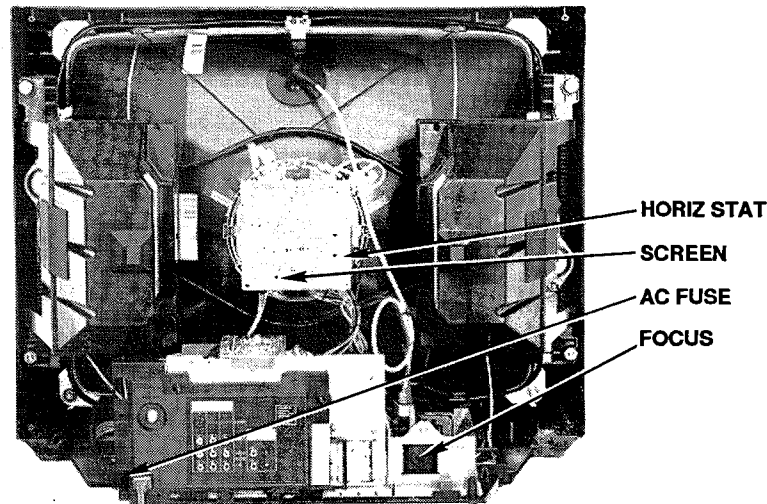


## CABINET - REAR VIEW



### SERVICE TIPS

Do to the new 27 inch CRT with IMS (inner magnetic shield), when the set is turned on while either hot or cold, degaussing will occur. Since these sets do not require an external metal shield around the tube, the current has been increased through the degaussing coil. If there is a very loud pinging sound when the set is turned on, this is normal for this new CRT and it is working correctly.

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by Howard W. Sams & Company as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to Howard W. Sams & Company by the manufacturers of the specific type of replacement part listed.

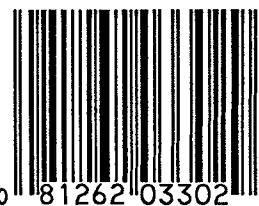
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3302

# PHOTOFACT® Technical Service Data

SET 3302

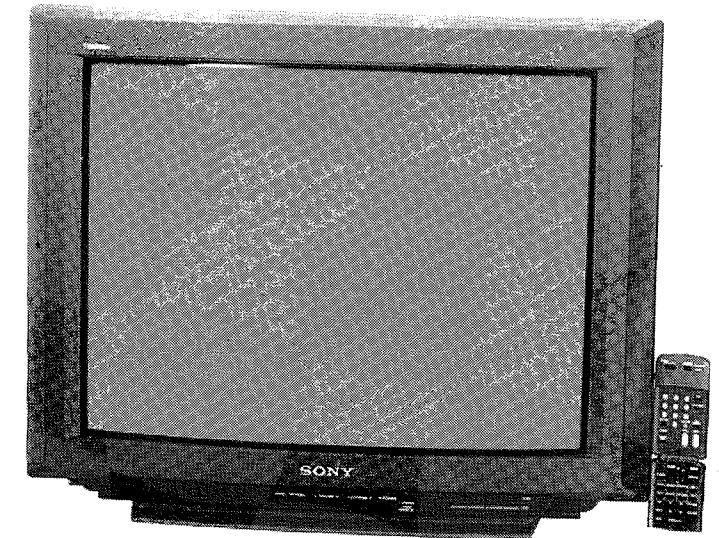
MODEL KV-27V55 (CHASSIS SCC-F84H-A, SCC-F85E-A)

SONY

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**SONY**  
Model KV-27V55 (Chassis SCC-F84H-A, SCC-F85E-A)



Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes this additional model and chassis:

| MODEL     | CHASSIS    |
|-----------|------------|
| KV-29V55M | SCC-F89D-A |



**HOWARD W. SAMS & COMPANY**

APRIL 1994 SET 3302

For Supplier Address,  
See PHOTOFACT Annual Index

3302



## SAFETY RELATED ADJUSTMENTS

### R511 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components: R338, R511, R632, R645, R650, and PM501.

#### Hold-down Operation Confirmation

**NOTE:** Turn power off immediately when hold-down circuit begins to operate (picture blanks out).

1. Remove R635 from the circuit. Connect a 22K ohm variable resistor (RV1) between pin 1 of IC601 and B+.
2. Connect a current meter to pin 7 of T504. Use a variable AC transformer to supply 130VAC  $\pm$  2.0VAC. Turn receiver on and tune in a white signal. Adjust ABL current to 1760 $\mu$ A  $\pm$  50 $\mu$ A with picture and brightness settings.
3. Connect voltmeter to pin 8 of PM501.
4. Increase B+ voltage gradually by adjusting RV1 until picture just blanks out.
5. Check DC voltage, it should measure less than 142.5VDC after picture has blanked out. Remove power to set immediately after confirming voltage.
6. Restore power, and receive a dot pattern. Adjust ABL current to 160 $\mu$ A  $\pm$  50 $\mu$ A with picture and brightness settings.
7. Repeat steps 3 and 4.
8. DC voltage should measure less than 145.0VDC after picture has blanked out. Remove power to set immediately after confirming voltage.

#### Hold-down Readjustment

If Hold-down Operation Confirmation cannot be satisfied, readjustment should be performed by altering the resistance value of R511.

### R524 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components: IC601, D504, C598, R338, R509, R524, R632, R635, R645, T501, and PM501.

#### Preparation Before Confirmation.

1. Receive an entirely white signal and set picture and brightness to maximum.
2. Supply 120VAC  $\pm$  2.0VAC with variable AC transformer.
3. Check for 114V or more at TP85 (pin 14 of PM501) when set is operating normally.

#### Hold-down Operation Confirmation

**NOTE:** Turn power off immediately when hold-down circuit begins to operate (picture blanks out).

1. Connect a current meter at pin 7 of T504. Turn the power switch on, and receive a white signal. Adjust ABL current to 1760 $\mu$ A  $\pm$  50 $\mu$ A with picture and brightness settings.
2. Connect voltmeter to TP85.
3. Connect a DC power supply, thru a blocking diode, to TP85.
4. Increase voltage gradually until picture just blanks out.
5. Check DC voltage at TP85, it should be less than 137.5VDC after picture has blanked out. Turn off DC power source. Remove power to the set.
6. Restore power, and receive a dot pattern. Adjust ABL current to 160 $\mu$ A  $\pm$  50 $\mu$ A with picture and brightness settings.
7. Repeat steps 2 thru 4.
8. Check DC voltage at TP85, it should be less than 138VDC after picture has blanked out. Turn off DC power source. Remove power to the set.

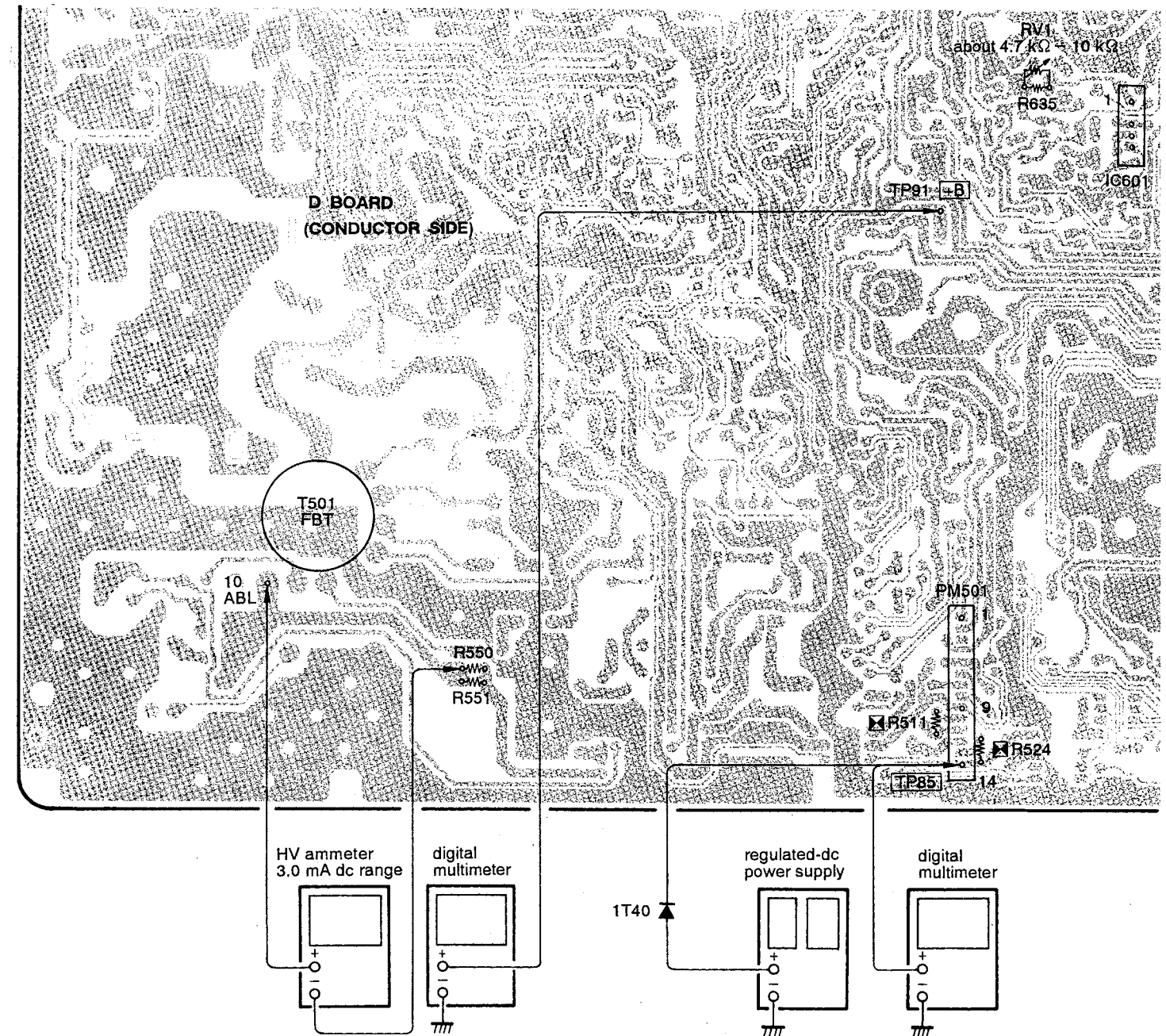
#### Hold-down Readjustment


If Hold-down Operation Confirmation cannot be satisfied, readjustment should be performed by altering the resistance value of R524.

#### B+ VOLTAGE CONFIRMATION

The following adjustment should always be performed when replacing IC601 or R635.

1. Supply 130VAC +2.0/-0VAC with variable AC transformer.
2. Receive a monoscope signal.
3. Set picture and brightness settings to initial reset position.
4. Confirm that the voltage at TP91 (cathode of D617) is less than 137.0V.
5. If step 4 cannot be satisfied, replace IC601 and R635. Repeat above steps.





Created with pride by the employees of Howard W. Sams & Company.

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D. Cobb, G. Farrell, B. Fink,  
M. Herkless, J. Kocha,  
J. Limp, F. Malek, B. Medaris,  
R. Raus, B. Skinner, J. Young*

*Courtesy of Manufacturer*



## SAFETY PRECAUTIONS

### SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. For continued SAFETY:

1. Before replacing parts, disconnect power source to protect electrostatically sensitive parts.
2. Do not attempt to modify any circuit unless so recommended by the manufacturer.
3. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

### SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits.

1. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver and CRT anode lead.
2. DO NOT lift the CRT by the neck.
3. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

### X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays.

1. Keep an accurate high voltage meter available at all times. Check meter calibration periodically.
2. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly.
3. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value.
4. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage.
5. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

### SAFETY CHECKS — FIRE AND SHOCK HAZARD

#### Cold Leakage Checks for Receivers with Isolated Ground

1. Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable).
2. Use an ohmmeter to measure the resistance between the jumpered AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

#### Hot Leakage Current Check

1. Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer.
2. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure.)

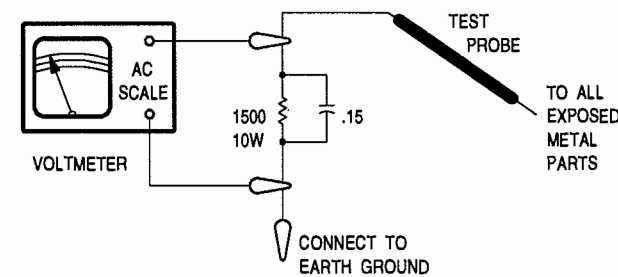
3. Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point.
4. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
5. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.

### GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer.

1. Check repaired area for poorly soldered or unsoldered connections, and check entire circuit board for solder splashes.
2. Check inner board wiring for pinched wires or wires contacting any high wattage resistors.

Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.



### TEST EQUIPMENT

Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

| Equipment               | Sencore No.  |
|-------------------------|--------------|
| Oscilloscope            | SC3100       |
| Generators              |              |
| RGB                     | CM2000       |
| Multiburst Signal       | VG91         |
| Color Bar               | VG91         |
| TV Stereo               | VG91         |
| Digital VOM             | SC3100       |
| Frequency Meter         | SC3100       |
| Hi-Voltage Probe        | HP200        |
| Accessory Probes        | TP212        |
| Isolation Transformer   | PR57         |
| Capacitance Analyzer    | LC101, LC102 |
| CRT Analyzer            | CR70         |
| AC Leakage Tester       | PR57         |
| Inductance Analyzer     | LC101, LC102 |
| Flyback Yoke Tester     | TVA92        |
| TV Stereo Power Monitor | SR68, PA81   |
| Field Strength Meter    | SL750        |
| Transistor Tester       | TF46         |
| Video Analyzer          | VG91, TVA92  |

## MISCELLANEOUS ADJUSTMENTS

### PRETUNING

NOTE: Use remote transmitter to accomplish pretuning. All procedures require an antenna or cable connected, and power supplied to the set.

#### Auto Program

1. Press the power button.
2. Press the menu button.
3. Press + (R) or - (L) to select setup.
4. Press return button and the setup menu appears.
5. Press + (R) or - (L) to select auto program.
6. Press return button.

### DIGITAL ADJUSTMENT PROCEDURES

#### Service Adjustment Mode

1. Tune in a picture, and turn set off.
2. Press the display button, the 5 button, the vol (+) and the power button in sequence. Press each button within a second.
3. The CRT will display the item being adjusted.
4. Turn set off and then back on to exit service adjustment mode.

#### Making Adjustments

1. Enter service adjustment mode.
2. Select adjustment by pressing the 1 and 4 buttons.
3. Make changes on selected adjustment by pressing the 3 and 6 buttons.

#### Saving Adjustments to Memory

1. Adjustments must be saved to memory. To save adjustment, press the muting button and then the enter button.

#### Memory Write Confirmation

1. Disconnect AC plug from outlet.
2. Plug set in and enter service adjustment mode.
3. Select adjustment and confirm that setting was saved to memory.

### IF AGC

Tune in a active channel. Adjust AGC control, located on top of TU101, counterclockwise until snow appears, and then clockwise until snow just disappears.

### DISPLAY POSITION (DISP)

Enter the service adjustment mode. Select DISP and adjust to center display on either side. Save adjustment to memory.

### HORIZONTAL FREQUENCY (HFRE)

Connect a frequency counter to connector CN116 pin 13. Tune in a colorbar pattern. Enter the service adjustment mode. Select AFC and set AFC to 3. Horizontal will lose sync. Select HFRE, and adjust for 15734Hz ±60Hz. Save adjustment to memory. Select AFC and set to 0. Save adjustment to memory. Perform horizontal center (HPOS) adjustment.

### HORIZONTAL SIZE (HSIZ)

Tune in a crosshatch pattern. Enter the service adjustment mode. Select HSIZ and adjust for slight horizontal overscan. Save adjustment to memory.

### HORIZONTAL CENTER (HPOS)

Perform horizontal frequency adjustment. Tune in a crosshatch pattern. Enter the service adjustment mode. Select HPOS and adjust for best horizontal centering. Save adjustment to memory.

### PINCUSHION (PAMP, CPIN, PPHA)

Tune in a crosshatch pattern. Enter the service adjustment mode. Select PAMP and adjust for straightest center of the vertical lines at left and right of screen. Save adjustment to memory. Select CPIN and adjust for straight vertical lines at top and bottom of screen. Save adjustment to memory. Select PPHA and adjust so that vertical lines are parallel. Save adjustment to memory.

### VERTICAL FREQUENCY (VFRE)

Connect a frequency counter to pin 7 of CN116. Enter the service adjustment mode. Select video 1 with no signal. Select VFRE and adjust for 55Hz ±.5Hz. Save adjustment to memory.

### VERTICAL SIZE (VSIZ)

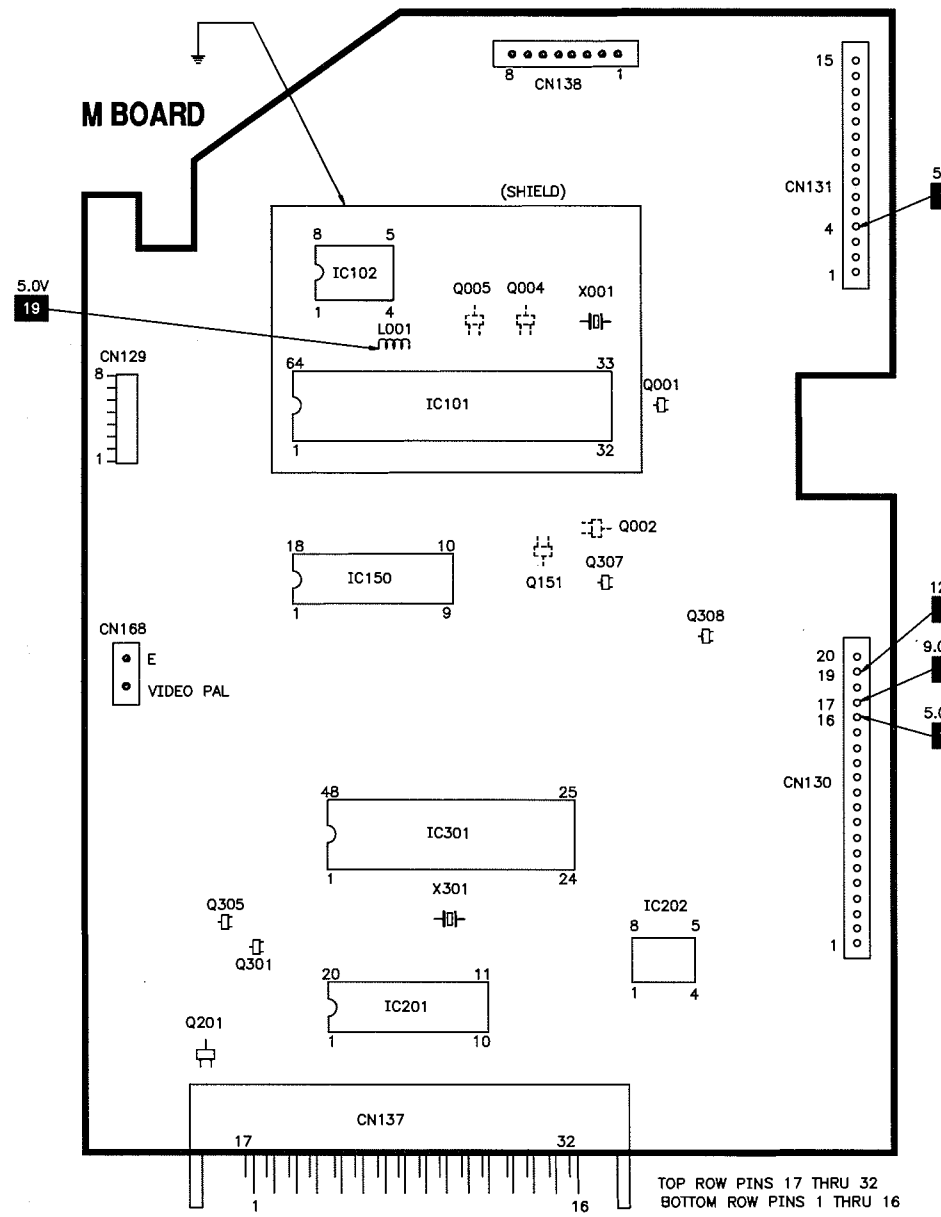
Tune in a crosshatch pattern. Enter the service adjustment mode. Select VSIZ and adjust for slight vertical overscan. Save adjustment to memory.

### VERTICAL POSITION (VPOS)

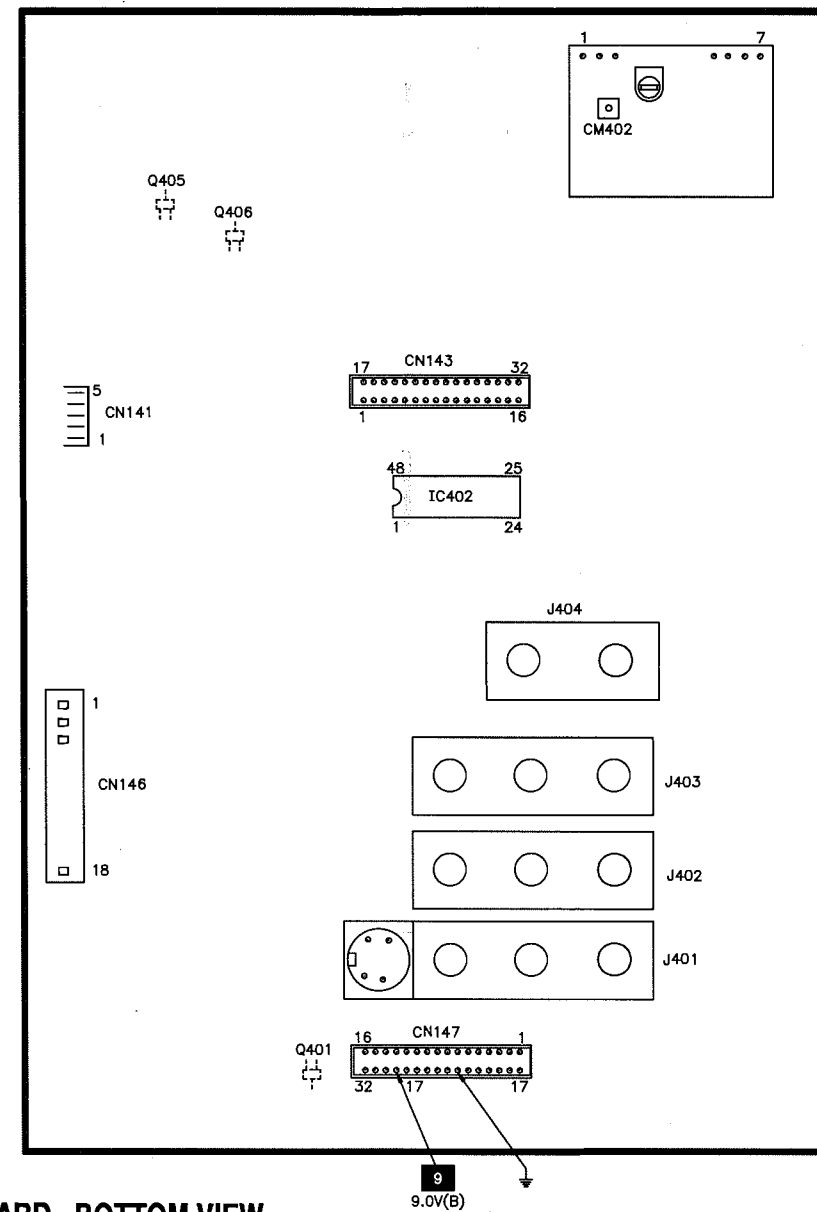
Tune in a crosshatch pattern. Enter the service adjustment mode. Select VPOS and adjust to center picture vertically. Save adjustment to memory.



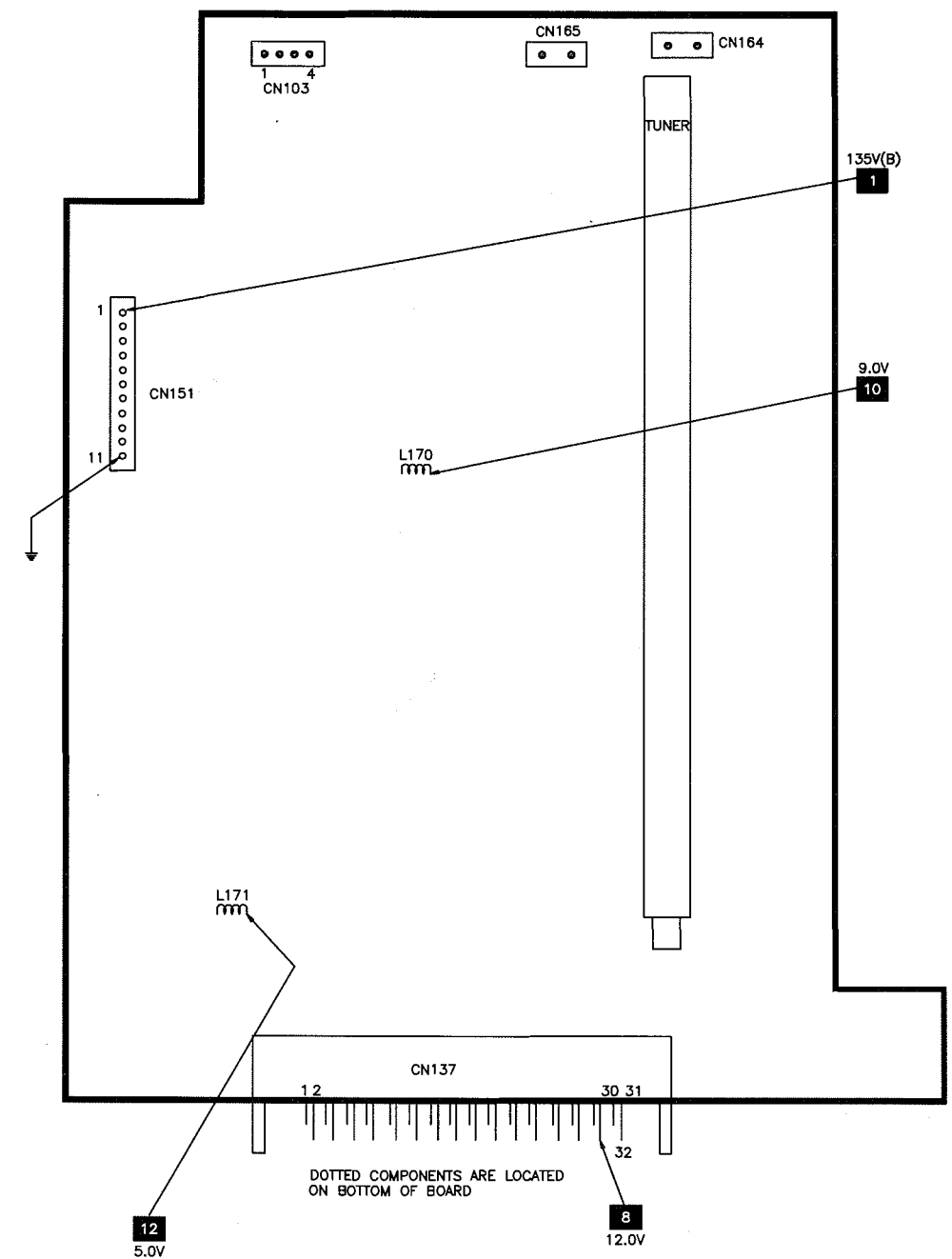
# PLACEMENT CHART



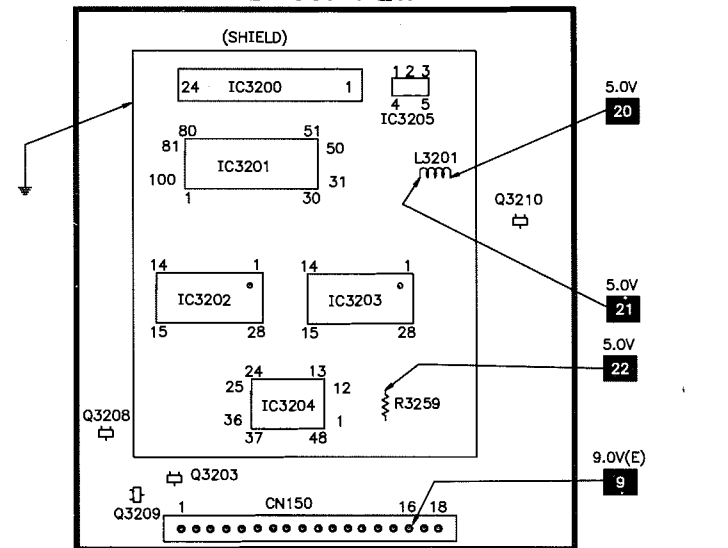
## UA BOARD



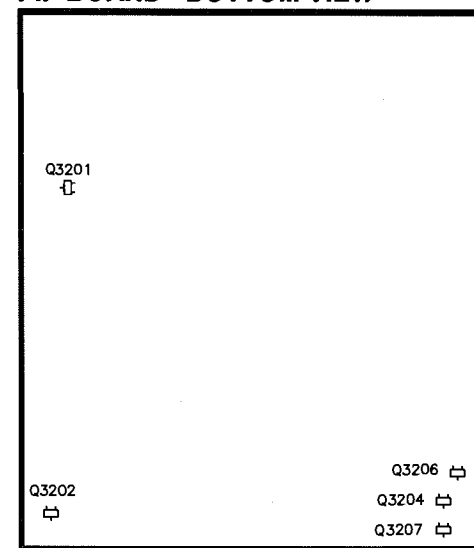
## A BOARD



## PIP BOARD - TOP VIEW



## PIP BOARD - BOTTOM VIEW



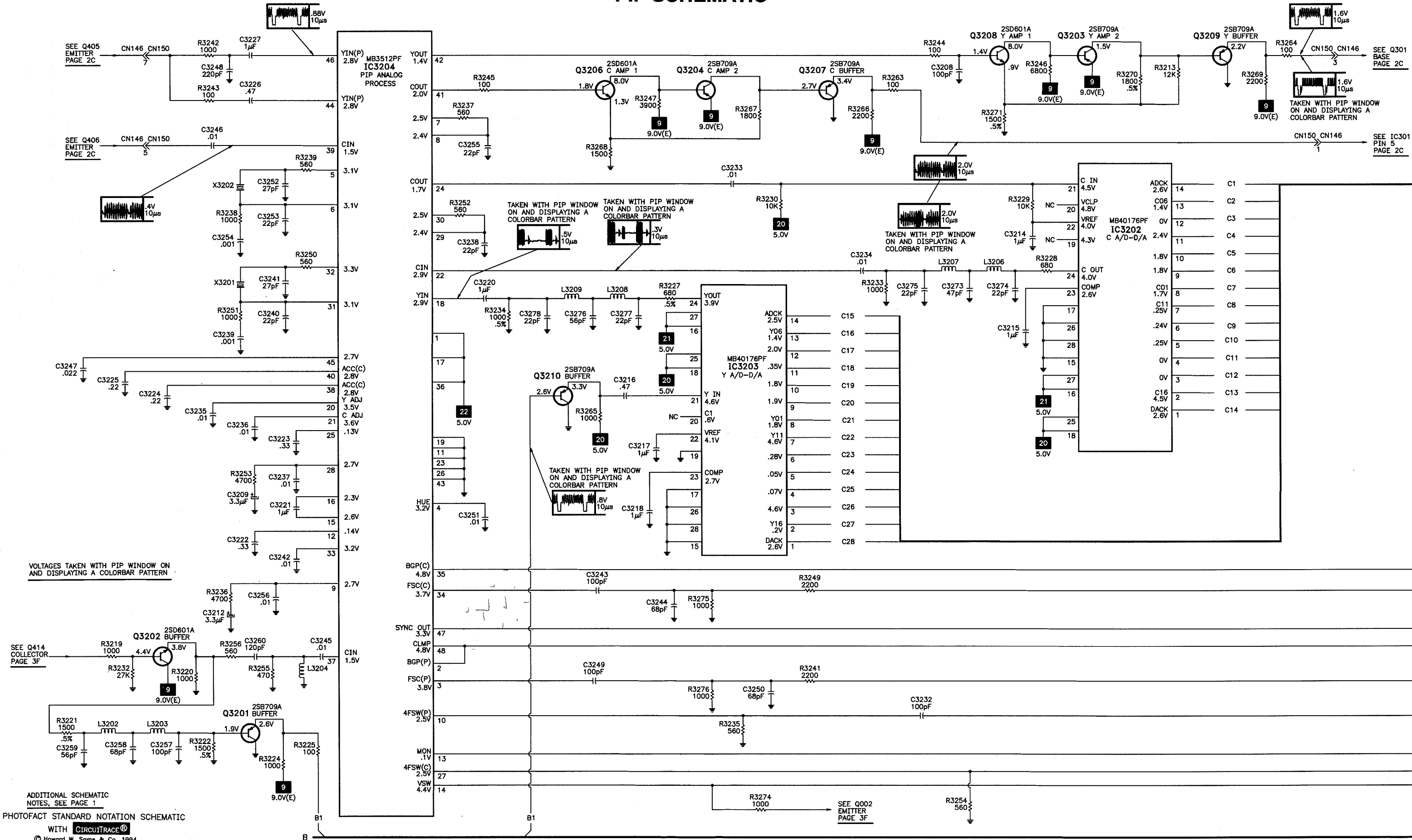
TOP ROW PINS 17 THRU 32  
BOTTOM ROW PINS 1 THRU 16  
DOTTED COMPONENTS ARE LOCATED  
ON BOTTOM OF BOARD

DOTTED COMPONENTS ARE LOCATED  
ON BOTTOM OF BOARD

# PIP SCHEMATIC

A

B



## PARTS LIST

### SEMICONDUCTORS

(Select the replacement that gives the best results.)

| Item No.     | Type No.   | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|--------------|------------|---------------|--------------|--------------|--------------|
| D001, 02     | MA110      | 8-719-404-46  | -            | -            | -            |
| D004 (1)     | MA110      | 8-719-404-46  | -            | -            | -            |
| D005         | 1T33       | 8-713-300-57  | NTE147A      | ECG147A      | SK33V        |
| D006 Thru    |            |               |              |              |              |
| D009         | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D150 (1)     | MA110      | 8-719-404-46  | -            | -            | -            |
| D170         | RD33ESB1   | 8-719-110-76  | -            | -            | -            |
| D201, 02     | MA110      | 8-719-404-46  | -            | -            | -            |
| D205, 06     | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D301, 04     | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D401 Thru    |            |               |              |              |              |
| D405         | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D408         | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D410, 11     | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D429, 30, 31 | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D436, 37     | RD10ESB2   | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| D501         | RGP02-17EL | 8-719-028-72  | -            | -            | -            |
| D502, 03     | EGP20G     | 8-719-979-85  | NTE580       | ECG580       | SK5036       |
| # D504       | EL1Z-V1    | 8-719-302-44  | NTE552       | ECG552       | SK9000       |
| D505         | RGP10GPKG3 | 8-719-936-84  | -            | -            | -            |
| D506, 07     | ERC06-15S  | 8-719-945-80  | NTE525       | ECG525       | SK3925       |
| D508         | ERD29-08J  | 8-719-900-26  | NTE515       | ECG515       | SK9098       |
| D509         | RGP10GPKG3 | 8-719-936-84  | -            | -            | -            |
| D510, 11     | GP08DPKG3  | 8-719-936-82  | -            | -            | -            |
| D512         | RD5.1ESB1  | 8-719-109-84  | NTE5010A     | ECG5010A     | SK5A1        |
| D513         | GP08DPKG3  | 8-719-936-82  | -            | -            | -            |
| D514, 15     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D601         | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| # D602       | D4SB60L-F  | 8-719-510-63  | -            | -            | -            |
| D603, 05     | S3V10SS    | 8-719-500-69  | -            | -            | -            |
| D607         | D1NS4      | 8-719-510-02  | -            | -            | -            |
| D608 Thru    |            |               |              |              |              |
| D611         | D2S4MF     | 8-719-022-97  | -            | -            | -            |
| D612         | D5SC4MR    | 8-719-031-80  | -            | -            | -            |
| D613         | D2S4MF     | 8-719-022-97  | -            | -            | -            |
| D614         | RD12ESB3   | 8-719-110-33  | NTE5021A     | ECG5021A     | SK12A        |
| D615 Thru    |            |               |              |              |              |
| D618         | S2L20UF    | 8-719-027-43  | -            | -            | -            |
| D619         | D1NS4      | 8-719-510-02  | -            | -            | -            |
| D622, 23, 24 | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D626, 27     | D1N20R     | 8-719-510-48  | -            | -            | -            |
| D628         | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D629 thru    |            |               |              |              |              |
| D632         | GP08DPKG3  | 8-719-936-82  | -            | -            | -            |
| D633         | RD8.2ESB3  | 8-719-110-09  | NTE5016A     | ECG5016A     | SK8A2        |
| D634, 35     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D636         | D1N20R     | 8-719-510-48  | -            | -            | -            |
| D637, 38     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D711, 12     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D713         | 1SS83      | 8-719-901-83  | NTE177       | ECG177       | SK9091       |
| D731, 32     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D751, 52     | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D770 Thru    |            |               |              |              |              |
| D773         | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |
| D774, 75, 76 | 1SS83      | 8-719-901-83  | NTE177       | ECG177       | SK9091       |
| D777         | RD3.6ESB1  | 8-719-109-68  | NTE5006A     | ECG5006A     | SK3A6        |
| D790 Thru    |            |               |              |              |              |
| D795         | 1SS119     | 8-719-911-19  | NTE519       | ECG519       | SK3100       |

# For SAFETY use only equivalent replacement part.  
(1) Not used in model KV-29V55M.

### SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

| Item No.     | Type No.      | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|--------------|---------------|---------------|--------------|--------------|--------------|
| D1004        | -             | 1-810-039-11  | -            | -            | -            |
| D3202        | HVU359TRF     | 8-719-031-68  | -            | -            | -            |
| D3203        | MA110         | 8-719-404-46  | -            | -            | -            |
| D3208, 09    | RD10ESB2      | 8-719-110-17  | NTE5019A     | ECG5019A     | SK10A        |
| IC101        | CXP80424-065S | 8-752-841-16  | -            | -            | -            |
| IC102        | ST24C02AB1    | 8-759-043-86  | -            | -            | -            |
| IC150 (1)    | Z8612812PSC   | 8-759-084-09  | -            | -            | -            |
|              | MC144143      | -             | -            | -            | -            |
| IC201        | TDA8424       | 8-759-090-21  | -            | -            | -            |
| IC202        | LM358PS       | 8-759-983-69  | -            | -            | -            |
|              | UPC358PS      | -             | -            | -            | -            |
| IC301        | CXA1465AS     | 8-752-059-67  | -            | -            | -            |
| IC402        | CXA1545AS     | 8-752-062-86  | -            | -            | -            |
| IC501        | TDA8172       | 8-759-980-58  | NTE1788      | ECG1788      | SK9875       |
| IC504        | UPC393C       | 8-759-103-93  | NTE943M      | ECG943M      | SK9993       |
| # IC601      | DM-48         | 1-810-051-11  | -            | -            | -            |
| IC602        | L78LR05D-MA   | 8-759-805-37  | -            | -            | -            |
| IC604        | LM7805CT      | 8-759-924-12  | NTE960       | ECG960       | SK3591       |
| IC605        | LM7812CT      | 8-759-929-62  | NTE966       | ECG966       | SK3592       |
| IC606        | TA7809S       | -             | -            | -            | -            |
|              | RC7809FA      | 8-759-982-10  | -            | -            | -            |
|              | MC7809CT      | -             | NTE1910      | ECG1910      | -            |
| IC610        | RC78L05A      | 8-759-982-21  | NTE977       | ECG977       | SK3462       |
| IC2200       | TDA7262       | 8-759-089-13  | -            | -            | -            |
| IC3200       | MB81461B-12RS | 8-759-971-56  | -            | -            | -            |
| IC3201       | MB86144B      | 8-759-093-29  | -            | -            | -            |
| IC3202, 03   | MB40176PF-EF  | 8-759-093-28  | -            | -            | -            |
| IC3204       | MB3512PF-EF   | 8-759-093-26  | -            | -            | -            |
| IC3205       | TC7SU04F      | 8-759-243-19  | -            | -            | -            |
| Q001, 02, 04 | 2SB709A-Q     | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q005         | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q151 (1)     | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q201         | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q301, 02     | 2SB709A-Q     | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q307, 08     | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q401         | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q405, 06     | 2SB709A-Q     | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q414         | 2SD601A-Q     | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q502         | 2SC2688-LK    | 8-729-119-80  | NTE157       | ECG157       | SK3747       |
| Q503         | 2SC4159-E     | 8-729-809-29  | NTE54        | ECG54        | SK9366       |
| Q505         | 2SC3311AR     | 8-729-809-29  | NTE2361      | ECG2361      | SK10093      |
|              | 2SC2785-HFE   | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q591         | 2SC4927-01    | 8-729-016-32  | -            | -            | -            |
| Q601, 02     | 2SC4834MNP    | 8-729-019-51  | -            | -            | -            |
| Q603         | 2SA1309AR     | -             | NTE2362      | ECG2362      | SK10094      |
|              | 2SA1175-HFE   | 8-729-119-76  | NTE2362      | ECG2362      | SK3114A      |
| Q604, 05, 11 | 2SC3311AR     | -             | NTE2361      | ECG2361      | SK10093      |
|              | 2SC2785-HFE   | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q613         | 2SB1370-EF    | 8-729-924-90  | -            | -            | -            |
| Q614         | 2SC3311A      | -             | NTE2361      | ECG2361      | SK10093      |
|              | 2SC2785-HFE   | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q711         | 2SC3271F-N    | 8-729-926-73  | NTE157       | ECG157       | SK3747       |
| Q712         | 2SC3311AR     | -             | NTE2361      | ECG2361      | SK10093      |
|              | 2SC2785-HFE   | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q731         | 2SC3271F-N    | 8-729-926-73  | NTE157       | ECG157       | SK3747       |
| Q732         | 2SC3311AR     | -             | NTE2361      | ECG2361      | SK10093      |
|              | 2SC2785-HFE   | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q751         | 2SC3271F-N    | 8-729-926-73  | NTE157       | ECG157       | SK3747       |

# For SAFETY use only equivalent replacement part.  
(1) Not used in model KV-29V55M.

### SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

| Item No.  | Type No.    | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|-----------|-------------|---------------|--------------|--------------|--------------|
| Q752      | 2SC3311AR   | -             | NTE2361      | ECG2361      | SK10093      |
|           | 2SC2785-HFE | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q770      | 2SA1309AR   | -             | NTE2362      | ECG2362      | SK10094      |
|           | 2SA1175-HFE | 8-729-119-76  | NTE2362      | ECG2362      | SK3114A      |
| Q771 Thru |             |               |              |              |              |
| Q776      | 2SA1091R    | -             | NTE288       | ECG288       | SK3434       |
|           | 2SA1091-O   | 8-729-200-17  | NTE288       | ECG288       | SK3434       |
| Q777, 78  | 2SC2551-O   | 8-729-255-12  | NTE399       | ECG399       | SK9352       |
| Q790      | 2SC3311AR   | -             | NTE2361      | ECG2361      | SK10093      |
|           | 2SC2785-HFE | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q2202     | 2SC3311AR   | -             | NTE2361      | ECG2361      | SK10093      |
|           | 2SC2785-HFE | 8-729-119-78  | NTE2361      | ECG2361      | SK3124A      |
| Q2203     | 2SA1309AR   | -             | NTE2362      | ECG2362      | SK10094      |
|           | 2SA1175-HFE | 8-729-119-76  | NTE2362      | ECG2362      | SK3114A      |
| Q3201     | 2SB709A-Q   | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q3202     | 2SD601A-Q   | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q3203, 04 | 2SB709A-Q   | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q3206     | 2SD601A-Q   | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q3207     | 2SB709A-Q   | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |
| Q3208     | 2SD601A-Q   | 8-729-422-27  | NTE2408      | ECG2408      | SK10099      |
| Q3209, 10 | 2SB709A-Q   | 8-729-422-36  | NTE2409      | ECG2409      | SK10100      |

### CONTROLS & RESISTORS

| Item No. | Function/Rating           | Mfr. Part No. | NTE Part No. |
|----------|---------------------------|---------------|--------------|
| R177     | 22K 5% 2W Nonflammable    | 1-215-900-11  | 2W322        |
| R327     | 1200 .5% 1/10W SMT        | 1-216-653-11  | -            |
| R331, 34 | 13K .5% 1/10W SMT         | 1-216-678-11  | -            |
| R338     | 1000 5% 1/4W Nonflammable | 1-249-417-11  | QW210        |
| R347     | 220 5% 1/4W Nonflammable  | 1-249-409-11  | QW122        |
| R416     | 680 .5% 1/10W SMT         | 1-216-647-11  | -            |
| R417     | 560 .5% 1/10W SMT         | 1-216-645-11  | -            |
| R450     | 450 .5% 1/10W SMT         | 1-216-643-11  | -            |
| R453     | 560 .5% 1/10W SMT         | 1-216-645-11  | -            |
| R501     | .56 5% 1/4W Nonflammable  | 1-249-378-11  | -            |
| R503     | 68 5% 1W Nonflammable     | 1-215-862-11  | 1W068        |
| R504     | 3300 5% 1W Nonflammable   | 1-215-872-11  | 1W233        |
| R505     | .47 5% 1/4W Nonflammable  | 1-249-377-11  | -            |
| R506     | 100 5% 2W Nonflammable    | 1-215-886-11  | 2W110        |
| R509     | 4.7 5% 1/4W Nonflammable  | 1-249-389-11  | QW4D7        |
| # R511   | 1/4W                      | (1)           | -            |
| R512     | 4.7 5% 1/4W Nonflammable  | 1-249-389-11  | QW4D7        |
| R513     | .47 5% 3W Nonflammable    | -             | -            |
|          | 2.2 5% 3W Nonflammable    | 1-216-393-00  | 3W2D2        |
| R515     | .33 5% 2W Nonflammable    | 1-216-363-00  | 2WD33        |
| R517, 18 | 680 5% 3W Nonflammable    | 1-215-916-00  | 3W168        |
| R519     | 5600 5% 1/4W Nonflammable | 1-249-426-11  | QW256        |
| R522     | 100 5% 2W Nonflammable    | 1-215-886-11  | 2W110        |
| R523     | 68 5% 1W Nonflammable     | 1-215-862-11  | 1W068        |
| # R524   | 1/4W                      | (1)           | -            |
| R525     | 47 5% 2W Nonflammable     | 1-215-884-11  | 2W047        |
| R527     | 47 5% 1W Nonflammable     | 1-215-861-00  | 1W047        |
| R530     | 10K 1% 1/4W               | 1-215-445-00  | -            |
| R532     | 11K 1% 1/4W               | 1-215-446-00  | -            |
| R534     | 2.2 5% 1/4W Nonflammable  | 1-249-385-11  | QW2D2        |
| R535     | 270 5% 2W Nonflammable    | 1-216-453-00  | 2W127        |
| R536     | 4.7 5% 1/4W Nonflammable  | 1-249-389-11  | QW4D7        |

# For SAFETY use only equivalent replacement part.  
(1) See "Safety Related Adjustments".



**PARTS LIST continued**

**CONTROLS & RESISTORS continued**

| Item No.     | Function/Rating                  | Mfr. Part No. | NTE Part No. |
|--------------|----------------------------------|---------------|--------------|
| R539         | 39K 1% 1/4W                      | 1-215-459-00  | QW339        |
| R554         | 1.5 5% 2W Nonflammable           | 1-216-371-00  | 2W1D5        |
| R557         | 680 5% 1/4W Nonflammable         | 1-249-415-11  | QW168        |
| R562         | 4700 1% 1/4W                     | 1-215-437-00  | QW247        |
| # R601, 02   | 2.2M 20% 1/2W                    | 1-202-888-91  | HW522        |
| # R607       | .1 10% 1/2W Fusible Nonflammable | 1-202-933-61  | -            |
| R608         | 33 5% 1W Nonflammable            | 1-215-860-11  | 1W033        |
| R609, 10     | 1.0 5% 1W Nonflammable           | -             | 1W1D0        |
|              | 1.8 5% 1W Nonflammable           | 1-216-352-11  | 1W1D8        |
| R611, 12     | 82K 5% 2W Nonflammable           | 1-216-468-91  | 2W382        |
| R613, 14     | 33 5% 1W Nonflammable            | 1-215-860-11  | 1W033        |
| R617 thru    |                                  |               |              |
| R628         | .47 5% 1/4W Nonflammable         | 1-249-377-11  | -            |
| R629         | 3.9 5% 1/4W Nonflammable         | 1-249-388-11  | QW3D9        |
| R630         | 10 5% 1W Nonflammable            | 1-215-857-11  | 1W010        |
| R632         | 1000 5% 1/4W Nonflammable        | 1-249-417-11  | QW210        |
| R633         | 100 5% 1/4W Nonflammable         | 1-249-405-11  | QW110        |
| R635         | 470 5% 1/4W Nonflammable         | 1-249-413-11  | QW147        |
| R636         | 1.5 5% 1/4W Nonflammable         | 1-249-383-11  | QW1D5        |
| # R640       | 8.2M 20% 1/2W                    | 1-202-893-91  | HW582        |
| R643         | 6.8 5% 2W Nonflammable           | 1-216-379-11  | 2W6D8        |
| # R644       | 6.8 5% 1/4W Fusible Nonflammable | 1-212-853-61  | -            |
| R645         | .47 5% 1/4W Nonflammable         | 1-249-377-11  | -            |
| R649         | 560 5% 1W Nonflammable           | 1-216-431-11  | 1W156        |
| R650         | 100 5% 1/4W Nonflammable         | 1-249-405-11  | QW110        |
| # R651, 52   | 6.8 5% 1/2W Fusible Nonflammable | 1-212-954-61  | -            |
| R654         | .47 5% 3W Nonflammable           | 1-216-385-11  | -            |
| R655         | 1000 5% 1/4W Nonflammable        | 1-249-417-11  | QW210        |
| R658         | 4.7 5% 1/4W Nonflammable         | 1-249-389-11  | QW4D7        |
| R704, 05     | 5.6 5% 3W Nonflammable           | 1-216-398-11  | 3W5D6        |
| R712, 32, 52 | 15K 5% 3W Nonflammable           | 1-215-924-00  | 3W315        |
| R771, 72, 73 | 220 5% 1/4W Nonflammable         | 1-249-409-91  | QW122        |
| R775         | 1000 5% 1/4W Nonflammable        | 1-249-417-11  | QW210        |
| R776         | 220 5% 1/4W Nonflammable         | 1-249-409-11  | QW122        |
| R780         | 47K 5% 1W Nonflammable           | 1-215-902-11  | 1W347        |
| R781         | 10K 5% 1/4W Nonflammable         | 1-249-429-11  | QW310        |
| R782         | 1000 5% 1/4W Nonflammable        | 1-249-417-11  | QW210        |
| R783         | 47K 5% 2W Nonflammable           | 1-215-902-11  | 2W347        |
| R784, 85, 86 | 3300 5% 1/4W Nonflammable        | 1-249-423-11  | QW233        |
| R2223, 24    | 1200 5% 1/4W Nonflammable        | 1-249-418-11  | QW212        |
| R2226, 27    | 2.2 5% 1/4W Nonflammable         | 1-249-385-11  | QW2D2        |
| R3221, 22    | 1500 .5% 1/10W SMT               | 1-216-655-11  | -            |
| R3227        | 680 .5% 1/10W SMT                | 1-216-647-11  | -            |
| R3234        | 1000 .5% 1/10W SMT               | 1-216-651-11  | -            |
| R3270        | 1800 .5% 1/10W SMT               | 1-216-657-11  | -            |
| R3271        | 1500 .5% 1/10W SMT               | 1-216-655-11  | -            |
| # RV701      | 110M Horizontal Stat             | 1-241-656-21  | -            |
| RV702        | 2.2M Screen                      | 1-230-641-11  | -            |
| # THP601     | 5.3 Cold PTC                     | 1-809-539-11  | -            |
| VDR601       | Varistor 218K                    | 1-807-288-11  | -            |
| VDR602, 03   | Varistor 430NR10D                | 1-810-053-21  | -            |

# For SAFETY use only equivalent replacement part.

**COILS & TRANSFORMERS**

| Item No.     | Function/Rating                      | Mfr. Part No. |
|--------------|--------------------------------------|---------------|
| FB501, 02    | Ferrite Bead                         | 1-412-911-11  |
| FB601 thru   |                                      |               |
| FB606        | Ferrite Bead                         | 1-412-911-11  |
| FB613, 14    | Ferrite Bead                         | 1-412-911-11  |
| L001         | 10µH                                 | 1-410-470-1   |
| L002         | 27µH                                 | 1-408-414-0   |
| L150 (1)     | 10µH                                 | 1-410-470-1   |
| L170, 71, 72 | 8.2µH                                | 1-408-408-0   |
| L401         | 18µH                                 | 1-410-473-1   |
| L403         | 33µH                                 | 1-410-476-1   |
| L404         | 33µH                                 | 1-410-669-3   |
| L502         | 68µH                                 | 1-421-465-0   |
| L503         | 8.2µH                                | 1-412-524-1   |
| L504         | 33µH                                 | 1-410-669-3   |
| L505         | -                                    | 1-459-104-0   |
| L506         | -                                    | 1-422-613-1   |
| L508         | 3.3mH                                | 1-412-553-1   |
| # L509       | Horizontal Linearity                 | 1-460-173-2   |
| L510         | 15mH                                 | 1-406-607-1   |
| L513         | 8.2µH                                | 1-412-524-1   |
| # L599       | Yoke 100° Horiz .885mH<br>Vert 2.3mH | 1-451-275-4   |
| # L600       | Degaussing                           | 1-406-726-11  |
| L701         | 47µH                                 | 1-410-478-1   |
| L3201        | 10µH                                 | 1-410-470-1   |
| L3202, 03    | 180µH                                | 1-408-424-00  |
| L3204        | 33µH                                 | 1-410-476-11  |
| L3205        | 10µH                                 | 1-410-470-11  |
| L3206 thru   |                                      |               |
| L3209        | 33µH                                 | 1-410-387-11  |
| # T501 (2)   | Horizontal Output                    | 1-453-146-11  |
| # T502       | Horizontal Drive                     | 1-437-195-14  |
| # T503       | PMT                                  | 1-424-545-22  |
| # T601       | Line Filter                          | 1-423-593-11  |
| # T602       | Line Filter                          | 1-424-220-21  |
| # T603       | Converter Driver                     | 1-423-563-11  |
| # T604       | PTT                                  | 1-423-615-11  |
| T605         | SBT                                  | 1-423-582-11  |

# For SAFETY use only equivalent replacement part.  
(1) Not used in model KV-29V55M.  
(2) Focus and screen controls are part of T501.

**MISCELLANEOUS**

| Item No.  | Description  | Mfr. Part No. | Notes   |
|-----------|--------------|---------------|---|
| CM402     | Filter       | 1-466-912-21  | Comb  |
| # F601    | Fuse         | 1-532-748-11  | 6.3Amp, 125V, Slow Blow                       |
| IC1001    | Receiver     | 8-746-185-11  | Remote (SBX1618-59)                           |
| J401      | Jack         | 1-750-515-11  | S-Video, Video 1 In, Left/Right Audio 1 In    |
| J402      | Jack         | 1-750-517-11  | Video 3 In, Left/Right Audio 3 In             |
| J403      | Jack         | 1-750-545-11  | Video 3 Loop Out, Left/Right Audio 3 Loop Out |
| J404      | Jack         | 1-750-516-11  | Left/Right Audio Out                          |
| # J701    | Socket       | 1-540-071-13  | CRT   |
| J1001     | Jack         | 1-695-585-11  | Video 2 In, Left/Right Audio 2 In             |
| # P600    | Line Cord    | 1-751-059-11  | AC, Polarized                                 |
| PM501     | Module       | 1-810-061-11  | Protector (PM-38)                             |
| # PS2201  | IC Link      | 1-532-984-91  | 1.5Amp  |
| # RY601   | Relay        | 1-515-684-22  | Degaussing                                    |
| RY602     | Relay        | 1-515-516-00  | Power   |
| S501, 02  | Switch       | 1-572-707-11  | -   |
| S1001     | Switch       | 1-571-532-21  | Demo  |
| S1002     | Switch       | 1-571-532-21  | TV/Video                                      |
| S1003     | Switch       | 1-571-532-21  | Channel Up                                    |
| S1004     | Switch       | 1-571-532-21  | Channel Down                                  |
| S1005     | Switch       | 1-571-532-21  | Volume Up                                     |
| S1006     | Switch       | 1-571-532-21  | Volume Down                                   |
| # S1007   | Switch       | 1-571-532-23  | Power   |
| SP901, 02 | Speaker      | 1-504-322-11  | Sealed Unit                                   |
| # TU101   | Module (1)   | 8-598-039-01  | Tuner/IF (BTF-WA401)                          |
| # V901    | CRT          | 8-733-838-05  | A68KZJ50X                                     |
| X001      | Crystal      | 1-579-917-21  | -   |
|           | Crystal      | 1-579-917-41  | -   |
| X301      | Crystal      | 1-567-505-11  | 3.58MHz                                       |
| X3201, 02 | Crystal      | 1-567-878-11  | -   |
|           | Fuse Clip    | 1-533-223-11  | For F601 (2 Used)                             |
|           | Magnet       | 1-452-032-00  | Disk  |
|           | Magnet       | 1-452-094-00  | Rotatable, 15MM                               |
|           | PC Board (1) | A-1297-065-A  | A Board Complete                              |
|           | PC Board (1) | A-1331-270-A  | C Board Complete                              |
|           | PC Board (1) | A-1346-116-A  | D Board Complete                              |
|           | PC Board (1) | 1-646-717-11  | H Board Complete                              |
|           | PC Board (1) | A-1306-427-A  | M Board Complete (KV-27V55).                  |
|           | PC Board (1) | A-1306-432-A  | M Board Complete (KV-29V55M).                 |
|           | PC Board (1) | A-1195-062-A  | P Board Complete                              |
|           | PC Board (1) | A-1394-418-A  | UA Board Complete                             |
|           | Transmitter  | 1-467-072-11  | Remote (RM-Y119)                              |

# For SAFETY use only equivalent replacement part.  
(1) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.

**CABINET PARTS**

| Item                      | Mfr. Part No. |
|---------------------------|---------------|
| Cabinet Front             | X-4031-072-1  |
| Cabinet Rear              | 4-040-099-01  |
| Control Door              | 4-040-096-01  |
| Control Panel             | 4-040-100-01  |
| <b>REMOTE TRANSMITTER</b> |               |
| Battery Cover             | 9-904-195-01  |

**CAPACITORS & ELECTROLYTICS**

| Item No. | Rating           | Mfr. Part No. | Item No.       | Rating              | Mfr. Part No. |
|----------|------------------|---------------|----------------|---------------------|---------------|
| C043     | 12pF 2% 50V SMT  | 1-163-159-00  | # C601, 02, 03 | .47 20% 125V        | 1-136-311-51  |
| C047     | 24pF 2% 50V SMT  | 1-104-896-91  | # C604         | .0047 20% 400V      | 1-162-578-81  |
| C414, 15 | 1µF 20% 50V NP   | 1-124-499-11  | # C628         | 470pF 20% 400V      | 1-164-497-51  |
| C502     | 220pF 10% 2KV    | 1-162-131-11  | C642           | .01 5% 1.25KV       | 1-137-217-11  |
| C517, 18 | 680pF 10% 2KV    | 1-162-116-00  | C643           | .012 5% 1.25KV      | 1-137-218-11  |
| # C519   | .02 3% 2KV       | 1-104-771-11  | C701           | .0047 +80% -20% 2KV | 1-162-114-00  |
| # C520   | 470pF 10% 2KV    | 1-162-134-91  | C704           | 680pF 10% 2KV       | 1-162-116-00  |
| # C521   | .056 5% 630V     | 1-136-316-51  |                |                     |               |
| # C548   | 680pF 10% 2KV    | 1-162-116-91  |                |                     |               |
| C561     | 47pF 5% 500V NPO | 1-162-815-11  |                |                     |               |

# For SAFETY use only equivalent replacement part.

**Important Parts Information**

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

**Obtaining Parts**

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

**Participating Vendors**

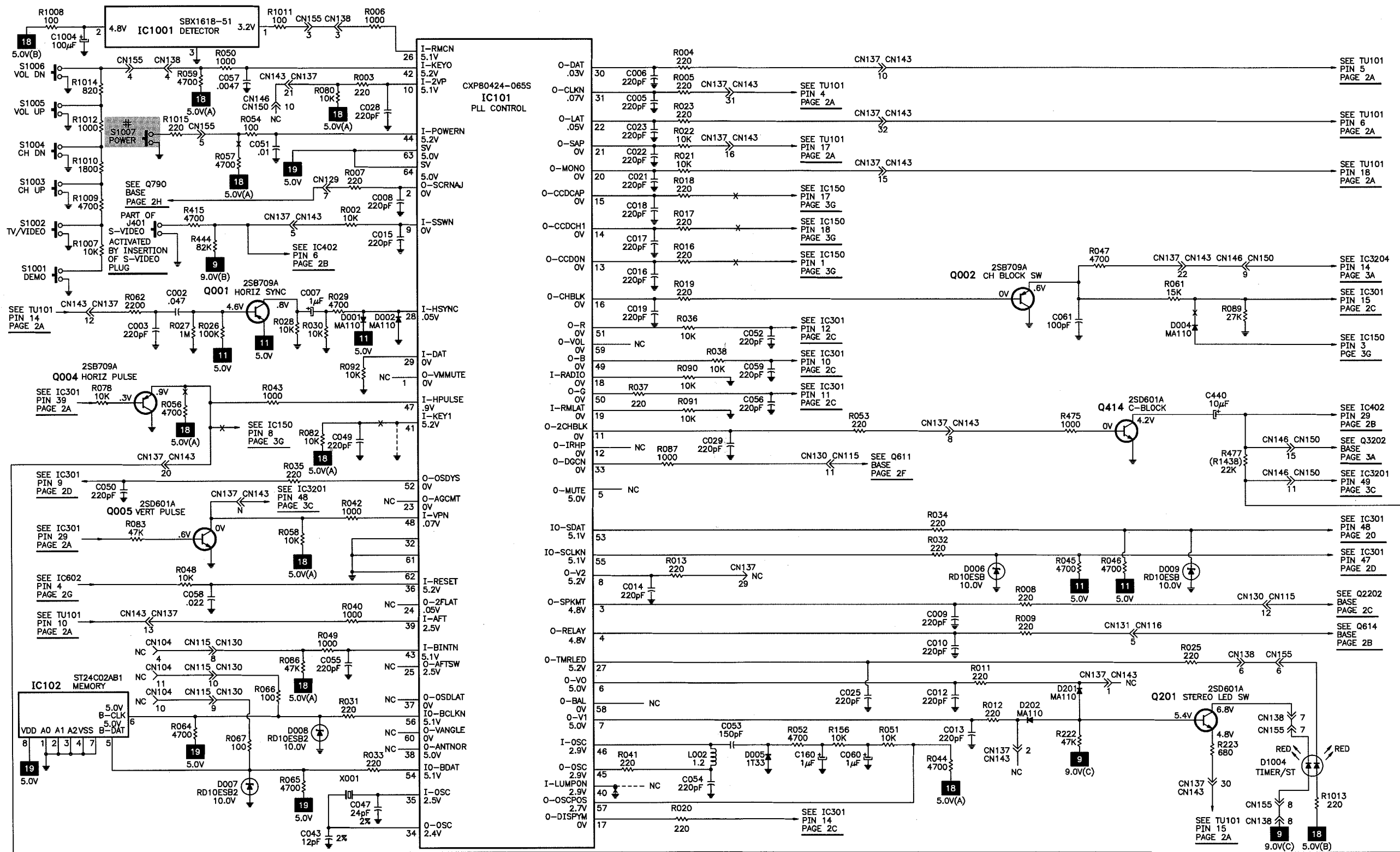
Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- Custom Components Corporation (Chek-A-Color)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- PTS Electronics Corporation (PTS)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)

SONY

MODEL KV-27V55 (CHASSIS SCC-F84H-A, SCC-F85E-A)

# SYSTEM CONTROL SCHEMATIC



VOLTAGES TAKEN WITH SIGNAL

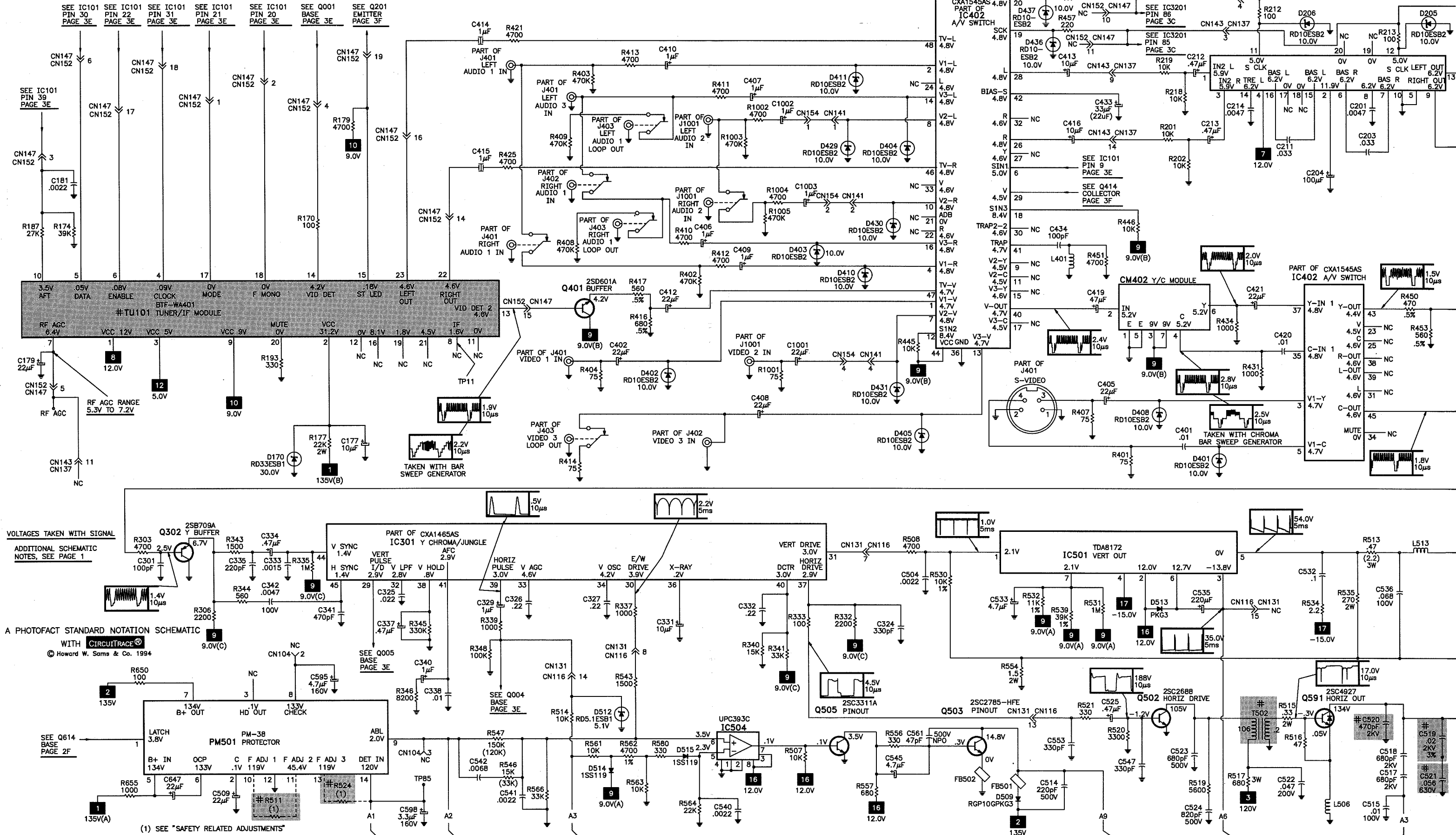
ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH CIRCUITTRACE®

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# TELEVISION SCHEMATIC



## MISCELLANEOUS ADJUSTMENTS continued

### VERTICAL LINEARITY (VLIN)

Tune in a crosshatch pattern. Enter the service adjustment mode. Select VLIN and adjust for equal vertical spacing of pattern. Save adjustment to memory.

### VERTICAL VS (VSCO)

Enter the service adjustment mode. Select VSCO and adjust for best picture. Save adjustment to memory.

### CHROMA TRAP (CROM)

Tune in a colorbar pattern. Set color to maximum and turn notch on. Connect an oscilloscope to pin 1 of CN703. Enter the service adjustment mode. Select CROM and adjust for minimum chroma. Save adjustment to memory.

### SUB BRIGHTNESS (SBRT)

Tune in a crosshatch pattern. Set picture to minimum, and brightness to reset. Enter the service adjustment mode. Select SBRT and adjust for visible highlights. Save adjustment to memory.

### SUB CONTRAST (SPIX)

Connect an oscilloscope to pin 1 of CN703. Tune in a colorbar pattern. Set picture to maximum, color to minimum, and brightness to center. Enter the service adjustment mode. Select ROFF and set to 1. Select GOFF and set to 0. Select BOFF and set to 0. Select SPIX and adjust so that signal portion of waveform is 2.0V±0.5V p-p. Save adjustment to memory. Return picture settings to normal after adjustment.

### SUB HUE AND SUB COLOR (SHUE, SCOL)

Tune in a colorbar pattern. Connect an oscilloscope to pin 3 of CN703. Enter the Service Adjustment Mode. Select and adjust SHUE and SCOL so that the levels of the left and right portions of the waveform are balanced, and the level of the center portion is balanced. Save adjustment to memory.

### PIP HORIZONTAL POSITION (PHPO)

Tune in a colorbar pattern. Enter the service adjustment mode. Turn PIP on. Select PHPO, and adjust for the best balance at all four corners for PIP position. Save adjustment to memory.

### COLOR PURITY

Use a degaussing coil to demagnetize the CRT and mounting brackets. Tune in a green raster signal. Loosen deflection yoke clamp

screw and slide it backward to obtain a vertical green band. Adjust purity rings to center the vertical green band. Slide the deflection yoke forward until a uniform green screen is obtained. Tune in a blue and red raster signal and check blue and red purity. Tighten the yoke clamp screw.

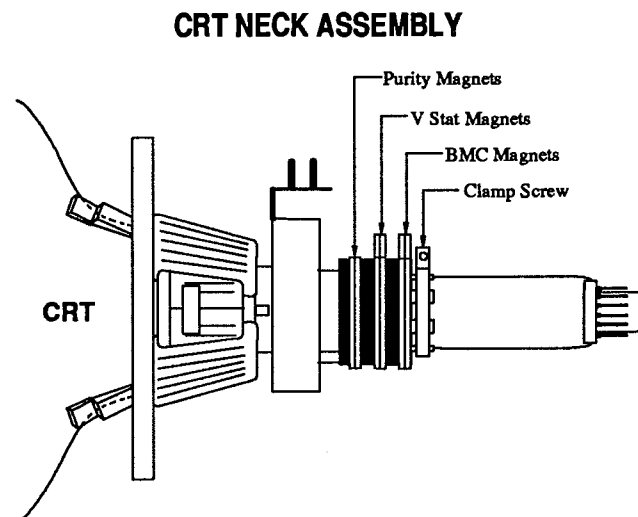
### COLOR TEMPERATURE (BCUT, GCUT, GAMP, BAMP)

Tune in a crosshatch pattern. Adjust RV702 so the retrace lines just disappear. Enter service adjustment mode. Set picture to minimum. Select SBRT and adjust or minimum. Select GCUT and BCUT and adjust for best white balance. Save adjustment to memory. Set picture to maximum. Select GAMP and BAMP and adjust for best white balance. Save adjustment to memory. Perform sub brightness adjustment.

### CONVERGENCE

Adjust focus, horizontal size, vertical size, and vertical linearity. Tune in a dot pattern. Adjust RV701 to converge red and blue dots over green dots horizontally at center of screen. Rotate vertical static magnets to converge red and blue dots over green dots vertically at center of screen.

NOTE: Some versions use a BMC magnet. To adjust BMC magnet, slide it in and out to correct for insufficient horizontal static convergence, rotate the BMC magnet to correct for insufficient vertical static convergence. Tune in a crosshatch pattern and loosen deflection yoke screw. Remove rubber wedges between deflection yoke and CRT. Tilt deflection yoke up or down to converge the vertical lines at top and bottom of screen and the horizontal lines at the right and left sides of screen. Tilt deflection yoke right or left to converge vertical lines at the right and left sides of screen and horizontal lines at top and bottom of screen. Repeat convergence procedure if necessary to obtain best overall convergence. Apply adhesive to wedges and carefully replace on CRT.



### DIGITAL SERVICE ADJUSTMENTS

Note: Numbers in No. column indicates adjustment order.

| No. | Display. | Item             | Data Range | Nominal Value |
|-----|----------|------------------|------------|---------------|
| 1   | AFC      | AFC Loop Gain    | 0-3        | 0*            |
| 2   | HFRE     | H Frequency      | 0-127      | 72            |
| 3   | VFRE     | V Frequency      | 0-31       | 16            |
| 4   | VPOS     | V Center         | 0-31       | 17            |
| 5   | VSIZ     | V Size           | 0-63       | 28            |
| 6   | VLIN     | V Linearity      | 0-15       | 8             |
| 7   | VSCO     | V Correction     | 0-15       | 6             |
| 8   | HPOS     | H Center         | 0-15       | 6             |
| 9   | HSIZ     | H. Size          | 0-31       | 31            |
| 10  | PAMP     | Pin Amp          | 0-31       | 24            |
| 11  | CPIN     | Corner Pin       | 0-7        | 3             |
| 12  | PPHA     | Pin Phase        | 0-15       | 6             |
| 13  | VCOM     | V Compensation   | 0-7        | 2*            |
| 14  | GAMP     | Green Amp        | 0-31       | 20            |
| 15  | BAMP     | Blue Amp         | 0-31       | 17            |
| 16  | GCUT     | Green Cut Off    | 0-15       | 7             |
| 17  | BCUT     | Blue Cut Off     | 0-15       | 8             |
| 18  | CROM     | Chroma Trap      | 0-63       | 28*           |
| 19  | SPIX     | Sub Contrast     | 0-63       | 20            |
| 20  | SHUE     | Sub Hue          | 0-63       | 33            |
| 21  | SCOL     | Sub Color        | 0-63       | 32            |
| 22  | SBRT     | Sub Bright       | 0-63       | 35            |
| 23  | RGBP     | RGB Picture      | 0-63       | 10*           |
| 24  | SHAP     | Sharpness        | 0-15       | 7*            |
| 25  | VSMO     | V Pull in Range  | 0, 1       | 0*            |
| 26  | REF      | Reference line   | 0-3        | 2*            |
| 27  | ROFF     | Red Out          | 0, 1       | 1             |
| 28  | GOFF     | Green Out        | 0, 1       | 1             |
| 29  | BOFF     | Blue Out         | 0, 1       | 1             |
| 30  | ABLM     | ABL Mode         | 0, 1       | 0*            |
| 31  | NOTC     | Notch On/Off     | 0, 1       | 1*            |
| 32  | DRGB     | OSD intensity    | 0, 1       | 0*            |
| 33  | VANG     | V Angle          | 0-63       | 0             |
| 34  | DISP     | Display Position | 0-63       | 40            |
| 35  | SVOL     | Sub Volume       | 0-15       | 0*            |
| 36  | SBAL     | Sub Balance      | 0-15       | 7             |
| 37  | BASS     | Sub Bass         | 0-15       | 8*            |
| 38  | TRE      | Sub Treble       | 0-15       | 8*            |
| 39  | UYBO     | Upper Y Bow      | 0-63       | -             |
| 40  | LYBO     | Lower Y Bow      | 0-63       | -             |
| 41  | HAMP     | H Amp            | 0-63       | -             |
| 42  | HTIL     | H Tilt           | 0-63       | -             |
| 43  | UCBO     | Upper C Bow      | 0-63       | -             |
| 44  | UTIL     | Upper Tilt       | 0-63       | -             |
| 45  | LCBO     | Lower C Bow      | 0-63       | -             |
| 46  | LTEL     | Lower Tilt       | 0-63       | -             |
| 47  | DCSH     | DC. Shift        | 0-63       | -             |
| 48  | PHPO     | PinP H Position  | 0-127      | 76            |
| 49  | PHUE     | PinP Hue         | 0-31       | 0*            |
| 50  | ID0 (1)  | Model Id         | 0-127      | 120           |
| 51  | ID1 (1)  | Model Id         | 0-127      | 127           |
| 52  | ID2 (1)  | Model Id         | 0-127      | 72            |
| 53  | ID3 (1)  | Model Id         | 0-127      | 64            |
| 54  | ID4 (1)  | Model Id         | 0-127      | 16            |

\* Setup value.

(1) When replacing IC102, set ID0 thru ID4 to value in nominal value column. On model KV-29V55M, set ID2 to 40 instead of 72.

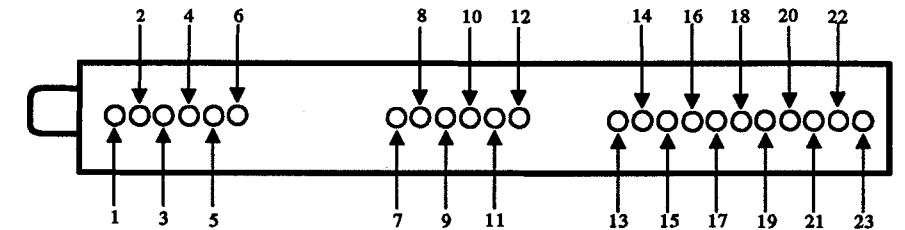
## TUNER INFORMATION

### TUNER VOLTAGE CHART

| Pin | Pin Name | Voltage | Pin | Pin Name    | Voltage | Pin | Pin Name | Voltage |
|-----|----------|---------|-----|-------------|---------|-----|----------|---------|
| 1   | Vcc 12V  | 12.0    | 9   | Vcc 9V      | 9.0V    | 17  | Mode     | 0V      |
| 2   | Vcc 30V  | 31.2V   | 10  | AFT         | 3.5V    | 18  | F Mono   | 0V      |
| 3   | Vcc 5V   | 5.0V    | 11  | NC          | 0V      | 19  | NC       | 1.8V    |
| 4   | Clock    | .09V    | 12  | NC          | 0V      | 20  | Mute     | 0V      |
| 5   | Data     | .04V    | 13  | Video Det 2 | 4.6V    | 21  | NC       | 4.5V    |
| 6   | Enable   | .08V    | 14  | Video Det   | 4.2V    | 22  | R Out    | 4.6V    |
| 7   | RF AGC   | 6.4V    | 15  | ST Led      | 1.8V    | 23  | L Out    | 4.6V    |
| 8   | IF       | 1.6V    | 16  | NC          | 8.1V    |     |          |         |

NOTE: Voltages do not change on different bands.

### TUNER TERMINAL GUIDE



## SCHEMATIC NOTES

# For SAFETY use only equivalent replacement part.

✕ Circuitry not used in some versions.

--- Circuitry used in some versions.

⊥ Ground

⊞ Chassis ground

∇ Common tie point

△ Taken from common tie point

3 Schematic **CIRCUITRACE** Voltage source tie point.

A Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.

Waveforms taken with triggered scope and colorbar signal.

Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.

Supply voltages maintained as seen at input.

Voltages measured with digital meter and a 1000µV RF signal, with colorbar pattern, applied to antenna terminal. Controls adjusted for normal operation.

Capacitors are 50 volts or less, 5% or greater unless noted.

Electrolytic capacitors are 50 volts or less,

20% or greater unless noted.

Resistors are 1/2W or less, 5% or greater unless noted.

Value in ( ) used in some versions.

Measurements with switching as shown, unless noted.

Rated voltage shown on zener diodes.