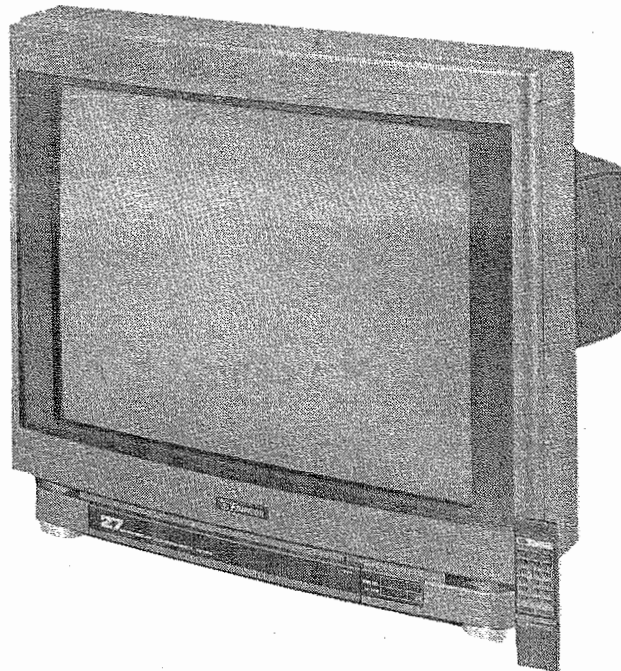


For Supplier Address See PHOTOFACT Index

MODELS



MS2700RD
MS2700RD (SUFFIX A)
MS2700RD (SUFFIX B)
MS2700RD (SUFFIX C)
MS2700RD (SUFFIX D)
MS2700RDA
MS2700RDA (SUFFIX A)
MS2700RDA (SUFFIX B)
MS2700RDA (SUFFIX C)
MS2700RDA (SUFFIX D)

MODEL MS2700RD (SUFFIX D)

SAFETY PRECAUTIONS

See Page 5

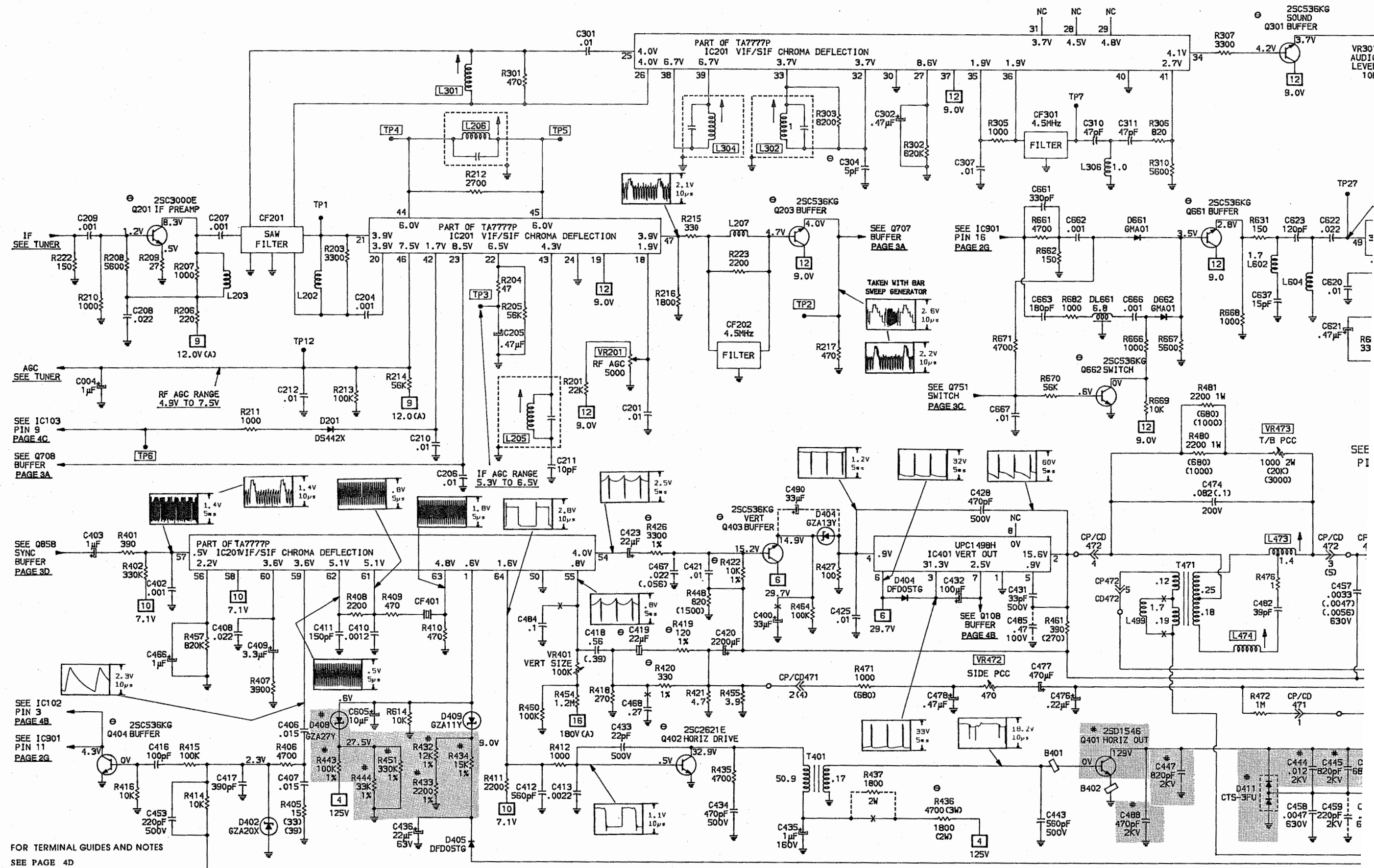
INDEX

	Page		
Alignment		Quick-Checks	
TV	1	CRT Board	8
Convergence Adjustments	5	Main Board	6
Disassembly Instructions	1	Power Supply Board	5
GridTrace Location Guide		Safety Precautions	5
Comb Filter Board	5	Schematics	
CRT Board	8	Audio	3
Main Board	6	Audio/Video	3
Pincushion Board	7	Automatic Kine Bias	2
Power Supply Board	5	Basic Pincushion	3
Stereo/SAP Board	7	CCD Control	3
IC Functions	4	Microprocessor	4
Miscellaneous Adjustments	5	MPX	3
Parts List		Power Supply	2
TV	8, 9, 10	Terminal Guides and Notes	4
Photos		TV	2
Cabinet-Rear View	1	TV Tuner	4
Comb Filter Board	5	Servicing in the Field	1
CRT Board	8	Stereo Adjustments	5
CRT Neck Assembly	4	Test Equipment	1
Main Board	6	Test Jig Hookup	1
Main Board-Overall	7	Troubleshooting	1
Pincushion Board	7	Troubleshooting Aid	1
Power Supply Board	5	Tuner Voltage Chart	4
Stereo/SAP Board	7	Wiring Data	10

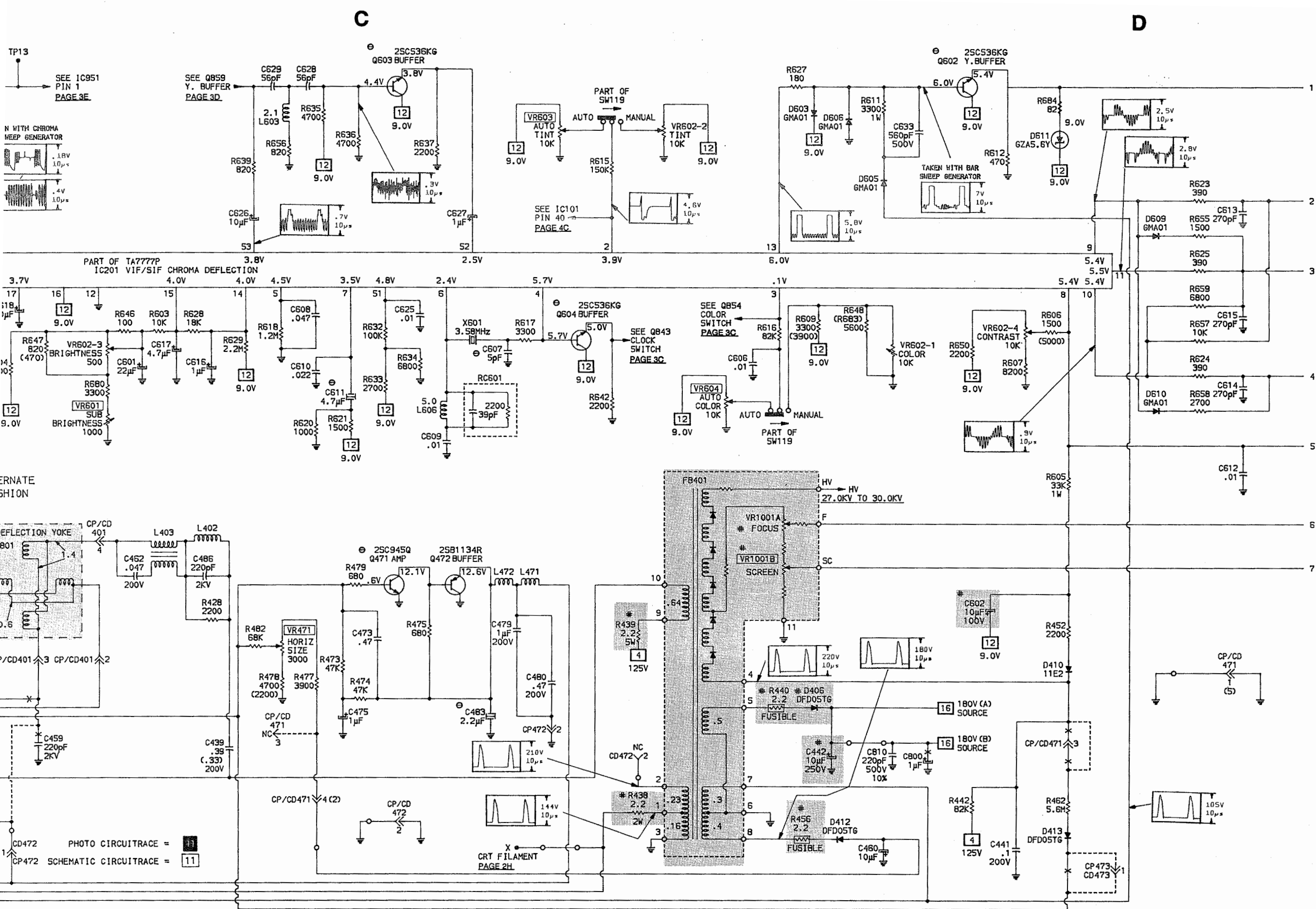


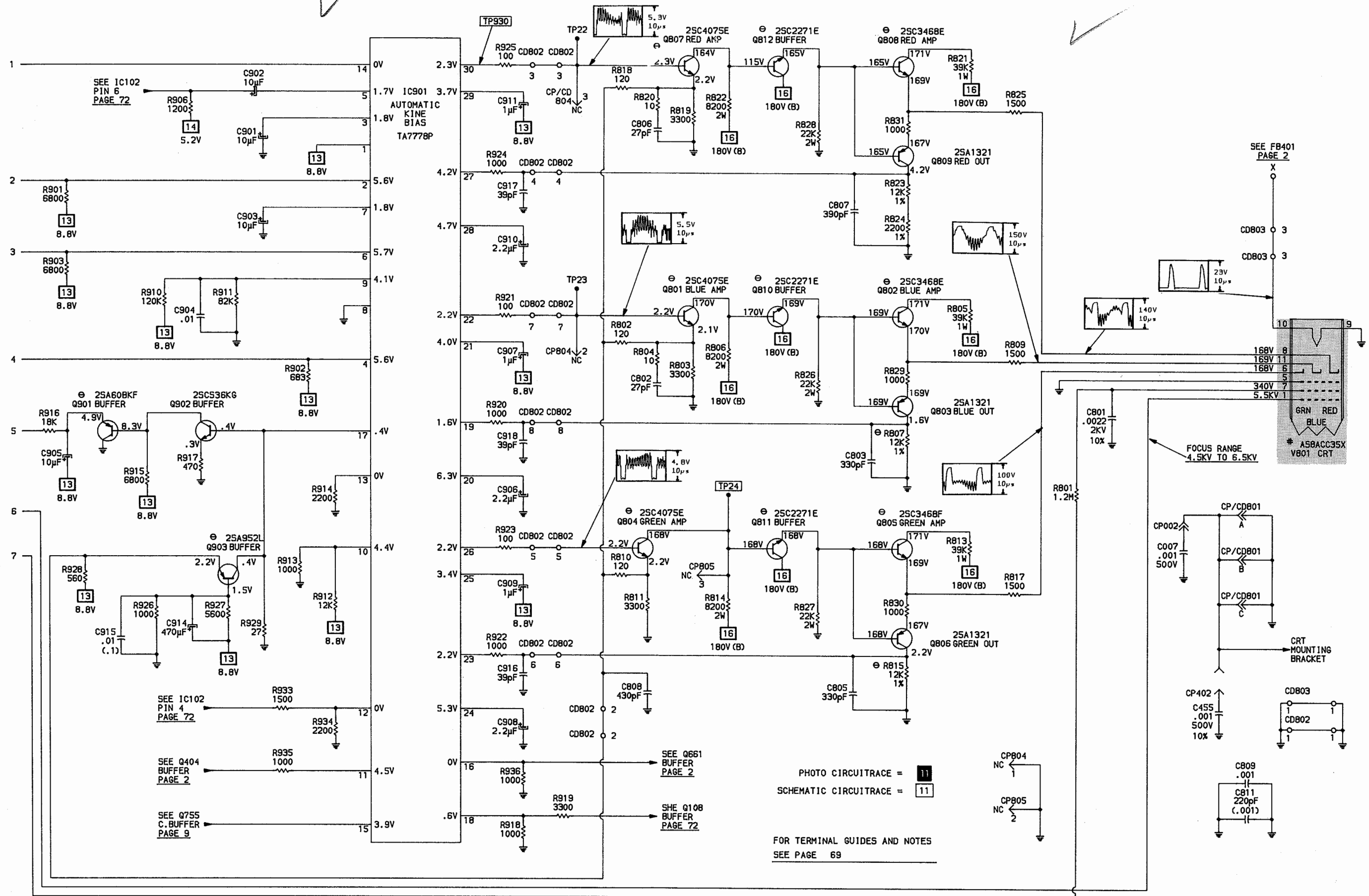
A

B



A PHOTOFACIT STANDARD NOTATION SCHEMATIC
WITH CIRCUITTRACE®





EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RA/(SUFFIX A/B/C/D)

FOLDER 1

PHOTO CIRCUITRACE = 11
SCHEMATIC CIRCUITRACE = 11
FOR TERMINAL GUIDES AND NOTES
SEE PAGE 69

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.

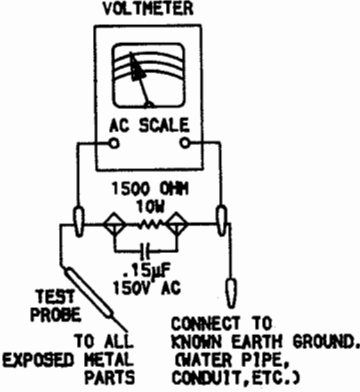
Leakage Current Hot Check

- 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.

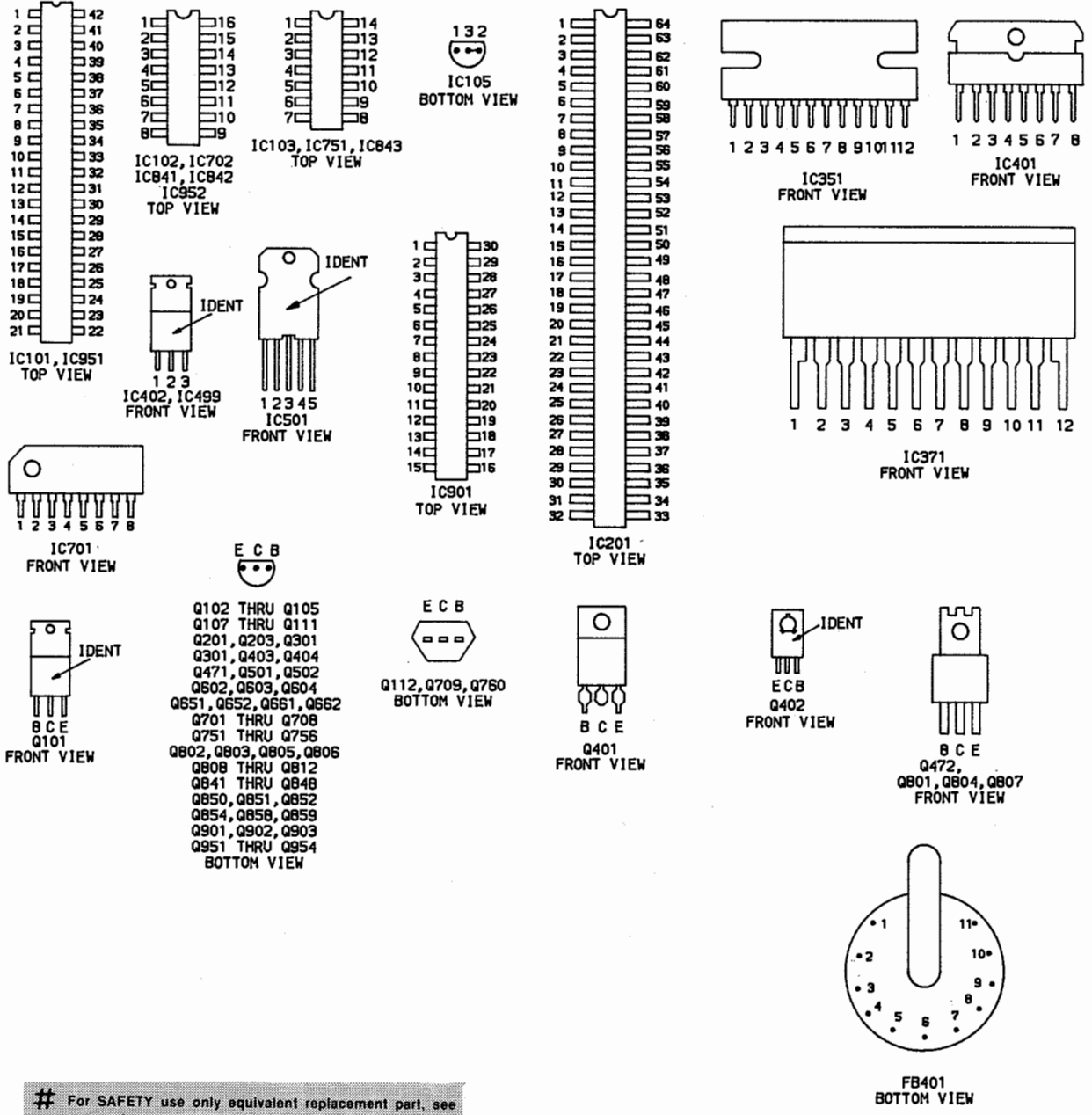
GENERAL GUIDE LINES

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.



TERMINAL GUIDES



For SAFETY use only equivalent replacement part, see parts list.

- Circuitry not used in some versions
- - - Circuitry used in some versions
- o See parts list
- * Nominal value
- ⊥ Ground
- Chassis
- Common tie point

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

Waveforms: triggered scope, keyed rainbow generator.

Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltages maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Terminal identification may not be found on unit.

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

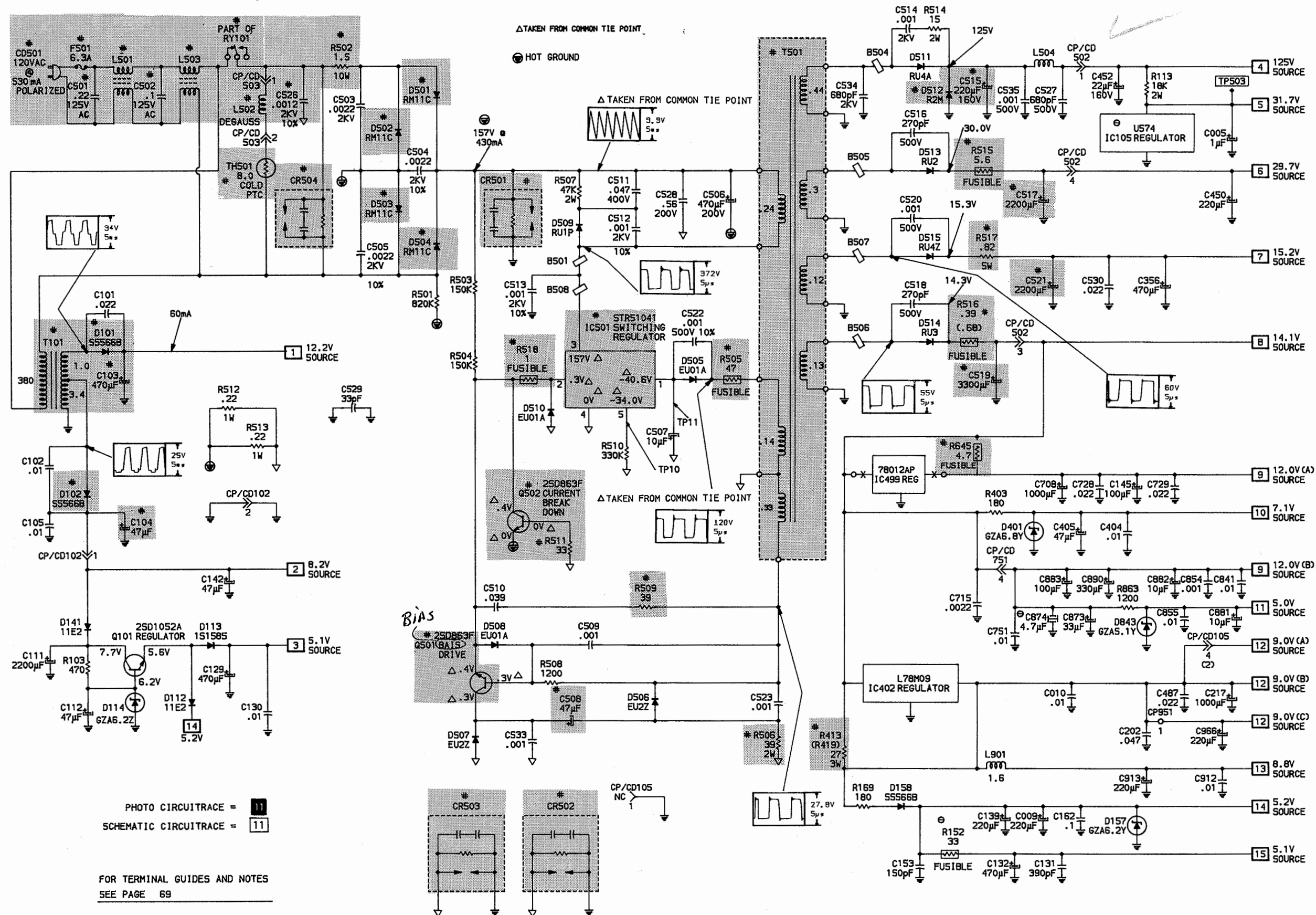
Electrolytic capacitors are 50 volts or less, 20% unless noted.

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

Value in () used in some versions.

Measurements with switching as shown, unless noted.

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)



A PHOTOFACIT STANDARD NOTATION SCHEMATIC

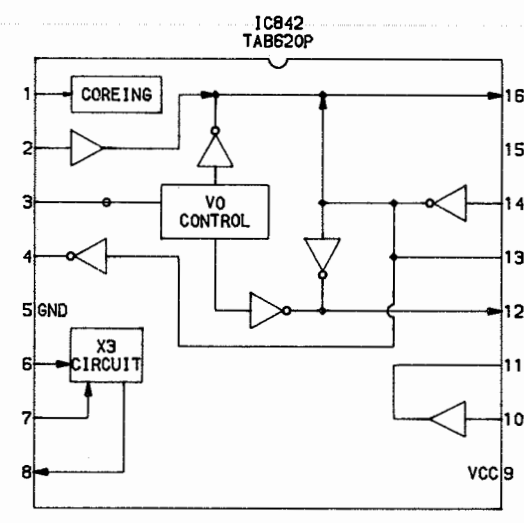
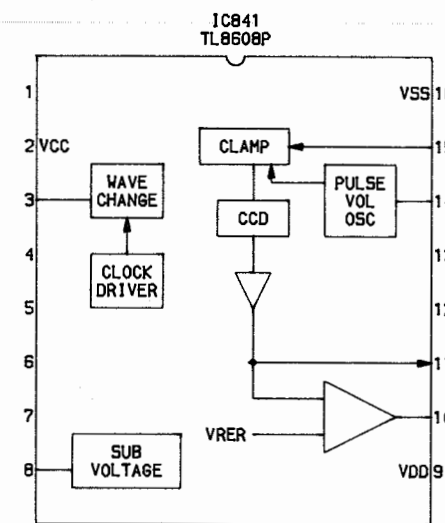
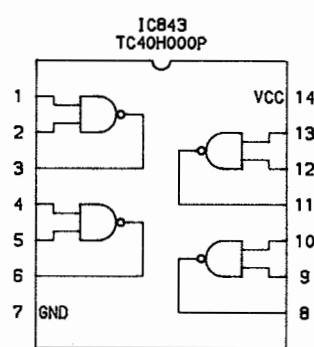
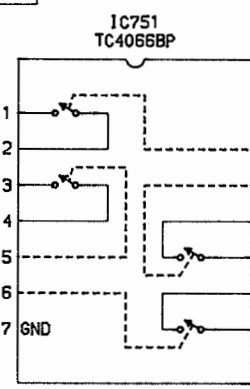
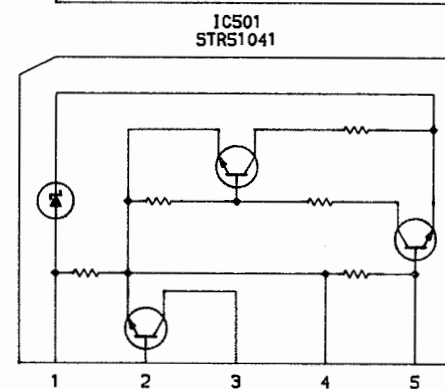
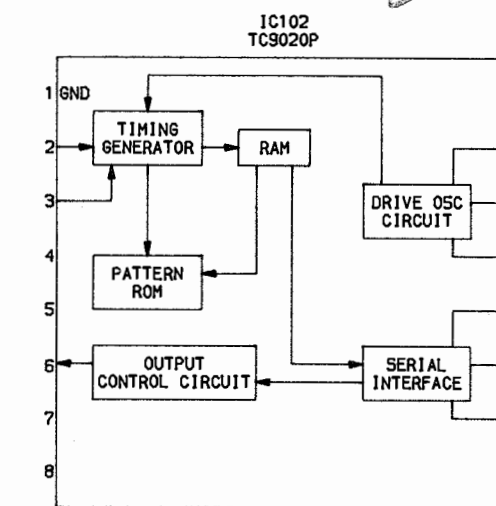
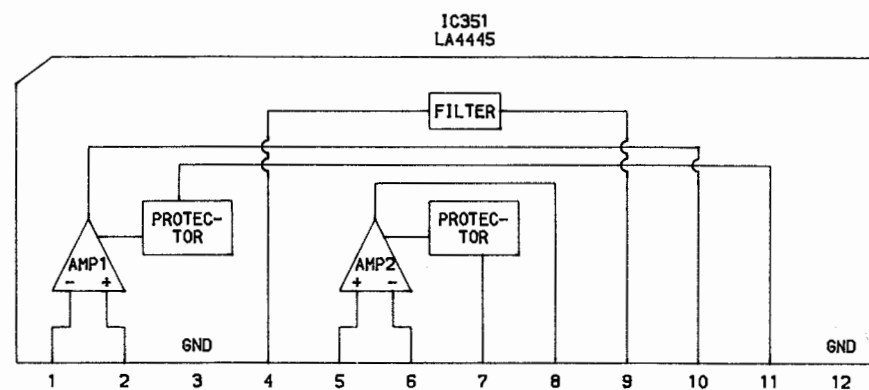
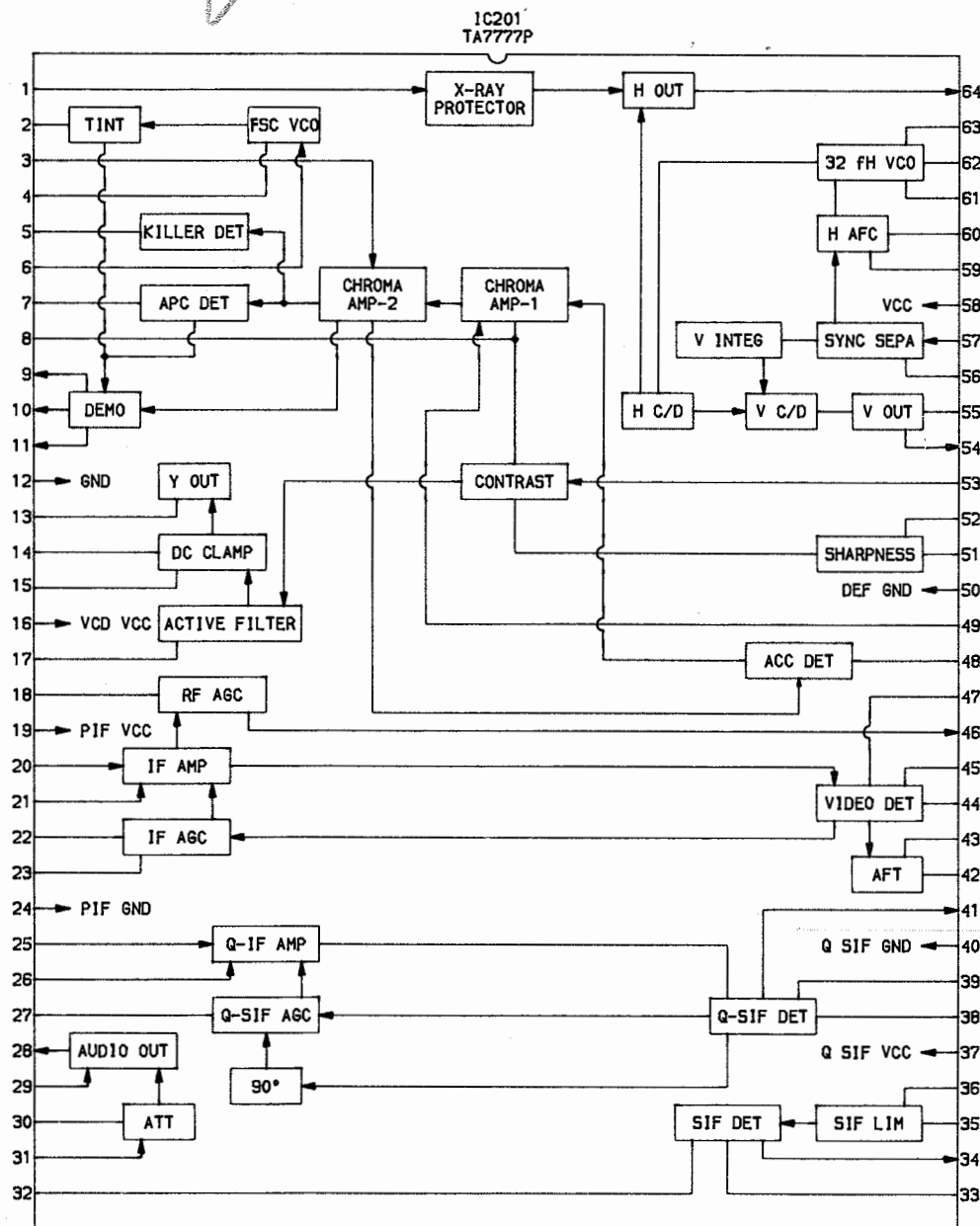
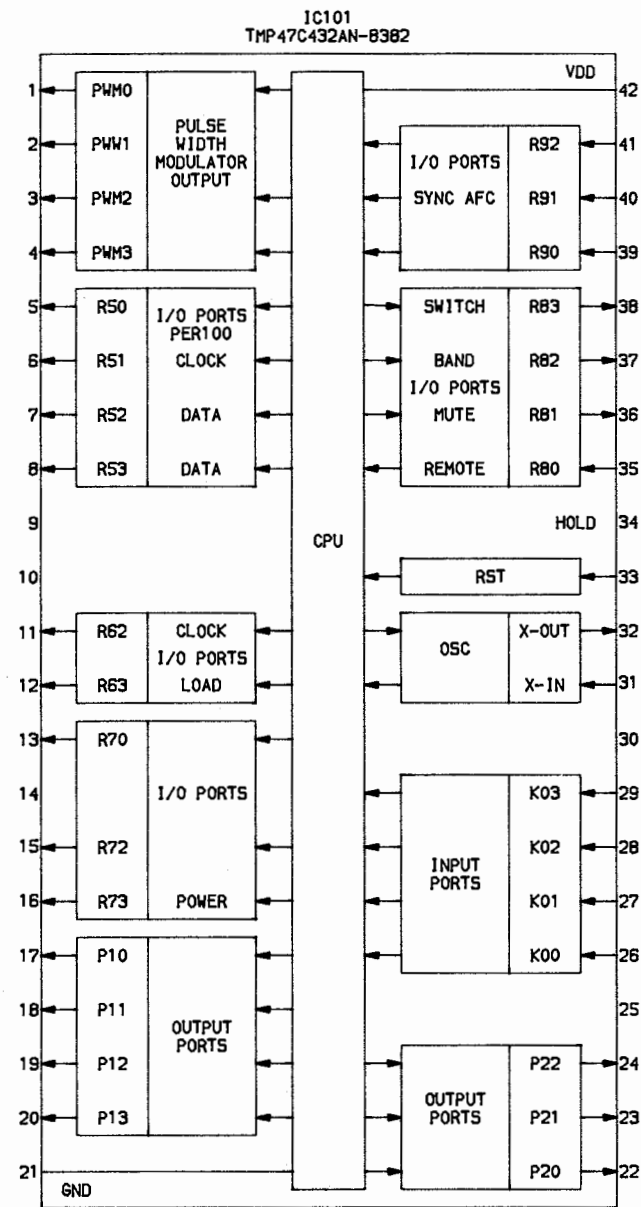
WITH CIRCUITRACE

© Howard W. Sams & Co., Inc. 1989

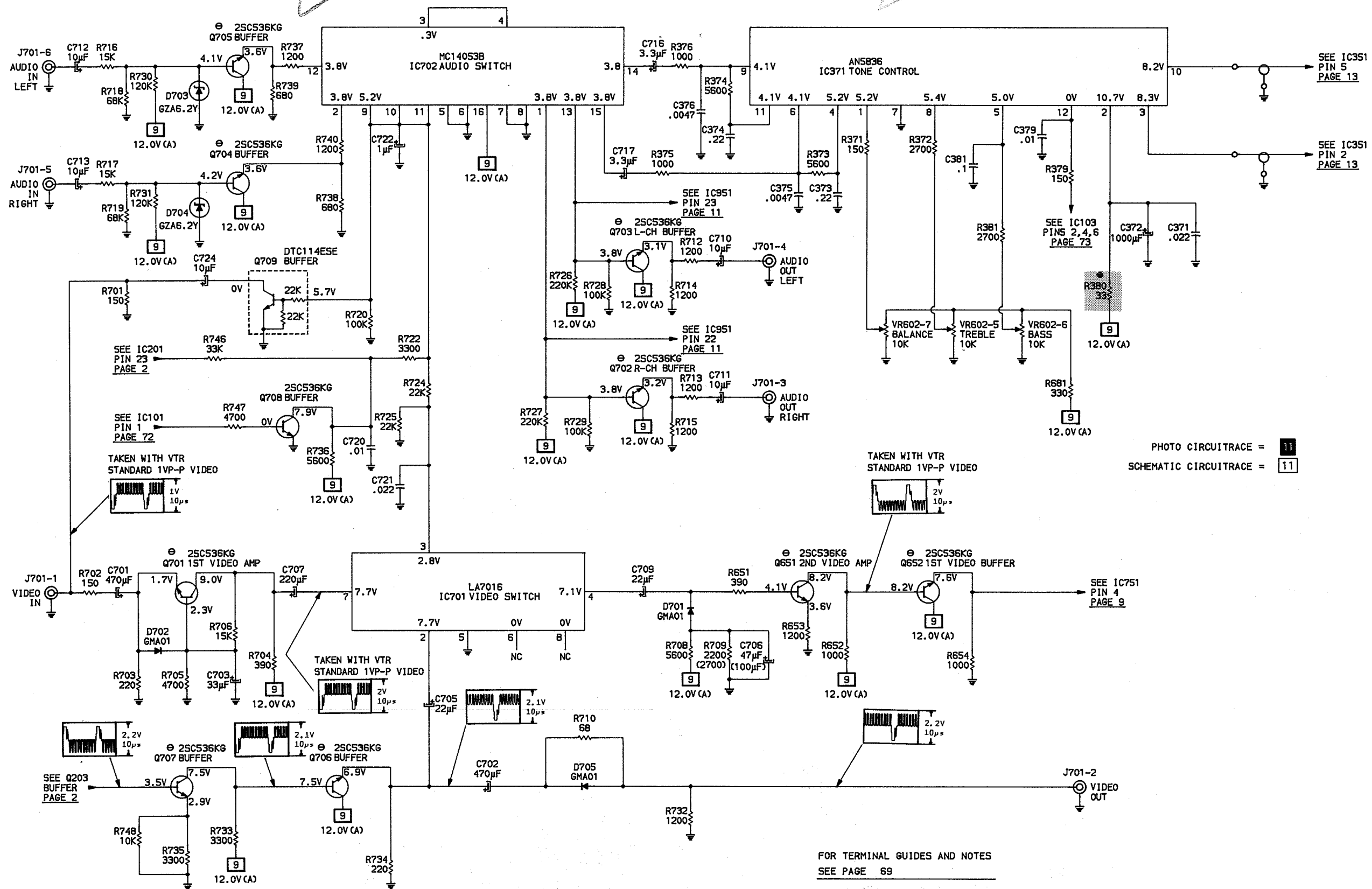
POWER SUPPLY

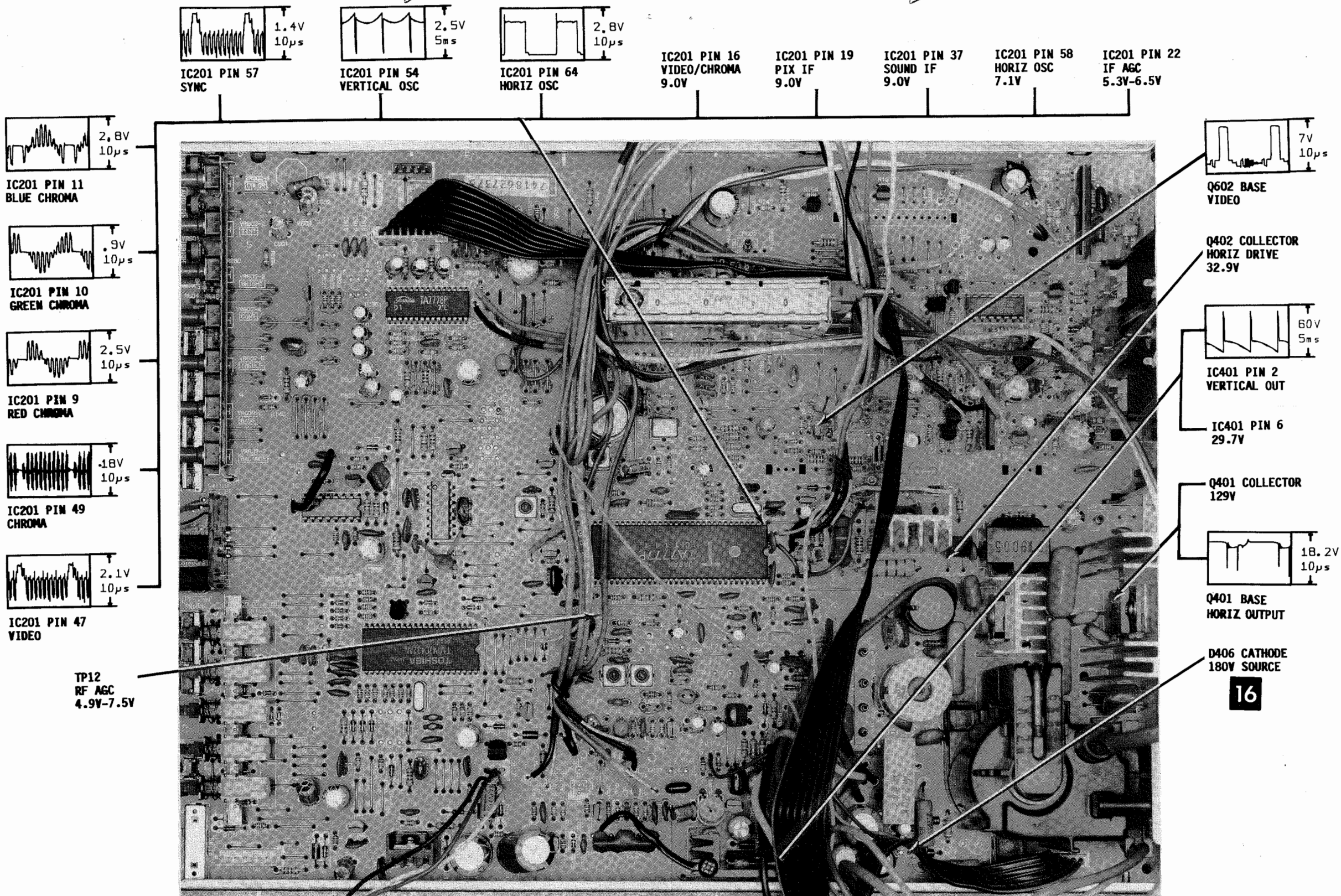
POWER SUPPLY

FOLDER 1



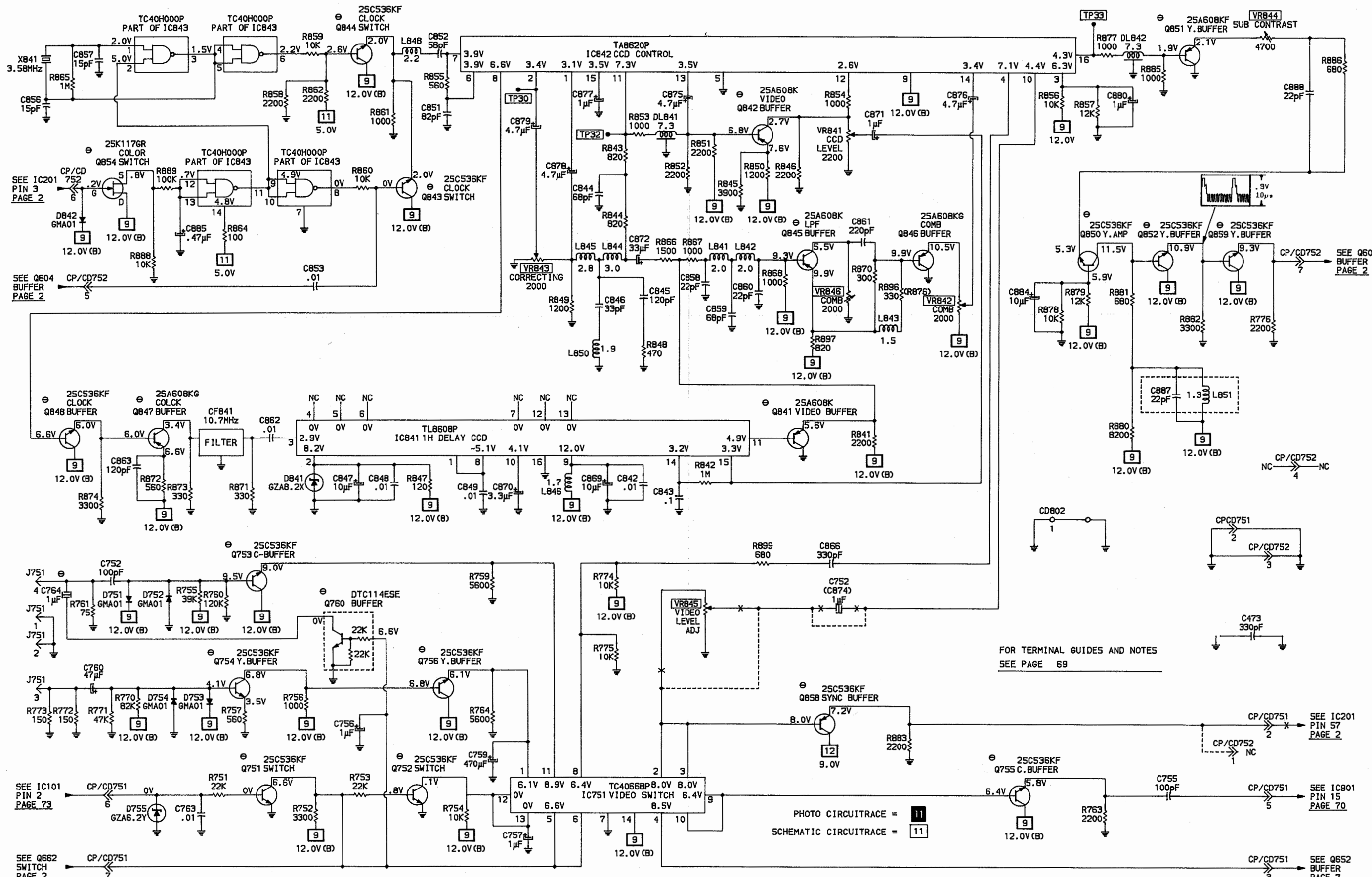
EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)





EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

ALL IC'S MARKED AT PIN 1 UNLESS NOTED



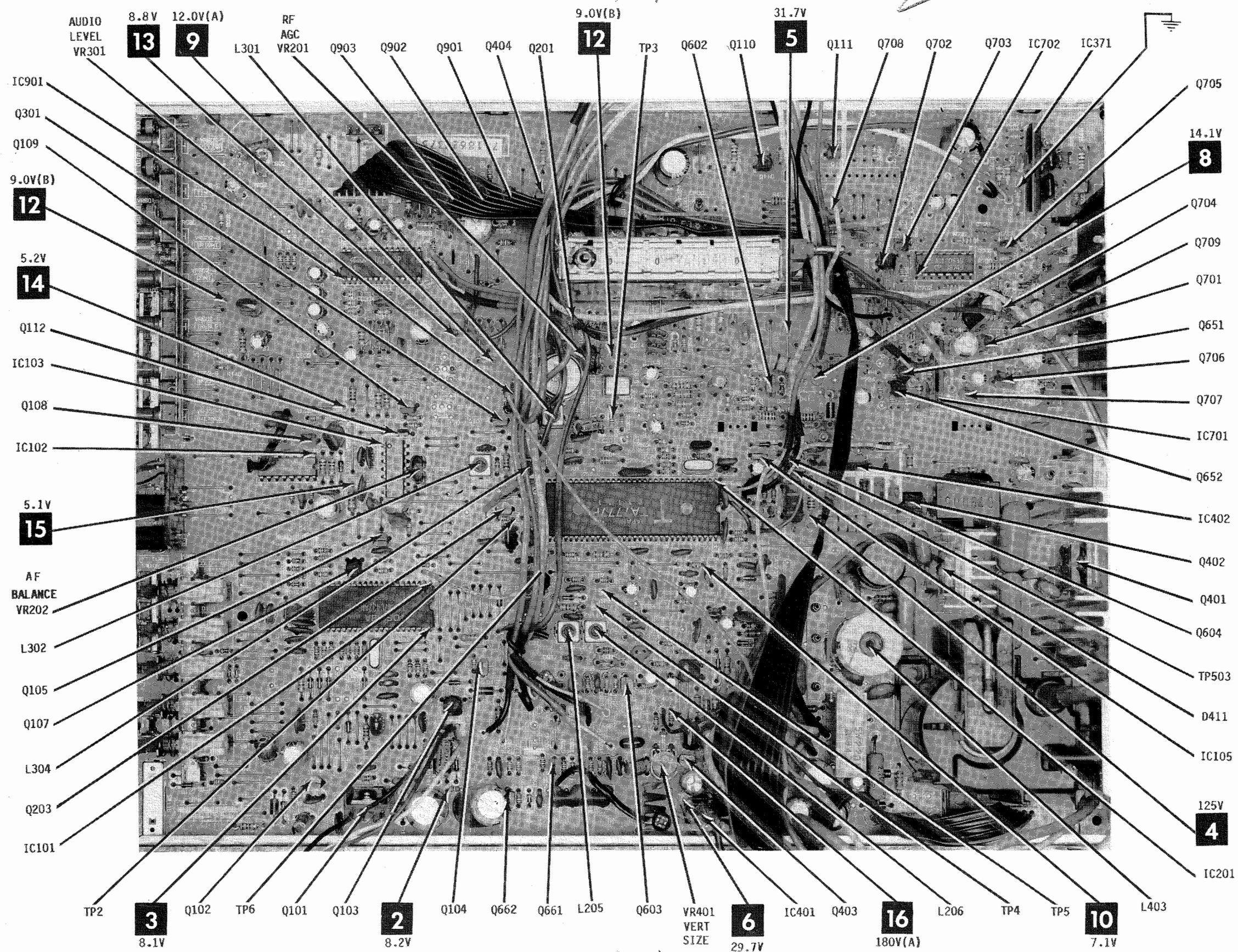
EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1

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

CCD CONTROL

CCD CONTROL



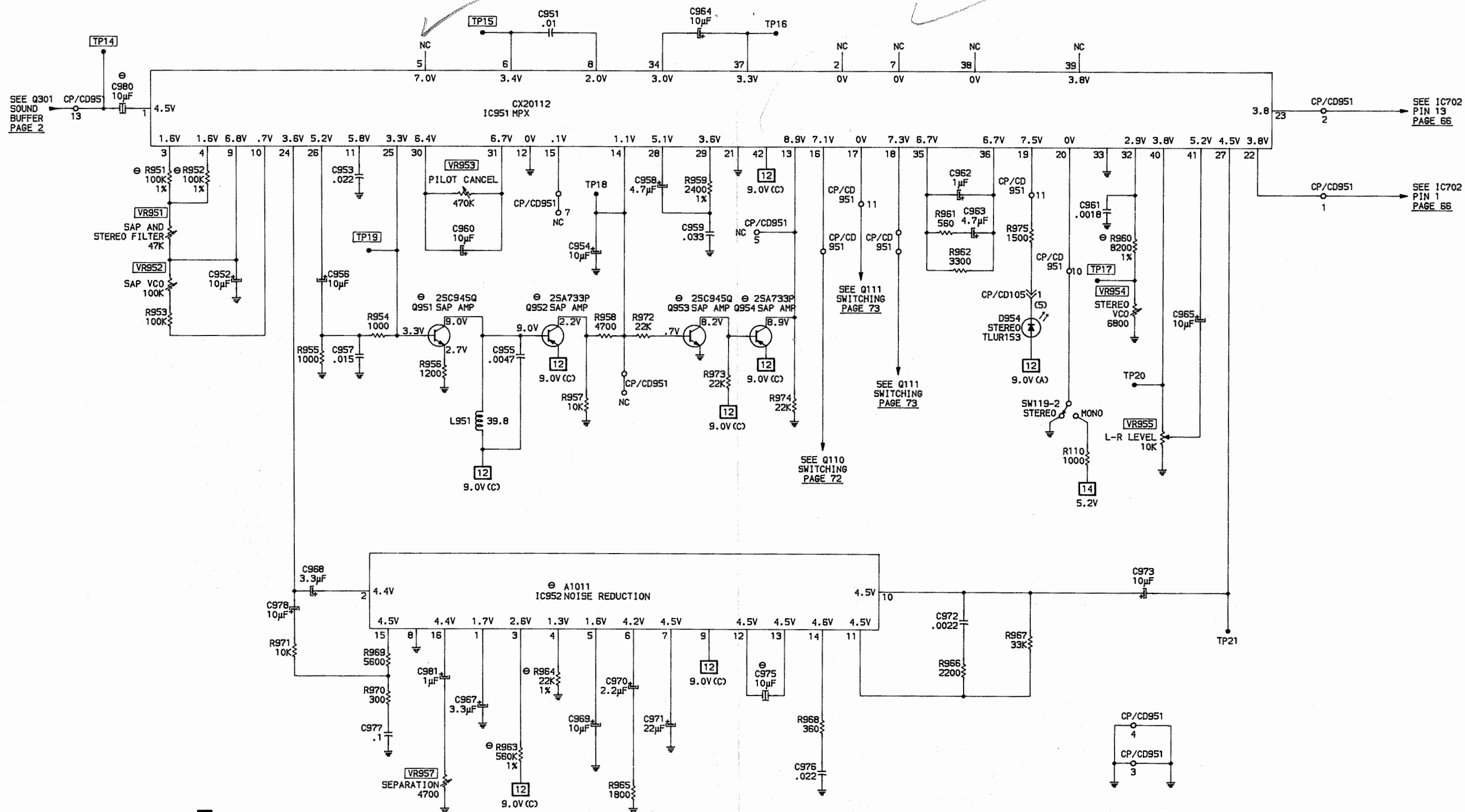
MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo

MAIN BOARD

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1



EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1

MPX

11

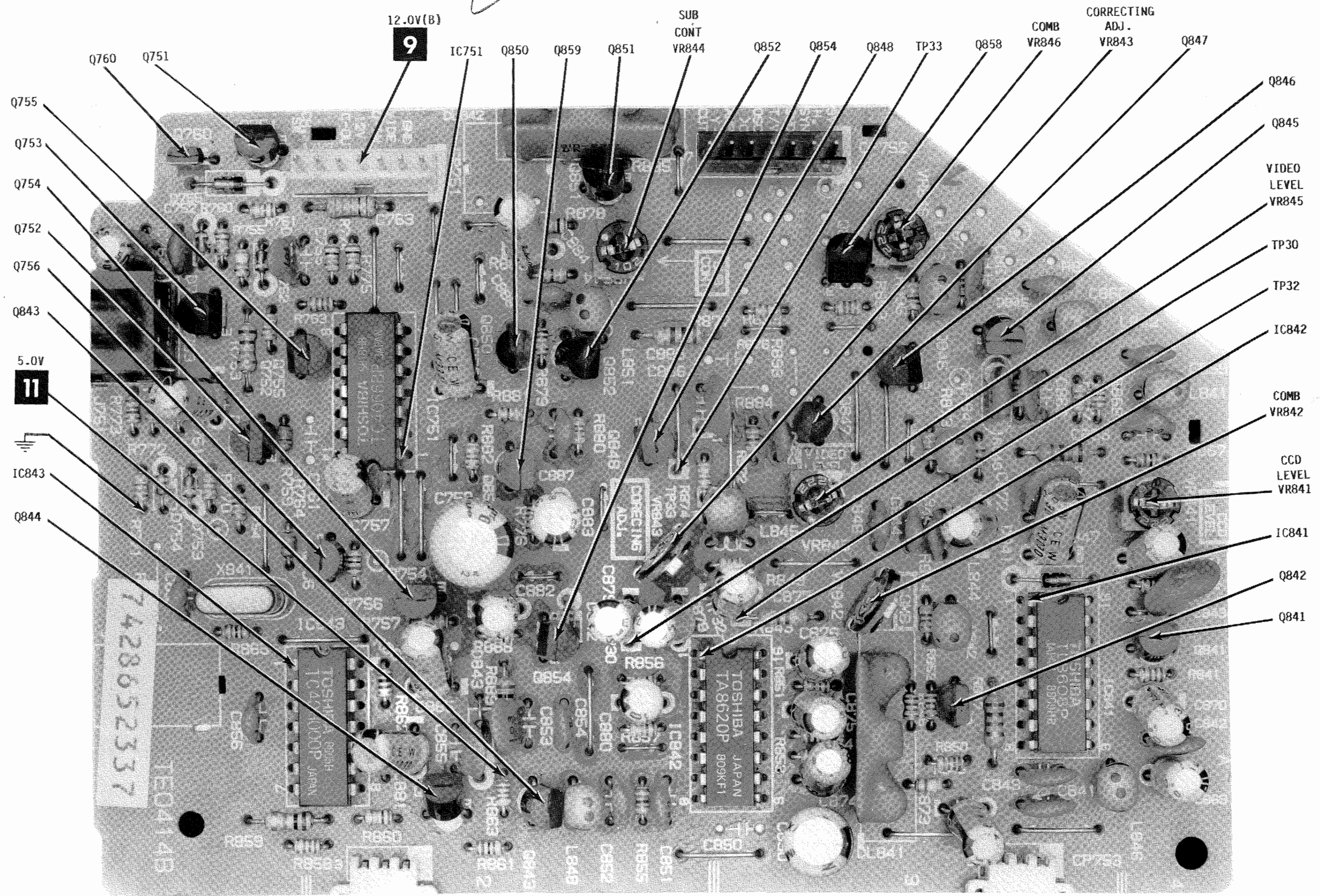
SET 2650 FOLDER 1

PHOTO CIRCUITRACE = 11
SCHEMATIC CIRCUITRACE = 11

FOR TERMINAL GUIDES AND NOTES
SEE PAGE 69

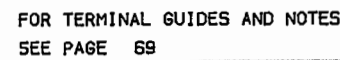
A PHOTOFACIT STANDARD NOTATION SCHEMATIC
WITH **CircuitTrace**
© Howard W. Soms & Co., Inc. 1989

MPX



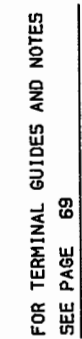
EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1



© Howard W. Sams & Co., Inc. 1989

60



FOLDER 1

13

SET 2650 FOLDER 1

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 ELECTRONICS
L205,L206, Tuner IF Output Coil, L301, L302,L3049440

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.
Connect a 3.8V Bias to TP3.

VIDEO IF ALIGNMENT (SWEEP MARKER GENERATOR)

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP2	To TP1	44MHz (10MHz Sweep)	45.75MHz	Adjust L206 to place 45.75MHz marker as shown. See Figure 1.
To TP2	To TP on Tuner	44MHz (10MHz Sweep)	41.25MHz 42.17MHz 45.75MHz 47.25MHz	Connect a 100 ohm resistor from TP3 to TP4. Adjust Tuner IF Output Coil for Maximum gain and symmetry of response. See Figure 2. Remove Resistors.

TROUBLESHOOTING (Continued)

VIDEO

Inject a video signal at TP2 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 pin 4 of Video Switch IC (IC701). If there is no video at pin 4 of IC701, check the voltages, waveforms and components associated with pins 42 thru 47 of VIF/SIF/CHROMA/DEFLECTION IC (IC201), Buffer Transistors (Q706 and Q707), and IC701. If video is present at pin 4 of IC701, check for a video waveform at pin 16 of CCD Control IC (IC842). If video is missing,

check voltages, waveforms and components associated with Video Switch IC (IC751) and pins 4 and 10 of IC842. If video is present at pin 16 of IC842 check for video at pin 13 of VIF/SIF/CHROMA/DEFLECTION IC (IC201). If video is missing at pin 13 of IC201, check voltages, waveforms and components associated with pins 12 thru 16 and 51 thru 53 of IC201, Buffer Transistors (Q850 thru Q852, Q859, Q602 and Q603). Check for video at pin 30 of Automatic Kine Bias IC (IC901). If video is missing, check IC901 and Output Transistors (Q803, Q806 and Q809). If the brightness is inadequate or cannot be controlled, check the voltages, waveforms and components associated with pin 7 on CRT and pin 15 of IC201.

MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

EMERSON MODELS

FOLDER 1

TROUBLESHOOTING (Continued)

HIGH VOLTAGE SHUTDOWN TEST

Apply 120V AC, turn set On, set all customer controls for normal operation and short cathode of Diode D405 to pin 1 of VIF/SIF/CHROMA/DEFLECTION IC (IC201). 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.

SYNC

If there is no vertical or horizontal sync, check the voltages, waveforms and components associated with pin 54 thru 56 (IC201). If there is no horizontal sync, check the voltages and components associated with pins 58 thru 63 of IC201.

RASTER

Check the CRT and CRT voltages. If there is no Red, check the voltages and components associated with pin 9 of VIF/SIF/CHROMA/DEFLECTION IC (IC201) and Red Output Transistor (Q809). If there is no Green, check the voltages and components associated with pin 10 of IC201 and Green Output Transistor (Q806). If there is no Blue, check the voltages and components associated with pin 11 of IC201 and Blue Output Transistor (Q803). If the raster has a keystone shape, check the Deflection Yoke (DY801). If the raster has height or width problems, refer to the "Vertical", "Horizontal" and "Power" sections of this Troubleshooting guide.

AUDIO

Select an active TV channel and check for an audio waveform at pin 34 of VIF/SIF/CHROMA/DEFLECTION IC (IC201). If there is no audio, check the voltages, waveforms and components associated with pins 32 thru 36 of IC201. If an audio waveform is present at pin 34 of IC201, select a station transmitting a stereo signal and check for audio at pins 28 and 41 of the MPX Stereo IC (IC951). If waveform is missing at pins 28 and 41 of IC951, check pins 2 and 19, 28 thru 42 of IC151. If audio is present at pins 28 and 41 of IC951, select stereo mode and check for audio at pin 27 of IC951. If no audio is present, check the voltages, waveforms and components associated with pins 20, 24 and 27 of IC951. Select a station transmitting a SAP signal and check for a waveform at pin 26 of IC951. If no waveform is present check voltages, waveforms and components associated with pins 3 thru 14, 25 and 26 of IC951. Check for audio at pins 22 and 23 of IC951 in Mono, Stereo and SAP. If audio is missing, check voltages, waveforms and components associated with pins 16, 17 and 22, 23 of IC951. Check for an audio waveform in any mode at pin 9 of Tone Control IC (IC371). If waveform is missing, check

voltages, waveforms and components associated with Audio Switch IC (IC702) and IC371. If audio is present at pin 9 of IC371, check for audio waveform at pins 8 and 11 of Sound Amp IC (IC351). If there is no audio waveform, check the voltages, components and waveforms associated with IC351.

IF-AGC

Inject a video IF signal at the IF Input 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 TP2. If video is present at TP2, refer to the "Video" section of this Troubleshooting guide. If there is no video at TP2, apply AGC bias to pin 22 of VIF/SIF/CHROMA/DEFLECTION IC (IC201). If video is now present at TP2, check the voltages, waveforms and components associated with pins 18, 22 and 23 of IC201.

If there is still no video at TP2, check the voltages, waveforms and components associated with pins 19 thru 23 and 43 thru 47 of IC201.

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
IC201

PIn 18	1.8V
PIn 22	5.2V
PIn 23	6.9V

CHROMA

Check for a chroma waveform at pin 49 of VIF/SIF/CHROMA/DEFLECTION IC (IC201). If the waveform is missing, check the components associated with pin 49. If a chroma waveform is present at pin 49, check for the proper chroma waveforms at pins 9 thru 11 of IC201. If these waveforms are missing, check the voltages, waveforms and components associated with pins 2 thru 11, 48 and 49 of IC201. If waveforms are still missing, check voltages, waveforms and components associated with pins 9 and 10 of Video Switch IC (IC751), C Buffer Transistor (Q755), pins 15 and 16 of Automatic Kine Bias IC (IC901). Check the 3.58MHz oscillator at pins 4 and 6 of IC201. Check the voltages and components associated with the color control and pin 3 of IC201. If there is inadequate tint range, check the voltages, waveforms and components associated with the tint control and pin 2 of IC201. If the proper chroma waveforms are present at pins 9, 10 and 11 of IC201, refer to the "Raster" section of this Troubleshooting guide.

TV ALIGNMENT INSTRUCTIONS (Continued)

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)

BAR SWEEP GENERATOR	SCOPE INPUT	REMARKS
To Antenna Terminals	TP2	Perform Video IF Adjustments per SWEEP/MARKER GENERATOR instructions. See Figure 3.

SOUND IF ALIGNMENT

Tune in a station and adjust L301 and L302 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting L304.

AUTOMATIC FINE TUNING ALIGNMENT

Connect as explained in preliminary instructions unless specified otherwise.
Disconnect Solder Bridge at C118.
Connect Digital DC Voltmeter to TP6, low side to ground.
Adjust AFT Balance Control (VR202) for 2.5V reading.
Disconnect meter.

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP6	To TP on Tuner	44MHz (10MHz Sweep)	45.75MHz	Adjust L205 to place 45.75MHz marker as shown. See Figure 4. Reconnect Solder Bridge at C118.

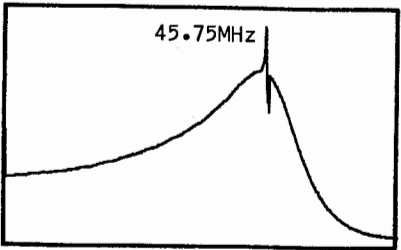


Figure 1

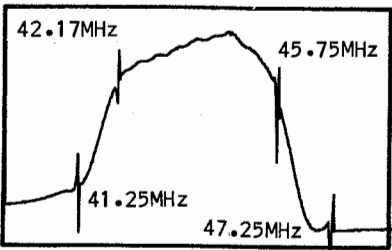


Figure 2

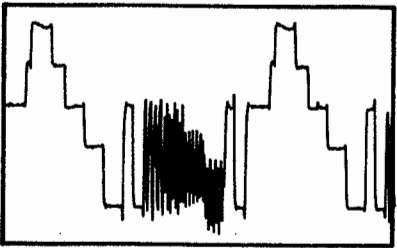


Figure 3

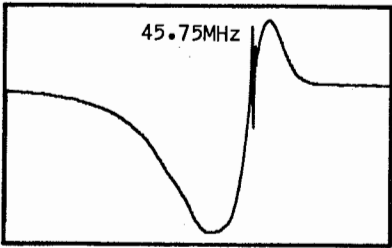


Figure 4

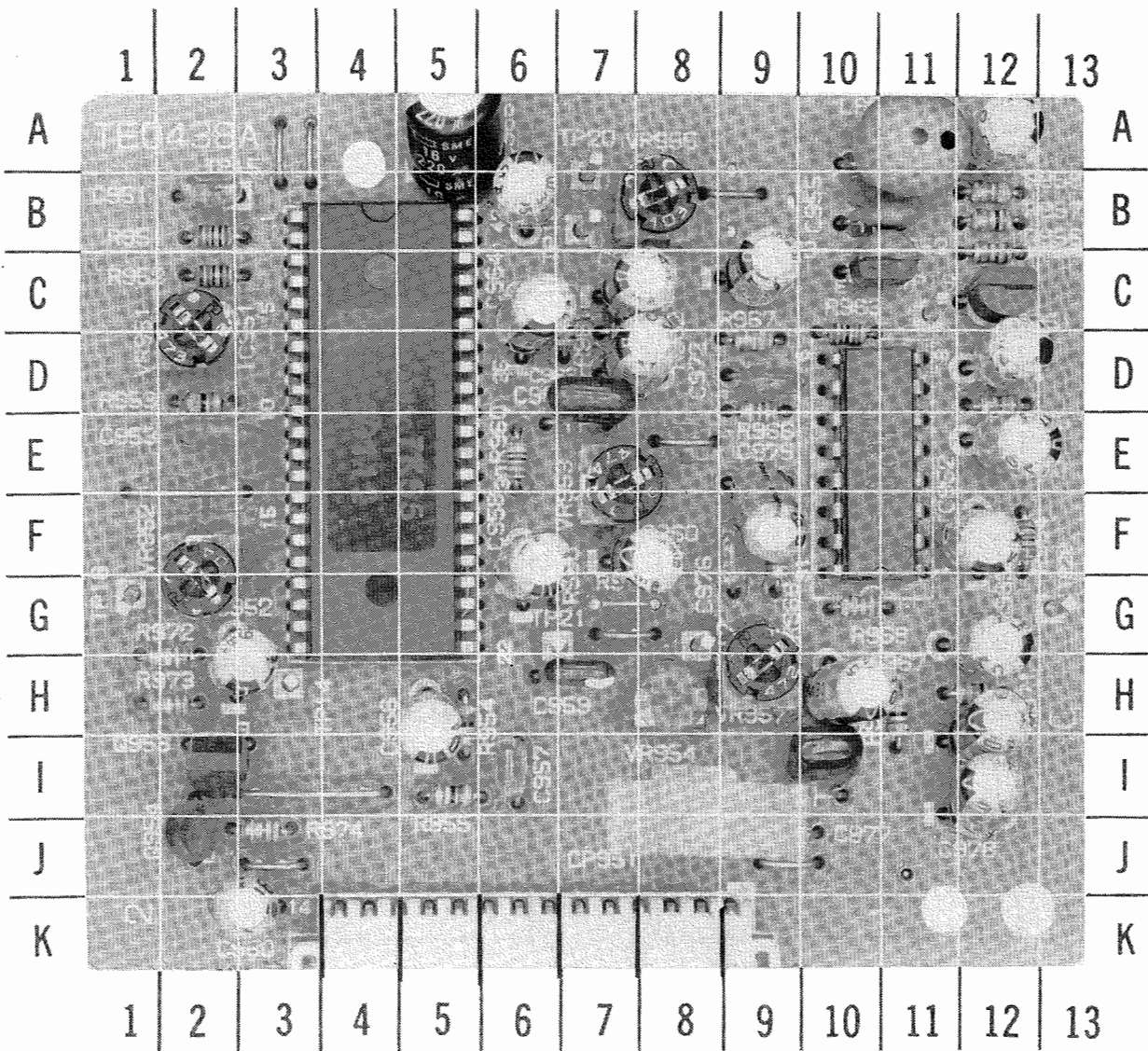
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

EMERSON MODELS

FOLDER 1

COMB FILTER BOARD-GridTrace LOCATION GUIDE

C951	B-2	C969	F-12	R951	B-2	R969	G-10
C952	H-3	C970	E-12	R952	C-2	R970	H-11
C953	E-2	C971	D-12	R953	B-2	R971	H-12
C954	A-12	C972	D-9	R954	H-5	R972	H-12
C955	B-11	C973	C-9	R955	I-5	R973	H-2
C956	H-5	C975	F-9	R956	C-12	R974	J-3
C957	I-6	C976	F-9	R957	B-12	RY101	H-3
C958	F-6	C977	I-10	R958	B-12	TP14	H-3
C959	H-7	C978	I-12	R959	F-6	TP15	B-3
C960	F-8	C980	K-3	R960	E-6	TP17	G-8
C961	D-7	C981	H-10	R961	C-7	TP19	C-11
C962	C-8	CP951	K-7	R962	C-7	TP930	G-5
C963	C-4	IC951	E-4	R963	D-10	VR951	C-2
C964	C-6	L951	A-11	R964	F-12	VR952	G-2
C965	B-6	Q951	C-12	R965	D-12	VR953	E-7
C966	A-5	Q952	B-11	R966	D-9	VR954	H-7
C967	G-12	Q953	E-2	R967	D-9	VR955	B-8
C968	H-12	Q954	J-2	R968	F-9	VR957	H-9



COMB FILTER BOARD

A Howard W. Sams GRIDTRACE™ Photo

TEST JIG HOOKUP

FUNCTION	Chek-A-Color ADAPTER NO.
CRT YOKE YOKE SETTING	B239 D499 (Pins 7,8) Jumpered YP1 FOCUS TAP

PC BOARD
PLUG #CP401

PIN 1	PIN 2	PIN 3	PIN 4
YELLOW	BROWN	BLUE	RED

TROUBLESHOOTING

POWER SUPPLY

Check the AC Fuse (F501). If Fuse F501 is open, check Bridge Rectifier Diodes (D501 thru D504), Capacitors C501 thru C505, Electrolytic C506. Apply 120V AC and check for 157V at the cathode of Diode D501. If this voltage is missing, check Line Filter L501, Thermistor (TH501) and Power Relay (RY101). If 157V is present at the cathode of D501, check for 130V at the cathode of D511. If this voltage is missing check the voltages and components associated with Switching Regulator IC (IC501), Current Breakdown Transistor (Q502) and Bias Drive Transistor (Q501). If the proper voltage is present at cathode of D511, refer to the "Horizontal" section of this Troubleshooting guide. If the voltage at the cathode of D511 is 148V, refer to the "Horizontal" and "High Voltage Shutdown" sections of the Troubleshooting guide.

HORIZONTAL

Determine if the TV is in shutdown, refer to the "High Voltage Shutdown" section, of this Troubleshooting guide. If the TV is not in shutdown, inject a horizontal signal at the base of the Horizontal Output Transistor (Q401). If horizontal deflection is now present, check the voltages, waveforms and components associated with pin 57 thru 64 of VIF/SIF/CHROMA/DEFLECTION IC (IC201) and the Horizontal Drive Transistor (Q402).

If there is still no horizontal sweep, check the voltages, waveforms and components associated with Q401 and Horizontal Output Transistor (TB401) check voltages and components associated with Diodes D405, D406, D412 and D413 for defects. The high voltage rectifier is part of Transformer FB401 and if defective will affect the performance of the horizontal circuits. If the Horizontal Oscillator is off frequency, check the voltages, waveforms and components associated with pins 61 thru 63 of IC201. Horizontal linearity or foldover problems may be caused by Capacitors C439, C444, C445, C447, C461, C488 being defective.

VERTICAL

Inject a vertical pin 54 of VIF/SIF/CHROMA DEFLECTION IC (IC201). If vertical deflection is now present, check the voltages, waveforms and components associated with pin 55 of IC201. If there is still no vertical sweep, check the voltages, waveforms and components associated with the Vertical Buffer Transistor (Q403) and Vertical Output IC (IC401). Vertical linearity or foldover problems may be caused by vertical feedback and bias circuits, check Electrolytics C420, C423 for defects.

HIGH VOLTAGE SHUTDOWN

The high voltage is monitored by Diode D405, rectifying pulses from the Horizontal Output Transformer (FB401). Should the high voltage increase, the rectified voltage at the cathode of Diode D405 will also increase and trigger the Zener Diode (D409) into conduction, shutting down the set. To troubleshoot, remove D405 from the circuit and measure the voltage at the cathode of D511. If the voltage is over 125V with 115VAC applied, check components associated with Switching Regular IC (IC501). If the voltage is lower than 125V with 115VAC applied, check components and voltages associated with diodes D405, D409 and pin 1 of VIF/SIF/CHROMA/DEFLECTION IC (IC201).

NOTE: Care should be taken in defeating the high voltage shutdown circuit, as this may cause excessive X-radiation and damage to the CRT, Transformer FB401 and associated components. Monitor the high voltage and troubleshoot.

Voltages Taken with TV In Shutdown
IC201

Pin 1 1.5V
Cathode D511

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700DA/(SUFFIX A/B/C/D)

FOLDER 1

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 (FB401). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (FB401). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (FB401) 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 (FB401). 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.

MISCELLANEOUS ADJUSTMENTS

PRETUNING

Auto memory

1. Momentarily press the Power Button.
2. Set the Time Set In the Normal position.
3. Press the Auto Memory Button on front of set. The set scans through available channels and stores channels in memory.

Add channel

1. Momentarily press the Power Button.
2. Set TV/CATV Switch to desired position.
3. Select channel to add to memory. Use direct channel access.
4. Press the Write Button on front of set.
5. Repeat steps three and four to add additional channels to memory.

Erase channel

1. Momentarily press the Power Button.
2. Set TV/CATV Switch to desired position.
3. Use Channel Up and Down Button to select channel.
4. Press the Erase Button on front of set.
5. Repeat steps three and four to erase additional channel from memory.

Time Set

1. Momentarily press the Power Button.
2. Set the Time Set Button in the time set position.
3. Use the Channel Up Button to set the hour, and the Channel Down Button to set the minutes.
4. Set the Time Set Button to normal position.

Sleep

1. Momentarily press the Power Button.
2. Press the Sleep Button on the remote transmitter. Maximum sleep time 120 minutes. MINIMUM sleep time 10 minutes. Sleep timer works on a 10 minute cycle.

Note:

Channels are not accessible while in the time set mode. Erased channels are accessible while in seek tuning mode.

NOTE: All the following adjustments are made with the following control settings unless otherwise indicated, Color (VR602-1) Normal viewing level, Tint (VR602-2) Normal viewing level, Brightness (VR602-3) Normal viewing level, Contrast (VR602-4) Normal viewing level, CATV Switch (SW118) to STD, AFT (SW119-4) off, Auto Color (SW119-5) off, TV/ CATV (SW119-1) to TV, ST/MONO (SW119-2) to Stereo.

B+ ADJUSTMENT

Tune in a picture. Set Brightness (VR602-3) and Contrast (VR602-4) Controls to MINIMUM. Connect digital DC Voltmeter to TP503, low side to ground. With line voltage set to 120 VAC. B+ should read 94.0V DC.

RF AGC ADJUSTMENT

Tune in a picture. Adjust RF AGC Control (VR201) Counterclockwise until snow (noise) appears in picture. Then adjust RF AGC Control Clockwise until snow disappears.

SUB-BRIGHTNESS ADJUSTMENT

Tune in a picture. Set Color (VR602-1), Contrast (VR602-4) and Brightness (VR602-3) Controls to MINIMUM. Adjust Sub-Bright Control (VR601) for just visible highlights. Check all active channels for blooming with Contrast and Brightness Controls to Maximum. Readjust if necessary.

AUTO COLOR AND AUTO TINT ADJUSTMENT

Tune in a color bar pattern. Connect an oscilloscope to TP930 (IC901 pin 30), low side to ground. Set AUTO COLOR Switch (SW119-5) to ON position. Adjust Auto Tint (VR603) so that the second and fourth bars are of equal amplitude. Adjust Auto Color (VR604) for 3.8V p-p amplitude of full waveform (peak of third bar to bottom of blanking pulse.)

COMB FILTER ADJUSTMENT

Connect an NTSC STD 1V p-p color bar signal to VIDEO IN Jack (J751) on rear of set. Select VIDEO by pressing TV/VIDEO (SW110-D) or TV/ VIDEO/S VIDEO key on remote transmitter. Connect an oscilloscope to TP32. Adjust Video Level (VR845) for 2.0 V p-p. Move oscilloscope to TP30. Adjust CCD Level Control (VR841) for MINIMUM level of burst signal. Move oscilloscope to CP752 pin 7. Adjust COMB (VR842) and (VR846) for MINIMUM level of burst signal. Move oscilloscope to TP33. Adjust Correcting Control (VR843) for 2.0V p-p.

SUB CONTRAST ADJUSTMENT

Connect an NTSC STD 1V p-p color bar signal to VIDEO IN Jack (J751) on rear of set. Select VIDEO by pressing TV/VIDEO (SW110-D) or TV/ VIDEO/S VIDEO key on remote transmitter. Connect an oscilloscope to CP752 pin 7, low side to ground. Adjust Sub Contrast Control (VR844) for 600mV p-p.

HORIZONTAL WIDTH ADJUSTMENT

Tune in a picture. Adjust Horizontal Width Control (VR471) until picture extends just beyond edges of screen.

PINCUSHION ADJUSTMENTS

Tune in a crosshatch pattern. Adjust Side PCC Amp (VR472) for straight vertical lines. Adjust Top/Bottom PCC Amp (VR473) for straight horizontal lines at the top and bottom of the screen. Adjust Top/Bottom PCC Phase (L473) for straight horizontal lines from top to bottom of screen.

EMERSON MODELS MS2700RD/(SUFFIX A/B/C/D), MS2700RA/(SUFFIX A/B/C/D)

FOLDER 1

MISCELLANEOUS ADJUSTMENTS (Continued)

SCREEN ADJUSTMENT

Tune in a crosshatch pattern. Set Contrast (VR602-4) and Brightness (VR602-3) Controls to MINIMUM. Connect an oscilloscope to TP24, low side to ground. Adjust Screen Control (VR1001B) to place bottom of waveform at a 100VDC level.

COLOR TEMPERATURE ADJUSTMENT

This set employs an Auto Kine Bias, there is no adjustment to be performed.

COLOR PURITY ADJUSTMENT

NOTE: Operate the set for 15 minutes to allow warmup of CRT.

Use a degaussing coil to demagnetize the CRT. Turn Contrast (VR602-4) and Brightness (VR602-3) Controls to Maximum, Color Control (VR602-1) to MINIMUM. Connect a Jumper from the Emitter to the Base of Q807 and a jumper from the Emitter to the Base of Q801 to obtain a green raster. Loosen the deflection yoke clamp screw and move it back as far as possible. Adjust purity tabs to center the vertical green band. Slide the Deflection Yoke (DY801) forward to produce a uniform green screen. Tighten the deflection yoke clamp screw.

STEREO/SAP ADJUSTMENTS

NOTE: All the following adjustments were made using a B&K model 2009 MTS TV/STEREO Generator, equivalent generator may be used. The following Control settings were used for all adjustment except where otherwise indicated: STEREO/MONO Switch (SW119-2) to Stereo (In) Position, Treble (VR602-5) to Midrange, Bass (VR602-6) to Midrange, Balance (VR602-7) to Midrange. Use Stereo/SAP Switch (SW114) or ST/SAP Key on remote transmitter to toggle between Stereo and SAP Modes on receiver.

AUDIO INPUT LEVEL ADJUSTMENT

Connect generator to antenna terminals. Release both PILOT and SAP Buttons, Select 1kHz audio frequency, and L-R modulating signal. Connect an oscilloscope to TP14, low side to ground. Adjust Audio Level Control (VR301) for 200mV p-p.

SAP AND STEREO FILTER ADJUSTMENT

Connect generator to antenna terminals. Select SAP, 1kHz audio frequency, and L-R modulating signal. Select SAP Mode on receiver. Connect an oscilloscope to TP15, low side to ground. Adjust SAP/STEREO Control (VR951) for Maximum.

STEREO VCO ADJUSTMENT

Connect generator to antenna terminals. Select PILOT, 1kHz audio frequency, and L-R modulating signal. Select Stereo Mode on

CONVERGENCE ADJUSTMENT

Connect a color bar generator to the antenna terminal and tune in a dot pattern. Adjust the 4 pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6 pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically and rotate both tabs in the same direction to converge horizontally.

4 and 6 pole magnets interact, repeat adjustment until center convergence is correct. Tune in a crosshatch pattern. Remove the rubber wedges between Deflection Yoke (DY801) and the CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the right and left sides of the screen. Replace the rubber wedges.

NOTE: Model MS2700RD/A suffix C does not require manual adjustment of color purity and convergence due to Auto ITC circuits used in this model.

receiver. Connect a frequency counter to TP17, low side to ground. Adjust Stereo VCO Control (VR954) for 62.936kHz.

SAP VCO ADJUSTMENT

Connect generator to antenna terminals. Select SAP, 1kHz audio frequency, and L-R modulating signal. Select SAP Mode on receiver. Connect an oscilloscope to TP19, low side to ground. Adjust SAP VCO Control (VR952) for 3.4V p-p.

PILOT CANCEL ADJUSTMENT

Connect generator to antenna terminals. Select PILOT, 1kHz audio frequency, and L-R modulating signal. Select Stereo Mode on receiver. Set Pilot Cancel Control (VR953) fully clockwise. Adjust Pilot Cancel Control counterclockwise to a point just past where Stereo Indicator lights.

SEPARATION ADJUSTMENTS

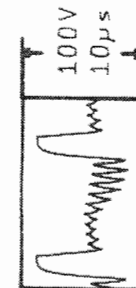
Connect generator to antenna terminals. Select Stereo Mode on TV. Select PILOT, 300Hz audio frequency and LEFT modulating signal. Connect an oscilloscope to Right Audio Out Jack. Adjust L-R Control (VR955) for MINIMUM amplitude of waveform. Change Audio frequency to 8kHz. Adjust Separation Adjust Control (VR957) for MINIMUM amplitude of waveform. Repeat until no further decrease in amplitude is obtained with adjustment.



V801 PIN 11
BLUE OUTPUT



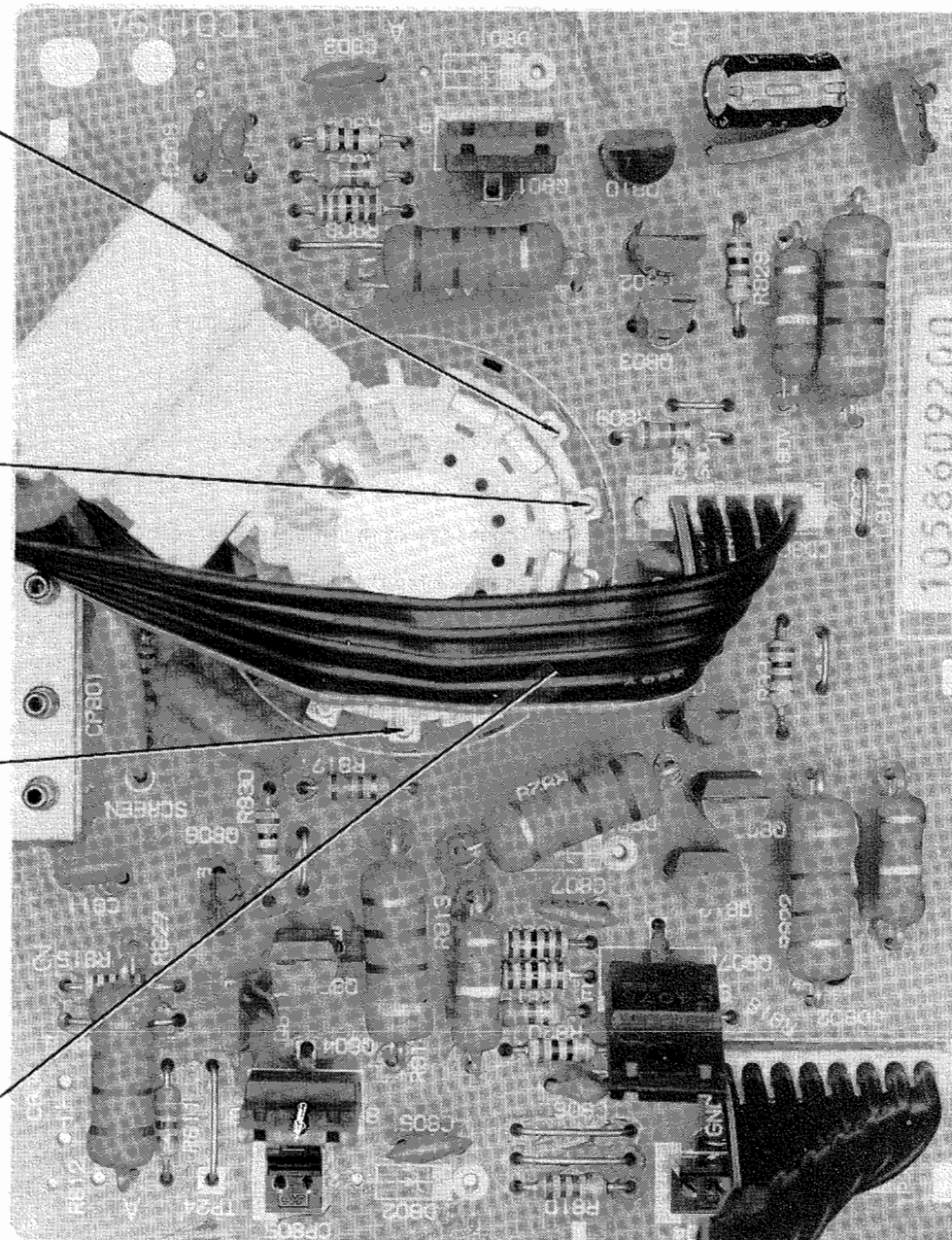
V801 PIN 10
FILAMENT



V801 PIN 6
GREEN OUTPUT



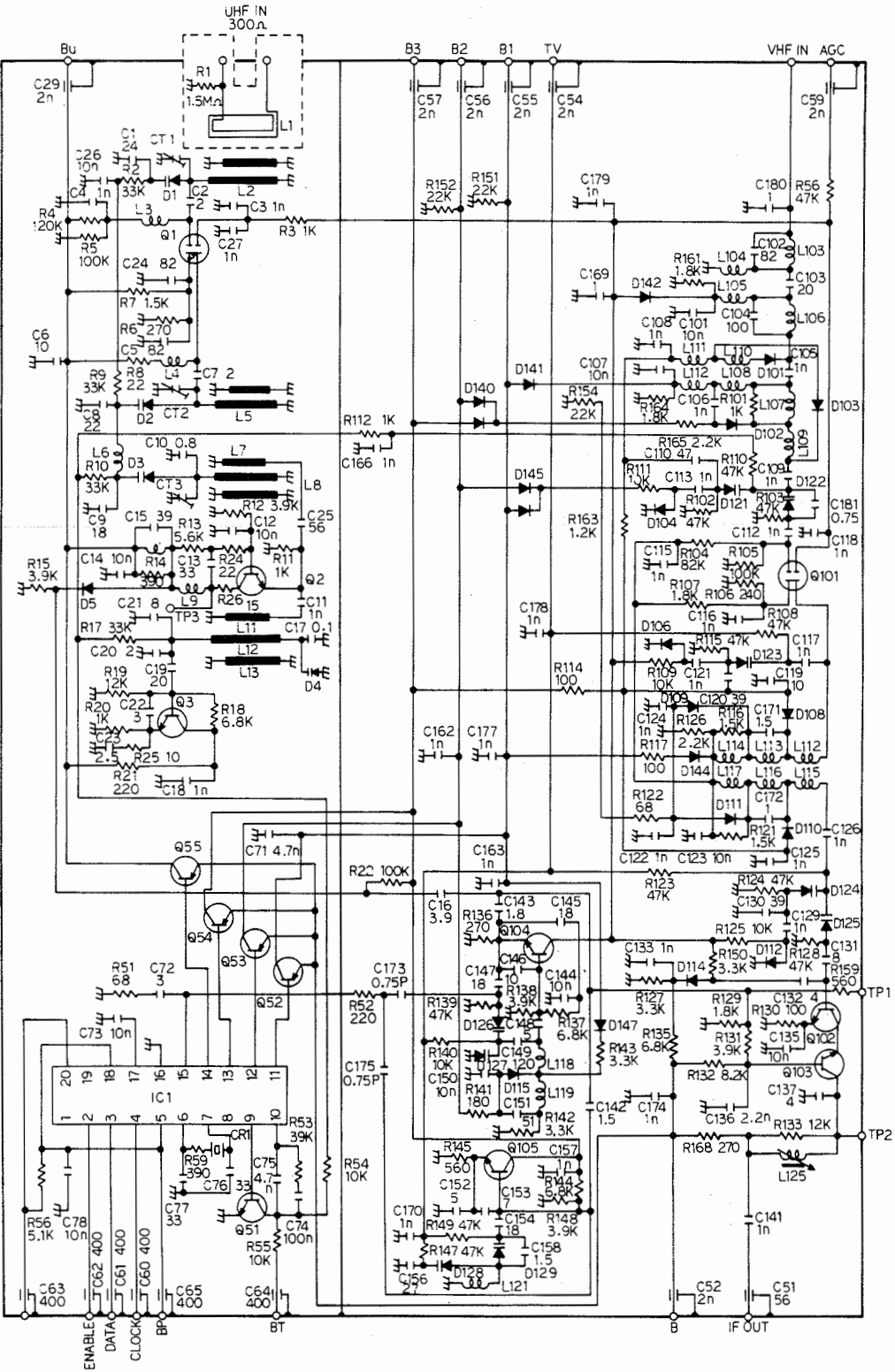
V801 PIN 8
RED OUTPUT



EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1

TV TUNER SCHEMATIC DIAGRAM



NOTE: Tuner parts are not available.
When repairs are required, order a complete replacement tuner.

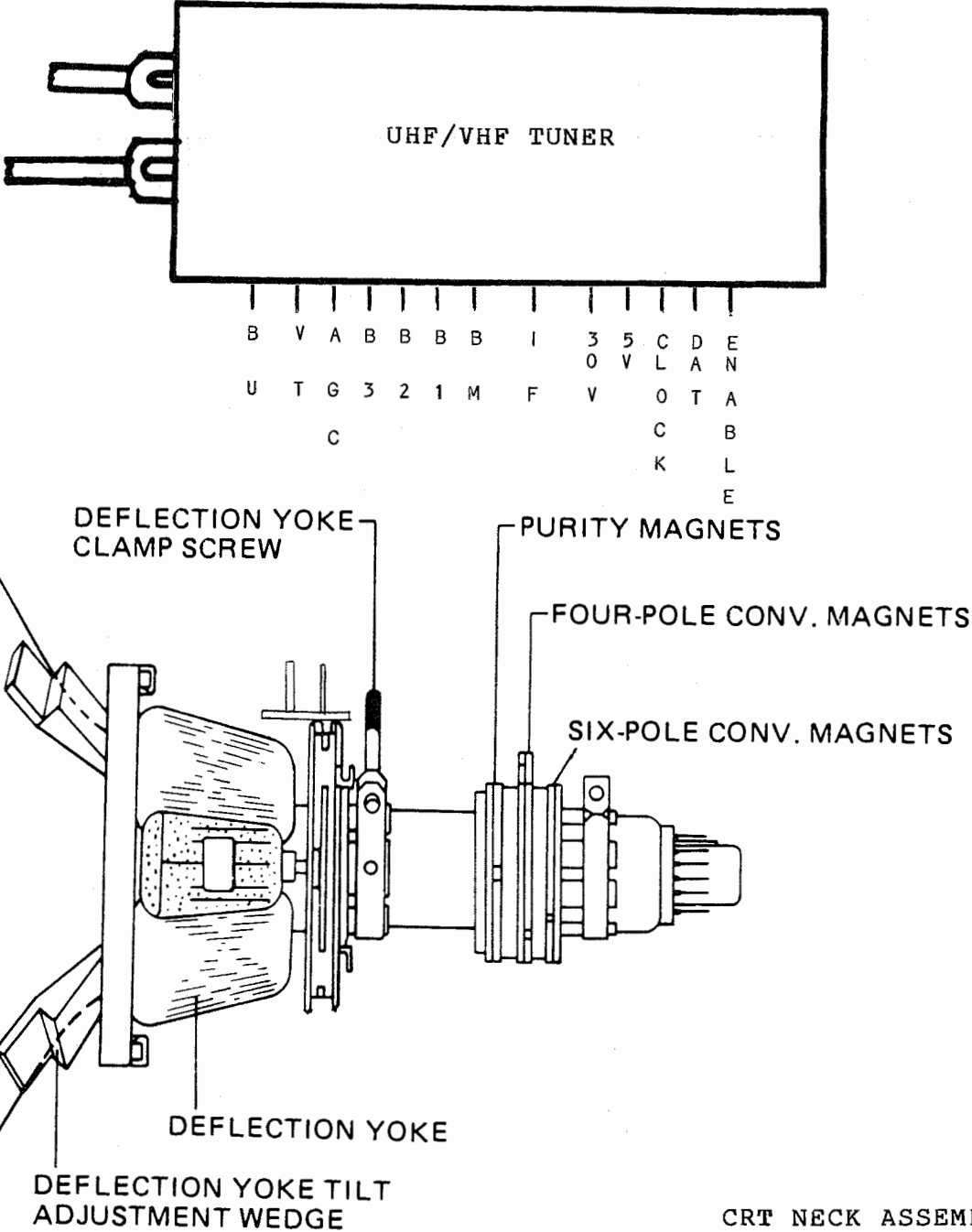
Courtesy of Manufacturer

UHF/VHF TUNER

TUNER VOLTAGE CHART

	BU	VT	AGC	B3	B2	B1	BM
VHF Low Band	0V	12.2V	7.5V	0V	0V	11.4V	12.0V
VHF High Band	0V	9.9V	7.5V	0V	11.4V	0V	12.0V
UHF Band	11.6V	1.2V	7.5V	.6V	0V	0V	12.0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.



EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700DA/(SUFFIX A/B/C/D)

FOLDER 1

CRT NECK ASSEMBLY

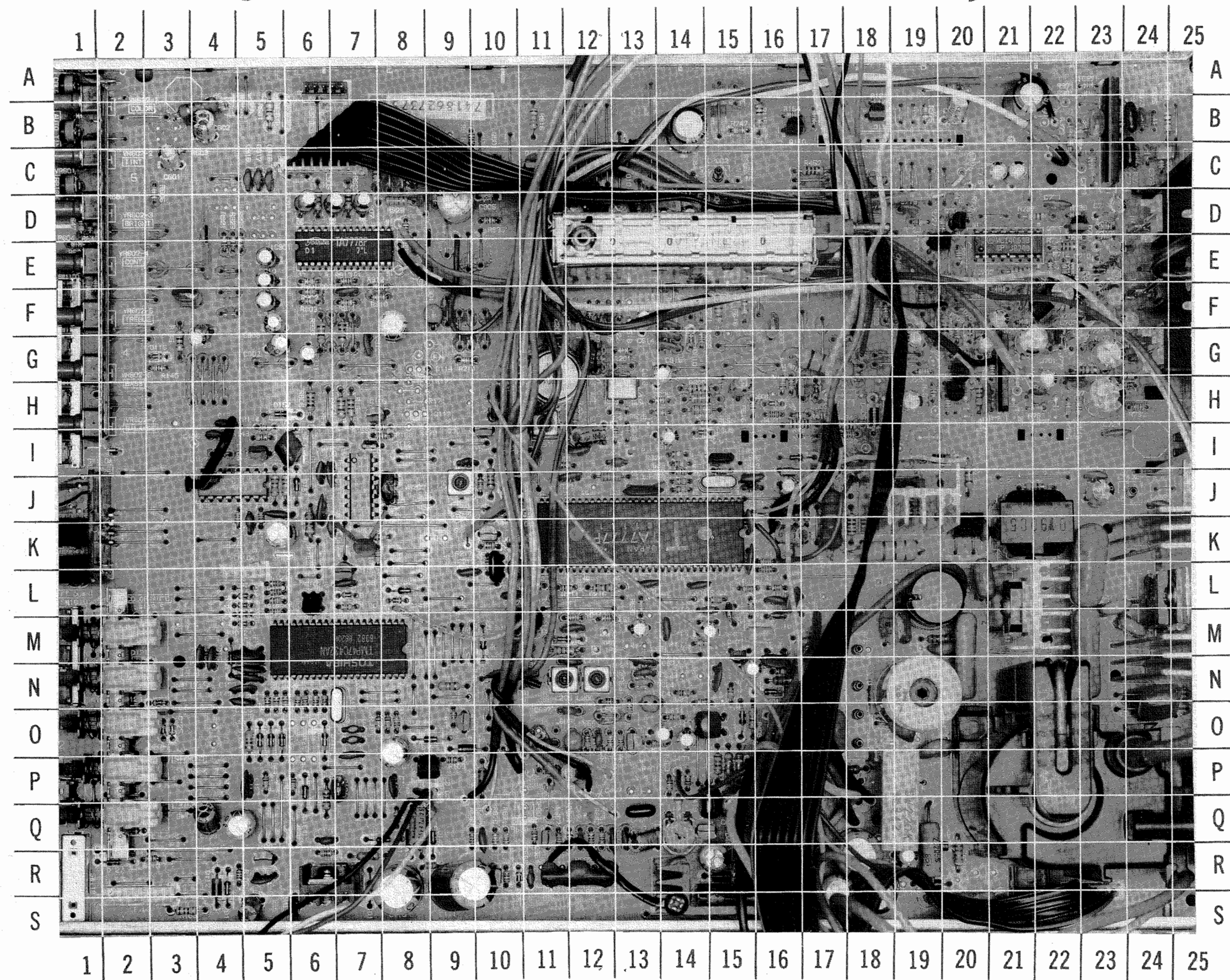
MAIN BOARD-GridTrace LOCATION GUIDE

C001	D-14	C374	C-24	C621	M-13	D122	L-5	L301	H-11	R132	N-6	R413	G-17	R657	I-14	R926	C-9
C002	D-14	C375	B-24	C622	N-12	D123	M-5	L302	J-9	R133	N-6	R414	P-16	R658	G-14	R927	D-9
C003	D-13	C376	C-24	C623	N-12	D124	M-5	L304	J-10	R134	O-5	R415	H-17	R659	J-14	R928	D-8
C004	D-15	C379	C-23	C625	M-14	D125	Q-3	L306	M-10	R135	P-6	R416	C-11	R661	B-8	R929	C-8
C005	J-16	C381	B-23	C626	P-12	D126	F-3	L402	L-19	R136	P-6	R418	P-15	R662	Q-12	R933	F-6
C006	D-15	C400	Q-16	C627	O-14	D127	R-2	L403	N-19	R137	O-8	R419	Q-15	R666	R-10	R934	F-7
C007	D-15	C402	L-15	C628	Q-12	D128	Q-2	L602	N-12	R138	P-5	R420	Q-15	R667	Q-11	R935	D-10
C008	C-15	C403	O-14	C629	O-11	D129	Q-3	L603	Q-12	R139	K-7	R421	Q-15	R668	Q-11	R936	D-8
C009	D-12	C404	L-14	C633	N-17	D130	Q-2	L604	N-13	R140	G-3	R422	P-15	R669	Q-10	R975	B-19
C010	D-13	C405	O-15	C637	O-11	D131	M-2	L606	I-15	R141	J-5	R426	Q-14	R670	Q-10	R977	H-7
C111	R-10	C406	L-15	C661	Q-12	D141	Q-8	L901	F-9	R142	J-5	R427	Q-16	R671	Q-10	RC601	I-15
C112	S-5	C407	M-15	C662	Q-12	D142	Q-9	Q101	R-7	R143	I-5	R428	M-20	R680	C-1	SW103A	K-1
C113	R-8	C408	N-16	C663	Q-13	D143	L-8	Q102	R-5	R144	H-5	R432	H-17	R681	B-5	SW108A	M-1
C114	Q-4	C409	N-15	C666	R-11	D144	Q-5	Q103	P-8	R145	G-3	R433	H-16	R682	R-12	SW108A	M-1
C115	R-5	C410	M-16	C667	Q-10	D146	Q-5	Q104	Q-9	R147	I-4	R434	I-18	R701	F-24	SW108B	M-1
C116	Q-6	C411	L-16	C701	G-23	D147	Q-5	Q105	L-7	R148	J-5	R435	J-22	R702	G-24	SW107	P-1
C118	K-7	C412	K-15	C702	G-24	D151	J-6	Q107	L-6	R149	J-4	R436	K-18	R703	G-23	SW108C	N-1
C119	B-20	C413	J-16	C703	G-23	D152	L-8	Q108	I-5	R152	J-6	R438	S-20	R704	F-22	SW109B	K-1
C120	N-5	C416	F-19	C705	H-22	D153	M-4	Q109	H-7	R153	B-19	R439	Q-17	R705	G-23	SW110A	I-1
C121	N-5	C417	L-16	C706	F-21	D154	P-6	Q110	B-16	R154	B-16	R440	R-19	R706	G-22	SW110B	H-1
C122	M-5	C418	Q-15	C707	G-22	D155	Q-9	Q11	I-7	R155	I-18	R442	J-20	R708	F-20	SW110C	G-1
C123	M-5	C419	Q-15	C708	F-21	D156	M-10	Q112	F-12	R159	Q-8	R443	C-17	R709	G-20	SW110D	F-1
C124	Q-7	C420	P-16	C709	G-22	D157	H-5	Q201	K-10	R160	O-8	R448	N-17	R710	H-24	SW118	R-1
C125	Q-7	C421	R-17	C710	E-23	D158	Q-9	Q203	I-10	R161	B-19	R451	J-17	R712	E-20	SW119-1	O-2
C126	P-7	C423	Q-13	C711	F-23	D201	M-11	Q301	L-24	R163	S-3	R452	C-17	R713	F-23	SW119-2	P-2
C127	P-5	C425	Q-14	C712	A-23	D401	N-16	Q401	K-20	R165	H-7	R454	P-14	R714	E-20	SW119-3	N-2
C128	F-3	C428	R-16	C713	E-23	D402	Q-15	Q402	P-8	R168	I-8	R455	P-15	R715	F-21	SW119-4	N-2
C129	P-8	C431	R-17	C715	D-19	D403	R-15	Q403	C-11	R169	P-10	R456	R-20	R716	D-23	SW119-5	M-1
C130	P-8	C432	R-15	C716	C-21	D404	R-15	Q404	H-17	R201	G-13	R457	M-14	R717	F-23	T401	K-22
C131	J-5	C433	K-20	C717	C-21	D405	H-18	Q602	Q-13	R203	I-13	R460	P-14	R718	D-23	TP1	I-13
C132	J-5	C434	J-23	C720	C-18	D406	R-19	Q603	I-17	R204	I-13	R461	P-18	R719	E-22	TP2	K-10
C133	G-4	C435	J-23	C721	H-22	D408	J-17	Q604	Q-11	R205	H-12	R464	R-16	R720	F-19	TP3	H-13
C134	H-4	C436	H-19	C722	G-19	D409	I-16	Q661	R-10	R206	F-10	R603	C-3	R722	H-18	TP4	F-12
C135	I-4	C439	M-20	C723	H-23	D410	I-20	Q662	G-22	R207	L-10	R604	E-4	R724	G-19	TP5	F-12
C136	J-5	C441	O-24	C724	F-24	D411	L-21	Q701	G-23	R208	F-11	R605	H-12	R725	H-20	TP6	L-10
C138	L-7	C442	R-18	C728	F-22	D412	R-20	Q702	D-20	R209	F-12	R606	C-3	R726	D-20	TP30	D-5
C139	Q-4	C443	L-25	C729	D-22	D603	H-17	Q703	F-23	R210	F-12	R607	E-1	R727	D-20		
C141	J-6	C444	M-23	C901	G-6	D605	P-16	Q704	D-23	R211	L-11	R609	A-1	R728	D-20		
C142	Q-8	C445	M-21	C902	B-4	D606	H-16	Q705	H-23	R212	M-12	R611	N-17	R729	D-19		
C145	D-13	C447	O-20	C903	F-5	D609	I-14	Q706	H-22	R213	K-10	R612	H-16	R730	E-22		
C146	K-6	C450	R-17	C904	F-7	D610	G-14	Q707	C-18	R214	G-19	R614	J-16	R731	E-22		
C149	N-5	C452	R-18	C905	C-10	D611	D-15	Q708	F-23	R215	K-11	R615	D-17	R732	E-24		
C153	J-6	C453	P-16	C906	F-5	D661	Q-12	Q709	C-10	R216	L-12	R616	H-16	R733	H-22		
C154	M-4	C455	J-24	C907	D-7	D662	R-10	Q901	C-9	R217	K-10	R617	I-15	R734	G-23		
C155	M-4	C457	O-17	C908	E-5	D701	G-20	Q902	C-8	R222	F-13	R618	F-15	R735	H-22		
C156	N-5	C458	M-21	C909	D-7	D702	G-22	Q903	R-7	R223	K-10	R620	H-14	R736	E-18		
C158	N-10	C459	O-19	C910	E-5	D703	E-23	R103	R-4	R301	I-11	R621	F-15	R737	D-22		
C161	P-7	C460	R-19	C911	D-6	D704	E-23	R105	R-7	R302	I-10	R623	I-14	R738	E-22		
C162	I-6	C461	L-23	C912	G-7	D705	H-24	R106	P-9	R303	J-10	R624	I-14	R739	D-22		
C164	J-6	C462	M-19	C913	F-8	DL661	R-12	R107	P-9	R305	L-11	R625	J-14	R740	E-21		
C201	J-12	C466	M-14	C914	Q-4	FB401	P-22	R108	P-9	R306	M-11	R627	H-16	R746	E-18		
C202	J-13	C468	Q-13	C915	C-9	IC101	M-7	R109	P-9	R308	J-10	R628	H-14	R747	B-15		
C204	I-13	C469	L-23	C916	C-5	IC102	J-4	R110	R-3	R310	M-12	R629	H-14	R748	H-23		
C205	I-12	C484	D-15	C917	C-5	IC103	J-7	R111	O-9	R371	A-23	R630	L-12	R901	E-6		
C206	I-12	C486	M-20	C918	C-5	IC105	I-16	R112	N-9	R372	A-23	R631	Q-13	R902	F-6		
C207	G-11	C487	N-15	CF201	G-11	IC201	K-13	R113	J-17	R373	B-24	R632	N-14	R903	F-6		
C208	F-11	C488	M-24	CF202	K-10	IC371	B-23	R114	D-11	R374	C-24	R633	N-14	R905	B-4		
C209	F-12	C601	C-3	CF301	M-11	IC401	S-15	R115	B-16	R375	B-24	R634	O-14	R906	H-6		
C210	M-12	C602	B-4	CF401	M-16	IC402	J-17	R117	R-19	R376	C-24	R635	O-13	R910	F-8		
C211	N-12	C605	K-16	CP002	C-15	IC701	G-22	R118	Q-7	R379	B-23	R636	O-12	R911	F-7		
C212	L-19	C607	J-15	CP103	R-2	IC702	I-21	R119	L-7	R380	A-26	R637	O-14	R912	E-8		
C217	B-14	C608	F-16	CP104	L-5	IC901	E-7	R120	L-6	R381	A-23	R639	P-11	R913	E-13		
C301	I-11	C609	J-15	CP105	C-5	J701-1	F-24	R121	L-5	R401	N-15	R642	I-18	R914	E-8		
C302	I-10	C610	H-14	CP401	N-18	J701-2	F-24	R122	L-5	R402	L-15	R646	D-1	R915	Q-10		
C303	J-10	C611	H-15	CP402	J-24	J701-3	E-24	R123	L-5	R403	N-16	R647	D-1	R916	B-11		
C305	L-11	C612	H-14	D112	R-4	J701-4	E-24	R124	L-5	R405	N-16	R648	A-1	R917	F-23		
C306	M-11	C613	F-14	D113	R-4	J701-5	D-24	R125	L-5	R406	Q-15	R650	E-2	R918	B-10		
C307	J-10	C614	G-14	D114	R-7	J701-6	D-24	R126	L-5	R407	N-16	R651	G-20	R919	B-7		
C310	N-10	C615	G-14	D115	Q-8	L202	H-13	R127	N-5	R408	L-15	R652	H-19	R920	C-7		
C311	N-11	C616	G-14	D116	G-3	L203	G-11	R128	N-5	R409	L-15	R653	G-21	R921	E-4		
C371	B-24	C617	I-14	D117	L-7	L205	M-11	R129	N-5	R410	L-15	R654	H-20	R922	C-7		
C372	A-22	C618	F-14	D118	O-6	L206	N-12	R130	N-6	R411	K-16	R655	H-15	R923	E-4		
C373	B-24	C620	L-12	D121	L-5	L207	L-10	R131	N-6	R412	L-16	R656	O-12	R924	D-6		

MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

EMERSON MODELS

FOLDER 1



MAIN BOARD

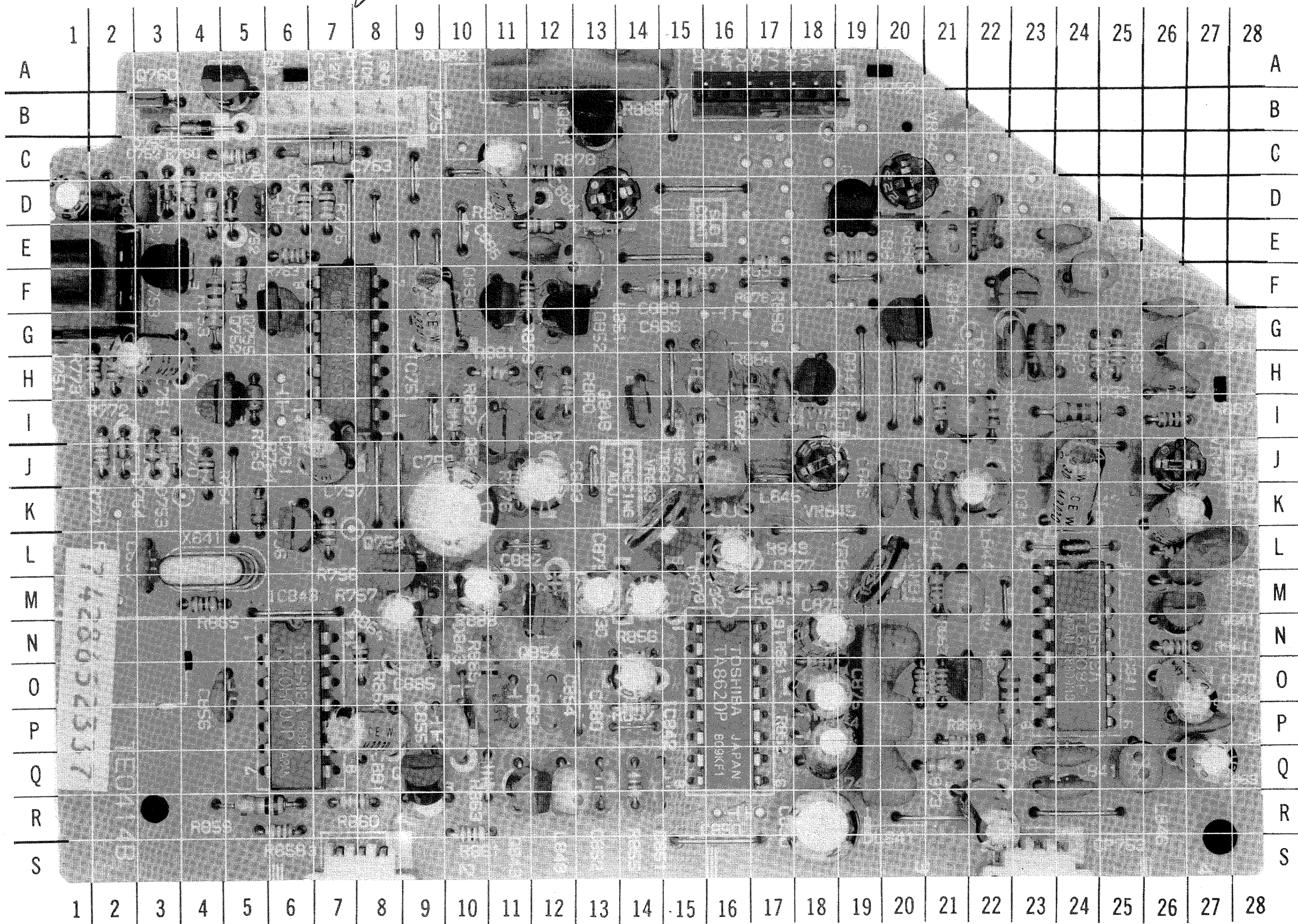
A Howard W. Sams GRIDTRACE™ Photo

SET 2650 FOLDER 1

MAIN BOARD

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1



EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1

STEREO/SAP BOARD

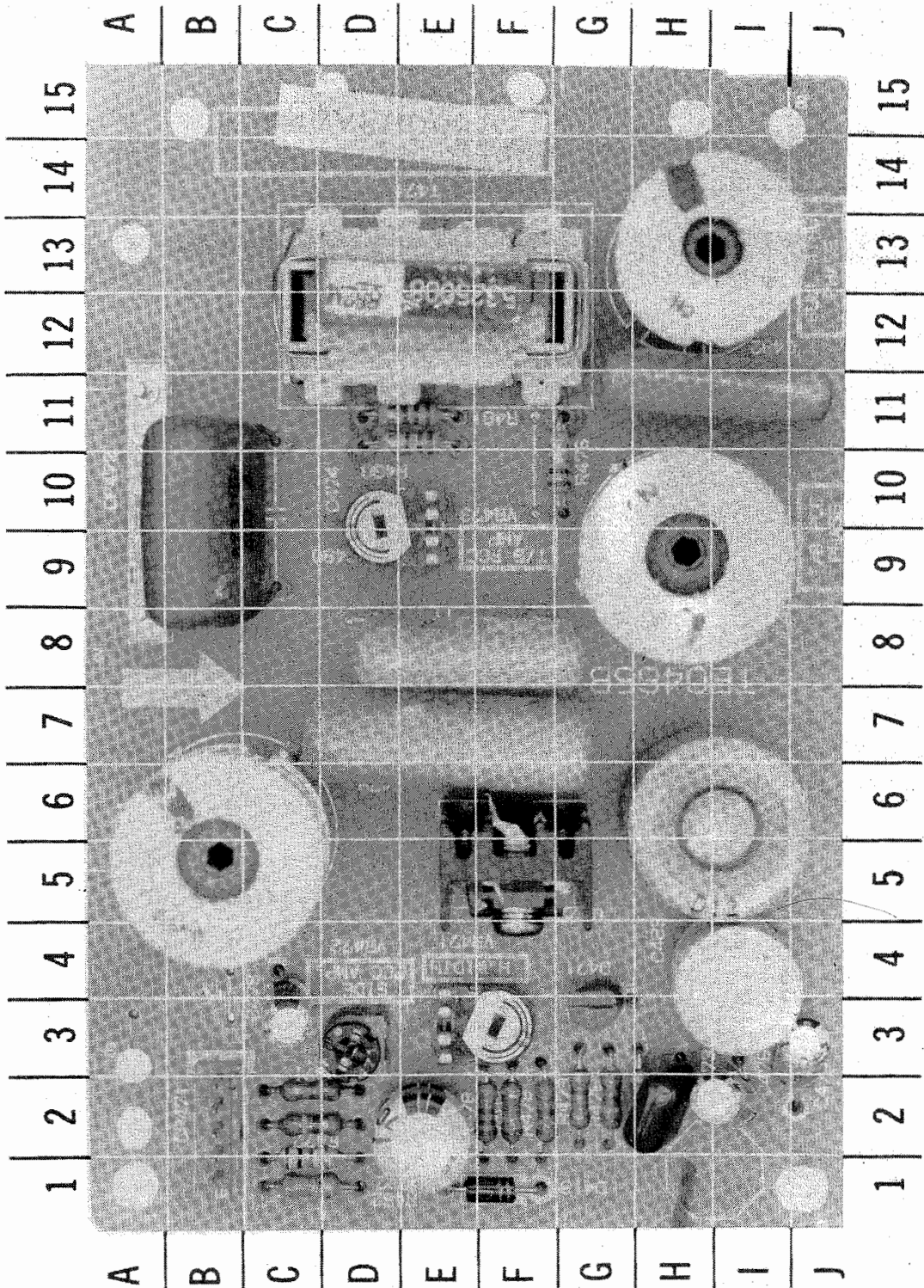
A Howard W. Sams GRIDTRACE™ Photo

STEREO/SAP BOARD

PINCUSHION
BOARD-GridTrace
LOCATION GUIDE

H-2
B-10
J-3
I-2
E-2
C-3
E-7
E-8
I-11
I-4
B-2
A-10
F-1
B-5
I-6
H-9
I-13
F-12
G-3
F-5
C-1
C-2
C-1
G-2
H-2
G-2
G-10
C-1
F-2
F-2
E-11
E-11
E-2
E-12

C473
C474
C475
C476
C477
C478
C479
C480
C482
C483
CP471
CP472
D413
L471
L472
L473
L474
L499
Q471
Q472
R462
R471
R472
R473
R474
R475
R476
R477
R478
R479
R480
R481
R482
T471



PINCUSHION BOARD

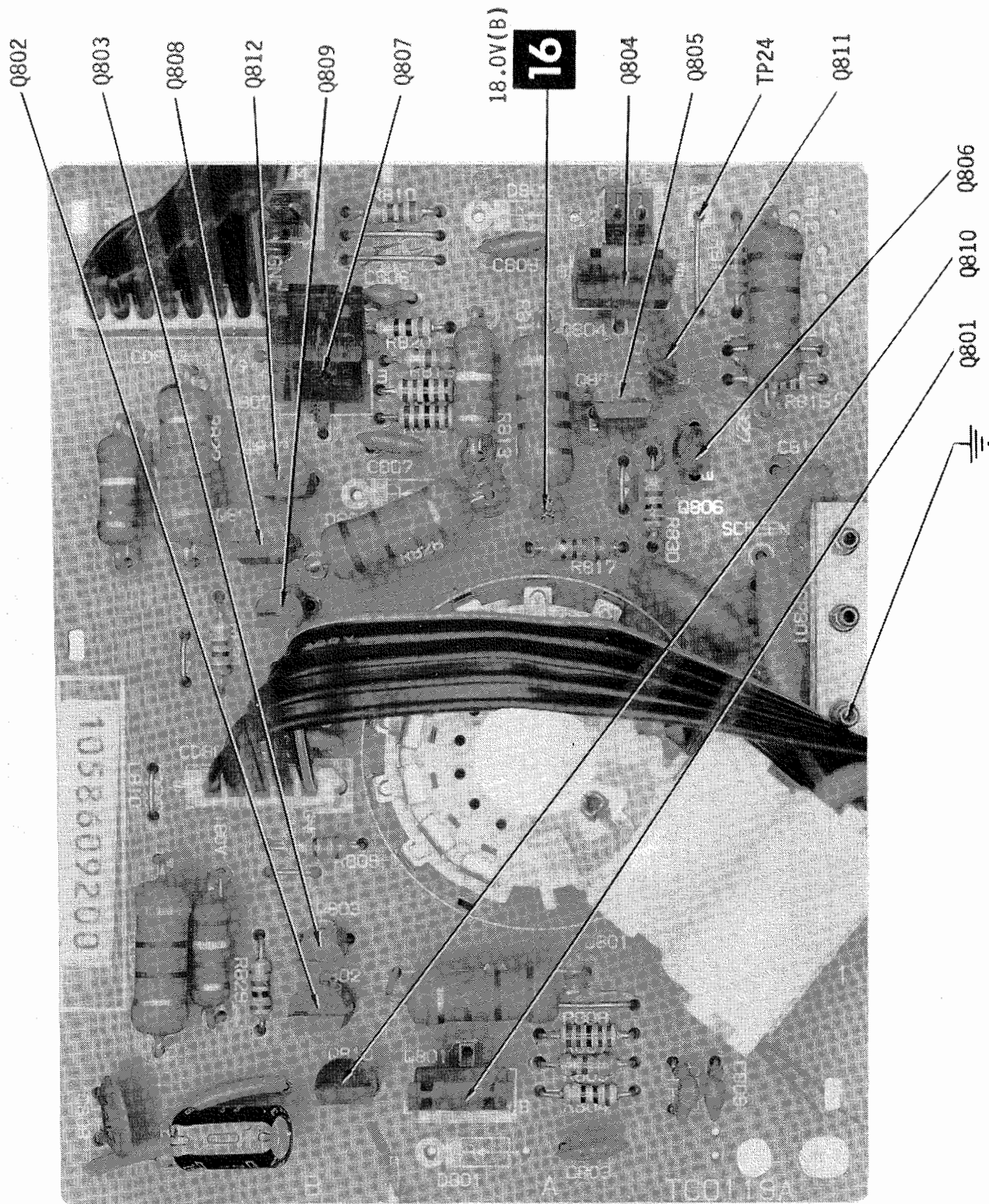
A Howard W. Sams GRIDTRACE™ Photo

STEREO/SAP BOARD-GridTrace LOCATION GUIDE

C751	H-3	L843	E-21	R867	I-26
C752	D-3	L844	I-21	R868	H-26
C755	D-5	L845	J-16	R870	J-4
C756	G-9	L846	Q-25	R871	G-23
C757	J-7	L848	Q-12	R872	I-17
C759	K-10	L850	I-21	R873	H-2
C760	H-3	L851	E-13	R874	I-15
C763	C-7	Q751	A-5	R875	D-7
C764	D-1	Q752	I-4	R876	J-11
C841	Q-24	Q753	F-3	R877	F-15
C842	P-27	Q754	L-8	R878	Q-12
C843	L-27	Q755	G-6	R879	F-11
C844	K-20	Q756	K-6	R880	H-12
C845	K-21	Q760	B-3	R881	H-12
C846	K-20	Q841	M-26	R882	I-10
C847	J-24	Q842	O-21	R883	F-19
C848	J-24	Q843	Q-11	R885	B-13
C849	Q-24	Q844	Q-9	R886	E-12
C851	Q-14	Q845	F-23	R888	M-10
C852	Q-13	Q846	G-20	R889	Q-11
C853	O-11	Q847	H-18	R896	F-21
C854	Q-12	Q848	I-14	R897	H-24
C855	P-10	Q850	F-11	R899	F-17
C856	M-4	Q851	B-13	TP30	M-13
C857	L-3	Q852	I-14	TP32	M-16
C858	H-26	Q854	M-12	TP33	I-15
C859	F-26	Q858	D-19	VR841	J-26
C860	E-24	Q859	I-11	VR842	M-20
C861	E-22	R751	C-5	VR843	K-14
C862	G-23	R752	F-7	VR844	D-17
C863	I-17	R753	F-4	VR846	D-20
C866	H-16	R754	J-3	X841	L-4
C869	Q-26	R755	D-4		
C870	Q-26	R756	R-6		
C871	K-27	R757	M-9		
C872	K-22	R759	H-5		
C873	R-22	R760	D-4		
C874	Q-18	R761	D-1		
C875	Q-18	R763	E-6		
C876	N-18	R764	K-5		
C877	J-16	R765	M-4		
C878	M-14	R770	J-3		
C879	M-13	R771	J-2		
C880	O-14	R772	H-2		
C881	P-8	R773	H-2		
C882	M-10	R774	D-7		
C883	J-12	R775	D-7		
C884	D-11	R841	N-26		
C885	N-9	R842	L-27		
C887	H-12	R843	M-14		
C888	E-12	R844	M-21		
C890	R-18	R845	Q-21		
CF841	G-23	R846	Q-20		
CP751	B-7	R847	H-18		
CP752	B-17	R848	I-22		
CP753	S-23	R849	L-16		
CP754	S-8	R850	P-21		
D751	D-5	R851	Q-18		
D752	D-3	R852	Q-21		
D753	J-3	R853	P-18		
D754	J-2	R854	P-18		
D755	B-4	R855	Q-14		
D841	L-24	Q856	N-14		
D842	M-12	R857	P-14		
D843	P-10	R858	R-6		
DL841	P-19	R859	R-5		
DL842	A-13	R860	R-7		
IC751	G-7	R861	R-10		
IC841	N-24	R862	P-7		
IC842	P-16	R863	Q-11		
IC843	P-8	R864	N-8		
L841	G-27	R865	M-4		
L842	E-24	R866	I-24		

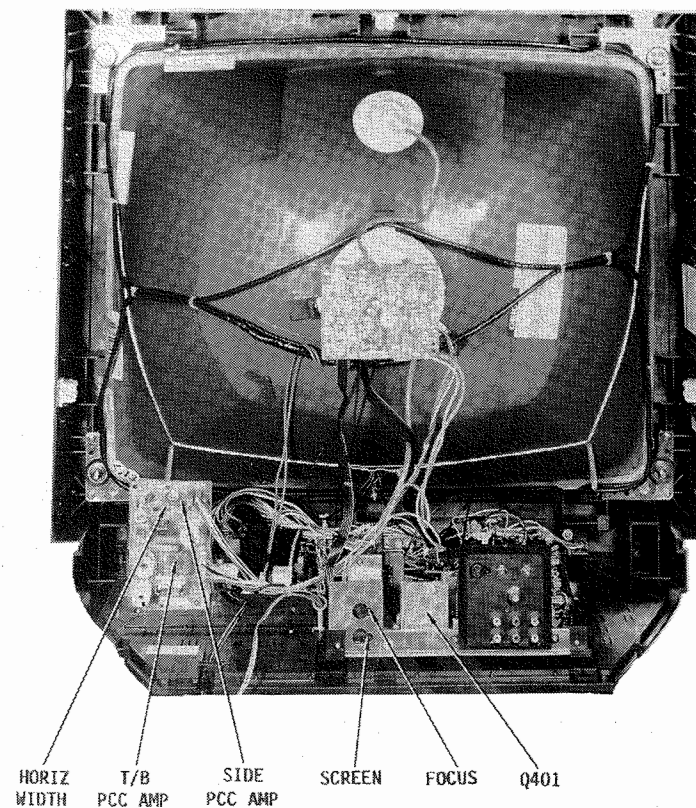
EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1



POWER SUPPLY BOARD-GridTrace

POWER SUPPLY BOARD-GridTrace											LOCATION GUIDE										
A 1 2 3 4 5 6 7 8 9 10 11											CP502 B-7 D101 F-11 G-11 D102 D105 H-11 H-4 H-5 H-5 I-4 E-7 F-4 G-4 G-8 E-9 B-5 B-5 B-3 B-4 C-2 J-3 J-5 J-8 B-6 G-6 G-6 B-10 B-9 B-10 B-8 B-8 B-10 B-9 G-6 H-6 F-3 F-3 E-6 F-7 E-5 G-4 F-3 F-8 G-6 G-7 B-6 A-4 D-1 F-9										
B 1 2 3 4 5 6 7 8 9 10 11											G-11 E-11 E-11 D-11 D-11 A-10 A-10 A-10 A-10 B-10 A-8 B-8 B-9 B-8 A-9 A-8 A-9 A-10 B-9 J-5 J-7 H-5 G-4 G-6 G-3 D-7 F-6 G-4 F-3 F-7 F-6 E-7 C-6 C-7 A-5 B-4 B-5 B-3 B-1 E-7 G-4 H-7 B-6 F-2 C-7 G-7 C-5 B-5 A-8 A-10										
C 1 2 3 4 5 6 7 8 9 10 11											C101 C102 C103 C104 C105 C351 C352 C353 C354 C355 C356 C357 C358 C359 C360 C361 C362 C365 C366 C501 C502 C503 C504 C505 C506 C507 C508 C509 C510 C511 C512 C513 C514 C515 C516 C517 C518 C519 C520 C521 C522 C523 C526 C527 C528 C529 C533 C534 C535 CP351 CP352										
D 1 2 3 4 5 6 7 8 9 10 11																					
E 1 2 3 4 5 6 7 8 9 10 11																					
F 1 2 3 4 5 6 7 8 9 10 11																					
G 1 2 3 4 5 6 7 8 9 10 11																					
H 1 2 3 4 5 6 7 8 9 10 11																					
I 1 2 3 4 5 6 7 8 9 10 11																					
J 1 2 3 4 5 6 7 8 9 10 11																					
K 1 2 3 4 5 6 7 8 9 10 11																					



CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove eight screws holding cabinet back. Disconnect speaker connector, external audio connector, and remove cabinet back. Disconnect HV anode, CRT socket, Deflection Yoke connector, Degaussing Coil connector, ground leads and all required cabling. Release two latches holding main board assembly to cabinet bottom. Slide main board assembly out of cabinet. Release three latches holding power supply board assembly to cabinet bottom. Slide assembly out of cabinet. CRT is access-

ible for removal at this point of disassembly. See CRT removal procedure. Remove two screws and release two latches holding control 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 four nuts holding CRT to cabinet front and lift CRT out of cabinet. DO NOT LIFT CRT BY NECK.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

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

FUSE DEVICES

A 6.3-amp fuse is used for AC line protection. (See photo, Power Board.)

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) provided for one or two-digit entry direct access channel selection.

Fine tuning is automatic with fine tuning Up and Down buttons provided for additional fine tuning.

HIGH VOLTAGE

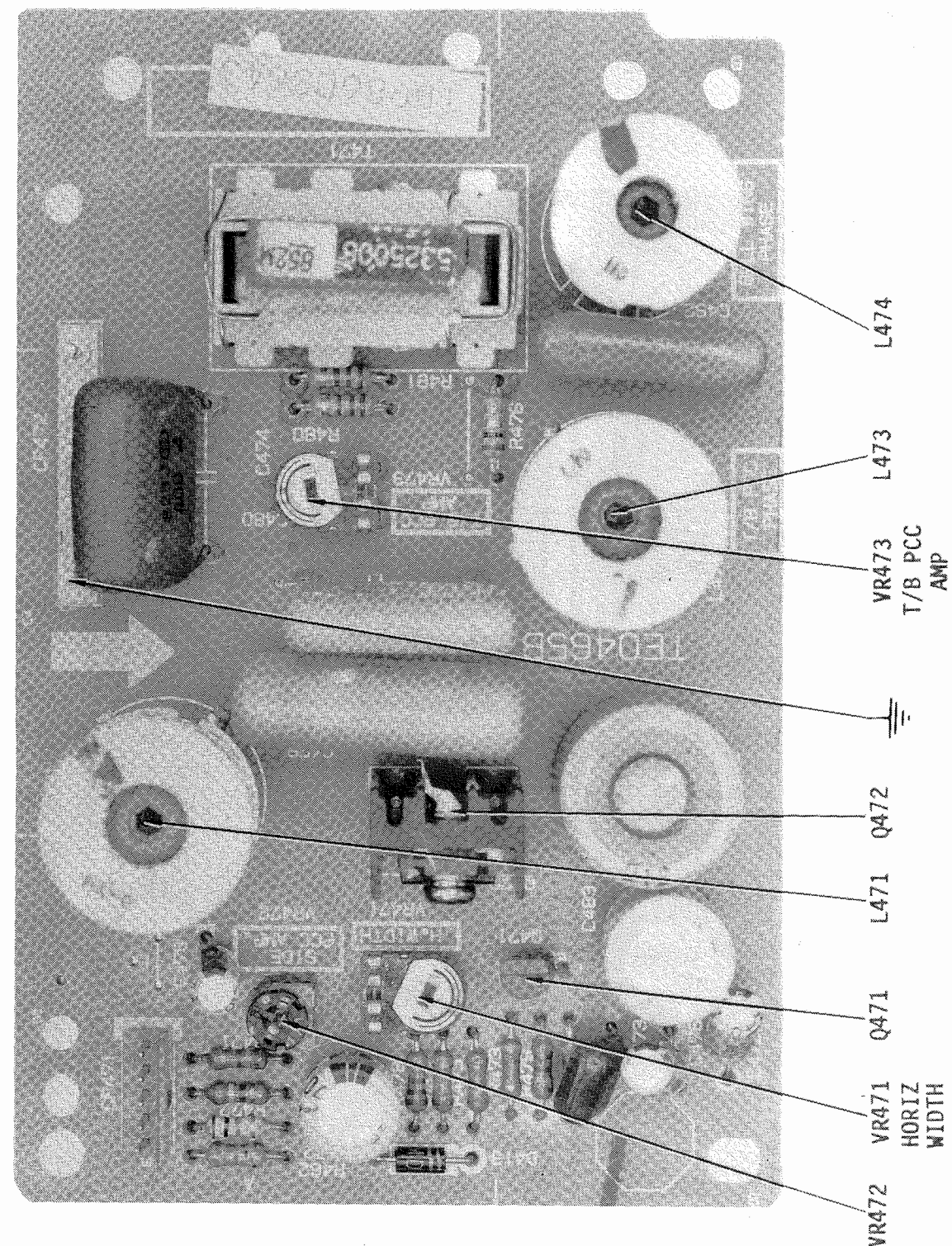
For high voltage procedure, refer to Miscellaneous Adjustments.

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, Chassis - Top View.)

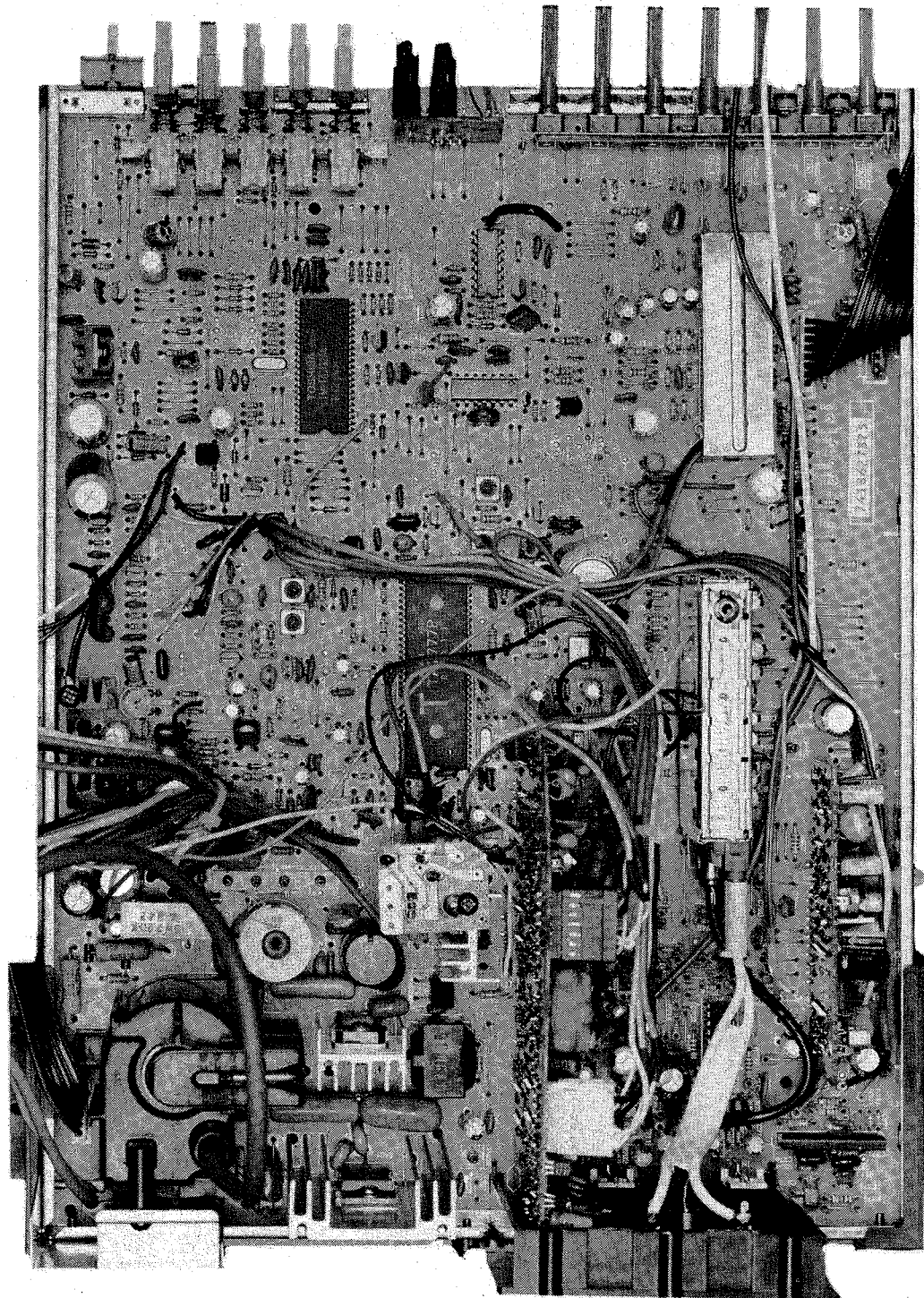
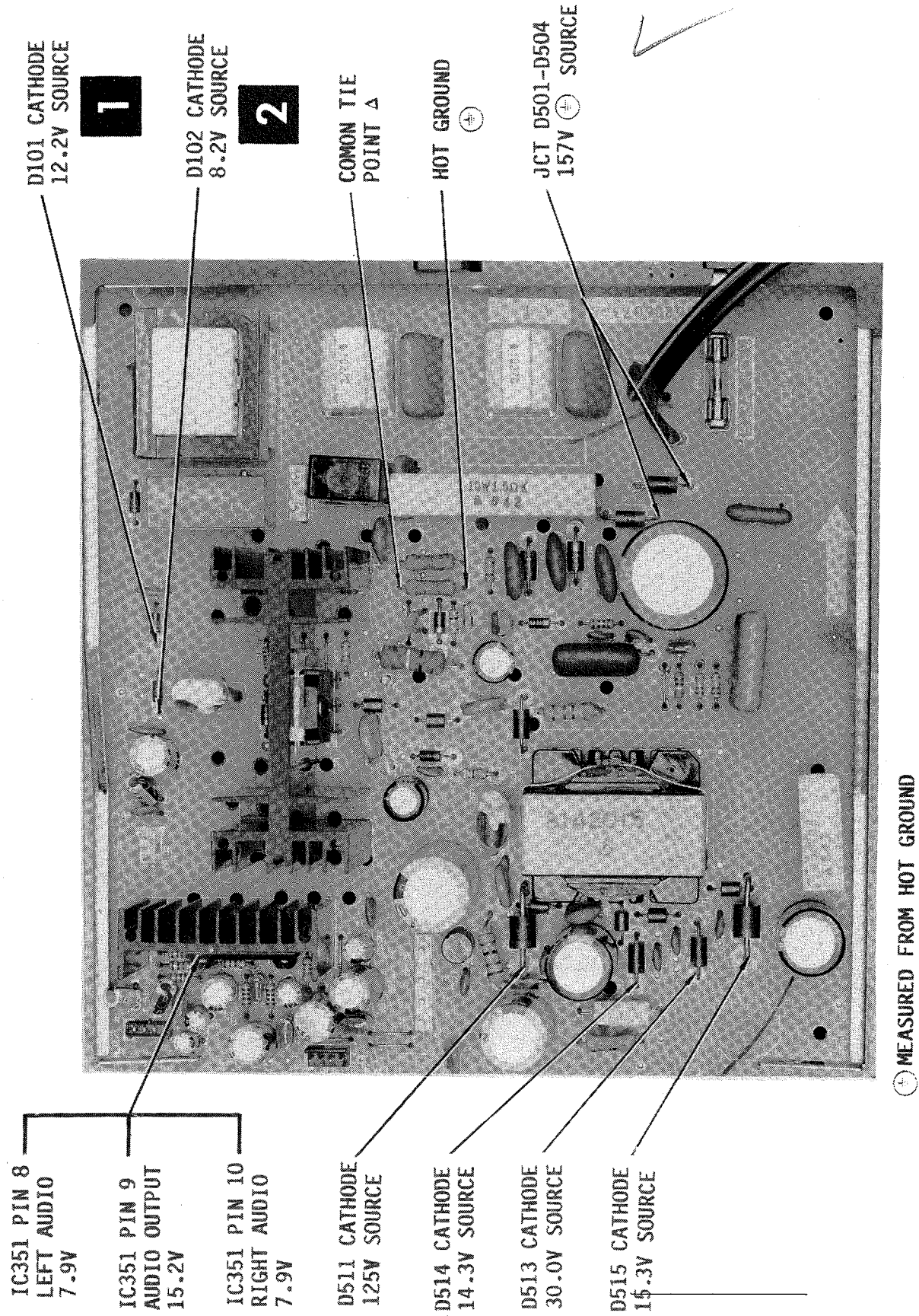


EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

FOLDER 1

PINCUSHION BOARD

SET 2650 FOLDER 1

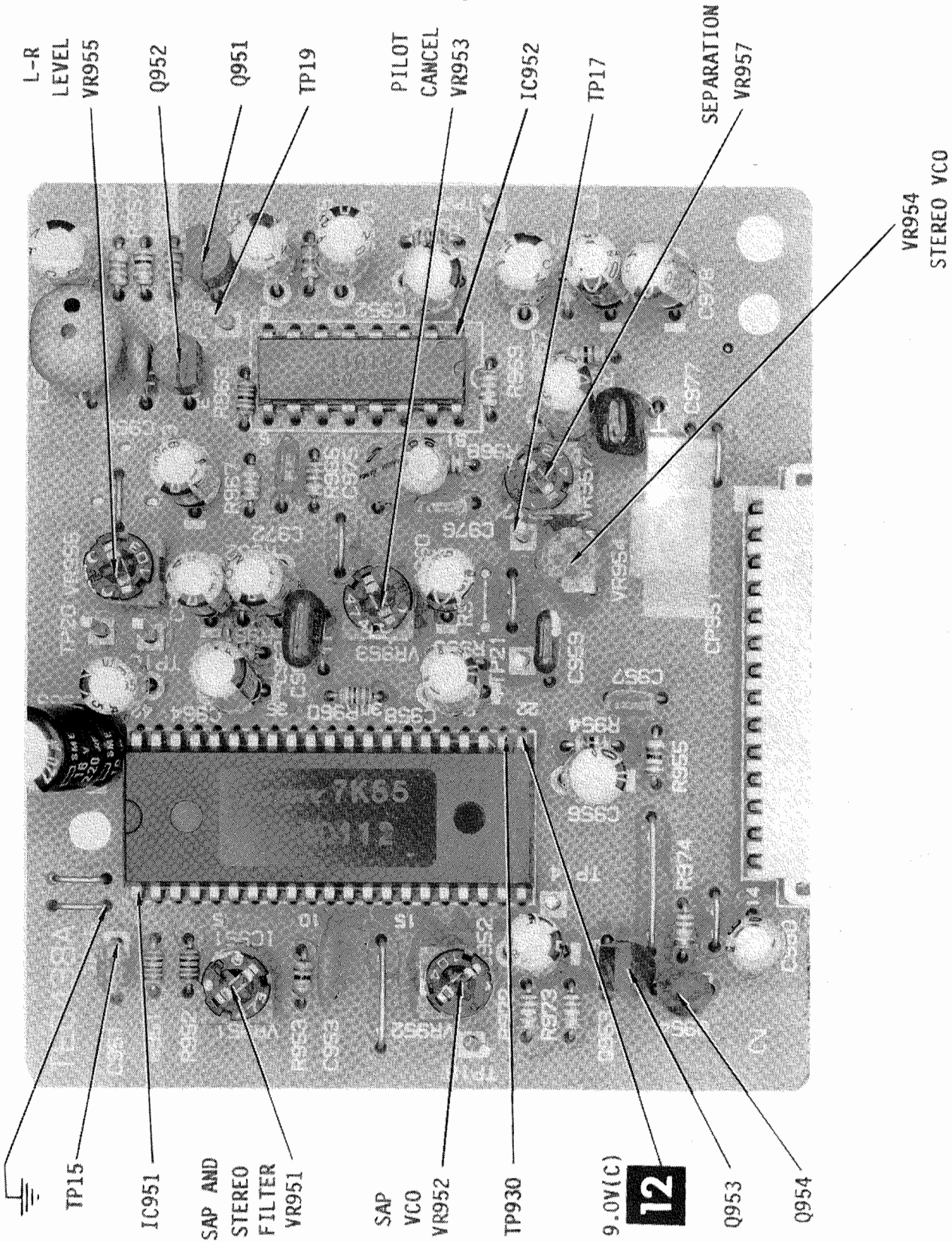


PARTS LIST AND DESCRIPTION

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.	ZENITH PART No.	
D101,2	S5566B	NTE116	ECG116	SK3313/116	212-76-02	#
D105	D25T55680	NTE116	ECG116	SK3313/116	212-76-02	
D112	S5566B	NTE116	ECG116	SK3313/116	212-76-02	
	D25T55680	NTE116	ECG116	SK3313/116	212-76-02	
	11E2TA1	NTE116	ECG116	SK3313/116	212-76-02	
	D28T011E20	NTE116	ECG116	SK3313/116	212-76-02	
D113	1S1585	NTE519	ECG519	SK3100/519	103-131	
D114	D15T015850	NTE519	ECG519	SK3100/519	103-131	
	GZA6.2Z	NTE5013T1	ECG5013T1			
	GZA6.2-Z-BT	NTE5013T1	ECG5013T1			
	D93T06R20Z	NTE5013T1	ECG5013T1			
D115	1S1585	NTE519	ECG519	SK3100/519	103-131	
D116,7	D15T015850	NTE519	ECG519	SK3100/519	103-131	
	GMA01	NTE519	ECG519	SK3100/519	103-131	
	GMA-01-BT	NTE519	ECG519	SK3100/519	103-131	
	D13TGMA010	NTE519	ECG519	SK3100/519	103-131	
D118	DS442X	NTE519	ECG519	SK3100/519	103-131	
	DS442X-BT	NTE519	ECG519	SK3100/519	103-131	
D121 THRU D126	D13TDS442X	NTE519	ECG519	SK3100/519	103-131	
	GMA01	NTE519	ECG519	SK3100/519	103-131	
	GMA-01-BT	NTE519	ECG519	SK3100/519	103-131	
	D13TGMA010	NTE519	ECG519	SK3100/519	103-131	
D127,8	DS442X	NTE519	ECG519	SK3100/519	103-131	
	DS442X-BT	NTE519	ECG519	SK3100/519	103-131	
D129 THRU D131	D13TDS442X	NTE519	ECG519	SK3100/519	103-131	
	GMA01	NTE519	ECG519	SK3100/519	103-131	
	GMA-01-BT	NTE519	ECG519	SK3100/519	103-131	
	D13TGMA010	NTE519	ECG519	SK3100/519	103-131	
D141	11E2	NTE116	ECG116	SK3313/116	212-76-02	
	11E2TA1	NTE116	ECG116	SK3313/116	212-76-02	
	D28T011E20	NTE116	ECG116	SK3313/116	212-76-02	



A Howard W. Sams CIRCUITRACE® Photo

COMB FILTER BOARD

PARTS LIST AND DESCRIPTION (Continued)

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

MISCELLANEOUS

ITEM No.	PART NAME	MFR. PART No.	NOTES
#	PC Board	A3620103A (2)	Control, PCB TE0484A
		A36201180	Stereo/SAP, PCB TE0438A
		A36201200	LED, PCB TE0439A
		A36201090 (13)	Pin Cushion, PCB TE)415A
		A36201090 (10)	Pin Cushion, . PCB TE0465A
		A36201090 (12)	Pin Cushion, PCB TE0465B
	Tuner/UHF /VHF Socket Wedge Transmitter	A36201320 (11)	S-VHS, PCB TE0414A
		A36201320 (12)	S-VHS, PCB TE0414B
		A36201010 (12)	PCB TE0459A
		0145J00012	VTYA1U14R
		0662130007	CRT
		129T000001	Three (3) used for yoke positioning
		076G064001	Remote Control

- # For SAFETY use only equivalent replacement part.
- (1) Models MS2700RD,MS2700RD (Suffix A,B,C,D), MS2700RD/A, MS2700RD/A (Suffix A,B,D,D)
- (2) Model MS2700RD/A (Suffix D)
- (3) Must replace R682 with a 1500, 1/6W resistor (Part Number 103403R001) to use this Modules Replacement
- (4) Models MS2700RD,MS2700RD (Suffix A,B,C,D), MS2700RD/A,MS2700RD/A (Suffix A,B,D)
- (5) Model MS2700RD/A (Suffix C)
- (6) To be used with CRT's A68ACC35X
- (7) To be used with CRT's A68ACC14X01
- (8) Models MS2700RD,MS2700RD (Suffix A,B,D), MS2700RD/A,MS2700RD/A (Suffix A,B,D)
- (9) Models MS2700RD (Suffix C),MS2700RD/A (Suffix C)
- (10) Models MS2700RD/A (Suffix A)
- (11) Models MS2700RD,MS2700RD (Suffix A,B,C,D), MS2700RD/A,MS2700RD/A (Suffix A,B,D)
- (12) Model MS2700RD/A (Suffix C)
- (13) Models MS2700RD,MS2700RD (Suffix A,B,C,D), MS2700RD/A,MS2700RD/A (Suffix B,D)

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

ITEM	PART No.	ITEM	PART No.
Cabinet,Front Assembly,Model MS2700RD (Suffix D)	A3620172A	Cabinet, Back Assembly	A36201743
Cabinet,Front Assembly, Models MS2700D,MS2700D Suffix A,B,C),MS2700RD/A, MS2700RD/A (Suffix A,B,C,D)	A36201723	Door, Control Button, Five (5) used. Power,Channel Up, Channel Down,Volume Up, Volume Down Knob, CATV	712APJ0003 735TPA0053 733TPA0003

WIRING DATA

High Voltage Lead	Use BELDEN No. 9867 (30 KV)
Shielded Hook-up Wire	Use BELDEN No. 8401 or 8421 (Single-Conductor) 8208 (Two-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8529 (Solid) Available in 13 Colors 8522 (Stranded) Available in 13 Colors
75-Ohm Tuner Input Lead	Use BELDEN No. 8241
300-Ohm Antenna Lead-In	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor 8485 (Round) 5-Conductor 8488 (Round) 8-Conductor

PARTS LIST AND DESCRIPTION (Continued)

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

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	TCE PART No.	ZENITH PART No.	NOTES
D142	GZA5.1Y GZA5.1-Y-BT D93T09R10Y	NTE5010A NTE5010A NTE5010A	ECG5010A ECG5010A ECG5010A	SK5A1/5010A SK5A1/5010A SK5A1/5010A	103-279-10 103-279-10 103-279-10	
D143	GMA01 GMA-01-BT D13TGM010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D151 THRU D157	GZA6.2Y GZA6.2-Y-BT D93T06R20Y	NTE5013A NTE5013A NTE5013A	ECG5013A ECG5013A ECG5013A	SK6A2/5013A SK6A2/5013A SK6A2/5013A	103-Z9008 103-Z9008 103-Z9008	
D158	S5566B D25T5566B0	NTE116 NTE116	ECG116 ECG116	SK3313/116 SK3313/116	212-76-02	
D201	DS442X DS442X-BT D13TDS442X	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D401	GZA6.8Y GZA6.8-Y-BT D93T06R80Y	NTE5014A NTE5014A NTE5014A	ECG5014A ECG5014A ECG5014A	SK6A8/5014A SK6A8/5014A SK6A8/5014A	103-Z9009 103-Z9009 103-Z9009	
D402	GZA20X GZA20-X-BT D93T02000X	NTE5029A NTE5029A NTE5029A	ECG5029A ECG5029A ECG5029A	SK20A/5029A SK20A/5029A SK20A/5029A	103-Z9023 103-Z9023 103-Z9023	
D403	GZA13Y GZA13-Y-BT D93T01300Y	NTE5022A NTE5022A NTE5022A	ECG5022A ECG5022A ECG5022A	SK13A/5022A SK13A/5022A SK13A/5022A	103-96 103-96 103-96	
D404,5	DFD05TG DFD05TG-BT	NTE552 NTE552	ECG552 ECG552	SK9000/552 SK9000/552	103-287 103-287	#
D406	DFD05TG DFD05TG-BT D23TFD05TG	NTE552 NTE552 NTE552	ECG552 ECG552 ECG552	SK9000/552 SK9000/552 SK9000/552	103-287 103-287 103-287	#
D408	GZA27Y GZA27-Y-BT D93T02700Y	NTE5033A NTE5033A NTE5033A	ECG5033A ECG5033A ECG5033A	SK27A/5033A SK27A/5033A SK27A/5033A	103-Z9014 103-Z9014 103-Z9014	

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

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.	ZENITH PART No.	NOTES
D409	GZA11Y GZA11Y-BT D93T01100Y	NTE5020A NTE5020A NTE5020A	ECG5020A ECG5020A ECG5020A	SK11A/5020A SK11A/5020A SK11A/5020A	103-279-20 103-279-20 103-279-20	#
D410	11E2 11E2TA1 D28T011E20	NTE116 NTE116 NTE116	ECG116 ECG116 ECG116	SK3313/116 SK3313/116 SK3313/116	212-76-02 212-76-02 212-76-02	#
D411	CTS-3FU DCBFTS3FU0					
D412,13	DFD05TG DFD05TG-BT D23TFD05TG	NTE552 NTE552 NTE552	ECG552 ECG552 ECG552	SK9000/552 SK9000/552 SK9000/552	103-287 103-287 103-287	#
D471	DFD05TG DFD05TG-BT D23TFD05TG	NTE552 NTE552 NTE552	ECG552 ECG552 ECG552	SK9000/552 SK9000/552 SK9000/552	103-287 103-287 103-287	#
D501 THRU D504	RM11C D2BHRM11C0	NTE125 NTE125	ECG125 ECG125	SK3081/125 SK3081/125	212-Z9000 212-Z9000	#
D505	EU01A D2BTOEU01A	NTE552 NTE552	ECG552 ECG552	SK9000/552 SK9000/552	103-287 103-287	
D506,7	EU2Z D2BH00EU2Z	NTE552 NTE552	ECG552 ECG552	SK9000/552 SK9000/552	103-287 103-287	
D508	EU01A D2BTOEU01A	NTE552 NTE552	ECG552 ECG552	SK9000/552 SK9000/552	103-287 103-287	
D509	RU1P D2B00RU1P0					
D510	EU01A D2BTOEU01A	NTE552 NTE552	ECG552 ECG552	SK9000/552 SK9000/552	103-287 103-287	
D511	RU4A D2BFORU4A0	NTE506 NTE506	ECG506 ECG506	SK3925/525 SK3925/525	103-287 103-287	
D512	R2M D2B00R2M0					

PARTS LIST AND DESCRIPTION (Continued)

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

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
B401	Ferrite Bead	0246451652	
B402	Ferrite Bead	0246451652	
B501	Ferrite Bead	024JT03551	
B504	Ferrite Bead	024JT03551	
thru B508			
# CD501	Cord	120T410315	AC Power, Polarized
CF201	Filter	1027245R71	SAW
CF202	Filter	1011104R51	Trap, Ceramic
CF301	Filter	101104R501	Ceramic
CR401	Oscillator	1002R01501	Ceramic
CF841	Filter	101210R702	Ceramic
# CR501	Component Combination	1132100001	Capacitor, Resistor, Spark Gap
# CR502	Component Combination	1132100001	Capacitor, Resistor, Spark Gap
# CR503	Component Combination	1132100001	Capacitor, Resistor, Spark Gap
# CR504	Component Combination	1132100001	Capacitor, Resistor, Spark Gap
D136	Diode	0021521100 (1)	LED, TLUR153, CATV
	Diode	0021521100 (2)	LED, SLP-136B-50, CATV
D137	Diode	0021321070	LED, SLP-136B-50, Seek
D138	Diode	0021321070	LED, SLP-136B-50, Memory
D954	Diode	0021521100 (1)	LED, TLUR153, Stereo
	Diode	0021321070 (2)	LED, SLP-136B-50, Stereo
D955	Diode	0021521100 (1)	LED, TLUR153, SAP
	Diode	0021321070 (2)	LED, SLP-136B-50, SAP
D956	Diode	0021521100 (1)	LED, TLUR153, SAP Set
	Diode	0021321070 (2)	LED, SLP-136B-50, SAP Set
DL661	Delay Line	103402R801	
	Delay Line	103403R001 (3)	
DL841	Delay Line	103402R801	
DL842	Delay Line	103402R802 (4)	
	Delay Line	103402R801 (5)	
# F501	Fuse	0812C6R301	6.3 Amp @ 135V AC Fast Acting
J351	Jack	0602131001	Stereo Headphone
J353	Jack	0602421006	External Speaker, Right
J354	Jack	0602421007	External Speaker, Left
J701	Jack Assembly	0632000021	Includes Video In, Video Out, Audio Out Right, Audio Out Left, Audio In Right, Audio In Left.
			S-VHS
J751	Jack	0622740004	
# L502	Degaussing Coil	028E270003 (6)	
	Degaussing Coil	028E270004 (7)	
# RY101	Relay	0560T20102	
SW101	Switch	0504201002 (1)	Channel Up, Channel Down, Volume Up, Volume
thru SW105	Switch	0504201M02 (1)	Down, Power
SW107	Switch	0504101T15 (2)	
SW108	Switch	0504711008	Reset
		0504211005	Fine Tuning Up, Fine Tuning Center, Fine Tuning Down
SW109	Switch	0504711008	Seek, Auto Memory
SW110	Switch	0504704001	Memory Erase, Memory Write, SAP Set TV/Video
SW118	Switch	0510232004	CATV
SW119	Switch	0500122001	TV/CATV, Stereo/Mono, AFT, Time Set, Auto Color
# V801	CRT	A68ACC35X (8)	
	CRT	A68ACC14X01 (9)	
X101	Crystal	10064R19A0	4.19MHz
X601	Crystal	10063R5702	3.58MHz
X841	Crystal	10063R5702	3.58MHz
	Antenna, UHF	1325L500018	
	Antenna, VHF	125L110016	
	Fuse Holder	067H000003	
	PC Board	A36201010R (6)	Main, PCB TM0134A-R
		A36201010R (10)	Main, PCB TM0134C
		A36201010R1 (7)	Main, PCB TM0134DR1
		A36201020 (11)	Power, PCB TE0417A
		A36201020 (12)	Power, PCB T#0417B
		A36201110	CRT, PCB TC119A
		A36201070 (11)	Headphone, PCB TE0419A
		A36201070 (12)	Headphone, PCB TE0419B
		A36201080 (11)	External Speaker, PCB TE0418A
		A36201080 (12)	External Speaker, PCB TE0418B
		A36201030 (1)	Control, PCB TE0413A

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

PARTS LIST AND DESCRIPTION (Continued)

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

COILS (RF-IF)

ITEM No.	FUNCTION	MFG. PART No.	ITEM No.	FUNCTION	MFG. PART No.
L202	Peaking (.68uH)	021705R68K	L501	Line Filter	029A000016
L203	Peaking (.68uH)	021273R68M	L503	Line Filter	029A000016
L205	Video IF	033602010C	L504	RF Choke (47uH)	02106D470K
L206	Video IF	033602009C	L602	RF Choke (15uH)	021JA6150K
L207	Peaking (15uH)	021273150K	L603	RF Choke (47uH)	021273470K
L301	Sound IF	03361A006C	L604	RF Choke (10uH)	021273100K
L302	Sound IF	03361A005C	L606	RF Choke (56uH)	021JA6560K
L304	Video IF	033602009C	L841	Peaking (56uH)	021273560K
L306	RF Choke (22uH)	021273220K	L842	Peaking (56uH)	021273560K
L402	Linearity	0221000010	L843	Peaking (15uH)	021273150K
L403	Resonant Linearity	02C0000006	L844	Peaking (82uH)	021273820K
L471	Peaking	02C0000004 (1)	L845	Peaking (82uH)	021273820K
L472	Peaking	02D0000012 (2)	L846	RF Choke (22uH)	021273220K
L473	Peaking	02C0000005 (1)	L848	Peaking (33uH)	021273330K
L474	Peaking	02C0000010 (2)	L850	RF Choke (56uH)	021273560K
L499	Peaking	02C0000011 (2)	L851	RF Choke (22uH)	021273220K
			L901	RF Choke (47uH)	021273470K
			L951	RF Choke (10mH)	021669103K

For SAFETY use only equivalent replacement part.
(1) Used In Models MS2700RD,MS23700RD (Suffix A,B,C,D),
MS2700RD/A,MS2700RD/A (Suffix B,C,D).
(2) Used In Model MS2700RD/A (Suffix A).

COILS & TRANSFORMERS

ITEM No.	FUNCTION	MFG. PART No.	OTHER IDENTIFICATION	NOTES
DY801	Yoke: 110° Horiz 1.21mh	0276092701	76092701 (1)	
FB401	Horizontal Out	0432270012	3227001 (1)	
T101	Power	040135016C	0135016 (1)	
T401	Horizontal Driver	0450190051	019005 (1)	
T471	Pincushion	0453250081	5325008 (2) (1)	
T501	Switching	048143015G	8142015 (1)	

For SAFETY use only equivalent replacement part.
(1) Number on unit.
(2) Alternate T470, 0453250071, may be used in some versions.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFG. PART No.	QUAM PART No.	
SP351	4" Square 5 Watt 4 ohms	070A146001	4C25Z4	
SP352	4" Square 5 Watt 4 ohms	CS10T3875(1) 070A146001 CS10T3875 (1)	4C25Z4	

(1) Number on unit.

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.	NTE PART No.	ECG PART No.	TCE PART No.	ZENITH PART No.	NOTES
D513	RU2 RU-2 D2BF00RU20	NTE552 NTE552 NTE552	ECG552 ECG552 ECG552	SK9000/552 SK9000/552 SK9000/552	103-287 103-287 103-287	
D514	RU3 RU-3 D2B000RU30	NTE580 NTE580 NTE580	ECG580 ECG580 ECG580	SK3318A SK3318A SK3318A	212-Z9000 212-Z9000 212-Z9000	
D515	RU4Z D2B-J00RU4Z	NTE580 NTE580	ECG580 ECG580	SK5036/580 SK5036/580	212-Z9000 212-Z9000	
D603,5,6	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D609,610	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D611	GZA5.6Y GZA5.6-Y-BT D93T05R60Y	NTE5011A NTE5011A NTE5011A	ECG5011A ECG5011A ECG5011A	SK5A6/5011A SK5A6/5011A SK5A6/5011A	103-Z9007 103-Z9007 103-Z9007	
D661,2	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D701,2	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D703,4	GZA6.2Y GZA6.2-Y-BT	NTE5013A NTE5013A	ECG5013A ECG5013A	SK6A2/5013A SK6A2/5013A	103-Z9008 103-Z9008	
D705	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D751 THRU D754	GMA01 GMA-01-BT D13TGMA010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RD/A/(SUFFIX A/B/C/D)

32 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.	ZENITH PART No.	NOTES
D755	GZA6-2Y GZA6-2-Y-BT D93T06R20Y GZA8-2X GZA8-2-X-BT D93T08R20X	NTE5013A NTE5013A NTE5013A	ECG5013A ECG5013A ECG5013A	SK6A2/5013A SK6A2/5013A SK6A2/5013A	103-Z9008 103-Z9008 103-Z9008	
D841						
D842	GMA01 GMA-01-BT D13TGM010	NTE519 NTE519 NTE519	ECG519 ECG519 ECG519	SK3100/519 SK3100/519 SK3100/519	103-131 103-131 103-131	
D843	GZA5-1Y GZA5-1-Y-BT D93T05R10Y	NTE5010A NTE5010A NTE5010A	ECG5010A ECG5010A ECG5010A	SK5A1/5010A SK5A1/5010A SK5A1/5010A	103-279-10 103-279-10 103-279-10	
IC101	TMP47C432AN-8382 I55D083820					
IC102	TC9020P-003 TC9020P					
IC103	I55D090200 LC74HC05 I53D0HC050					
IC105	U574 UPC574J-T I02190574J [uPC574J-T] TA7777P I05DE7777P	NTE615P NTE615P NTE615P	ECG615A ECG615A ECG615A		905-190 905-190 905-190	
IC201						
IC351	LA4445 I03SP44450					
IC371	AN5836 I01S058360					
IC401	UPC1498H I02SD14980					
IC402	L78M09 I03A98M090					

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
VR846	Comb Adjust	2200	V1263H3B01	
		2000	V1263H3B01	
VR951	SAP and Stereo Filter	47K	V1263Q4B01	
VR952	SAP VCO Adjust	200K	V126315B01	
VR953	Pilot Cancel Adjust	470K	V1263Q5B01	
VR954	Stereo VCO Adjust	6800	V1263U3B03	
VR955	L-R Level	10K	V126314B01	
VR957	Separation Adjust	4700	V1263Q3B01	
# VR1001A	Focus		(2)	
# VR1001B	Screen		(2)	

For SAFETY use only equivalent replacement part.

(1) Part of seven section control bracket.

(2) Part of Horizontal Output Transformer Number FB401, Part Number 0432270012.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	
# R152	33 5% 1/4W Fuse	R61584330J		
# R380	33 5% 1/4W Fuse	R61584330J		
# R413	27 5% 3W Metal Oxide	R3B28B270J	3W027	
R419	120 1% 1/6W Metal Film			
R420	330 1% 1/6W Metal Film			
R422	10K 1% 1/6W Metal Film			
R426	3300 1% 1/6W Metal Film			
# R432	12K 1% 1/4W Metal Film	R4J4T4123F		
# R433	2200 1% 1/6W Metal Film	R4J4T6222F		
# R434	15K 1% 1/4W Metal Film	R4J4T4153F		
R436	4700 5% 3W Metal Oxide	R3B28B472J	3W247	
	1800 5% 3W Metal Oxide		3W218	
# R438	2.2 5% 2W Fuse	R6158A2R2J	F2W2D2	
# R439	2.2 10% 5W WW	R5A2CD2R2K	5W2D2	
# R440	2.2 5% 2W Fuse	R6158A2R2J	F2W2D2	
# R443	100K 1% 1/4W Metal Film	R425T4104F		
# R444	33K 1% 1/6W Metal Film	R425T6333F		
# R451	330K 1% 1/6W Metal Film	R425T6334F		
# R456	2.2 5% 1/4W Fuse	R615842R2J		
# R476	1 5% 1/2W Fuse	R63582010J		
	1 5% 1/2W Metal Film	R412T2010J		
# R501	820K 5% 1/2W Metal Film	R412T2824J		
# R502	1.5 10% 10W WW	R5A1CF1R5K	10W1D5	
# R505	47 5% 1/4W Fuse	R61584470J		
# R506	39 5% 2W Metal Oxide	R3B18A390J	2W039	
# R509	39 5% 1/2W Metal Oxide	R412T2390J	HW039	
# R511	33 5% 1/4W Carbon Film	ROB1T4330J	QW033	
# R515	5.6 5% 1W Fuse	R615815R6J	F1W5D6	
	6.8 5% 1W Fuse		F1W6D8	
# R516	.68 5% 1W Fuse	R61581R68J		
	.39 10% 1W WW			
# R517	.82 10% 5W WW	R5A2CDR82K	5WD82	
# R518	1 5% 1/4W Fuse	R63584010J		
# R645	4.7 5% 1W Fuse	R615814R7J (1)	F1W4D7	
R807	12K 1% 1/4W Metal Film			
R815	12K 1% 1/4W Metal Film			
R823	12K 1% 1/4W Metal Film			
R824	2200 1% 1/4W Metal Film			
R951	100K 1% 1/6W Metal Film			
R952	100K 1% 1/6W Metal Film			
R959	2400 1% 1/6W Metal Film			
R960	8200 1% 1/6W Metal Film			
R963	560K 1% 1/6W Metal Film			
R964	22K 1% 1/6W Metal Film			
# TH501	8.7 Cold NTC	D8100M8R008		

For SAFETY use only equivalent replacement part. (1) May be found in some models.

MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

EMERSON MODELS

FOLDER 1

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.
# C103	470 25V	E027T3471M	# C515	220 160V	E025FB221T
# C104	47 16V	E0B7T2470M	# C517	2200 35V	E0B7F4222M
# C419	22 10V NP		# C519	3300 25V	E02SF3332M
# C442	10 250V	E031FD100M	# C521	2200 25V	E0B7F3222M
# C483	2.2 50V NP	E02F052R2D	# C602	10 100V	E027T8100M
# C508	47 50V	E02QF5470M	# C611	4.7 25V NP	
			# C764	1 50V NP	E01EF5010M

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.
# C124	20 N220 50V 5%		# C447	820 2KV 10%	C0D0BN7W2K
# C125	20 N220 50V 5%		# C461	680 2KV 10%	C0D4BN7U2K
# C304	5 N470 50V 5%		# C488	470 2KV 10%	C0D0BN7Q2K
# C444	.012 2KV 5%	P4A2FG123J	# C501	.22 125V 20%	P2612A224M
# C445	820 2KV 10%	C0D0BN7W2K	# C502	.1 125V 20%	P2612A104M
			# C607	5 NP0 50V 5%	

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
VR201	RF AGC	5000	V1F5253BF1	
VR202	AFT Balance	50K	V1F5254BF1	
VR301	Audio Level Adj	10K	V1F5214BF1	
VR401	Vertical Height (size)	100K	V1G5C15B04	
VR471	Horizontal Size	3000	V1F5333BF1	
VR472	Side PCC Adjust	470	V1263Q2B01	
VR473	T/B PCC Adjust	1000	V140313B01	
		20K	V1F5324BF1	
		3000	V1F5333BF1	
VR601	Sub Brightness	1000	V126213B01	
VR602	Color	10K	V029700004 (1)	
-1				
VR602	Tint	10K	V029700004 (1)	
-2				
VR602	Brightness	500	V029700004 (1)	
-3				
VR602	Contrast	10K	V029700004 (1)	
-4				
VR602	Treble	10K	V029700004 (1)	
-5		Detent @ 50%		
VR602	Bass	10K	V029700004 (1)	
06		Detent @ 50%		
VR602	Balance	10K	V029700004 (1)	
07		Detent @ 50%		
VR603	Auto Tint	10K	V126214B01	
VR604	Auto Color	10K	V126214B01	
VR841	CCD Level Adjust	2200	V1263H3B01	
VR842	Comb Adjust	2000	V1F5223BF1	
VR843	Correcting Adjust	2000	V1F5223BF1	
VR844	Sub Contrast	1000	V126313B01	
		470	V1263Q2B01	
VR845	Video Level Adjust	2200	V1263H3B01	

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.	ZENITH PART No.	NOTES
IC499	78012AP	NTE4053B	ECG4053B	SK4053B	905-354	
IC501	STR51041	NTE4053B	ECG4053B	SK4053B	905-354	
IC701	I2B4910410	NTE4053B	ECG4053B	SK4053B	905-354	
	LA7016	NTE4066B	ECG4066B	SK4066B	905-369	
	I03S070160	NTE4066B	ECG4066B	SK4066B	905-369	
IC702	MC14053B					
	MC14053BP					
IC751	I5PD14053B					
	TC4066BP					
	I55D04066B					
IC841	TL8608P					
	I05DC86080					
IC842	TA8620P					
	I05DC86200					
IC843	TC40H000P					
IC901	I55D0H0000					
	TA7778P					
	I05DE77780					
IC951	CX20112					
IC952	I00DF01120					
	A1011(1C)					
	CXA1011P					
	I00DF10110					
Q101	2SD1052A	NTE56	ECG56	SK9364/56	121-972	
Q102	TD501052A0	NTE56	ECG56	SK9364/56	121-972	
	2SC536KG	NTE85	ECG85	SK3245/199	121-972	
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCLT009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	

EMERSON MODELS
 MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

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.	ZENITH PART No.
Q103	2SC2271E 2SC2271-AE TC3T022710 2SC2271	NTE399	ECG399	SK9352/399	121-Z9045 *
		NTE399	ECG399	SK9352/399	121-Z9045 *
		NTE399	ECG399	SK9352/399	121-Z9045 *
		NTE399	ECG399	SK9352/399	121-Z9045 *
Q104, 5, 7	2SA608KF 2SA733(C)-T TAL T007330 2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9003 *
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
Q108 THRU Q111	2SC536KG 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3245/199	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q112	DTC114ESE DTC114E-S-T TN7TB03001 DTC114E	NTE85	ECG85	SK3245/199	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q201	2SC3000E 2SC3000-AA TC3T030000 2SC3000	NTE85	ECG85	SK9229/85	921-1114
		NTE85	ECG85	SK9229/85	921-1114
		NTE85	ECG85	SK9229/85	921-1114
		NTE85	ECG85	SK9229/85	921-1114
Q203	2SC536KG 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3245/199	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q301	2SC536KG 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3245/199	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q401	2SD1546 TD5Q015460	NTE2300	ECG2300	SK9476/2300	121-972 *
		NTE2300	ECG2300	SK9476/2300	121-972 *
		NTE2300	ECG2300	SK9476/2300	121-972 *
		NTE2300	ECG2300	SK9476/2300	121-972 *



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.	ZENITH PART No.
Q902	2SC536KG 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3245/199	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q903	2SA952L 2SA952LT TA2T00952L 2SA952	NTE290A	ECG290A	SK3114A/290A	121-Z9003 *
		NTE290A	ECG290A	SK3114A/290A	121-Z9003 *
		NTE290A	ECG290A	SK3114A/290A	121-Z9003 *
		NTE290A	ECG290A	SK3114A/290A	121-Z9003 *
Q951	2SC945Q 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q952	2SA733P 2SA733(C)-T TAL T007330 2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
Q953	2SC945Q 2SC945A(C)T TCL T009450 2SC945	NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
		NTE85	ECG85	SK3124A/289A	121-972 *
Q954	2SA733P 2SA733(C)-T TAL T007330 2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067



For SAFETY use only equivalent replacement part.
* Lead configuration may vary from original.

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)

38 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.	ZENITH PART No.	NOTES
Q845,6,7	2SA608KG	NTE290A	ECG290A	SK3114A/290A	121-Z9003	*
	2SA733(C)-T	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	TAL T007330	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
Q848,50	2SC536KF	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
		NTE85	ECG85	SK3124A/289A	121-972	
Q851	2SA608KF	NTE290A	ECG290A	SK3114A/290A	121-Z9003	*
	2SA733(C)-T	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	TAL T007330	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
Q852	2SC536KF	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
Q854	2SK117GR	NTE458	ECG458	SK9460/458	121-972	*
	2SK117-GR(TPE2)	NTE458	ECG458	SK9460/458		
	T25T117GR5	NTE458	ECG458	SK9460/458		
	2SK117-GR	NTE458	ECG458	SK9460/458		
		NTE458	ECG458	SK9460/458		
Q858	2SC536KF	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
		NTE85	ECG85	SK3124A/289A	121-972	
Q859	2SC536KF	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
		NTE85	ECG85	SK3124A/289A	121-972	
Q901	2SA608KF	NTE290A	ECG290A	SK3114A/290A	121-Z9003	*
	2SA733(C)-T	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	TAL T007330	NTE290A	ECG290A	SK3114A/290A	121-Z9067	
	2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9067	

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.	ZENITH PART No.	NOTES
Q402	2SC2621E	NTE157	ECG157	SK3747/157	121-Z9016	
	2SC2621-RAC	NTE157	ECG157	SK3747/157	121-Z9016	
	TC3Q026210	NTE157	ECG157	SK3747/157	121-Z9016	
	2SC2621	NTE157	ECG157	SK3747/157	121-Z9016	
Q403,4	2SC536KG	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
		NTE85	ECG85	SK3124A/289A	121-972	
Q471	2SC945Q	NTE85	ECG85	SK3124A/289A	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
Q472	2SB1134R					#
	TB3001134R					
	2SB1134					
Q501,2	2SD863F	NTE382	ECG382	SK9137/382	921-1114	
	2SD863E-AE	NTE382	ECG382	SK9137/382	921-1114	
	T03T00863E	NTE382	ECG382	SK9137/382	921-1114	
	2SD863	NTE382	ECG382	SK9137/382	921-1114	
Q602,3,4	2SC536KG	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
Q651,2	2SC536KG	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
Q661,2	2SC536KG	NTE85	ECG85	SK3245/199	121-972	*
	2SC945A(C)T	NTE85	ECG85	SK3124A/289A	121-972	
	TCL T009450	NTE85	ECG85	SK3124A/289A	121-972	
	2SC945	NTE85	ECG85	SK3124A/289A	121-972	
		NTE85	ECG85	SK3124A/289A	121-972	

PARTS LIST AND DESCRIPTION (Continued)

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

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFR. PART No./ TYPE No.	NOTES			
		NTE PART No.	ECG PART No.	TCE PART No.	ZENITH PART No.
Q701 THRU Q708	2SC536KG 2SC945A(C)T TCLT009450 2SC945	NTE85	ECG85	SK3245/199	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972
Q709	DTC114ESE DTC114E-S-T TN7TB03001 DTC114E				
Q751 THRU Q756	2SC536KF 2SC945A(C)T TCLT009450 2SC945	NTE85	ECG85	SK3245/199	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972
Q760	DTC114ESE DTC114E-S-T TN7TB03001 DTC114E				
Q801	2SC4075E 2SC4075-YAC TC3Q040750 2SC4075				
Q802	2SC3468E 2SC3468-AE TC3T034680 2SC3468				
Q803	2SA1321 2SA1321(TPE6) TA5T013210 2SC4075E				
Q804	2SC4075E 2SC4075-YAC TC3Q040750 2SC4075				

PARTS LIST AND DESCRIPTION (Continued)

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

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFR. PART No./ TYPE No.	NOTES			
		NTE PART No.	ECG PART No.	TCE PART No.	ZENITH PART No.
Q805	2SC3468E 2SC3468-AE TC3T034680 2SC3468				
Q806	2SA1321 2SA1321(TPE6) TA5T013210 2SC4075E				
Q807	2SC4075-YAC TC3Q040750 2SC4075				
Q808	2SC3468E 2SC3468-AE TC3T034680 2SC3468				
Q809	2SA1321 2SA1321(TPE6) TA5T013210				
Q810, 11, 12	2SC2271E 2SC2271-AE TC3T022710 2SC2271	NTE399	ECG399	SK9352/399	121-Z9045
		NTE399	ECG399	SK9352/399	121-Z9045
		NTE399	ECG399	SK9352/399	121-Z9045
		NTE399	ECG399	SK9352/399	121-Z9045
Q841, 2	2SA608K 2SA733(C)-T TAL1007330 2SA733	NTE290A	ECG290A	SK3114A/290A	121-Z9003
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
		NTE290A	ECG290A	SK3114A/290A	121-Z9067
Q843, 4	2SC536KF 2SC945A(C)T TCLT009450 2SC945	NTE85	ECG85	SK3245/199	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972
		NTE85	ECG85	SK3124A/289A	121-972

EMERSON MODELS
MS2700RD/(SUFFIX A/B/C/D), MS2700RDA/(SUFFIX A/B/C/D)