

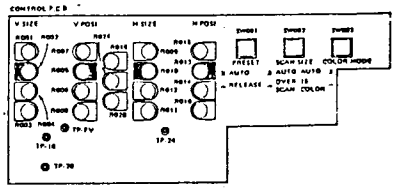
(2) Display cross-hatch pattern. (f_H = 25.85 kHz)

(3) Adjust the H SIZE VR(B R4010) until the horizontal width becomes 252 mm ±4 mm.

(4) Adjust the H POSI VR(B R4013) until the pattern becomes horizontally centered in the screen.

(5) Adjust the V SIZE VR(B R4002) until the vertical height becomes 185 mm ±4 mm.

(6) Adjust the V POSI VR(B R4005) until the pattern becomes vertically centered in the screen.



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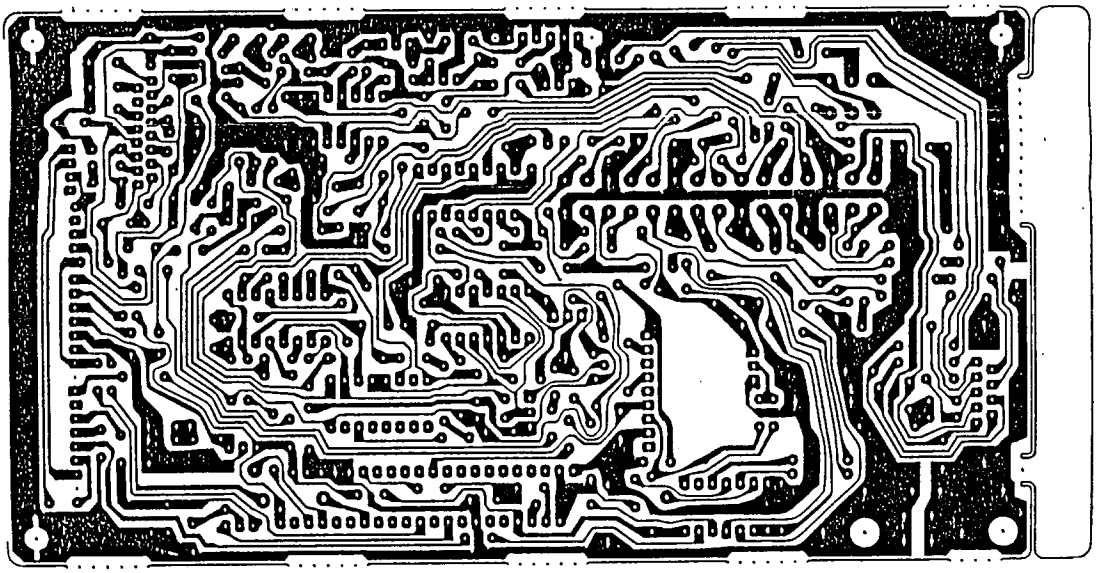

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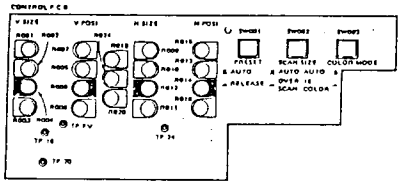
■ Adjustment of H Width, H Posi, V Height and V Posi (at CGA) (III)

* Confirm that the H HOLD, HV, V HEIGHT, V LIN, H CENT, V CENT, SIZE and the POSI VR SELECT have been adjusted.

(1) Set the CONTRAST VR to max, and BRIGHT VR to the center (click) position.
(2) Display cross-hatch pattern. (f_H = 15.75 kHz)
(3) Adjust the H SIZE VR(C R4012) until the horizontal width becomes 252 mm ±4 mm.
(4) Adjust the H POSI VR(C R4014) until the pattern becomes horizontally centered in the screen.
(5) Adjust the V SIZE VR(C R4004) until the vertical height becomes 185 mm ±4 mm.
(6) Adjust the V POSI VR(C R4006) until the pattern becomes vertically centered in the screen.



■ Adjustment of H Width, H Posi, V Height and V Posi (at EGA) (IV)

* Confirm that the H HOLD, HV, V HEIGHT, V LIN, H CENT, V CENT, SIZE and the POSI VR SELECT have been adjusted.

(1) Set the CONTRAST VR to max and BRIGHT VR to the center (click) position.
(2) Display cross-hatch pattern. (f_H = 21.85 kHz)
(3) Adjust the H SIZE VR(D R4011) until the horizontal width becomes 252 mm ±4 mm.
(4) Adjust the H POSI VR(D R4016) until the pattern becomes horizontally centered in the screen.
(5) Adjust the V SIZE VR(D R4003) until the vertical height becomes 185 mm ±4 mm.
(6) Adjust the V POSI VR(D R4008) until the pattern becomes vertically centered in the screen.

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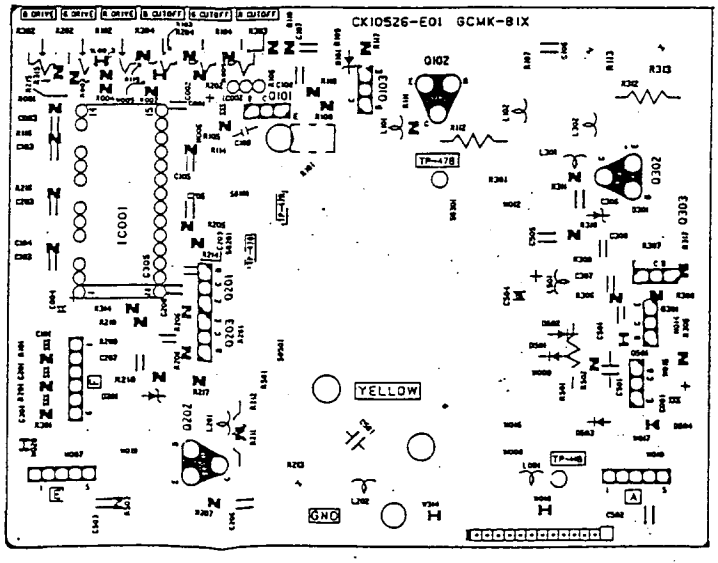

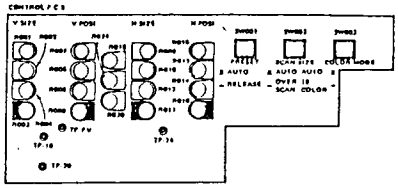

■ Adjustment of Side Pin Cushion

* Confirm that the V HEIGHT, V LIN, and the UNDER SCAN V HEIGHT have been adjusted.

(1) Display cross-hatch pattern. (f_H = 21.85 kHz, f_V = 60 Hz)
(2) Adjust the SPCC VR(R1446) until the side pin cushion to its optimum.
(3) Confirm that the side pin cushion is proper by changing f_V to 50 Hz and 90 Hz. Perform the procedure describe in (3) above if the side pin cushion in malfunctioning at 50 Hz or 90 Hz.
(4) Confirm that the side pin cushion at cross-hatch pattern of f_V = 15.75 kHz.

■ White Balance Adjustment

Cut-off VR Adjustment

(1) No Video apply.
(2) Turn the CUT OFF VRs(R3104, R3204, R3304) and the SCREEN VR fully counterclockwise.
(3) Set the SERVICE SW(SW1401) to the "S" position.
(4) Set the BRIGHTNESS VR to the center position (click).
(5) Connect the oscilloscope to TP-47R, adjust the subbright VR(R1007) until no pulse is generated.
(6) Connect the oscilloscope to TP-47R, TP-47G and TP-47B and adjust the CUT OFF VR so that each output becomes 110 V.
(7) Turn the SCREEN VR clockwise to a position where a single line is faintly displayed.
(8) Not using the CUT OFF VR which produced a color first, but using the other two CUT OFF VRs, adjust the colors so that the three colors emit a little light at the same level.
(9) Set the SERVICE SW to the "N" position.

Drive VR Adjustment

(10) Set the CONTRAST VR(R4081) to its maximum position.
(11) Display cross-hatch pattern. (input the analog signal)

(12) Connect the oscilloscope to TP-47R and adjust the RED DRIVE VR(R3102) so that the drive voltage from the black to white levels becomes 40 Vp-p ±2 Vp-p.

* Use vertical cycle of oscilloscope.

(13) Display white field pattern. (Signal with which the beam limitter is not applied)
(14) Adjust the DRIVE VRs for G and B (excluding that for R) until the raster becomes white.

* In case of used color analyzer. (ex. MINOLTA TV-COLOR ANALYZER II IV-2140)
(13) Set the color analyzer.
(14) Adjust the DRIVE VRs for G and B (excluding that for R) until the x = 0.281 Y = 0.311. (CIE 1931)

(15) When the contrast is adjusted to its maximum, confirm that the brightness is more than 45 ft-L.
(16) Input the TTL signal. (Confirm that the I-signal is input.)
(17) TTL/ANALOG switch(SW6109) to TTL side.
(18) Display white field pattern. (Signal with which the beam limitter is not applied)
(19) Adjust the TTL R LEVEL VR(R6109) and TTL B LEVEL VR(R6309) until the raster becomes white.
(20) Confirm that the white balance is the designated color temperature.

■ Confirmation of Action of Synchronizing Signals

(1) Confirm of TTL input position H SYNC is connected to pin (8) of the 9 pin connector and V SYNC is connected to pin (9) of the same connector. Confirm that irrespective

ADJUSTMENT OF MODULE

1. Adjustment of MA-A001A Module

(1) Input the signal of f_H = 15.75 kHz.

(2) Adjust the pulse width of the output wave form of pin (18) to 40 ±1 usec by adjusting VR(R25) in the module.

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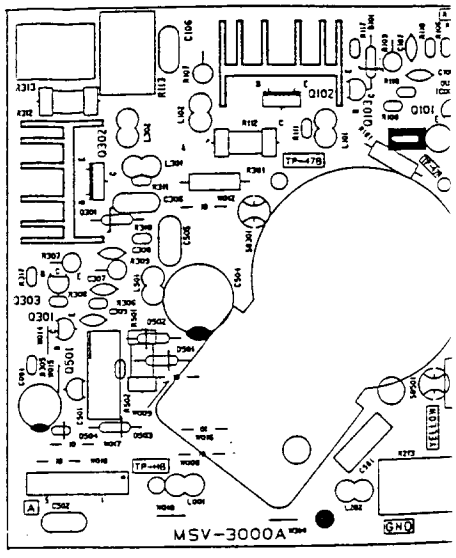

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of the polarity of each synchronizing signal, positive or negative, the monitor is correctly synchronized with respect to (HS) 15.75 kHz, 21.85 kHz and (VS) 50 Hz, 60 Hz, 90 Hz.

(2) Confirm of ANALOG input position
Input the composite synchronizing signal of HS and VS to pin (4) of the 9 pin connector and confirm that the monitor is correctly synchronized with respect to (HS) 30.5 kHz of negative polarity.

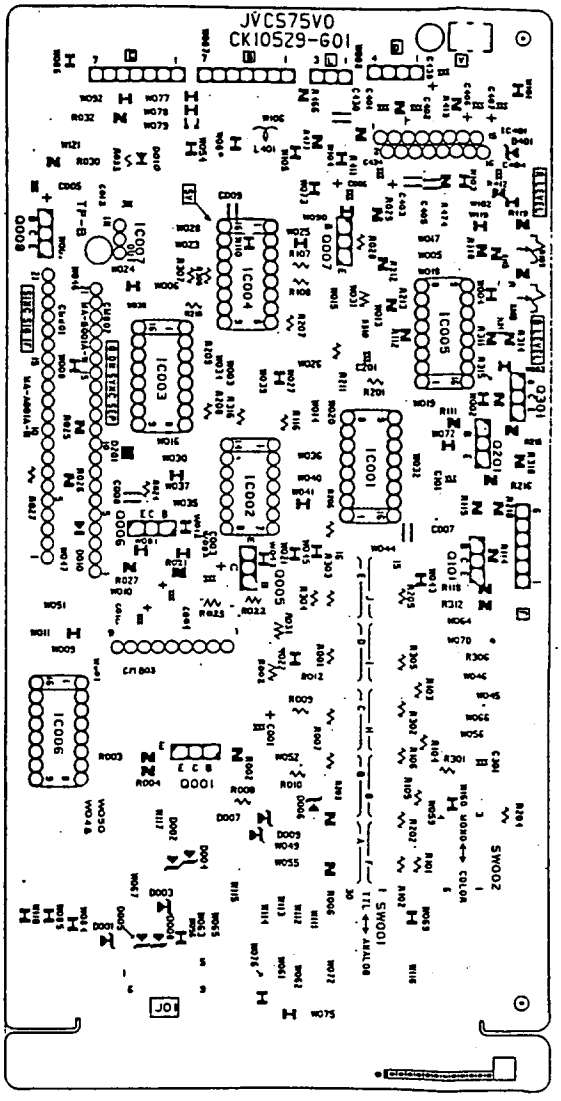
■ Confirm of Input of TTL Signals

(1) Confirm of display of 16 colors
1) Confirm that COLOR MODE SW is at the AUTO position(OFF condition).
2) Input R, G, B, I and +VD and confirm that 16 colors can be displayed by a combination of these signals.

(2) Confirm of display of 64 colors
1) Confirm that COLOR MODE SW is at the AUTO position(OFF condition).
2) Input R, G, B, R', G', B' and -VD and confirm that 64 colors can be a displayed by a combination of these signals.

(3) Confirm that when COLOR MODE SW is made to 16 COLORS(ON condition) with the same signals as in item (2) the display is changed from 64 color display to 16 color display.

Note: Confirmation of 8 color display is done concurrently with that of 16 color display. In the case of 8 color display, I signal is not included, so that the brightness is 60 to 70% of that of 16 color display.



DULE
-A001A Module
of f_H = 15.75 kHz.

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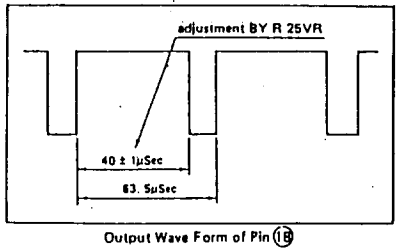

Output Wave Form of Pin (18)

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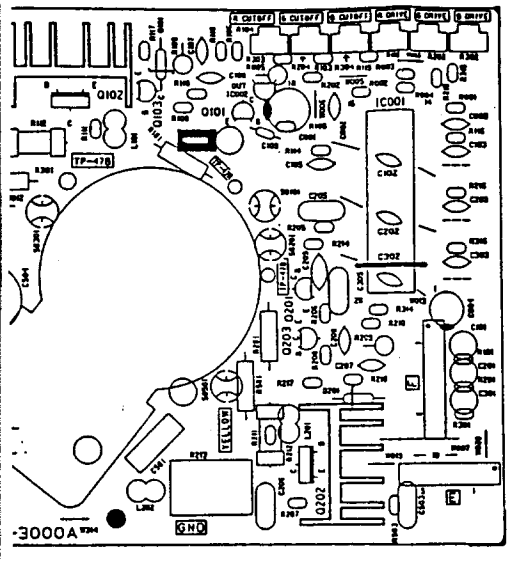

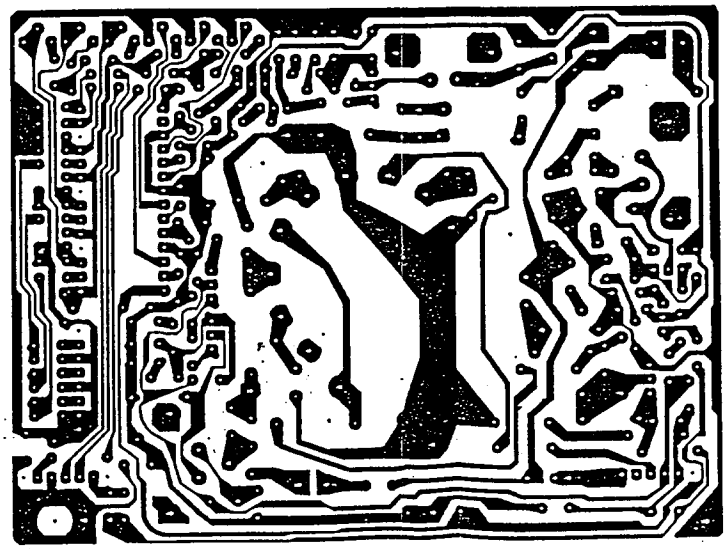

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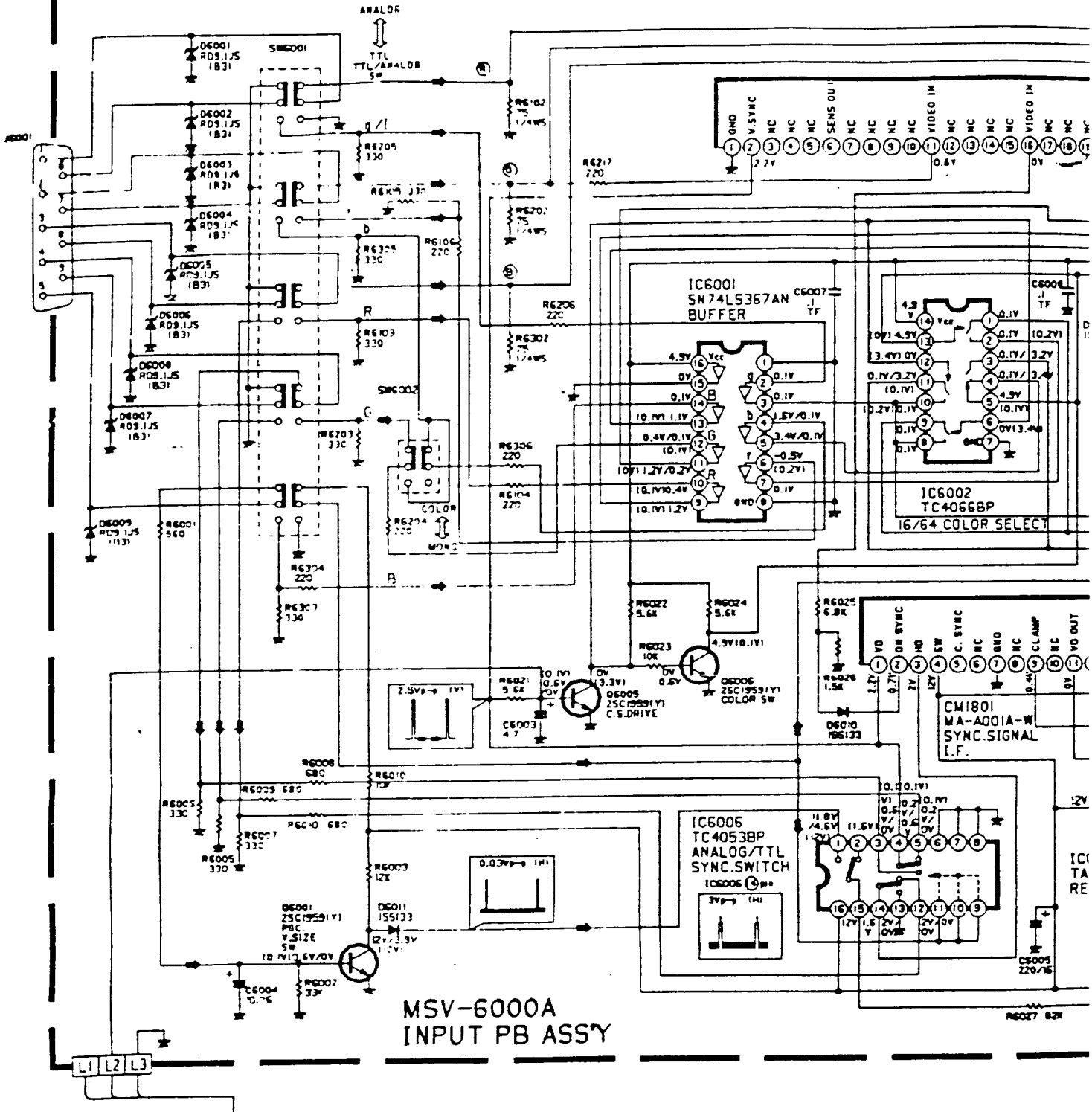
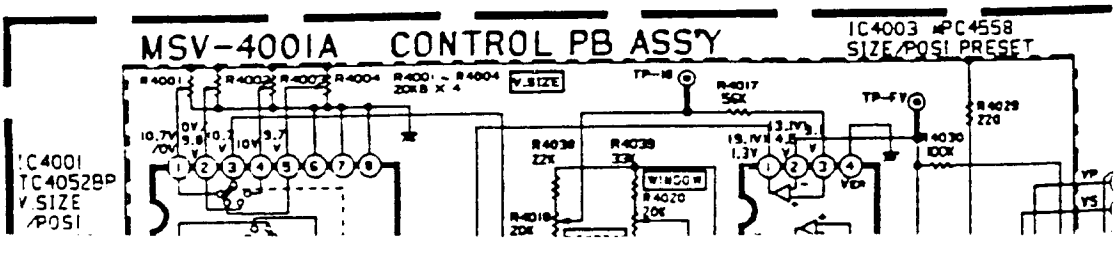


	ANALOG	TTL
1	R	GND
2	G	r
3	B	R
4	+H/V	G
5	V.SIZE	B
6	R.GND	g/I
7	B.GND	b
8	B.GND	H.SYNC
9	GND	V.SYNC



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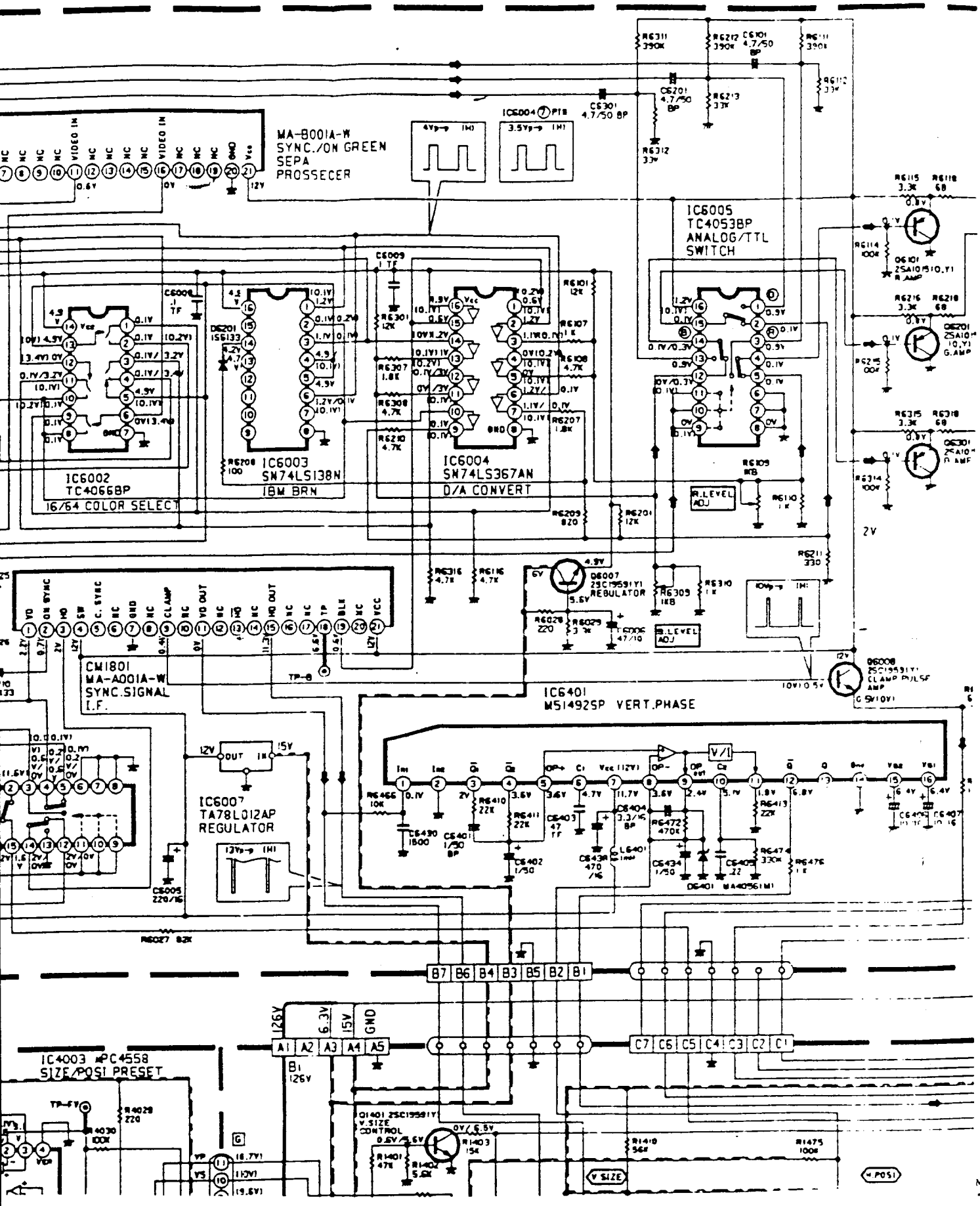
MSV-6000A
MV-775EV
SV-775E
SV-775LR



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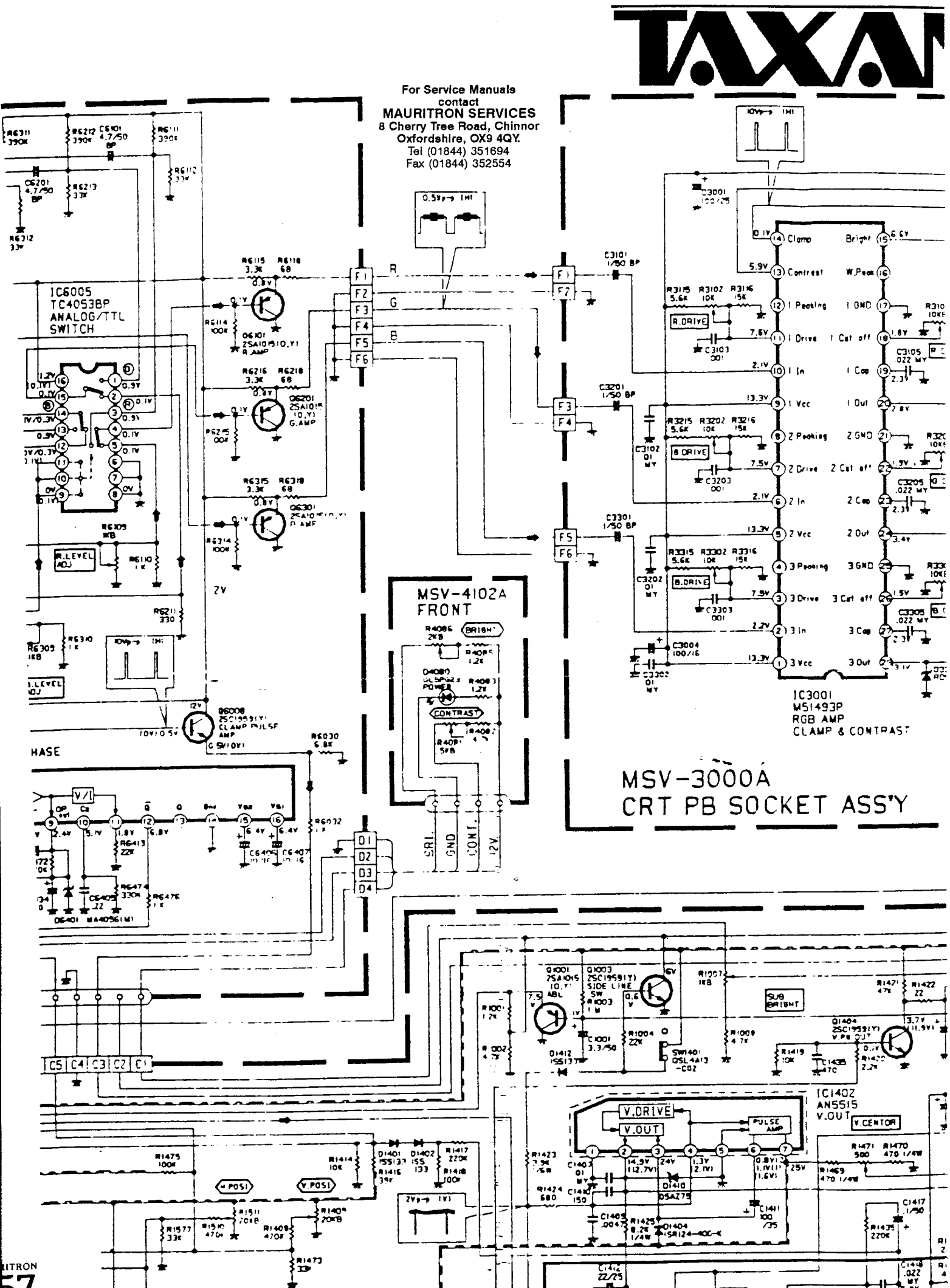
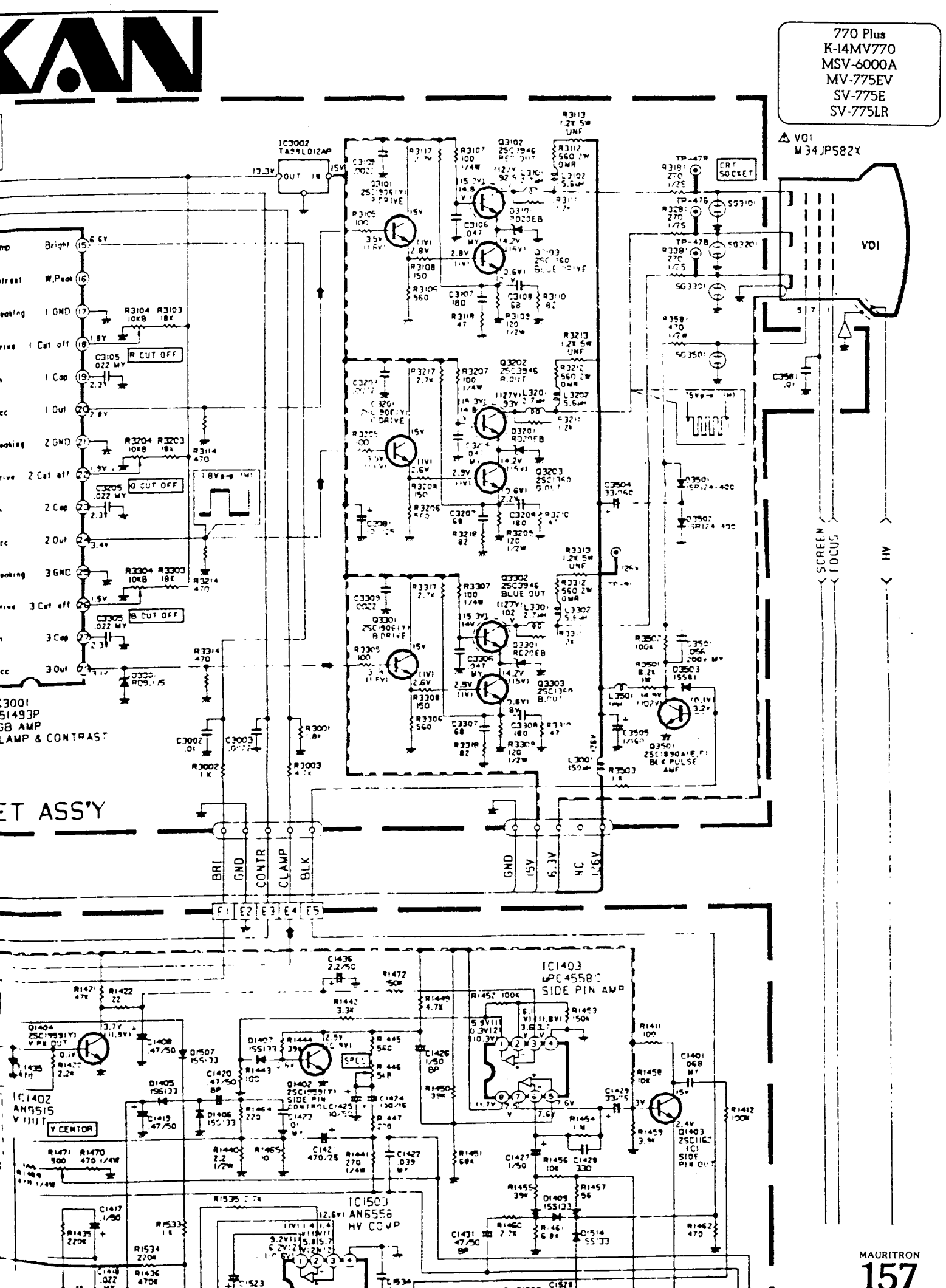
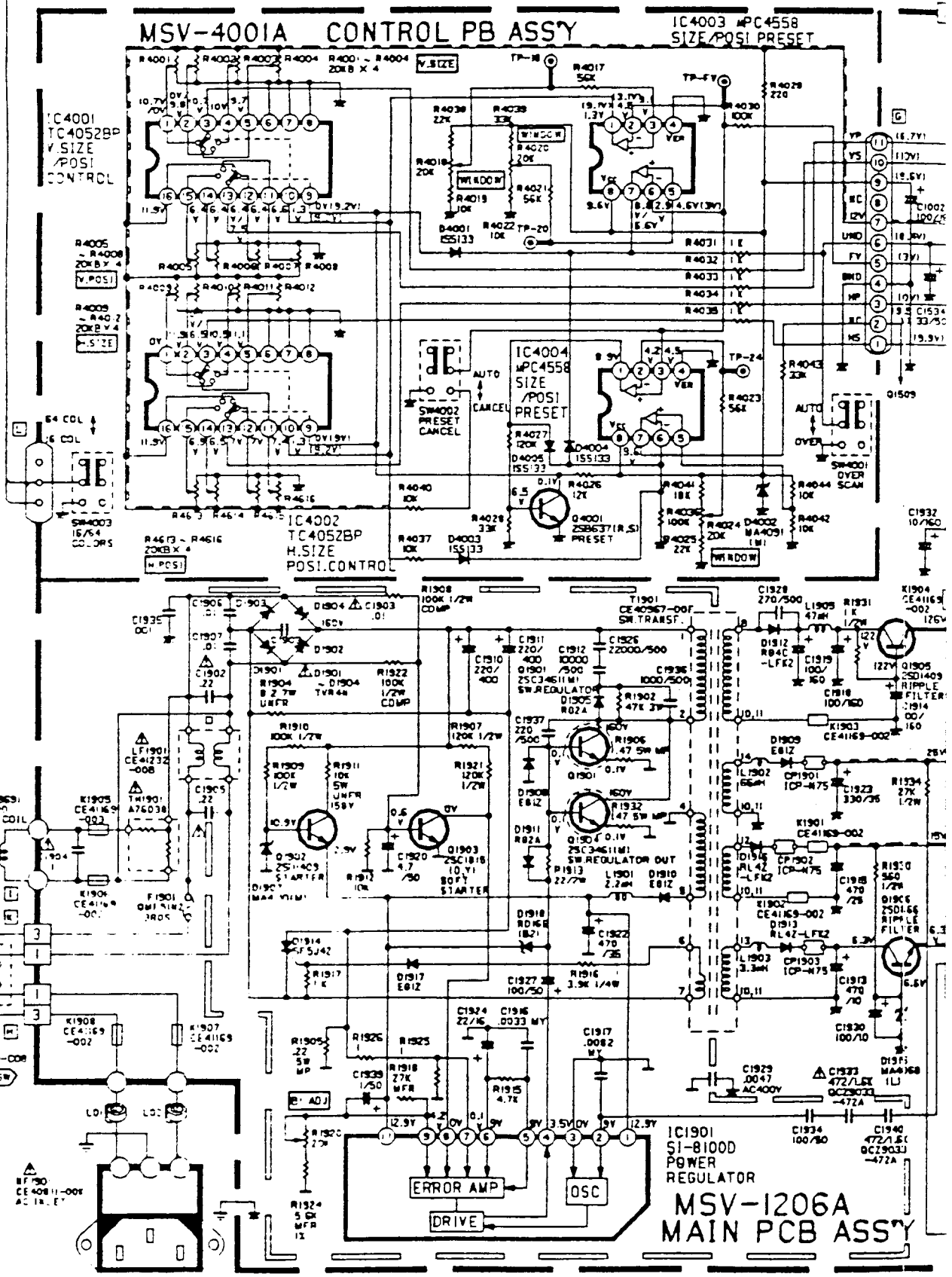
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554




IC3002
TA8L012AP
R3113
1.2K 5W
UNF
Q3102
2SC3946
R-OUT
R3107
100
1/4W
R3112
560 2W
OMR
L3102
5.6μH
TP-R7R
CRT
SOCKET
SG3101
SG3201
SG3301
SG3501
VD1
R3213
1.2K 5W
UNF
Q3202
2SC3946
R-OUT
R3207
100
1/4W
R3212
560 2W
OMR
L3202
5.6μH
Q3302
2SC3946
BLUE OUT
R3307
100
1/4W
R3312
560 2W
OMR
L3302
5.6μH
R3313
1.2K 5W
UNF
R3503
1K
C3504
33/160
SCREEN
FOCUS
HV
Bright
W.Peak
1 GND
1 Cut off
1 Cap
1 Out
2 GND
2 Cut off
2 Cap
2 Out
3 GND
3 Cut off
3 Cap
3 Out
R CUT OFF
G CUT OFF
B CUT OFF
C3001
51493P
GB AMP
LAMP & CONTRAST
ET ASS'Y
BRI
GND
CONTR
CLAMP
BLK
GND
15V
6.3V
NC
-16V
E1
E2
E3
E4
E5
IC1402
AN5515
V OUT
V CENTOR
IC1403
μPC4558C
SIDE PIN AMP
IC1503
AN6556
HV COMP
MAURITRON
157

TAXAN

	ANALOG	TTL
1	R	GND
2	G	r'
3	B	R
4	-H/V	G
5	V.SIZE	B
6	R.GND	g/I
7	B.GND	b'
8	B.GND	H.SYNC
9	GND	V.SYNC



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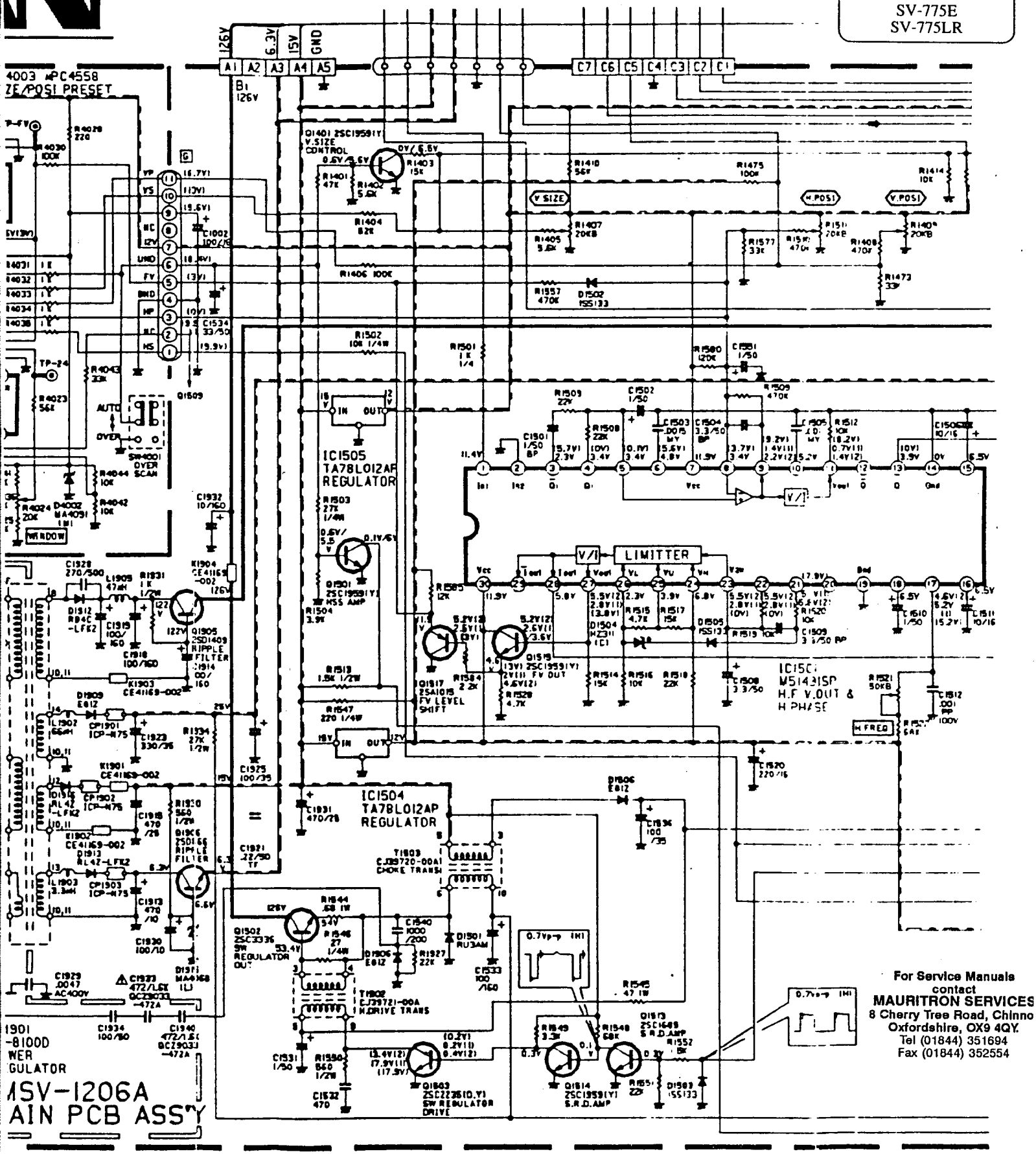
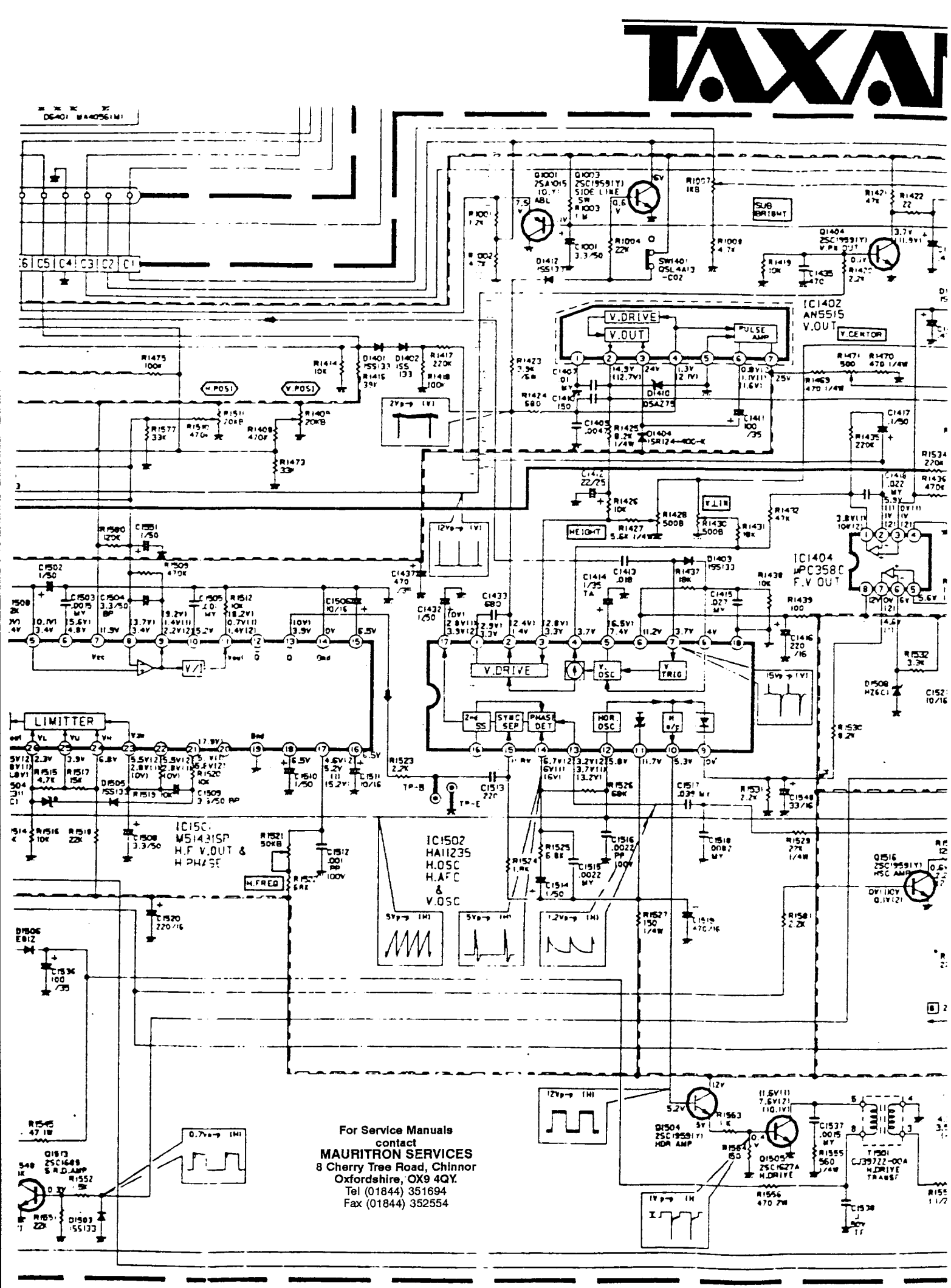
※REMARK

1. Waveform voltage was measured by AC100V-AC240V (f_H = 15.75 KHz)
2. Voltage in Schematic Diagram was measured by RGB Analog Input Signal
3. Voltage in Schematic Diagram
   (1) f_H = 15.75 KHz (2): f_H = 31.5KHz ( ) = No Signal Input

770 Plus
K-14MV770
MSV-6000A
MV-775EV
SV-775E
SV-775LR



15.75 KHz)
g Input Signal



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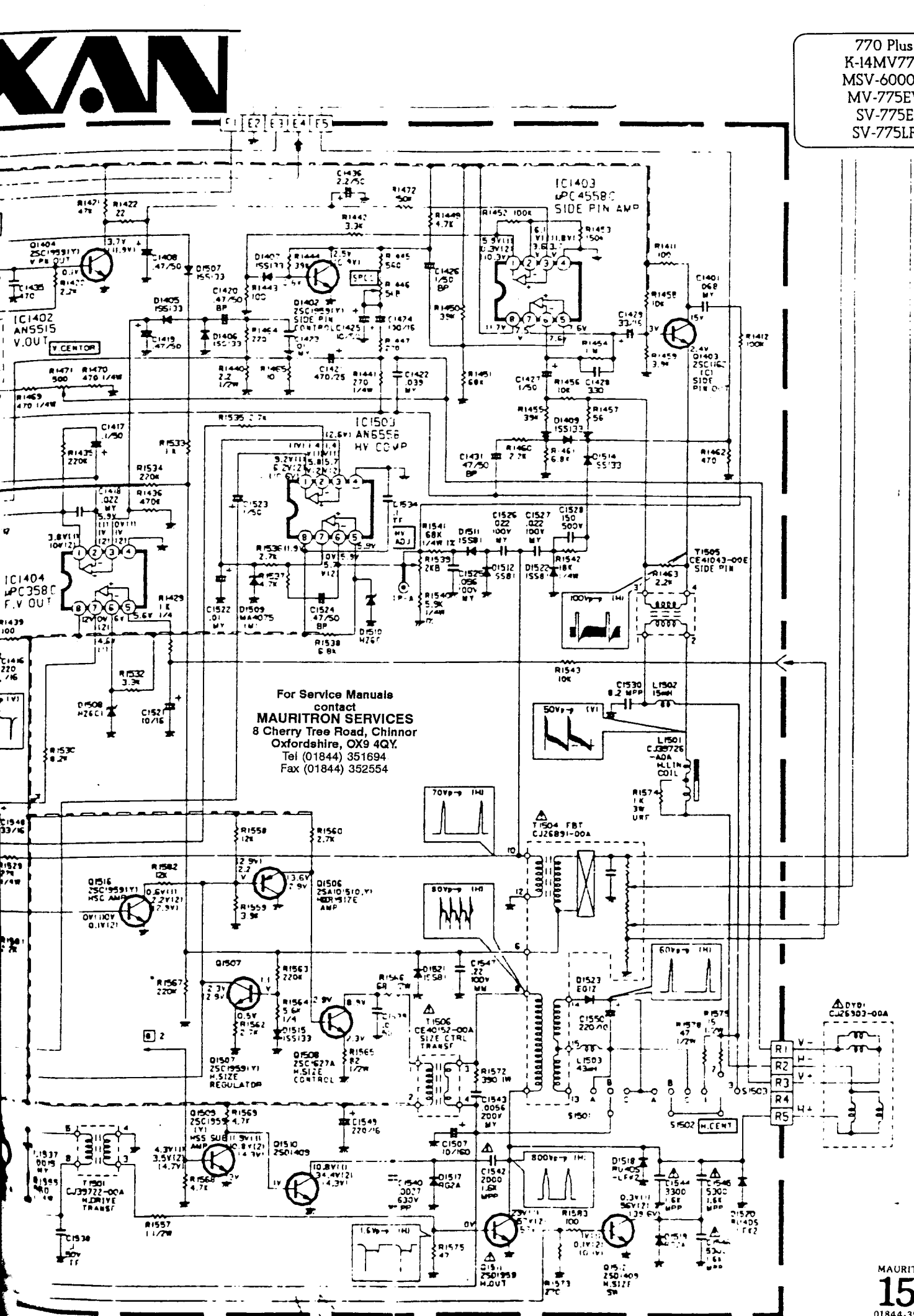
IC1403
μPC4558C
SIDE PIN AMP
IC1402
AN5515
V.OUT
V CENTOR
IC1503
AN6556
HV COMP
IC1404
μPC3580
F.V OUT
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Tel (01844) 351694
Fax (01844) 352554
T1504 FBT
CJ26891-00A
T1505
CE41043-00E
SIDE PIN
T1506
CE40152-00A
SIZE CTRL
TRANSF
T1501
CJ39722-00A
H.DRIVE
TRANSF
L1501
CJ38726
-ADA
H.LIN
COIL
L1502
L1503
S1501
S1502
H.CENT
S1503
DY01
CJ26303-00A
R1
R2
R3
R4
R5
V-
H-
V+
H+