

CABINET-REAR VIEW

## DISASSEMBLY INSTRUCTIONS

### CHASSIS REMOVAL

Remove thirteen screws holding cabinet back and remove back. Disconnect HV anode, CRT socket, deflection yoke connector, degaussing coil connector, speaker connectors, ground leads and all required cabling. Disconnect antenna connector. Remove two screws holding Stereo broadcast board to cabinet bottom and remove board from cabinet. Remove two screws holding tuner assembly to cabinet bottom and remove assembly from cabinet. Slide main board from out of cabinet bottom. Remote receiver may be removed at this point of disassembly. Remove one screw holding remote receiver to cabinet front and remove assembly from cabinet. Remove two screws holding

Secondary control board to cabinet front and remove board from cabinet. Remove two screws holding Stereo control board to cabinet front and remove board from cabinet. Remove two screws holding Keyboard assembly to cabinet front and remove from cabinet. Remove screws holding Indicator board to cabinet front and remove board from cabinet.

### CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assemblies. Remove six screws nuts holding CRT to cabinet front and lift CRT out of cabinet. **DO NOT LIFT CRT BY NECK.**

## SERVICING IN THE FIELD

### CRT IMPLSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

### FUSE DEVICES

A 5amp fuse is used for AC line protection. (See photo, Cabinet - Rear View.)

### VHF/UHF TUNER

See Miscellaneous Adjustments.

### CHANNEL TUNING

Channel Up and Down buttons are provided for channel scanning with ten numbered buttons (on remote transmitter) are provided for one or two-digit entry direct access channel selection. Fine tuning is automatic.

### WIDTH

The width may be varied by adjusting the width control. (See photo, Cabinet - Rear View.)

### FOCUS

The focus may be varied by a Focus Control. (See photo, Cabinet - Rear View.)

### AGC

The AGC may be varied by an RF AGC control. (See photo, Cabinet - Rear View.)

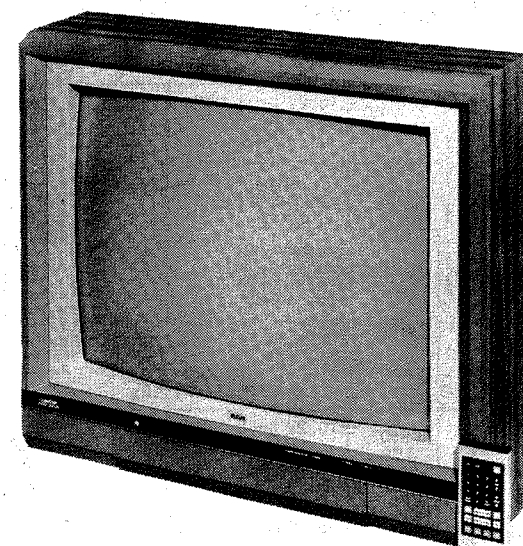
SET 2681 FOLDER 1

**SAMS**

**PHOTOFACT**

For Supplier Address See PHOTOFACT Index

RCA  
CHASSIS CTC130A



Representative Model

### MODEL

FMR520WR	GMR819PR
FMR535WR	GMR820T
FMR536ER	GMR821TR
FMR552ER	GMR822T
FMR618E	GMR823TR
FMR620WR	GMR825TR
FMR622TR	GMR830P
FMR623ER	GMR831PR
FMR710TR	GMR833PR
GMR640T	GMR841TR
GMR641TR	GMR843ER
GMR644H	GMR845FR
GMR645HR	GMR849PR
GMR648P	JMR920DR, ER
GMR649PR	JMR920NR, TR
GMR651TR	JMR920WR, YR
GMR655HR	JMR922WR
GMR659PR	JMR926WR
GMR810P	JMR980WR
GMR811PR	JMR984WR
GMR814H, L	
GMR815HR, LR	
GMR818P	

## SAFETY PRECAUTIONS

See Page 1.

## INDEX

	Page	Photos (Continued)	Page
Alignment			
TV	11	Stereo Broadcast Board	16
Stereo	1	Stereo Broadcast Board - Shield Location	16
Convergence Adjustments	1	Stereo Power Board	17
Disassembly Instructions	1	Quick - Checks Troubleshooting	
GridTrace Location Guide		CRT Board	17
CRT Board	17	Main Board	15
Main Board	15	Stereo Power Board	17
Remote Control Transmitters	6	Safety Precautions	1
Stereo Broadcast Board	17	Schematics	
Stereo Power Board	16	Clock Radio	5
Tuners	11 thru 13	CRT	2
IC Functions	3,11	IF Splitter	6
Miscellaneous Adjustments	1	Power Supply	2
Parts List		R/C Transmitters	5,6
Clock Radio	22	Sound Processor	3
TV	17 thru 22	Stereo Broadcast	4
Photos		Stereo Decoder	4
Cabinet - Rear View	1	Stereo Power Amp	4
Clock Radio	14	Terminal Guides and Notes	2
Control Board	14	Tuners	7 thru 10
CRT Board	17	TV	2
CRT Neck Assembly	1	Video In/Out	3
IF Splitter	6	Video Switch	4
Main Board	15	Wiring Interconnect	8 thru 10
Main Board - Shield Location	15,16	Servicing in the Field	1
Pincushion Board	14	Stereo Adjustments	1
PW RR001A Board	14	Test Equipment	1
R/C Transmitters	12,14	Troubleshooting	1

**SAMS**

Howard W. Sams & Company

2647 Waterfront Parkway, East Drive, Suite 300, Indianapolis, Indiana 46214 U.S.A.

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co. as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co. by the manufacturers of the particular type of replacement part listed.

Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein.

© 1989 Howard W. Sams & Co.

4300 West 62nd Street, P.O. Box 7092, Indianapolis, Indiana 46206 U.S.A. 88PD01690 Printed in U.S. of America

10 9 8 7 6 5 4 3 2 1

DATE 8-89

SET 2681 FOLDER 1

CHASSIS CTC130A

SET 2681 FOLDER 1

SAFETY PRECAUTIONS

SERVICE WARNING

Service work should be performed only by qualified service technicians who are familiar with safety checks and guide lines.

- 1. For continued safety, no modification of any circuit should be attempted unless recommended by manufacturer.
- 2. Disconnect power source before replacing parts as some parts may be electrostatic sensitive.
- 3. Use an isolation transformer between the line cord and power receptacle, when servicing chassis.

SERVICING HIGH VOLTAGE AND PICTURE TUBE

When servicing the High Voltage circuits, extreme caution should be used.

- 1. Discharge static High Voltage by connecting a 10 kohms resistor in series with a test lead between chassis and anode lead of picture tube.
- 2. Wear shatter-proof eye protection (goggles) when handling the picture tube in case of implosion.
- 3. DO NOT lift picture tube by the neck.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Service personnel should be aware of the procedures and instructions covering x-ray radiation. The only potential source of x-ray in present day solid state receivers and monitors is the picture tube.

- 1. It is only when High Voltage is excessive that x-ray radiation is capable of being emitted from shell of picture tube. Be sure the High Voltage is set at specified level.
- 2. An accurate High Voltage meter should be available at all times. Meter calibration should be checked periodically.
- 3. High Voltage should be kept at rated value - NO HIGHER. Higher voltages may cause x-ray radiation or failure of other associated components. DO NOT depend on protection circuit to keep voltages at rated value.
- 4. Every time a chassis is serviced, High Voltage should be checked at various brightness levels to be sure it is regulating properly.
- 5. While troubleshooting a set with excessive High Voltage, avoid being close to picture tube. DO NOT operate longer than it is necessary to locate the cause of excessive High Voltage. Use a variable AC transformer to regulate voltage.
- 6. Many components, electrical and mechanical, in present chassis have safety related characteristics which are not evident with visual inspection. When these components are known, they are identified with a # on the schematic and in the parts list. When replacing these components, for SAFETY, use only an equivalent replacement part.

SAFETY CHECKS-FIRE AND SHOCK HAZARD

Cold Leakage Checks (Sets with isolated ground.)

- 1. Unplug the AC cord and connect a jumper across the two prongs on the plug.
- 2. Turn on power switch.
- 3. Measure the resistance, with an Ohm meter, between the jumpered AC plug and any exposed metal cabinet parts on the set such as: antenna screw heads, control shafts, handle brackets. Exposed metal parts that have a return path should measure between 200 kohms and 5 megohm. Parts without a return path must measure infinity.

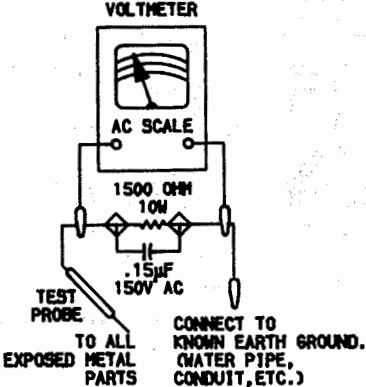
Leakage Current Hot Check

- 1. Plug the AC cord directly into AC outlet. DO NOT use an isolation transformer.
- 2. Connect a 1500 Ohm 10 watt resistor, in parallel with a .15µF 150V AC capacitor, between any exposed metal parts on the set and a good earth ground such as a water pipe. (See Figure below.)
- 3. Using an AC volt meter, with 1000 Ohms per volt or more sensitivity, measure the voltage across the resistor. Check each exposed part and measure voltage at each point.
- 4. Reverse the AC plug and repeat voltage measurement at each point.
- 5. The voltage at any point should not exceed .75 volts RMS. This corresponds to .5 milliamps AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected.

GENERAL GUIDE LINES

A final SAFETY check before returning the set to customer.

- 1. Check area repaired for poorly soldered or de-soldered connections. Check entire circuit board surface for solder splashes.
- 2. Check interboard wiring for pinched wires or wires contacting any high-wattage resistors.
- 3. Check that all control knobs, shields, covers, grounds and mounting hardware have been replaced. Be sure to replace all insulators.



TEST JIG HOOKUP

FUNCTION	Chek-A-Color ADAPTER NO.
CRT YOKE YOKE SETTING	B243 D4142 YPI Focus Tap

P401	P401	P501	P501
PIN 1	PIN 2	PIN 1	PIN 2
RED	BLUE	GREEN	YELLOW

(P.C. Board)

TROUBLESHOOTING

POWER SUPPLY

Check the AC Fuse (F101). If Fuse F101 is open, check Bridge Rectifier Diodes (CR101 thru CR104), Capacitors C101 thru C104, C110, Electrolytic C105, Resistor R120, Horizontal Output Transistor (Q402) and Regulator SCR101. If F101 is good, apply 120V AC and check for 150V at the cathode of Diode CR103. If this voltage is missing, check Line Filter L101, Coil L105, and Resistor R120. If 150V is present, depress the power button and check for 127V at TP127V (REGB2). If 127V is not present at TP127V (REGB2) check the voltages and components associated with pins 4, 5, 7, 9, 10, and 11 of Deflection IC (U401), On-Off Transistor (Q601), Q402 and X-Ray/Over Voltage Protect SCR (SCR401). If the proper voltage is present at TP127V (REGB2) refer to the "Horizontal" section of this Troubleshooting guide. If the voltage at TP127V (REGB2) is 0V and the Voltage at TP106 is 0.0V, the set may be in shutdown. Refer to the "Horizontal" and "High Voltage Shutdown" sections of this Troubleshooting guide.

HORIZONTAL

Determine if the horizontal or power supply circuits are in shutdown, refer to the "Power Supply" and "High Voltage Shutdown" sections of this Troubleshooting guide. If the circuits are not in shutdown, depress the power switch and check for a horizontal drive signal at pin 16 of Deflection IC (U401) and a SCR drive signal at pin 7 of U401. If none of these signals are present, check the voltages, waveforms and components associated with pins 1 thru 16 of U401. If the proper waveforms are present at pins 7 and 16 of U401, check the voltages, waveforms and components associated with Regulator SCR (SCR101), Horizontal Driver Transistor (Q401), Horizontal Output Transistor (Q402) and Horizontal Output Transformer (T402). Check Diodes CR106, CR107, CR109 and associated parts for defects. The high voltage rectifier is part of Transformer T402 and if defective will affect the operation of the horizontal circuits. If the horizontal oscillator is off frequency, check the voltages, waveforms and components associated with pins 4 and 5 of U401. Horizontal linearity or foldover problems may be caused by Capacitors C431 thru C436 being defective.

HIGH VOLTAGE SHUTDOWN

The high voltage is monitored by Diode CR409 rectifying pulses from the Horizontal Output Transformer (T402) and applying the rectified

voltage to the cathode of Zener Diode CR406. Should the high voltage increase, the voltage at the cathode of Diode CR406 will also increase and trigger CR406 and SCR401 into conduction. This action takes the B+ voltage of pins 4 and 5 of Deflection IC (U401) near 0V, which shuts down the power supply and the horizontal circuits. To troubleshoot, disconnect Diode CR408 from the circuit, disconnect the high voltage lead and use a variable power supply for AC voltage. Start at 70V AC and troubleshoot to locate the defect. Replace CR408 in the circuit.

NOTE: Care should be taken in defeating the high voltage shutdown circuit as this may cause excessive X-Ray radiation and damage to the CRT and Transformer T401. Monitor the high voltage and troubleshoot.

Voltage taken in shutdown.

SCR401		
A	K	G
.9V	.0V	.0V

HIGH VOLTAGE SHUTDOWN TEST

Apply 120V AC, turn set On, set all customer controls for normal operation. Momentarily short XT1 to XT2. Set should lose Raster and Sound. If set does not lose Raster and Sound the shutdown circuit should be repaired. To resume normal operation, remove AC Power and wait 30 seconds then turn set On.

AUDIO

Select an active TV channel and check for an audio waveform at pin 7 of IC (U200). If there is no audio, check the voltages, waveforms and components associated with IF/AFT IC (U100), RF Amp Transistor (Q101) and IC U200. If an audio waveform is present at pin 7 of U200, select a station that is transmitting Stereo signal and check for an audio waveform at pins 8 and 16 and .67V at pin 29 of MPX/Decoder IC (U300). If the waveforms and the proper voltages are missing, check the voltages, waveforms and components associated with pins 8, 15, 16, and 18 thru 29 of U300. If the waveforms are present and the proper voltage is missing at pin 29, check the voltages, waveforms and components associated with pins 21 thru 29 of U300. If the audio waveforms are present at pins 8 and 16 and the proper voltage is present at pin 29 of U300, check for an audio waveform at pins 15 and 16 of DBX Processor IC (U400). If there is no

## TROUBLESHOOTING (Continued)

audio, check the voltages, waveforms and components associated with IC U400. If the proper waveforms are present at pins 15 and 16 of U400, select stereo mode and check for audio at pins 13 and 14 of U300. If there is no audio, check the voltages, waveforms and components associated with pins 9 thru 14 and 17 of U300 and ICs (U600), and (U700). Select a station that is transmitting a SAP signal, select SAP mode and check SAP audio at pins 13 and 14 and .67V at pin 30 of U300. If there is no audio and the voltage is incorrect, check the voltages, waveforms and components associated with pins 1 thru 7 and 30 of U300. If there is audio at pins 13 and 14 of U300 in Mono/Stereo/Sap, check for audio in either mode at pin 7 of Audio Power Amp, ICs (U2 and U3) on Stereo Power Amp Board. If these waveforms are missing, check the voltages, waveforms and components associated with Audio Control IC (U1) on Stereo Power Amp Board. If audio is present at either IC (U2 and U3), check the voltages, waveforms and components associated with IC's (U2 and U3). Check the voltage at pin 8 of U1, it should measure .3V at mute and 5.6V at Maximum volume.

### VIDEO

Inject a video signal at M3 and check for video on the CRT. If video is present, troubleshoot the "IF-AGC" section of this Troubleshooting guide. If there is no video on the CRT, check for a video waveform at pins 20, 21 and 22 of Luma/Chroma IC (U701). If there is no video at pins 20, 21 and 22, of U701, check the voltages, waveforms and components associated with pins 7, 8, 20, 21, 22, 24, 25, 26, 27, 28 of U701, check the voltages, waveforms and components associated with Red, Green and Blue Bias Transistors (Q704, Q705, Q706) and Driver Transistors (Q5001). If the brightness is inadequate or cannot be controlled, check the voltages, waveforms and components associated with the Black Level Control and pin 24 of U701.

### IF-AGC

Inject a video IF signal at P301 and check for video on the CRT. If video is present, check the tuner, tuner control and tuner AFC circuits. If there is no video on the CRT, check for a video waveform at M3. If video is present at M3, refer to the "Video" section of this Troubleshooting guide. If there is no video at M3, apply AGC bias to TP307. If video is now present at M3, check the voltages, waveforms and components associated with pins 3, 6 and 14 of IF Processor IC (U301). If there is still no video at M3, check the voltages, waveforms and components associated with pins 1, 4, 5, 7 thru 11, 12 and 16 of U301, IF Preamp Transistor (Q301) and Video Amp Transistors (Q303, Q304). A defective AGC circuit can cause an overloaded picture, excessive snow or loss of audio and video. See the AGC Voltage Chart for AGC voltages with signal.

AGC Voltage Chart U301	
Pin 3	5.9V
Pin 6	5.6V
Pin 14	7.9V

### VERTICAL

If there is no vertical sweep, check the voltages on the Vertical Transistors (Q501, Q502). If any of the voltages are missing or questionable, check the Transistor and its associated components. Inject a vertical signal at pin 11 of the Deflection IC (U401). If vertical deflection is now present, check the voltages, waveforms and components associated with pin 18 of U401. If there is no vertical sweep, check the Deflection Yoke (DY1), Pin Amp Transistor (Q1) and Pin Driver Transistor (Q2). Vertical linearity or foldover problems may be caused by the vertical feedback and bias circuits. Check Electrolytics C506, C508, C509, C505 and associated components for defects.

### SYNC

Check for vertical and horizontal sync pulses at TP302. If missing, check the voltages, waveforms and components associated with Sync Transistor (Q305). If vertical and horizontal sync pulses are present at TP302, check for the proper vertical waveforms at pin 18 of U401 and the proper horizontal waveforms at pin 16 of U401.

### RASTER

Check the CRT and CRT voltages. If there is no red, check the voltages and components associated with pin 21 of Chroma Luminance IC (U701), Red Bias Transistor (Q704) and Red Output Transistor (Q1). If there is no green, check the voltages and components associated with pin 20 of IC U701, Green Bias Transistor (Q705) and Green Output Transistor (Q2). If there is no blue, check the voltages and components associated with pin 22 of IC U701, Blue Bias Transistor (Q706) and Blue Output Transistor (Q3). If the raster has a pincushion shape, check the voltages, waveforms and components associated with Pin Amp Transistor (Q1) and Pin Driver Transistor (Q2). If the raster has height or width problems, refer to the "Vertical", "Horizontal" and "Power Supply" section of this Troubleshooting guide.

### CHROMA

Check for a chroma waveform at TP801. If the waveform is missing, check the components associated with TP801. If a chroma waveform is present at TP801, check for the proper chroma waveforms at pins 20, 21 and 22 of Luma/Chroma IC (U701). If these waveforms are missing, check the voltages, waveforms and components associated with pins 1 thru 19 of U701. Check the 3.58MHz oscillator at pins 11, 12 and 13 of U701. Check the voltage and components associated with the color control and pin 2 of U701. If there is no color sync, check the voltages, waveforms and components associated with pin 7 of U701. If there is inadequate tint range, check the voltages and components associated with pin 14 of U701. If the proper chroma waveforms are present at pins 20, 21 and 22 of U701, refer to the "Raster" section of this Troubleshooting guide.

## MISCELLANEOUS ADJUSTMENTS

### HIGH VOLTAGE CHECK

Tune in a picture. Set Brightness, Color, and Contrast Controls to MINIMUM. Connect a high voltage probe to CRT second anode High voltage should be 25.8 KV.

### RF AGC ADJUSTMENT

Tune in a picture. Adjust AGC Control (R334) until snow appears and then back to a point where snow disappears.

### CONTRAST PRESET ADJUSTMENT

Tune in a picture. Set Color Control to MINIMUM. Set Brightness and Contrast Controls to midrange. Adjust Contrast Preset Control (R715) for good white highlights without blooming.

### WIDTH ADJUSTMENT

Tune in a crosshatch pattern. Allow a 15 minute warmup time. Adjust Width Adjust Control (R4) for horizontal overscan not more than 1/4 of an inch.

### COLOR TEMPERATURE ADJUSTMENT (B/W TRACKING)

Tune in a picture. Turn Color Control to MINIMUM. Set Black Level and Picture to midrange. Turn Red (R750), Green (R752) and Blue (R754) Bias Controls and Screen to MINIMUM. Set Brightness and Contrast Controls to MINIMUM. Set Red/Blue (R758) and Green (R756) Drive Controls to Maximum. To obtain a service line connect a jumper wire between SS1 and SS2. Also short stakes SS3, and SS4 to ground. Advance Screen Control so that a horizontal line is just visible. Adjust only 2 Bias Controls to obtain a dim white line. Remove jumpers. Rotate Brightness Control to Maximum. Adjust the Blue/Red and Green Drive Controls for best Black and White picture. Check tracking at low and high brightness. If necessary, retouch Bias Controls.

### COLOR PURITY ADJUSTMENT

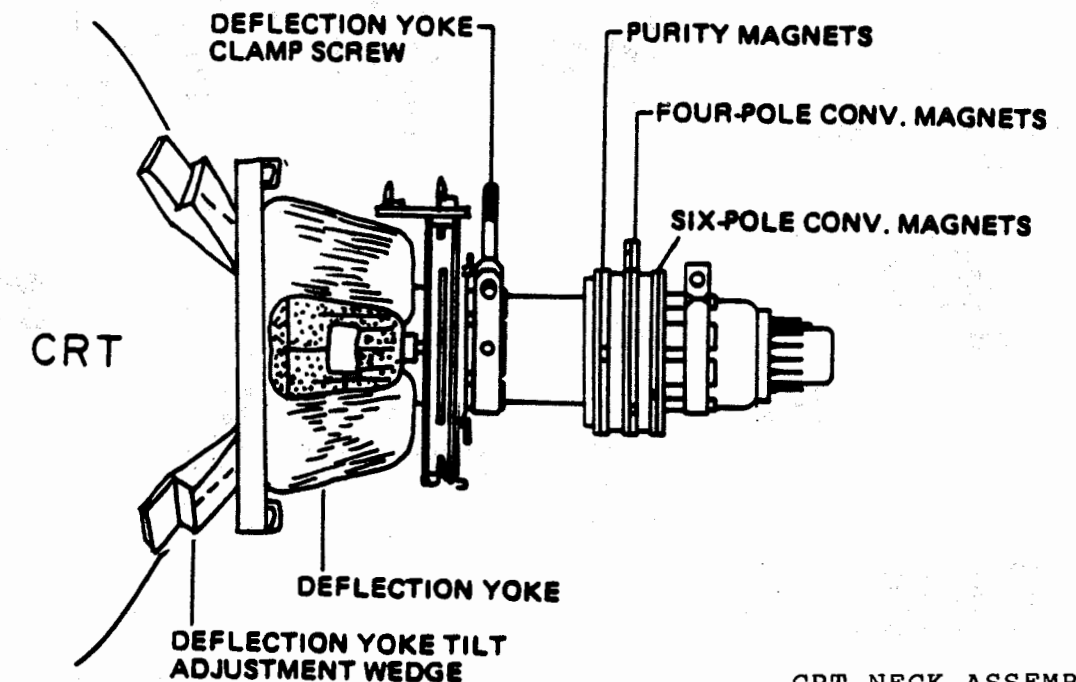
NOTE: Before attempting any purity adjustments the receiver should be operated for at least thirty minutes. If the magnetic tape type beam bender is used replace it with adjustable type beam bender found in parts list.

Use a degaussing coil to demagnetize the CRT and all mounting hardware. Adjust Red (R750) and Blue (R754) Bias Controls to obtain a green raster. Advance Green (R752) Bias Control if necessary. Loosen the yoke clamp screw and slide the yoke forward to obtain a vertical green band. Rotate and spread the tabs of the purity magnets until the green band is centered on the screen. Move the yoke backward until a uniform green screen is obtained.

### CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments the receiver should be operated for at least fifteen minutes.

Connect a color bar generator to the antenna terminals and tune in a dot pattern. Adjust four-pole convergence magnets to converge the red and blue dots in the center of the screen. Adjust the six-pole convergence magnets to converge the red/blue dots over the green dots at the center of the screen. Tune in a crosshatch pattern and remove the rubber wedges between the yoke and the CRT. Tilt the yoke up or down to converge the vertical lines at top and bottom of screen. Tilt the yoke right or left to converge 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. For misconvergence on outer edges of screen place Compensators in quadrant needing correction.



CRT NECK ASSEMBLY



TROUBLESHOOTING AID

Note: Waveforms taken with triggered scope, Keyed-Rainbow generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Check AC power supply and sources generated from Horizontal Output Transformer (T402). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (T402). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (T402) sources and Video circuit. Refer to "Troubleshooting" Horizontal and Video circuits.

NO PIC, HAS SOUND, HAS RASTER: Refer to "Troubleshooting" Video circuit.

HAS PIC, NO SOUND: Refer to "Troubleshooting" Audio circuit.

OVERLOADED PICTURE: Refer to "Troubleshooting" IF-AGC circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER, HAS SOUND: Check HV rectifier, Part of Horizontal Output Transformer (T402). Refer to "Troubleshooting" Horizontal circuit.

NO RASTER, NO SOUND: Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

RASTER

YELLOW (NO BLUE): Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

CYAN (NO RED): Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

MAGENTA (NO GREEN): Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

COLOR (B/W operating normally)

NO COLOR: Refer to "Troubleshooting" Chroma circuit.

WEAK COLOR: Refer to "Troubleshooting" Chroma circuit.

NO COLOR SYNC: Refer to "Troubleshooting" Chroma circuit.

NO GREEN: Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

NO BLUE: Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

NO RED: Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

INCORRECT HUE (TINT): Refer to "Troubleshooting" Chroma circuit.

STEREO ADJUSTMENTS

STEREO ADJUSTMENTS

NOTE: Adjustments were made using B&K Model 2009 MTS TV/Stereo Generator. Equivalent Generator may be used. Connect Generator to antenna terminals.

WIDE BAND AUDIO ADJUSTMENT

Select audio "B" on receiver. Select SAP, 1kHz audio frequency, and L-R modulating signal. Connect an oscilloscope to TP319 (U300-19) on Stereo Board. Adjust Wide Band Audio Control (R303) for 900 mV p-p.

STEREO DECODER OSCILLATOR ADJUSTMENT

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L+R modulating signal. Adjust Stereo Decoder Oscillator Control (R314) clockwise until stereo indicator extinguishes then back until stereo indicator lights.

PILOT CANCEL ADJUSTMENT

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L+R modulating signal. Connect Oscilloscope to TP322 (U300-22). Adjust Pilot Cancel Control (R320) for 400 mV p-p.

DBX INPUT LEVEL ADJUSTMENT

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L-R modulating signal. Connect Oscilloscope to TP404 (U 400-4). Adjust DBX Level Control (R403) for 1V p-p +/- 10%.

VCO ADJUSTMENT

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L-R modulating signal. Connect Frequency Counter to TP306 (U300-6). Adjust VCO Control (R310) for 78.670kHz reading on frequency counter.

SEPARATION ADJUST

Select stereo mode on receiver. Select Pilot, 300Hz audio frequency, and "L" Modulating Signal. Connect Oscilloscope to TP313 (U300-13). Adjust Low Separation Control (R417) for MINIMUM Amplitude of waveform on scope. Change Audio Frequency to 8kHz. Adjust Hi-Separation Control (R411) for MINIMUM amplitude of waveform on scope. Repeat Adjustments as necessary for MINIMUM Indication at both Audio Frequencies.

LEFT/RIGHT SUB BALANCE ADJUSTMENT

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L+R Modulating Signal. Connect Oscilloscope trace "A" to TPJ 41 (J4 pin 1 on PW CPA board). Connect trace "B" to TPJ 45 (J4 pin 5 on PW CPA board). Connect ground of Oscilloscope to TPJ 47 (J4 pin 7 on PW CPA board). Superimpose trace "A" over trace "B". Turn volume up to a point where a visible waveform appears on Oscilloscope. Adjust Sub Balance Control (R23) for equal amplitude of both waveforms.

ALTERNATE METHOD FOR SINGLE TRACE OSCILLOSCOPE

Select stereo mode on receiver. Select Pilot, 1kHz audio frequency, and L+R Modulating Signal. Connect Oscilloscope to TPJ 41 (J4 pin 1 on PW CPA board). Connect ground of Oscilloscope to TPJ 47 (J4 pin 7 on PW CPA board). Turn volume up to a point where a visible waveform appears on Oscilloscope. Record peak to peak value. Move scope connection to TPJ 45 (J4 pin 5 on PW CPA board). Compare p-p value with that previously recorded. Alternate between test points with Oscilloscope making small adjustment to Sub Balance Control (R23) until equal amplitude of both waveforms is achieved.

STEREO/AUDIO B ADJUSTMENTS

NOTE: Adjustments were made using B&K Model 2009 MTS TV/Stereo Generator. Equivalent generator may be used.

STEREO ADJUSTMENTS

Generator Settings  
Pilot Switch ON  
SAP Switch OFF  
Audio Frequency 1kHz  
Modulating Signal L+R

41.25MHz, 45.75MHz BANDPASS ADJUSTMENTS

Connect Stereo Generator to antenna terminals. Connect Oscilloscope to TP12 (pin 12 of IC U1). Adjust 45.75MHz Bandpass Coil (L1) for MINIMUM Component in waveform. Adjust 41.25MHz Bandpass Coil (L2) for Maximum Component in waveform.

4.5MHz DETECTOR ADJUSTMENTS

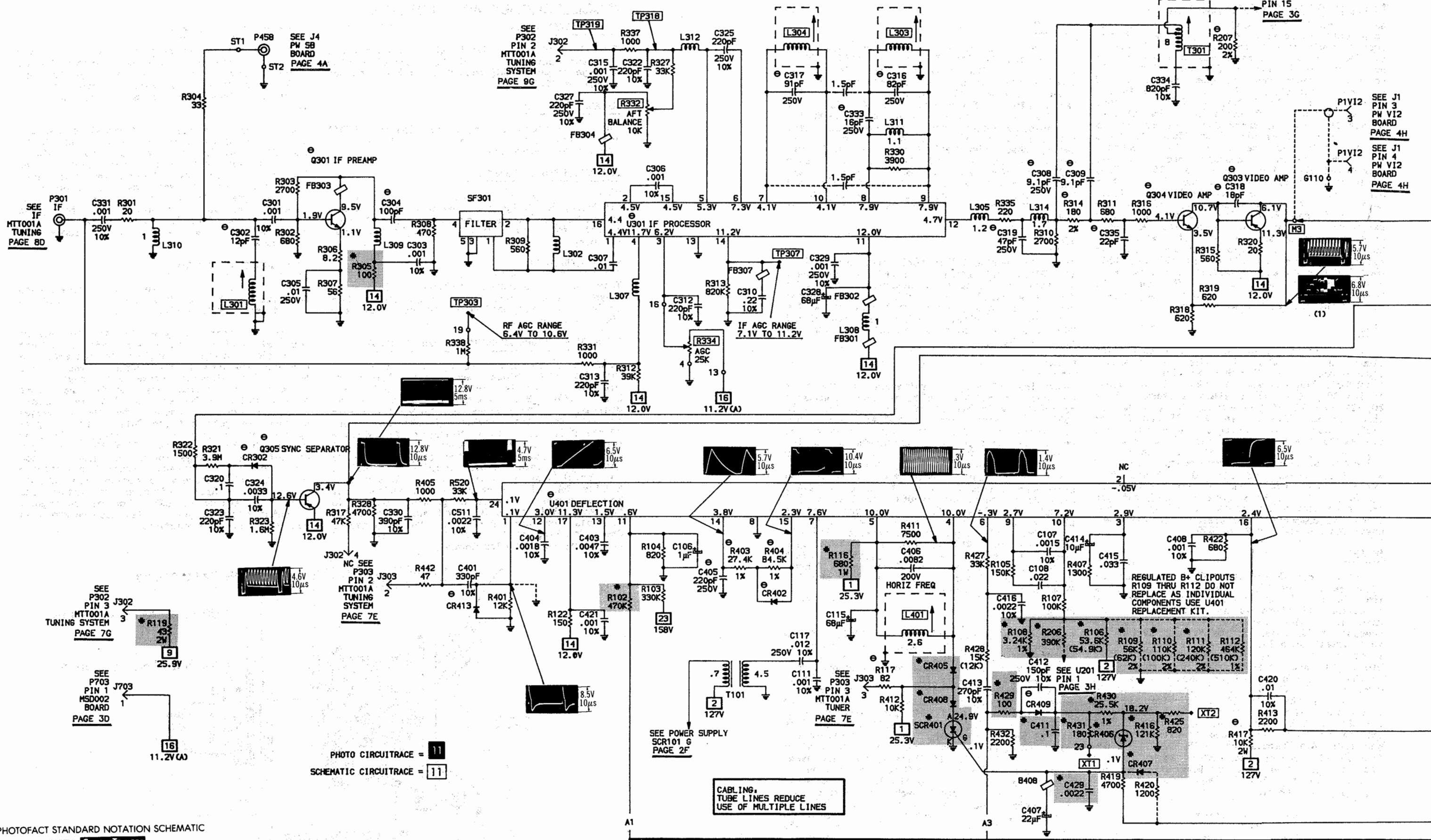
Connect Stereo Generator to antenna terminals. Connect Oscilloscope to TP205 (Pin 5 of IC U200). Adjust 4.5MHz Detector Coil (L9) for Maximum Amplitude of waveform.

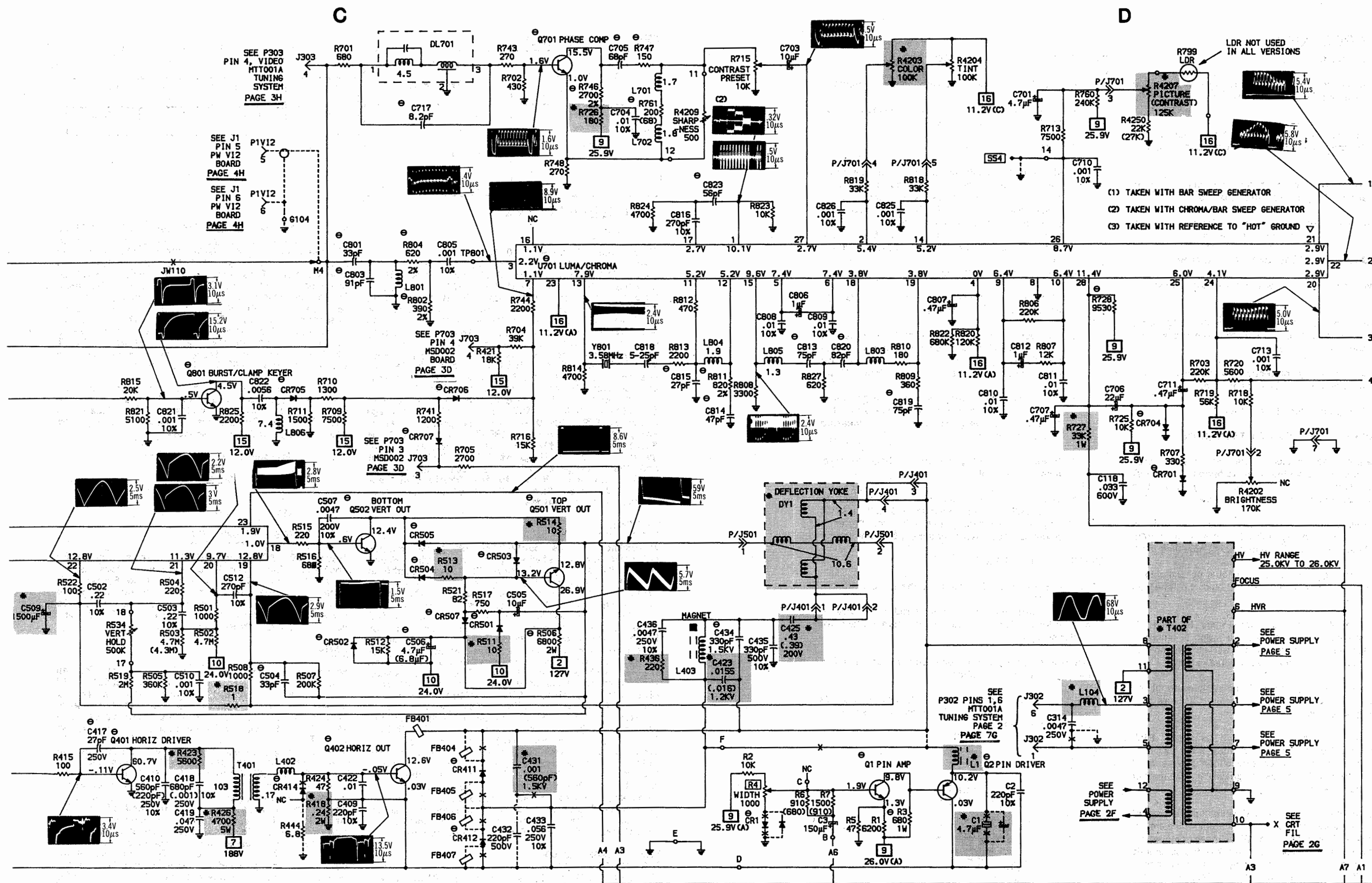
4.5MHz BANDPASS ADJUSTMENTS

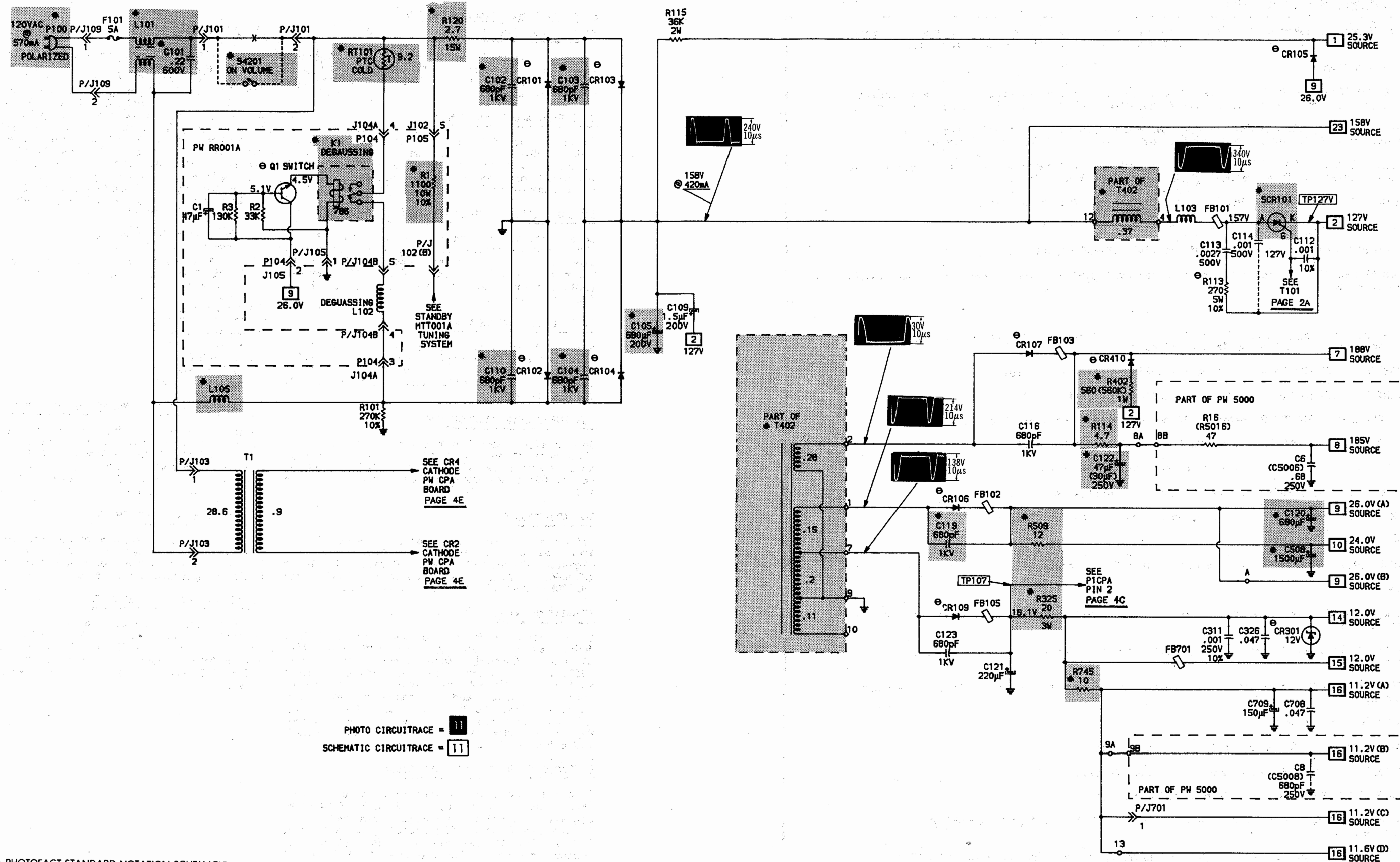
Connect Stereo Generator to antenna terminals. Connect Oscilloscope to TP21 (Pin 2 of IC U200), low side to TP204 (Pin 4 of IC U200). Alternately adjust the two 4.5MHz Bandpass Coils (L7 and L8) for Maximum component of waveform.

A

B





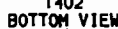


A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE**  
© Howard W. Sams & Co., Inc. 1989

POWER SUPPLY

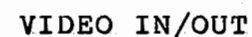
POWER SUPPLY

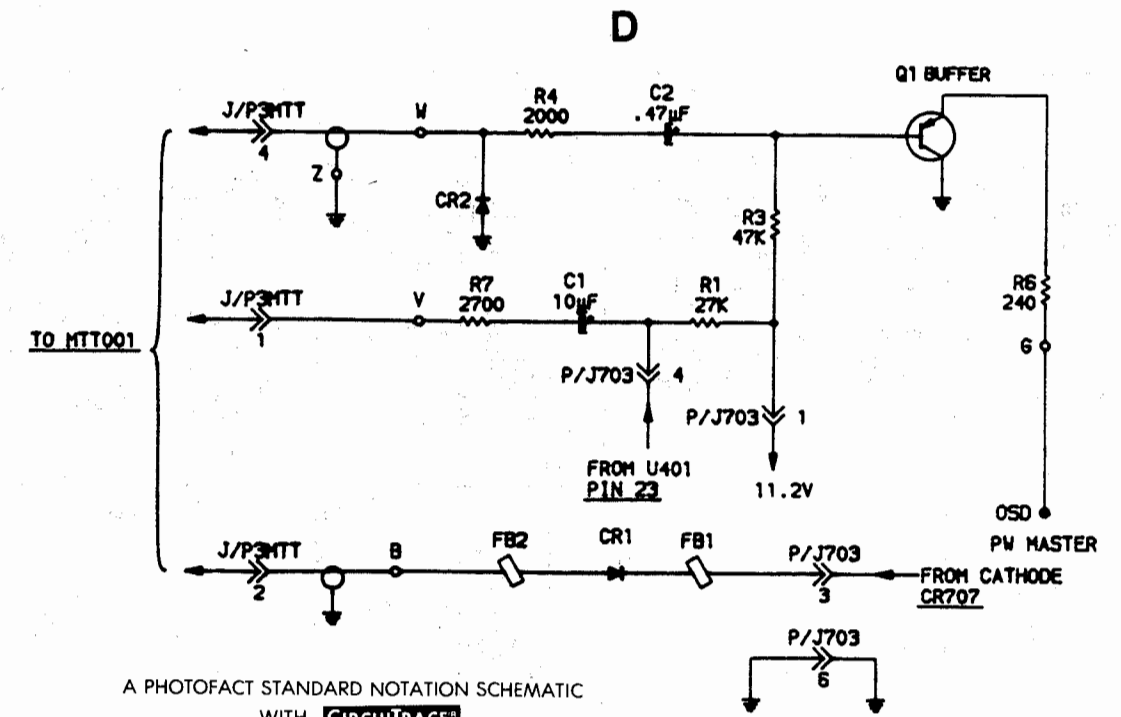
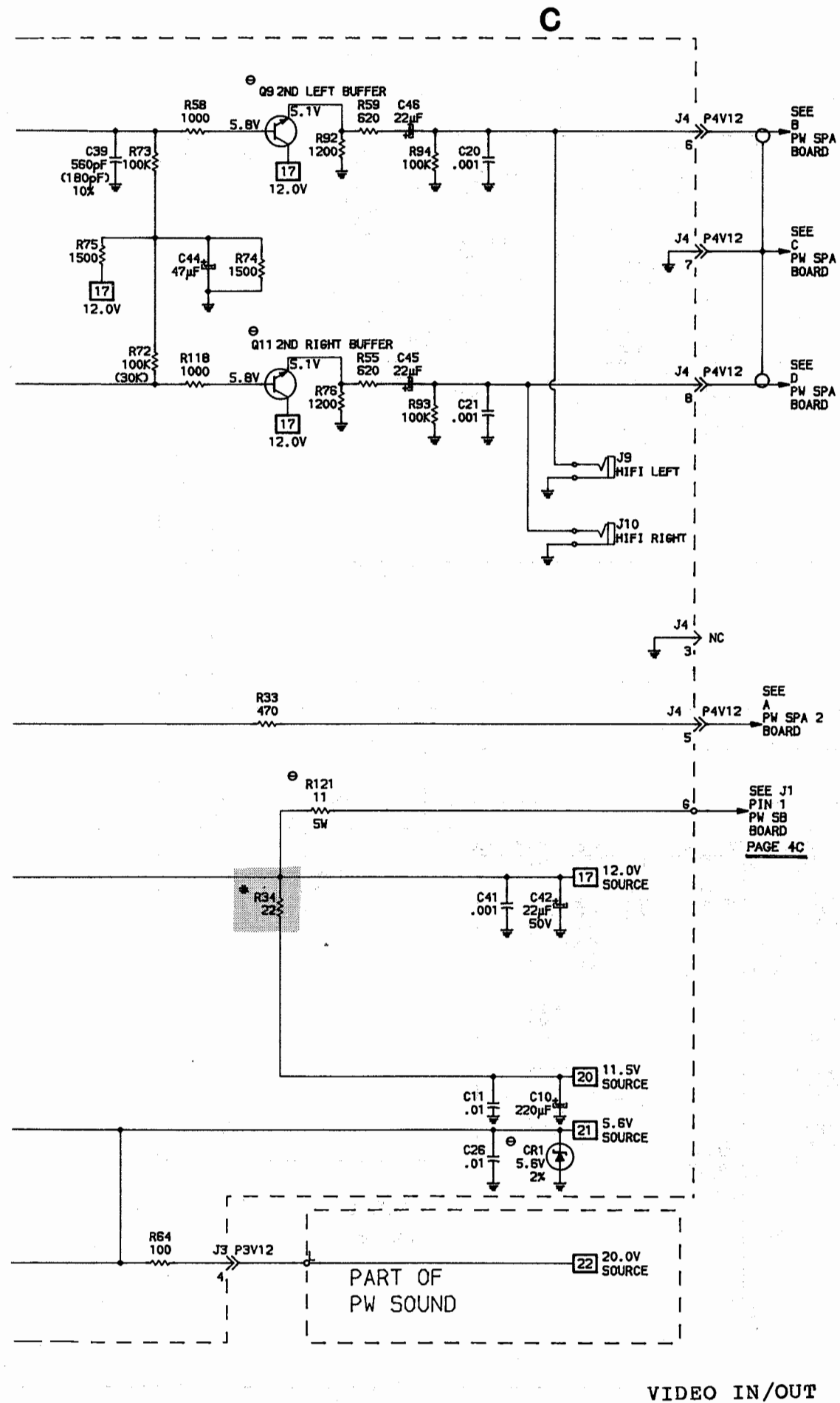




value in ( ) used in some versions.





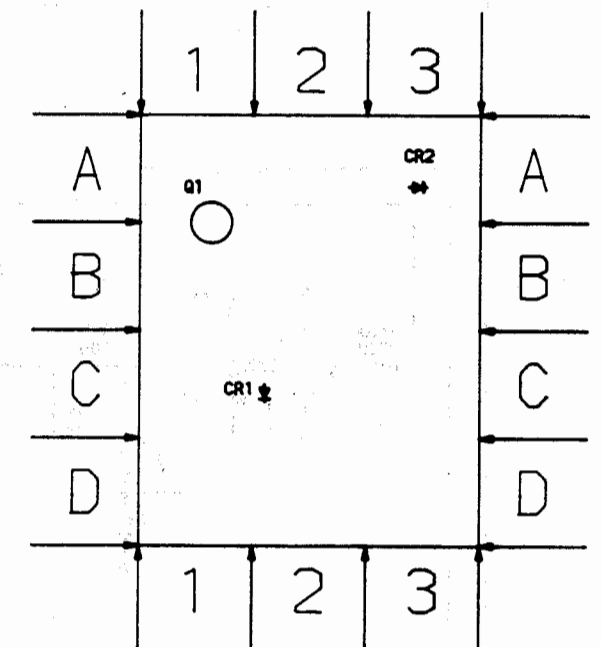
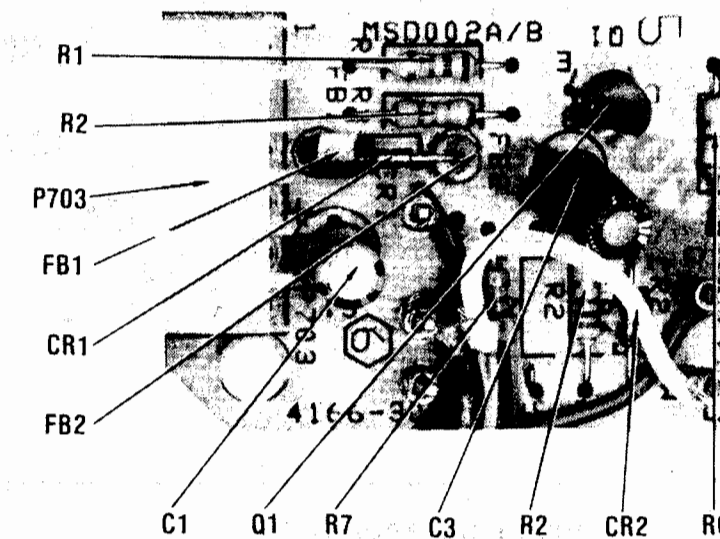


A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE<sup>®</sup>**

© Howard W. Sams & Co., Inc. 1989

ON SCREEN DISPLAY  
MSD002A/B-GridTrace  
LOCATION GUIDE

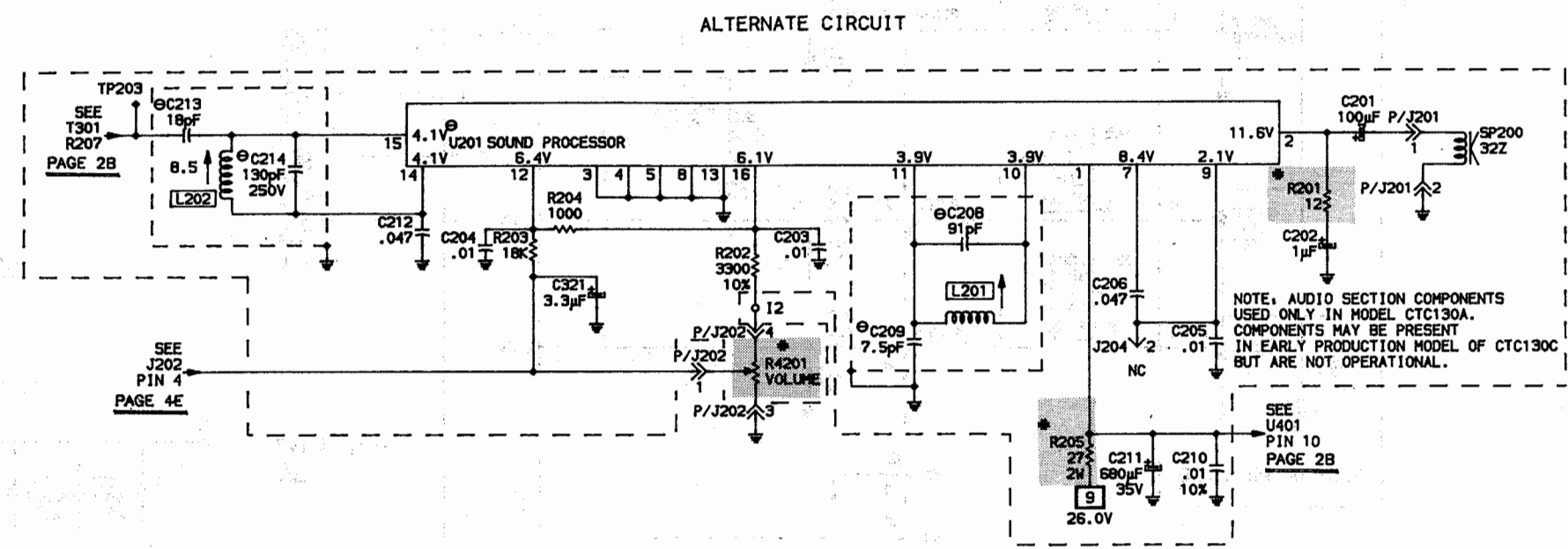
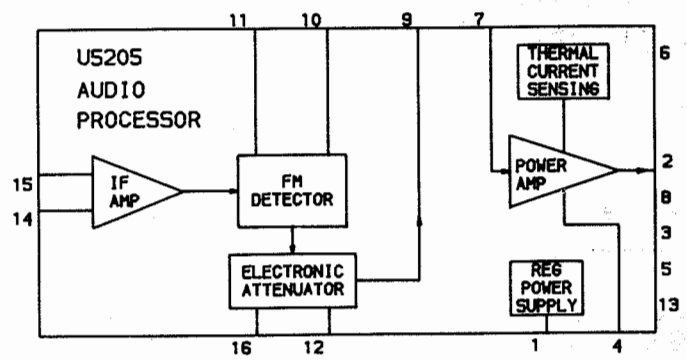
C1	C-2
C2	B-2
CR1	C-2
CR2	A-3
FB1	C-1
FB2	B-2
Q1	B-1
R1	C-1
R2	B-3
R3	C-1
R4	B-3
R6	A-2
R7	B-3

A Howard W. Sams **GRIDTRACE™** Photo

ON SCREEN DISPLAY MSD002A/B







RCA  
CHASSIS CTC130A

FOR TERMINAL GUIDES AND NOTES  
SEE PAGE 2

PHOTO CIRCUITRACE = 11  
SCHEMATIC CIRCUITRACE = 11

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE**  
© Howard W. Soms & Co., Inc. 1989

SOUND PROCESSOR

A

B

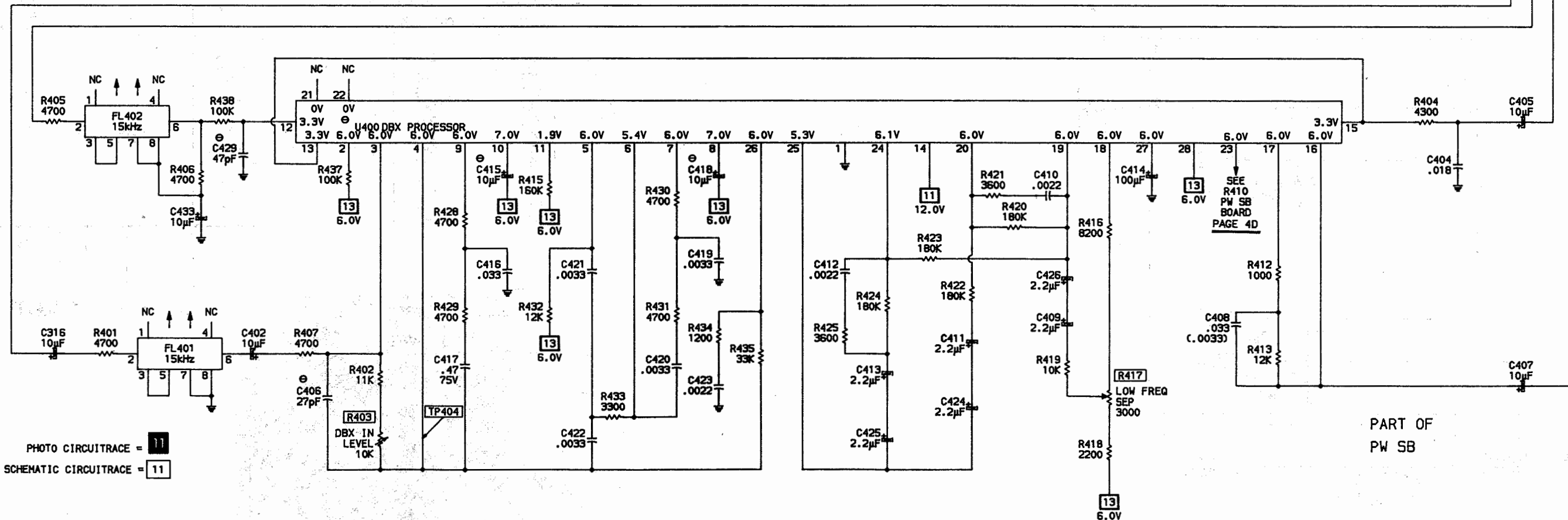
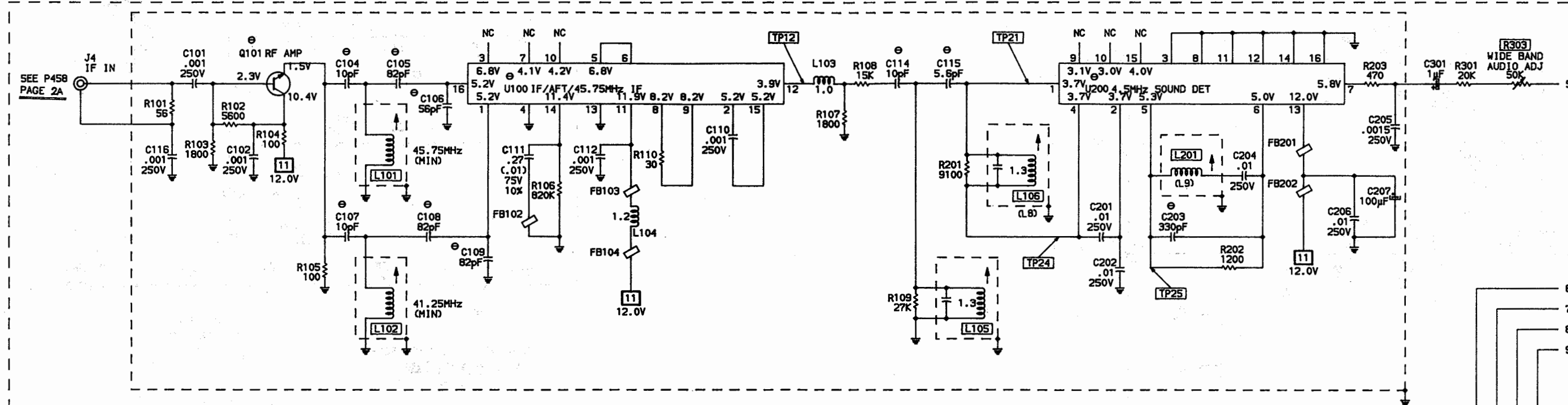


PHOTO CIRCUITRACE = 11  
SCHEMATIC CIRCUITRACE = 11

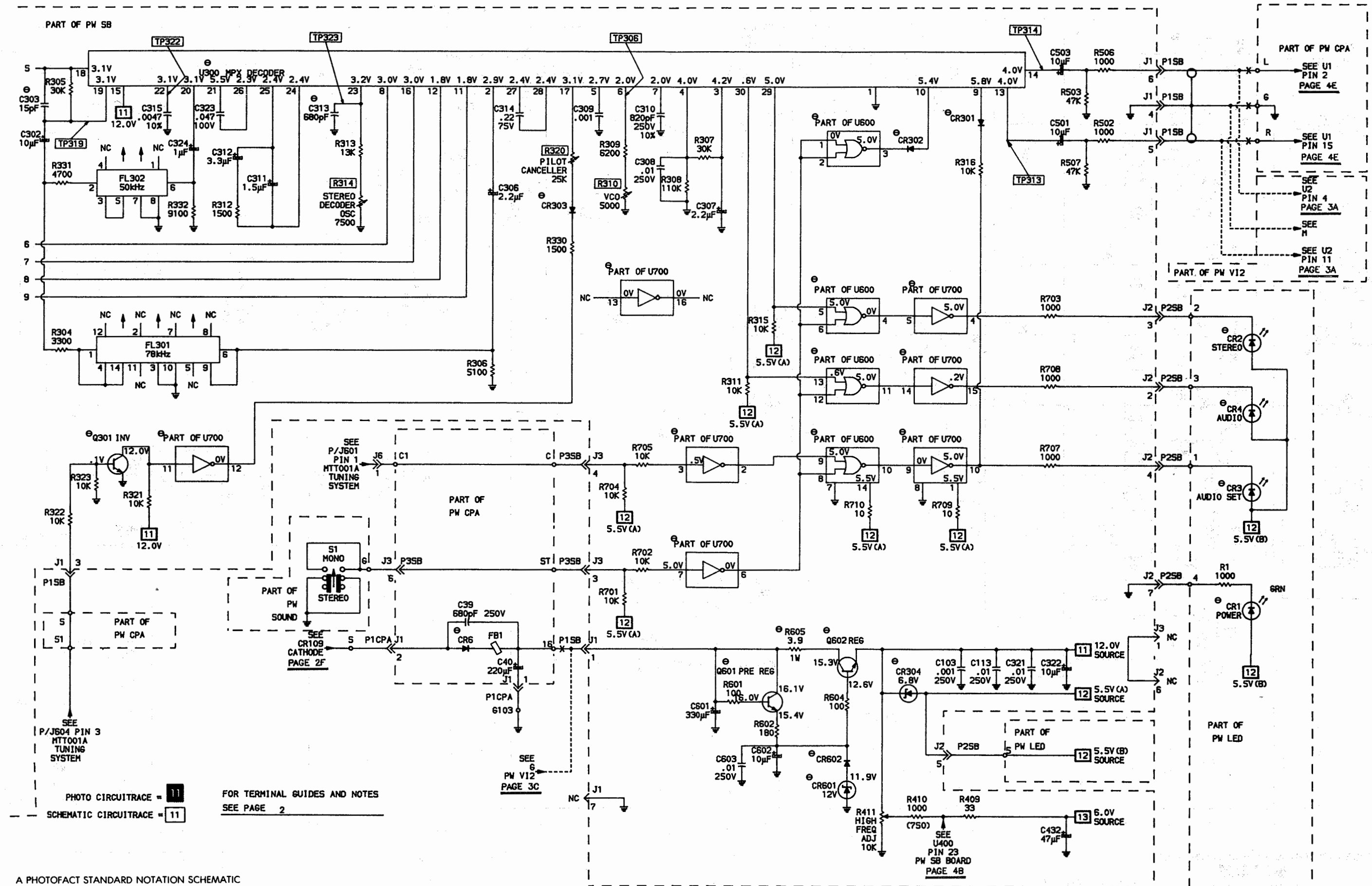
FOR TERMINAL GUIDES AND NOTES  
SEE PAGE 2

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE

STEREO BROADCAST

STEREO BROADCAST



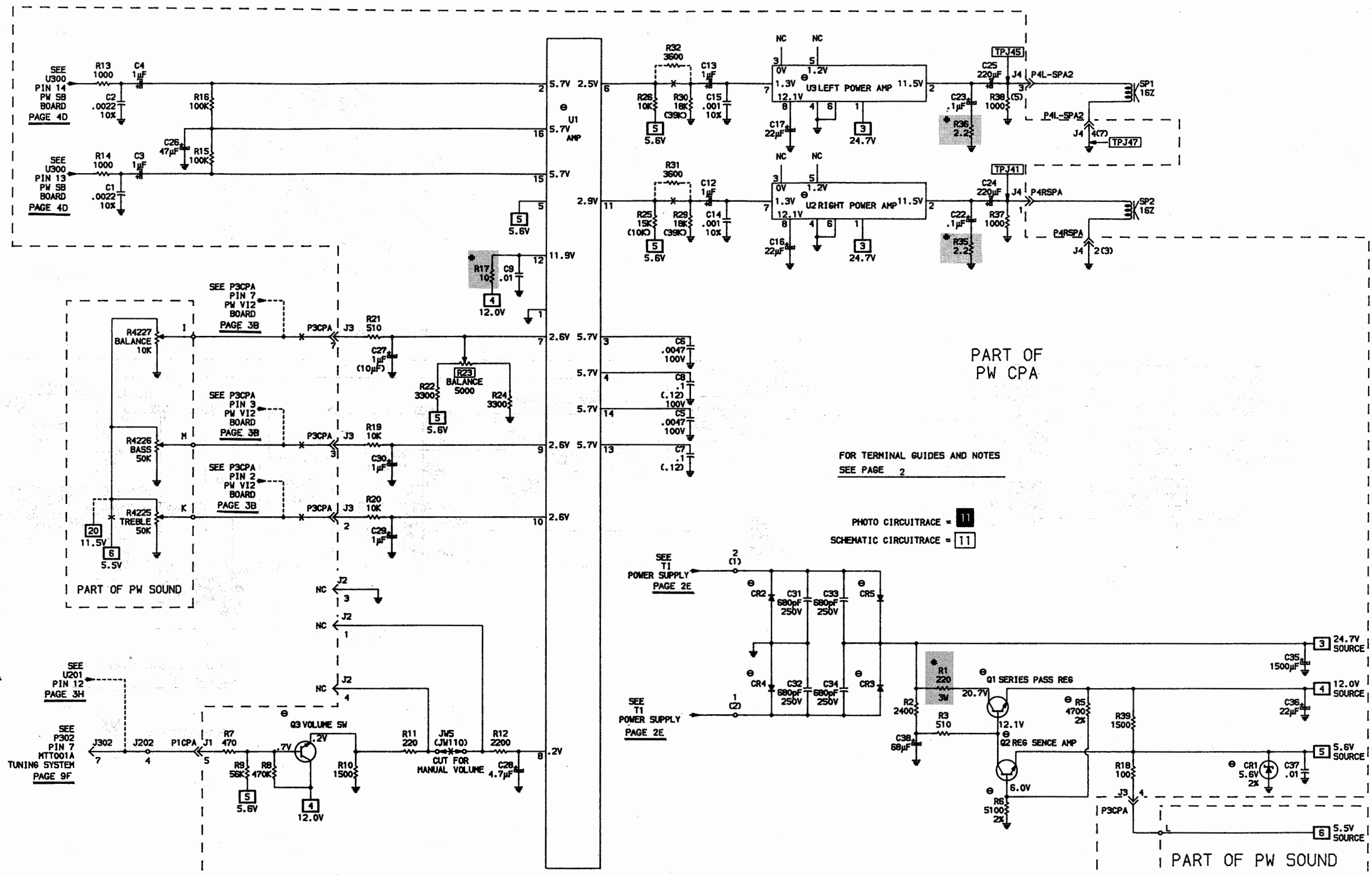
A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE™**

© Howard W. Sams & Co., Inc. 1989

**STEREO DECODER**

STEREO DECODER



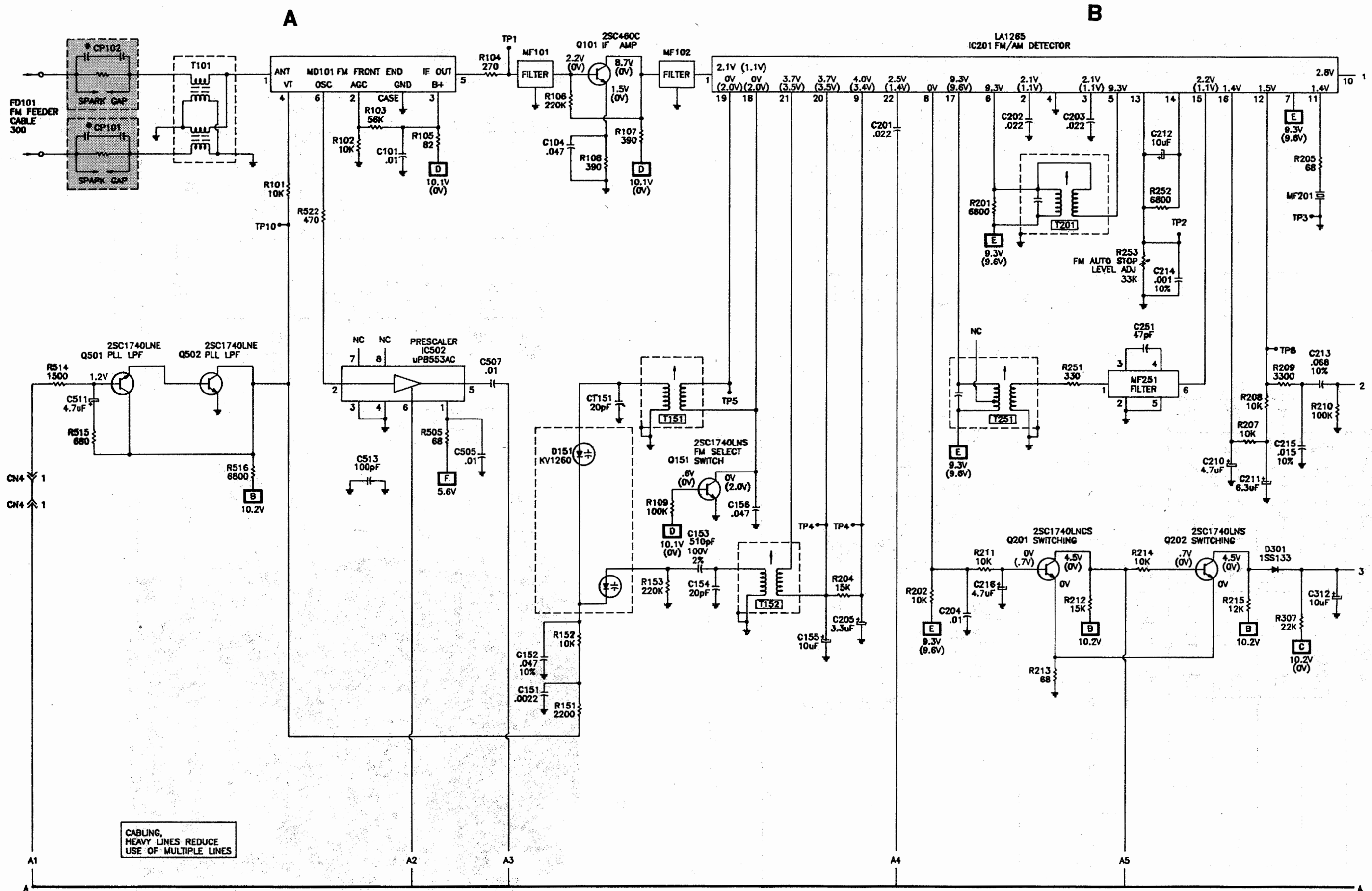


A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CircuitTrace**  
© Howard W. Sams & Co., Inc. 1989

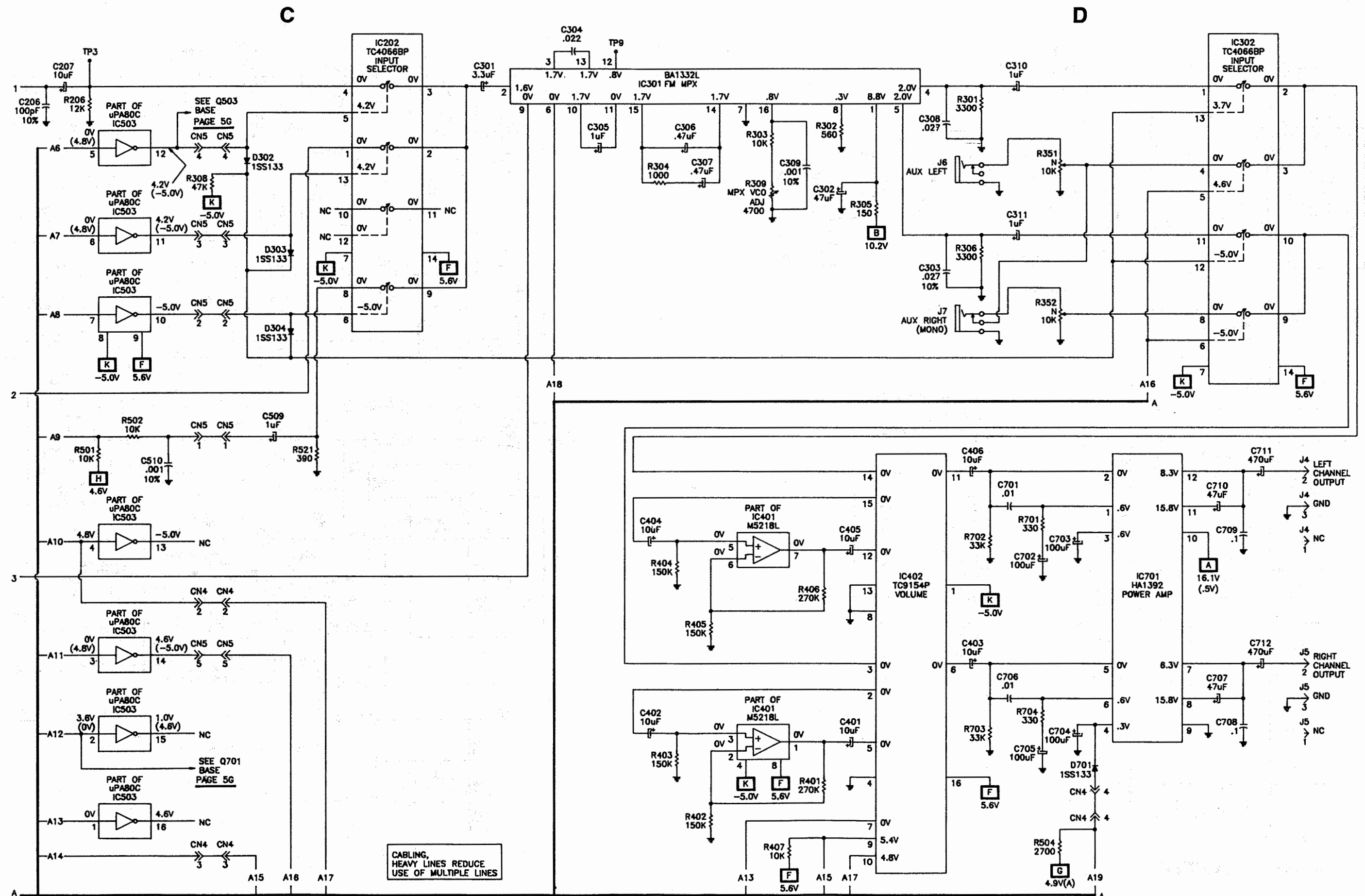
STEREO POWER AMP

STEREO POWER AMP



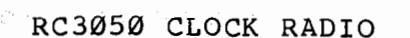




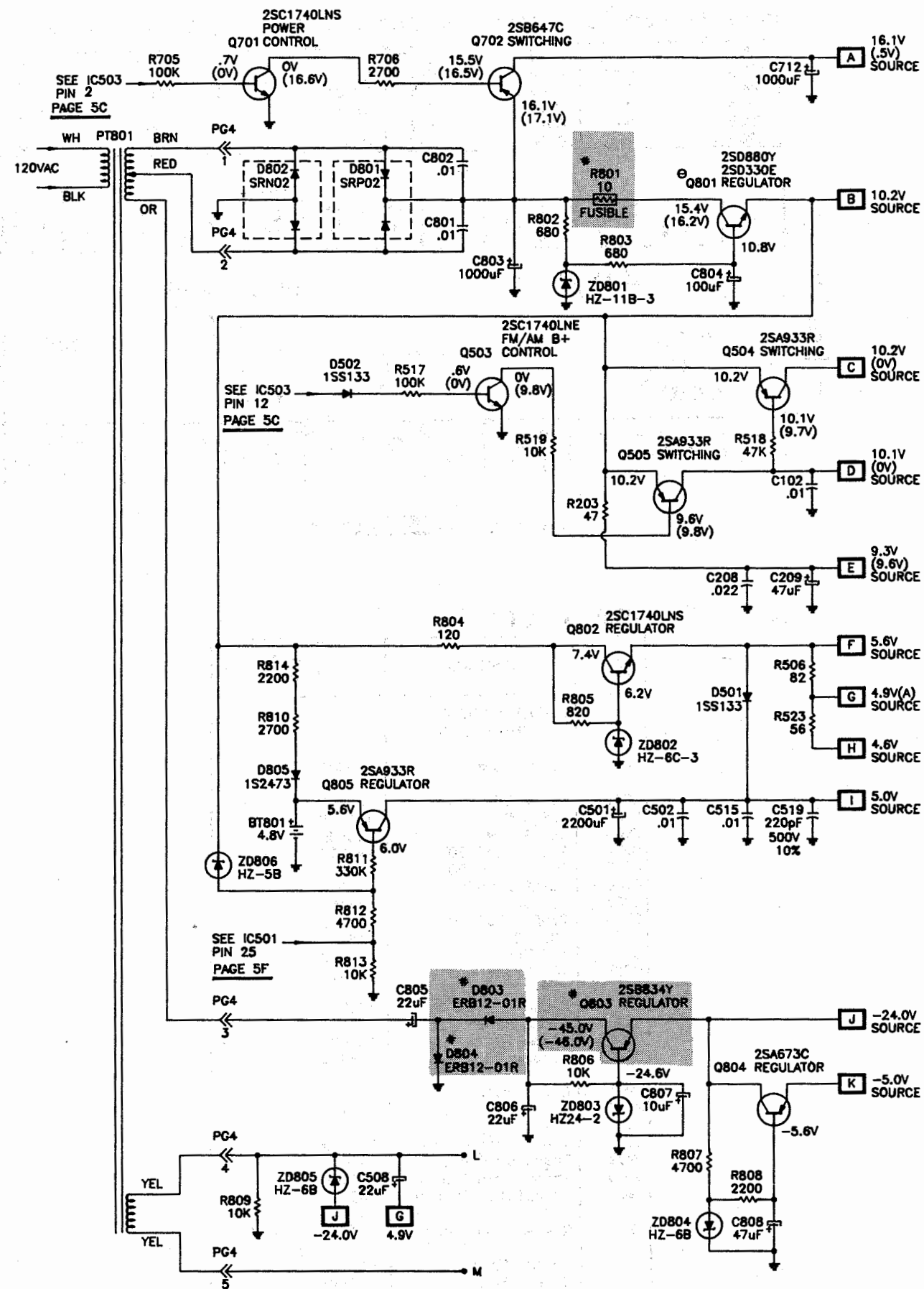




**E**



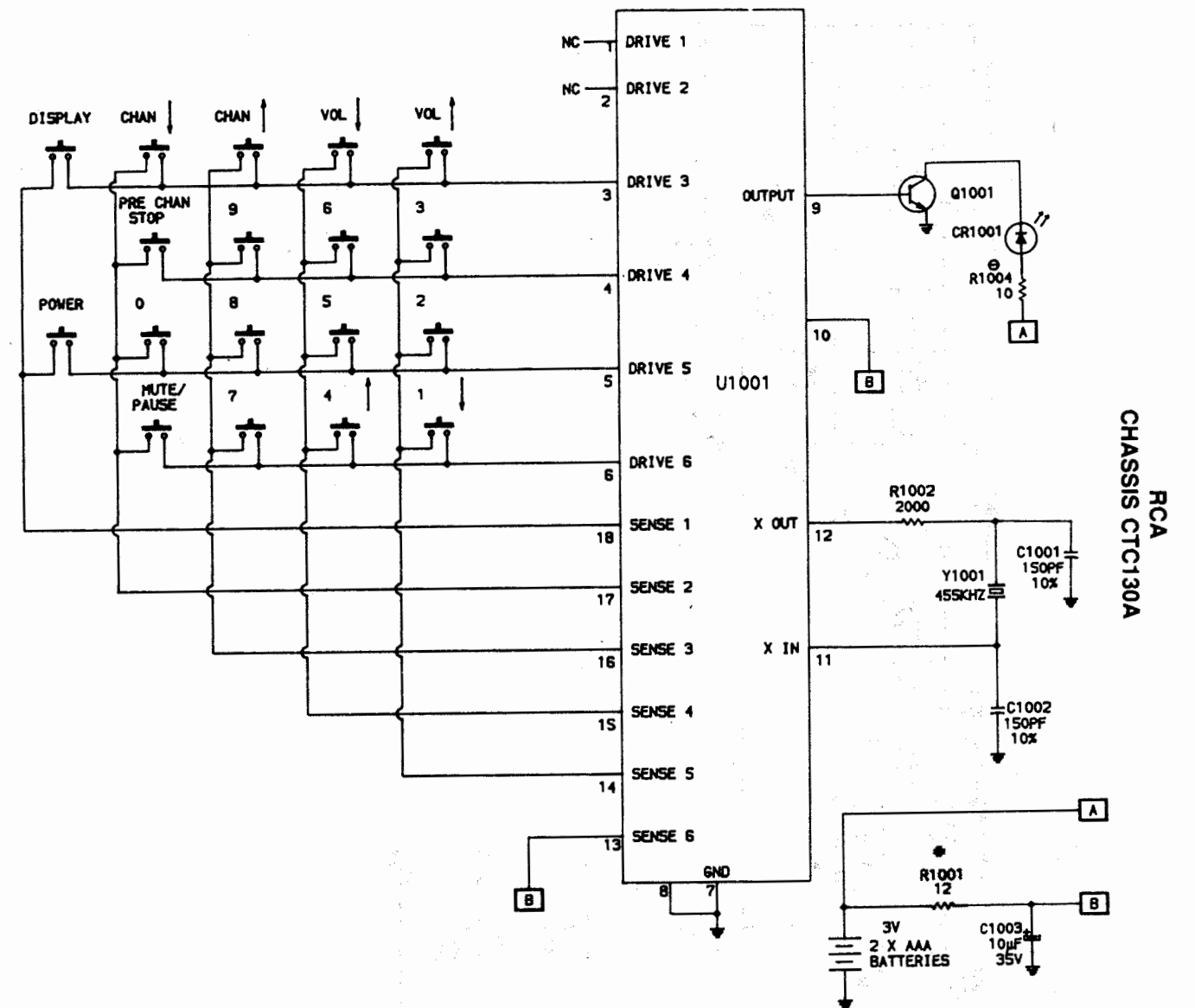
F



A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

G

RC3050 CLOCK RADIO



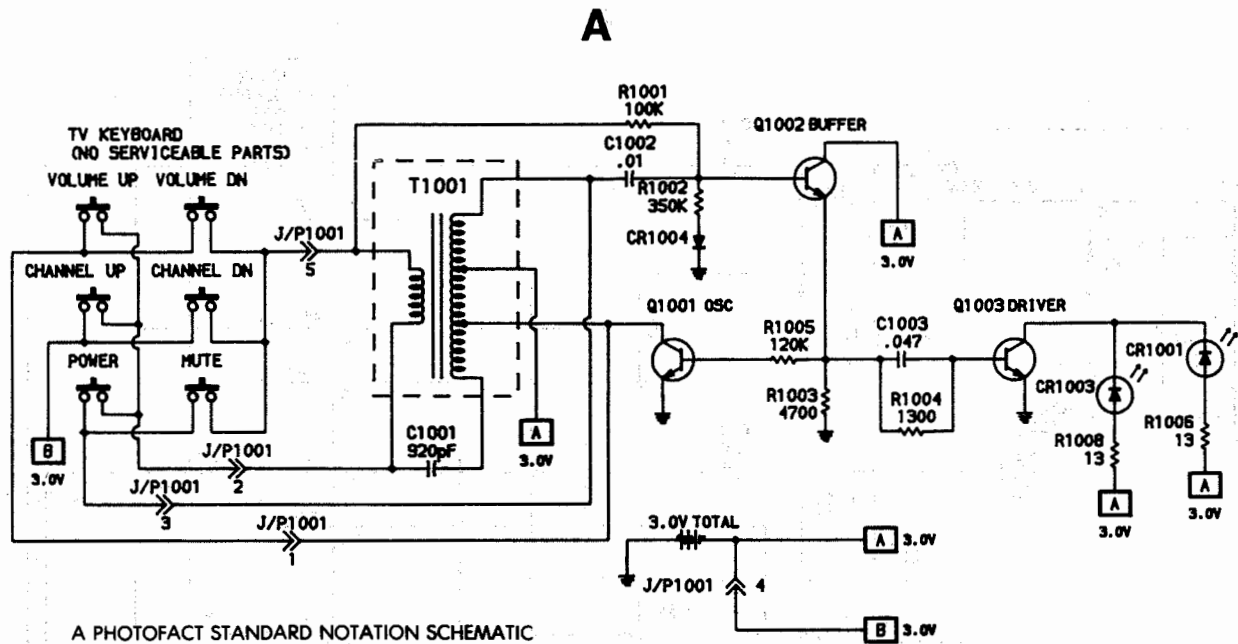
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

CRK39K REMOTE TRANSMITTER

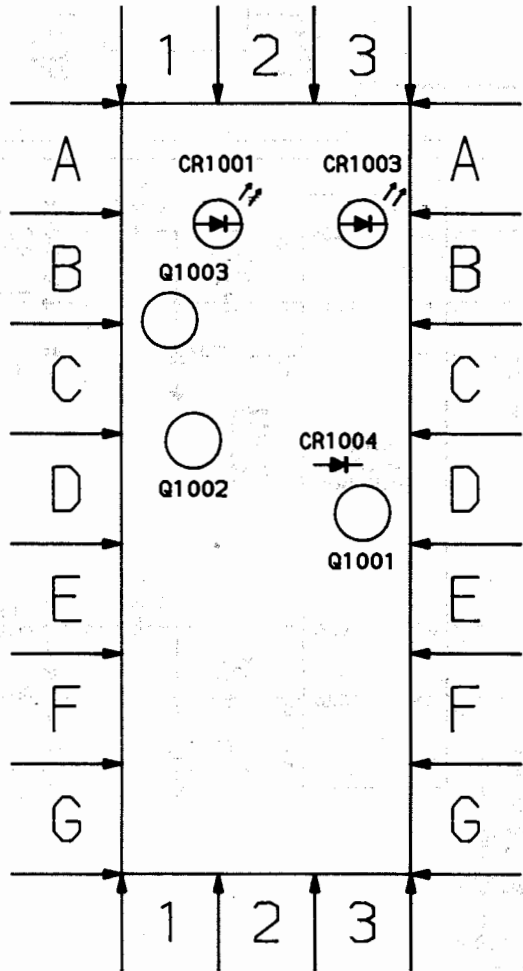
H SET 2681 FOLDER 1

Page 5



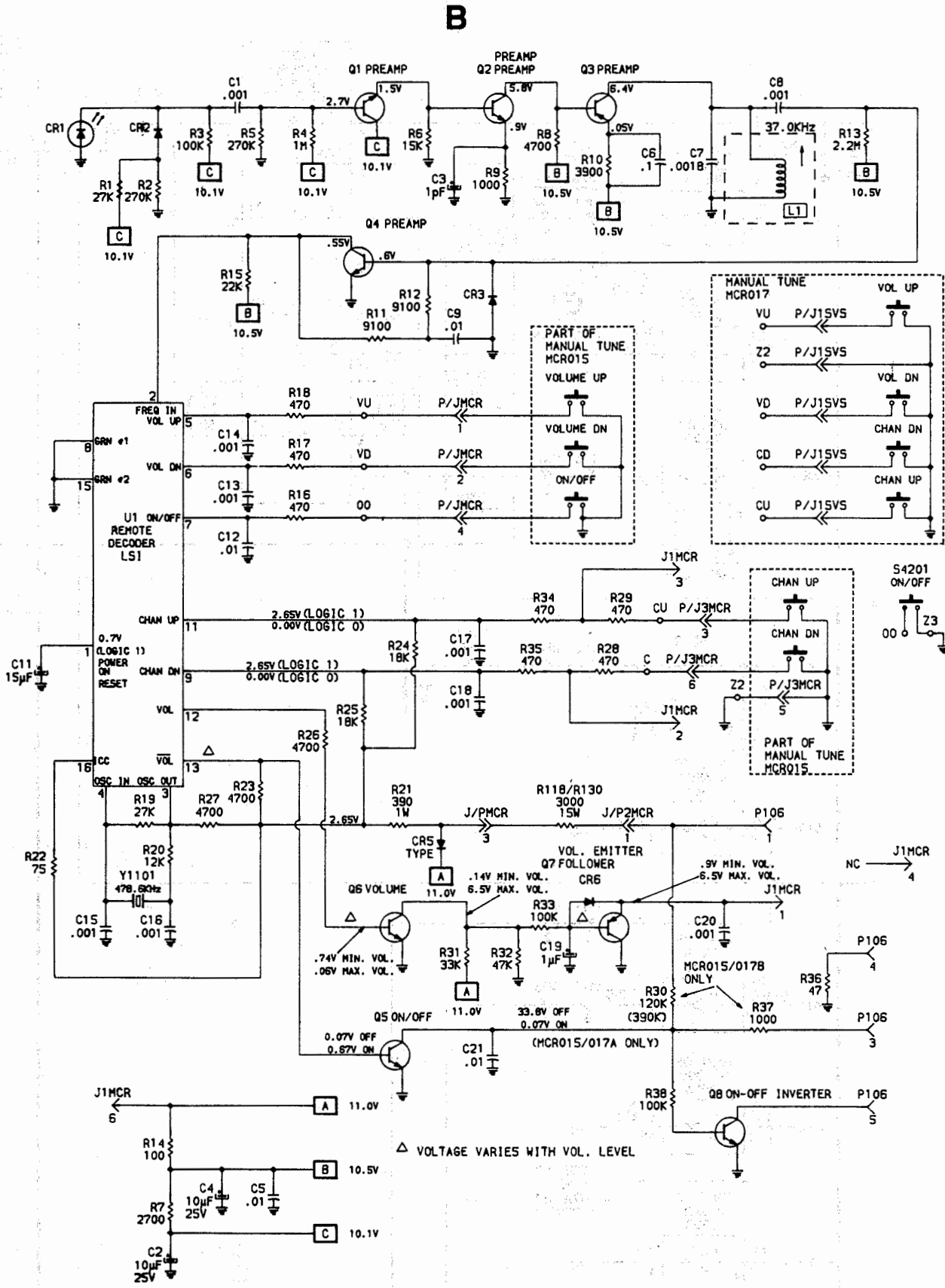


A PHOTOFACT STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989



A Howard W. Sams **GRIDTRACE™** Photo

CRK33H REMOTE CONTROL TRANSMITTER



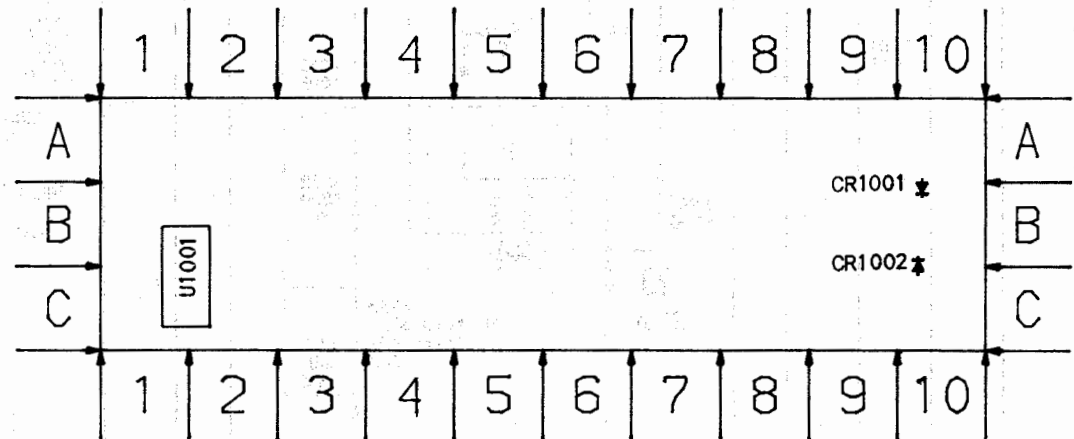
A PHOTOFACT STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

MCR015A/B REMOTE PREAMP

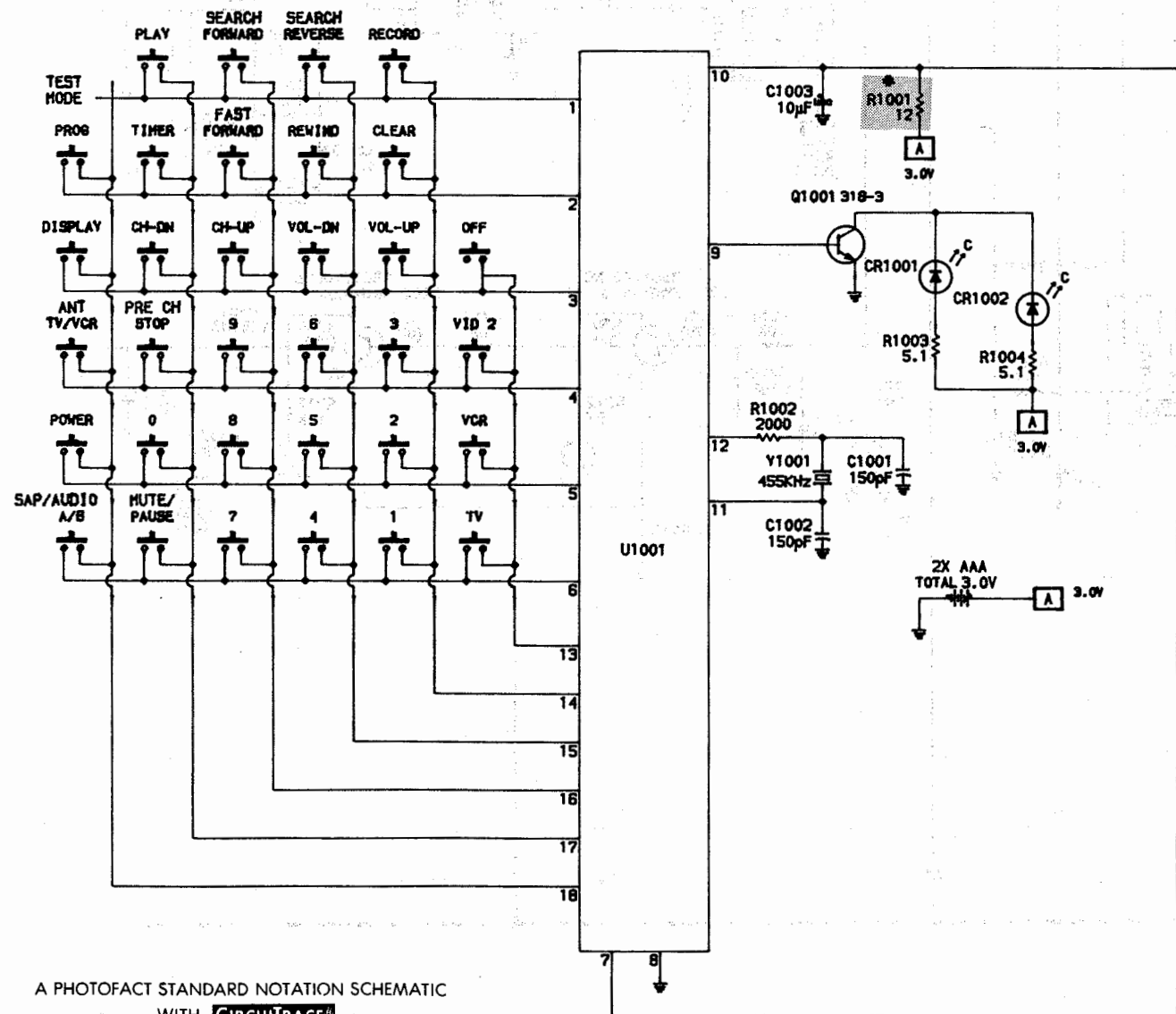
C

REMOTE CONTROL TRANSMITTER CRK40A-GridTrace LOCATION GUIDE

C1001	A-1	CR1001	B-10	R1001	A-1	R1004	C-9
C1002	B-2	CR1002	B-10	R1002	B-1	U1001	C-2
C1003	A-2	Q1001	A-2	R1003	A-9	Y1001	B-2



A Howard W. Sams GRIDTRACE™ Photo

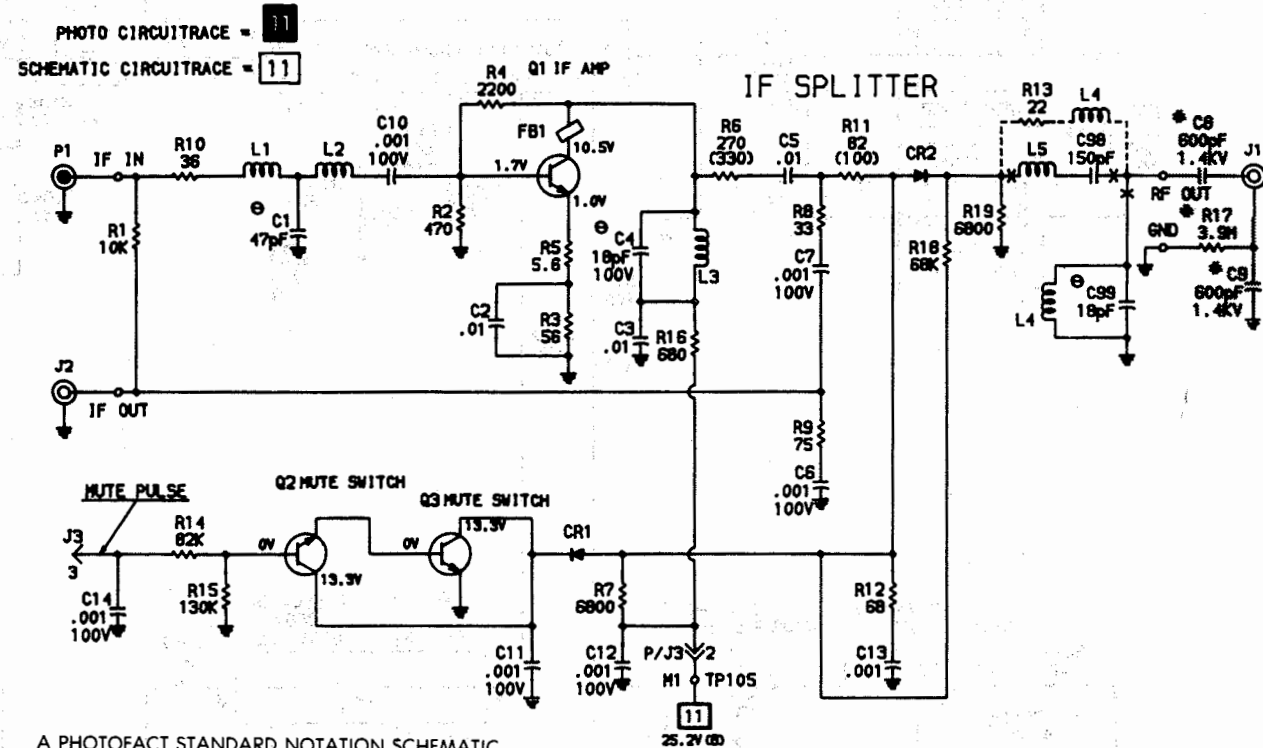


A PHOTOFACT STANDARD NOTATION SCHEMATIC  
WITH CIRCUITTRACE®

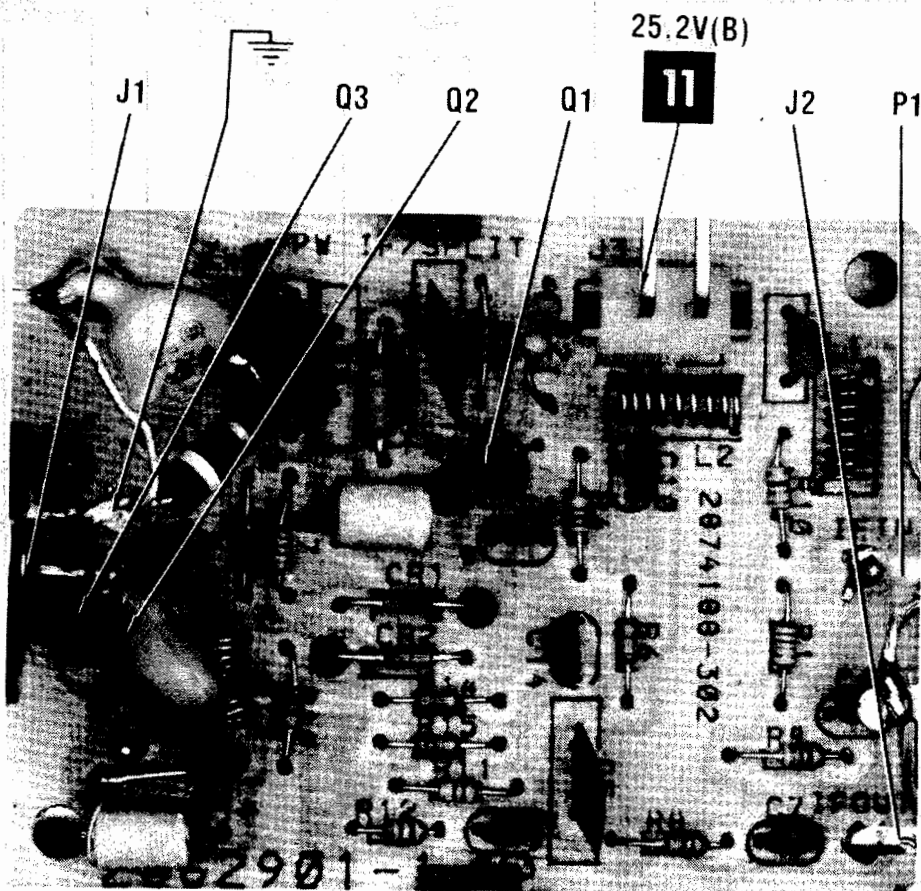
© Howard W. Sams & Co., Inc. 1989

REMOTE CONTROL TRANSMITTER CRK40A

D

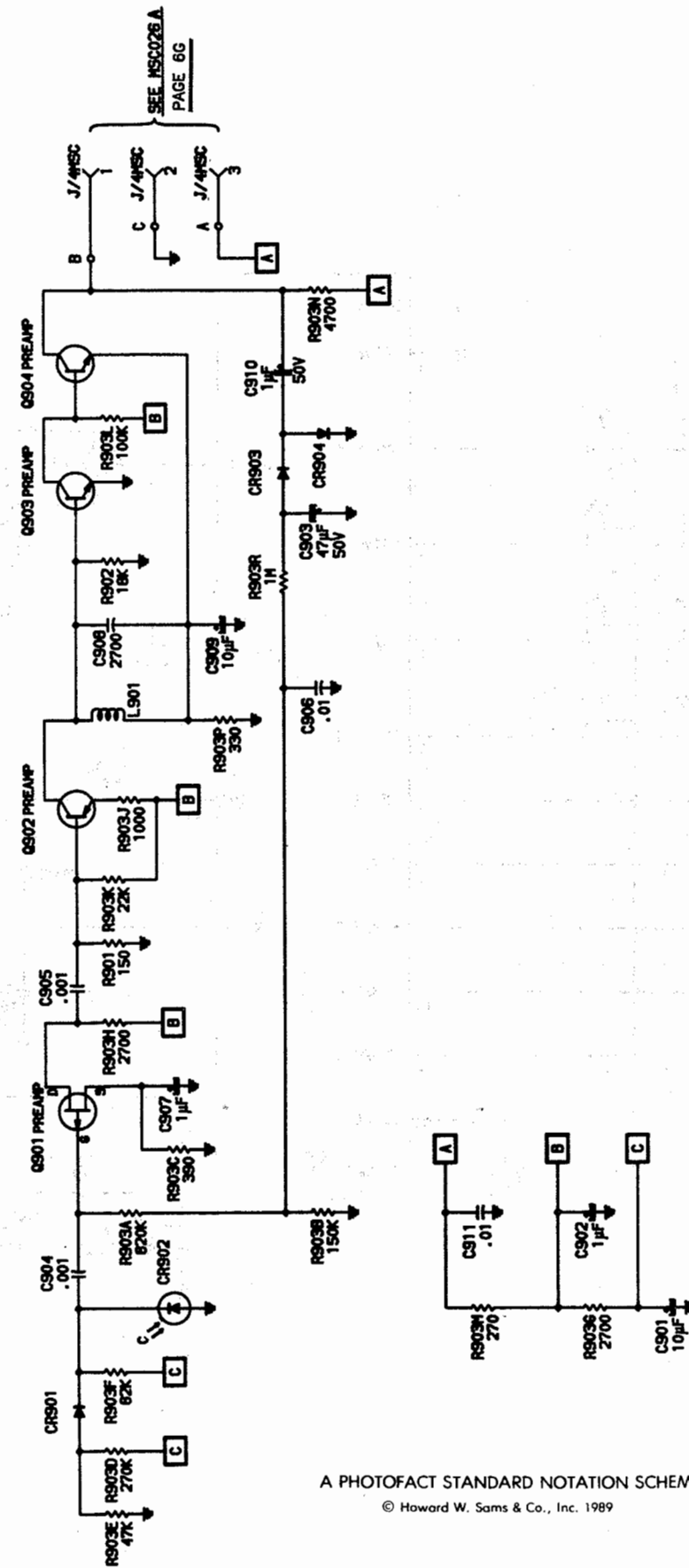


A PHOTOFACT STANDARD NOTATION SCHEMATIC  
WITH CIRCUITTRACE®  
© Howard W. Sams & Co., Inc. 1989



A Howard W. Sams CIRCUITTRACE® Photo

IF SPLITTER

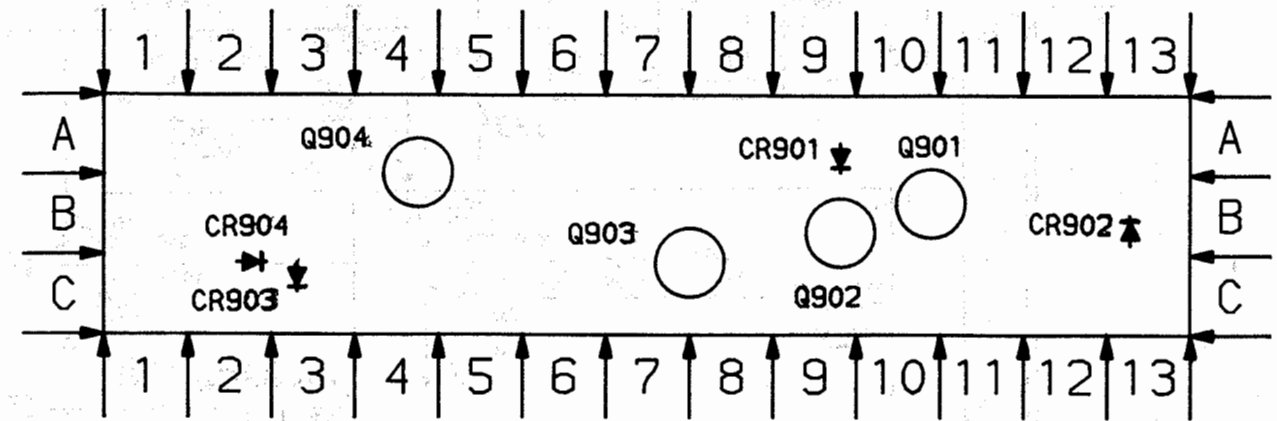


MCY005A REMOTE CONTROL PREAMP

E

# MCY005A REMOTE CONTROL PREAMP-GridTrace LOCATION GUIDE

C901	A-12	C907	C-12	CR902	B-12	Q903	C-8
C902	B-6	C908	C-7	CR903	C-2	Q904	B-4
C903	B-1	C909	C-5	CR904	C-3	R901	C-10
C904	B-11	C910	B-4	L901	C-6	R902	C-8
C905	B-8	C911	A-2	Q901	B-10	R903	A-7
C906	B-2	CR901	A-9	Q902	C-9	R904	B-2



A Howard W. Sams GRIDTRACE™ Photo

## PARTS LIST

ITEM No.	FUNCTION	MFR. PART No.
005A	REMOTE CONTROL ASSEMBLY MCY005A	
	Module Complete	156387
C901	4.7uF 35V	146365
C902	1uF 50V	141868
C903	.47uF 50V	146439
C904	1000pF Z5P 50V	143879
C905	1000pF Z5P 50V	143879
C906	.01uF Z5P50V	147971
C907	1uF 50V	141868
C908	2700pF Z5P 50V	145315
C909	10uF 25V	146211
C910	1uF 50V	141868
C911	.01uF 50V	147971
CR901	Diode	164874
CR902	Diode Photo	150711
CR903	Diode	164874
CR904	Diode	164874
L901	Coil (3mH)	157642
P4MSC	Connector 4 Pin	175703
Q901	Transistor Preamp	148070
Q902	Transistor Preamp	145410
Q903	Transistor Preamp	148061
Q904	Transistor Preamp	148061
R903	Resistor Network	157643
	Cover, Front	148063
	Cover, Rear	157640

MCY005A REMOTE CONTROL PREAMP

F

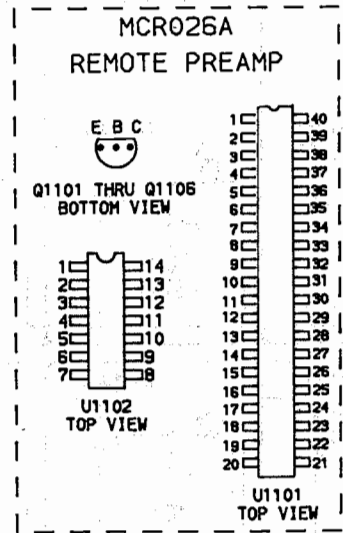
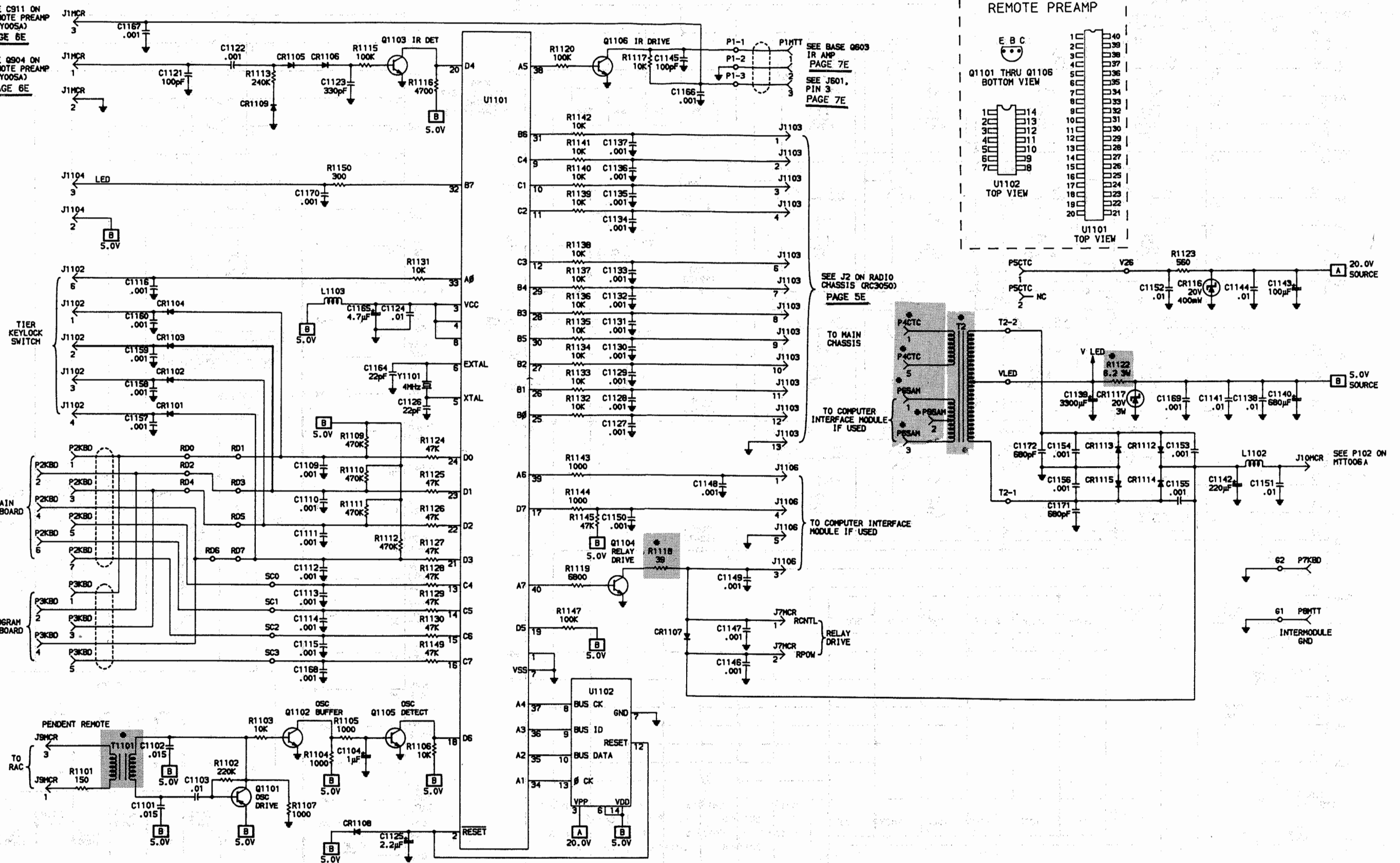
SEE C911 ON  
REMOTE PREAMP  
(MCT005A)  
PAGE 6E

SEE Q904 ON  
REMOTE PREAMP  
(MCT005A)  
PAGE 6E

TIER  
KEYLOCK  
SWITCH

MAIN  
KEYBOARD

PROGRAM  
KEYBOARD



RCA  
CHASSIS CTC130A

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

MCR026A REMOTE PREAMP

MCR026A REMOTE PREAMP

G

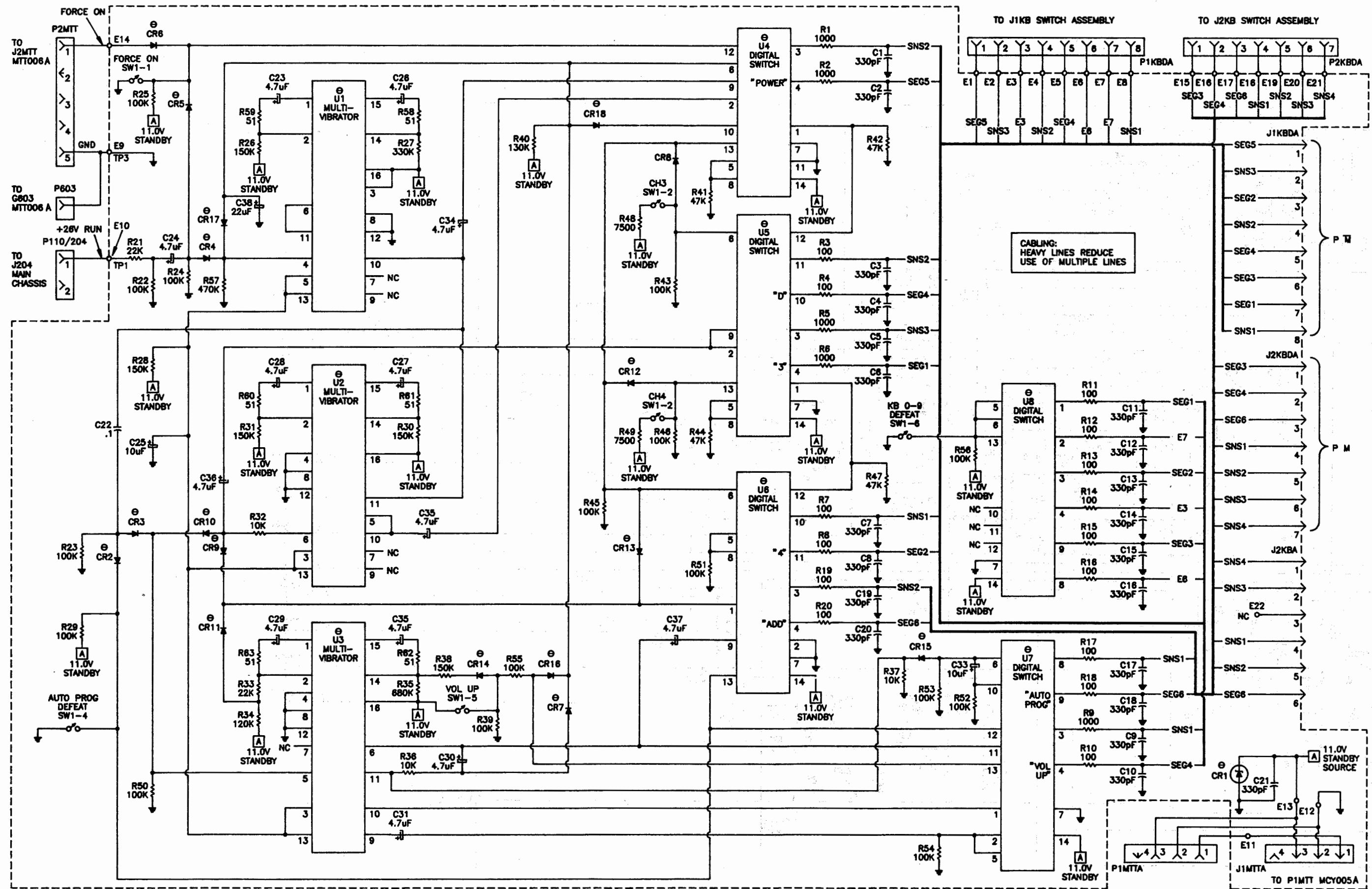
H SET 2681 FOLDER 1-D

Page 6



A

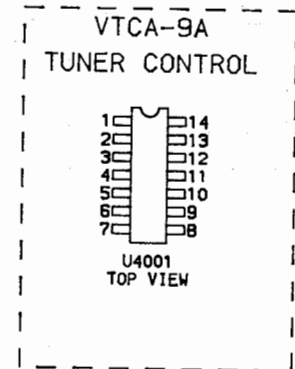
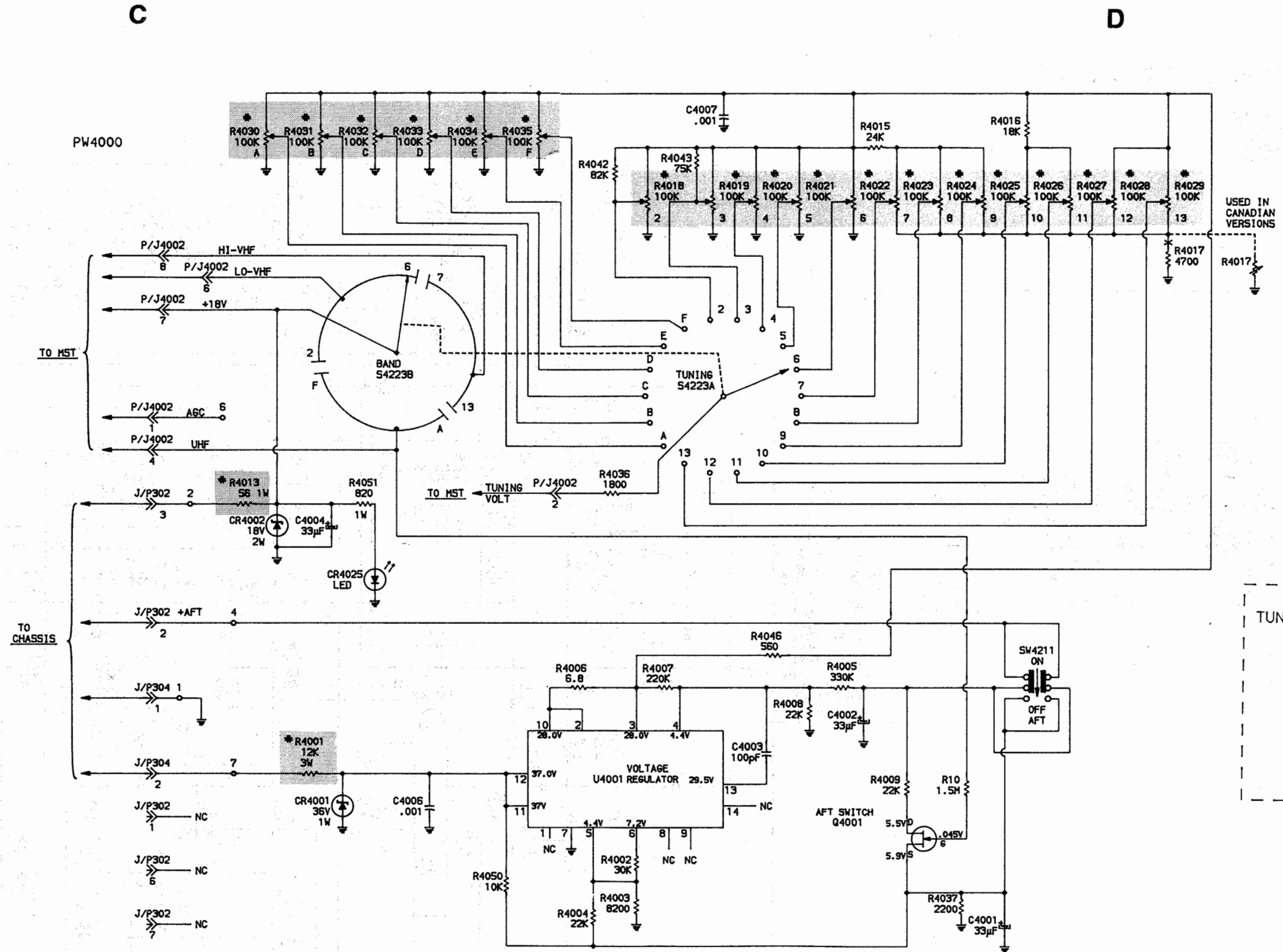
B

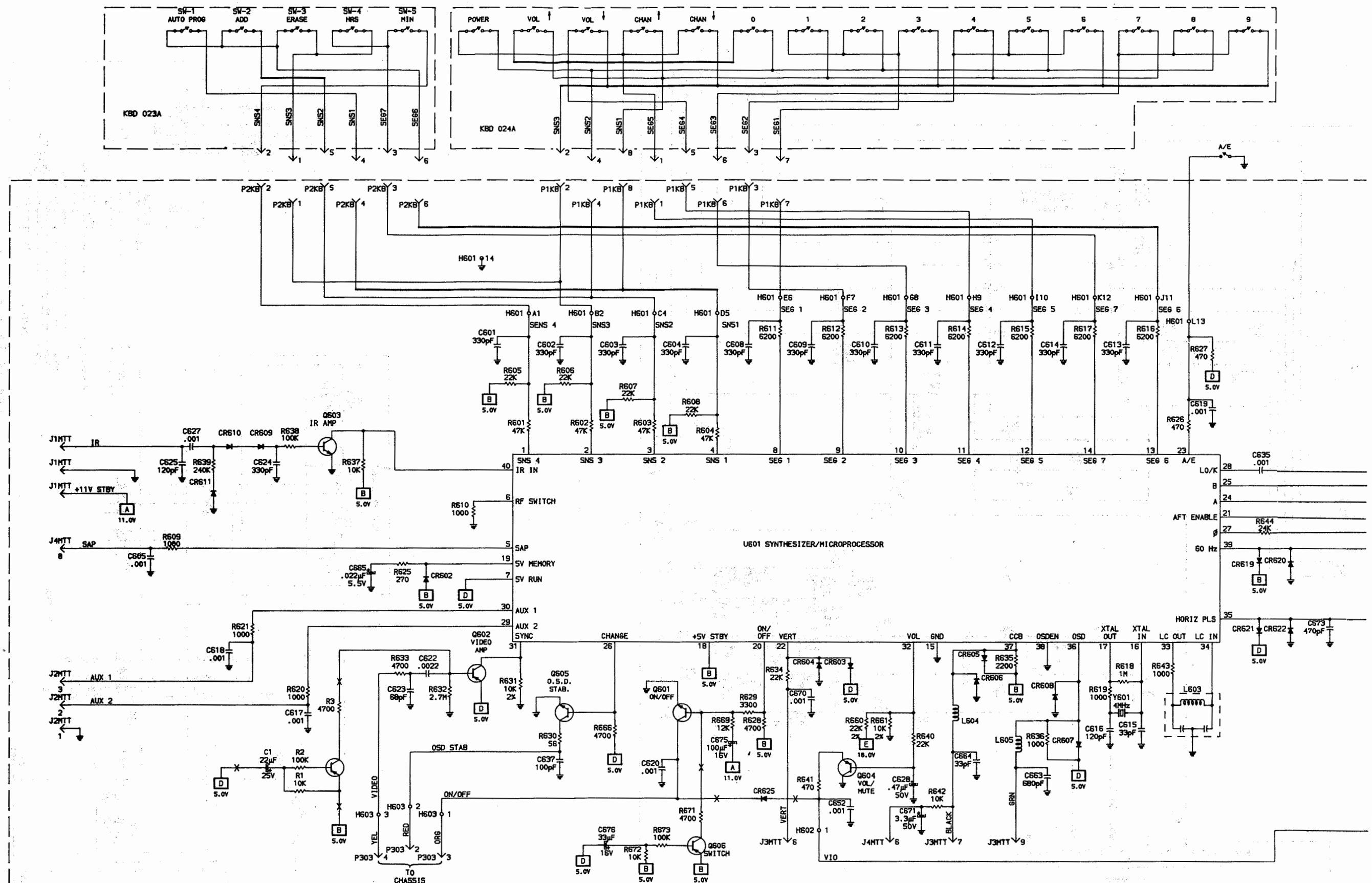


A PHOTOFACT STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

MTT006A TUNING SYSTEM

MTT006A TUNING SYSTEM





A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

MTT001A TUNING SYSTEM

E

F

SET 2681 FOLDER 1



**H SET 2681 FOLDER 1**

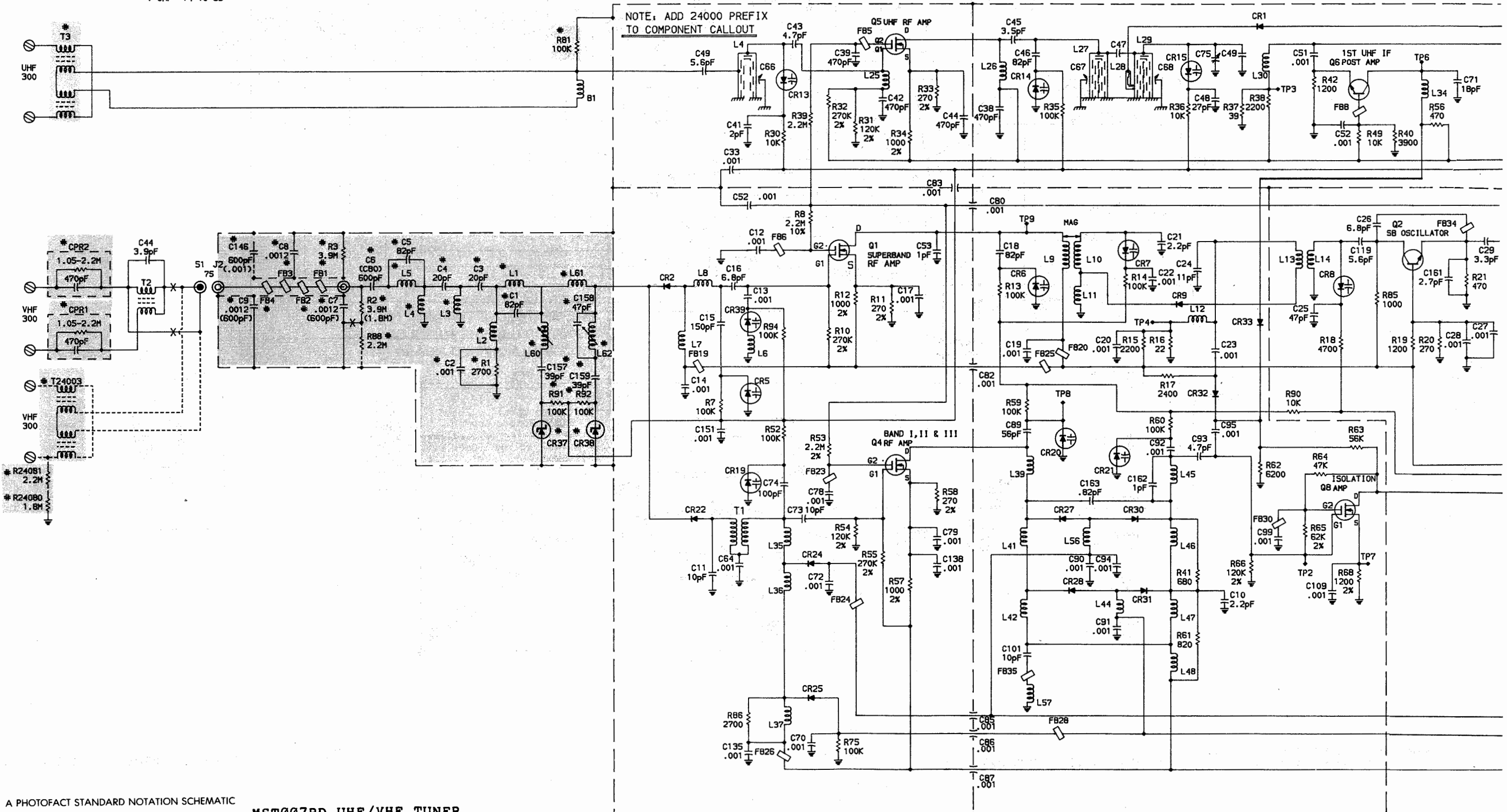
A

B

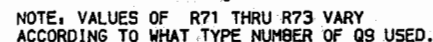
NOTES:  
C66 THRU C69 USED TO TRIM THE EFFECTIVE  
INDUCTANCE OF L24, L27, L29 AND L32 RESPECTIVELY.

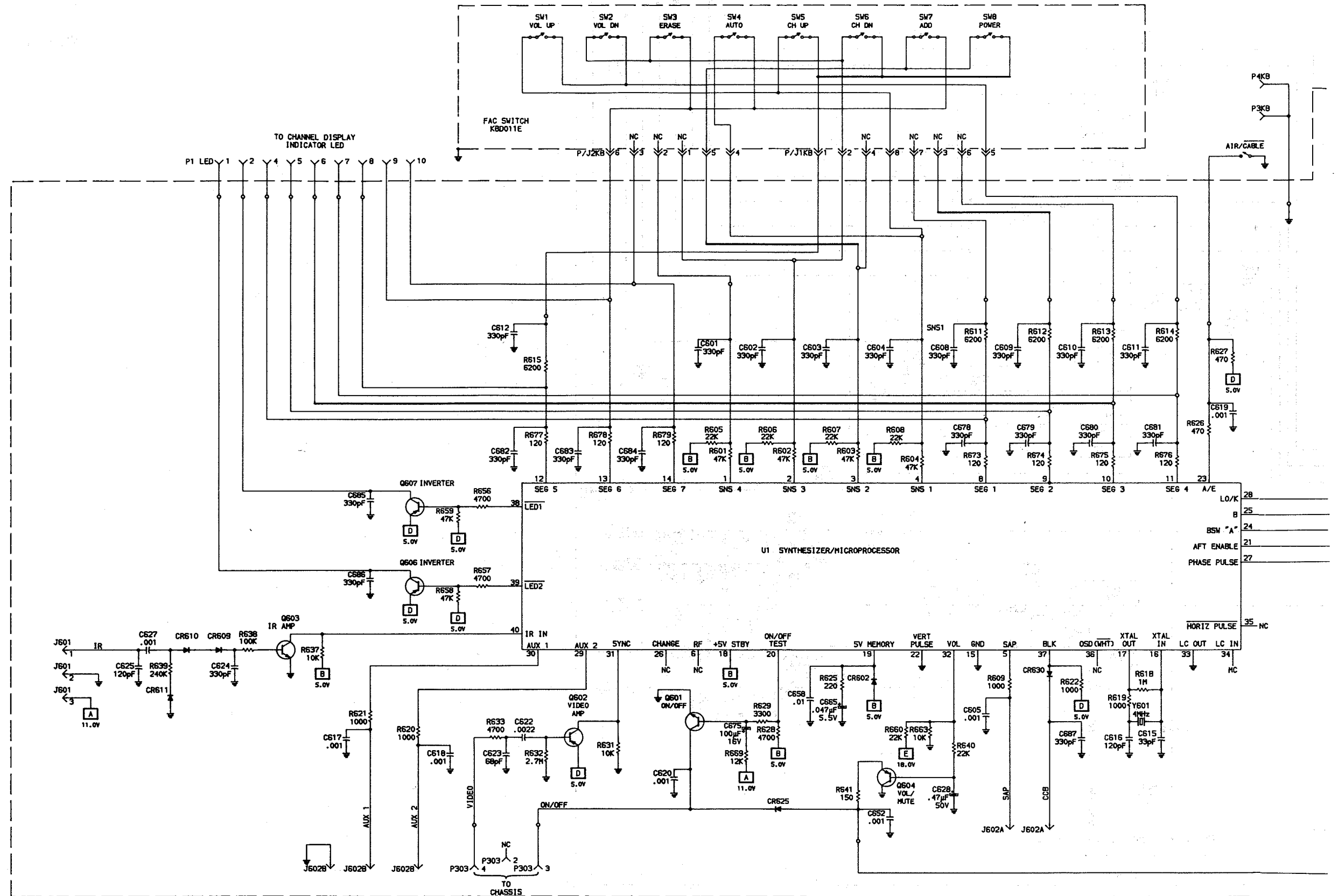
I LOW VHF--2 TO 6  
II MID--(A-5) TO C  
III MID HI VHF--D TO 13  
IV SUPERBAND (SB)--J TO W, AA-QQ  
V UHF--14 TO 83

NOTE: ADD 24000 PREFIX  
TO COMPONENT CALLOUT





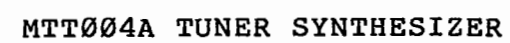




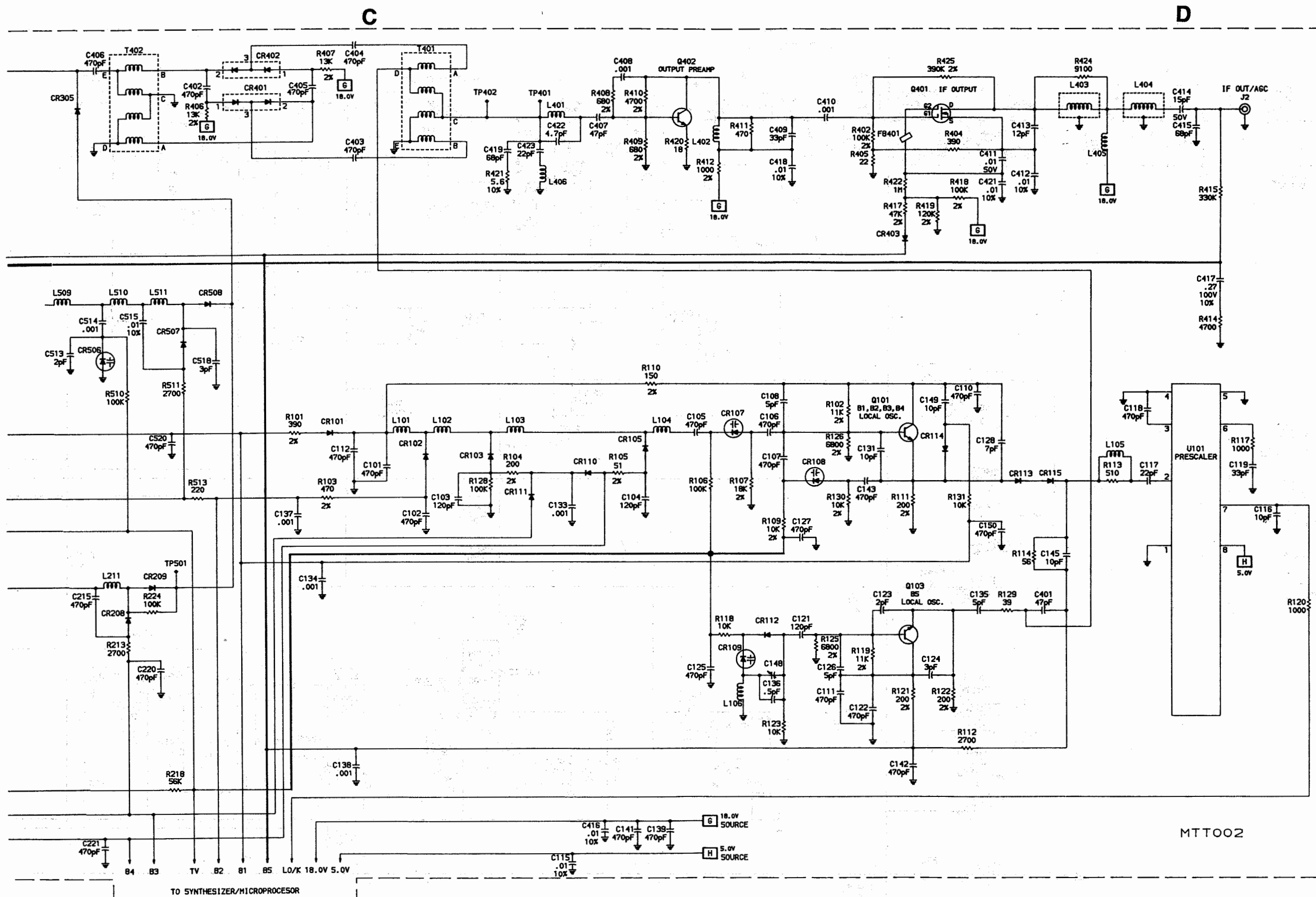
A PHOTOFAC STANDARD NOTATION SCHEMATIC

© Howard W. Sams & Co., Inc. 1989

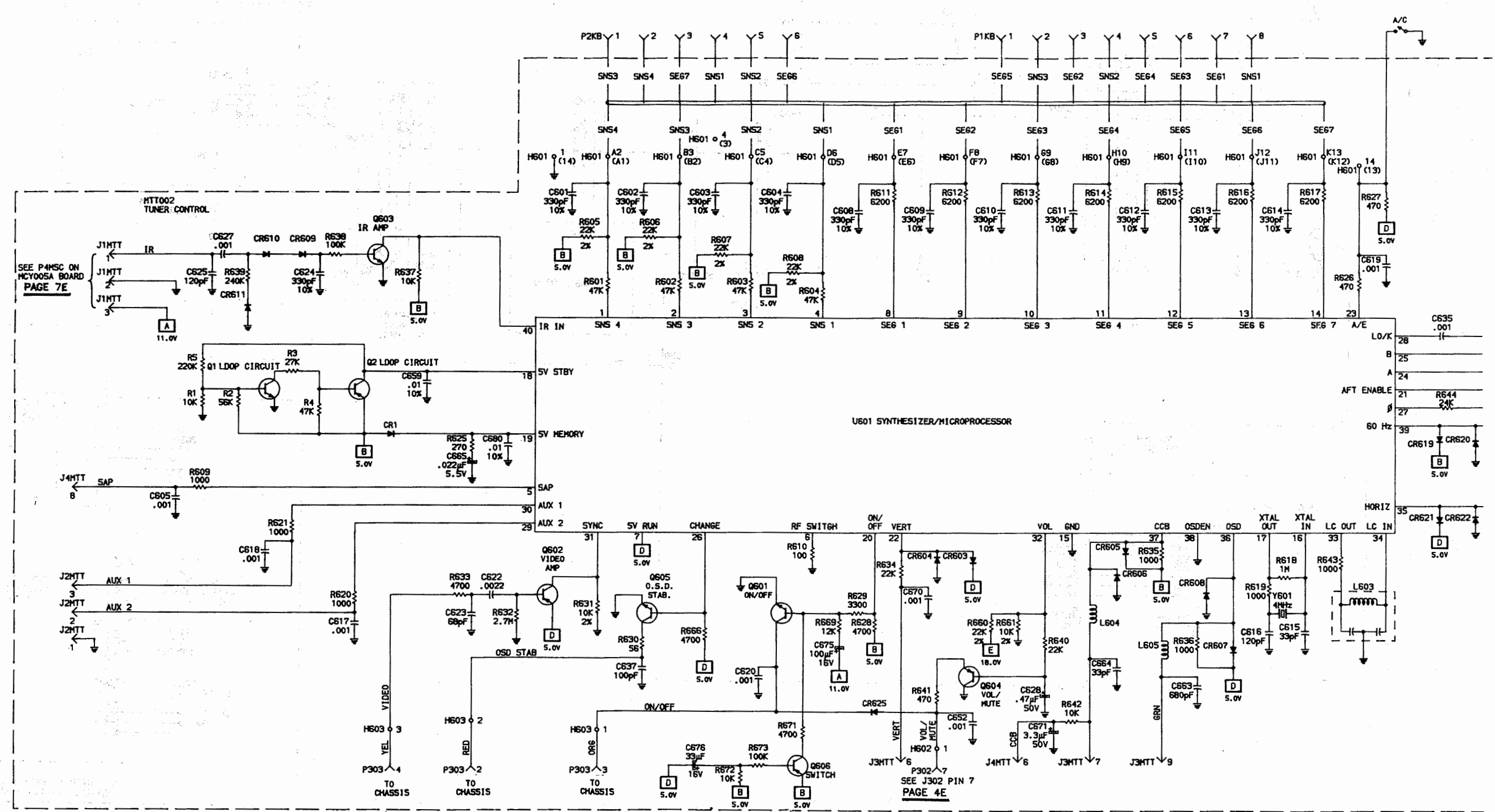
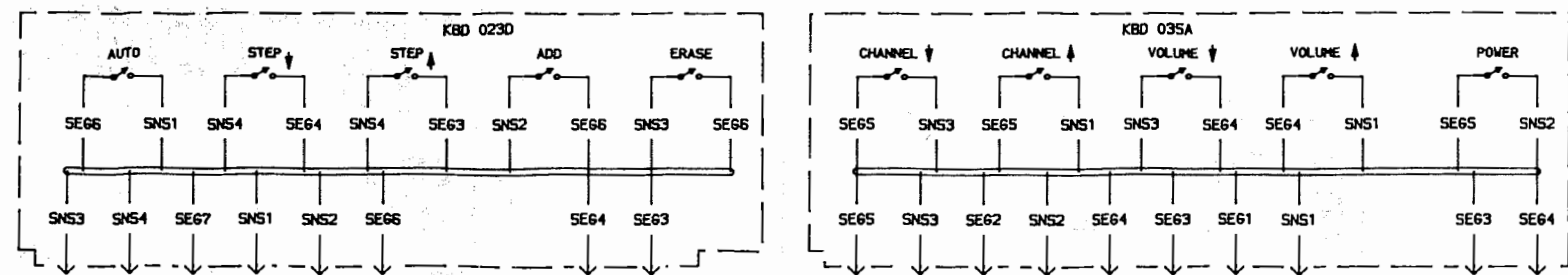
# MTT004A TUNER SYNTHESIZER











A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1989

MTT002B TUNING SYSTEM

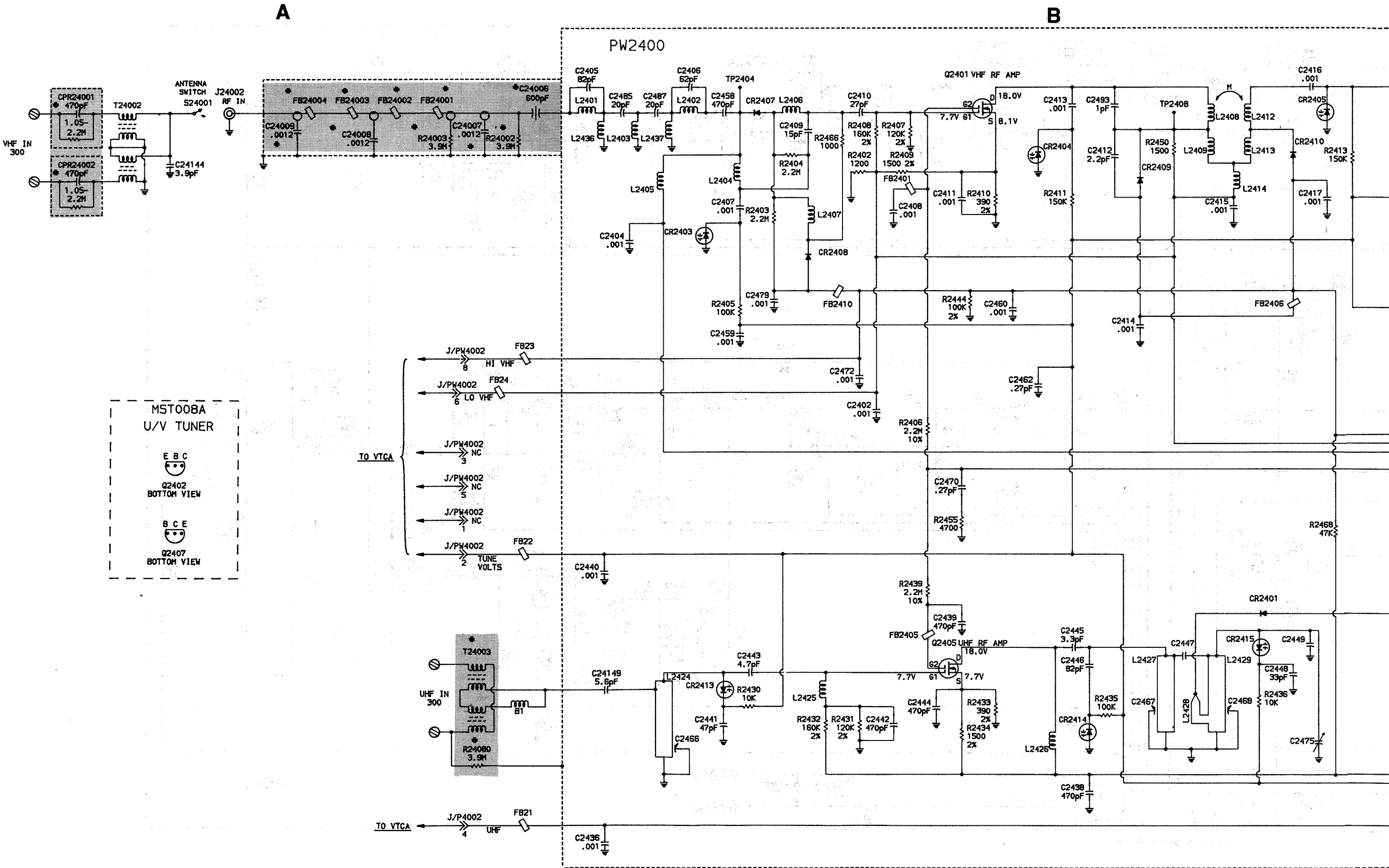
E

F

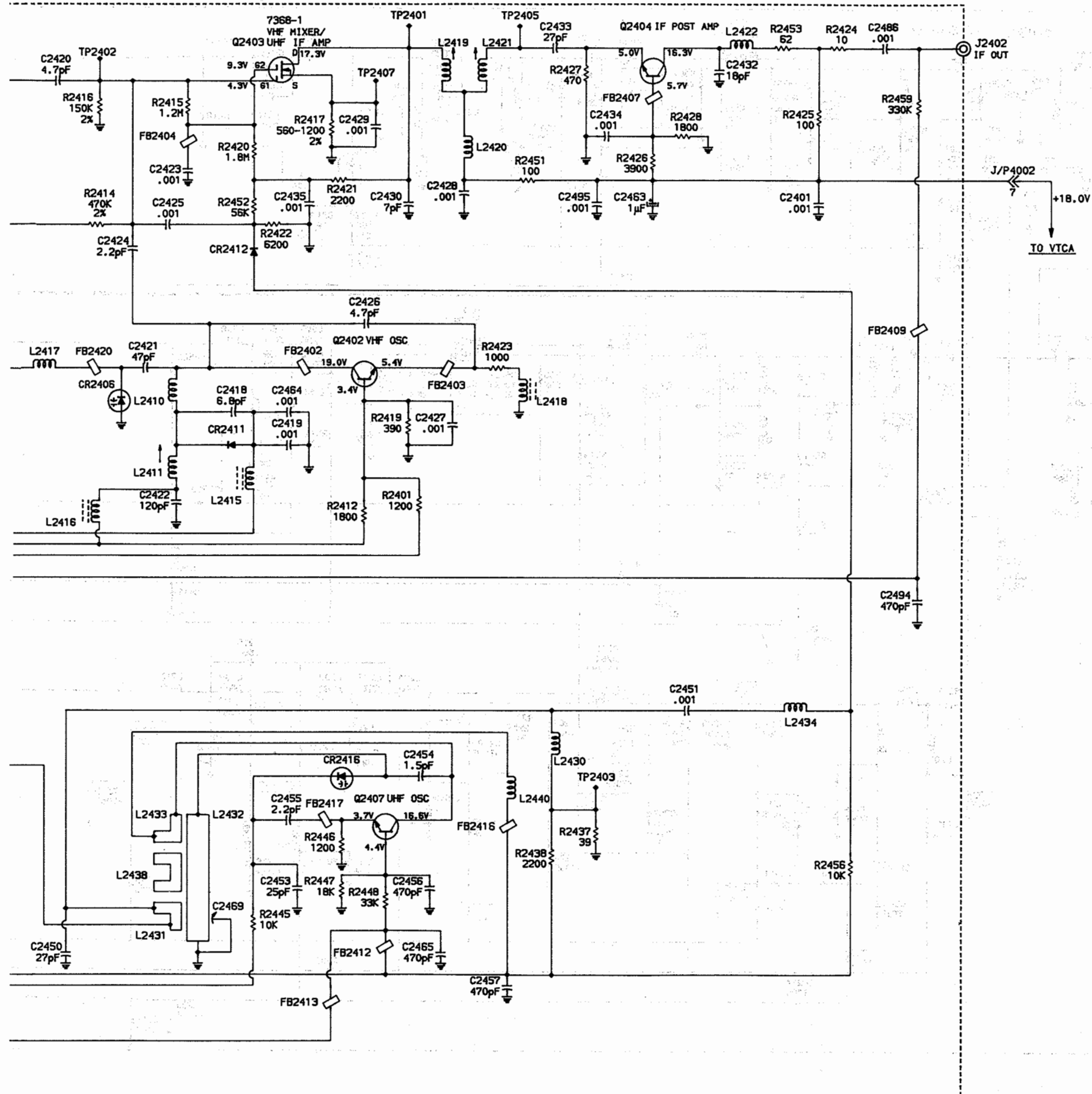
SET 2681 FOLDER 1

Page 9

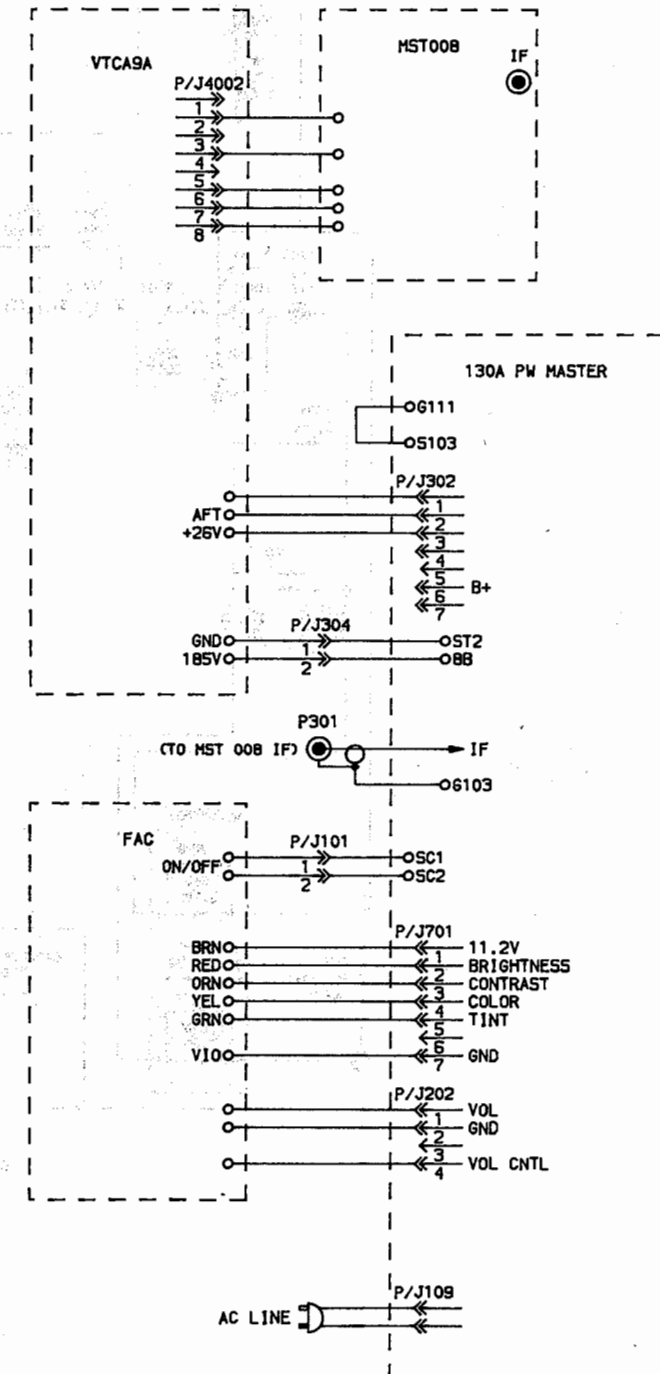


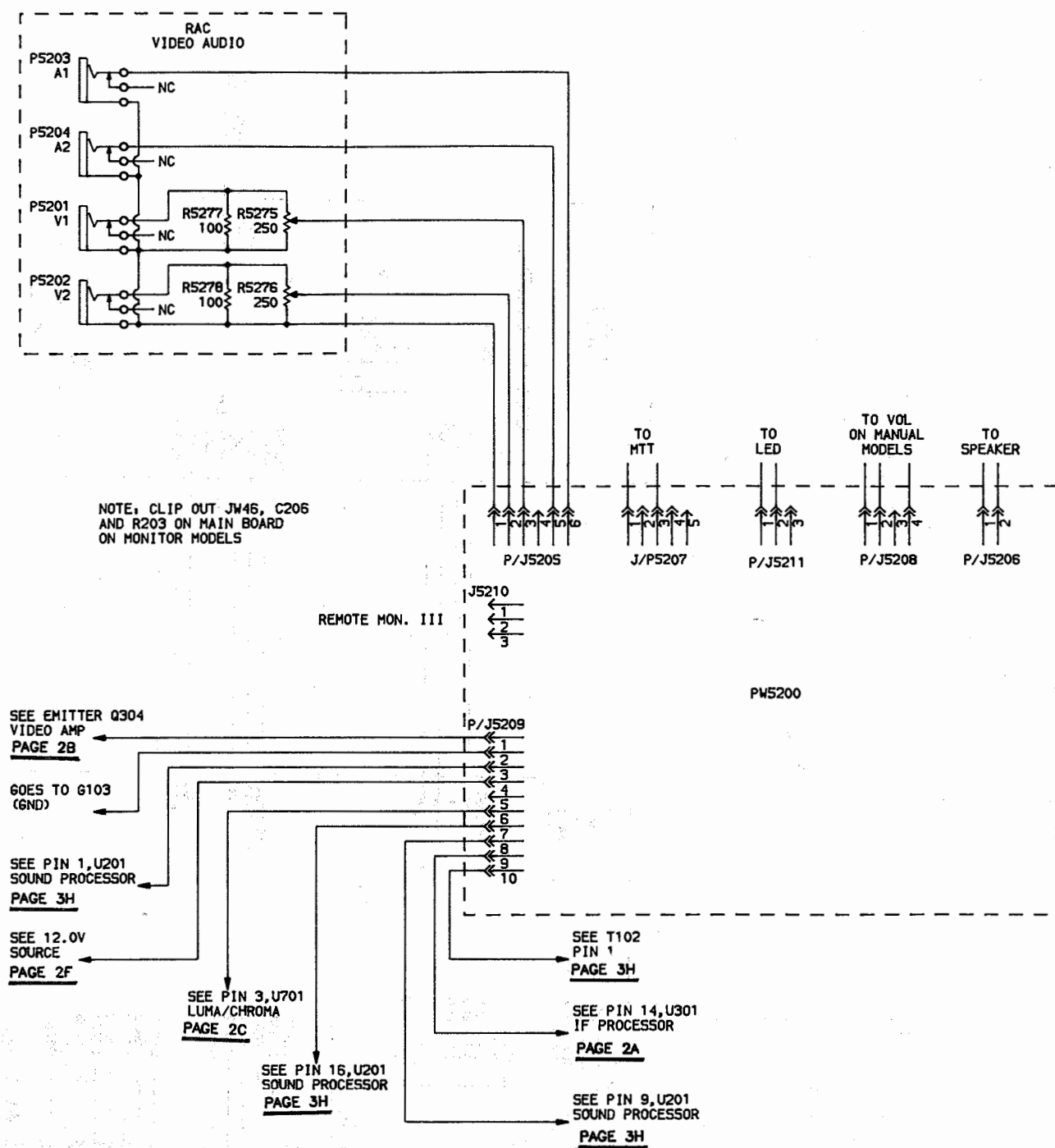


C



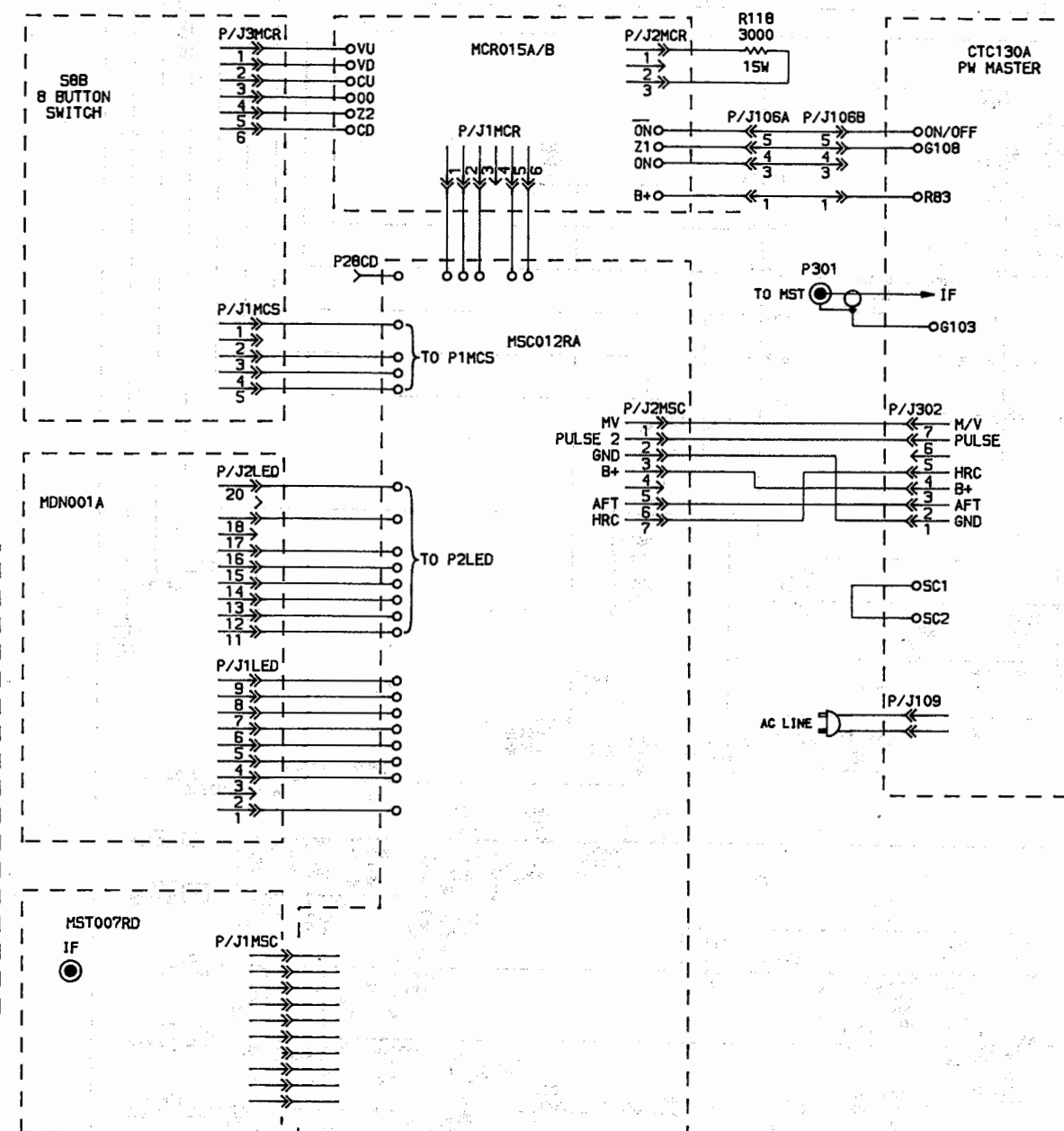
D





INTERCONNECT WIRING

E

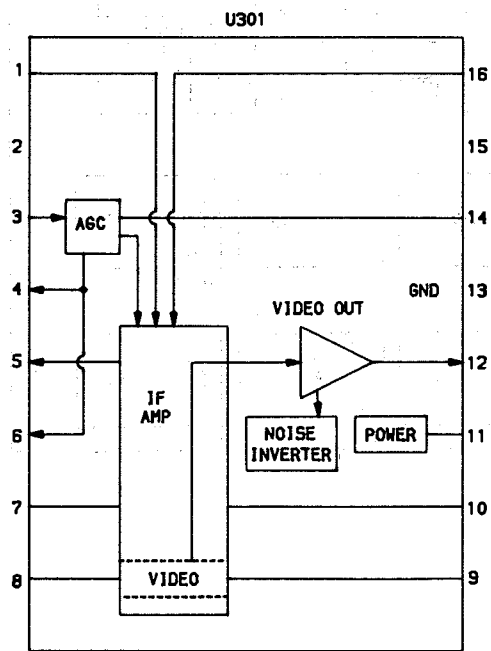
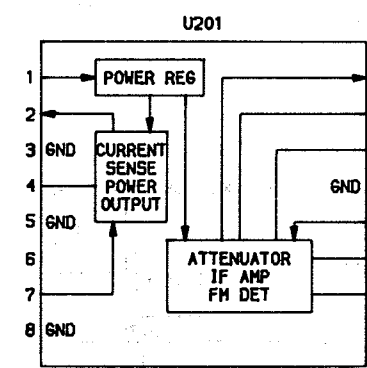
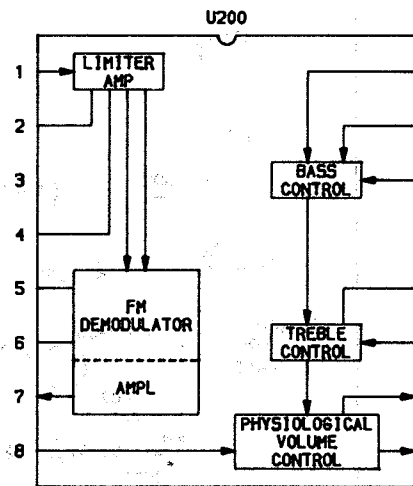
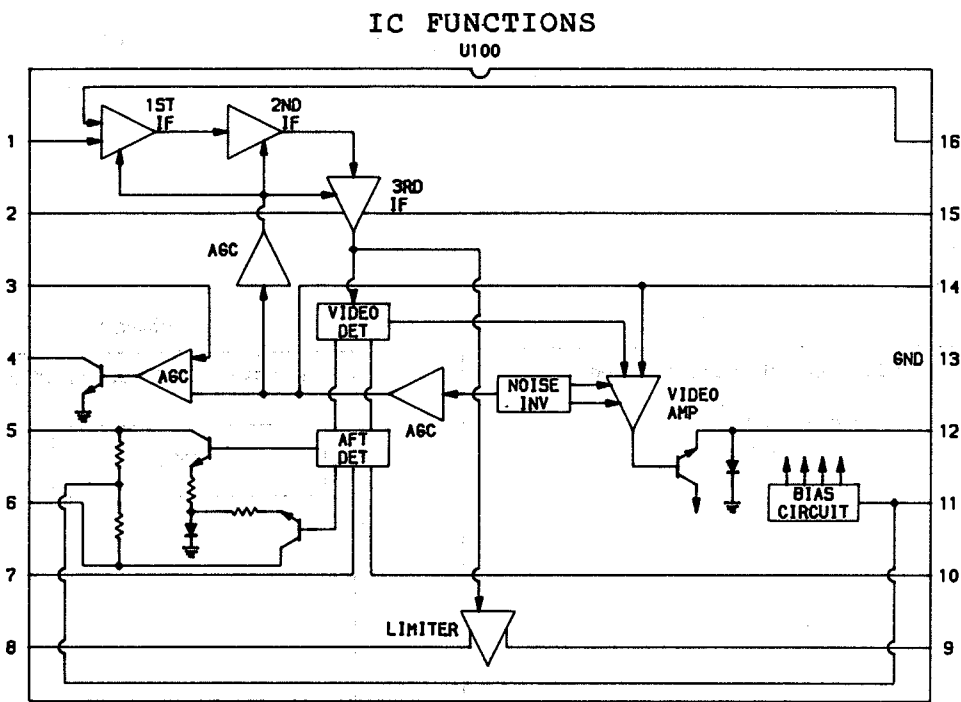


INTERCONNECT WIRING

F







TV ALIGNMENT INSTRUCTIONS (Continued)

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)		REMARKS
BAR SWEEP GENERATOR	SCOPE INPUT	
To Antenna Terminals	To TP301	Perform Video IF Adjustments per SWEEP/MARKER GENERATOR instructions • See Figure 2.

**AUTOMATIC FINE TUNING ALIGNMENT**  
Connect as explained in preliminary instructions unless specified otherwise.  
Connect a +5 bias to TP307.  
Adjust R332 (AFT Balance Control) for 5.5VDC at TP318 with no signal applied.

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP319	To TP303 (IF Input)	44.00MHz (10MHz Sweep)	45.75MHz	Adjust L304 to place 45.75MHz marker at crossover as shown. See Figure 3.

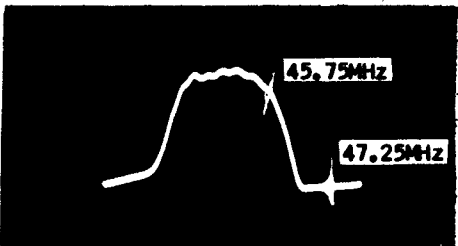


Figure 1

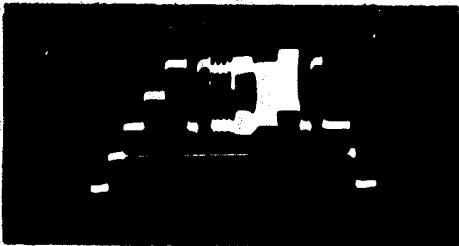


Figure 2

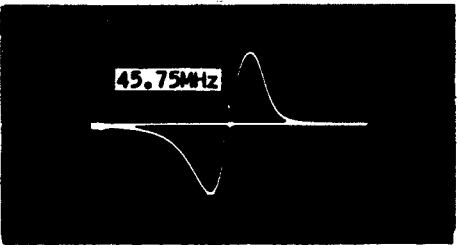
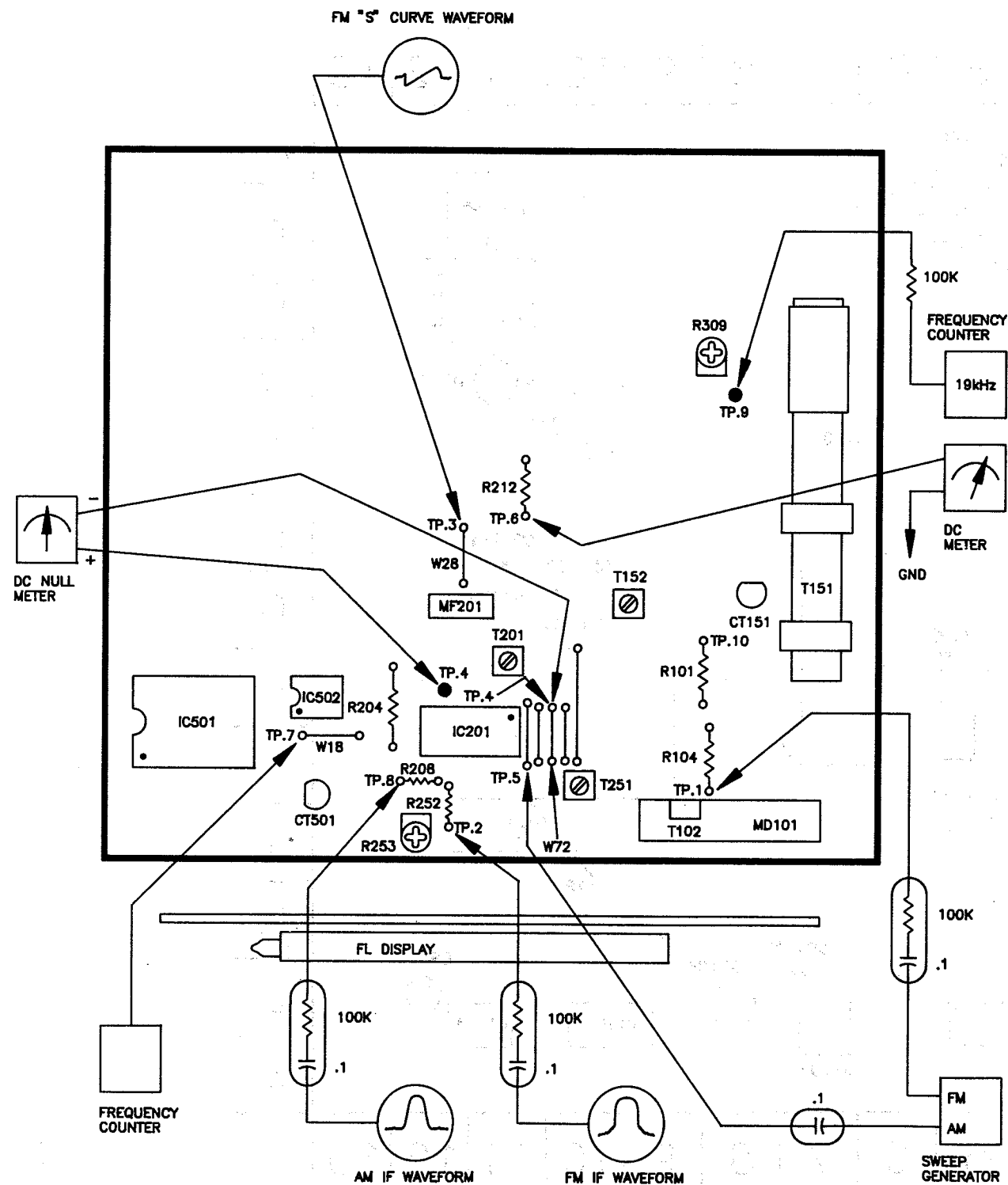


Figure 3



Courtesy of Manufacturer

## TEST EQUIPMENT

Test Equipment listed by Manufacturer illustrates typical or equivalent equipment used by SAMS' Engineers to obtain measurements and is compatible with most types used by field service technicians.

Equipment	B & K Precision Equipment No.	Sencore Equipment No.	Notes
OSCILLOSCOPE	1560, 1564, 1541	SC61	
GENERATORS			
RGB	1249,1260		
MULTIBURST SIGNAL	1251,1260	VA62	
COLOR BAR	1211A,1249,1251,1260	VA62,CG25	
ANALOG VOM	277,111,116		
DIGITAL VOM	2830,2806	DVM37,DVM56,SC61	
FREQUENCY METER	1803,1805	FC71,SC61	
HI-VOLTAGE PROBE	HV-44	HP200	
VOM/DMM			
Accessory probes	PR-28(HV)		
ISOLATION TRANSFORMER	TR110,1604,1653,1655	PR57	
CAPACITANCE ANALYZER	820,810,830	LC53,LC75,LC76,LC77	
CRT ANALYZER	467,470	CR70	
TEMPERATURE PROBE	TP-28,TP-30		
AC LEAKAGE TESTER	1655	PR57	
LOGIC PROBE	DP51,DP21		
LOGIC PULSER	DP101,DP31		
INDUCTANCE ANALYZER	875	LC53,LC75,LC76,LC77	
FLYBACK YOKE TESTER	875	LC53,VA62	
TV STEREO GENERATOR	2009	ST65,ST66	
FIELD STRENGTH METER		FS73,FS74	

## TV ALIGNMENT INSTRUCTIONS

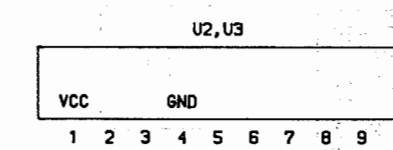
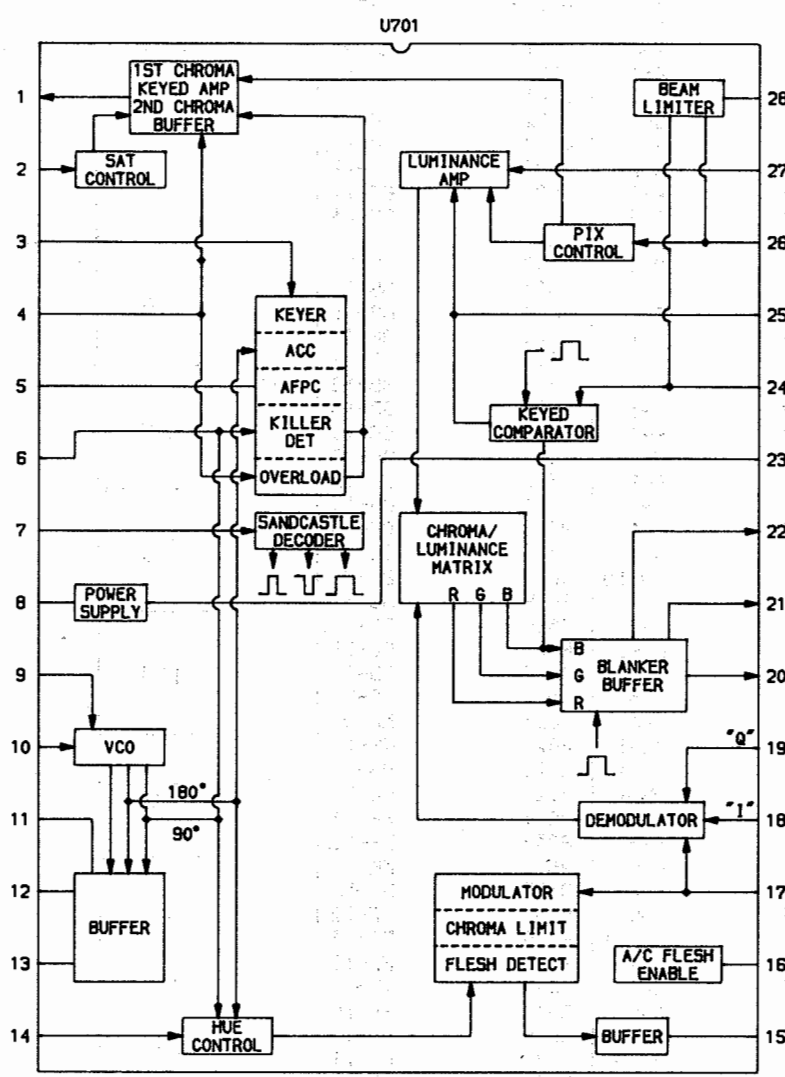
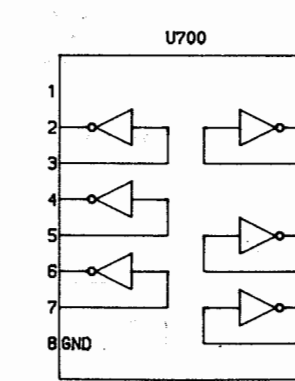
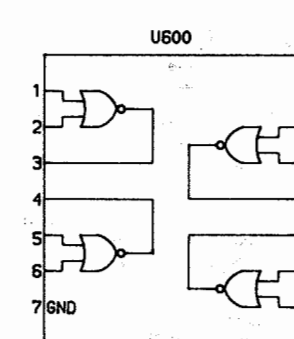
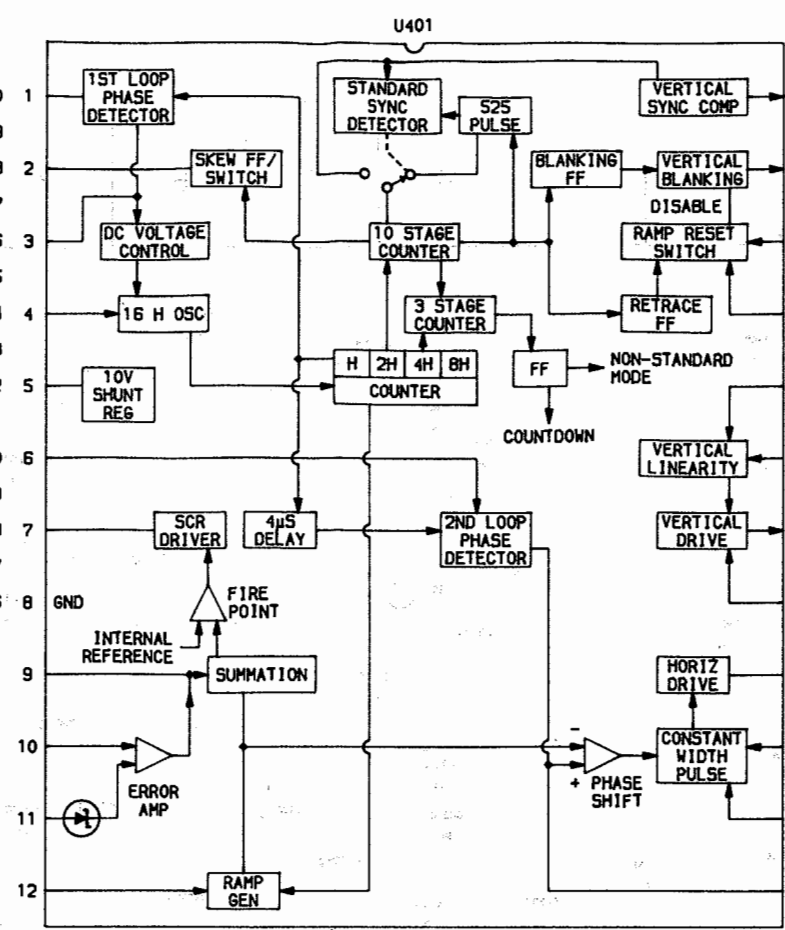
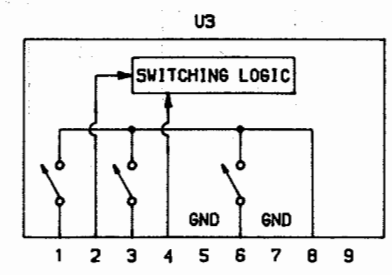
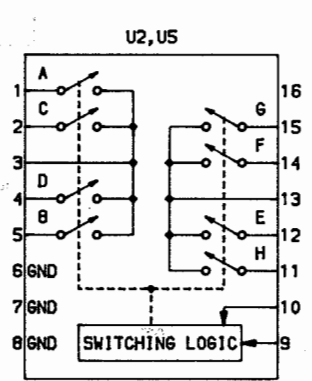
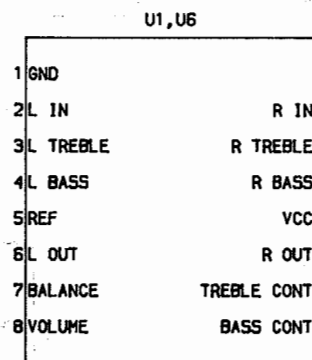
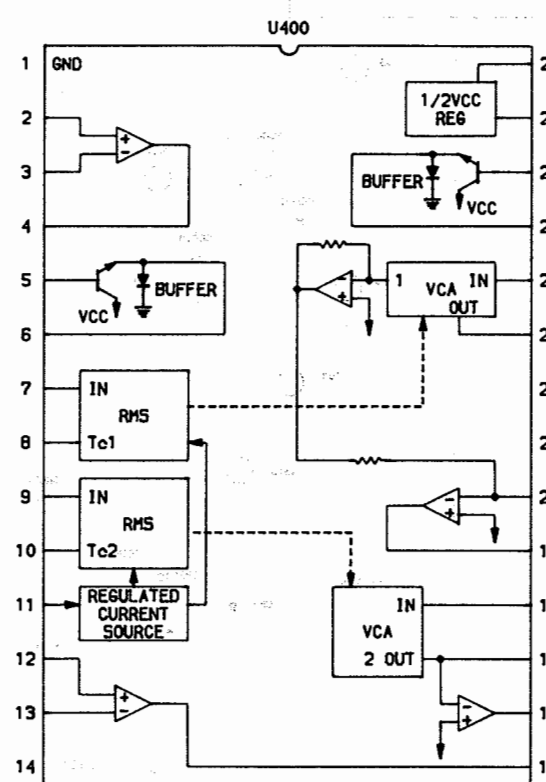
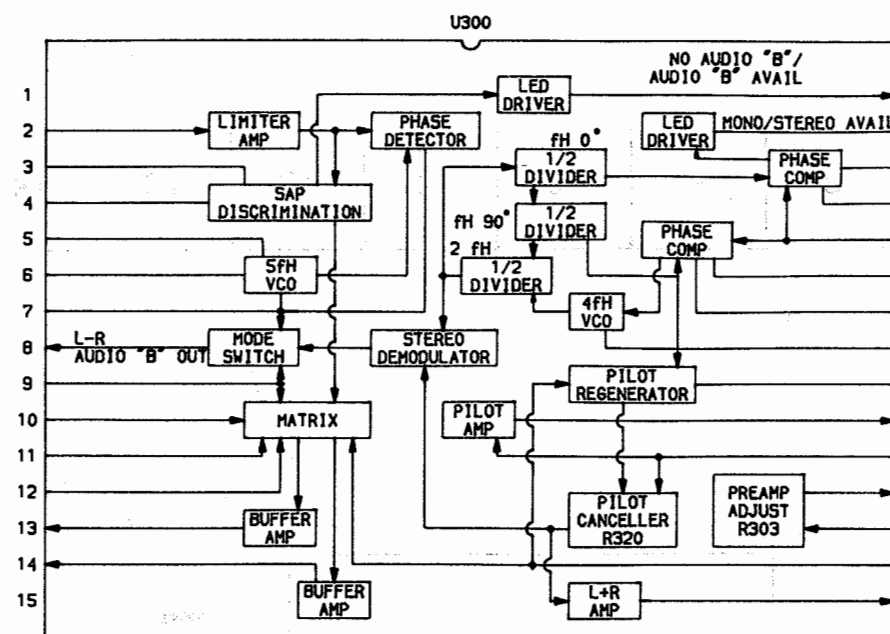
Use an isolation transformer and observe power supply polarity. Maintain line voltage at 120V AC. Allow a 20-minute warm-up period for receiver and test equipment.  
Suggested Alignment Tools: GC-THORSEN  
L301, L303, L304, T301 .....9440

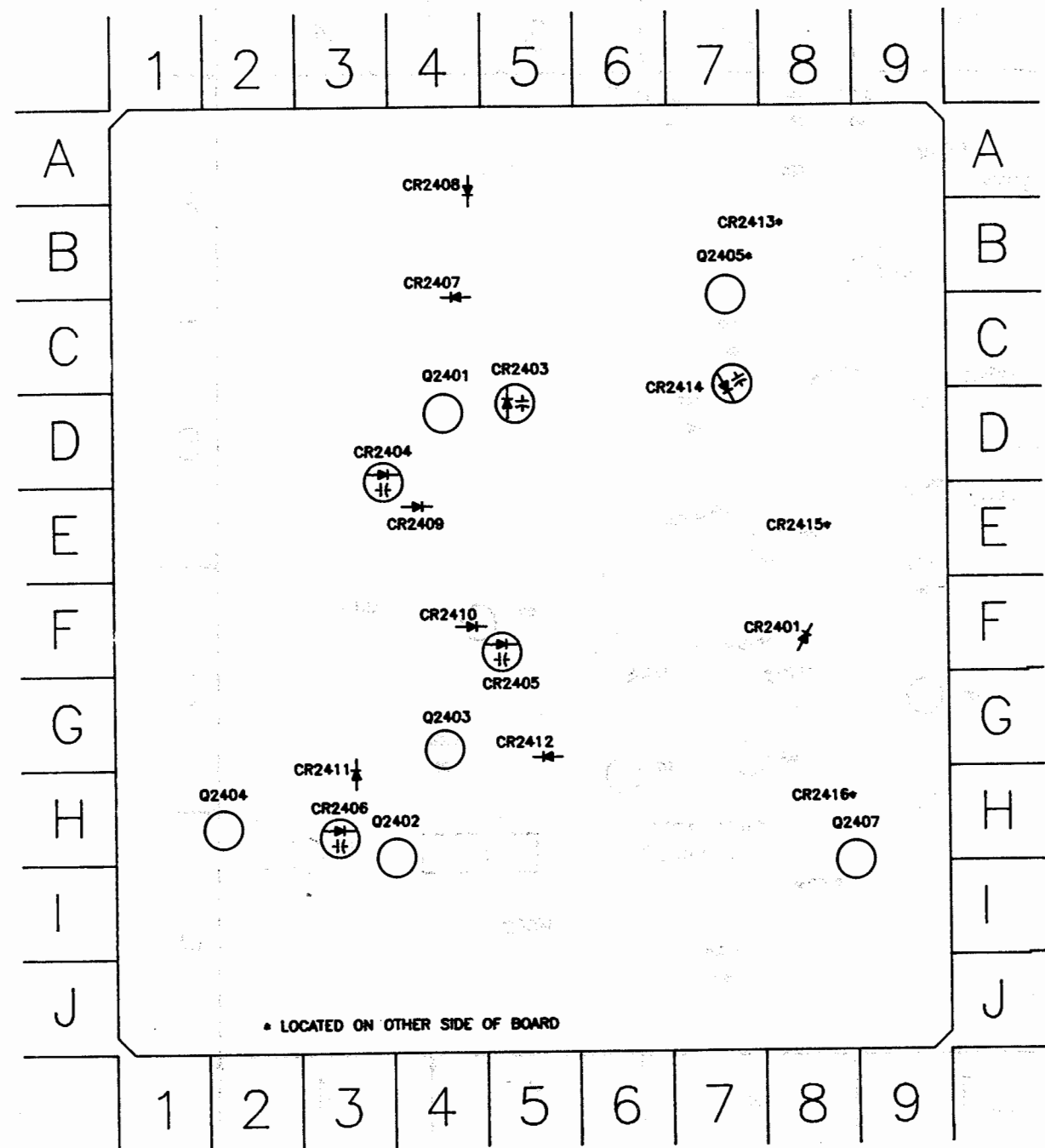
## PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Set scope sweep to external. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a usable indication.  
Note: Response may vary slightly from that shown.  
T301 is factory set. Do not adjust.

## VIDEO IF ALIGNMENT (SWEEP MARKER GENERATOR)

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP301	To IF Input (TP303)		47.25MHz	Adjust L301 for MINIMUM. See Figure 1.
To TP301			45.75MHz	Adjust L303 for Maximum. See Figure 1.





MST008A UHF/VHF TUNER A Howard W. Sams GRIDTRACE™ Photo

MST008A UHF/VHF TUNER-GridTrace LOCATION GUIDE

C2404	C-2	CR2412	G-5	R2415*	H-4
C2405	B-3	CR2413*	B-7	R2416	G-4
C2406	B-4	CR2414	D-7	R2417	F-3
C2407	C-5	CR2415*	E-8	R2419	G-3
C2409	C-4	CR2416*	H-7	R2420	G-3
C2410	C-4	FB2401	D-5	R2422	G-4
C2411	D-3	FB2402	H-4	R2423	I-4
C2413	F-4	FB2403	I-4	R2424	I-1
C2414	E-3	FB2404	G-4	R2425	H-1
C2415	F-3	FB2405	C-8	R2426	G-1
C2416	F-5	FB2406	E-3	R2427	I-2
C2417	F-4	FB2408	F-6	R2428	H-1
C2418	H-3	FB2409	E-2	R2430	A-6
C2419	I-3	FB2410	D-5	R2431	B-6
C2420	G-5	FB2412	I-8	R2432	B-6
C2421	H-4	FB2413	J-7	R2433	C-6
C2422	G-2	FB2415	H-7	R2434	C-6
C2423	G-4	FB2416	H-7	R2435*	D-7
C2425	G-5	FB2417	H-9	R2436	E-6
C2426	I-4	L2401	A-3	R2437	G-6
C2427	I-3	L2402	B-4	R2438	G-6
C2428	E-1	L2403	A-4	R2439	B-9
C2429	G-4	L2404	C-3	R2440	E-7
C2430	G-3	L2405	C-3	R2441	G-5
C2432	H-1	L2406	C-5	R2442	F-7
C2433	H-2	L2407	B-4	R2444	D-5
C2434	H-1	L2408	E-5	R2445*	I-9
C2435	F-3	L2409	E-4	R2446	I-8
C2438	D-7	L2410	H-3	R2447	I-9
C2439	C-8	L2411	G-3	R2448	I-9
C2441*	A-7	L2412	E-5	R2449	E-6
C2442	B-7	L2413	F-4	R2450	E-4
C2443	B-7	L2414	F-4	R2451	E-1
C2444	C-7	L2415	I-5	R2452	F-4
C2445	C-8	L2416	G-2	R2453*	I-1
C2446	D-7	L2417	H-5	R2455	B-5
C2447*	I-9	L2418	I-3	R2456	G-6
C2448	E-7	L2420	E-1	R2457	G-2
C2449*	E-7	L2422	I-1	R2459	J-1
C2450	G-7	L2425	B-7		
C2451	F-7	L2426	D-7		
C2452	F-7	L2427*	D-9		
C2453*	H-9	L2428*	E-9		
C2454	H-8	L2429	E-9		
C2455	H-8	L2431	G-8		
C2456	H-9	L2432	G-8		
C2457	H-7	L2433*	H-8		
C2458	B-3	L2434	F-6		
C2459	E-6	L2436	B-3		
C2460	E-6	L2437	A-4		
C2462	H-6	L2438	G-8		
C2464	H-3	L2440	H-7		
C2465	I-9	Q2401	D-4		
C2466	A-8	Q2402	I-4		
C2467	D-9	Q2403	G-4		
C2468	F-9	Q2404*	H-2		
C2469	G-9	Q2405*	C-7		
C2470	A-5	Q2406	F-6		
C2471	E-6	Q2407	I-8		
C2479	A-5	R2401	F-2		
C2486	I-2	R2402	B-2		
C2494	C-1	R2403	B-5		
C2495	D-1	R2404	C-4		
CR2401	F-8	R2405	B-5		
CR2403	D-5	R2406	B-5		
CR2404	E-3	R2407	C-3		
CR2405	C-8	R2408	C-3		
CR2406	H-3	R2409	D-3		
CR2407	C-4	R2410	D-3		
CR2408	B-4	R2411	E-5		
CR2409	E-4	R2412	G-1		
CR2410	F-4	R2413	F-5		
CR2411	H-3	R2414	H-5		

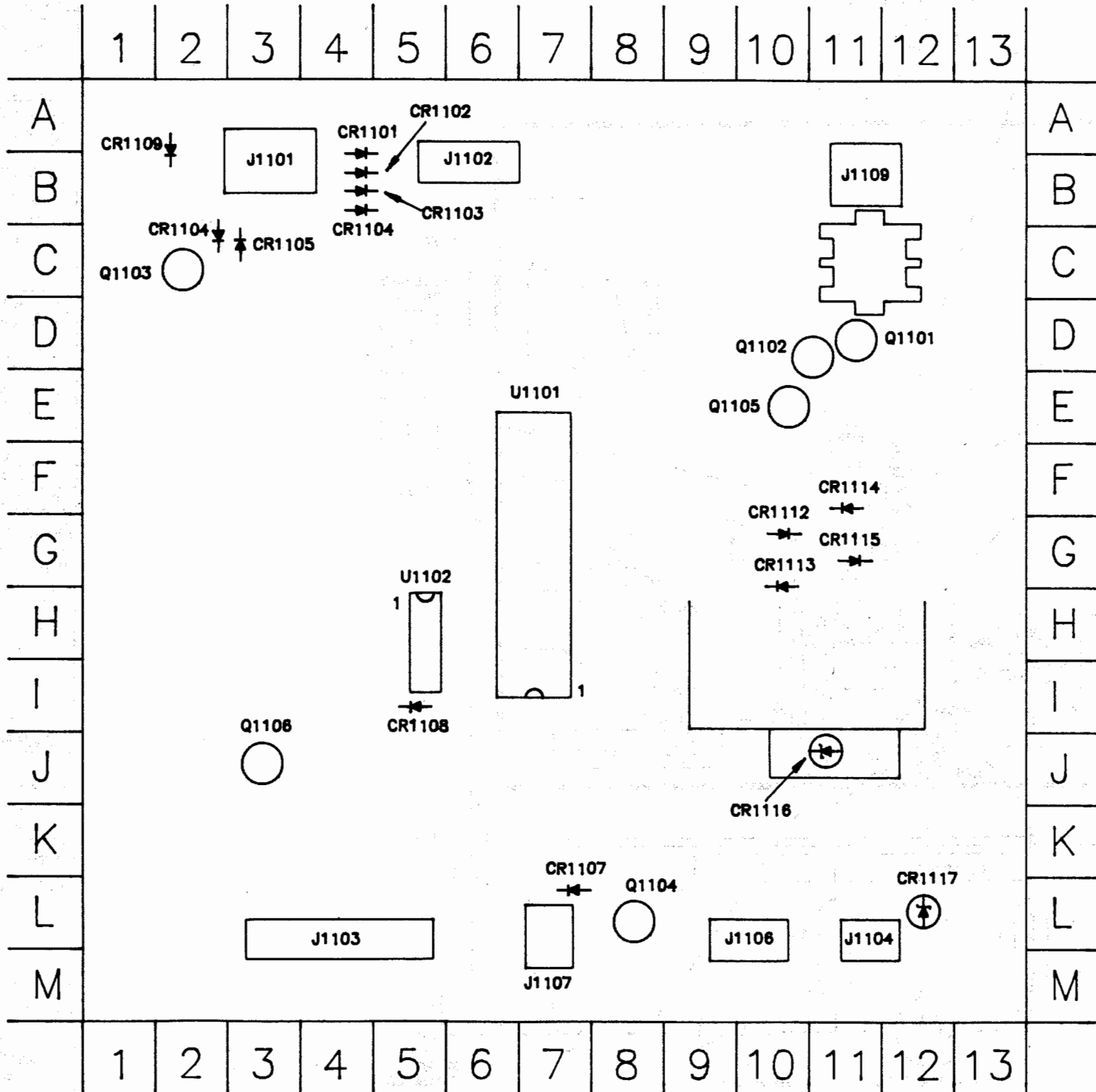
\*Located on other side of board.

RCA  
CHASSIS CTC130A



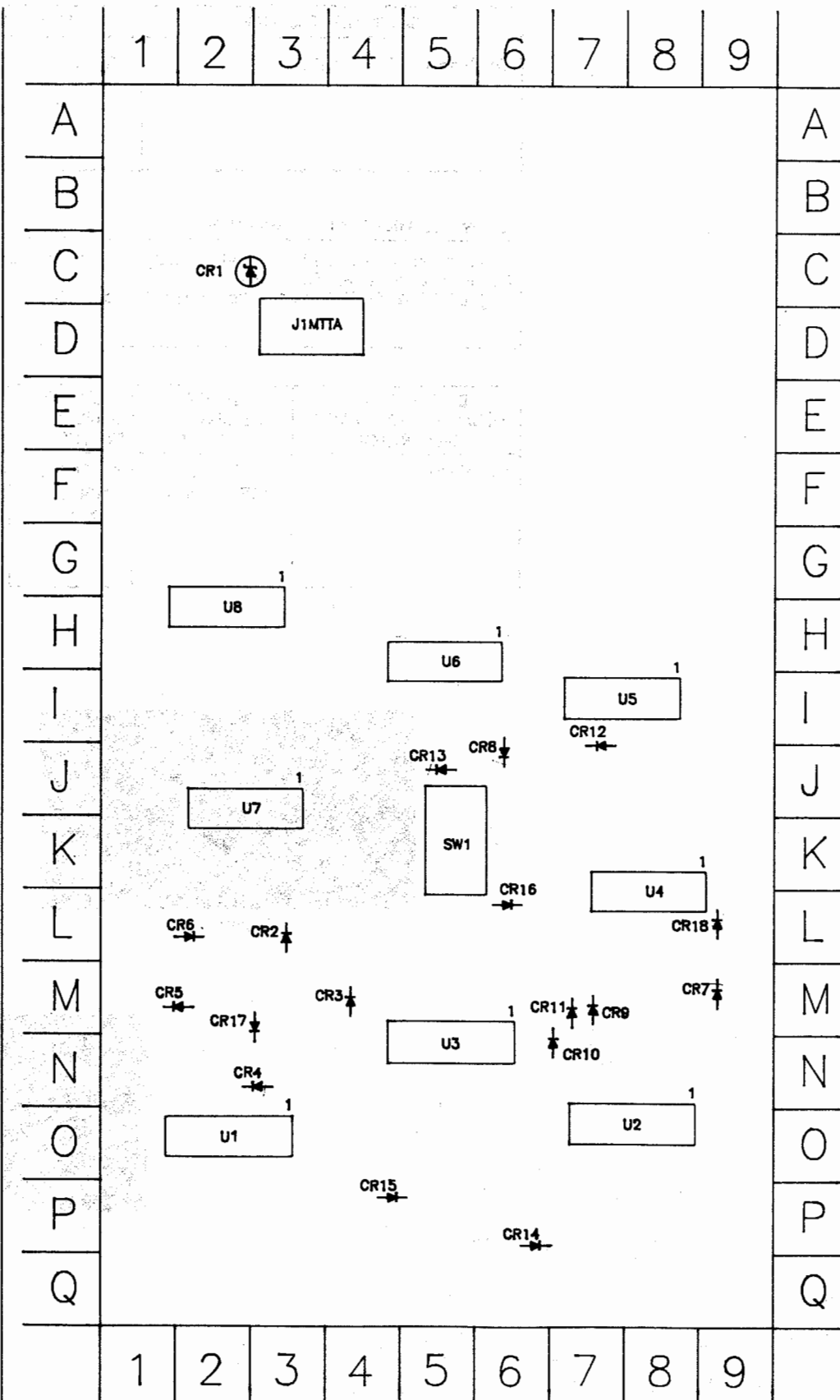
MCR026A REMOTE PREAMP-  
GridTrace LOCATION GUIDE

C1101	D-12	J1101	B-3
C1102	D-12	J1102	B-6
C1103	E-12	J1104	L-11
C1104	E-11	J1106	L-10
C1109	F-2	J1107	L-7
C1110	E-2	J1109	B-11
C1111	E-2	L1102	E-9
C1112	D-2	L1103	J-10
C1113	J-2	Q1101	D-11
C1114	I-2	Q1102	D-11
C1115	H-2	Q1103	C-2
C1116	B-7	Q1104	L-8
C1121	A-2	Q1105	E-10
C1122	B-2	Q1106	J-3
C1124	J-8	R1101	B-10
C1125	J-8	R1102	E-11
C1126	I-8	R1103	E-11
C1127	L-2	R1104	C-10
C1128	L-3	R1105	D-10
C1129	L-3	R1106	D-10
C1130	L-3	R1107	E-12
C1131	L-4	R1109	D-4
C1132	K-4	R1110	C-4
C1133	K-4	R1111	C-4
C1134	K-5	R1112	C-4
C1135	L-5	R1113	B-2
C1136	L-6	R1115	C-2
C1137	L-6	R1116	C-4
C1138	I-4	R1117	J-3
C1140	K-12	R1118	L-8
C1141	L-12	R1119	K-8
C1142	F-9	R1120	K-6
C1143	G-9	R1123	I-11
C1144	J-10	R1124	E-4
C1145	K-3	R1125	E-4
C1146	L-6	R1125	E-4
C1147	L-6	R1127	E-4
C1148	L-10	R1128	E-5
C1149	L-10	R1129	D-5
C1150	L-9	R1130	D-5
C1151	B-8	R1131	D-5
C1152	J-12	R1132	F-5
C1153	F-10	R1133	F-5
C1154	G-10	R1134	F-5
C1155	G-11	R1135	G-5
C1156	G-11	R1136	G-5
C1157	B-6	R1137	G-5
C1158	B-6	R1138	K-6
C1159	B-5	R1139	J-6
C1160	B-5	R1140	J-6
C1164	J-8	R1141	J-6
C1165	I-8	R1142	G-5
C1166	K-3	R1143	K-10
C1167	C-3	R1144	J-9
C1168	I-2	R1145	K-8
C1169	L-11	R1147	C-5
C1170	L-11	R1149	D-5
C1171	F-12	R1150	K-6
C1172	E-12	T1101	C-11
CR1101	B-4	U1101	T-7
CR1102	B-4	U1102	T-8
C1103	B-4	Y1101	T-8
CR1104	C-2		
CR1105	C-3		
CR1107	L-7		
CR1108	I-5		
CR1109	B-2		
CR1112	G-10		
CR1113	G-10		
CR1114	F-11		
CR1115	G-11		
CR1116	J-11		
CR1117	L-12		



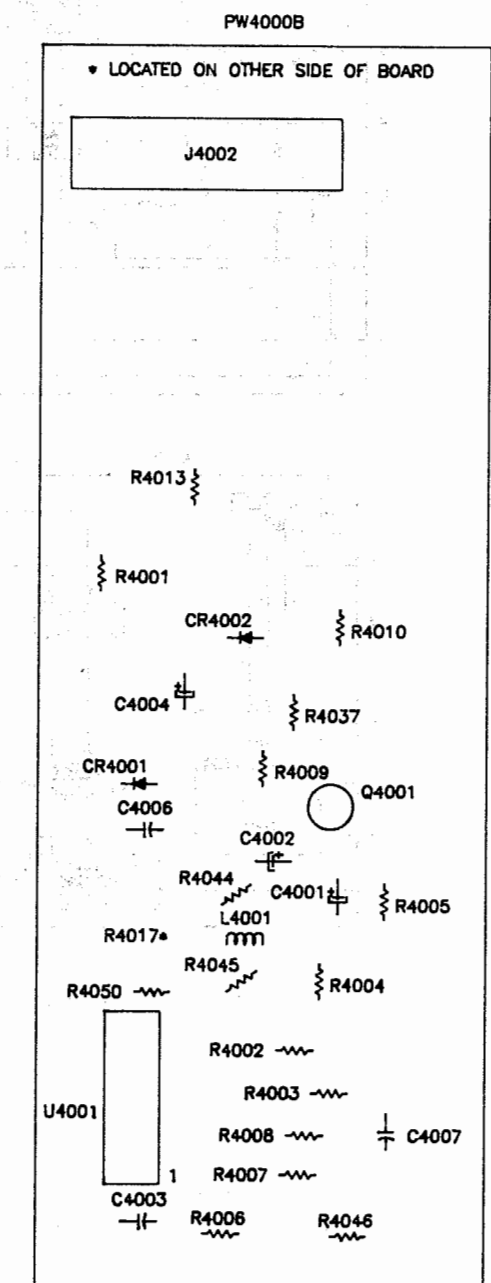
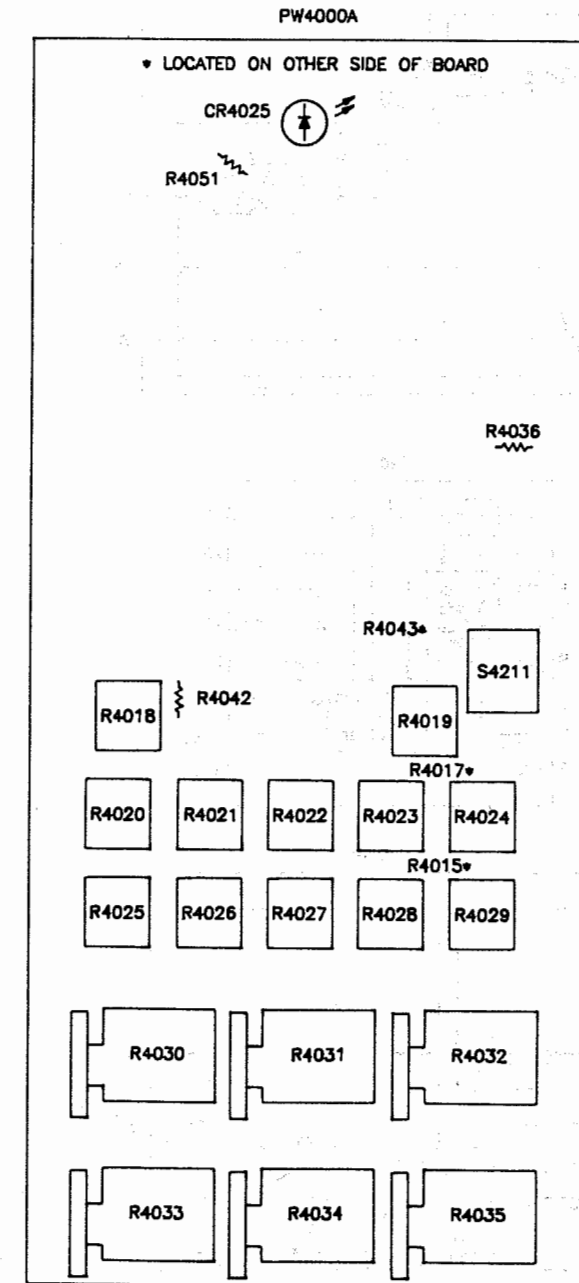
MTT006A TUNING SYSTEM  
GridTrace LOCATION GUIDE

C1	I-9	R16	I-2
C2	J-9	R17	L-2
C3	D-8	R18	K-2
C4	E-8	R19	G-5
C5	F-8	R20	G-5
C6	F-7	R21	P-4
C7	F-6	R22	M-2
C8	F-7	R23	L-1
C9	I-3	R24	N-2
C10	H-4	R25	N-1
C11	F-3	R26	M-3
C12	F-4	R27	P-3
C13	E-2	R28	P-3
C14	F-1	R29	K-3
C15	E-1	R30	P-8
C16	G-1	R31	P-9
C17	K-1	R32	N-7
C18	I-1	R33	N-6
C19	F-5	R34	N-6
C20	F-4	R35	Q-6
C21	D-6	R36	Q-6
C22	M-3	R37	Q-6
C23	N-3	R38	P-6
C24	O-4	R39	Q-7
C26	Q-2	R40	L-6
C27	P-8	R41	K-7
C28	N-9	R42	J-8
C30	P-7	R43	G-7
C31	Q-4	R44	G-7
C32	N-5	R45	I-6
C33	J-1	R46	J-7
C34	Q-6	R47	G-8
C35	Q-6	R48	J-4
C36	M-8	R49	K-4
C37	J-4	R50	G-5
C38	K-6	R51	G-5
CR1	Q-2	R52	K-2
CR2	L-3	R54	L-4
CR3	M-4	R55	H-2
CR4	N-3	R56	N-2
CR5	M-1	R57	N-2
CR6	L-2	R58	P-3
CR7	M-9	R59	P-3
CR8	J-6	R60	Q-9
CR9	M-7	R61	Q-8
CR10	M-6	R62	Q-5
CR11	M-7	R63	M-6
CR12	I-7	U1	O-3
CR13	J-5	U2	N-8
CR14	P-6	U3	M-6
CR15	P-4	U4	K-8
CR16	L-6	U5	I-8
CR17	M-3	U6	H-6
CR18	L-9	U7	J-3
J1KBOA	A-7	U8	G-3
J1MTTA	D-3		
J2KBA	A-2		
J2KBOA	A-5		
R1	J-8		
R2	J-8		
R3	G-9		
R4	G-8		
R5	G-8		
R6	G-7		
R7	G-6		
R8	G-6		
R9	I-3		
R10	I-2		
R11	G-3		
R12	G-3		
R13	F-2		
R14	F-2		
R15	I-2		



MTT006A TUNING SYSTEM

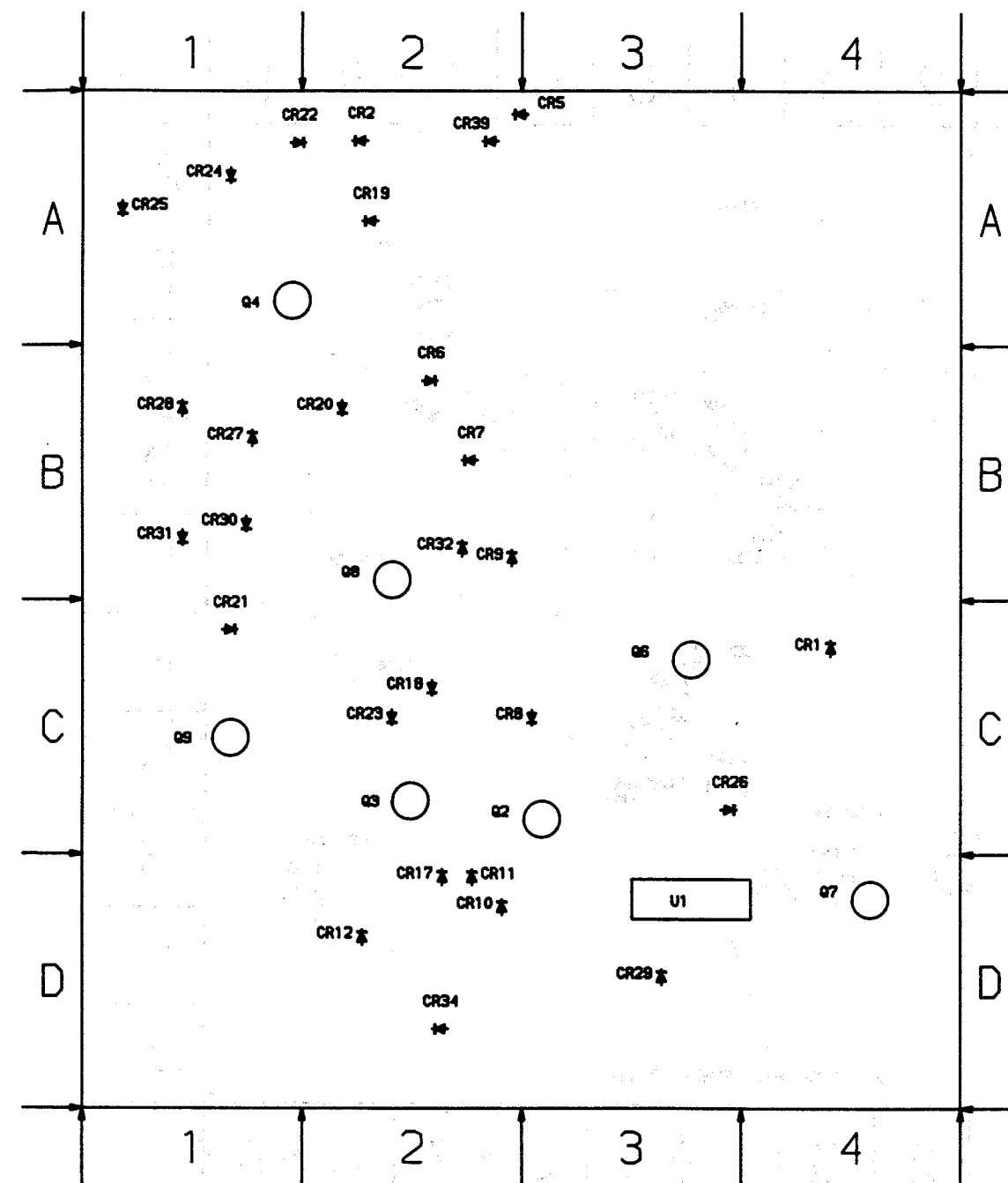
A Howard W. Sams GRIDTRACE™ Photo



VTCA-9A TUNER CONTROL

# MST007RD UHF/VHF TUNER-GridTrace LOCATION GUIDE

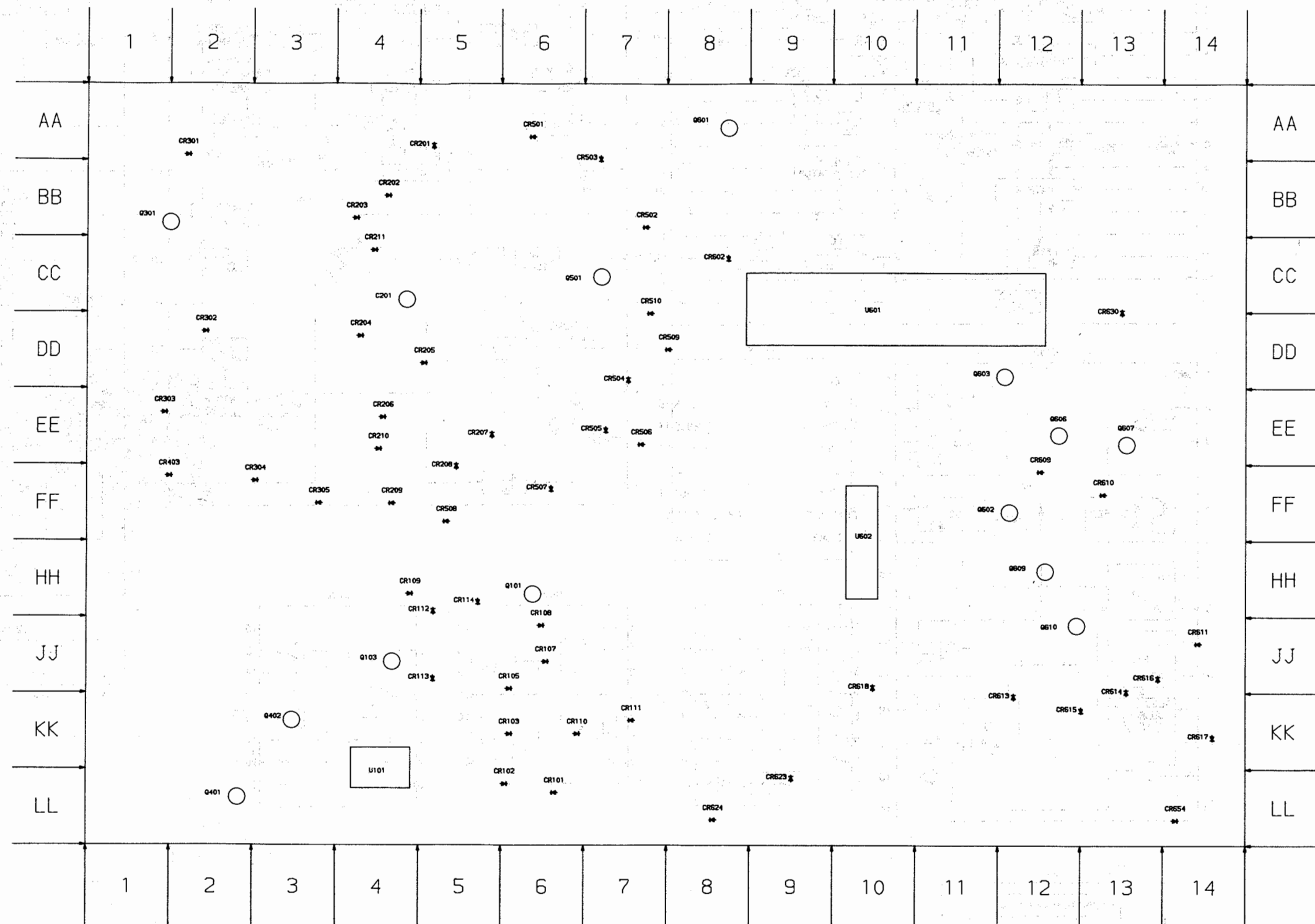
C24010	B-1	C24094	B-2	FB24009	C-2	Q24005	A-4	R24076	D-2
C24011	A-2	C24095	B-2	FB24011	C-4	Q24006	C-3	R24077	D-1
C24012	A-2	C24099	C-2	FB24012	D-4	Q24007	D-4	R24078	D-1
C24013	A-3	C24100	C-2	FB24013	D-4	Q24008	B-2	R24079	C-1
C24014	A-2	C24101	B-1	FB24014	D-3	Q24009	C-1	R24084	D-3
C24015	A-2	C24105	C-2	FB24015	C-4	R24004	D-3	R24085	C-3
C24016	A-2	C24106	C-1	FB24016	D-4	R24005	A-1	R24086	A-1
C24017	A-3	C24107	C-1	FB24017	C-4	R24007	A-2	T24001	A-1
C24018	B-2	C24109	C-1	FB24019	A-2	R24008	A-2		
C24019	B-3	C24110	D-1	FB24020	B-3	R24009	A-3		
C24020	B-3	C24111	D-1	FB24023	A-2	R24010	A-2		
C24021	B-3	C24112	D-1	FB24030	B-2	R24011	A-3		
C24022	B-2	C24113	D-1	FB24031	C-1	R24012	A-3		
C24023	C-2	C24115	D-2	FB24032	D-1	R24013	B-2		
C24024	C-3	C24116	D-1	FB24034	C-3	R24014	B-2		
C24025	C-2	C24118	C-3	FB24035	B-1	R24015	B-3		
C24026	C-3	C24119	C-3	FB24039	D-2	R24016	B-3		
C24027	C-3	C24120	D-4	FB24040	C-3	R24017	B-2		
C24028	D-3	C24121	D-4	FB24043	C-2	R24018	C-2		
C24029	C-3	C24122	D-3	FB24044	C-2	R24019	D-3		
C24030	C-2	C24123	D-3	FB24045	D-3	R24020	D-3		
C24031	C-2	C24124	D-3	FB24046	C-2	R24021	C-3		
C24032	C-2	C24125	D-3	L24006	A-2	R24022	C-2		
C24034	C-2	C24126	D-3	L24007	A-2	R24023	C-2		
C24035	C-2	C24127	D-2	L24008	A-2	R24024	D-2		
C24036	D-2	C24128	D-2	L24009	B-3	R24025	C-2		
C24037	D-2	C24129	D-2	L24010	B-3	R24026	C-2		
C24038	B-3	C24130	D-2	L24011	B-3	R24027	C-2		
C24039	A-4	C24131	D-1	L24012	B-3	R24028	D-2		
C24040	D-2	C24133	A-3	L24013	C-2	R24030	A-3		
C24041	A-4	C24134	C-1	L24014	C-3	R24031	A-3		
C24042	A-4	C24135	A-1	L24015	C-2	R24032	A-3		
C24043	A-4	C24136	B-1	L24016	D-2	R24033	A-3		
C24044	B-4	C24137	B-1	L24017	D-2	R24034	A-3		
C24045	B-4	C24138	A-1	L24018	C-2	R24035	B-3		
C24046	B-4	C24150	A-3	L24019	D-2	R24036	B-3		
C24047	B-4	C24151	A-2	L24020	D-2	R24037	C-3		
C24048	C-4	C24152	A-3	L24021	D-1	R24038	C-3		
C24049	B-4	C24153	B-3	L24022	C-3	R24039	A-4		
C24050	C-4	C24154	D-1	L24024	A-4	R24040	B-3		
C24051	C-3	CR24001	C-4	L24025	A-4	R24041	B-1		
C24052	C-3	CR24002	A-2	L24026	B-4	R24042	C-4		
C24053	C-4	CR24005	A-3	L24027	B-4	R24043	D-3		
C24054	D-4	CR24006	B-2	L24028	B-4	R24044	D-3		
C24055	D-4	CR24007	B-2	L24029	B-4	R24045	C-4		
C24056	D-4	CR24008	C-3	L24030	C-3	R24046	D-4		
C24057	D-4	CR24009	B-2	L24031	C-4	R24047	D-4		
C24058	D-2	CR24010	D-2	L24032	C-4	R24048	D-4		
C24059	D-2	CR24011	D-2	L24033	C-4	R24049	B-3		
C24060	D-3	CR24012	D-2	L24034	C-3	R24050	C-3		
C24061	C-3	CR24013	A-4	L24035	A-1	R24051	C-3		
C24062	C-4	CR24014	B-3	L24036	A-1	R24052	A-2		
C24003	D-4	CR24015	B-4	L24037	A-1	R24053	A-2		
C24064	A-1	CR24016	C-4	L24038	C-4	R24054	A-2		
C24065	D-4	C424017	D-2	L24039	B-1	R24055	A-1		
C24066	A-4	CR24018	C-2	L24040	D-4	R24056	B-3		
C24067	B-4	CR24019	A-2	L24041	B-1	R24057	A-1		
C24068	C-4	CR24020	B-2	L24042	B-1	R24058	A-1		
C24069	C-4	CR24021	C-1	L24044	B-1	R24059	B-2		
C24070	A-1	CR24022	A-1	L24045	B-1	R24060	B-2		
C24071	B-3	CR24023	C-2	L24046	B-1	R24061	B-1		
C24072	A-1	CR24024	A-1	L24047	B-1	R24062	B-2		
C24073	A-1	CR24025	A-1	L24048	B-1	R24063	B-2		
C24074	A-2	CR24026	C-3	L24049	C-2	R24064	C-2		
C24075	B-4	CR24027	B-1	L24050	C-2	R24065	B-2		
C24076	C-4	CR24028	B-1	L24051	C-1	R24066	B-2		
C24078	A-2	CR24029	D-3	L24055	C-3	R24067	D-4		
C24079	A-1	CR24030	B-1	L24056	B-1	R24068	C-2		
C24088	B-2	CR24031	B-1	L24057	B-1	R24069	C-2		
C24089	B-2	CR24032	B-2	L24058	D-2	R24070	C-1		
C24090	B-1	CR24033	D-2	Q24001	A-2	R24071	C-1		
C24091	B-1	FB24005	A-4	Q24002	C-3	R24072	C-1		
C24092	B-1	FB24006	A-2	Q24003	C-2	R24073	C-1		
C24093	B-2	FB24008	C-3	Q24004	A-1	R24075	A-1		



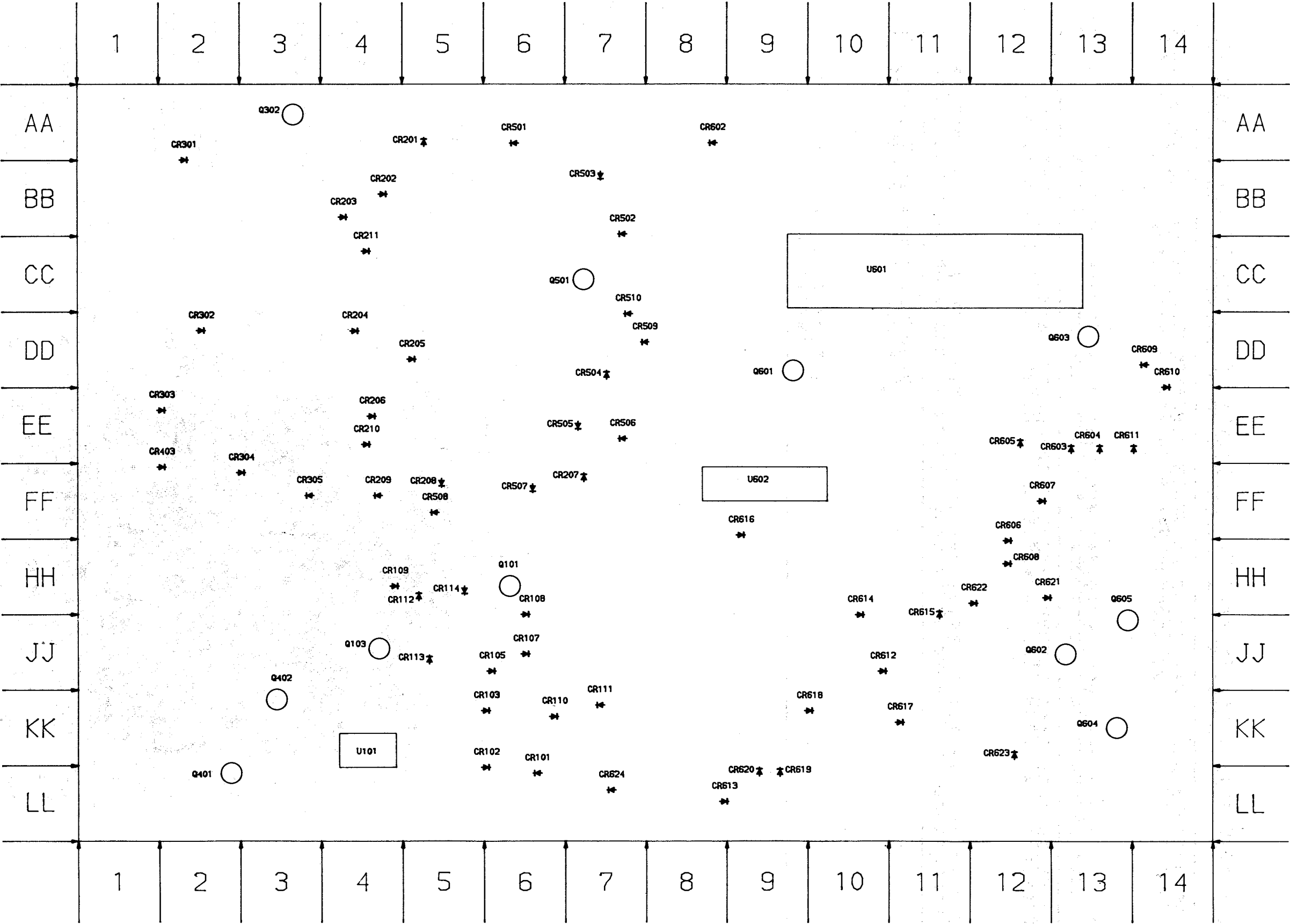
MTT004A TUNER SYNTHESIZER  
GridTrace LOCATION GUIDE

C601*	A-3	CR625	KK-11
C602*	A-3	CR630	DD-13
C603*	A-4	L601	HH-9
C604*	A-4	L606	JJ-10
C605*	C-1	Q601	AA-8
C607*	C-4	Q602	FF-12
C608*	A-2	Q603	DD-12
C609*	A-2	Q604	JJ-12
C610*	A-2	Q606	EE-12
C611*	A-3	Q607	EE-13
C612*	A-3	R601	BB-13
C615*	C-6	R602	BB-12
C616*	B-6	R603	BB-11
C617*	D-1	R604	BB-11
C618*	D-1	R605	BB-12
C619*	L-4	R606	BB-12
C620*	L-5	R607	BB-12
C622*	F-3	R608	BB-11
C623*	F-3	R609	CC-13
C624*	F-3	R611	BB-13
C625*	F-1	R612	BB-13
C626*	H-1	R613	BB-13
C627*	F-1	R614	CC-13
C628	HH-12	R615	CC-13
C629	HH-10	R618	BB-9
C630*	F-4	R619	BB-8
C631*	E-5	R620	EE-11
C632	EE-9	R621	EE-11
C633	FF-9	R622	DD-13
C635*	H-5	R625	CC-8
C636*	J-6	R626	KK-9
C644	KK-12	R627	KK-11
C645	JJ-14	R628	BB-8
C646	HH-13	R629	BB-8
C647*	H-5	R631	EE-11
C649*	K-5	R632	FF-12
C650*	L-5	R633	KK-12
C652*	L-4	R637	DD-12
C653*	L-5	R638	EE-12
C654	LL-14	R639	FF-13
C656	LL-8	R640	FF-11
C657*	K-7	R641	KK-11
C658*	C-6	R644	EE-10
C659*	C-6	R645	EE-10
C660	JJ-9	R646	FF-11
C662*	E-7	R647	FF-11
C665	EE-8	R648	EE-10
C667	LL-12	R649	FF-10
C672	HH-13	R651	FF-9
C674	JJ-9	R652	KK-11
C675	CC-13	R654	JJ-13
C676	KK-10	R656	EE-13
C677	LL-13	R657	EE-12
C678*	A-4	R658	EE-13
C679*	A-5	R659	FF-13
C680*	A-5	R660	HH-11
C681*	A-5	R662	JJ-11
C682*	A-5	R663	DD-11
C683*	A-6	R669	DD-13
C684*	A-6	R670	FF-8
C685*	E-1	R673	BB-11
C686*	E-1	R674	BB-10
C687*	C-1	R675	BB-10
CR602	CC-8	R676	BB-10
CR609	FF-12	R677	BB-10
CR610	FF-13	R678	BB-10
CR612	LL-13	R679	BB-9
CR614	KK-13	R681	KK-11
CR615	JJ-12	R685	HH-14
CR616	JJ-13	U601	CC-10
CR617	KK-14	U602	FF-10
CR618	KK-10	Y601	BB-8
CR623	LL-9		
CR624	LL-8		

\* Indicates Chip Component



RCA  
CHASSIS CTC130A





PW5200 VIDEO/AUDIO BOARD-GridTrace LOCATION GUIDE

C1  
C2  
C3  
C4  
C5  
C6  
C7  
C8  
C9  
C10

I-4  
I-3  
F-2  
G-2  
A-6  
D-4  
A-4  
C-4  
D-9  
F-10

C11  
C12  
C13  
C14  
C15  
C16  
C17  
C18  
C19  
C20

D-8  
E-12  
H-8  
I-8  
C-13  
G-11  
B-9  
D-12  
C-10  
C-11

C21  
C22  
C23  
C24  
C25  
C26  
C27  
C28  
C29  
C30

F-11  
A-14  
B-10  
H-16  
I-6  
A-13  
B-13  
I-12  
A-10  
D-17

C32  
C33  
CR1  
CR2  
CR3  
CR4  
CR5  
CR6  
J5  
J6

E-15  
D-5  
B-3  
B-5  
D-12  
E-14  
E-14  
C-17  
H-4  
C-9

J7  
J8  
J9  
J10  
J11  
JW1  
JW2  
JW3  
JW4  
JW5

E-13  
C-15  
B-16  
A-1  
B-15  
G-16  
H-15  
I-14  
G-13  
I-12

JW6  
JW7  
JW8  
JW9  
JW10  
JW11  
JW12  
JW13  
JW14  
JW15

A-15  
D-10  
C-10  
E-4  
E-4  
D-7  
C-6  
C-6  
C-3  
C-2

JW16  
L1  
L2  
Q1  
Q2  
Q3  
Q4  
Q6  
Q7  
Q8

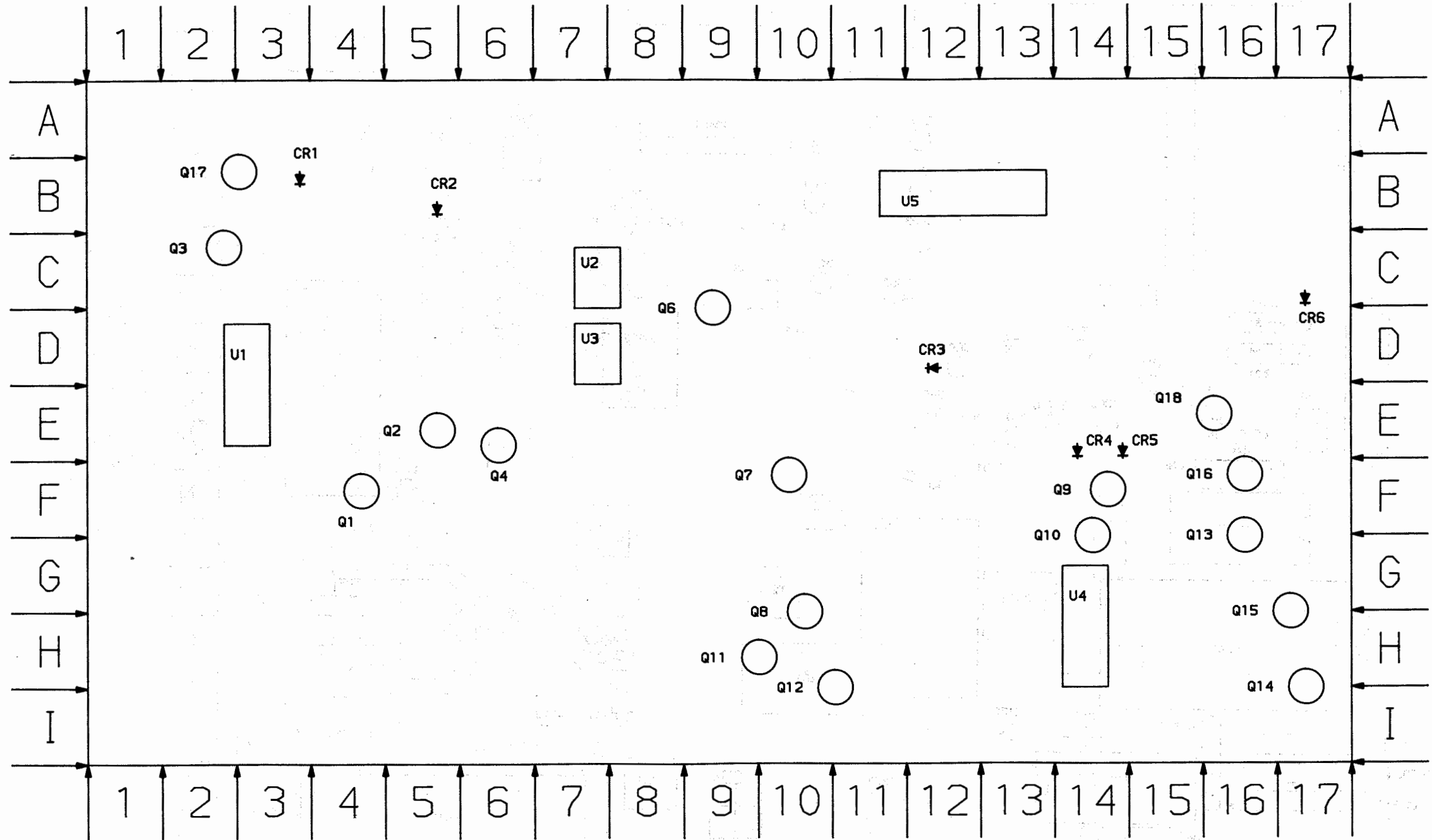
C-1  
H-9  
H-8  
F-4  
E-5  
C-2  
E-6  
C-9  
F-10  
H-10

Q9  
Q10  
Q11  
Q12  
Q13  
Q14  
Q15  
Q16  
Q17  
Q18

F-14  
F-14  
H-9  
I-11  
F-16  
I-17  
H-17  
F-16  
B-3  
E-16

R1  
R2  
R3  
R4  
R5  
R6  
R7  
R8  
R9  
R10  
R11  
R12  
R13  
R14  
R15  
R16  
R17  
R18  
R19  
R20  
R21  
R22  
R23  
R24  
R25  
R26  
R27  
R28  
R29  
R30  
R31  
R32  
R33  
R34  
R35  
R36  
R37  
R38  
R39  
R40  
R41  
R42  
R43  
R44  
R45  
R46  
R47  
R48  
R49  
R50  
R51  
R52  
R53  
R54  
R55  
R56  
R57  
R58  
R59  
R60  
R61  
R62  
R63  
R64  
R65  
R66  
R67  
R68  
R69  
R70  
U1  
U2  
U3  
U4  
U5

H-4  
H-3  
H-2  
G-4  
H-2  
G-1  
F-1  
F-3  
G-1  
G-1  
F-3  
F-3  
B-5  
C-5  
E-4  
D-4  
C-1  
B-1  
C-5  
D-6  
G-6  
H-6  
H-7  
E-10  
E-10  
F-12  
F-11  
G-12  
D-9  
E-12  
D-14  
G-10  
F-10  
F-12  
G-12  
H-13  
G-10  
F-14  
H-10  
H-12  
C-14  
I-9  
C-12  
H-11  
I-13  
C-13  
H-11  
F-16  
H-16  
H-15  
H-15  
E-15  
C-11  
G-16  
E-9  
C-3  
C-14  
G-16  
A-11  
H-12  
F-15  
F-15  
F-17  
D-4  
G-12  
D-11  
C-16  
D-14  
C-5  
D-3  
C-7  
D-7  
G-14  
B-12



MTT001A TUNING SYSTEM(TOP VIEW)-GridTrace LOCATION GUIDE

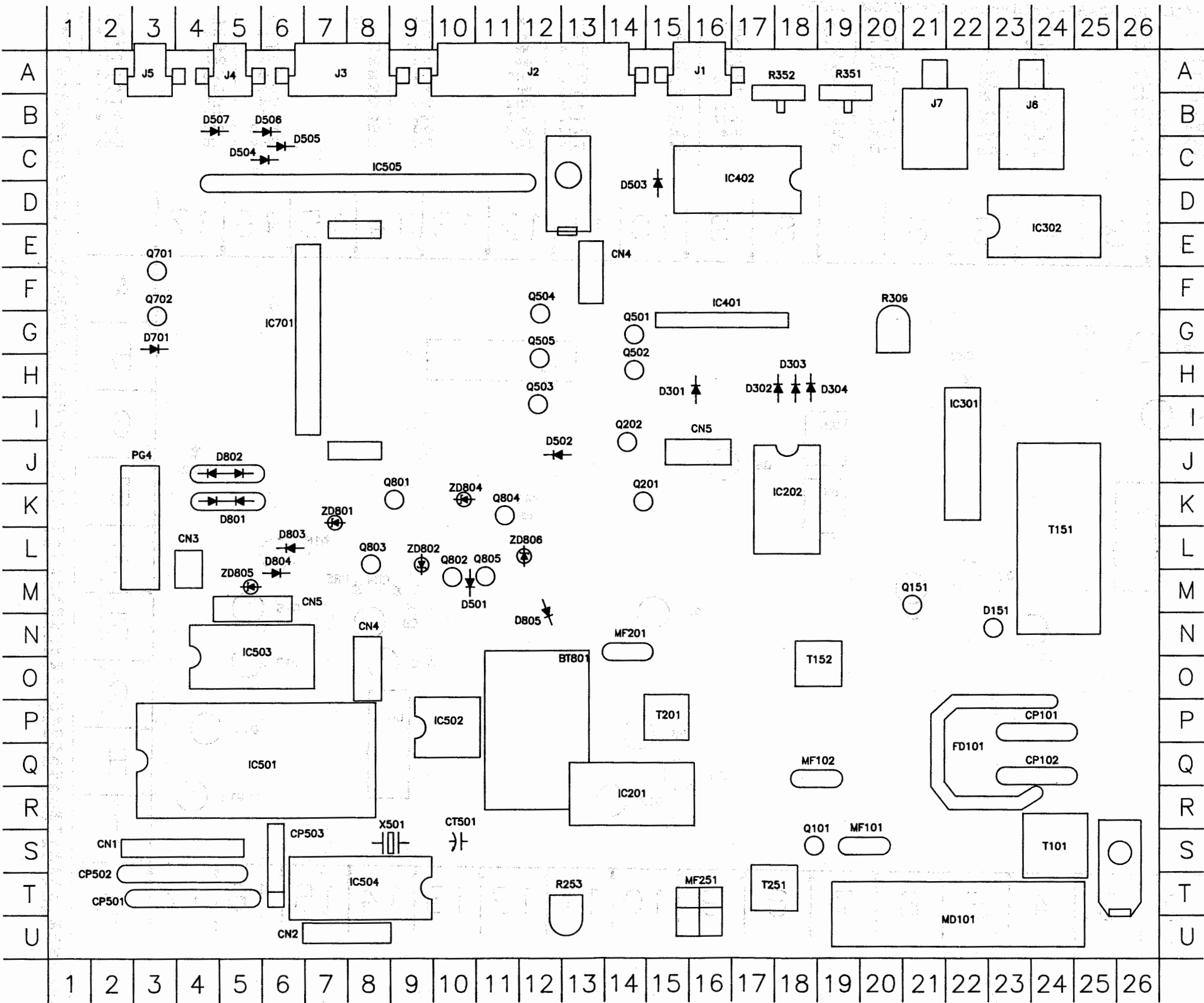
C148	HH-4	FB401	LL-2	R106	JJ-7
C207	CC-4	FB501	CC-6	R110	HH-6
C209	EE-6	L1	AA-4	R112	JJ-3
C222	DD-4	L2	AA-5	R118	HH-4
C225	BB-5	L3	AA-6	R121	JJ-4
C226	EE-5	L101	LL-6	R124	KK-4
C311	AA-1	L102	KK-6	R131	HH-6
C312	DD-1	L103	KK-6	R207	LL-4
C320	FF-2	L104	JJ-6	R211	DD-5
C411	LL-2	L105	KK-4	R216	EE-3
C414	HH-1	L106	HH-4	R218	DD-6
C417	FF-1	L201	AA-4	R220	CC-4
C506	CC-2	L202	BB-5	R223	FF-4
C519	BB-6	L203	BB-5	R306	CC-2
C628	KK-14	L204	DD-5	R307	BB-2
C629	DD-8	L205	DD-4	R312	DD-3
C632	DD-9	L206	DD-4	R315	AA-2
C633	EE-9	L207	DD-4	R316	AA-2
C644	JJ-11	L208	EE-4	R414	HH-1
C645	HH-10	L209	EE-4	R415	HH-1
C646	FF-10	L210	EE-5	R416	FF-3
C647	FF-8	L211	FF-5	R419	HH-2
C648	LL-8	L212	BB-4	R422	KK-2
C654	LL-11	L213	DD-4	R507	CC-7
C656	LL-10	L301	BB-2	R508	CC-7
C665	BB-8	L302	BB-2	R513	FF-7
C667	LL-13	L303	CC-2	R514	CC-6
C671	BB-13	L304	DD-2	R601	BB-13
C672	LL-11	L305	DD-1	R602	BB-13
C674	JJ-9	L306	EE-1	R603	BB-12
C675	FF-11	L307	FF-2	R604	BB-12
CR101	LL-6	L308	BB-2	R610	BB-13
CR102	LL-5	L309	CC-2	R611	BB-12
CR103	KK-5	L310	EE-1	R612	BB-12
CR105	JJ-5	L311	AA-1	R613	BB-11
CR107	JJ-6	L312	AA-2	R614	BB-11
CR108	JJ-6	L401	JJ-2	R615	BB-11
CR109	HH-4	L402	LL-5	R616	BB-11
CR110	KK-6	L403	LL-1	R617	BB-10
CR111	KK-6	L404	JJ-1	R626	CC-9
CR112	HH-5	L405	KK-1	R629	CC-9
CR113	JJ-5	L502	BB-7	R634	FF-13
CR114	HH-5	L503	BB-7	R638	DD-13
CR201	AA-5	L504	DD-7	R642	CC-14
CR202	BB-4	L505	DD-6	R644	CC-8
CR203	BB-4	L506	EE-7	R651	EE-8
CR204	DD-4	L507	DD-7	R653	JJ-11
CR205	DD-4	L508	DD-6	R654	HH-10
CR206	EE-4	L509	EE-6	R655	JJ-10
CR207	FF-7	L510	EE-6	R664	KK-11
CR208	FF-5	L511	FF-6	R668	LL-11
CR209	FF-4	L601	HH-9	R669	EE-10
CR210	EE-4	L603	DD-12	T401	JJ-3
CR211	CC-4	L604	HH-13	T402	FF-2
CR212	EE-5	L605	HH-13	T501	AA-6
CR301	AA-2	L606	KK-13	U101	KK-4
CR302	DD-2	Q101	HH-6	U601	CC-11
CR303	EE-1	Q103	JJ-4	U602	FF-9
CR304	FF-2	Q201	CC-4	Y601	BB-10
CR305	FF-3	Q301	CC-1		
CR403	FF-1	Q302	AA-3		
CR501	AA-6	Q401	LL-2		
CR502	BB-7	Q402	KK-3		
CR503	AA-7	Q501	CC-7		
CR504	DD-7	Q601	DD-9		
CR505	EE-7	Q602	JJ-13		
CR506	EE-7	Q603	DD-13		
CR507	FF-6	Q604	KK-13		
CR508	FF-5	Q605	JJ-14		
CR509	DD-8	R1	AA-5		
CR510	CC-7	R101	KK-6		
FB201	CC-5	R103	KK-6		
FB301	BB-1	R104	KK-6		
FB302	BB-2	R105	KK-6		

MTT001A TUNING SYSTEM (BOTTOM VIEW) - GridTrace LOCATION GUIDE

C1	A-11	C314	E-14	C657	L-5	R509	D-8
C2	A-10	C316	F-14	C659	C-5	R511	E-9
C3	A-10	C317	D-13	C662	C-7	R512	D-8
C4	A-9	C319	C-14	C663	H-1	R515	C-9
C100	H-9	C322	E-12	C664	H-1	R517	D-8
C101	L-10	C323	E-14	C668	L-3	R518	D-9
C102	L-10	C401	J-12	C669	L-4	R605	A-2
C103	K-10	C403	H-13	C670	F-1	R606	A-2
C104	J-10	C404	H-12	C673	D-3	R607	A-3
C105	J-9	C405	H-12	CR401	H-13	R608	A-3
C106	J-9	C406	F-12	CR402	H-13	R609	B-6
C107	H-9	C407	K-12	CR407	K-12	R618	C-5
C109	F-10	C408	K-13	R102	L-10	R619	B-6
C110	H-10	C412	K-13	R107	J-10	R620	C-1
C111	J-11	C413	L-13	R109	J-9	R621	C-1
C115	L-11	C415	J-14	R111	H-10	R625	B-7
C116	C-8	C416	K-14	R113	K-11	R627	B-6
C117	K-11	C418	L-12	R115	J-8	R628	B-6
C118	K-11	C419	J-13	R117	L-11	R630	J-2
C119	L-11	C420	J-1	R119	J-11	R631	J-2
C121	J-10	C421	L-14	R120	L-11	R632	K-1
C122	J-11	C501	A-8	R122	J-11	R633	J-1
C123	J-11	C502	B-9	R123	J-10	R635	E-2
C124	J-11	C503	B-8	R126	J-10	R636	H-3
C125	H-11	C504	B-8	R128	K-10	R637	D-2
C126	J-11	C505	B-8	R129	J-11	R639	E-1
C127	J-8	C507	A-8	R130	J-10	R640	K-2
C128	H-9	C509	C-8	R145	K-11	R641	L-1
C131	H-9	C510	C-8	R202	C-9	R643	D-3
C133	K-8	C511	E-8	R203	C-11	R645	D-7
C134	L-8	C512	D-8	R205	D-10	R646	D-6
C135	K-11	C513	E-8	R206	C-2	R647	D-7
C137	K-8	C514	E-9	R208	C-11	R648	D-6
C139	H-8	C515	E-9	R209	D-11	R649	E-6
C141	H-12	C516	B-9	R212	E-11	R652	K-3
C142	H-11	C517	B-8	R213	E-10	R660	J-3
C143	H-10	C518	F-10	R214	D-10	R661	K-2
C144	J-9	C521	D-9	R215	C-11	R662	K-2
C146	J-8	C601	A-2	R217	D-10	R666	E-2
C147	K-10	C602	A-2	R219	D-10	R667	H-4
C149	H-9	C603	A-3	R221	B-11	R670	C-7
C150	H-8	C604	A-3	R222	B-11		
C202	B-11	C605	B-1	R301	A-13		
C203	B-11	C607	C-3	R302	B-13		
C204	B-11	C608	A-3	R303	B-14		
C205	C-11	C609	A-4	R304	C-13		
C206	C-5	C610	A-4	R305	B-13		
C208	C-11	C611	A-4	R308	D-14		
C210	D-11	C612	A-4	R309	D-14		
C211	D-11	C613	A-5	R310	F-13		
C212	D-11	C614	A-5	R311	D-14		
C214	E-11	C615	C-5	R314	B-14		
C215	E-10	C616	B-5	R317	A-12		
C216	E-10	C617	D-1	R402	L-10		
C217	E-11	C618	D-1	R403	K-13		
C218	E-12	C619	A-5	R404	K-13		
C219	B-11	C620	J-1	R405	K-13		
C220	F-10	C622	J-2	R406	H-13		
C221	F-10	C623	K-2	R407	H-12		
C223	C-11	C624	D-1	R408	K-13		
C224	E-11	C625	E-1	R409	K-12		
C227	C-12	C626	F-1	R411	K-12		
C228	C-2	C627	E-1	R412	K-12		
C229	B-11	C630	D-6	R417	F-14		
C302	A-13	C631	E-6	R418	J-13		
C303	A-13	C634	F-7	R420	K-12		
C304	B-14	C635	K-6	R421	J-13		
C305	B-14	C636	H-5	R423	K-13		
C306	B-13	C637	J-1	R501	B-9		
C307	B-13	C638	K-7	R502	B-8		
C308	C-13	C649	L-7	R503	C-9		
C309	C-13	C650	L-3	R504	C-9		
C310	D-13	C652	L-1	R505	C-8		
C313	E-13	C653	L-2	R506	C-9		

RCA  
CHASSIS CTC130A



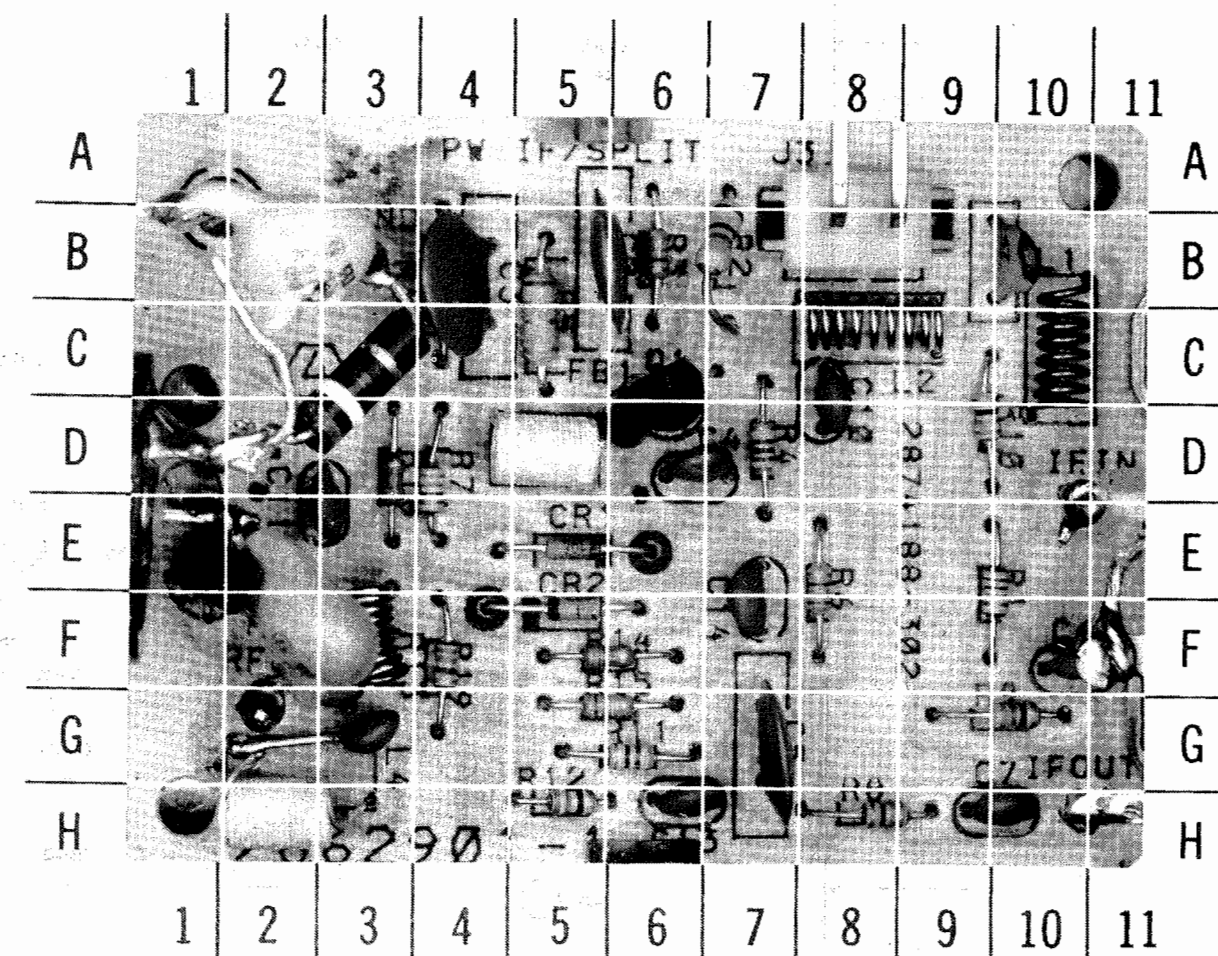


## RC3050 CLOCK RADIO - GridTrace LOCATION GUIDE

BT801	Q-13	C801	K-5	Q505	H-12	R526	D-7
C101	S-22	C802	K-4	Q701	F-3	R701	I-9
C102	Q-20	C803	I-3	Q702	G-3	R702	I-9
C104	R-18	C804	J-9	Q801	K-9	R703	H-8
C151	N-25	C805	L-5	Q802	M-10	R704	H-8
C152	Q-22	C806	L-7	Q803	L-8	R705	E-2
C153	Q-21	C807	L-9	Q804	K-11	R706	G-3
C154	Q-20	C808	K-11	Q805	M-11	R801	K-7
C155	P-19	CN1	S-4	R101	Q-20	R802	K-6
C156	M-21	CN2	U-8	R102	S-22	R803	K-8
C201	Q-10	CN3	L-4	R103	S-22	R804	L-8
C202	P-17	CN4	E-13	R104	S-20	R805	M-9
C203	P-17	CN4	Q-8	R105	Q-21	R806	M-7
C204	N-15	CN5	J-16	R106	S-19	R807	L-10
C205	P-14	CN5	M-5	R107	Q-19	R808	K-10
C206	P-13	CP101	P-24	R108	R-19	R809	M-7
C207	P-13	CP102	Q-24	R109	L-20	R810	L-12
C208	Q-17	CP501	T-4	R151	Q-24	R811	M-11
C209	N-17	CP502	T-4	R152	N-24	R812	N-10
C210	T-15	CP503	S-6	R153	Q-22	R813	O-10
C211	U-14	CT151	M-22	R201	Q-15	T101	S-24
C212	S-13	CT501	S-10	R202	N-15	T151	L-24
C213	M-14	D151	N-23	R203	M-16	T152	O-19
C214	T-13	D301	H-16	R204	R-13	T201	P-15
C215	N-13	D302	H-18	R205	Q-13	T251	T-18
C216	L-14	D303	H-18	R206	Q-13	X501	S-8
C251	T-16	D304	H-18	R207	S-14	ZD801	K-7
C301	K-21	D501	M-10	R208	S-13	ZD802	L-9
C302	I-20	D502	J-12	R209	Q-12	ZD804	K-10
C303	I-24	D503	D-15	R210	M-14	ZD805	M-5
C304	J-23	D504	C-6	R211	M-16	ZD806	L-12
C305	G-21	D505	C-6	R212	K-15		
C306	G-23	D506	B-6	R213	K-14		
C307	G-22	D507	B-4	R214	J-14		
C308	J-21	D701	G-3	R215	J-15		
C309	G-24	D801	K-5	R251	T-17		
C310	H-20	D802	J-5	R252	T-13		
C311	H-25	D803	L-6	R253	T-13		
C312	J-23	D804	M-6	R301	K-21		
C401	F-19	D805	N-12	R302	I-21		
C402	F-17	FD101	Q-22	R303	G-22		
C403	G-10	IC201	R-14	R304	H-22		
C404	F-16	IC202	K-18	R305	I-19		
C405	F-14	IC301	I-22	R306	I-25		
C406	H-11	IC302	E-3	R307	H-13		
C501	T-11	IC401	G-16	R308	D-26		
C502	R-8	IC402	D-17	R309	G-20		
C503	R-9	IC501	Q-5	R351	B-19		
C504	S-10	IC502	P-10	R352	B-18		
C505	Q-10	IC503	N-5	R401	F-18		
C507	P-9	IC504	T-8	R402	F-18		
C508	M-7	IC505	C-8	R403	F-17		
C509	M-19	IC701	G-6	R404	F-16		
C510	M-18	J1	A-16	R405	F-15		
C511	G-13	J2	A-12	R406	F-15		
C513	Q-11	J3	A-7	R407	E-17		
C514	T-11	J4	A-5	R501	S-1		
C515	Q-3	J5	A-3	R502	Q-2		
C517	E-6	J6	B-23	R503	O-3		
C518	F-13	J7	B-21	R504	M-4		
C519	T-10	MD101	U-22	R505	N-10		
C701	I-8	MF101	S-20	R506	M-13		
C702	H-10	MF102	Q-19	R514	G-13		
C703	G-10	MF201	N-14	R515	G-13		
C704	H-5	MF251	T-16	R516	K-15		
C705	G-9	PG4	J-3	R517	I-11		
C706	G-8	Q101	S-19	R518	G-12		
C707	G-8	Q151	M-21	R519	H-12		
C708	F-9	Q201	K-14	R520	B-17		
C709	E-9	Q202	J-14	R521	M-18		
C710	F-8	Q501	G-14	R522	U-18		
C711	E-5	Q502	H-14	R523	U-9		
C712	G-5	Q503	I-12	R524	B-8		
C713	E-11	Q504	G-12	R525	C-10		

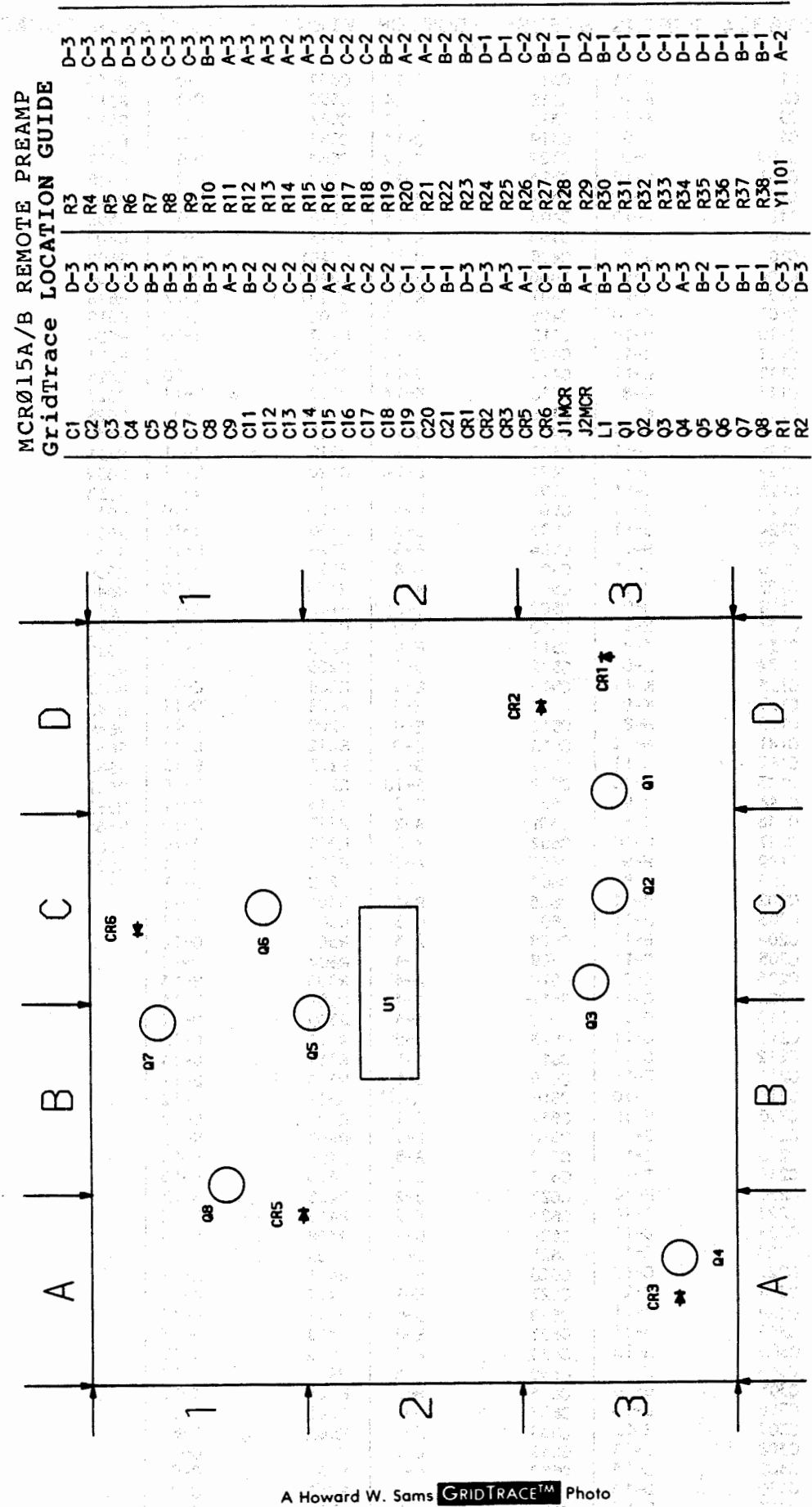
## IF SPLITTER-GridTrace LOCATION GUIDE

C1	B-10	C14	F-7	L4	H-2	R7	D-4
C2	B-5	C98	G-2	L5	F-3	R8	H-8
C3	B-4	C99	G-3	P1	E-11	R9	G-10
C4	D-6	CR1	E-5	Q1	C-6	R10	D-9
C5	G-7	CR2	F-5	Q2	E-2	R11	G-6
C6	F-10	FB1	D-6	Q3	E-1	R12	H-5
C7	H-10	J1	D-1	R1	E-10	R14	F-6
C8	F-2	J2	H-11	R2	B-7	R15	G-6
C9	B-2	J3	A-8	R3	B-6	R16	B-4
C10	C-8	L1	C-10	R4	D-7	R17	C-3
C11	E-3	L2	C-8	R5	C-5	R18	D-3
C12	B-3	L3	D-5	R6	E-8	R19	F-4
C13	H-6						



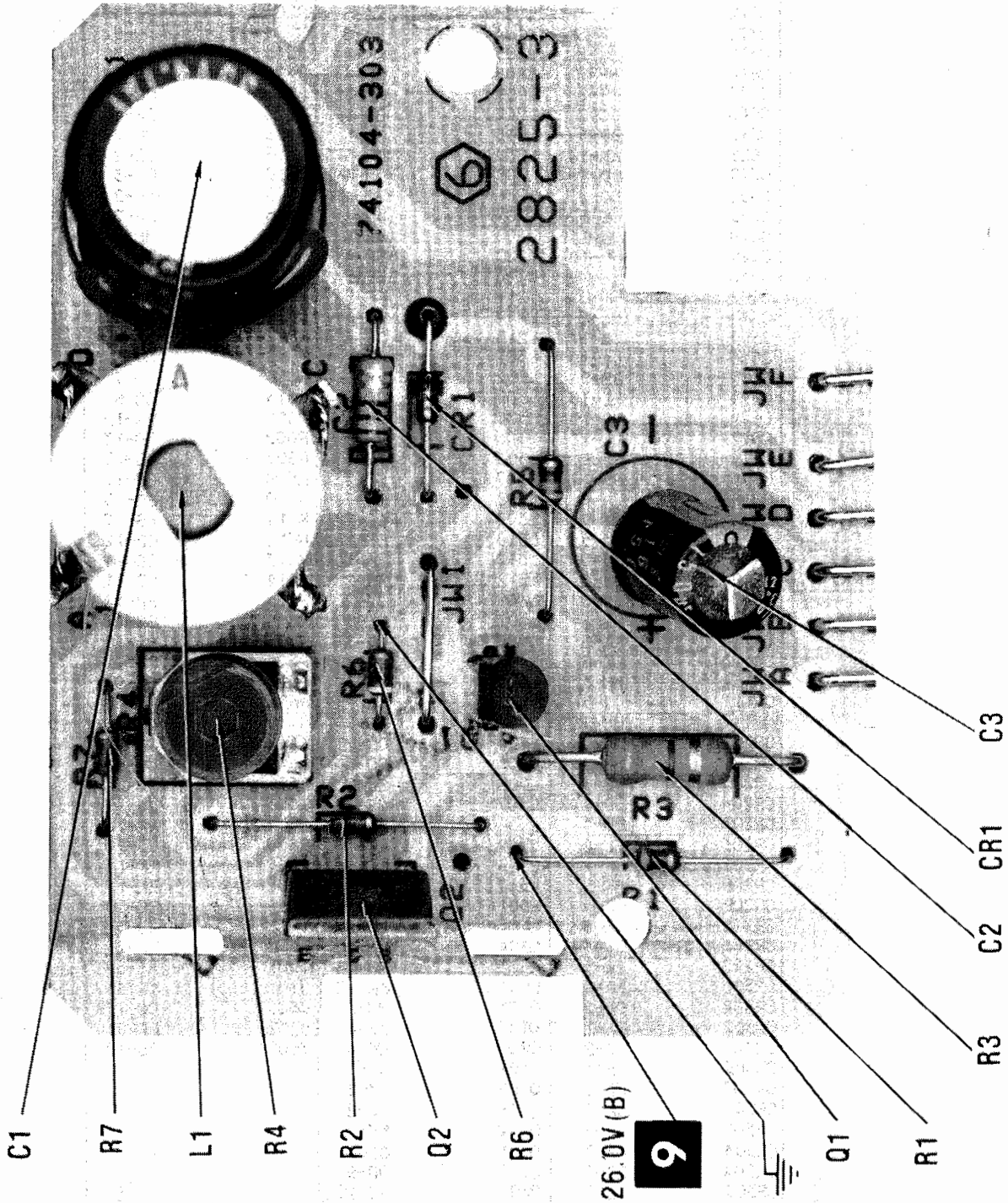


MCR015A/B REMOTE PREAMP

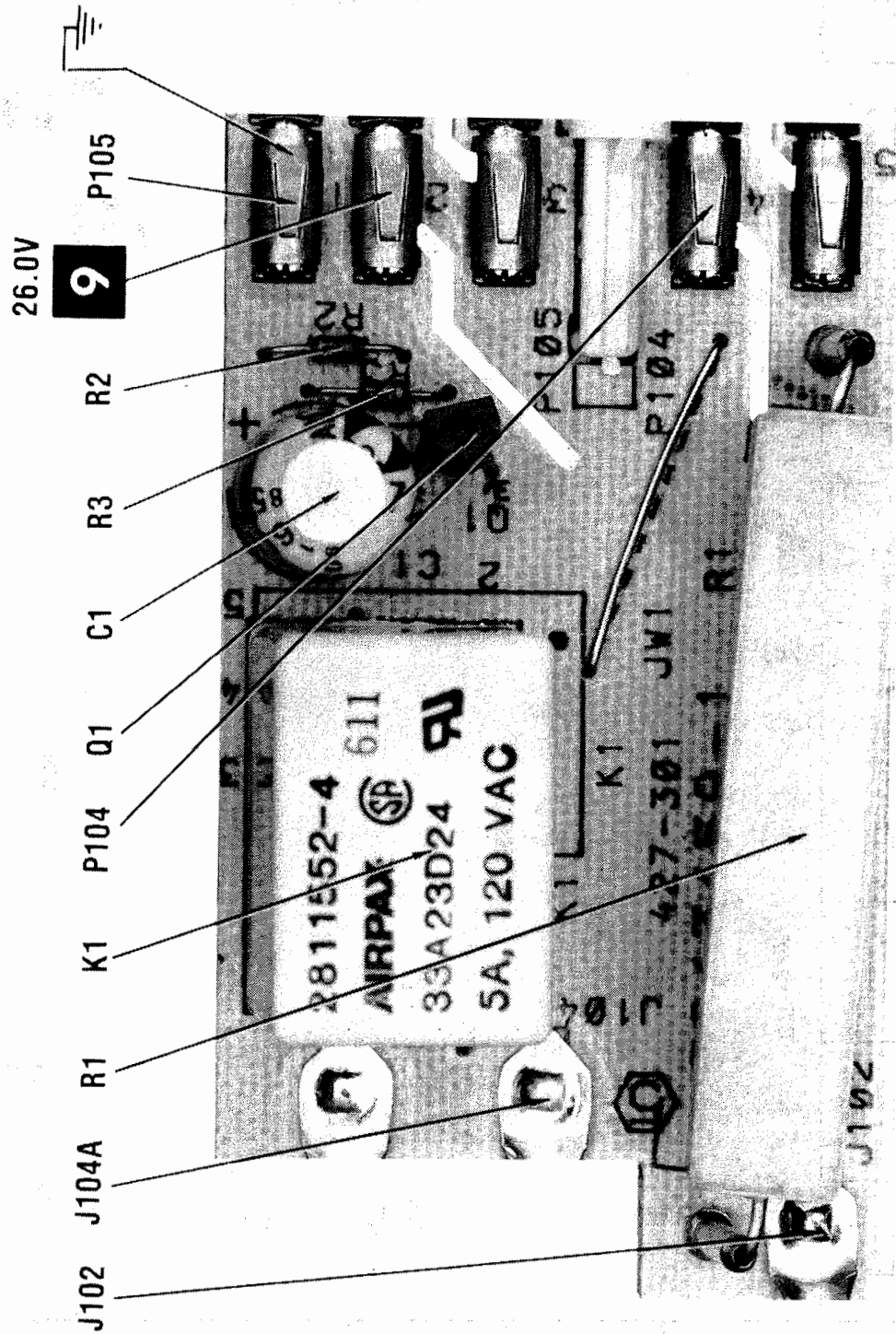
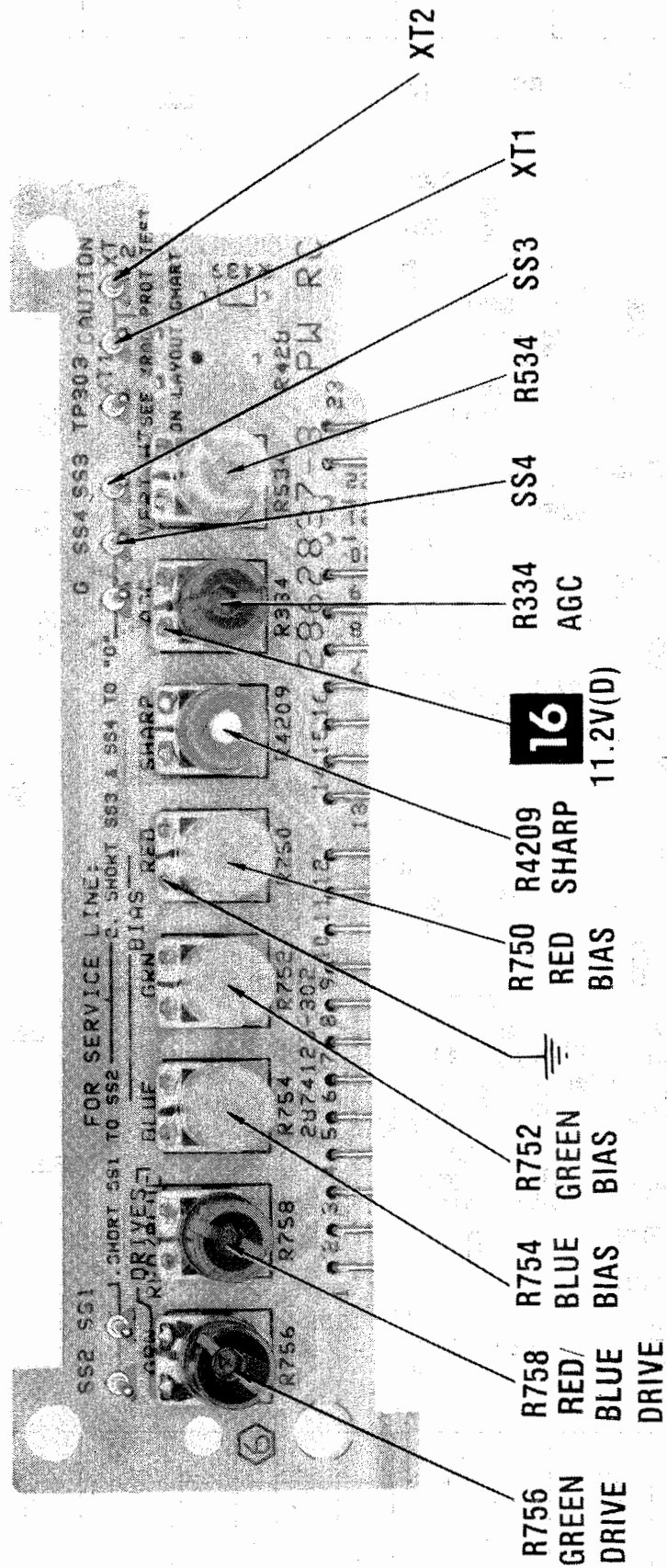


A Howard W. Sams GRIDTRACE™ Photo

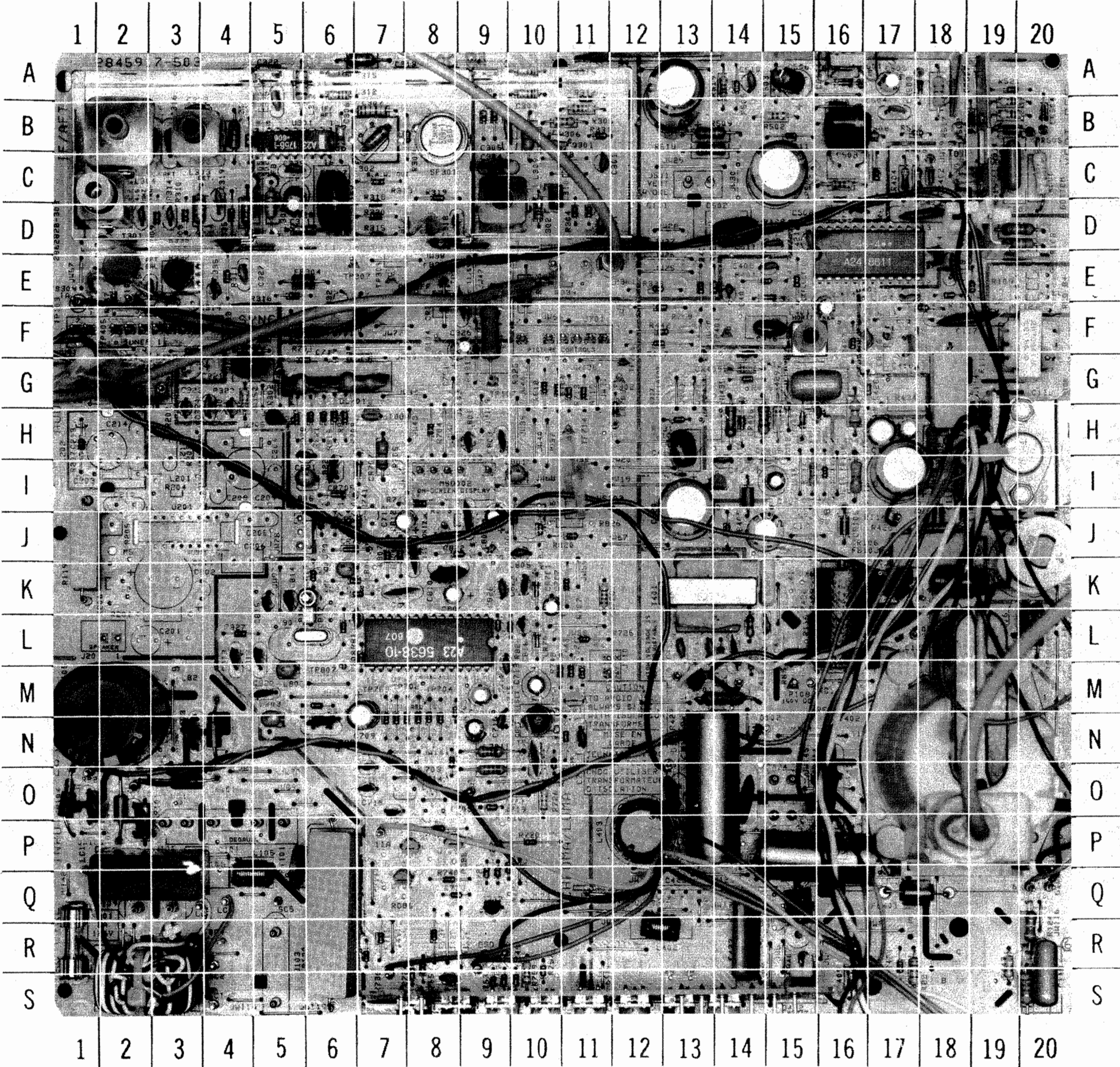
PINCUSHION BOARD



A Howard W. Sams CIRCUITTRACE™ Photo

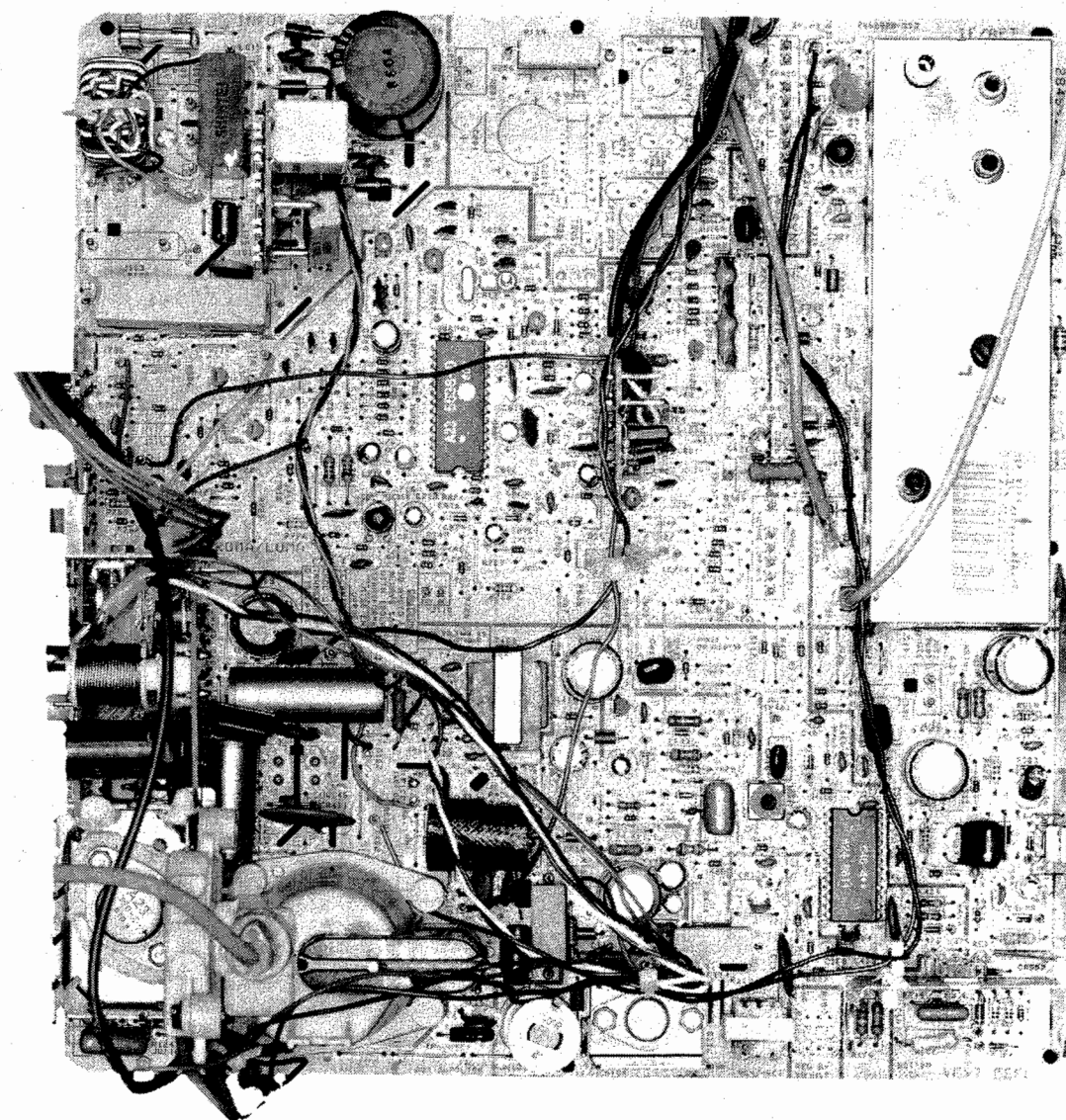






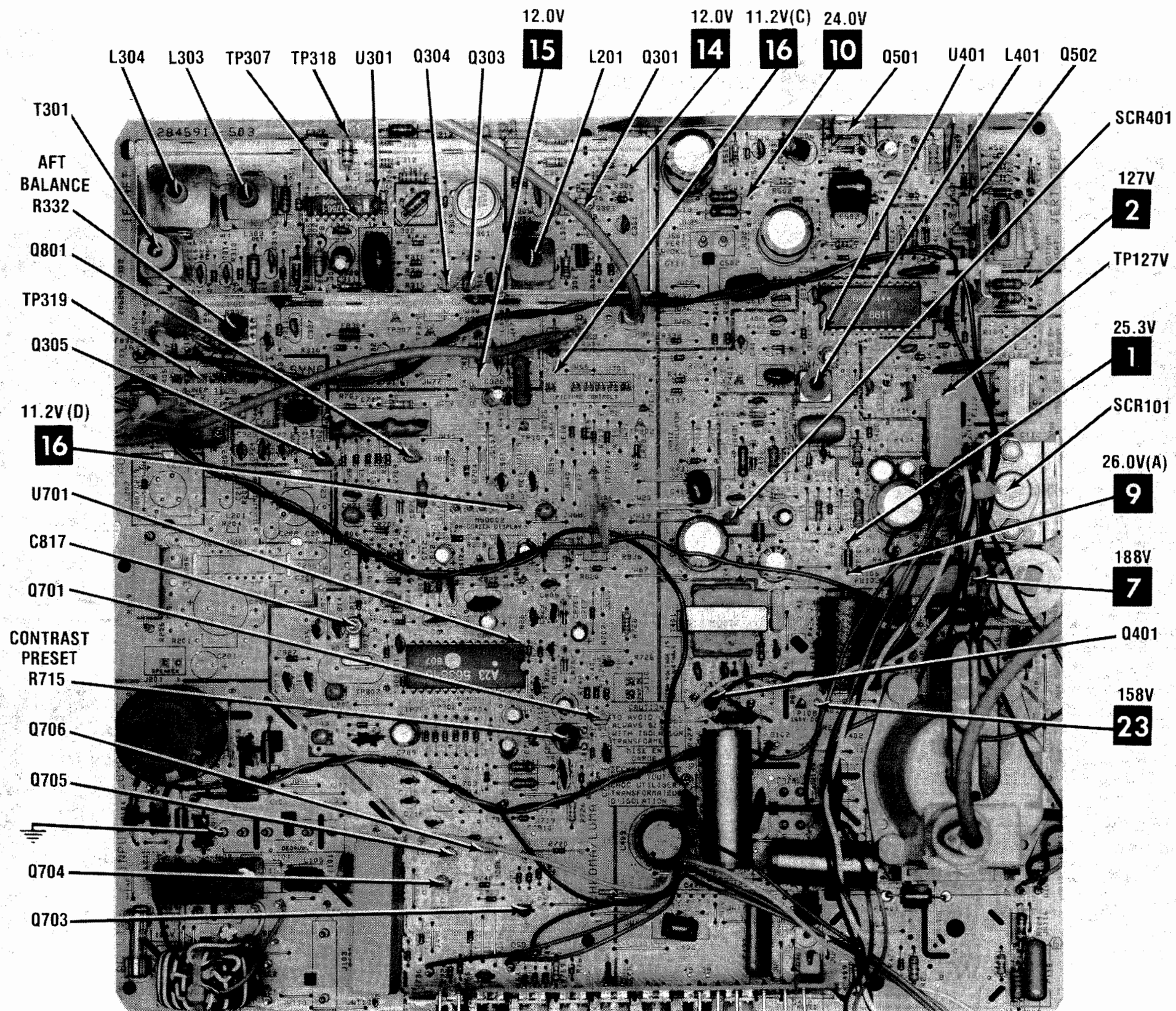
## MAIN BOARD-GridTrace LOCATION GUIDE

C101	Q-2	C420	L-15	CR406	H-14	Q401	M-13	R422	N-13	R745	E-10
C102	O-3	C421	D-15	CR408	I-15	Q402	R-18	R423	L-14	R746	Q-10
C103	N-3	C422	K-17	CR409	G-14	Q501	A-16	R424	R-17	R747	N-11
C104	O-1	C423	P-16	CR410	J-18	Q502	C-19	R425	G-14	R748	M-10
C105	F-18	C425	Q-13	CR411	O-15	Q701	M-10	R426	J-14	R749	S-10
C106	I-17	C429	I-14	CR412	Q-15	Q703	Q-9	R427	F-16	R751	S-9
C107	E-17	C431	Q-16	CR413	E-15	Q704	Q-7	R428	G-17	R752	S-9
C108	E-18	C433	R-14	CR501	A-16	Q705	P-8	R429	H-15	R755	R-8
C109	K-16	C434	Q-14	CR502	B-16	Q706	P-8	R430	H-14	R757	S-10
C110	O-2	C435	N-13	CR503	A-18	Q801	H-7	R431	H-13	R759	S-10
C111	F-17	C436	Q-13	CR504	B-20	R101	Q-2	R432	I-15	R760	F-13
C112	H-12	C502	D-14	CR505	B-19	R102	R-20	R436	P-13	R761	N-8
C113	I-19	C503	B-16	CR507	B-19	R103	L-16	R442	F-13	R802	J-10
C114	H-19	C504	B-16	CR701	K-10	R104	E-18	R443	R-19	R804	J-10
C115	I-17	C505	A-17	CR703	H-12	R105	F-18	R501	C-17	R806	J-10
C116	L-20	C506	A-15	CR704	L-10	R106	D-10	R502	B-15	R807	J-10
C117	F-19	C507	C-19	CR705	I-6	R107	E-19	R503	C-18	R808	L-7
C118	S-20	C508	C-15	CR706	J-6	R108	D-10	R504	D-16	R809	M-6
C119	K-17	C509	A-13	CR707	I-7	R113	Q-18	R505	A-14	R810	N-6
C120	J-13	C510	A-17	DL701	G-6	R114	J-14	R506	C-20	R811	K-7
C121	J-15	C511	D-15	F101	R-1	R115	L-15	R507	B-18	R812	K-7
C122	I-17	C512	D-16	FB101	J-19	R116	I-16	R508	B-17	R813	K-6
C123	L-17	C701	F-9	FB102	K-17	R117	F-13	R509	B-13	R814	L-6
C301	C-11	C703	M-9	FB103	L-20	R119	J-1	R511	B-15	R815	H-6
C302	D-10	C704	N-10	FB105	K-17	R120	B-6	R512	B-16	R818	G-10
C303	A-10	C705	N-11	FB301	D-5	R122	D-15	R513	B-19	R819	G-11
C304	C-9	C706	M-10	FB303	B-10	R301	D-11	R514	B-19	R820	J-11
C305	B-9	C707	K-10	FB304	E-5	R302	C-11	R515	C-19	R821	H-6
C306	B-6	C708	N-6	FB307	C-6	R303	Q-11	R516	C-19	R822	J-9
C307	B-7	C709	N-7	FB401	Q-17	R304	D-11	R517	A-18	R823	L-9
C308	B-3	C710	N-9	FB408	I-14	R305	B-11	R518	B-13	R824	L-9
C309	D-2	C711	N-9	J103	R-5	R306	B-11	R519	A-17	R825	H-6
C310	C-6	C713	L-9	J104	P-3	R307	R-9	R520	E-13	R827	L-4
C311	D-5	C714	Q-7	J105	P-4	R308	B-9	R521	A-19	RT101	Q-5
C312	B-6	C715	Q-7	J109	Q-3	R309	B-8	R522	B-16	SCR101	H-20
C313	A-7	C716	Q-7	J302	F-2	R310	D-10	R701	G-6	SCR301	B-8
C314	F-2	C717	F-7	J303	F-3	R311	E-4	R702	M-11	SCR401	I-14
C315	E-3	C718	S-8	J501	C-13	R312	B-11	R703	M-8	SF301	B-8
C316	B-3	C801	H-8	J400	O-15	R313	C-7	R704	H-8	T101	F-20
C317	B-3	C803	H-8	J701	F-11	R314	B-3	R705	H-7	T102	N-19
C318	D-8	C805	J-16	J703	I-8	R315	D-7	R707	K-11	T301	C-2
C319	C-4	C806	K-8	L101	S-2	R316	E-5	R709	B-6	T401	K-13
C320	G-4	C807	J-9	L103	J-20	R317	F-3	R710	J-6	T402	N-19
C322	A-5	C808	J-9	L104	K-18	R318	D-7	R711	J-6	TP307	C-6
C323	G-3	C809	K-8	L105	Q-5	R319	Q-8	R713	G-11	TP318	E-1
C324	G-4	C810	K-8	L301	C-9	R320	D-7	R714	F-9	TP319	F-2
C325	A-5	C811	K-7	L302	B-7	R321	F-5	R715	N-10	TP127	H-18
C326	F-9	C812	J-10	L303	B-3	R322	F-5	R716	J-6	U301	B-5
C327	E-4	C813	L-4	L304	B-3	R323	Q-4	R718	G-11	U401	E-17
C328	C-5	C814	K-5	L305	D-4	R327	E-2	R719	Q-9	U701	L-8
C329	Q-5	C815	K-5	L307	A-7	R328	H-5	R720	P-10	Y801	L-6
C330	G-4	C816	L-10	L308	C-5	R330	B-4	R721	Q-9		
C331	D-4	C818	K-6	L310	C-10	R331	B-11	R722	Q-9		
C334	D-2	C819	L-5	L311	B-4	R332	E-3	R723	Q-9		
C335	E-4	C820	M-5	L312	A-5	R333	B-3	R724	R-8		
C401	E-13	C821	H-6	L314	D-4	R335	D-4	R725	L-11		
C403	E-18	C822	I-6	L401	F-15	R337	E-2	R726	Q-26		
C404	E-18	C823	K-10	L402	R-13	R338	E-12	R727	S-20		
C405	D-18	C825	L-7	L403	P-12	R401	E-15	R728	K-11		
C406	H-16	C826	K-9	L404	H-16	R402	H-18	R729	N-7		
C407	I-15	CR101	Q-3	L701	N-9	R403	A-15	R730	N-7		
C408	G-14	CR102	Q-2	L702	Q-9	R404	C-17	R731	N-8		
C409	S-16	CR103	Q-1	L801	I-10	R405	E-13	R732	N-8		
C410	L-13	CR104	J-16	L803	N-5	R407	E-15	R733	N-7		
C411	H-13	CR105	K-17	L804	K-6	R411	Q-16	R734	N-8		
C412	G-14	CR106	L-20	L805	M-5	R412	I-16	R735	R-7		
C413	H-16	CR107	K-17	L806	I-6	R413	L-14	R736	R-7		
C414	F-16	CR109	R-17	M3	E-7	R415	L-14	R737	R-8		
C415	F-15	CR301	D-8	M4	G-8	R416	H-14	R738	Q-8		
C416	F-17	CR302	G-5	Q301	B-10	R417	K-14	R740	Q-8		
C417	L-13	CR401	I-14	Q303	D-8	R418	R-15	R741	J-7		
C418	L-15	CR402	C-18	Q304	D-8	R419	J-14	R743	N-11		
C419	K-14	CR405	H-15	Q305	H-5	R421	F-9	R744	I-8		

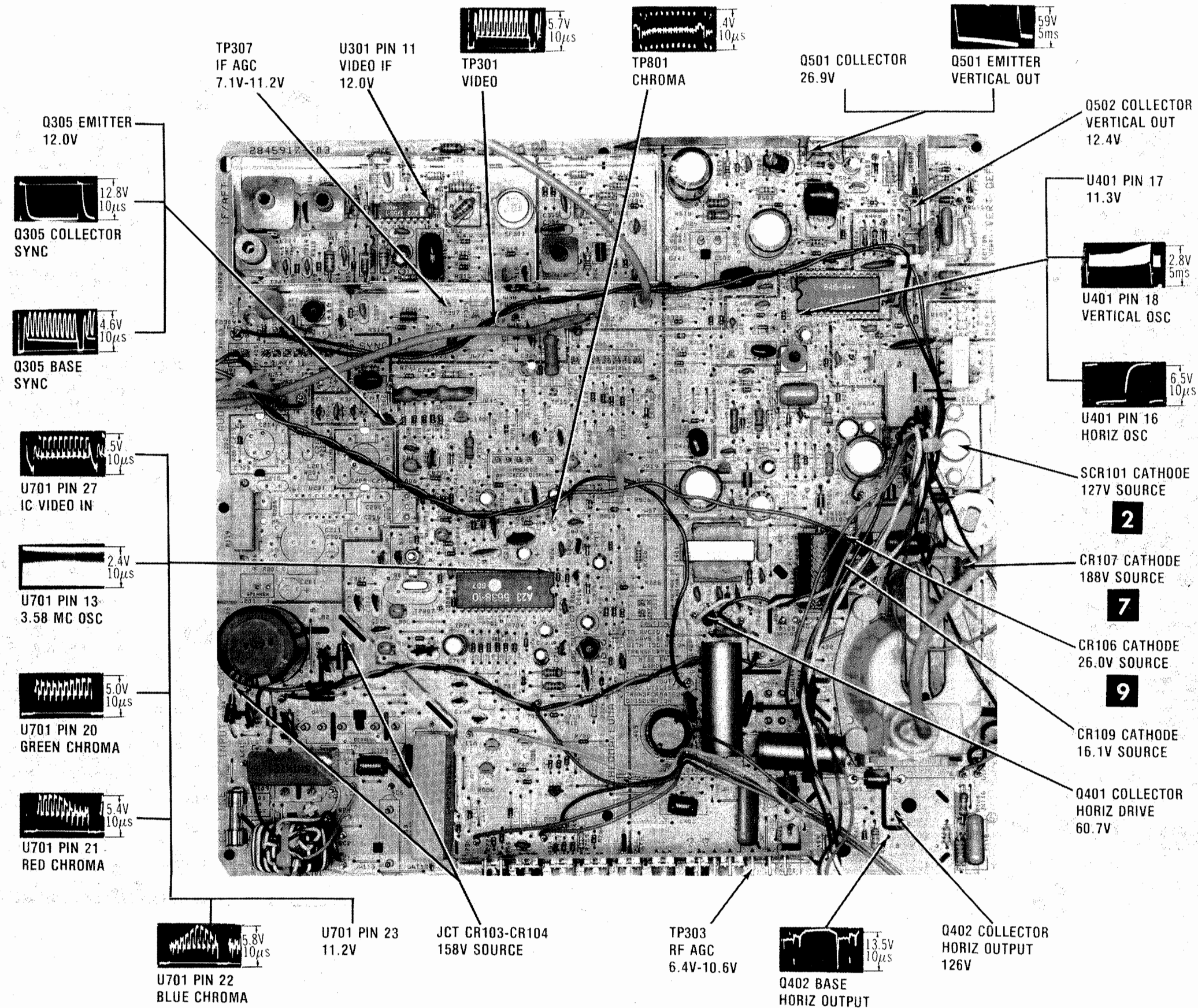


MAIN BOARD-SHIELD LOCATION (TOP VIEW)

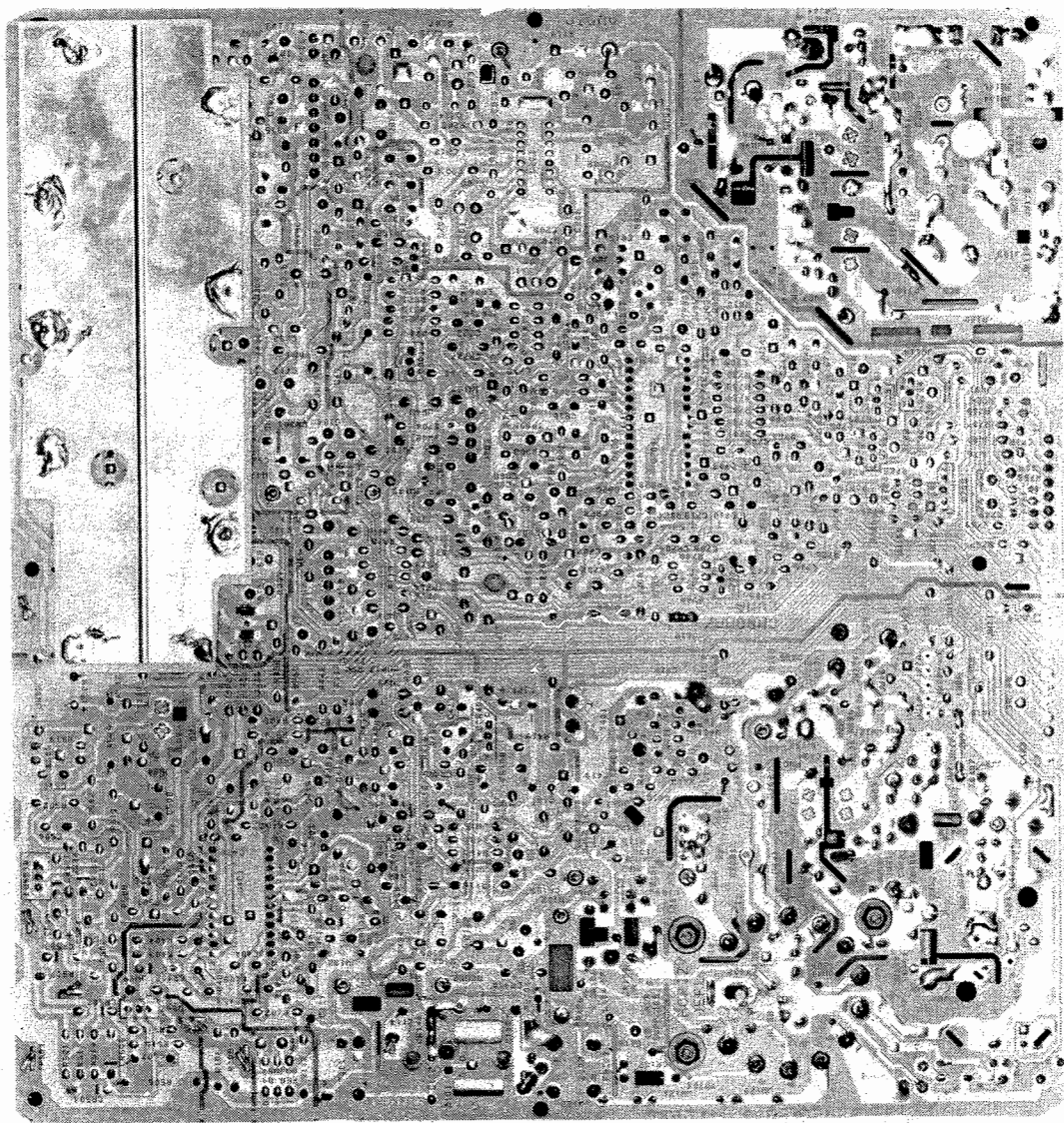




NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED.





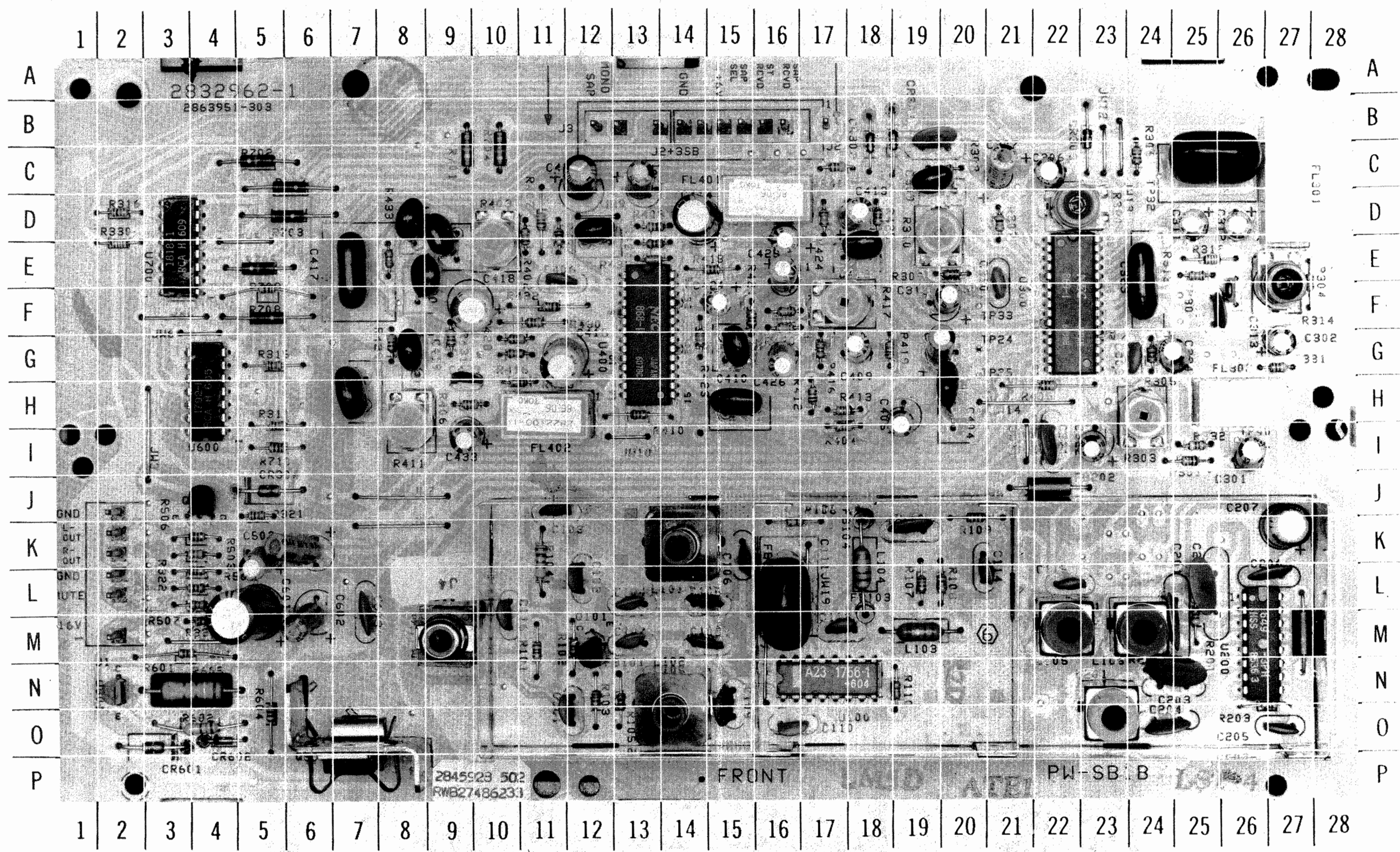


MAIN BOARD-SHIELD LOCATION (BOTTOM VIEW)

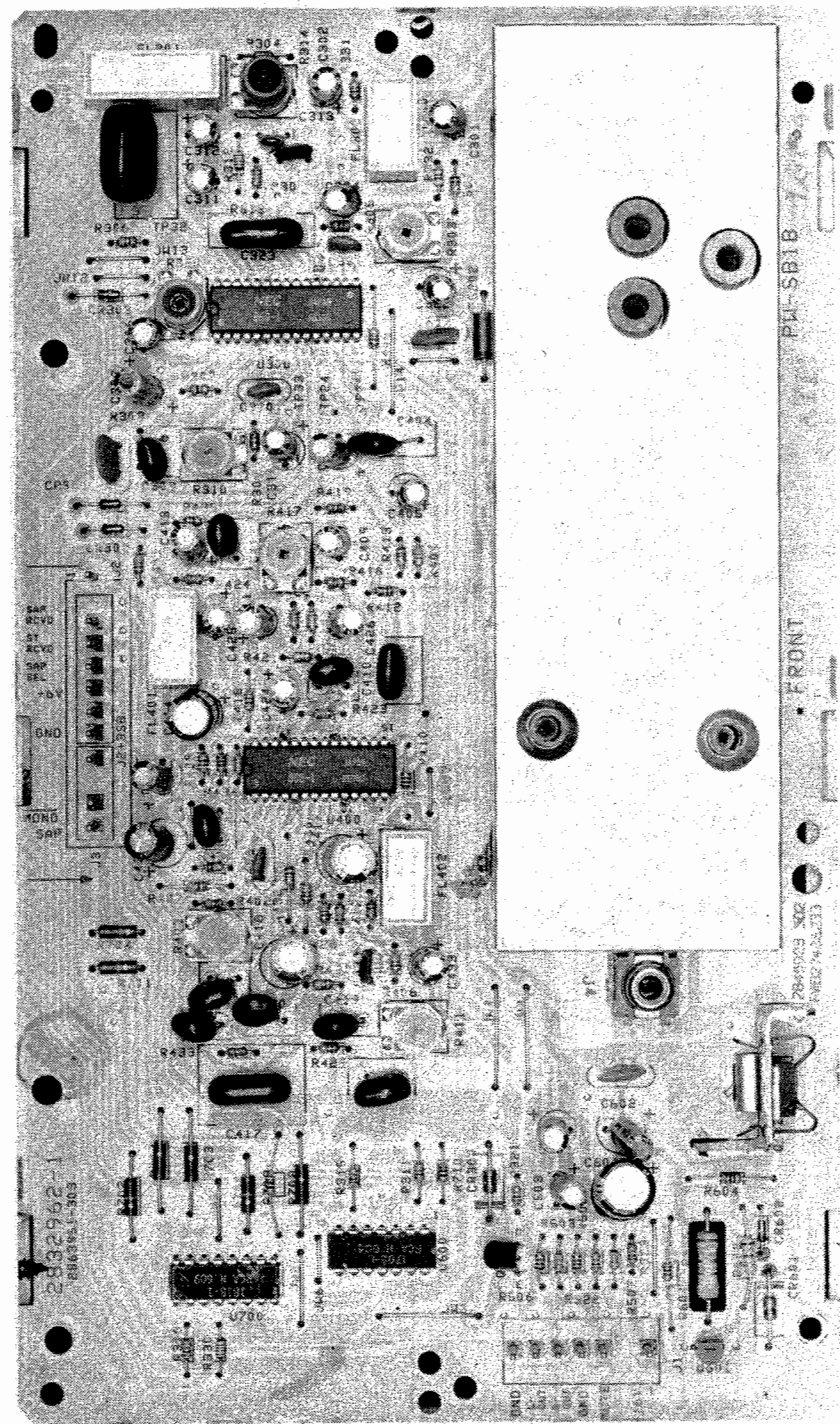
STEREO BROADCAST BOARD-GridTrace LOCATION GUIDE

C101	O-12	CR303	B-23	R410	I-13
C102	L-12	CR304	J-5	R411	H-8
C103	J-11	CR601	O-3	R412	H-17
C104	L-13	CR602	O-4	R413	H-17
C105	L-14	FB101	M-12	R415	G-10
C106	K-15	FB102	K-16	R416	G-17
C107	M-13	FB103	L-18	R417	F-17
C108	M-14	FB104	K-18	R418	E-15
C109	N-15	FB201	M-27	R419	G-18
C110	O-16	FB202	J-22	R420	G-16
C111	L-16	FL301	C-27	R421	F-16
C112	M-17	FL302	H-26	R422	G-16
C113	K-19	FL401	M-12	R423	G-14
C114	L-20	FL402	D-16	R424	D-17
C115	L-22	J1	K-2	R425	D-18
C116	M-10	J2	B-15	R428	G-10
C201	M-25	J3	B-13	R429	G-8
C202	L-25	J4	M-9	R430	F-11
C203	N-25	L101	K-14	R431	G-9
C204	O-24	L102	O-14	R432	F-11
C205	O-27	L103	M-19	R433	E-8
C206	L-27	L104	K-18	R434	E-13
C207	K-27	L105	M-22	R435	E-13
C302	G-23	L106	M-24	R437	D-11
C303	G-23	L201	O-23	R438	H-11
C306	C-22	Q101	M-12	R502	L-4
C307	C-21	Q301	J-4	R503	K-4
C308	B-19	Q601	N-2	R506	K-4
C309	C-19	Q602	P-7	R507	L-4
C310	E-20	R101	M-11	R601	M-3
C311	D-23	R102	M-12	R602	O-4
C312	D-26	R103	N-12	R604	O-6
C313	F-26	R104	K-11	R605	N-4
C314	C-27	R105	N-13	R701	C-7
C315	F-26	R106	K-16	R702	C-5
C321	I-22	R107	L-19	R703	D-6
C322	I-23	R108	L-20	R704	C-10
C323	E-23	R109	K-20	R705	E-5
C324	G-23	R110	N-19	R707	C-6
C402	L-25	R201	M-25	R708	F-5
C404	H-20	R202	N-25	R709	F-5
C405	H-19	R203	O-27	R710	I-5
C406	E-11	R301	C-17	TP12	M-27
C407	D-11	R303	H-23	TP21	L-26
C408	H-15	R304	E-23	TP24	F-13
C409	G-18	R305	G-23	TP25	F-23
C410	G-15	R306	C-24	TP33	F-22
C411	E-16	R307	D-21	TP204	M-26
C412	E-18	R308	C-19	TP205	M-26
C413	D-18	R309	E-20	TP306	E-20
C414	D-14	R310	B-20	TP313	G-22
C415	G-11	R311	H-5	TP314	G-22
C416	H-7	R312	E-25	TP319	G-24
C417	E-7	R313	E-25	TP322	F-23
C418	F-9	R314	E-27	TP323	F-23
C419	G-8	R315	G-15	TP404	F-13
C420	E-9	R316	D-2	U11	M-17
C421	D-9	R310	D-22	U200	M-27
C422	D-8	R321	J-5	U300	E-22
C423	D-12	R322	L-4	U400	G-13
C424	F-17	R323	M-4	U600	H-4
C425	E-16	R330	E-2	U700	E-2
C426	G-16	R331	G-23		
C429	G-9	R332	I-22		
C432	C-12	R401	I-25		
C433	I-9	R402	D-11		
C501	K-6	R403	E-10		
C503	K-5	R404	H-17		
C601	L-6	R404	H-22		
C602	M-6	R405	H-9		
C603	L-7	R406	D-11		
CR301	B-19	R407	D-13		
CR302	B-18	R409	D-13		

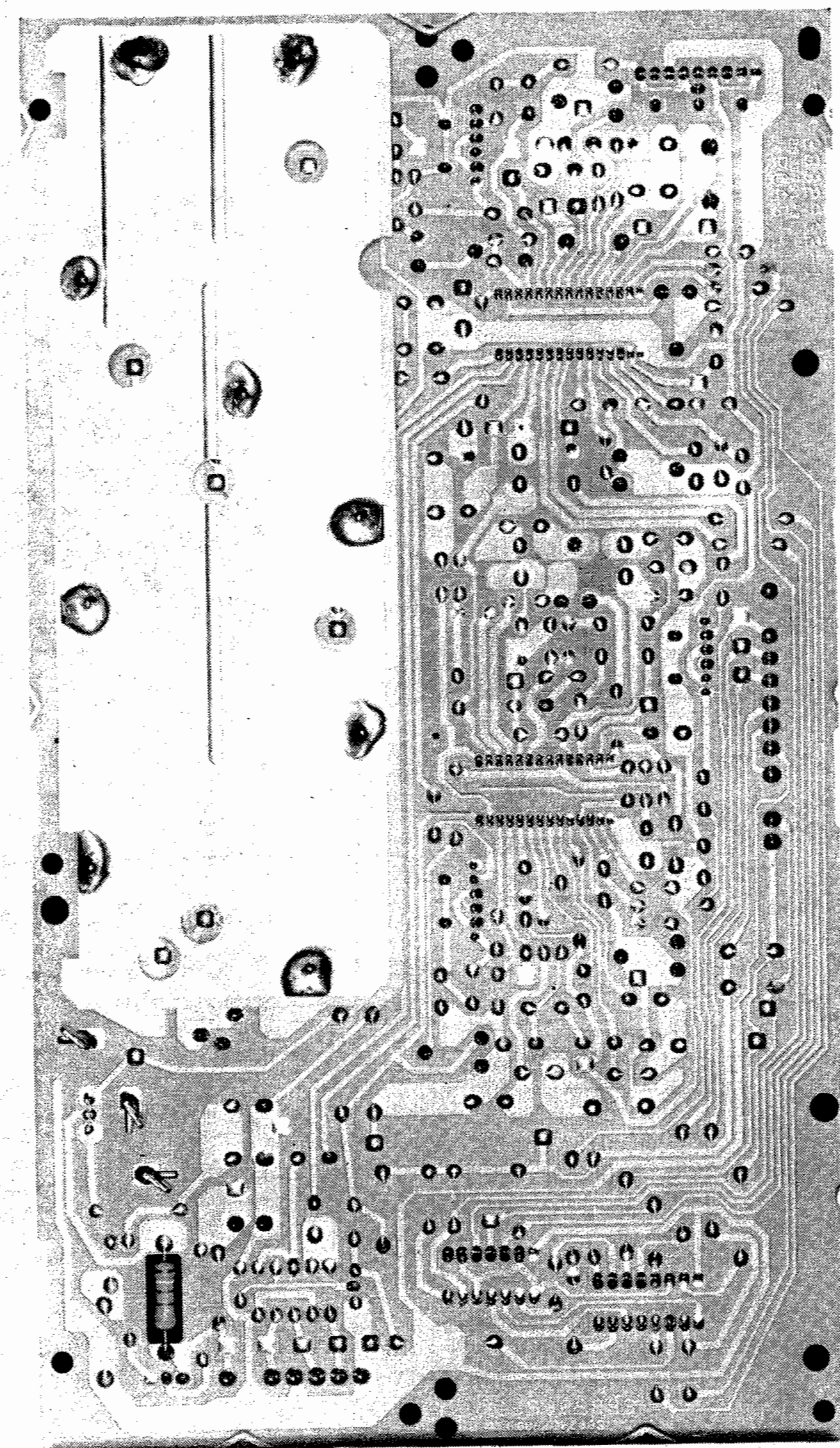






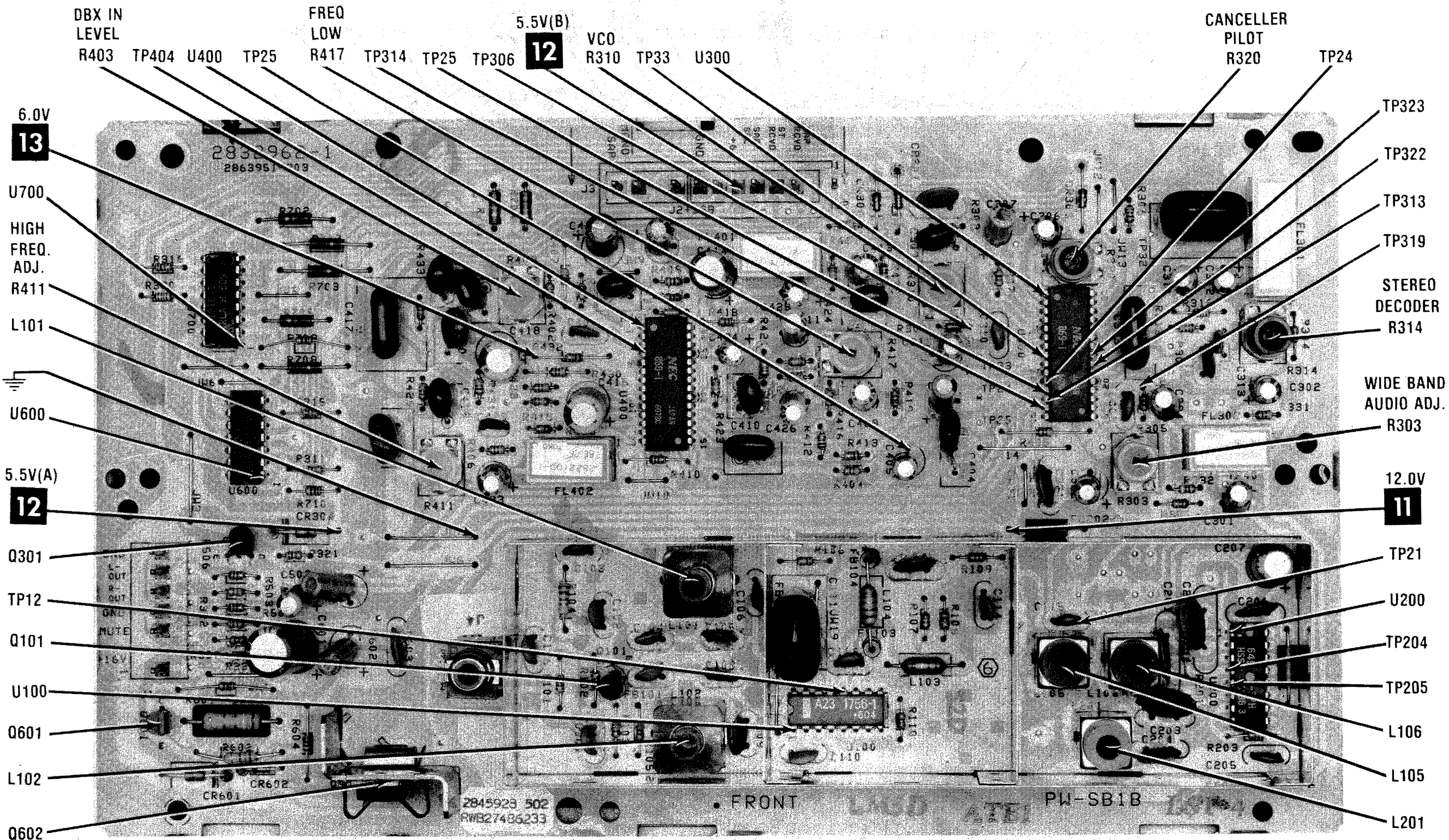


STEREO BROADCAST BOARD-SHIELD LOCATION (TOP VIEW)



STEREO BROADCAST BOARD-SHIELD LOCATION (BOTTOM VIEW)

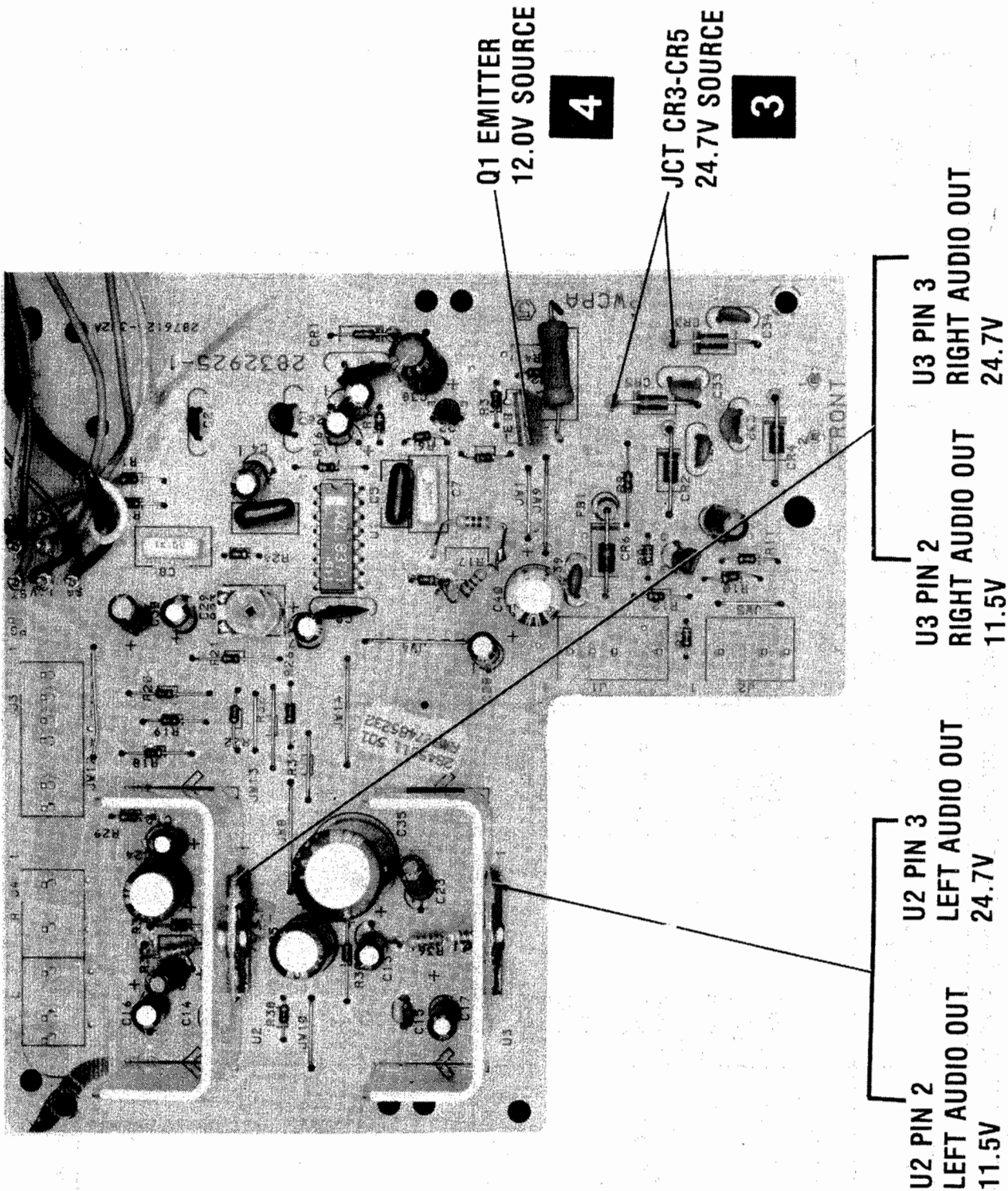
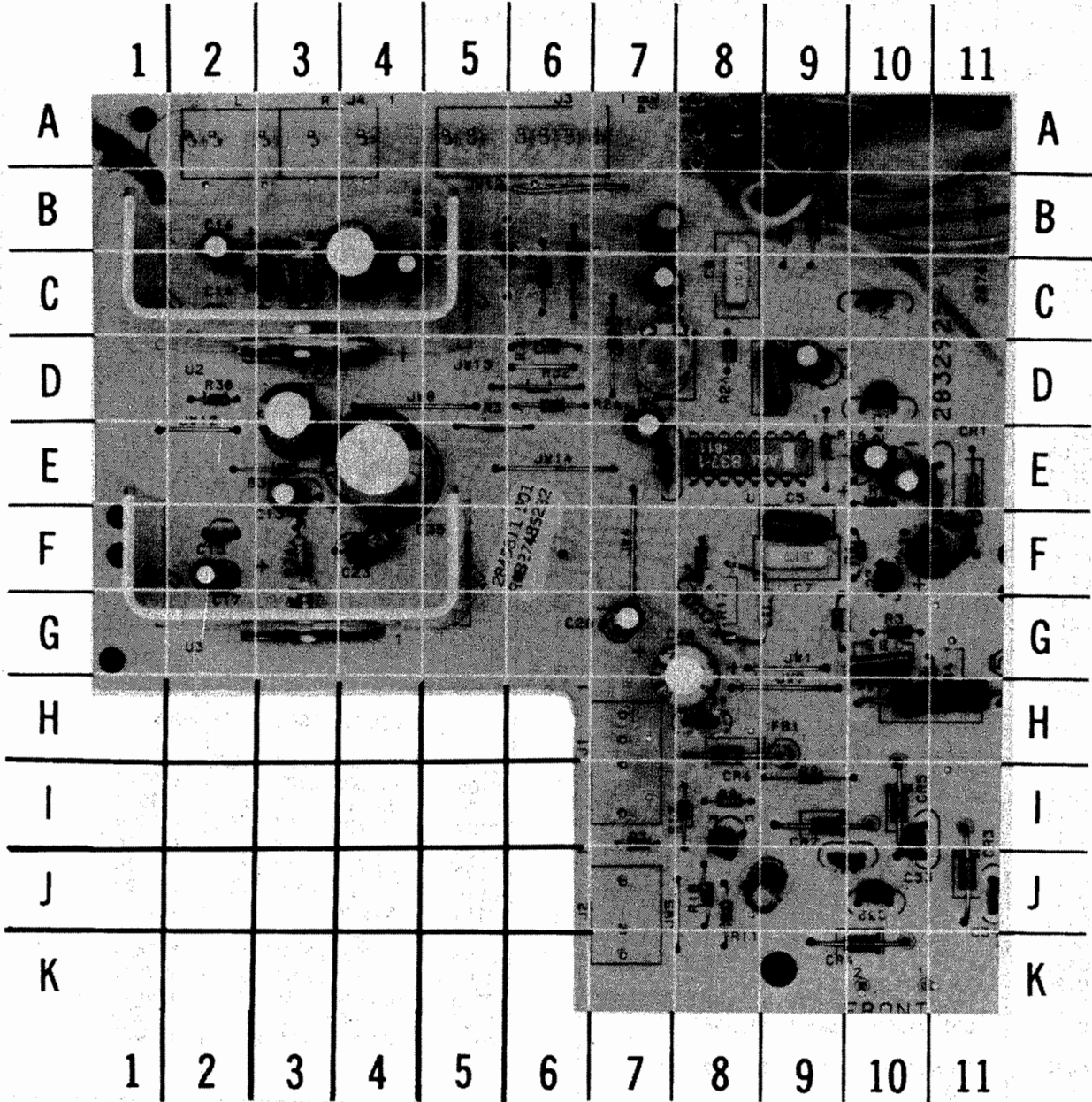




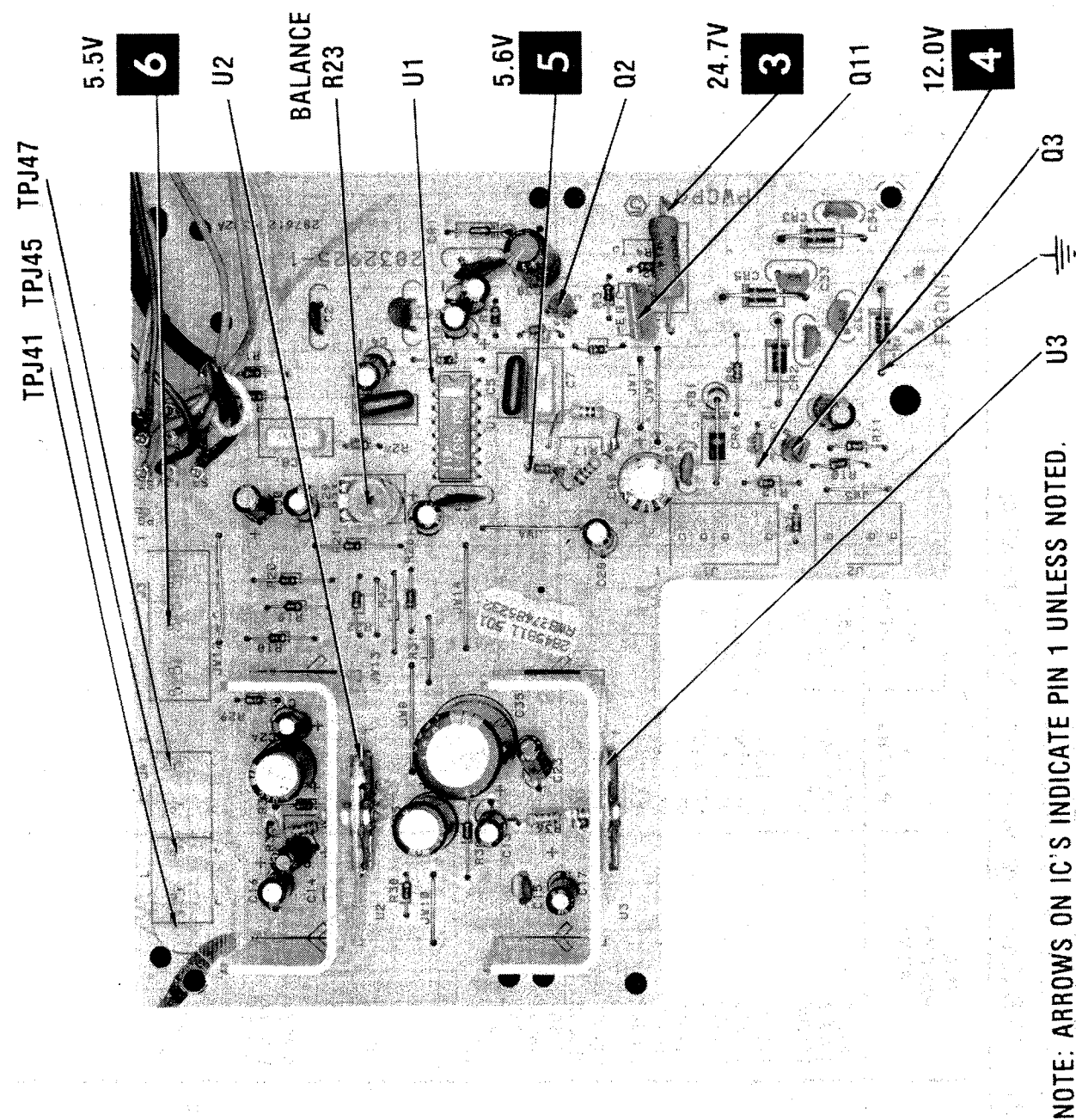


STEREO POWER BOARD-GridTrace LOCATION GUIDE

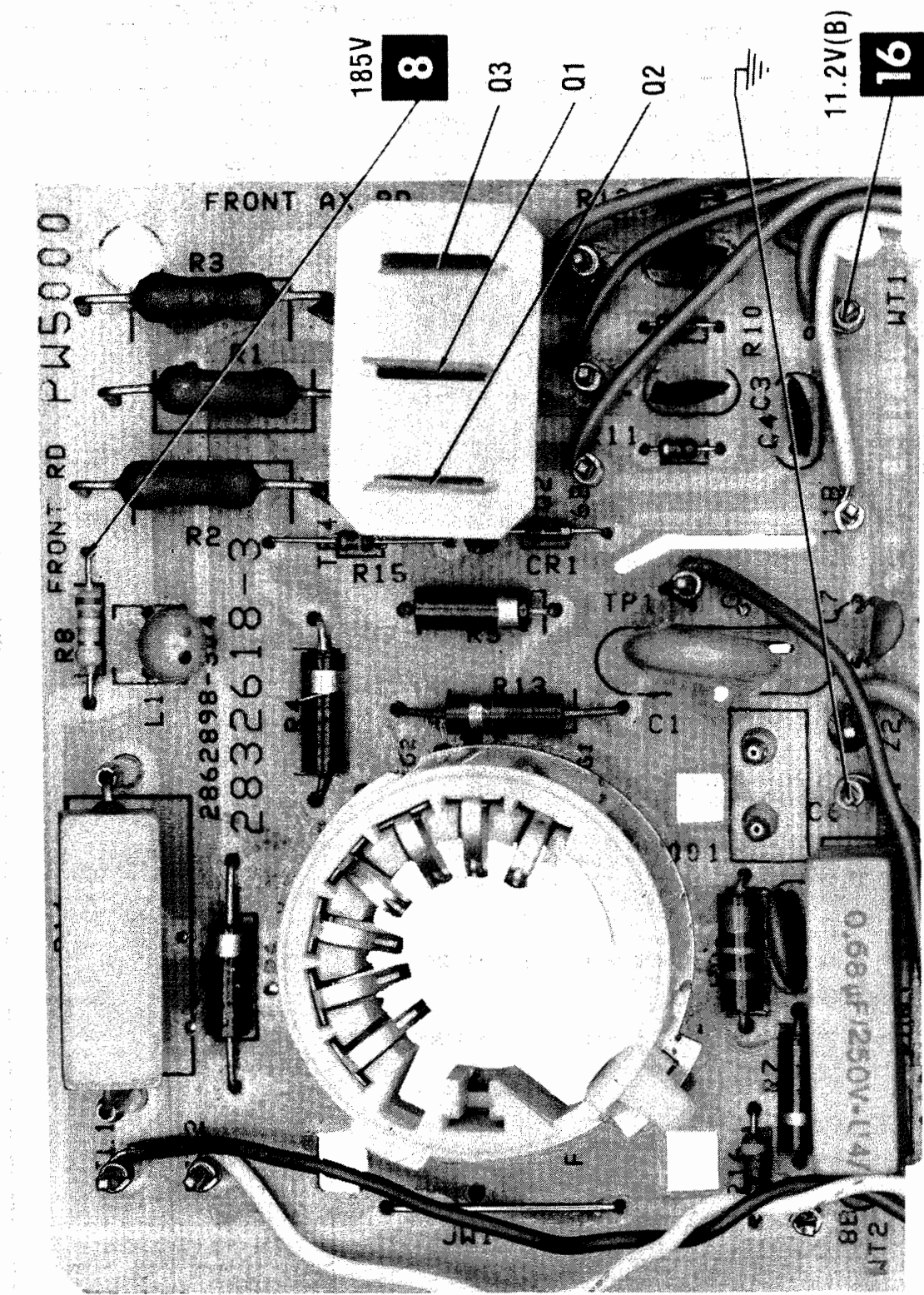
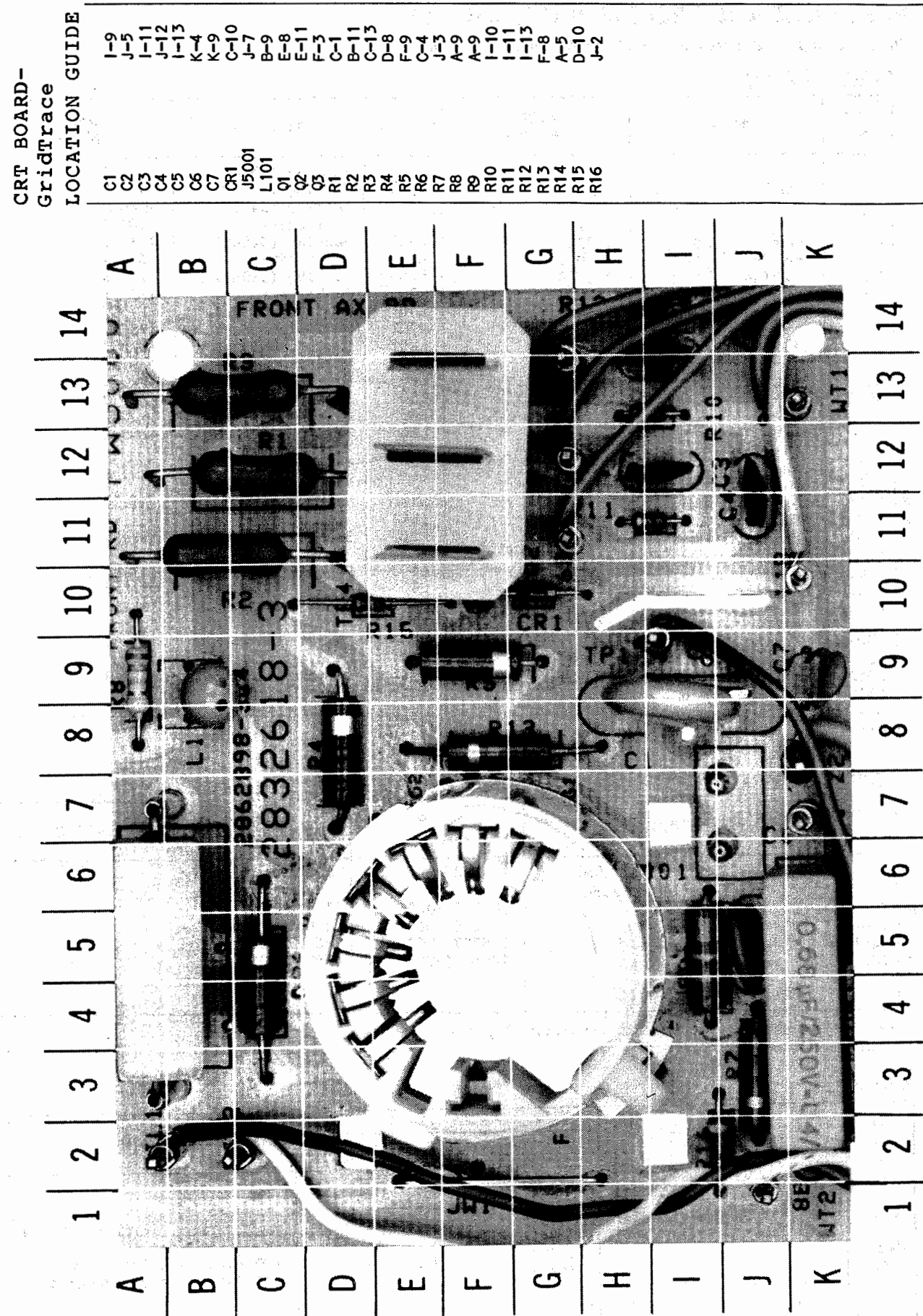
C1	D-10	C27	E-7	R2	G-11	R23	D-7
C2	C-10	C28	G-7	R3	G-10	R24	D-7
C3	E-10	C29	C-7	R5	G-9	R25	G-8
C4	D-9	C30	B-7	R6	F-10	R26	D-6
C5	F-9	C31	J-10	R7	J-7	R29	B-5
C6	D-9	CR1	E-11	R8	I-8	R30	E-3
C7	F-9	CR2	I-9	R9	I-9	R31	D-6
C8	G-8	CR3	J-11	R10	J-8	R33	I-10
C9	F-7	CR4	K-10	R11	J-8	R35	C-3
C12	E-4	CR5	I-10	R12	I-8	R36	F-3
C13	F-3	CR6	H-8	R13	B-9	R37	C-3
C14	C-2	FB1	H-9	R14	B-9	R38	D-2
C15	F-2	J1	H-7	R15	F-10	R39	G-8
C16	B-3	J2	J-7	R16	F-9	TP J41	A-2
C17	F-2	J3	A-6	R17	G-9	TP J45	A-3
C22	C-3	L	A-2	R18	C-6	TP J47	A-3
C23	F-4	Q1	G-10	R19	C-6	U1	F-8
C24	D-4	Q2	F-10	R20	C-6	U2	D-3
C25	D-3	Q3	I-8	R21	D-6	U3	G-3
C26	E-10	R1	H-11	R22	D-6		

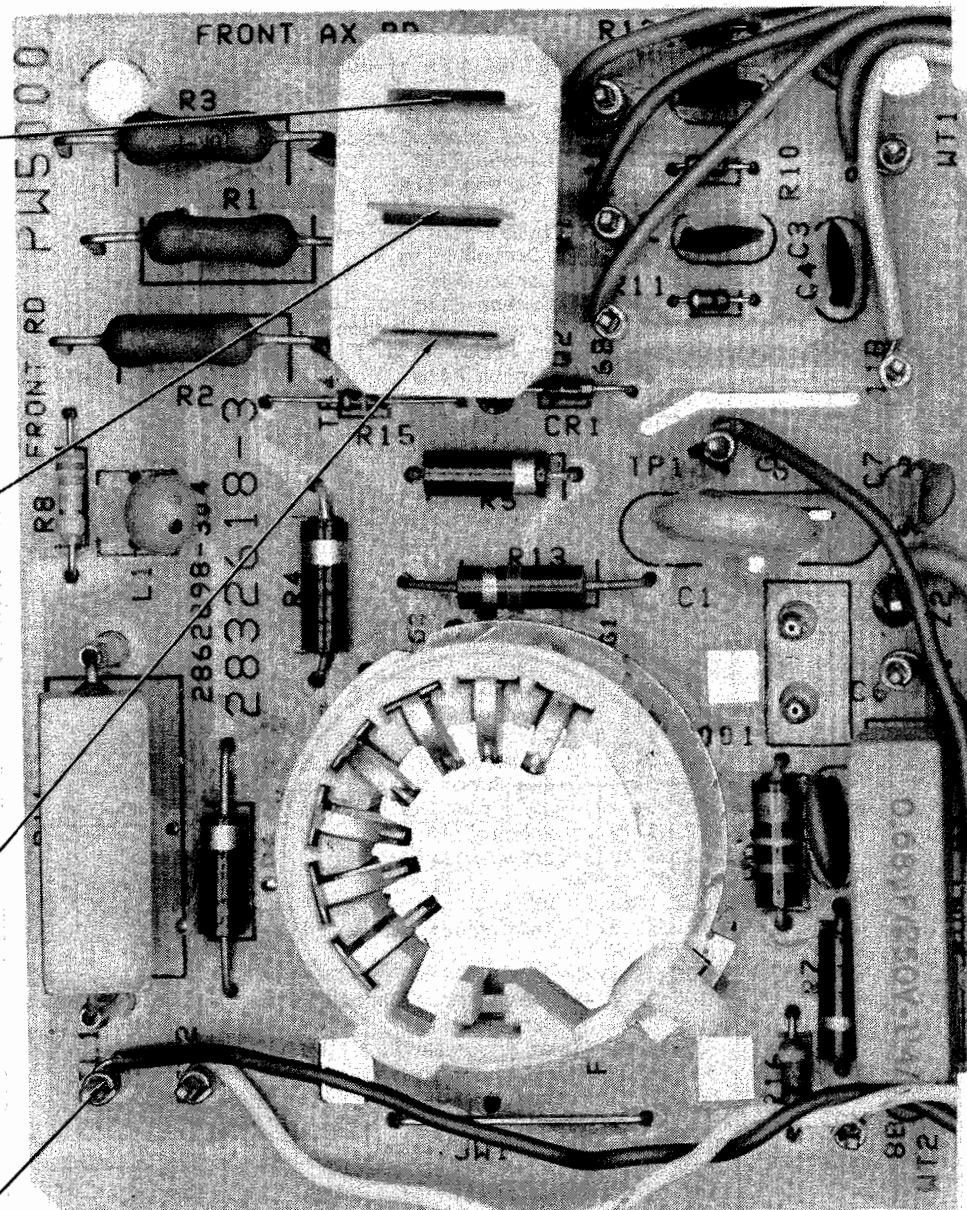


NOTES









**When ordering parts, state Model, Part Number, and Description**

### SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.					NOTES
		NTE PART No.	ECG PART No.	TCE PART No.		
<u>CRT BOARD</u>						
CR1	139706	NTE177	ECG177	SK9091/177		
CR50011	153680	NTE171	ECG171	SK3201/171		
Q1, 2, 3						
Q5001, 2, 3						
<u>STEREO BROADCAST BOARD</u>						
CR301, 2, 3	164717	NTE519	ECG519	SK3100/519		
CR304	177807	NTE5071A	ECG5071A	SK6V8/5071A		
CR601	150363	NTE142A	ECG142A	SK12V/142A		
CR602	164717	NTE519	ECG519	SK3100/519		
Q101	146848	NTE229	ECG229	SK3246A/229		
Q301	146847	NTE123AP	ECG123AP	SK3854/123AP		
Q601	139366	NTE340	ECG340	SK3452/108		
Q602	140979	NTE196	ECG196	SK3054/196		
U100	146857	NTE1545	ECG1545	SK9379/1545		
U200	150368		ECG1652			
U300	176223					
U400	176224					
U600	154222	NTE4001B	ECG4001B	SK4001B		
U700	176225	NTE4049	ECG4049	SK4049UB		
<u>STEREO POWER BOARD</u>						
CR1	161081	NTE5011T1	ECG5011T1	SK5010A/117A		
CR2, 3, 4, 5	147015	NTE125	ECG125	SK9000/552		
CR6	176296	NTE552	ECG552	SK3202/210		
Q1	146849	NTE210	ECG210	SK3854/123AP		
Q2, 3	146847	NTE123AP	ECG123AP	SK7672/1576		
U1	176226	NTE1576	ECG1576	SK7726/1566		
U2, 3	150369	NTE1566	ECG1566			

**RCA**  
**CHASSIS CTC130A**



## PARTS LIST AND DESCRIPTION (Continued)

**When ordering parts, state Model, Part Number, and Description**

## SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFG. PART No./ TYPE No.					NOTES
		NTE PART No.	ECG PART No.	TCE PART No.		
MAIN BOARD  CR101,2,3,4,5 CR106,7,9 CR301 CR302  CR402 CR405 CR406 CR407 CR408,9  CR410 CR411 CR412 CR413 CR414  CR501 CR502 CR503 CR504 CR505  CR507 CR701 CR703 THRU CR707 Q301 Q303  Q304 Q305 Q401 Q402	147015 176296 149930 164717	NTE125 NTE552 NTE5021A NTE519	ECG125 ECG552 ECG5021A ECG519	SK5010A/117A SK9000/552 SK12A/5021A SK3100/519	# # USED SOME VERSIONS #	
	139706 139706 175424 157301 157301	NTE177 NTE177 NTE5029A NTE177 NTE177	ECG177 ECG177 ECG5029A ECG177 ECG177	SK9091/177 SK9091/177 SK20A/5029A SK9091/177 SK9091/177		
	147015 146316 156317 164717 139706	NTE125 NTE525 NTE552 NTE519 NTE177	ECG125 ECG525 ECG552 ECG519 ECG177	SK5010A/117A SK3925/525 SK9000/552 SK3100/519 SK9091/177		
	139706 147015 164717 164874 149731	NTE177 NTE125 NTE519 NTE177 NTE116	ECG177 ECG125 ECG519 ECG177 ECG116	SK9091/177 SK5010A/117A SK3100/519 SK9091/177 SK3312		
	139706 164717 164717 146848 146850	NTE177 NTE519 NTE519 NTE229 NTE159	ECG177 ECG519 ECG519 ECG229 ECG159	SK9091/177 SK3100/519 SK3100/519 SK3246A/229 SK3466/159		
	146847 146850 153677 146823	NTE123AP NTE159 NTE255 NTE238	ECG123AP ECG159 ECG255 ECG238	SK3854/123AP SK3466/159 SK9412/255 SK3710/238		

## PARTS LIST AND DESCRIPTION (Continued)

**When ordering parts, state Model, Part Number, and Description.**

## SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
Q501,2	146856	NTE152	ECG152	SK3893/152	
Q701	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q703	143806	NTE159	ECG159	SK3466/159	
Q704	176980	NTE123AP	ECG123AP	SK3854/123AP	
Q705	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q705	176980	NTE123AP	ECG123AP	SK3854/123AP	
Q706	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q706	176980	NTE123AP	ECG123AP	SK3854/123AP	
Q801	146847	NTE123AP	ECG123AP	SK3854/123AP	
SCR101	149251	NTE230	ECG230	SK3042/230	
SCR401	153682	NTE5402	ECG5402	SK3638/5402	
U201	153684	NTE1175	ECG1175	SK3212/1175	
U301	146857	NTE1545	ECG1545	SK9379/1545	
U401	177857	NTE868	ECG868	SK7692/868	
U701	176222	NTE844	ECG844	SK9381/844	
U701	152051				#
PW PIN BOARD					
CR1	164874	NTE177	ECG177	SK9091/177	
Q1	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q2	153350	NTE153	ECG153	SK3274/153	
PW RR001A BOARD					
Q1	148907	NTE123AP	ECG123AP	SK3854/123AP	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
PW V1002 BOARD					
CR1	161081	NTE5011T1	ECG5011T1	SK3854/123AP	
Q1	146847	NTE123AP	ECG123AP	SK3466/159	
Q2	145410	NTE159	ECG159	SK3466/159	
Q3,4	145410	NTE159	ECG159	SK3466/159	
Q5 THRU Q11	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q12,13	139366	NTE340	ECG340	SK3452/108	
Q14 THRU Q17	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q18	146849	NTE210	ECG210	SK3202/210	
U2	161079	NTE4052B	ECG4052B	SK4052B	
U3	176873	NTE4052B	ECG4052B	SK4052B	
U5	161079	NTE1576	ECG1576	SK7672/1576	
U6	176226	NTE1576	ECG1576	SK7672/1576	
CRK40A TRANSMITTER					
Q1	148996	NTE123AP	ECG123AP	SK3854/123AP	
U1	173219	NTE123AP	ECG123AP	SK3854/123AP	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
	CHASSIS ASSEMBLY	CTC130A		PW PIN	
# C105	680 200V	175442	# C1	4.7 35V NP	163970
# C120	680 35V	146217		4.7 35V 20%	
# C407	22 25V	153991		PWSB001B SOUND ASSEMBLY	
C506	4.7 100V 10%	151238	C415	10 16V 5%	162296
	6.8 100V 10%	175120	C418	10 16V 5%	162296
# C508	1500 25V	162422			
	1500 35V	177534			
# C509	1500 25V	162422			

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
	A/V IN/OUT ASSEMBLY PW VI-003				
C9	39 NPO 50V 5%	149151	C504	33 NPO 250V 10%	161213
C12	33 NPO 50V 5%	176879	C705	68 NPO 50V 5%	145676
C48	18 NPO 50V 1%	146538	C714	6.2 NPO 50V 5%	176617
	CHASSIS ASSEMBLY CTC 130A		C715	6.2 NPO 50V 5%	176617
# C101	.22 600V 20%	145613	C716	6.2 NPO 50V 5%	176617
# C102	.22 600V 20%	175604	C717	8.2 NPO 50V 10%	176618
# C103	680 1KV 20%	113165	C801	33 NPO 50V 5%	146833
# C104	680 1KV 20%	113165	C803	91 NPO 50V 5%	146254
# C109	1.5 200V 10%	147600	C813	75 NPO 50V 5%	149774
# C110	680 1KV 20%	113165	C814	47 NPO 50V 5%	143867
# C119	680 1KV 20%	113165	C815	27 NPO 50V 5%	143866
C208	91 NPO 250V 5%	142336	C818	Trimmer	138701
C209	7.5 NPO 250V 3%	143555	C819	75 NPO 50V 5%	149774
C213	18 NPO 50V 5%	146249	C820	82 NPO 50V 5%	143869
C214	130 NPO 250V 5%	153974	C823	56 NPO 50V 5%	145316
C302	12 NPO 50V 5%	145676		KINE SOCKET ASSEMBLY	
C304	100 NPO 250V 5%	153973	C3	100 NPO 50V 5%	143871
C308	9.1 NPO 250V	153971	(C5003)		
C309	9.1 NPO 250V	153971	C4	100 NPO 50V 5%	143871
	± .5PF		(C5004)		
C316	82 NPO 250V 5%	145376	C5	100 NPO 50V 5%	143871
C317	91 NPO 250V 5%	142336	(C5005)		
C318	18 NPO 50V 1%	145538		SOUND ASSEMBLY PWSB001B	
C319	47 NPO 250V 10%	157314	C104	10 NPO 250V ±.5PF	161099
C333	16 NPO 250V 5%	147628	C105	82 NPO 250V 5%	145376
C335	22 NPO 50V 10%	150821	C106	56 NPO 250V 5%	173059
C405	220 NPO 250V 2%	153234	C107	10 NPO 250V ±.50F	161099
# C411	.1 50V 20%	159640	C108	82 NPO 250V 5%	145376
# C417	27 NPO 250V 5%	143755	C109	82 NPO 250V 5%	145376
# C423	.0155 1.2KV 2%	161372	C114	10 NPO 250V ±.5PF	161099
# C425	.43 200V 5%	154269	C115	5.6 NPO 250V	157278
# C429	.0022 50V 10%	143881		±.25PF	
C431	.001 N1500 1.5KV	143554	C203	330 N330 50V 5%	147634
	5%		C303	15 NPO 250V 1%	177050
C434	330 N1500 1.5KV	146822	C313	680 NPO 50V 5%	177804
	5%		C406	27 NPO 250V 5%	243755
			C429	47 NPO 50V 5%	143867

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
A/V IN/OUT ASSEMBLY PW VI-003				
R91	Balance	5000	157493	
R110	Video Level	1000	175372	
INSTRUMENT ASSEMBLY				
# R4202	Black Level	170K	164893	
# R4203	Color	100K	164894	
# R4204	Tint	100K	164894	
# R4207	Picture	125K	161401	
R4225	Treble	50K	176612	
R4226	Bass	50K	176612	
R4227	Balance	10K	161397	
			Detent @ 50%	
PW CPA				
R23	Balance	5000	157493	
PW PIN				
R4	Width	1000	147615	
PW RC				
R334	AGC	25K	176662	
R534	Vert Height	500K	147618	
		50K	177508	
R750	Red Bias	4500	147617	
R752	Green Bias	4500	147617	
R754	Blue Bias	4500	147617	
R756	Green Drive	150	147619	
R758	Red/Blue Drive	100	147616	
R4209	Sharpness	500	176663	
		500	177509	
PW SB001B SOUND ASSEMBLY				
R303	Wide Band Audio	50K	148415	
R310	VCO	5000	177055	
R314	Stereo Decoder OSC	7500	161383	
R320	Pilot Cancel	25K	160156	
R403	DBX Input Level	10K	148417	
R411	High Freq Adjust	10K	148417	
R417	Low Freq Sep	3000	177057	

# For SAFETY use only equivalent replacement part.  
(1) Contained In Cover Assembly, Part Number 176664 or 176863.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
	A/V IN/OUT ASSEMBLY PW VI-003			
R24	2400 2% 1/8W Carbon Film	176876	EW224	
R26	10 5% 1/4W Flame Proof Carbon Film	829010	QW010	
R30	620 2% 1/4W Carbon Film	176647	QW162	
R31	2400 2% 1/8W Carbon Film	176876	EW224	
R32	1200 2% 1/4W Carbon Film	175308	QW212	
R34	22 5% 1/4W Flame Proof Carbon Film	829022	QW022	
R65	4700 2% 1/4W Carbon Film	175413	QW247	
R69	51K 2% 1/4W Carbon Film	175315	QW351	
R71	47K 2% 1/4W Carbon Film	175322	QW347	
R86	22 5% 1/4W Flame Proof Carbon Film	829022	QW022	
R102	30 5% 2W Flame Proof Metal Film	176875	2WD30	
R108	680 2% 1/4W Carbon Film	175312	QW168	
R121	11 5% 5W WW	176814		
R122	5100 2% 1/4W Carbon Film	175417	QW251	
	CHASSIS ASSEMBLY CTC 130A			
R102	470K 5% 1/2W Flame Proof Carbon Film	830447	HW447	
R106	53.6K 1% 1/2W Metal Film	177533		
	54.9K 1% 1/2W Metal Film	176624		
R108	3240 1% 1/2W Metal Film	176625		
R109	62K 2% 1/4W Carbon Film	(1)	QW362	
R110	120K 2% 1/4W Carbon Film	(1)	QW412	
R111	240K 2% 1/4W Carbon Film	(1)	QW424	
R112	510K 5% 1/4W Carbon Film	(1)	QW451	
	464K 1% 1/4W Carbon Film	(1)		
R113	270 10% 5W WW	115166		
R114	4.7 5% 1/2W Flame Proof Carbon Film	830A47	HW4D7	
R115	36K 5% 1W Flame Proof Metal Film	176657	2W336	
R116	680 5% 1W Flame Proof Metal Film	176653	1W168	
R117	82 5% 1/4W Carbon Film		QW082	
	82 2% 1/4W Carbon Film	175757	QW082	
R119	43 5% 3W WW	176279		
R120	2.7 10% 15W WW	160238		
R201	12 5% 1/2W Flame Proof Carbon Film	830012	HW012	
R205	27 5% 2W WW	176339		
R207	200 2% 1/4W Carbon Film	175363	QW120	
R305	100 5% 1/4W Flame Proof Carbon Film	829110	QW110	
R314	180 2% 1/4W Carbon Film	176646	QW118	
R325	20 5% 3W Flame Proof Metal Film	176658	3W020	
R402	560 5% 1W Flame Proof Metal Film		1W156	
	560 5% 1W Flame Proof Metal Film	176652	1W456	
R403	27.4K 2% 1/4W Metal Film	151883		
R404	84.5K 1% 1/4W Metal Film	154258		
R416	121K 1% 1/2W Metal Film	153978		
R417	10K 5% 2W Flame Proof Metal Film	176656	2W310	
R418	.24 5% 2W W	162412		
R423	5600 5% 1/2W Carbon Film	175369	HW256	
R425	820 5% 1/4W Carbon Film	175043	QW182	
R426	4700 5% 5W WW		5W247	
	4700 5% 5W Flame Proof Metal Film	179595		
R429	100 5% 1/4W Flame Proof Carbon Film	829110	QW110	
R430	25.5K 1% 1/2W Metal Film	149782		
R431	180 5% 1/4W Carbon Film	176628	QW118	
R436	220 5% 1/2W Carbon Film	176651	HW122	
R506	6800 5% 2W Flame Proof Metal Film	176655	2W268	
R509	12 5% 1/2W Flame Proof Carbon Film	830012	HW012	
R511	10 5% 1/4W Carbon Film	175753	QW010	
R513	10 5% 1/4W Flame Proof Carbon Film	829010	QW010	
R514	10 5% 1/4W Flame Proof Carbon Film	829010	QW010	
R518	1 5% 1/2W Flame Proof Metal Film	830A10	HW1DQ	
R726	180 5% 1/4W Flame Proof Carbon Film	829118	QW118	
R727	33K 5% 1W Flame Proof Metal Film	176654	1W333	
R728	9530 1% 1/4W Metal Film	176862		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
# R745	10 5% 1/2W Flame Proof Carbon Film	830010	HW010	
R746	2700 2% 1/4W Carbon Film	176648	QW227	
R747	150 2% 1/4W Carbon Film	176645	QW115	
# R759	200 5% 1/4W Flame Proof Carbon Film	829120	QW120	
	150 5% 1/4W Flame Proof Carbon Film	829115	2W115	
R761	200 2% 1/4W Carbon Film	175363	QW120	
	68 5% 1/4W Carbon Film	175039	QW068	
R802	390 2% 1/4W Carbon Film	177535	QW139	
	330 2% 1/4W Carbon Film	175045	QW133	
R804	620 2% 1/4W Carbon Film	176647	QW162	
R811	820 2% 1/4W Carbon Film	175043	QW182	
# RT101	9.2 Cold PTC	149680		
	INSTRUMENT ASSEMBLY			
# R1	1100 10% 10W WW	175614		
R799	LDR			
	KINE SOCKET ASSEMBLY PW5000			
# R1	10K 5% 2W Flame Proof Metal Film	176656	2W310	
(R5001)				
# R2	10K 5% 2W Flame Proof Metal Film	176656	2W310	
(R5002)				
# R3	10K 5% 2W Flame Proof Metal Film	176656	2W310	
(R5003)				
# R8	27K 5% 1/4W Carbon Film	829327	QW327	
(R5008)				
# R13	22K 10% 1/2W Carbon Comp	502322	HW322	
(R5013)				
# R14	2.4 10% 3W WW	176660		
(R5014)				
	PW CPA			
# R1	220 5% 3W Flame Proof Metal Film	177856	3W122	
R5	4700 2% 1/4W Carbon Film	175413	QW247	
R6	5100 2% 1/4W Carbon Film	175417	QW251	
# R17	10 5% 1/4W Flame Proof Carbon Film	829010	QW010	
# R35	2.2 5% 1/4W Flame Proof Carbon Film	829A22	QW2D2	
# R36	2.2 5% 1/4W Flame Proof Carbon Film	829A22	QW2D2	
	PW PIN			
R3	680 5% 1W Flame Proof Metal Film	176653	1W168	
	PW SB001B SOUND ASSEMBLY			
R605	3.9 5% 1W Flame Proof Metal Film	831A3D9	1W3D9	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.	ITEM No.	FUNCTION	MFGR. PART No.
	AUDIO/VIDEO/IN/OUT/BOARD		L311	Peaking (15uH)	157133
			L312	Peaking (1.2uH)	154047
			L314	Peaking (3.3uH)	154048
			L401	Horizontal	160969
L1	Peaking (33uH)	153921	L402	Peaking (3.8uH)	153986
L3	Peaking (470uH)	163028	L403	Linearity	161369
L4	Peaking (470uH)	163028	L404	Peaking (.15uH)	176620
L5	Peaking (470uH)	163028	L701	RF Choke (56uH)	176621
L6	Peaking (470uH)	163028	L701	RF Choke (33uH)	177537
	CRT BOARD		L702	RF Choke (56uH)	176621
L1	RF Choke (400uH)	164015	L702	RF Choke (33uH)	177537
(L5001)			L801	RF Choke (12uH)	149175
	MAIN BOARD		L803	Peaking (39uH)	154050
# L101	Line Filter	176619	L804	Peaking (56uH)	161090
L103	RF Choke	154026	L805	Peaking (27uH)	160517
# L104	Peaking (68uH)	153987	L806	RF Choke (470uH)	176622
# L105	RF Choke (3.8uH)	153986		SOUND BOARD	
L301	Trap 47.25MHz	146198	L101	Bandpass 45.75MHz	161095
L302	Peaking (1uH)	146200	(L1)		
L302	Peaking (1uH)	147367	L102	Bandpass 45.75MHz	161095
L303	Detector	143899	(L2)		
L304	AFT	143831	L103	Peaking (2.2uH)	143893
L305	Peaking (2.2uH)	143893	L104	RF Choke (2.2uH)	143893
L307	Peaking (1uH)	147637	L105	Bandpass 4.5MHz	151247
L308	RF Choke (2.2uH)	143893	(L7)		
L309	RF Choke (.82uH)	148420	L106	Bandpass 4.5MHz	151247
L310	RF Choke (.62uH)		(L8)		
			L201	Detector 4.5MHz	151248
			(L9)		

# For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

ITEM No.	FUNCTION	MFGR. PART No.	OTHER IDENTIFICATION	NOTES
# DY1	Yoke: 110° Horiz 1.3mh Vert 22.3mh	1842022-503	1842022-503(1)	
# T1	Standby	2863308-002	2863308 2(1)	
T101	Regulator	2870941-007	2870941-7(1)	
T401	Horizontal Driver	1467974-002	1467974-2(1)	
# T402	Horizontal Output	1455874-801	455874-801(1)	

# For SAFETY use only equivalent replacement part.

(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	2 1/4" X 5" Oval Speaker 15 Ohms	163428		
SP2	2 1/4" X 5" Oval Speaker 15 Ohms	163428		
SP1		164933		
SP2		164933		Not Available for Process Not Available for Process



When ordering parts, state Model, Part Number, and Description

MISCELLANEOUS

ITEM No.	PART NAME	MFG. PART No.	NOTES
DL701	Delay Line	153674	
F101	Fuse, AC	175425	5 Amp @ 125VAC
FB1	Ferrite Bead	152103	PW CPA
FB101	Ferrite Bead	154022	Main
FB101	Ferrite Bead	152102	Sound
FB102	Ferrite Bead	152102	Main
FB102	Ferrite Bead	152102	Sound
FB103	Ferrite Bead	152102	Main
FB103	Ferrite Bead	152102	Sound
FB104	Ferrite Bead	152102	Sound
FB105	Ferrite Bead	152102	
FB201	Ferrite Bead	153328	
FB202	Ferrite Bead	153328	
FB301	Ferrite Bead	152102	
FB302	Ferrite Bead	152102	
FB303	Ferrite Bead	152102	
FB304	Ferrite Bead	154052	
FB307	Ferrite Bead	152102	
FB308	Ferrite Bead	154052	
FB309	Ferrite Bead	154042	
FB401	Ferrite Bead	154322	
FB404	Ferrite Bead	152102	
FB405	Ferrite Bead	152102	
FB406	Ferrite Bead	154322	
FB407	Ferrite Bead	154322	
FB408	Ferrite Bead	154052	
FB501	Ferrite Bead	154052	
FB701	Ferrite Bead	154052	
J5201	Jack	156257	Video Input
J5202	Jack	156257	Video Input
J5203	Jack	156257	Audio Input
J5204	Jack	156257	Audio Input
K1	Relay, Degauss	160093	
L102	Degaussing Coil	157872	
	Degaussing Coil	164121	
PW5000	PC Board	176867	CRT
PWCPA	PC Board	177844	
PWPIN	PC Board	176868	
PWRC	PC Board	176869	
PWRR	PC Board	176825	
O1A			
PWSB0	PC Board	177064	
O1B			
PWV1	PC Board	179384	
003			
S4228	Switch	176613	Speaker
S4229	Switch	176613	Stereo/Mono
SF301	Filter	147639	Saw
V101	CRT	A66ABU10X or A51ABU10X A63ABP12X A63ABP13X	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	PART No.	PART No.	PART No.
MODEL	FMR520WR	FMR535WR	FMR536ER	FMR552ER
# Cabinet Front, Mask	MK0404	MK0513	MK0561	MK0561
# Cabinet Back	BK0403	BK0512	BK0512	BK0560
Door, Auxiliary Control	164899	164916	174154	164901
Knob, Sharpness	176606	176606	176606	176606
# Latch, Door		161908	161908	161908
MODEL	FMR618E	FMR620WR	FMR622TR	FMR623ER
# Cabinet Front, Mask	MK0480	MK0401	MK0479	MK0479
# Cabinet Back	BK0399	BK0399	BK0400	BK0400
Door, Auxiliary Control	160939	177380	177381	179276
Knob, Sharpness	176606	176606	176606	176606
Knob, Volume	155599			
# Latch, Door		161908	161908	161908

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	PART No.	PART No.	PART No.
MODEL	FMR710TR	GMR640T	GMR641TR	GMR644H
# Cabinet Front, Mask	MK0563	MK0483	MK0484	MK0503
# Cabinet Back	BK0562	BK0425	BK0427	BK0427
Door, Auxiliary Control	180228	174180	153887	174181
Knob, Sharpness	176606	176606	176606	176606
Stop, Door	141648	141648	141648	141648
Hinge, Door		153785	153785	153785
# Knob, On/Volume		151683	151683	151683
Knob, Selector		153779	153779	153779
MODEL	GMR645HR	GMR648P	GMR649PR	GMR651TR
# Cabinet Front, Mask	MK0485	MK0504	MK0486	MK0534
# Cabinet Back	BK0427	BK0427	BK0427	BK0425
Door, Auxiliary Control	157618	159343	157622	178556
Knob, Sharpness		176606		176606
Hinge, Door		153785		153785
# Knob, On/Volume		151683		151683
Knob, Selector		153779		153779
MODEL	GMR655HR	GMR659PR	GMR810P	GMR811PR
# Cabinet Front, Mask	MK0535	MK0536	MK0407	MK0418
# Cabinet Back	BK0427	BK0427	BK0426	BK0426
Door, Auxiliary Control	157618	157622	177516	177516
Knob, Sharpness	176606	176606	176606	176606
Hinge, Door			150190	150190
MODEL	GMR814H	GMR814L	GMR815HR	GMR815LR
# Cabinet Front, Mask	MK0407	MK0407	MK0418	MK0418
# Cabinet Back	BK0408	BK0408	BK0408	BK0408
Door, Auxiliary Control	177516	177516	177516	177516
Hinge, Door	150190	150190	150190	150190
Knob, Sharpness	176606	176606	176606	176606
MODEL	GMR818P	GMR819PR	GMR820T	GMR821TR
# Cabinet Front, Mask	MK0407	MK0418	MK0407	MK0418
# Cabinet Back	BK0411	BK0411	BK0409	BK0409
Door, Auxiliary Control	177516	177516	177516	177516
Hinge, Door	150190	150190	150190	150190
Knob, Sharpness	176606	176606	176606	176606
MODEL	GMR822T	GMR823TR	GMR825TR	GMR830P
# Cabinet Front, Mask	MK0407	MK0418	MK0407	MK0407
# Cabinet Back	BK0430	BK0403	BK0410	BK0411
Door, Auxiliary Control	177516	177516	177516	177516
Hinge, Door	150190	150190	150190	150190
Knob, Sharpness	176606	176606	176606	176606
MODEL	GMR831PR	GMR833PR	GMR841TR	GMR843ER
# Cabinet Front, Mask	MK0418	MK0418	MK0440	MK0442
# Cabinet Back	BK0411	BK0411	BK0443	BK0443
Door, Auxiliary Control	177516	177516	177516	177516
Hinge, Door	150190	150190	150190	150190
Knob, Sharpness	176606	176606	176606	176606
MODEL	GMR845FR	GMR849PR	JMR920DR	JMR920ER
# Cabinet Front, Mask	MK0444	MK0446		
# Cabinet Back	BK0445	BK0449		
Door, Auxiliary Control	177516	177516		
Hinge, Door	150190	150190		
Knob, Sharpness	176606	176606		
MODEL	JMR920NR	JMR920TR	JMR920WR	JMR920YR
# Cabinet Front, Mask			MK0566	
# Cabinet Back			BK0565	
Door, Auxiliary Control			180252	
Knob, Sharpness			176606	
# Latch, Door			161908	
MODEL	JMR922WR	JMR926WR	JMR980WR	JMR984WR
# Cabinet Front, Mask	MK0568	MK0570	MK0572	MK0564
# Cabinet Back	BK0567	BK0569	BK0571	BK0399
Door, Auxiliary Control	180253	180253	180254	177380
Knob, Sharpness	176606	176606	176606	176606
# Latch, Door	161908	161908	161908	161908

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
TUNING SYSTEM MTT001A					
CR101	164717	NTE519	ECG519	SK3100/519	MATCHED SET INCLUDES CR108, CR203, CR204 CR210, CR502 CR506, CR510
CR102,3	174378	NTE553	ECG553	SK3322	
CR105	129095				
CR107	174449				
CR108					USE CR107
CR109	174450				MATCHED SET
CR110,11					MATCHED SET
CR112	164717	NTE519	ECG519	SK3100/519	INCLUDES CR112, CR301, CR302, CR303
CR113,4,5	129095	NTE553	ECG553	SK3322	USE CR109 MATCHED SET
CR201,2	129095	NTE553	ECG553	SK3322	
CR203,4					USE CR107 MATCHED SET
CR205,6	129095	NTE553	ECG553	SK3322	
CR207	164717	NTE519	ECG519	SK3100/519	
CR208,9	129095	NTE553	ECG553	SK3322	
CR210					USE CR107 MATCHED SET
CR211	164717	NTE519	ECG519	SK3100/519	
CR212	164719	NTE553	ECG553	SK3322	
	129095				

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.					NOTES
		NTE PART No.	ECG PART No.	TCE PART No.		
CR301,2,3 CR304,5 CR401,2 CR403	174378	NTE519	ECG519	SK3100/519	USE CR109 MATCHED SET	
	174381	NTE553	ECG553	SK3322		
	164717					
CR501						
CR502	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET	
CR503,4,5 CR506	129095	NTE553	ECG553	SK3322		
CR507,8 CR509 CR510	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET	
	129095	NTE553	ECG553	SK3322		
	164717					
CR602						
CR603 THRU CR608 CR609,10,11 CR612 CR613	164874	NTE177	ECG177	SK9091/177	USE CR107 MATCHED SET	
	164717	NTE519	ECG519	SK3100/519		
	164874	NTE177	ECG177	SK9091/177		
	137652	NTE116	ECG116	SK3313/116		
CR614,5	174431	NTE5102A	ECG5102A	SK170V/5102A	USE CR107 MATCHED SET	
CR616	139706	NTE177	ECG177	SK9091/177		
CR617	156313	NTE5141A	ECG5141A	SK30X/5141A		
CR618	174370	NTE137A	ECG137A	SK6V2/137A		
CR619 THRU CR622 CR623 CR624,5 Q101 Q103 Q201	164594	NTE5069A	ECG5069A	SK4V7/5069A	USE CR107 MATCHED SET	
	164717	NTE519	ECG519	SK3100/519		
	142717					
	164717	NTE519	ECG519	SK3100/519		
	174373					
	174374					
	174372					

# PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

## SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
Q301	174372	NTE123AP	ECG123AP	SK3854/123AP	
Q302	143794	NTE222	ECG222	SK3065/222	
Q401	148085	NTE229	ECG229	SK3246A/229	
Q501	148085	NTE222	ECG222	SK3065/222	
Q601	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q602	143802	NTE159	ECG159	SK3466/159	
Q603	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q604	145410	NTE159	ECG159	SK3466/159	
Q605	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q606	157808	NTE159	ECG159	SK3466/159	
U101	174377				
U601	174375				
U602	174376				
RC PREAMP MCY005A					
CR901, 3, 4	164874	NTE177	ECG177	SK9091/177	
Q901	148070	NTE451	ECG451	SK9164/451	
Q902	145410	NTE159	ECG159	SK3466/159	
Q903, 4	148061				
ON SCREEN DISPLAY MSD002A					
CR1, 2	164717	NTE519	ECG519	SK3100/519	
Q1	143806	NTE159	ECG159	SK3466/159	

# PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

## CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
	TUNING BOARD MTT001A				
C1	15 NPO 50V 5%	174404	C231	470 NPO 50V 10%	174416
C2	27 NPO 50V 5%	174407	C232	470 NPO 50V 10%	174416
C3	27 NPO 50V 5%	174407	C233	470 NPO 50V 10%	174416
C4	68 NPO 50V 5%	174410	C302	470 NPO 50V 10%	174416
C101	470 NPO 50V 10%	174416	C303	18 NPO 50V 5%	174405
C102	470 NPO 50V 10%	174416	C304	5 NPO 50V $\pm 5\text{pF}$	174399
C103	82 NPO 50V 10%	174411	C305	470 NPO 50V 10%	174416
C104	470 NPO 50V 10%	174416	C306	470 NPO 50V 10%	174416
C105	470 NPO 50V 10%	174416	C307	470 NPO 50V 10%	174416
C106	470 NPO 50V 10%	174416	C308	470 NPO 50V 10%	174416
C107	470 NPO 50V 10%	174416	C309	3 NPO 50V $\pm 25\text{pF}$	174397
C108	5 N750 50V $\pm 25\text{pF}$	174400	C310	15 NPO 50V 5%	174404
C109	470 NPO 50V 10%	174416	C313	470 NPO 50V 10%	174416
C110	470 NPO 50V 10%	174416	C314	15 NPO 50V 5%	174404
C111	470 NPO 50V 10%	174416	C316	470 NPO 50V 10%	174416
C112	470 NPO 50V 10%	174416	C317	470 NPO 50V 10%	174416
C116	22 NPO 50V 5%	174406	C318	.5 NPO 50V $\pm 25\text{pF}$	174395
C117	22 NPO 50V 5%	174406	C319	470 NPO 50V 10%	174416
C118	470 NPO 50V 10%	174416	C320	1 NPO 100V $\pm 25\text{pF}$	134437
C119	33 NPO 50V 5%	174408	C323	1 NPO 50V $\pm 25\text{pF}$	174391
C121	120 NPO 50V 5%	174414	C324	470 NPO 50V 10%	174416
C122	470 NPO 50V 10%	174416	C401	47 NPO 50V 5%	174409
C123	2 NPO 50V $\pm 25\text{pF}$	174396	C402	470 NPO 50V 10%	174416
C124	3 N750 50V $\pm 25\text{pF}$	174398	C403	470 NPO 50V 10%	174416
C125	470 NPO 50V 10%	174416	C404	470 NPO 50V 10%	174416
C126	5 N750 50V $\pm 25\text{pF}$	174400	C405	470 NPO 50V 10%	174416
C127	470 NPO 50V 10%	174416	C406	470 NPO 50V 10%	174416
C128	7 NPO 50V $\pm 5\text{pF}$	174401	C407	33 NPO 50V 5%	174408
C129	470 NPO 50V 10%	174416		47 NPO 50V 5%	174409
C131	10 NPO 50V $\pm 1\text{p}$	174402	C408	470 NPO 50V 10%	174416
C135	10 NPO 50V $\pm 1\text{p}$	174402	C409	27 NPO 50V 5%	174407
	5 NPO 50V $\pm 5\text{pF}$	174399		33 NPO 50V 5%	174408
C139	470 NPO 50V 10%	174416	C410	12 NPO 50V 5%	174403
C141	470 NPO 50V 10%	174416	C413	12 NPO 50V 5%	174403
C142	470 NPO 50V 10%	174416	C414	15 NPO 50V $\pm 1\%$	146768
C143	470 NPO 50V 10%	174416	C415	68 NPO 50V 5%	174410
C144	.5 NPO 50V $\pm 25\text{pF}$	174395		82 NPO 50V 5%	176828
C145	10 NPO 50V $\pm 1\text{pF}$	174402	C419	15 NPO 50V 10%	174404
C148	Trimmer	174385	C420	3 NPO 50V $\pm 25\text{pF}$	174397
C149	10 NPO 50V $\pm 1\text{pF}$	174402	C422	4.7 NPO 50V $\pm 5\text{pF}$	119406
C150	470 NPO 50V 10%	174416	C423	22 NPO 50V 5%	174406
C202	470 NPO 50V 10%	174416	C501	15 NPO 50V $\pm 1\%$	174402
C203	470 NPO 50V 10%	174416		15 N150 50V 5%	174404
C204	100 NPO 50V 5%	174412	C502	470 NPO 50V 10%	174416
C205	470 NPO 50V 10%	174416	C505	10 NPO 50V $\pm 1\%$	174402
C208	470 NPO 50V 10%	174416	C513	2 NPO 50V $\pm 25\text{pF}$	174396
C210	82 NPO 50V 10%	174411	C517	1 NPO 50V $\pm 25\text{pF}$	174396
C211	470 NPO 50V 10%	174416	C518	3 NPO 50V $\pm 25\text{pF}$	174397
C212	470 NPO 50V 10%	174416	C520	470 NPO 50V 10%	174416
C214	.5 NPO 50V $\pm 25\text{pF}$	174395	C521	470 NPO 50V 10%	174416
	1 NPO 50V $\pm 25\text{pF}$	174391	C615	33 NPO 50V 5%	174408
C215	470 NPO 50V 10%	174416	C616	120 NPO 50V 5%	174414
C216	470 NPO 50V 10%	174416	C623	68 NPO 50V 5%	174410
C217	82 NPO 50V 10%	174411	C625	120 NPO 50V 5%	174414
C218	470 NPO 50V 10%	174416	C637	100 NPO 50V 5%	174412
C220	470 NPO 50V 10%	174416	C638	10 NPO 50V $\pm 1\text{pF}$	174402
C221	470 NPO 50V 10%	174416	C664	33 NPO 50V 5%	174408
C223	470 NPO 50V 10%	174416	C706	3.9 N470 100V $\pm 25\text{pF}$	130197
C224	470 NPO 50V 10%	174416		3.3 NPO 500V $\pm 25\text{pF}$	130573
C227	470 NPO 50V 10%	174416			
C228	470 NPO 50V 10%	174416			
C229	470 NPO 50V 10%	174416			
C230	470 NPO 50V 10%	174416			

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
	TUNING BOARD MTT001A			
R107	18K 2% 1/8W Chip Metal Film	174366		
R109	10K 2% 1/8W Chip Metal Film	147364		
R115	18K 2% 1/8W Chip Metal Film	174366		
R119	30K 2% 1/8W Chip Metal Film	174368		
R123	10K 2% 1/8W Chip Metal Film	174364		
R130	10K 2% 1/8W Chip Metal Film	174364		
R203	100K 2% 1/8W Chip Metal Film	176817		
R206	160K 2% 1/8W Chip Metal Film	176815		
R207	1000 2% 1/4W Carbon Film	829210	QW210	
R208	270 2% 1/4W Carbon Film	175420	QW127	
R301	10K 2% 1/8W Chip Metal Film	174364		
R302	100K 2% 1/8W Chip Metal Film	176816		
R303	160K 2% 1/8W Chip Metal Film	176815		
R304	1000 2% 1/4W Carbon Film	175055	QW210	
R305	270 2% 1/4W Carbon Film	175420	QW127	
R308	10K 2% 1/8W Chip Metal Film	174364		
R309	10K 2% 1/8W Chip Metal Film	174364		
R311	10K 2% 1/8W Chip Metal Film	174364		
R405	820 2% 1/8W Chip Metal Film	176814		
R407	13K 2% 1/8W Carbon Film	157334	EW313	
R417	33K 2% 1/8W Chip Metal Film	176813		
R418	100K 2% 1/8W Chip Metal Film	176816		
R419	240K 2% 1/4W Carbon Film	829424	QW424	
R505	100K 2% 1/8W Chip Metal Film	147356		
R506	160K 2% 1/8W Chip Metal Film	176815		
R507	270 2% 1/4W Carbon Film	175420	QW127	
R508	1000 2% 1/4W Carbon Film	175055	QW210	
R605	22K 2% 1/8W Chip Metal Film	174367		
R606	22K 2% 1/8W Chip Metal Film	174367		
R607	22K 2% 1/8W Chip Metal Film	174367		
R608	22K 2% 1/8W Chip Metal Film	174367		
R631	10K 2% 1/8W Chip Metal Film	174364		
R652	36K 2% 1/8W Chip Metal Film	174369		
R654	1500 5% 2W Flame Proof Metal Film	174938	2W215	
	1100 5% 2W Flame Proof Metal Film	176812	2W211	
R655	18 5% 2W Flame Proof Metal Film	174939	2W018	
R660	22K 2% 1/8W Chip Metal Film	174367		
R661	10K 2% 1/8W Chip Metal Film	174364		
R662	12K 2% 1/8W Chip Metal Film	174365	EW312	

COILS (RF-IF) TUNING BOARD MTT001A

ITEM No.	FUNCTION	MFGR. PART No.
L403	Coil Adjust W/Can	174435
L404	Coil Adjust W/Can	174435
L601	Coil (33uH)	174436
L603	Coil d Adjust	174437
L604	Coil (4.7uH)	158726
L605	Coil (15uH)	174438
L606	Coil (68uH)	160184
T401	Transformer Balun	174439
T402	Transformer Balun	174439
T501	Transformer Antenna	151544
T501	Transformer Antenna	176810
T703	Transformer Balun	174425

ITEM No.	FUNCTION	MFGR. PART No.
	CHANNEL DISPLAY MSD002A	
MSD 002A	Circuit Complete	163275
C1	10uF 25V	146256
C2	.47uF 50V	173271
CR1	Diode	164717
CR2	Diode	164717
FB1	Ferrite Bead	152103
FB2	Ferrite Bead	152103
P3MSC	Connector 4 Pin	173563
P703	Connector 6 Pin	157612
Q1	Transistor Video Blanking Retainer, Bead Chain	143806
		139301

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
CR627	164717	NTE519	ECG519	SK3100/519	
CR630	164717	NTE519	ECG519	SK3100/519	
Q101	174373				
Q103	174374				
Q201	174372				
Q301	174372				
Q302	143794				
Q401	146847	NTE123AP	ECG123AP	SK3854/123AP	
	148085	NTE123AP	ECG123AP	SK3854/123AP	
	180323	NTE222	ECG222	SK3065/222	
Q402	146848	NTE229	ECG229	SK3246A/229	
Q501	148085	NTE222	ECG222	SK3065/222	
Q601	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q602	143802	NTE159	ECG159	SK3466/159	USED MTT006A
Q603	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q604	145410	NTE159	ECG159	SK3466/159	USED MTT006A
Q606,7	153325	NTE159	ECG159	SK3466/159	USED MTT006A
Q609	146847	NTE123AP	ECG123AP	SK3854/123AP	USED MTT006A
U101	174377				
U601	180817				
U602	174376				

RCA  
CHASSIS CTC130A

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
CR113,4,5 CR201,2	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET
	129095	NTE553	ECG553	SK3322	
CR203,4	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET
	164717	NTE519	ECG519	SK3100/519	
CR205,6 CR207	129095	NTE553	ECG553	SK3322	USE CR109 MATCHED SET
	129095	NTE553	ECG553	SK3322	
CR210	164717	NTE519	ECG519	SK3100/519	USE CR107 MATCHED SET
	164717	NTE519	ECG519	SK3100/519	
CR304,5 CR401,2	174378	NTE519	ECG519	SK3100/519	USE CR107 MATCHED SET
	174381	NTE553	ECG553	SK3322	
CR403 CR501	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET
	129095	NTE553	ECG553	SK3322	
CR503,4,5 CR506	129095	NTE553	ECG553	SK3322	USE CR107 MATCHED SET
	129095	NTE553	ECG553	SK3322	
CR507,8 CR509	164717	NTE519	ECG519	SK3100/519	USE CR107 MATCHED SET
	164717	NTE519	ECG519	SK3100/519	
CR602 CR609,10,11	164874	NTE177	ECG177	SK9091/177	USED MTT006A
	164874	NTE177	ECG177	SK9091/177	
CR612	137652	NTE116	ECG116	SK3313/116	USED MTT006A
	176296	NTE552	ECG552	SK9000/552	
CR613	174431	NTE177	ECG177	SK9091/177	USED MTT006A
	174431	NTE177	ECG177	SK9091/177	
CR614,5 CR616	139706	NTE177	ECG177	SK9091/177	USED MTT006A
	156313	NTE141A	ECG5141A	SK30X/5141A	
CR617 CR618	174370	NTE177	ECG177	SK9091/177	USED MTT006A
	164594	NTE5069A	ECG5069A	SK4V7/5069A	
CR623,4	142717	NTE5069A	ECG5069A	SK4V7/5069A	USED MTT006A
	142717	NTE5069A	ECG5069A	SK4V7/5069A	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
CR618 CR619 THRU CR622	164594	NTE5069A	ECG5069A	SK4V7/5069A	
	164717	NTE519	ECG519	SK3100/519	
CR623 CR624	142417	NTE5077A	ECG5077A	SK18V/5077A	
	164717	NTE519	ECG519	SK3100/519	
CR626 CR627	164874	NTE177	ECG177	SK9091/177	
	164717	NTE519	ECG519	SK3100/519	
Q101 Q103	174373	NTE177	ECG177	SK9091/177	
	174374	NTE519	ECG519	SK3100/519	
Q201 Q301	174372	NTE177	ECG177	SK9091/177	
	174372	NTE519	ECG519	SK3100/519	
Q302	143794	NTE123AP	ECG123AP	SK3854/123AP	
	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q401	148085	NTE222	ECG222	SK3065/222	
	180323	NTE222	ECG222	SK3065/222	
Q402	146848	NTE229	ECG229	SK3246A/229	
	180323	NTE229	ECG229	SK3246A/229	
Q501	148085	NTE222	ECG222	SK3065/222	
	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q602	143802	NTE159	ECG159	SK3466/159	
	146847	NTE123AP	ECG123AP	SK3854/123AP	
Q604	145410	NTE159	ECG159	SK3466/159	
	145410	NTE159	ECG159	SK3466/159	
Q605	146847	NTE123AP	ECG123AP	SK3854/123AP	
	157808	NTE159	ECG159	SK3466/159	
U101	174377	NTE159	ECG159	SK3466/159	
	180223	NTE159	ECG159	SK3466/159	
U601	174376	NTE159	ECG159	SK3466/159	
	174376	NTE159	ECG159	SK3466/159	



**PARTS LIST AND DESCRIPTION (Continued)**

When ordering parts, state Model, Part Number, and Description

**MAIN PARTS LIST**

ITEM No.	DESCRIPTION	MFGR. PART No.
	CAPACITORS	
C1	15pF NPO 50V 5%	174404
C2	27pF NPO 50V 5%	174407
C3	27pF NPO 50V 5%	174407
C4	27pF NPO 50V 5%	174410
C101	470pF NPO 50V 10%	174416
C102	470pF NPO 50V 10%	174416
C103	120pF NPO 50V 5%	174414
C104	120pF NPO 50V 5%	174414
C105	470pF NPO 50V 10%	174416
C106	470pF NPO 50V 10%	174416
C107	470pF NPO 50V 10%	174416
C108	5pF N750 50V $\pm 0.25$ pF	174400
C110	470pF NPO 50V 10%	174416
C111	470pF NPO 50V 10%	174416
C112	470pF NPO 50V 10%	174416
C115	.01uF 50V 10%	174423
C116	10pF NPO 50V $\pm 1$ pF	174402
C117	22pF NPO 50V 5%	174406
	2pF NPO 50V $\pm 0.25$ pF	174396
C118	470pF NPO 50V 10%	174416
C119	33pF NPO 50V 5%	174408
C121	120pF NPO 50V 5%	174414
C122	470pF NPO 50V 10%	174416
C123	2pF NPO 50V $\pm 0.25$ pF	174396
C124	3pF N750 50V $\pm 0.25$ pF	174398
C125	470pF NPO 50V 10%	174416
C126	5pF N750 50V $\pm 0.25$	174400
C127	470pF NPO 50V $\pm 1$ pF	174416
C128	7pF NPO 50V $\pm 0.5$ pF	174401
C131	10pF NPO 50V $\pm 1$ pF	174402
C133	1000pF 50V 20%	174420
C134	1000pF 50V 20%	174420
C135	5pF NPO 50V $\pm 0.5$ pF	174399
C136	.5pF NPO 50V 02.5pF	174395
C137	1000pF 50V 20%	174420
C138	1000pF 50V 20%	174420
C139	470pF NPO 50V 10%	174416
C141	470pF NPO 50V 10%	174416
C142	470pF NPO 50V 10%	174416
C143	470pF NPO 50V 10%	174416
C145	10pF NPO 50V $\pm 1$ pF	174402
C146	1000pF $\pm 1$ pF 50V 20%	174420
C149	10pF NPO 50V $\pm 0.5$ pF	174402
C150	470pF NPO 50V 10%	174416
C202	470pF NPO 50V 10%	174416
C203	470pF NPO 50V 10%	174416
C204	100pF NPO 50V 5%	174412
C205	470pF NPO 50V 10%	174416
C207	1000pF 100V 10%	173019
C208	470pF NPO 50V 10%	174416
C210	82pF NPO 50V 10%	174411
C211	470pF NPO 50V 10%	174416
C212	470pF NPO 50V 10%	174416
C215	470pF NPO 50V 10%	174416
C216	.5pF NPO 50V $\pm 0.25$ pF	174395
C217	100pF NPO 50V 5%	174412
C218	470pF NPO 50V 10%	174416
C220	470pF NPO 50V 10%	174416
C221	470pF NPO 50V 10%	174416
C223	470pF NPO 50V 10%	174416
C224	470pF NPO 50V 10%	174416

ITEM No.	DESCRIPTION	MFGR. PART No.
C227	470pF NPO 50V 10%	174416
C228	470pF NPO 50V 10%	174416
C229	470pF NPO 50V 10%	174416
C230	470pF NPO 50V 10%	174416
C232	470pF NPO 50V 10%	174416
C233	470pF NPO 50V 10%	174416
C302	470pF NPO 50V 10%	174416
C303	18pF NJPO 50V 5%	174405
C304	5pF NPO 50V $\pm 0.5$ pF	174399
C305	470pF NPO 50V 10%	174416
C306	470pF NPO 50V 10%	174416
C307	470pF NPO 50V 10%	174416
C308	470pF NPO 50V 10%	174416
C309	3pF NPO 50V $\pm 0.25$ pF	174397
C310	18pF NPO 50V 5%	174405
C311	1000pF Z5U 250V 80%-20%	150733
C312	.56pF 500V 10%	174371
C314	18pF NPO 50V 5%	174405
C316	470pF NPO 50V 10%	174416
C317	470pF NPO 50V 10%	174416
C319	470pF NPO 50V 10%	174416
C320	1pF NPO 50V $\pm 0.25$ pF	134437
C322	1000pF 50V 10%	174419
C324	470pF NPO 50V 10%	174416
C401	47pF NPO 50V 5%	174409
C402	470pF NPO 50V 10%	174416
C403	470pF NPO 50V 10%	174416
C404	470pF NPO 50V 10%	174416
C405	470pF NPO 50V 10%	174416
C406	470pF NPO 50V 10%	174416
C407	47pF NPO 50V 5%	174409
C408	1000pF 50V 20%	174420
C409	33pF NPO 50V 20%	174408
C410	1000pF 50V 20%	174420
C411	.01uF 50V +80%-20%	147971
C412	.01uF 50V 10%	174423
C413	12pF NPO 50V 5%	174403
C414	15pF N470 100V 5%	160654
C415	68pF NPO 50V 5%	174410
C416	.01uF 50V 10%	174423
C417	.27uF 100V 10%	142887
C418	.01uF 50V 10%	174423
C419	68pF NPO 50V 5%	174410
C421	.01uF 50V 10%	174423
C422	4.7pF NPO 50V $\pm 0.5$ pF	119406
	3.3pF NPO 100V $\pm 0.25$	119402
C423	22pF NPO 50V 5%	174406
	15pF NPO 50V 5%	174404
C501	15pF NPO 50V 5%	174404
C502	470pF NPO 50V 10%	174416
C503	1000pF 50V 20%	174420
	1000pF 50V 10%	174419
C504	.01uF 50V 10%	174423
C505	10pF NPO 50V $\pm 1$ pF	174402
C506	470pF 100V 20%	129977
C507	.01uF 50V 10%	174423
C509	.01uF 50V 10%	174423
C510	1000pF 50V 20%	174420
	1000pF 50V 10%	174419
C511	.01uF 50V 10%	174423
C512	.01uF 50V 10%	174423
C513	2pF NPO 50V $\pm 0.25$ pF	174396

**PARTS LIST AND DESCRIPTION (Continued)**

When ordering parts, state Model, Part Number, and Description

**MAIN PARTS LIST**

ITEM No.	DESCRIPTION	MFGR. PART No.
C514	1000pF 50V 20%	174420
	1000pF 50V 10%	174419
C515	.01uF 50V 10%	174423
C517	1pF NPO 50V $\pm 0.25$ pF	174391
C518	3pF NPO 50V $\pm 0.25$ pF	174397
C520	470pF NPO 50V 10%	174416
C521	470pF NPO 50V 10%	174416
C601	330pF 50V 10%	174415
C602	330pF 50V 10%	174415
C603	330pF 50V 10%	174415
C604	330pF 50V 10%	174415
C605	1000pF 50V 20%	174420
C607	.01uF 50V 10%	174423
C608	330pF 50V 10%	174415
C609	330pF 50V 10%	174415
C610	330pF 50V 10%	174415
C611	330pF 50V 10%	174415
C612	330pF 50V 10%	174415
C613	330pF 50V 10%	174415
C614	330pF 50V 10%	174415
C615	33pF NPO 50V 5%	174408
C616	12pF NPO 50V 5%	174414
C617	1000pF 50V 20%	174420
C618	1000pF 50V 20%	174420
C619	1000pF 50V 20%	174420
	.01uF 50V 10% OTE*	174423
C620	1000pF 50V 20%	174420
C622	2200pF 50V 10%	174421
C623	68pF NPO 50V 5%	174410
C624	330pF 50V 10%	174415
C625	120pF NPO 50V 5%	174414
C626	.01uF 50V 10%	174423
C627	1000pF 50V 20%	174420
C628	.47uF 50V 20%	173271
C629	.68uF 100V 10%	148870
C630	1000pF 50V 20%	174420
C631	2700pF 50V 10%	145315
C632	.033uF 100V 10%	134778
C633	.22uF 50V 10%	157372
C635	1000pF 50V 20%	174420
C636	.01uF 50V 10%	174423
C637	100pF NPO 50V 5%	174412
C644	.047uF 200V 5%	146297
C645	.015uF 200C 10%	146102
C646	68uF 50V 20%	143751
C647	1000pF Z5P 50V +80-20%	143879
	1000pF 100V 20%	134430
C648	470uF 10V 20%	174384
C649	.01uF 50V 10%	174423
C650	.01uF 50V 10%	174423
C652	1000pF 50V 20%	174420
C653	1000pF 50V 20%	174420
C654	100uF 16V 20%	146258
C655	.01uF 50V 10%	174423
C656	330uF 10V 20%	174383
C657	.01uF 50V 10%	174423
C659	.01uF 50V 10%	174423
C660	10uF 25V 20%	174608
C662	.047uF 100V 20%	132443
C663	680pF 50V 20%	174418
C664	33pF NPO 50V 5%	174408
C665	.022uF 5.5V 20%	174386

ITEM No.	DESCRIPTION	MFGR. PART No.
C667	.012uF 100V 20%	149726
C668	1000pF 50V 20%	174420
C669	.01uF 50V 10%	174423
C670	1000pF 50V 20%	174420
C671	3.3uF 50V 20%	152239
C672	220uF 25V 20%	161286
C673	1500PF 50V 20%	179377
C674	47uF 25V 20%	174382
C675	100uF R 16V	139283
C676	33uF 16V 20%	176851
C679	10uF 25V 20%	174608
C680	.01uF 50V 10%	174423
C681	.470pF 100V 20%	129977
C706	3.3pF NPO 500V 5%	130571
	COILS	
L601	Coil 33uH	174436
L603	Coil ADJ	174437
L604	Coil 4.7uH	158726
L605	Coil 15uH	174438
L606	Coil 68uH	160184
	DIODES	
CR101		164717
CR102		174378
CR103		174378
CR105		129095
CR107		174449
CR108		
CR109		174450
CR110		164717
CR111		164717
CR112		
CR113		129095
CR114		129095
CR115		129095
CR201		129095
CR202		129095
CR203		
CR204		
CR205		129095
CR206		129095
CR207		164717
CR208		129095
CR209		129095
CR210		
CR211		164717
CR301		
CR302		
CR303		
CR304		174378
CR305		174378
CR401		174381
CR402		174381
CR403		164717
CR501		129095
CR502		
CR503		129095
CR504		129095
CR505		129095
CR506		
CR507		129095



## DESCRIPTION (Continued)

Model, Part Number, and Description

ITEM No.	DESCRIPTION	MFGR. PART No.
R208	270 1/4W 2% CF	178282
R209	100K 1/8W 5% CMF	176816
R212	100K 1/8W 5% CMF	176816
R213	1K 1/8W 5% CMF	174350
R215	100K 1/8W 5% CMF	176816
R216	1M 1/8W 5% CF	157340
	1M 1/4W 5% CF	829510
R217	2.7K 1/8W 5% CMF	174349
R218	56K 1/8W 5% CF	173159
R219	2.7K 1/8W 5% CMF	174349
R220	100 1/8W 5% CF	173924
R221	510K 1/8W 5% CMF	178283
	680K 1/8W 5% CMF	180329
R222	1.5K 1/8W 5% CMF	162001
R223	1K 1/8W 5% CMF	174348
R224	100K 1/8W 5% CMF	176816
R225	2.7K 1/8W 5% CMF	174349
R301	10K 1/8W 5% CMF	174351
R302	100K 1/8W 2% CMF	176816
R303	160K 1/8W 2% CMF	176815
R304	1K 1/4W 2% CF	175055
R305	270 1/4W 2% CF	178282
R306	100 1/8W 5% CF	173924
R307	2.2M 1/4W 10% CF	829522
R308	10K 1/8W 5% CMF	174351
R309	10K 1/8W 5% CMF	174351
R310	2.7K 1/8W 5% CMF	174349
R311	10K 1/8W 5% CMF	174351
R312	2.2K 1/8W 5% CF	173042
R314	10K 1/8W 5% CMF	174351
R315	1.8K 1/8W 5% CF	173931
R316	10K 1/8W 5% CMF	174351
R317	2.7K 1/8W 5% CMF	174349
R402	100K 1/8W 2% CMF	176816
R404	390 1/8W 2% CMF	178284
R405	22 1/8W 5% CMF	174340
R406	13K 1/8W 2% CMF	178285
R407	13K 1.8W 2% CF	157334
R408	680 1/8W 2% CMF	178286
R409	680R 1/8W 2% CMF	178286
R410	4.7K 1/8W 2% CMF	178287
R411	470 1/8W 5% CMF	174346
R412	1K 1/4W 2% CF	829210
R414	4.7K 1/8W 5% CF	173074
R415	330K 1/8W 5% CF	174379
R416	2.7K 1/8W 5% CF	173937
R417	47K 1/8W 2% CMF	179378
R418	100K 1/8W 2% CMF	176816
R419	120K 1/4W 2% CF	829412
R420	18 1/8W 5% CMF	176819
R421	5.6 1/8W 10% CMF	174339

## PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

## MAIN PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	ITEM No.	DESCRIPTION	MFGR. PART No.
R511	2.7K 1/8W 5% CMF	174349	R669	12K 1/8W 5% CMF	174365
R512	100K 1/8W 5% CMF	176816	R670	680 1/8W 5% CMF	162003
R514	2.2M 1/4W 10% CF	829522	R671	4.7K 1/4W 5% CF	175413
R515	2.7K 1/8W 5% CMF	174349	R672	10K 1/4W 5% CF	175317
R516	5.6 1/8W 10% CMF	174339	R673	100K 1/4W 5% CF	175044
R518	2.7K 1/8W 5% CMF	174349			
R601	47K 1/8W 5% CF	173040			
R602	47K 1/8W 5% CF	173040			
R603	47K 1/8W 5% CF	173040			
R604	47K 1/8W 5% CF	173040			
R605	22K 1/8W 2% CMF	174367			
R606	22K 1/8W 2% CMF	174367			
R607	22K 1/8W 2% CMF	174367			
R608	22K 1/8W 2% CMF	174367			
R609	1K 1/8W 5% CF	164887			
R610	100 1/8W 5% CMF	176818			
R611	6.2K 1/8W 5% CF	173939			
R612	6.2K 1/8W 5% CF	173939			
R613	6.2K 1/8W 5% CF	173939			
R614	6.2K 1/8W 5% CF	173939			
R615	6.2K 1/8W 5% CF	173939			
R616	6.2K 1/8W 5% CF	173939			
R617	6.2K 1/8W 5% CF	173939			
R618	1M 1/8W 5% CMF	174361			
R619	1K 1/8W 5% CMF	174348			
R620	1K 1/8W 5% CMF	174348			
R621	11K 1/8W 5% CMF	174348			
R625	270 1/8W 5% CMF	174344			
R627	470 1/8W 5% CMF	174346			
R628	4.7K 1/8W 5% CMF	174350			
R629	3.3K 1/8W 5% CF	173038			
R630	56 1/8W 5% CMF	174342			
R631	10K 1/8W 2% CMF	174364			
R632	2.7M 1/8W 5% CMF	174363			
R633	4.7K 1/8W 5% CMF	174350			
R634	22K 1/8W 5% CF	173035			
R635	1K 1/8W 5% CMF	174348			
R636	1K 1/8W 5% CMF	174348			
R637	10K 1/8W 5% CMF	174351			
R638	100K 1/8W 5% CF	173033			
R639	240K 1/8W 5% CMF	174360			
R640	22K 1/8W 5% CMF	174353			
R641	150 1/8W 5% CMF	179379			
R642	10K 1/8W 5% CMF	173037			
R643	1K 1/8W 5% CMF	174348			
R644	24K 1/8W 5% CF	173980			
R644	33K 1/8W 5% CF	173028			
R645	33K 1/8W 5% CMF	174354			
R646	100K 1/8W 5% CMF	176816			
R647	200 1/8W 5% CMF	174343			
R648	56K 1/8W 5% CF	173040			
R649	100K 1/8W 5% CMF	174349			
R650	100K 1/8W 5% CMF	174349			
R651	100K 1/8W 5% CMF	174349			
R652	100K 1/8W 5% CMF	174349			
R653	100K 1/8W 5% CMF	174349			
R654	100K 1/8W 5% CMF	174349			
R655	100K 1/8W 5% CMF	174349			
R656	100K 1/8W 5% CMF	174349			
R657	100K 1/8W 5% CMF	174349			
R658	100K 1/8W 5% CMF	174349			
R659	100K 1/8W 5% CMF	174349			
R660	100K 1/8W 5% CMF	174349			
R661	100K 1/8W 5% CMF	174349			
R662	100K 1/8W 5% CMF	174349			
R663	100K 1/8W 5% CMF	174349			
R664	100K 1/8W 5% CMF	174349			
R665	100K 1/8W 5% CMF	174349			
R666	100K 1/8W 5% CMF	174349			
R667	100K 1/8W 5% CMF	174349			
R668	100K 1/8W 5% CMF	174349			
R669	100K 1/8W 5% CMF	174349			
R670	100K 1/8W 5% CMF	174349			
R671	100K 1/8W 5% CMF	174349			
R672	100K 1/8W 5% CMF	174349			
R673	100K 1/8W 5% CMF	174349			
R674	100K 1/8W 5% CMF	174349			
R675	100K 1/8W 5% CMF	174349			
R676	100K 1/8W 5% CMF	174349			
R677	100K 1/8W 5% CMF	174349			
R678	100K 1/8W 5% CMF	174349			
R679	100K 1/8W 5% CMF	174349			
R680	100K 1/8W 5% CMF	174349			
R681	100K 1/8W 5% CMF	174349			
R682	100K 1/8W 5% CMF	174349			
R683	100K 1/8W 5% CMF	174349			
R684	100K 1/8W 5% CMF	174349			
R685	100K 1/8W 5% CMF	174349			
R686	100K 1/8W 5% CMF	174349			
R687	100K 1/8W 5% CMF	174349			
R688	100K 1/8W 5% CMF	174349			
R689	100K 1/8W 5% CMF	174349			
R690	100K 1/8W 5% CMF	174349			
R691	100K 1/8W 5% CMF	174349			
R692	100K 1/8W 5% CMF	174349			
R693	100K 1/8W 5% CMF	174349			
R694	100K 1/8W 5% CMF	174349			
R695	100K 1/8W 5% CMF	174349			
R696	100K 1/8W 5% CMF	174349			
R697	100K 1/8W 5% CMF	174349			
R698	100K 1/8W 5% CMF	174349			
R699	100K 1/8W 5% CMF	174349			
R700	100K 1/8W 5% CMF	174349			
R701	100K 1/8W 5% CMF	174349			
R702	100K 1/8W 5% CMF	174349			
R703	100K 1/8W 5% CMF	174349			
R704	100K 1/8W 5% CMF	174349			
R705	100K 1/8W 5% CMF	174349			
R706	100K 1/8W 5% CMF	174349			
R707	100K 1/8W 5% CMF	174349			
R708	100K 1/8W 5% CMF	174349			
R709	100K 1/8W 5% CMF	174349			
R710	100K 1/8W 5% CMF	174349			
R711	100K 1/8W 5% CMF	174349			
R712	100K 1/8W 5% CMF	174349			
R713	100K 1/8W 5% CMF	174349			
R714	100K 1/8W 5% CMF	174349			
R715	100K 1/8W 5% CMF	174349			
R716	100K 1/8W 5% CMF	174349			
R717	100K 1/8W 5% CMF	174349			
R718	100K 1/8W 5% CMF	174349			
R719	100K 1/8W 5% CMF	174349			
R720	100K 1/8W 5% CMF	174349			
R721	100K 1/8W 5% CMF	174349			
R722	100K 1/8W 5% CMF	174349			
R723	100K 1/8W 5% CMF	174349			
R724	100K 1/8W 5% CMF	174349			
R725	100K 1/8W 5% CMF	174349			
R726	100K 1/8W 5% CMF	174349			
R727	100K 1/8W 5% CMF	174349			
R728	100K 1/8W 5% CMF	174349			
R729	100K 1/8W 5% CMF	174349			
R730	100K 1/8W 5% CMF	174349			
R731	100K 1/8W 5% CMF	174349			
R732	100K 1/8W 5% CMF	174349			
R733	100K 1/8W 5% CMF	174349			
R734	100K 1/8W 5% CMF	174349			
R735	100K 1/8W 5% CMF	174349			
R736	100K 1/8W 5% CMF	174349			
R737	100K 1/8W 5% CMF	174349			
R738	100K 1/8W 5% CMF	174349			
R739	100K 1/8W 5% CMF	174349			
R740	100K 1/8W 5% CMF	174349			
R741	100K 1/8W 5% CMF	174349			
R742	100K 1/8W 5% CMF	174349			
R743	100K 1/8W 5% CMF	174349			
R744	100K 1/8W 5% CMF	174349			
R745	100K 1/8W 5% CMF	174349			
R746	100K 1/8W 5% CMF	174349			
R747	100K 1/8W 5% CMF	174349			
R748	100K 1/8W 5% CMF	174349			
R749	100K 1/8W 5% CMF	174349			
R750	100K 1/8W 5% CMF	174349			
R751	100K 1/8W 5% CMF	174349			
R752	100K 1/8W 5% CMF	174349			
R753	100K 1/8W 5% CMF	174349			
R754	100K 1/8W 5% CMF	174349			
R755	100K 1/8W 5% CMF	174349			
R756	100K 1/8W 5% CMF	174349			
R757	100K 1/8W 5% CMF	174349			
R758	100K 1/8W 5% CMF	174349			
R759	100K 1/8W 5% CMF	174349			
R760	100K 1/8W 5% CMF	174349			
R761	100K 1/8W 5% CMF	174349			
R762	100K 1/8W 5% CMF	174349			
R763	100K 1/8W 5% CMF	174349			
R764	100K 1/8W 5% CMF	174349			
R765	100K 1/8W 5% CMF	174349			
R766	100K 1/8W 5% CMF	174349			
R767	100K 1/8W 5% CMF	174349			
R768	100K 1/8W 5% CMF	174349			
R769	100K 1/8W 5% CMF	174349			
R770	100K 1/8W 5% CMF	174349			
R771	100K 1/8W 5% CMF	174349			
R772	100K 1/8W 5% CMF	174349			
R773	100K 1/8W 5% CMF	174349			
R774	100K 1/8W 5% CMF	174349			
R775	100K 1/8W 5% CMF	174349			
R776	100K 1/8W 5% CMF	174349			
R777	100K 1/8W 5% CMF	174349			
R778	100K 1/8W 5% CMF	174349			
R779	100K 1/8W 5% CMF	174349			
R780	100K 1/8W 5% CMF	174349			
R781	100K 1/8W 5% CMF	174349			
R782	100K 1/8W 5% CMF	174349			
R783	100K 1/8W 5% CMF	174349			
R784	100K 1/8W 5% CMF	174349			
R785	100K 1/8W 5% CMF	174349			
R786	100K 1/8W 5% CMF	174349			
R787	100K 1/8W 5% CMF	174349			
R788	100K 1/8W 5% CMF	174349			
R789	100K 1/8W 5% CMF	174349			
R790	100K 1/8W 5% CMF	174349			
R791	100K 1/8W 5% CMF	174349			
R792	100K 1/8W 5% CMF	174349			
R793	100K 1/8W 5% CMF	174349			
R794	100K 1/8W 5% CMF	174349			
R795	100K 1/8W 5% CMF	174349			
R796	100K 1/8W 5% CMF	174349			
R797	100K 1/8W 5% CMF	174349			
R798	100K 1/8W 5% CMF	174349			
R799	100K 1/8W 5% CMF	174349			
R800	100K 1/8W 5% CMF	174349			
R801	100K 1/8W 5% CMF	174349			
R802	100K 1/8W 5% CMF	174349			
R803	100K 1/8W 5% CMF	174349			
R804	100K 1/8W 5% CMF	174349			
R805	100K 1/8W 5% CMF	174349			
R806	100K 1/8W 5% CMF	174349			
R807	100K 1/8W 5% CMF	174349			
R808	100K 1/8W 5% CMF	174349			
R809	100K 1/8W 5% CMF	174349			
R810	100K 1/8W 5% CMF	174349			
R811	100K 1/8W 5% CMF	174349			
R812	100K 1/8W 5% CMF	174349			
R813	100K 1/8W 5% CMF	174349			
R814	100K 1/8W 5% CMF	174349			
R815	100K 1/8W 5% CMF	174349			
R816	100K 1/8W 5% CMF	174349			
R817	100K 1/8W 5% CMF	174349			
R818	100K 1/8W 5% CMF	174349			
R819	100K 1/8W 5% CMF	174349			
R820	100K 1/8W 5% CMF	174349			
R821	100K 1/8W 5% CMF	174349			
R822	100K 1/8W 5% CMF	174349			
R823	100K 1/8W 5% CMF	174349			
R824	100K 1/8W 5% CMF	174349			
R825					

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MAIN PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	NOTES
	MISC		
FB201	Bead Ferrite	152124	
FB202	Bead Ferrite	157346	
FB301	Bead Ferrite	152124	
FB302	Bead Ferrite	152124	
FB401	Bead Ferrite	152124	
FB501	Bead Ferrite	152124	
FB601	Bead Ferrite	157346	
T401	Transformer Balun	174439	
	Transformer Balun	180324	
T402	Transformer Balun	174439	
	Transformer Balun	180324	
T501	Transformer Antenna	176810	
T703	Circuit PW Balun	174425	
U101	IC Prescaler	174377	
U601	IC Frequency Synthesis	180223	
U602	IC 5 Band OP SW	174376	
Y601	Crystal Quartz 4MHz	158618	
	Antenna, Block	174429	
	Assembly		
	Bracket, MTT TOP MTG	174430	
	Circuit, ISO/Filter	174427	
	Assembly		
	Insulator, ISO/Filter	174428	
	Assembly		
	Nut, Cable/Norm SW MTG	114918	
	Retainer, Bead Chain	139301	
	Terminal, P3KB/P4KB	110501	
	Terminal, P102	151327	
	Terminal, S701	174426	

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.				NOTES	
		NTE PART No.	ECG PART No.	TCE PART No.		
A/V BOARD PW5200						
CR501	159649	NTE558	ECG558	SK3998/558		
CR5202	141873	NTE5021A	ECG5021A	SK12A/5021A		
CR5203,4,5	164874	NTE177	ECG177	SK9091/177		
CR5206	141873	NTE5021A	ECG5021A	SK12A/5021A		
Q5201,2	143793	NTE123AP	ECG123AP	SK3854/123AP		
Q5203,4,6	142711	NTE123AP	ECG123AP	SK3854/123AP		
Q5207,8	143793	NTE123AP	ECG123AP	SK3854/123AP		
Q5209,10	142711	NTE123AP	ECG123AP	SK3854/123AP		
Q5211	143793	NTE123AP	ECG123AP	SK3854/123AP		
Q5212	143802	NTE159	ECG159	SK3466/159		
Q5213	143793	NTE123AP	ECG123AP	SK3854/123AP		
Q5214,5	143802	NTE159	ECG159	SK3466/159		
Q5216,7	143793	NTE123AP	ECG123AP	SK3854/123AP		
Q5218	146847	NTE123AP	ECG123AP	SK3854/123AP		
U5201	154027	NTE4016B	ECG4016B	SK4016B		
U5202	154224					
U5203	154223					
U5204	154027	NTE4016B	ECG4016B	SK4016B		
U5205	153684	NTE1175	ECG1175	SK3212/1175		
REMOTE XMTR CRK33H						
CR1004	119597	NTE177	ECG177	SK9091/177		
Q1001,2	142686	NTE123AP	ECG123AP	SK3854/123AP		
Q1003	145395	NTE123AP	ECG123AP	SK3854/123AP		
U/V TUNER MST007RD						
CR24001	119662	NTE112	ECG112	SK3089/112		
CR24002	129095	NTE553	ECG553	SK3322		
CR24005 THRU CR24008	159588					
CR24009	119662	NTE112	ECG112	SK3089/112		
CR24010,11	164717	NTE519	ECG519	SK3100/519		
CR24012	129095	NTE553	ECG553	SK3322		
CR24013 THRU CR24016	137780	NTE616	ECG616	SK3320/616		
CR24017	129095	NTE553	ECG553	SK3322		
CR24018 THRU CR24021	147943	NTE616	ECG616	SK3320/616		
CR24022	129095	NTE553	ECG553	SK3322		
CR24023	147943	NTE616	ECG616	SK3320/616		
CR24024 THRU CR24028	129095	NTE553	ECG553	SK3322		
CR24029	164717	NTE519	ECG519	SK3100/519		
CR24030 THRU CR24033	129095	NTE553	ECG553	SK3322		
CR24034	143690	NTE5134A	ECG5134A	SK19X/5134A		
CR24039	147943	NTE616	ECG616	SK3320/616		
	137781	NTE616	ECG616	SK3320/616		
Q24001	146521	NTE222	ECG222	SK3065/222		
	176258					
Q24002,3	141370	NTE108	ECG108	SK3452/108		
Q24004	148085	NTE222	ECG222	SK3065/222		
Q24005	146521	NTE222	ECG222	SK3065/222		
Q24006	151693	NTE108	ECG108	SK3452/108		
Q24007	151326	NTE229	ECG229	SK3246A/229		
Q24008	148085	NTE222	ECG222	SK3065/222		
Q24009	152500			SK3187		
U24001	143696	NTE851	ECG851	SK9206/851		

RCA  
CHASSIS CTC130A

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
	TUNER ASSEMBLY MST007RD			TUNER ASSEMBLY MST007RD	
C24011	10 N470 100V 5%	119404	C24058	10 N470 100V 5%	119404
C24015	150 N750 250V 5%	162883	C24063	33 N750 100V 10%	173021
C24016	6.8 N150 100V 5%	173063	C24071	18 NPO 250V 5%	173060
C24018	82 N1500 250V 5%	173016	C24073	10 N470 100V 5%	119404
C24021	2.2 NPO 100V ±.25pF	129972	C24074	100 N750 250V 5%	153973
C24024	11 N470 100V 5%	125034	C24076	11 N 470 100V 5%	125034
C24025	27 N750 1000V 5%	125032	C24089	56 NPO 250V 5%	173059
C24026	6.8 NPO 100V 5%	151542	C24092	82 N1500 250V 5%	173016
C24029	3.3 NPO 100V ±.25pF	119402	C24093	4.7 NPO 100V ±25pF	119406
C24030	3.3 N470 100V ±.25pF	159757	C24101	10 N470 100V 5%	119404
C24032	5.6 N470 100V 5%	173062	C24106	82 N1500 250V 5%	173016
C24034	22 N750 100V 5%	173061	C24110	3.3 NPO 100V ±.25pF	159757
C24035	47 N750 250V 5%	157314	C24112	14 NPO 500V 1.5pF	133853
C24040	150 N750 250V 5%	162883	C24113	68 NPO 50V 5%	145676
	220 N750 250V 5%	176257	C24119	5.6 N150 100V ±.25pF	159756
C24041	27 N750 100V 5%	142884	C24122	27 N750 100V 5%	125032
C24043	4.7 NPO 100V 5%	142879	C24147	3.3 NPO 100V ±.25pF	159757
C24046	82 N4700 100V 10%	142881	C24153	1 NPO 100V ±.25pF	134437
C24048	27 N750 100V 5%	142884	C24161	2.7 NPO 100V 1.25pF	164730
C24050	20 N750 100V 5%	142883	C24162	1 NPO 100V ±.25pF	134437
C24053	20 N750 100V 5%	142883			
C24055	2.2 NPO 100V ±.25pF	129972			

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	NOTES
	PW5200		
	CAPS		
C5213	39pF NPO 50V	149151	
C5214	100pF NPO 50V	143871	
C5225	1100pF 1.4KV	154327	
	COILS		
L5201	Peaking (47uH)	139482	
L5202	Peaking (100uH)	159648	
	CONTROLS		
R5267	Audio Balance 1500	154266	
	TRANSFORMERS		
T5201	Video ISO	154221	
T5202	Cold Supply ISO	174336	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
	TUNER ASSEMBLY MST007RD			
R24009	120K 2% 1/4W Carbon Film	829412	QW412	
R24010	160K 2% 1/4W Carbon Film	829416	QW416	
	270K 2% 1/4W Carbon Film	829427	QW427	
R24011	390 2% 1/4W Carbon Film	829139	QW139	
	270 2% 1/4W Carbon Film	829127	QW127	
R24012	1500 2% 1/4W Carbon Film	829215	QW215	
	1000 2% 1/4W Carbon Film	8292102	QW210	
R24022	1500 2% 1/4W Carbon Film	829215	QW215	
R24024	470 2% 1/4W Carbon Film	829147	QW147	
R24025	390 2% 1/4W Carbon Film	829139	QW139	
R24028	150 2% 1/4W Carbon Film	829115	QW115	
R24031	120K 2% 1/4W Carbon Film	829412	QW412	
R24032	160K 2% 1/4W Carbon Film	829416	QW416	
	270K 2% 1/4W Carbon Film	829427	QW427	
R24033	390 2% 1/4W Carbon Film	829139	QW139	
	270 2% 1/4W Carbon Film	829127	QW127	
R24034	1500 2% 1/4W Carbon Film	829215	QW215	
	1000 2% 1/4W Carbon Film	829210	QW210	
R24043	390 2% 1/4W Carbon Film	829139	QW139	
R24044	390 2% 1/4W Carbon Film	829139	QW139	
R24051	1500 2% 1/4W Carbon Film	829215	QW215	
R24054	120K 2% 1/4W Carbon Film	829412	QW412	
R24055	160K 2% 1/4W Carbon Film	829416	QW416	
	270K 2% 1/4W Carbon Film	829427	QW427	
R24057	1500 2% 1/4W Carbon Film	829215	QW215	
	1000 2% 1/4W Carbon Film	829210	QW210	
R24058	390 2% 1/4W Carbon Film	829139	QW139	
	270 2% 1/4W Carbon Film	829127	QW127	
R24065	62K 2% 1/4W Carbon Film	829362	QW362	
R24066	120K 2% 1/4W Carbon Film	829412	QW412	
R24067	390 2% 1/4W Carbon Film	829139	QW139	
R24068	1200 2% 1/4W Carbon Film	829212	QW212	
R24069	430 2% 1/4W Carbon Film	829143	QW143	
R24070	33K 2% 1/4W Carbon Film	829333	QW333	
R24078	330K2% 1/4W Carbon Film	829433	QW433	

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
	PW5200			
R5203	1000 10% 1/2W Carbon Film	502210	HW210	
R5204	1000 10% 1/2W Carbon Film	502210	HW210	
R5222	1.5M 10% 1/2W Carbon Film	135231	HW515	
R5223	2.7M 10% 1/2W Carbon Film	120998	HW527	
R5259	27 5% 1/2W Carbon Film	830027	HW027	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
MCRO26A REMOTE PREAMP					
CR1101 THRU CR1109	164874	NTE177	ECG177	SK9091/177	
CR1110 THRU CR1115	139706 137652	NTE177 NTE116	ECG177 ECG116	SK9091/177 SK3313/116	
CR1116 THRU Q1102	161249 149797 143806 146847 180242 180330	NTE5029A NTE5116A NTE159 NTE123AP	ECG5029A ECG5116A ECG159 ECG123AP	SK20A/5029A SK5X1/5116A SK3466/159 SK3854/123AP	
Q2401 THRU Q2407	148085 141370 148968 153489 146521 151326	NTE222 NTE108 NTE222 NTE108 NTE222 NTE229	ECG222 ECG108 ECG222 ECG108 ECG222 ECG229	SK3065/222 SK3452/108 SK3065/222 SK3452/108 SK3065/222 SK3246A/229	
VTCA-9A TUNER CONTROL					
CR4001 THRU CR4003	149751 141187	NTE5143A NTE5077A	ECG5143A ECG5077A		
CR4025 THRU U4001	175886 177850 149255	NTE923D	ECG923D		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
IF SPLITTER BOARD					
CR1 THRU CR2	129095 174378	NTE553	ECG553	SK3322	
Q1 THRU Q2, 3	146848 143794	NTE229 NTE123AP	ECG229 ECG123AP	SK3246A/229 SK3854/123AP	
REMOTE XMTR CRK39K					
Q1001 THRU U1001	148996 173219	NTE123AP	ECG123AP	SK3854/123AP	
REMOTE PREAMP MCRO15A/B					
CR2, 3, 5, 6 THRU Q1, 2	164717 133218	NTE519 NTE123AP	ECG519 ECG123AP	SK3100/519 SK3854/123AP	
Q3 THRU Q5	145410 119635 156372	NTE159 NTE123AP	ECG159 ECG123AP	SK3466/159 SK3854/123AP	
Q6 THRU Q8	146847 141343	NTE123AP NTE159	ECG123AP ECG159	SK3854/123AP SK3466/159	
U1 THRU MST008A	146847 152805	NTE123AP	ECG123AP	SK3854/123AP	
U/V TUNER					
CR2401 THRU CR2406	119662 137780	NTE112 NTE616	ECG112 ECG616	SK3089/112 SK3320/616	
CR2407 THRU CR2411	129095	NTE553	ECG553	SK3322	
CR2412 THRU CR2416	119597 137780	NTE177 NTE616	ECG177 ECG616	SK9091/177 SK3320/616	



PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CAPACITORS

ITEM No.	RATING	MFGR. PART No.
MTT006A	TUNING SYSTEM	
C1	15 NPO 50V 5%	174404
C2	27 NPO 50V 5%	174407
C3	27 NPO 50V 5%	174407
C4	68 NPO 50V 5%	174410
C101	470 NPO 50V 10%	174416
C102	470 NPO 50V 10%	174416
C103	120 NPO 50V 5%	174414
C104	120 NPO 50V 5%	174414
C105	470 NPO 50V 10%	174416
C106	470 NPO 50V 10%	174416
C107	470 NPO 50V 10%	174416
C108	5 N750 50V ± .25pF	174400
C110	470 NPO 50V 10%	174416
C111	470 NPO 50V 10%	174416
C116	10 NPO 50V 1%	174402
C117	22 NPO 50V 5%	174406
	2 NPO 50V ± .25pF	174396
C118	470 NPO 50V 10%	174416
C119	33 NPO 50V 5%	174408
C121	120 NPO 50V 5%	174414
C122	470 NPO 50V 10%	174416
C123	2 NPO 50V ± .25pF	174396
C124	3 N750 50V ± .25pF	174398
C125	470 NPO 50V 10%	174416
C126	5 N750 50V ± .25pF	174400
C127	470 NPO 50V 10%	174416
C128	7 NPO 50V ± .5pF	174401
C129	470 NPO 50V 10%	174416
C131	10 NPO 50V 1%	174402
C135	5 NPO 50V 1%	174399
C136	.5 NPO 50V ± .25pF	174395
C139	470 NPO 50V 10%	174416
C141	470 NPO 50V 10%	174416
C142	470 NPO 50V 10%	174416
C143	470 NPO 50V 10%	174416
C145	10 NPO 50V 1%	174402
C149	10 NPO 50V 10%	174402
C150	470 NPO 50V 10%	174416
C202	470 NPO 50V 10%	174416
C203	470 NPO 50V 10%	174416
C204	100 NPO 50V 5%	174416
C205	470 NPO 50V 10%	174416
C208	470 NPO 50V 10%	174416
C210	82 NPO 50V 10%	174411
C211	470 NPO 50V 10%	174416
C212	470 NPO 50V 10%	174416
C215	470 NPO 50V 10%	174416
C216	.5 NPO 50V ± .25pF	174395
C217	100 NPO 50V 5%	174412
C218	470 NPO 50V 10%	174416

ITEM No.	RATING	MFGR. PART No.
C220	470 NPO 150V 10%	174416
C221	470 NPO 50V 10%	174416
C223	470 NPO 50V 10%	174416
C224	470 NPO 50V 10%	174416
C227	470 NPO 50V 10%	174416
C228	470 NPO 50V 10%	174416
C229	470 NPO 50V 10%	174416
C230	470 NPO 50V 10%	174416
C231	470 NPO 50V 10%	174416
C232	470 NPO 50V 10%	174416
C233	470 NPO 50V 10%	174416
C302	470 NPO 50V 10%	174416
C303	18 NPO 50V 5%	174405
C304	5 NPO 50V ± .5pF	174399
C305	470 NPO 50V 10%	174416
C306	470 NPO 50V 10%	174416
C307	470 NPO 50V 10%	174416
C308	470 NPO 50V 10%	174416
C309	3 NPO 50V ± .25pF	174397
C310	18 NPO 50V 5%	174405
C314	18 NPO 50V 5%	174405
C316	470 NPO 50V 10%	174416
C317	470 NPO 50V 10%	174416
C319	470 NPO 50V 10%	174416
C320	1 NPO 100V ± .25pF	134437
C324	470 NPO 50V 10%	174416
C401	47 NPO 50V 5%	174409
C402	470 NPO 50V 10%	174416
C403	470 NPO 50V 10%	174416
C404	470 NPO 50V 10%	174416
C405	470 NPO 50V 10%	174416
C406	470 NPO 50V 10%	174416
C407	47 NPO 50V 5%	174409
C409	33 NPO 50V 5%	174408
C413	12 NPO 50V 5%	174403
C414	15 NPO 50V 1%	146768
	15 N470 100V 5%	160654
C415	68 NPO 50V 5%	174410
C419	68 NPO 50V 5%	174410
C422	3.3 NPO 100V ± .25pF	119402
C423	15 NPO 50V 5%	174404
C501	15 NPO 50V 5%	174404
C502	470 NPO 50V 10%	174416
C505	10 NPO 50V 1%	174402
C513	2 NPO 50V ± .25pF	174396
C517	1 NPO 50V ± .25pF	174391
C518	3 NPO 50V ± .25pF	174397
C520	470 NPO 50V 10%	174416
C521	470 NPO 150V 10%	174416
C615	33 NPO 50V 5%	174408
C616	120 NPO 50V 5%	174414
C623	68 NPO 50V 5%	174410
C625	120 NPO 50V 5%	174414
C687	33 NPO 50V 5%	174408
C706	3.3 NPO 50V 5%	130571

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CAPACITORS

ITEM No.	RATING	MFGR. PART No.
MST008A	U/V TUNER	
C2405	82 N1500 250V 5%	143027
C2406	82 N1500 250V 5%	143027
C2409	15 NPO 100V 10%	146321
C2410	27 N750 100V 5%	125032
C2412	3.3 NPO 100V ± .25pF	119402
	2.2 100V	129972
C2418	6.8 NPO 100V ± .25pF	143853
C2420	4.7 NPO 100V ± .25pF	119406
C2421	47 N750 250V 5%	145282
C2422	120 NPO 100V 5%	145253
	120 100V 5%	146322
C2424	2.2 NPO 100V ± .25pF	129972
C2426	47 NPO 200V ± .25pF	119406
C2430	7 N330 100V	162294
C2432	18 N150 500V ± .5pF	125842
C2433	27 N750 200V 5%	125032
C2441	47 N1500 100V 5%	142878
C2443	4.7 NPO 100V ± .5pF	142879

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
VTCA-9A	VARACTOR TUNING			
R4018- R4035	Tuning System		149753 (1)	

(1) Consists of 18 Tuning Controls.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
MST008A U/V	TUNER			
R2407	120K 2% 1/4W Carbon Film	829412	QW412	
R2408	160K 2% 1/4W Carbon Film	829416	QW416	
R2409	1500 2% 1/4W Carbon Film	829215	QW215	
R2410	390 2% 1/4W Carbon Film	829139	QW139	
R2414	470K 2% 1/4W Carbon Film	829447	QW447	
R2416	150K 2% 1/4W Carbon Film	829415	QW415	
R2418	470K 2% 1/4W Carbon Film	829447	QW447	
R2420	1.8M 2% 1/4W Carbon Film	829518		
R2431	120K 2% 1/4W Carbon Film	829412	QW412	
R2432	160K 2% 1/4W Carbon Film	829416	QW416	
R2433	390 2% 1/4W Carbon Film	829139	QW139	
R2434	1500 2% 1/4W Carbon Film	829215	QW215	
REMOTE	PREAMP MCR026A			
# R1118	39 5% 1/4W Flameproof Metal Film	829039	QW039	
# R1122	6.2 10% 3W WW	180240		
# R1123	560 5% 1/8W Carbon Film	173972	EW156	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
MTT006A TUNING SYSTEM				
R101	200 2½ 1/8W Carbon Film	161048	EW120	
R102	11K 2½ 1/8W Chip Metal Film	178277	EW311	
R103	470 2½ 1/8W Carbon Film	178278	EW147	
R104	200 2½ 1/8W Carbon Film	161048	EW120	
R105	51 2½ 1/8W Carbon Film	178279		
R110	150 2½ 1/4W Carbon Film	829115	EW115	
R111	200 2½ 1/8W Chip Metal Film	178280		
R119	11K 2½ 1/8W Chip Metal Film	178277		
R121	200 2½ 1/4W Carbon Film	829120	QW120	
R122	200 2½ 1/8W Chip Metal Film	178280		
R125	6800 2½ 1/8W Chip Metal Film	178281		
R126	6800 2½ 1/8W Chip Metal Film	178281		
R203	100K 2½ 1/8W Chip Metal Film	176816		
R206	160K 2½ 1/8W Chip Metal Film	176815		
R207	1000 2½ 1/4W Carbon Film	175055	QW210	
R208	270 2½ 1/4W Carbon Film	178282	QW127	
R302	100K 2½ 1/8W Chip Metal Film	176816		
R303	160K 2½ 1/8W Chip Metal Film	176815		
R304	1000 2½ 1/4W Carbon Film	175055	QW210	
R305	270 2½ 1/4W Carbon Film	178282	QW127	
R402	100K 2½ 1/8W Chip Metal Film	176816		
R404	390 2½ 1/8W Chip Metal Film	178284		
R406	13K 2½ 1/8W Chip Metal Film	178285		
R407	13K 2½ 1/8W Carbon Film	158334	EW313	
R408	680 2½ 1/8W Chip Metal Film	178286		
R409	680 2½ 1/8W Chip Metal Film	178286		
R410	4700 2½ 1/8W Chip Metal Film	178287		
R412	1000 2½ 1/4W Carbon Film	829210	QW210	
R417	47K 2½ 1/8W Chip Metal Film	179378		
R418	100K 2½ 1/8W Chip Metal Film	176816		
R419	120K 2½ 1/4W Carbon Film	829412	QW412	
R425	390K 2½ 1/8W Chip Metal Film	178290		
R505	100K 2½ 1/8W Chip Metal Film	176816		
R506	160K 2½ 1/8W Chip Metal Film	176815		
R507	270 2½ 1/4W Carbon Film	178282	QW127	
R508	1000 2½ 1/4W Carbon Film	175055	QW210	
R652	36K 2½ 1/4W Carbon Film	175416	QW336	
R654	1500 5½ 2W Flameproof Metal Film	174938	2W215	
	1000 5½ 5W WW	175746	5W210	
	1000 5½ 2W Flameproof Metal Film	174938	2W210	
R662	12K 2½ 1/4W Carbon Film	175041	QW312	
R681	10 5½ 2W Flameproof Metal Film	179284	2W010	
R683	36K 2½ 1/4W Carbon Film	175416	QW336	
VTCA-9A VARACTOR TUNING				
R4001	12K 5½ 3W Flameproof Metal Film	149762	3W312	
	10K 5½ 5W Flameproof Flameproof	180471		
R4013	56 5½ 1W Flameproof Metal Film	831056	1W056	
R4050	10K 2½ 1/4W Carbon Film	829310	QW310	
	4700 2½ 1/4W Carbon Film	829247	QW247	
R4051	820 5½ 1W Flameproof Metal Film	175349	1W182	
	IF SPLITTER			
R17	3.9M 10½ 1/2W Carbon Composition	502539	HW539	
	REMOTE CONTROL MCR015A/B			
R21	390 5½ 1W Flame Proof Metal Film	831139	1W139	
	RC XMTR CRK39K			
R1004	10 5½ 1/4W Flame Proof Metal Film	829010	QW010	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.	ITEM No.	FUNCTION	MFGR. PART No.
	MCR026A REMOTE PREAMP			REMOTE CONTROL MCR015A/B	
L1102	Peaking 10uH	175409	L1	Coil (10mH)	150713
L1103	Peaking 10uH	175409			

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
	MCR026A		
Y1101	Crystal Bead	158618 154240	4MHz Quartz Ceramic

ITEM No.	FUNCTION	MFGR. PART No.
	RC XMTR CRK39K	
	Battery, 1.5V AAA	
	Buttons CRK39A	176974
	Buttons CRK39K	176834
	Case, Bottom CRK39A	176977
	Case, Bottom CRK39K	176837
	Case, Top & Lens CRK39A	176978
	Case, Top & Lens CRK39K	176838
	Contact, Dual Battery	173214
	Contact, Negative Battery	173215
	Contact, Positive Battery	173216
	Door, Battery CRK39A,K	173836
	Overlay, Keyboard CRK39A,K	176835
	Pad, Anti Skid	153348
	Spring, Ground	174162
	Transmitter Remote CRK39K	173916
C1002	10uF 16V	158330
C1003	150pF 50V	148060
C1004	150pF 50V	148060
CR1001	Diode LED	148056
CR1002	Diode LED	
PW1000	Circuit Complete	176833
Q1	Transistor	148996

RCA  
CHASSIS CTC130A

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
RADIO RECEIVER RD3050					
D151	KV2160 179862 1SS133	NTE519	ECG519	SK3100/519	
D301,2,3,4	180197 1SS133	NTE519	ECG519	SK3100/519	
D501,2,3	180197	NTE519	ECG519	SK3100/519	
D504,5,6,7	1S2473 163441	NTE519	ECG519	SK3100/519	
D701	1SS133	NTE519	ECG519	SK3100/519	
D801	180197 SRP02	NTE519	ECG519	SK3100/519	
D802	180200				
D803,4	SRN02 180199				
D805	ERB12-01R 144860	NTE116	ECG116	SK3313/116	#
	1S2473 163441	NTE519	ECG519	SK3100/519	
IC201	LA1265				
IC202	180211 TC4066BP	NTE4066B	ECG4066B	SK4066B	
IC301	163755 BA1332L	NTE4066B	ECG4066B	SK4066B	
IC302	180213 TC4066BP	NTE4066B	ECG4066B	SK4066B	
IC401	163755 M5218L				
IC402	180217 TC9154P				
	180218				

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
IC501	UPD1711CU-517 [UPD1711CU-517]				
IC502	180212 UPB553AC [UPB553AC]	NTE1715	ECG1715		
IC503	154202 UPA80C [UPA80C]	NTE1606	ECG1606	SK4828	
IC504	180214 AN6873N				
IC701	162674 HA1392	NTE1606	ECG1606	SK4828	
Q101	180215				
Q151	2SC460C 180201	NTE85	ECG85	SK3122	
Q201	2SC1740LNS 162677	NTE85	ECG85	SK3122	
Q202	162677	NTE85	ECG85	SK3122	
Q501,2,3	2SC1740LNE 162677	NTE85	ECG85	SK3122	
Q504,5	2SA933R 150523	NTE85	ECG85	SK3122	
Q701	2SC1740LNS 162677	NTE290A	ECG290A	SK9132	
Q702	2SB647C	NTE290A	ECG290A	SK9132	
Q801	154192 2SD880Y	NTE85	ECG85	SK3122	
	2SD330E 162745	NTE383	ECG383	SK3122	
		NTE152	ECG152	SK9138/383	#
		NTE152	ECG152	SK3440/291	
				SK3239/236	
				SK3440/291	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	NOTES
Q802	2SC1740LNS	NTE85	ECG85	SK3122	#
Q803	162677	NTE85	ECG85	SK3122	
	2S8834Y	NTE197	ECG197	SK3083/197	
	162706	NTE197	ECG197	SK3083/197	
Q804	2SA673C	NTE290A	ECG290A	SK9132	
Q805	180219	NTE290A	ECG290A	SK9132	
	2SA933R	NTE290A	ECG290A	SK9132	
	150523	NTE290A	ECG290A	SK9132	
ZD801	HZ-11B-3				
	162851				
ZD802	HZ-6C-3				#
	162682	NTE5013T1	ECG5013T1	SK24A/5031A	
ZD803	HZ24-2	NTE5013T1	ECG5013T1	SK24A/5031A	
	180198	NTE5031A	ECG5031A	SK24A/5031A	
ZD804, 5	HZ-6B	NTE5011A	ECG5011A	SK5A6/5011A	
	148257	NTE5011A	ECG5011A	SK5A6/5011A	
	HZ-5B	NTE5009A	ECG5009A	SK4A7/5009A	
ZD806	180221	NTE5009A	ECG5009A	SK4A7/5009A	

# For SAFETY use only equivalent replacement part.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MAIN PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	NOTES
CP502	<u>CAPACITORS</u> Capacitor Network	180210	#
	<u>CONTROLS</u>		
R253	FM Auto Stop Level 33K	180207	
R309	MPX VCO Adjust 4700	179861	
R351	L Aux In Level 10K	180208	
R352	R Aux In Level 10K	180208	
	<u>MISCELLANEOUS</u>		
IC505	Module	180216	
MD101	Tuner	180196	
MF101	Filter	154168	
MF102	Filter	154168	
MF201	Filter	180205	
MF251	Filter	162690	
T151	Antenna	180184	
X501	Crystal	162697	
	Switch	180225	
	Switch	180263	
	Switch	176289	
	Switch	176290	
	<u>RESISTORS</u>		
CP501	Resistor Network	154171 (1)	
CP503	Resistor Network	154170 (2)	
R203	47 5% 1/4W Metal Oxide Film	829047	
R303	10K 1% 1/4W Metal Film	157213	
R801	10 5% 1/4W Fusible	163511	
	<u>TRANSFORMERS</u>		
T101	Balun	180203	Circuit FM  AM  Coil AM 4.5MHz Channel/Volume (PWR JMR922) Keylock (JMR922) Program (JMR980) Program (JMR922, 926)
T102		174261	
T201	Transformer	180204	
T251	AM IF	162693	

# For SAFETY use only equivalent replacement part.

(1) Resistor Network contains six 100K ohms resistors.

(2) Resistor Network contains four 39K ohms resistors.



PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFG. PART No./ TYPE No.					NOTES
		NTE PART No.	ECG PART No.	TCE PART No.		
TUNING SYSTEM MTT004A CR101 CR102,3 CR105 CR107	164717 174378 129095 174449	NTE519 NTE553	ECG519 ECG553	SK3100/519 SK3322		MATCHED SET INCLUDES CR108,CR203,CR204,CR210 CR502,CR506,CR510
	CR108 CR109					USE CR107 MATCHED SET
	CR110,11 CR112	NTE519	ECG519	SK3100/519		MATCHED SET INCLUDES CR112,CR301,CR302,CR303
	CR113,14,15,201,202 CR203,4 CR205,6 CR207 CR208,9 CR210	NTE553 NTE553 NTE519 NTE553	ECG553 ECG553 ECG519 ECG553	SK3322 SK3322 SK3100/519 SK3322		USE CR109 MATCHED SET
CR301,2,3 CR304,5 CR401,2 CR403 CR501 CR502	174378 174381 164717 129095	NTE519 NTE553	ECG519 ECG553	SK3100/519 SK3322		USE CR107 MATCHED SET
	CR503,4,5 CR506 CR507,8 CR509 CR510	NTE553 NTE553 NTE519	ECG553 ECG553 ECG519	SK3322 SK3322 SK3100/519		USE CR107 MATCHED SET
	CR602,9,10,11	NTE177	ECG177	SK9091/177		USE CR107 MATCHED SET

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFG. PART No./ TYPE No.					NOTES
		NTE PART No.	ECG PART No.	TCE PART No.		
CR612 CR613 CR614,15 CR616 CR617	137652 174431 139706 156313 174370	NTE116 NTE177 NTE5141A	ECG116 ECG177 ECG5141A	SK3313/116 SK9091/177 SK30X/5141A		
	CR618 CR623	NTE5069A NTE5077A NTE519	ECG5069A ECG5077A ECG519	SK4V7/5069A SK18V/5077A SK3100/519		
	CR624,25,30 Q101 Q103					
	Q201,301 Q302 Q401 Q402 Q501 Q601	NTE123AP NTE222 NTE229 NTE222 NTE123AP	ECG123AP ECG222 ECG229 ECG222 ECG123AP	SK3854/123AP SK3065/222 SK3246A/229 SK3065/222 SK3854/123AP		
Q602 Q604 Q606,7 U101 U601 U602	143802 145410 153325 174377 178291 174376	NTE159 NTE159 NTE159	ECG159 ECG159 ECG159	SK3466/159 SK3466/159 SK3466/159		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CAPACITORS

ITEM No.	RATING	MFGR. PART No.
	TUNING BOARD MTT004A	
C1	15 NPO 50V 5%	174404
C2	27 NPO 50V 5%	174407
C3	27 NPO 50V 5%	174407
C4	68 NPO 50V 5%	174410
C101	470 NPO 50V 10%	174416
C102	470 NPO 50V 10%	174416
C103	120 NPO 50V 5%	174414
C104	120 NPO 50V 5%	174414
C105	470 NPO 50V 10%	174416
C106	470 NPO 50V 10%	174416
C107	470 NPO 50V 10%	174416
C108	5 N750 50V ±.25pF	174400
C110	470 NPO 50V 10%	174416
C111	470 NPO 50V 10%	174416
C116	10 NPO 50V 1%	174402
C117	22 NPO 50V 5%	174406
C118	470 NPO 50V 10%	174416
C119	120 NPO 50V 5%	174414
C122	470 NPO 50V 10%	174416
C123	2 NPO 50V ±.25pF	174396
C124	3 N750 50V ±.25pF	174398
C125	470 NPO 50V 10%	174416
C126	5 N750 50V ±.25PF	174400
C127	470 NPO 50V 10%	174416
C128	7 NPO 50V ±.5pF	174401
C129	470 NPO 50V 10%	174416
C131	10 NPO 50V ±1%	174402
C135	5 NPO 50V 1.5pF	174399
C136	.5 NPO 50V ±.25pF	174395
C139	470 NPO 50V 10%	174416
C141	470 NPO 50V 10%	174416
C142	470 NPO 50V 10%	174416
C143	470 NPO 50V 10%	174416
C145	10 NPO 50V ±1pF	174402
C149	10 NPO 50V ±1pF	174402
C150	470 NPO 50V 10%	174416
C202	470 NPO 50V 10%	174416
C203	470 NPO 50V 10%	174416
C204	100 NPO 50V 5%	174412
C205	470 NPO 50V 10%	174416
C208	470 NPO 50V 10%	174416
C210	82 NPO 50V 10%	174411
C211	470 NPO 50V 10%	174416
C212	470 NPO 50V 10%	174416
C215	470 NPO 50V 10%	174416
C216	.5 NPO 50V ±.25pF	174395
C217	100 NPO 50V 5%	174412

ITEM No.	RATING	MFGR. PART No.
C218	470 NPO 50V 10%	174416
C220	470 NPO 50V 10%	174416
C221	470 NPO 50V 10%	174416
C223	470 NPO 50V 10%	174416
C224	470 NPO 50V 10%	174416
C227	470 NPO 50V 10%	174416
C228	470 NPO 50V 10%	174416
C230	470 NPO 50V 10%	174416
C231	470 NPO 50V 10%	174416
C232	470 NPO 50V 10%	174416
C233	470 NPO 50V 10%	174416
C302	470 NPO 50V 10%	174416
C303	18 NPO 50V 5%	174405
C304	5 NPO 50V ±.5pF	174399
C305	470 NPO 50V 10%	174416
C306	470 NPO 50V 10%	174416
C307	470 NPO 50V 10%	174416
C308	470 NPO 50V 10%	174416
C309	3 NPO 50V ±.25pF	174397
C310	18 NPO 50V 5%	174405
C314	18 NPO 50V 5%	174405
C316	470 NPO 50V 10%	174416
C317	470 NPO 50V 10%	174416
C319	470 NPO 50V 10%	174416
C320	1 NPO 100V ±.25pF	134437
C324	470 NPO 50V 10%	174416
C401	47 NPO 50V 5%	174409
C402	470 NPO 50V 10%	174416
C403	470 NPO 50V 10%	174416
C404	470 NPO 50V 10%	174416
C405	470 NPO 50V 10%	174416
C406	470 NPO 50V 10%	174416
C407	47 NPO 50V 5%	174409
C409	33 NPO 50V 5%	174408
C413	12 NPO 50V 5%	174403
C414	15 NPO 50V ±1pF	146768
C415	68 NPO 50V 5%	174410
C419	68 NPO 50V 5%	174410
C501	15 NPO 50V 5%	174404
C502	470 NPO 50V 10%	174416
C505	10 NPO 50V ±1pF	174402
C513	2 NPO 50V ±.25pF	174396
C517	1 NPO 50V 1.25pF	174391
C518	3 NPO 50V ±.25pF	174397
C520	470 NPO 50V 10%	174416
C521	470 NPO 50V 10%	174416
C615	33 NPO 50V 5%	174408
C616	120 NPO 50V 5%	174414
C623	68 NPO 50V 5%	174410
C625	120 NPO 50V 5%	174414

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
	TUNING BOARD MTT004A			
R101	200 2% 1/8W Carbon Film	161048	EW120	
R102	11K 2% 1/8W Chip Metal Film	178277		
R103	110 2% 1/8W Carbon Film	161037	EW211	
R104	200 2% 1/8W Carbon Film	161048	EW120	
R105	51 2% 1/8W Carbon Film	178279	EW051	
R110	150 2% 1/4W Carbon Film	829115	QW115	
R111	200 2% 1/8W Chip Metal Film	178280		
R119	11K 2% 1/8W Chip Metal Film	178277		
R121	200 2% 1/4W Carbon Film	829120	QW120	
R122	200 2% 1/8W Chip Metal Film	178280		
R125	6800 2% 1/8W Carbon Film	178281		
R126	6800 2% 1/8W Chip Metal Film	178281		
R203	100K 2% 1/8W Chip Metal Film	176816		
R206	160K 2% 1/8W Chip Metal Film	176815		
R207	1000 2% 1/4W Carbon Film	175055	QW210	
R208	270 2% 1/4W Carbon Film	178282	QW127	
R302	100K 2% 1/8W Chip Metal Film	176816	EW410	
R303	160K 2% 1/8W Chip Metal Film	176815		
R304	1000 2% 1/4W Carbon Film	175055	QW210	
R305	270 2% 1/4W Carbon Film	178282	QW127	
R402	100K 2% 1/8W Chip Metal Film	176816		
R404	390 2% 1/8W Carbon Film	178284		
R406	13K 2% 1/8W Chip Metal Film	178285		
R407	13K 2% 1/8W Carbon Film	157334	EW313	
R408	680 2% 1/8W Chip Metal Film	178286		
R409	680 2% 1/8W Chip Metal Film	178286		
R410	4700 2% 1/8W Chip Metal Film	178287		
R412	1000 2% 1/4W Carbon Film	829210	QW210	
R417	43K 2% 1/8W Chip Metal Film	178288	EW343	
R418	100K 2% 1/8W Chip Metal Film	176816		

# For SAFETY use only equivalent replacement part.  
Items Not Listed Are Normally Available At Local Distributors.

RCA  
CHASSIS CTC130A