

# COMMERCIAL MARKETING

ELECTROHOME ELECTRONICS

54-7287-01

THIS INFORMATION IS UP TO DATE AS OF DECEMBER 1979

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## **INSTRUCTION AND SERVICE MANUAL**

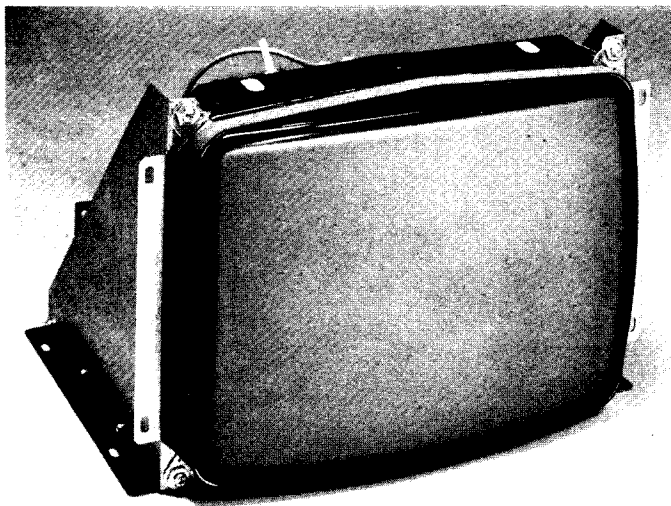
### **G07-901 R.G.B. COLOUR MONITOR**

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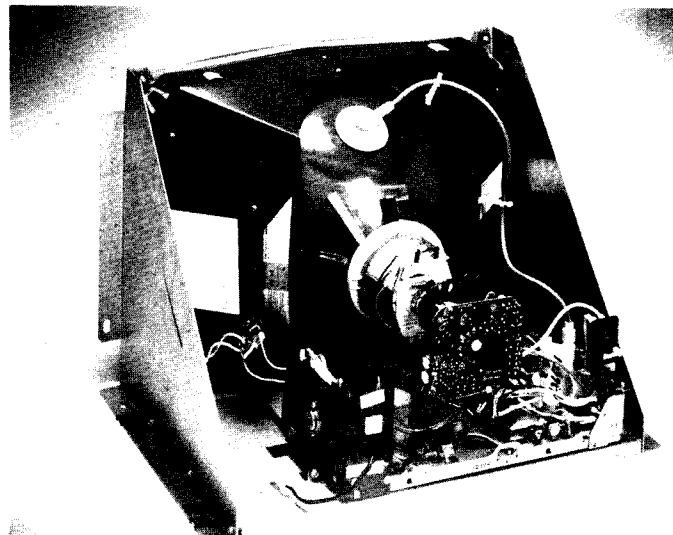
ELECTROHOME ELECTRONICS  
A DIVISION OF CENTRAL ONTARIO TELEVISION LIMITED  
A WHOLLY OWNED SUBSIDIARY OF ELECTROHOME LIMITED, KITCHENER, ONTARIO, CANADA N2G 4J6

# TABLE OF CONTENTS

| Description                                   | Page |
|---|------|
| Service Data Reference .....                  | 3    |
| Warning .....                                 | 3    |
| Operating Instructions .....                  | 4    |
| Performance and Operating Data .....          | 4    |
| Supply Requirement .....                      | 4    |
| High Voltage (EHT) .....                      | 4    |
| Input Signal and Pin Assignments .....        | 4    |
| Service Set-Up Controls .....                 | 4    |
| Product Safety and Servicing Guidelines ..... | 5    |
| Service Set-Up Procedure .....                | 6    |
| Purity .....                                  | 6    |
| Static and Dynamic Convergence .....          | 7    |
| White Balance .....                           | 7    |
| Power Supply .....                            | 8    |
| Focus .....                                   | 8    |
| X-Ray Emission Check .....                    | 8    |
| Colour Service Generator .....                | 8    |
| Interface PCB Component Layout .....          | 9    |
| Main PCB Component Layout .....               | 9    |
| C.R.T. PCB Component Layout .....             | 10   |
| Schematic .....                               | 11   |
| Replacement Parts .....                       | 12   |
| Main Assembly Parts .....                     | 12   |
| Main PCB Assembly .....                       | 12   |
| CRT Socket PCB Assembly .....                 | 14   |
| Video Interface PCB Assembly .....            | 14   |
| Purity Shield Assembly .....                  | 15   |



FRONT VIEW



REAR VIEW

### Service Data Reference

When writing for Service Information, please quote chassis type number and model code. See chassis type number and model code located on the right hand side panel. This information is correct as of November 1979.

**File Supplementary Model Data with this G07 Manual.**

### Warnings

#### 1. Power Up Warning

Caution: If the monitor is to be powered up outside of the games console, an isolation transformer must be used for the AC power source.

#### 2. X-Radiation

This chassis has been designed for minimal x-radiation hazard. However, to avoid possible exposure to soft x-radiation it is **IMPERATIVE** that the EHT circuitry **IS NOT** modified.

#### 3. High Voltage

The colour monitor contains **HIGH VOLTAGES** derived from power supplies capable of delivering **LETHAL** quantities of energy. To avoid **DANGER TO LIFE**, do not attempt to service the chassis until all precautions necessary for working on **HIGH VOLTAGE** equipment have been observed.

#### 4. CRT Handling

The picture tube encloses a high vacuum and due to the large surface area is subject to extreme force. Care must be taken not to bump or scratch the picture tube as this may cause the tube to implode resulting in personal injury and property damage. Shatter-proof goggles must be worn by individuals while handling the CRT or installing it in the monitor. Do not handle the CRT by the neck.

#### 5. To prevent fire or shock hazard **DO NOT EXPOSE THIS MONITOR TO RAIN OR MOISTURE.**

## Operating Instructions

1. Apply a suitable power source to the monitor through an isolation transformer by means of P901.
2. Apply a suitable signal source to the monitor PCB by means of J201.
3. Set up Controls  
All controls are preset at the factory, but may be adjusted to suit program material. Refer to pages 6 and 8 (WHITE BALANCE AND GRAY SCALE TRACKING)

## Performance and Operating Data

### 1.0 Supply

Voltage 108 VAC - 132 VAC

Frequency 44 Hz - 63 Hz

Note: Apply supply voltage through an isolation transformer with 1 Amp. capability.

### 2.0 High Voltage (EHT)

For 19"V models 22.5KV - 25.5 KV

Note: Condition for above  $I(\text{beam}) = 0$   
 $B_1 = 120V$

### 3.0 Input Signal and Pin Assignments for J201

| Pin No. | Description           | Impedance | Signal Range |
|---------|-----------------------|-----------|--------------|
| 1       | Red input             | 5K nom.   | 0 to 4V      |
| 2       | Green input           | 5K nom.   | 0 to 4V      |
| 3       | Blue input            | 5K nom.   | 0 to 4V      |
| 4       | Ground                |           |              |
| 5       | Vertical sync pulse   | 35K nom.  | +2V to +4V   |
| 6       | Horizontal sync pulse | 35K nom.  | +2V to +4V   |

### 4. Service Set-Up Controls

- 4.1 B1 adjustment, R909 - Set for  $B_1 = 120V$  DC
- 4.2 Vertical hold control, R302
- 4.3 Horizontal hold control, R504
- 4.4 Vertical size control, R408
- 4.5 Vertical centering tabs, 3 positions
- 4.6 CRT cut off controls (See fig. 3)
  - Red cut off, R114
  - Green cut off, R115
  - Blue cut off, R113
- 4.7 Screen control (G2) R124 (See fig. 3)
- 4.8 Video drive controls (See fig. 3)
  - Red drive, R105
  - Green drive, R106
- 4.9 Horizontal width coil, L503
- 4.10 Focus control, R1

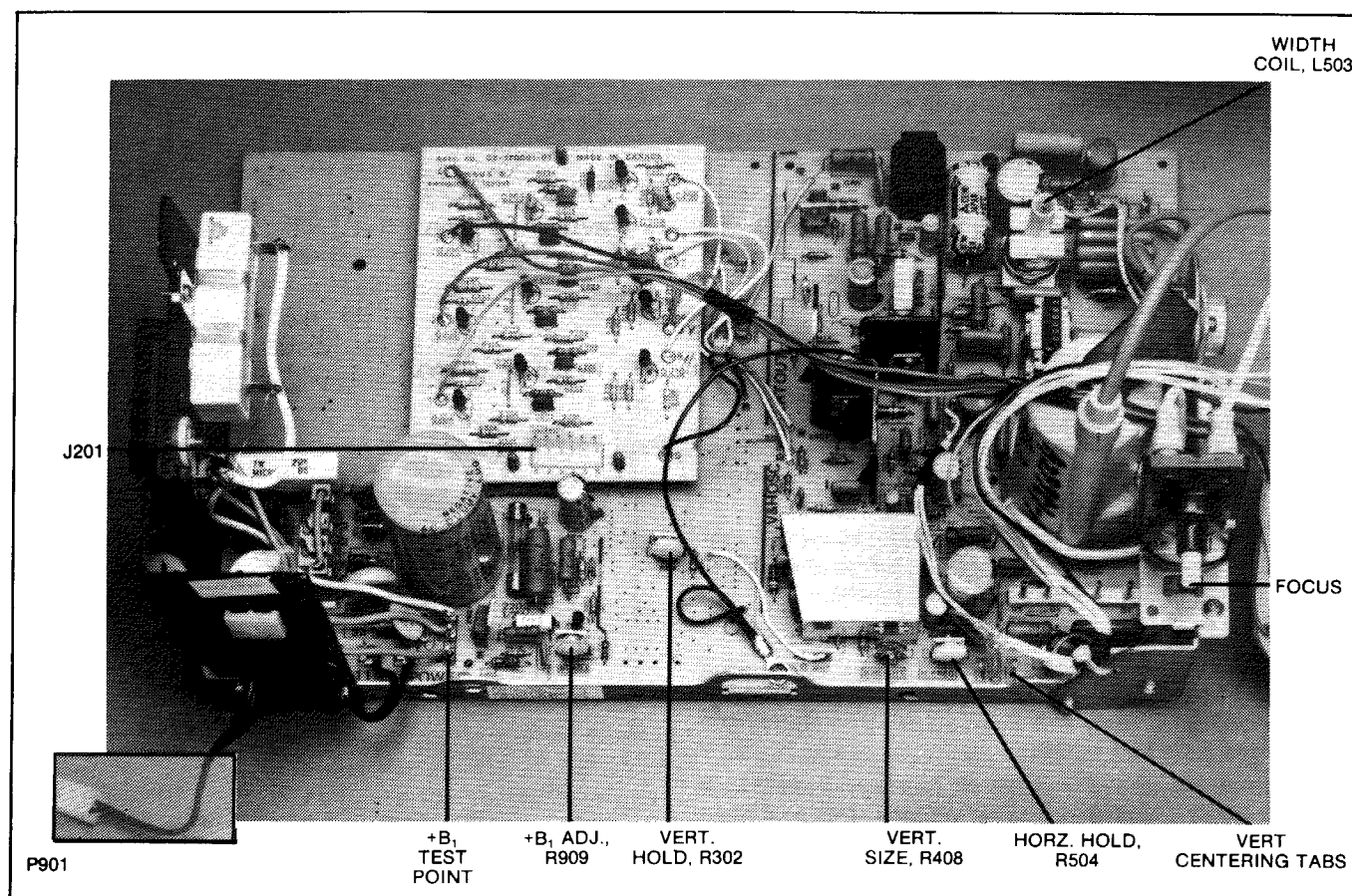


Figure 1

## Product Safety and Servicing Guidelines

### Safety Checks

Subject: Fire and Shock Hazard

1. No modification of any circuit should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following safety checks and service guidelines. To do otherwise increases the risk of potential hazards and injury to the user.
2. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuitry area. Where a short circuit has occurred, replace those components that indicate evidence of overheating. Always use the manufacturer's specified replacement component. See parts list in the back of this manual.
3. Periodically check the high voltage for proper value using a meter of known accuracy and calibration.
4. Check for frayed insulation on wires.

### Notes

## Service Set-Up Procedure

**NOTE:** All monitors are equipped with automatic degaussing coils which effectively demagnetize the picture tube each time the monitor is turned on. The degaussing coils will operate any time the set is turned on after having been off for at least five minutes.

The degaussing effect is confined to the picture tube since the coils are mounted on the ferrous tube shield. Should any part of the chassis or cabinet become magnetized, it will be necessary to degauss the affected area by means of a manual degaussing coil. Move the coil slowly around the CRT face area, then slowly withdraw for a distance of six feet before disconnecting the coil from the AC power supply.

Normally little, if any adjustment should be necessary. However, when a picture tube, yoke or similar component is replaced, preliminary static convergence should be done before attempting purity adjustment, and so on.

Set up should be done in a north/south direction. Horizontal and vertical centering taps should be set to the centre position if a major component has been changed.

### 1.0 Purity

- 1.1 Loosen yoke retaining clamp (figure 2), remove adhesive material fixing wedges to CRT. Remove wedges completely and clean off dried adhesive from picture tube and wedges.
- 1.2 A small quantity of "nail polish" has been used to lock the purity convergence rings in place. This seal must be broken with a sharp tipped instrument before any adjustments are attempted. Some models also use a locking ring at either end of the purity and convergence rings. This must be loosened before adjustments are made. It goes without saying that upon completion of all adjustments, the lock must be reset and/or a dab of paint or nail polish must be re-applied to edge of rings to prevent movement.
- 1.3 Connect an appropriate signal source, eg: Electro-home RGB generator producing a white field plus individual red, green and blue fields.
- 1.4 Bring the long and short purity tab protrusions in line with each other to obtain near-zero magnetic field (figure 4) (In some cases bring the flat and indented tabs together to obtain zero field). Protrusions can then be vertical, horizontal or at any convenient angle to start.
- 1.5 Turn off the green and blue fields and adjust setup controls to produce a red field. (See fig. 3)
- 1.6 Pull the deflection yoke back so that a red band appears in the centre of the screen.
- 1.7 Spread the tabs apart as little as necessary and rotate both rings together to center the red band horizontally on the face of the CRT (approximate). (See Fig. 5)
- 1.8 Slide the yoke towards the bell of the picture tube slowly to obtain a uniform red field (pure in color) across the entire tube face. Juggle back and forth slightly as necessary. Lightly tighten yoke retaining clamp.
- 1.9 Momentarily switch on a cross-hatch signal and rotate yoke to level the pattern on the face of CRT.
- 1.10 Return generator to regain red raster.
- 1.11 Turn off red field and check for pure field for each of the green and blue fields. Reposition yoke if necessary to obtain optimum purity on all fields.
- 1.12 Tighten yoke retaining clamp to prevent yoke shift or rotation. (Do not install wedges at this time.)

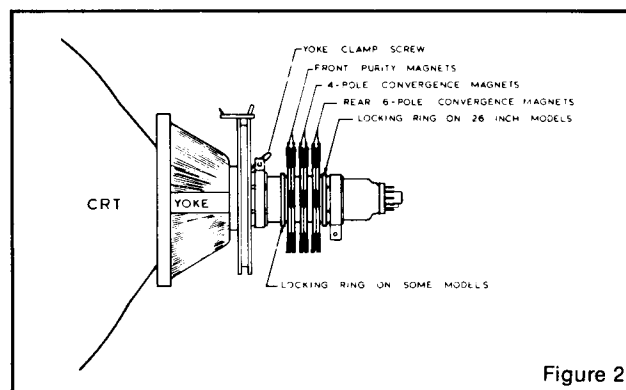


Figure 2

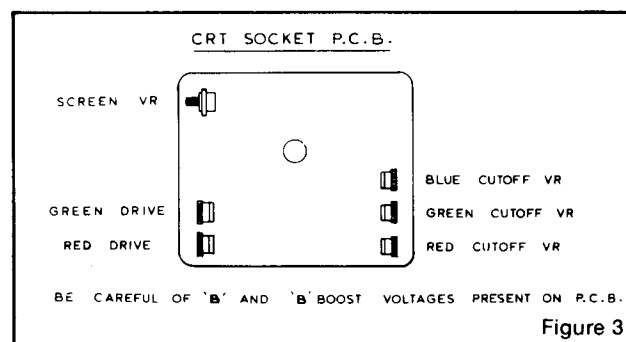


Figure 3

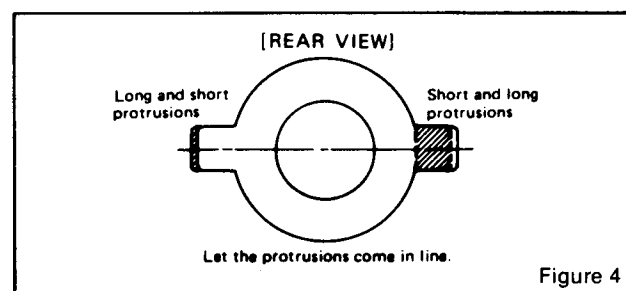


Figure 4

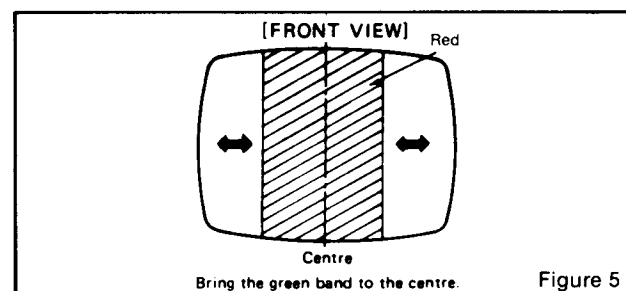


Figure 5

## 2.0 Static and Dynamic Convergence

NOTE: Static convergence is achieved by four magnets located on the neck, nearest the base of the picture tube, Fig. 2. The middle pair of magnetic rings are adjusted to converge the blue and red crosshatch lines. The rear pair of convergence rings (closest to the base of the picture tube) are adjusted to converge the magenta (blue/red) to the green crosshatch lines. Dynamic convergence is achieved by tilting the deflection yoke up-down and left-right.

- 2.1 Ensure that the controls misadjusted during purity setup (screen, cut-off, etc.) are set to give white balance. See 3.0 below.
- 2.2 Switch generator to the crosshatch pattern.
- 2.3 Adjust convergence around the edges of the picture tube by tilting the yoke up-down and left-right, and temporarily install one wedge at the top of the yoke or in a more optimum position. (Figures 8, 9, 10)
- 2.4 Turn off green input and turn on the red and blue input.
- 2.5 Rotate the 4-pole (middle) pair of magnets as a unit to minimize separation of the red and blue crosshatch lines around the center of the screen (Figure 6). Variation of the angle between the tabs adjusts convergence of red and blue. (Tilt yoke as required to converge red and blue at the edges as in 2.3 above.)
- 2.6 Turn on green input to obtain magenta (red/blue) and green crosshatch lines. Rotate the 6-pole (rear) pair of magnets as a unit to minimize separation of the magenta and green lines (figure 7). Vary angle between the two tabs and further rotate as a unit to finalize.
- 2.7 When convergence of 3 colors is optimized (static in center and dynamic around edges) apply stripe of paint or nail polish to convergence magnet rings to prevent movement. If applicable, tighten locking ring carefully.
- 2.8 Remove temporary wedge from yoke. Tilt yoke in up-down and left-right direction for best circumference convergence and install 3 wedges. (It is best to use 3 new wedges since they have adhesive backing. Simply pull off tape, slide wedge in place and press outer flap down firmly. For more permanency apply small quantity of silastic or similar material at junction of wedges and picture tube. Do not disturb while material is setting. (Order wedges by part number 39-1233-01).

## 3.0 White Balance (Grey Scale Tracking)

Refer to figure 3. Do the following in subdued light:

- 3.1 Note this adjustment can be accomplished with no signal connected; eg: input connector open or if a signal generator is connected, switch off all 3 inputs at the generator.
- 3.2 Set red and green drive controls to their mechanical center and turn the common G2 screen control and 3 cut-off controls to minimum (fully counterclockwise).
- 3.3 Slowly turn up G2 screen control until the first faint color appears, then back off to edge of visibility. Do not touch the associated cut-off control - it should stay fully CCW for the remaining set-up.
- 3.4 Slowly turn up the other two color cut-off controls in turn to match the first. This should result in the faintest grey.
- 3.5 Turn on the signal generator with all 3 inputs on. (a crosshatch pattern would be appropriate).

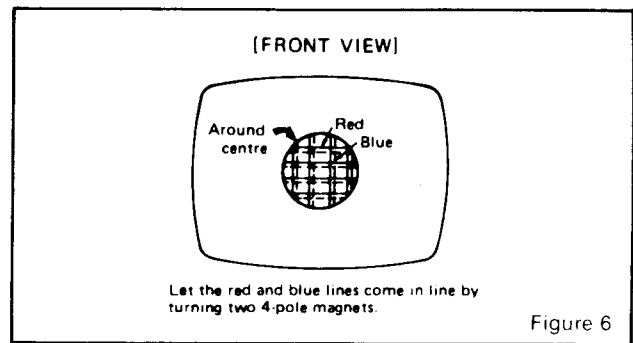


Figure 6

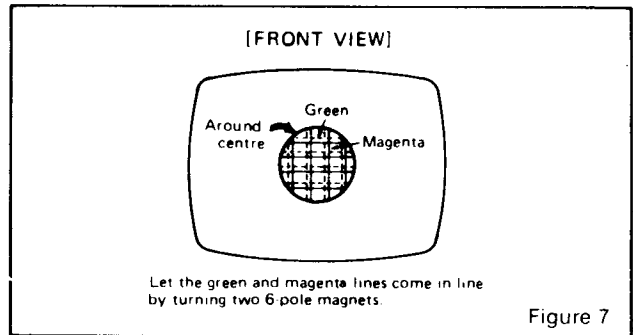


Figure 7

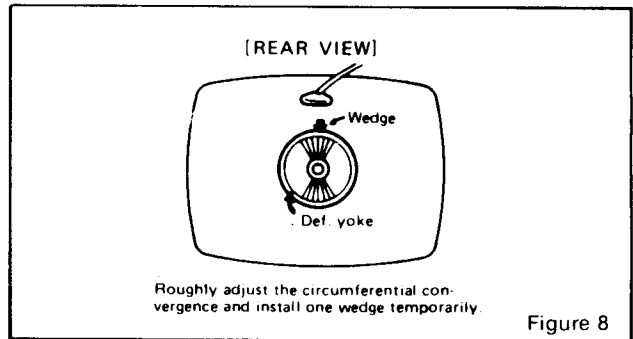


Figure 8

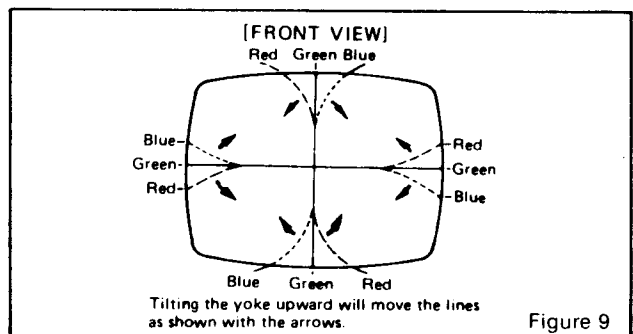


Figure 9

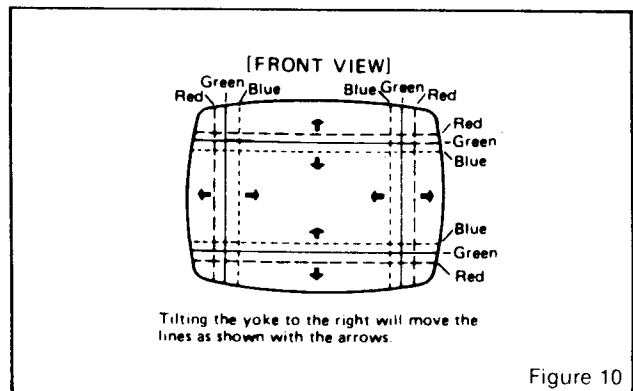


Figure 10

- 3.6 Adjust the red and green drive controls for "neutral white" on high white picture areas. Generally these controls will be left at mech. centre.
- 3.7 Note: When monitor is re-connected with the game the screen control (G2) may require a slight adjustment to obtain proper black level. (the black portion of picture just extinguished).

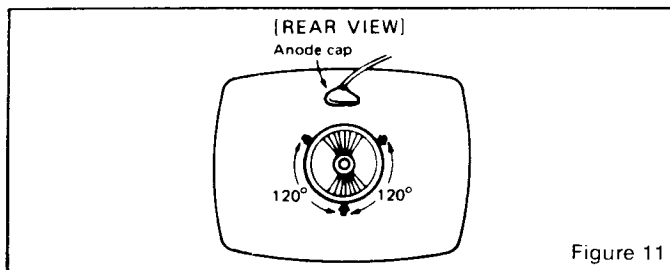


Figure 11

#### 4.0 Power Supply

The regulated +B1 control (R909) has been factory adjusted and normally requires no adjustment. However, if any repairs have been made to the chassis it is recommended that this adjustment should be made.

- a) Allow 5 minutes to warm up.
- b) No signal applied.
- c) Connect an accurate D.C. voltmeter to TP-91 or the emitter of X04 power regulator transistor.
- d) Adjust R909 for 120V. (See fig. 1)

Note:

Should +B1 control be set too high, it may cause possible component damage. Use an accurate D.C. voltmeter to set B1 (B+).

#### 5.0 Focus

Adjust focus control for best overall definition and picture detail an average signal applied. (Highlights should be favoured.)

#### 6.0 Color Service Generator for G07 Monitor

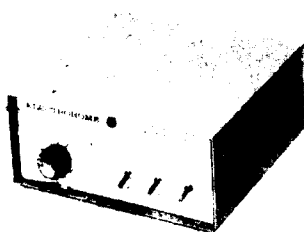
Electrohome has developed a color service generator that is specifically designed for use with the G07 color data monitor. It provides the monitor with both horizontal and vertical sync, as well as the following test patterns:

- 1) Fine cross-hatch pattern
- 2) Broad bar cross-hatch pattern
- 3) Complete field

Three color selection switches, red, green and blue, provide the ability to display the above patterns in the three primary colors as well as the three secondary colors.

This product may be ordered from:

Contracts Marketing  
ELECTROHOME Electronics  
809 Wellington St. North  
Kitchener, Ontario  
Canada N2G 4J6  
Telephone: (519) 744-7111, Ext. 567



#### 7.0 X-Ray Emission Check

- 7.1 Assure the power supply B1 is properly adjusted to 120V DC. See Item 4.0 (page 8)
- 7.2 Assure that the anode voltage does not exceed max. as per Item 2.0 page 4.
- 7.3 Assure that the high voltage hold down circuit is operating correctly. Use the following procedure.
  - a) Increase the B1 greater than 138.5V by shorting collector/emitter of the power regulator, X04.
  - b) Observe that the anode voltage (EHT) goes to 0. If the EHT does not go to 0, a fault must be located and repaired.
  - c) Remove short and set should return to normal operation. (Note, after the short is removed some monitors may not restart. In this case, remove power from monitor momentarily and normal operation will be restored.

Note:

The protector circuit consists of the components shown below in Fig. 13 with a circuit description.

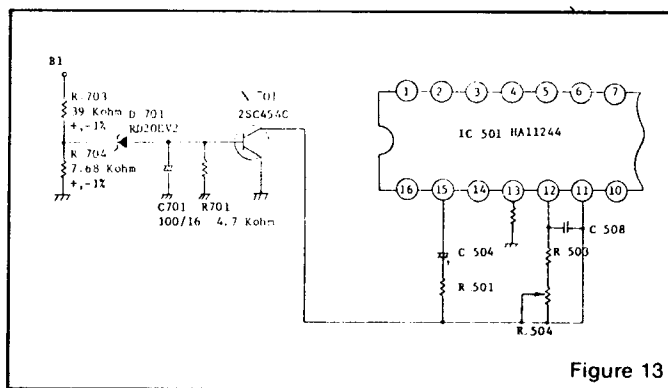


Figure 13

#### 8.0 Circuit Diagram and Description of High Voltage Hold Down or Safety Circuit

##### 8.1 Circuit Diagram of High Voltage Hold Down Circuit.

##### 8.2 Operation of High Voltage Hold Down Circuit.

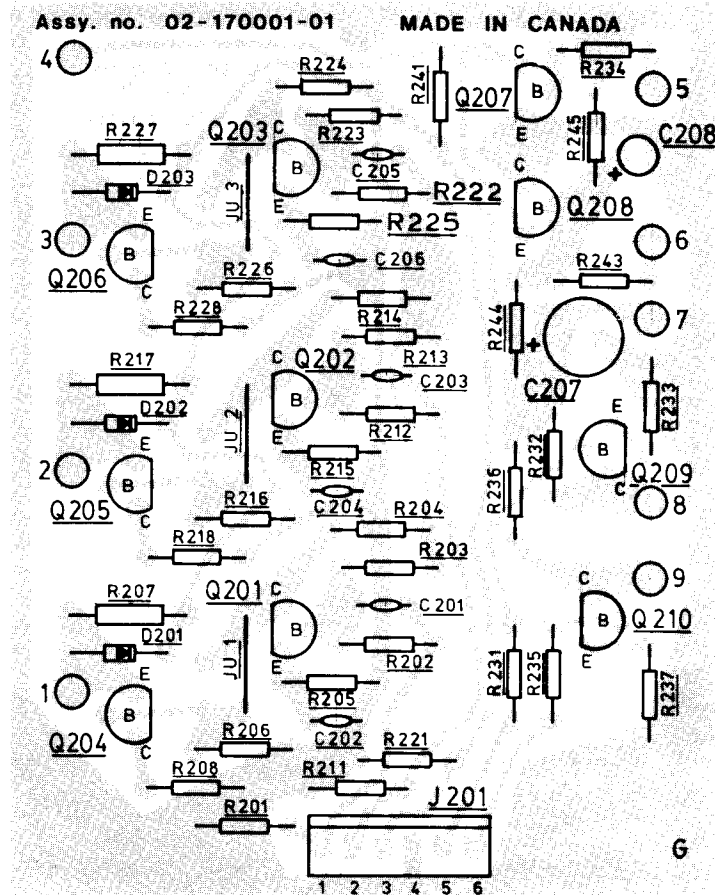
The high voltage hold-down circuit protects the high voltage circuit from dangerous voltage with short circuiting between emitter and collector of power regulating transistor.

The base voltage of X701 is increased when the B1 voltage is increased more than 138.5 V DC.

When the base of X701 is increased, a short is produced by X701 between pin 11 and ground of IC 501, shutting down the horizontal osc. and high voltage.

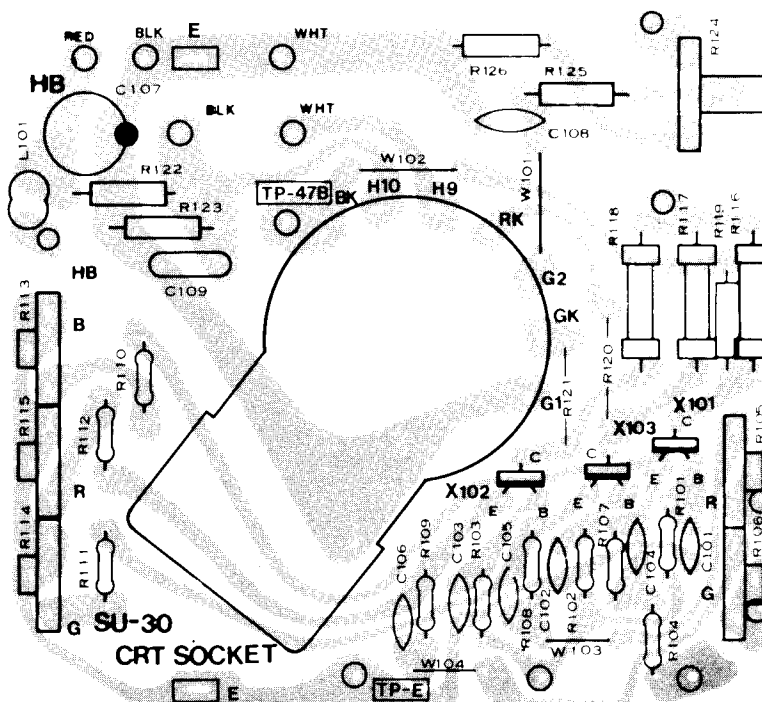


## INTERFACE P.C.B. COMPONENT LAYOUT



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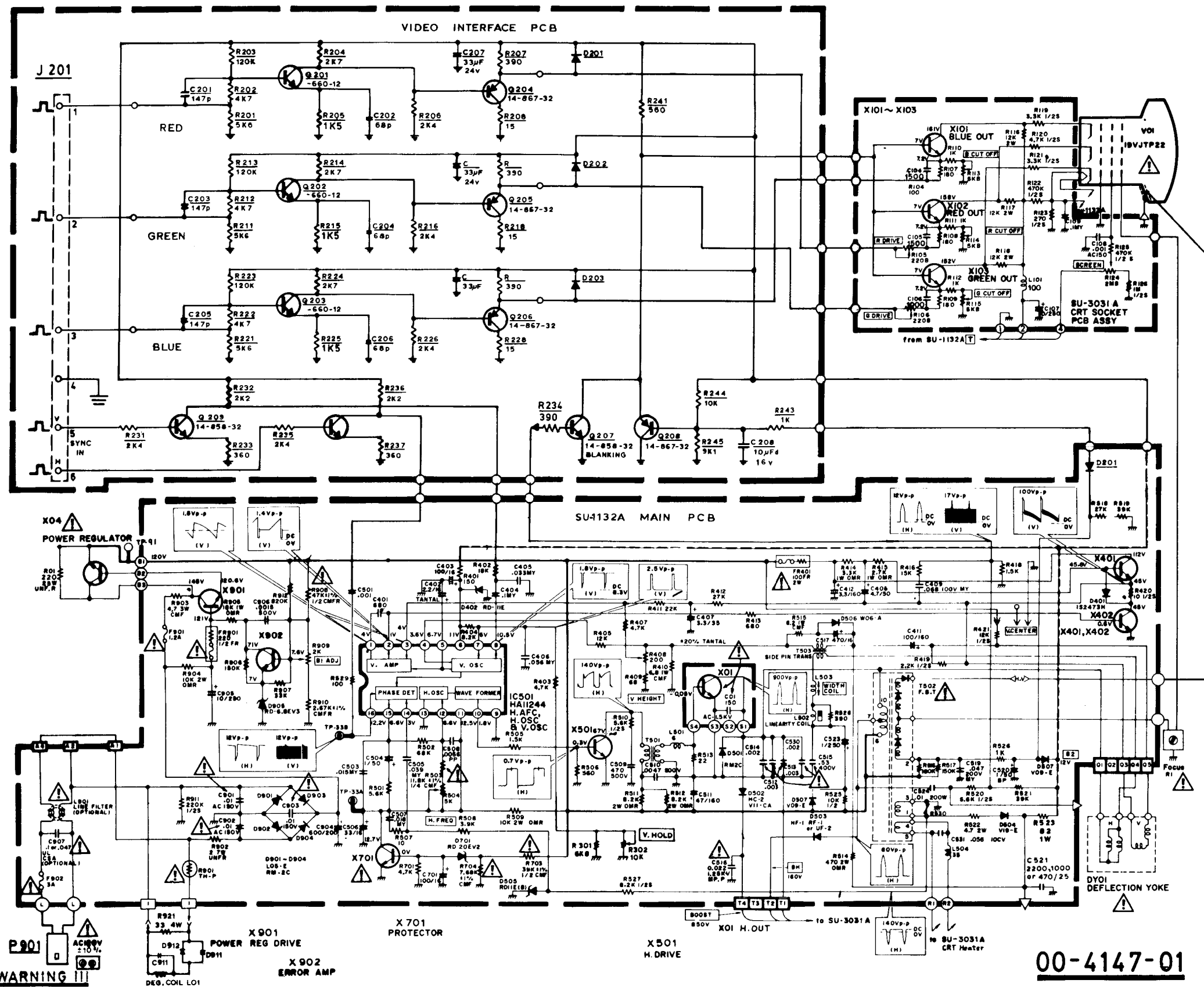
## C.R.T. P.C.B. COMPONENT LAYOUT



00-18025-02

## A19211-A1





# Schematic Notes

Unless otherwise specified

Resistance: ( $\Omega$ ) (K $\rightarrow$ K $\Omega$ , M $\rightarrow$ M $\Omega$ ), 1/4 (W) carbon resistor

Capacitance: 1 or higher  $\rightarrow$  (pF), less than 1  $\rightarrow$  ( $\mu$ F)

working voltage  $\rightarrow$  50 (V)

ceramic capacitor

Inductance: ( $\mu$ H)

Electrolytic Cap: Capacitance Value ( $\mu$ F)/working voltage (V),

NP  $\rightarrow$  non-polar (or bipolar) electrolytic cap.

Refer to the parts list for additional component information.

$\odot$  indicates test point connection

$\text{---}$  indicates chassis ground unless otherwise specified

Hz indicates cycles per second

For **safety** purposes (and continuing reliability)

$\triangle$  replace all components marked with safety symbol with identical type.

NOTE: FR  $\rightarrow$  fusible resistor ( $\text{---}$ )

Parts identification on circuit boards:

e.g. SU1126A (R107 = R1107)

SU3030A (R113 = R3113)

00-4147-01

ISSUE 2

**WARNING !!!**  
ISOLATION TRANSFORMER MUST  
BE USED.  
DO NOT CONNECT DIRECTLY TO  
THE POWER LINE.

# REPLACEMENT PARTS LIST

Components identified by the  $\Delta$  symbol in the PARTS LIST and on the Schematic have special characteristics important to safety.

DO NOT degrade the safety of the set through improper servicing.

## Abbreviations for Resistors and Capacitors

### Resistor

|         |                               |
|---------|-------------------------------|
| C R     | : Carbon Resistor             |
| Comp. R | : Composition Resistor        |
| OM R    | : Oxide Metal Film Resistor   |
| V R     | : Variable Resistor           |
| MF R    | : Metal Film Resistor         |
| CMF R   | : Coating Metal Film Resistor |
| UNF R   | : Nonflammable Resistor       |
| F R     | : Fusible Resistor            |

### Capacitor

|           |  |
|-----------|--|
| C Cap.    | : Ceramic Capacitor                              |
| M Cap.    | : Mylar Capacitor                                |
| E Cap.    | : Electrolytic Capacitor                         |
| BP E Cap. | : Bi-Polar (or Non-Polar) Electrolytic Capacitor |
| MM Cap.   | : Metalized Mylar Capacitor                      |
| PP Cap.   | : Polypropylene Capacitor                        |
| MPP Cap.  | : Metalized PP Capacitor                         |
| PS Cap.   | : Polystyrol Capacitor                           |
| Tan. Cap. | : Tantal Capacitor                               |

### Symbol

### Description

### Part Number

|   |              |
|---|--------------|
| Main P.C.B. Ass'y                                   | SU-1132A     |
| CRT Socket P.C.B. Ass'y                             | SU-3031-A    |
| Complete Chassis (excluding interface P.C.B. Ass'y) | 10-138-01    |
| Interface P.C.B. Ass'y                              | 02-170001-01 |

### Outside of the P.C.B. Ass'y

### Symbol

### Description

### Part Number

|               |                                    |             |
|---------------|------------------------------------|-------------|
| $\Delta$ DY01 | Deflection Yoke                    | A29779-D    |
| $\Delta$ T502 | Flyback Transf.                    | A29951-A    |
| X01           | PC Magnet                          | A75034-B    |
| X04           | Si. Transistor                     | 2SC1413AV   |
| V01           | Si. Transistor                     | 2SC1106A    |
| $\Delta$ V11  | CRT (19VJTP22)                     | 17-7198-02  |
| R05           | Focus V. Resistor                  | C30289      |
| $\Delta$ C01  | UNF Resistor 220 $\Omega$ , 25W. K | QRF258K-221 |
|               | C Capacitor 150 pF, AC1.5KV        | QCZ0101-005 |

## Main P.C.B. Ass'y (SU-1132A) Parts List

### Resistors

### Symbol

### Description

### Part Number

|                |                              |              |
|----------------|------------------------------|--------------|
| R302           | V R 10K $\Omega$ (V. Hold)   | QVZ3224-014  |
| R408           | V R 200 $\Omega$ (V. Height) | QVZ3230-022  |
| R410           | CMF R 6.8 $\Omega$ 1W +5%    | QRX019J-6R8  |
| R414           | OM R 33.K $\Omega$ 1W +5%    | QRG019J-332  |
| R415           | OM R 2.7 K $\Omega$ 1W +5%   | QRG019J-272  |
| R421           | OM R 12 K $\Omega$ 2W +5%    | QRG026J-123  |
| $\Delta$ FR401 | F R 68 $\Omega$ 2W +10%      | QRH024K-680  |
| $\Delta$ R503  | CMF R 11.8 K $\Omega$ ¼W +1% | QRV141F-1182 |
| R504           | V R 5 K $\Omega$ (H. Freq.)  | QVZ3230-053  |
| R509           | OM R 10K $\Omega$ 2W +5%     | QRG026J-103  |
| R511           | OM R 8.2K $\Omega$ 2W +5%    | QRG026J-822  |
| R512           | OM R 8.2K $\Omega$ 2W +5%    | QRG026J-822  |
| R514           | OM R 680 $\Omega$ 2W +5%     | QRG026J-681  |
| R515           | CMF R 8.2 $\Omega$ 1W +5%    | QRX019J-8R2  |

## Main P.C.B. Ass'y (cont'd.)

### Resistors

| Symbol  | Description                 | Part Number   |
|---------|-----------------------------|---------------|
| R522    | CMF R 4.7 $\Omega$ 1W +5%   | QRX019J-4R7   |
| R523    | CMF R 82 $\Omega$ 2W +5%    | QRX026J-820   |
| R528    | OM R 390 $\Omega$ 1W +5%    | QRG019J-391   |
| R530    | Zinc R 270 $\Omega$         | ERZ-C05DK-271 |
| R901    | Posistor                    | A75414        |
| R902    | UNF R 2 $\Omega$ 7W +10%    | QRF076K-2R0   |
| R903    | CMF R 4.7 $\Omega$ 3W +5%   | QRX039J-4R7   |
| R904    | OM R 10K $\Omega$ 2W +5%    | QRG026J-103   |
| R905    | OM R 18K $\Omega$ 1W +5%    | QRG019J-183   |
| △ R908  | CMF R 47K $\Omega$ ½W +1%   | QRV122F-4702  |
| R909    | V R 2K $\Omega$ (B1 Adj.)   | QVZ3230-023   |
| △ R910  | CMF R 2.74K $\Omega$ ¼W +1% | QRV142F-2741  |
| △ FR901 | F R 220 $\Omega$ ½W +10%    | QRH124K-221   |
| △ R703  | CMF R 39K $\Omega$ ½W +1%   | QRV122F-3902  |
| R704    | CMF R 7.68K $\Omega$ ¼W +1% | QRV142F-7681  |

### Capacitor

| Symbol | Description                          | Part Number |
|--------|--------------------------------------|-------------|
| C402   | Tan. Cap. 2.2 $\mu$ F 16V +10%       | QEE51CK-225 |
| C411   | E Cap. 100 $\mu$ F 160V +100%        | QEW52CA-107 |
| C412   | E Cap. 3.3 $\mu$ F 160V +100%        | QEW52CA-335 |
| C508   | PP Cap. 5600pF 50V +5%               | QFP31HJ-562 |
| C511   | E Cap. 47 $\mu$ F 160V +100%         | QED22CA-476 |
| △ C512 | PP Cap. 2000pF 1500V +5%             | QFZ0082-202 |
| △ C513 | PP Cap. 2000pF 1500V +5%             | QFZ0082-202 |
| △ C514 | PP Cap. 2000pF 1500V +5%             | QFZ0082-202 |
| C515   | PP Cap. 0.53 $\mu$ F 1200V +10%      | QFZ0067-534 |
| △ C516 | MPP Cap. 0.022 $\mu$ F 1.25KV +10%   | QFH63BK-223 |
| C520   | BPE Cap. 1 $\mu$ F 50V +100%         | QEN61HA-105 |
| △ C522 | PP Cap. 2000pF 1500V +5%             | QFZ0082-202 |
| C523   | E Cap. 1 $\mu$ F 160V +100%          | QEW62CA-105 |
| △ C530 | PP Cap. 1500pF 1500V +5%             | QFZ0082-152 |
| △ C901 | C Cap. 4700pF AC125V +80% -20%       | QCZ9013-472 |
| △ C902 | C Cap. 4700pF AC125V +80% -20%       | QCZ9013-472 |
| C905   | E Cap. 10 $\mu$ F 250V +100%         | QEW52EA-106 |
| △ C907 | MM Cap. 0.1 $\mu$ F AC150V +80% -20% | QFZ9008-104 |

### Coils

| Symbol | Description       | Part Number |
|--------|-------------------|-------------|
| L501   | Peaking Coil      | A75360-6    |
| L502   | Linearity Coil    | A39835      |
| L503   | Width Coil        | C30380-A    |
| L504   | Heater Choke Coil | C30316-A    |
| △ L901 | Line Filter       | A39475-J    |

### Transformers

| Symbol | Description        | Part Number |
|--------|--------------------|-------------|
| T501   | Hor. Drive Transf. | A46022-BM   |
| T503   | Side Pin. Transf.  | C39050-A    |
|        |                    | C39049-A    |
|        |                    | C39084-A    |

or

### Semiconductors

| Symbol | Description    | Part Number    |
|--------|----------------|----------------|
| IC501  | I.C.           | HA11244        |
| X401   | Si. Transistor | 2SD478         |
| X402   | Si. Transistor | 2SD478         |
| X501   | Si. Transistor | 2SC2371V       |
| X701   | Si. Transistor | 2SC454(C)      |
| X901   | Si. Transistor | 2SC2688(K,L,M) |
| X902   | Si. Transistor | 2SC1890A;(E,F) |
| D201   | Si. Diode      | 1S2471V        |
| D401   | Si. Diode      | 1S2473H        |
| D402   | Zener Diode    | RD11E(B)       |
| D501   | Si. Diode      | RM2-(c)        |
| D502   | Si. Diode      | V11-CA         |
| D503   | Si. Diode      | HF-1           |
| D504   | Si. Diode      | V19-(E)        |
| D505   | Zener Diode    | RD11E(B)       |

**Main P.C.B. Ass'y. (cont'd.)****Resistors**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| D506          | Si. Diode          | W06-A              |
| D507          | Si. Diode          | V09-E              |
| D508          | Si. Diode          | V09-E              |
| △ D701        | Zener Diode        | RD20EV2            |
| △ D901        | Si. Diode          | RM2-(C)            |
| △ D902        | Si. Diode          | RM2-(C)            |
| △ D903        | Si. Diode          | RM2-(C)            |
| △ D904        | Si. Diode          | RM2-(C)            |
| △ D905        | Zener Diode        | RD68EV3            |

**Miscellaneous**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| △ F901        | UL Fuse 1.2A       | QMF66U1-1R2S       |
| △ F902        | UL Fuse 3A         | QMF66U1-3R0s       |

**CRT Socket P.C.B. Ass'y (SU-3031A) Parts List**

| <b>Symbol</b>    | <b>Description</b>  | <b>Part Number</b> |
|------------------|---------------------|--------------------|
| <b>Resistors</b> |                     |                    |
| R015             | V R 200Ω (R Drive)  | QVZ3224-022        |
| R106             | V R 200Ω (G Drive)  | QVZ3224-022        |
| R113             | V R 5KΩ (B Cut off) | QVZ3224-053        |
| R114             | V R 5KΩ (R Cut off) | QVZ3224-053        |
| R115             | V R 5KΩ (G Cut off) | QVZ3224-053        |
| R116             | DM R 12KΩ, 2W, +5%  | QRG029J-123        |
| R117             | DM R 12KΩ, 2W, +5%  | QRG029J-123        |
| R118             | DM R 12KΩ, 2W, +5%  | QRG029J-123        |
| R124             | V R 2MΩ (Screen)    | QVZ3243-026        |

**Capacitors**

| <b>Symbol</b> | <b>Description</b>      | <b>Part Number</b> |
|---------------|-------------------------|--------------------|
| C107          | E Cap. 10 μF 250V +100% | QEW52EA-106        |

**Coils**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| L101          | Peaking Coil       | QQL043K-101        |

**Semiconductors**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| X101          | Si. Transistor     | 2SC2611            |
| X102          | Si. Transistor     | 2SC2611            |
| X103          | Si. Transistor     | 2SC2611            |

**Miscellaneous**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| △             | CRT Socket         | A76068             |

**Video Interface P.C.B. Assembly 02-170001-01****Semiconductors**

| <b>Symbol</b> | <b>Description</b> | <b>Part Number</b> |
|---------------|--------------------|--------------------|
| D201          | Diode              | 14-514-64          |
| D202          | Diode              | 14-514-64          |
| D203          | Diode              | 14-514-64          |
| Q201          | Transistor         | 14-802-12          |
| Q202          | Transistor         | 14-802-12          |
| Q203          | Transistor         | 14-802-12          |
| Q204          | Transistor         | 14-867-32          |
| Q205          | Transistor         | 14-867-32          |
| Q206          | Transistor         | 14-867-32          |
| Q207          | Transistor         | 14-802-12          |
| Q208          | Transistor         | 14-867-32          |
| Q209          | Transistor         | 14-802-12          |
| Q210          | Transistor         | 14-802-12          |

## Video Interface P.C.B. Assembly (cont'd.)

### Resistors

| Symbol | Description         | Part Number  |
|--------|---------------------|--------------|
| R201   | Resistor 5.6K ¼W 5% | 40-125625-11 |
| R202   | Resistor 4.7K ¼W 5% | 40-124725-11 |
| R203   | Resistor 120K ¼W 5% | 40-121245-11 |
| R204   | Resistor 2.7K ¼W 5% | 40-122725-11 |
| R205   | Resistor 1.5K ¼W 5% | 40-121525-11 |
| R206   | Resistor 2.4K ¼W 5% | 40-122425-11 |
| R207   | Resistor 390Ω ¼W 5% | 40-223915-11 |
| R208   | Resistor 15Ω ¼W 5%  | 40-121505-11 |
| R211   | Resistor 5.6K ¼W 5% | 40-125625-11 |
| R212   | Resistor 4.7K ¼W 5% | 40-124725-11 |
| R213   | Resistor 120K ¼W 5% | 40-121245-11 |
| R214   | Resistor 2.7K ¼W 5% | 40-122725-11 |
| R215   | Resistor 1.5K ¼W 5% | 40-121525-11 |
| R216   | Resistor 2.4K ¼W 5% | 40-122425-11 |
| R217   | Resistor 390Ω ½W 5% | 40-223915-11 |
| R218   | Resistor 15Ω ¼W 5%  | 40-121505-11 |
| R221   | Resistor 5.6K ¼W 5% | 40-125625-11 |
| R222   | Resistor 4.7K ¼W 5% | 40-124725-11 |
| R223   | Resistor 120K ¼W 5% | 40-121245-11 |
| R224   | Resistor 2.7K ¼W 5% | 40-122725-11 |
| R225   | Resistor 1.5K ¼W 5% | 40-121525-11 |
| R226   | Resistor 2.4K ¼W 5% | 40-122425-11 |
| R227   | Resistor 390Ω ½W 5% | 40-223915-11 |
| R228   | Resistor 15Ω ¼W 5%  | 40-121505-11 |
| R231   | Resistor 2.4K ¼W 5% | 40-122425-11 |
| R232   | Resistor 2.2K ¼W 5% | 40-122225-11 |
| R233   | Resistor 360Ω ¼W 5% | 40-123615-11 |
| R234   | Resistor 360Ω ¼W 5% | 40-123615-11 |
| R235   | Resistor 2.4K ¼W 5% | 40-122425-11 |
| R236   | Resistor 2.2K ¼W 5% | 40-122225-11 |
| R237   | Resistor 360Ω ¼W 5% | 40-123615-11 |
| R241   | Resistor 560Ω ¼W 5% | 40-125615-11 |
| R243   | Resistor 1K ¼W 5%   | 40-121025-11 |
| R244   | Resistor 10K ¼W 5%  | 40-121035-11 |
| R245   | Resistor 9.1K ¼W 5% | 40-129125-11 |

### Capacitors

| Symbol | Description             | Part Number  |
|--------|-------------------------|--------------|
| C201   | Ceramic Cap. 47pF       | 46-347013-15 |
| C202   | Ceramic Cap. 68pF       | 46-368013-15 |
| C203   | Ceramic Cap. 47pF       | 46-347013-15 |
| C204   | Ceramic Cap. 68pF       | 46-368013-15 |
| C205   | Ceramic Cap. 47pF       | 46-347013-15 |
| C206   | Ceramic Cap. 68pF       | 46-368013-15 |
| C207   | Electrolytic 100 μF 35V | 44-310104-04 |
| C208   | Electrolytic 10 μF 16V  | 44-310003-02 |

### Miscellaneous

| Symbol | Description       | Part Number |
|--------|-------------------|-------------|
| J201   | Molex 6-pin Wafer | 34-548-06   |

## Purity Shield Assembly 07-220083-03

| Symbol | Description                | Reference No. |
|--------|----------------------------|---------------|
| X      | Degaussing Coil            | 21-1007-30    |
| D911   | Rectifier 1A 600V          | 28-22-27      |
| D912   | Rectifier 1A 600V          | 28-22-27      |
| C911   | 150 μF 10% 400V. Cap.      | 48-171544-62  |
| R921   | 4W 33R 10% WW Res.         | 42-113301-03  |
| X      | Fire Ret Term Strip 4 Lug. | 34-492-09     |