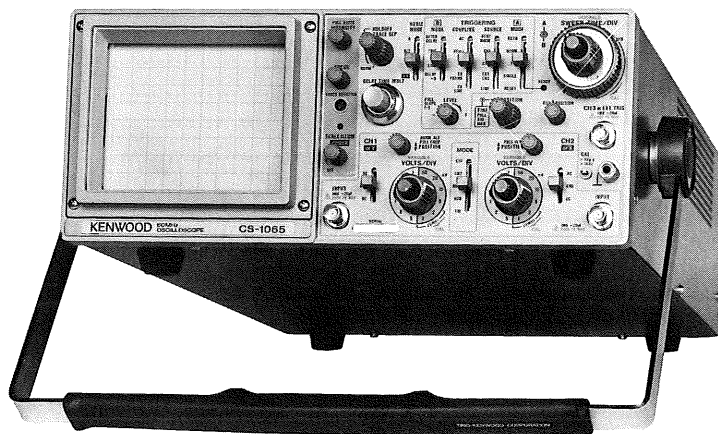


TRIPLE TRACE OSCILLOSCOPE

CS-1045 CS-1065

SERVICE MANUAL

KENWOOD CORPORATION



KENWOOD

WARNING

1. The following instructions are for use by qualified personnel only. To avoid electric shock, do not perform servicing other than contained in the operating instructions unless you are qualified to do so.
2. High voltage up to 12000 volts dc is present when the oscilloscope is operating. Line voltage

(100 to 240 VAC) is present on the power transformer, on-off switch, fuse holder, and line voltage selector any time the oscilloscope is connected to an ac power source, even if turned off. Always observe caution when the housing is removed from the unit. Contacting exposed high voltage could result in fatal electric shock.

CONTENTS

SPECIFICATIONS	3
SAFETY	6
BLOCK DIAGRAM	7
CIRCUIT DESCRIPTION	8
ADJUSTMENT	10
TROUBLESHOOTING	17
PARTS LIST	21
P.C. BOARD	43
SCHEMATIC DIAGRAM	45
DISASSEMBLY	51
SEMICONDUCTORS	52

SPECIFICATIONS

	CS-1065	CS-1045	
CRT	150PTM31 Rectangular, with internal graticule	150RTM31 Rectangular, with internal graticule	
Acceleration Voltage	12 kV		
Display Area	8 × 10 div (1 div = 10 mm)		
VERTICAL AXIS	CH1 and CH2		
Sensitivity	1 mV/div to 5 V/div, ±3%		
Attenuator	12 steps, 1 mV/div to 5 V/div in 1-2-5 sequence. Vernier control for fully adjustable sensitivity between steps.		
Input Impedance	1 MΩ ±2%, approx 20 pF		
Frequency Response			
5 mV/div to 5V/div	DC; DC to 60 MHz, -3 dB AC; 5 Hz to 60 MHz, -3 dB	DC; DC to 40 MHz, -3 dB AC; 5 Hz, to 40 MHz, -3 dB	
1 mV/div, 2 mV/div	DC; DC to 20 MHz, -3 dB AC; 5 Hz to 20 MHz, -3 dB	DC; DC to 15 MHz, -3 dB AC; 5 Hz to 15 MHz, -3 dB	
Rise Time	5 mV/div to 5 V/div 1 mV/div, 2 mV/div	5.8 nsec or less 17.5 nsec or less	8.8 nsec or less 23.4 nsec or less
Signal Delay Time	Approx. 20 nsec on the CRT screen		
Crosstalk	-40 dB minimum		
Operating Modes	CH1; single trace CH2; single trace DUAL; CH1 and CH2, dual trace ADD; CH1 + CH2 added as a single trace TRIPLE; CH1, CH2 and CH3 triple trace		
Chop Frequency	Approx. 250 kHz		
Channel Polarity	Normal or inverted, channel 2 only inverted		
Δ Maximum Input voltage	500 Vp-p or 250 V (DC + AC peak)		
VERTICAL AXIS	CH3		
Sensitivity	0.5 V/div ±3%		
Input Resistance	1 MΩ ±2%		
Input Capacitance	Approx. 20pF		
Frequency Response	DC: DC to 60 MHz, -3 dB	DC: DC to 40 MHz, -3 dB	
Rise Time	5.8 nsec or less	8.8 nsec or less	
Signal Delay Time	Same as CH1 and CH2		
Δ Maximum Input Voltage	50 V (DC + AC peak)		
HORIZONTAL AXIS	Input thru CH2, ×10 MAG not included		
Operating Modes	With HORIZ MODE switch, X-Y operation is selectable CH1; Y axis CH2; X axis		
Sensitivity	Same as vertical axis (CH2)		

SPECIFICATIONS

		CS-1065	CS-1045				
Input Impedance		Same as vertical axis (CH2)					
Frequency Response		DC; DC to 1 MHz, -3 dB AC; 5 Hz to 1 MHz, -3 dB					
X-Y Phase Difference		3° or less at 100 kHz					
Δ Maximum Input Voltage		Same as vertical axis (CH2)					
SWEEP							
Type		A; A sweep ALT; A sweep (intensified for duration of B sweep) and B sweep (delayed sweep) alternating B; Delayed sweep X-Y; X-Y oscilloscope					
Sweep Time	A	0.05 μs/div to 0.5 s/div, ±3% in 22 ranges, in 1-2-5 sequence. Vernier control provides fully adjustable sweep time between steps.			0.1 μs/div to 0.5 s/div, ±3% in 21 ranges, in 1-2-5 sequence. Vernier control provides fully adjustable sweep time between steps.		
	B	0.05 μs/div to 50 ms/div in 19 ranges, in 1-2-5 sequence.			0.1 μs/div to 50 ms/div in 18 ranges, in 1-2-5 sequence.		
Sweep Magnification		× 10 (ten times) ± 5% (0.05 μs ~ 0.2 μs; ± 8%)					
Linearity		± 3% all ranges, ± 5% on 0.05 μs/div to 0.2 μs/div range at × 10 MAG.					
Holdoff		Continuously variable from NORM to more than ten times (MAX)					
Trace Separation		B sweep can be separated from A sweep up to 4 divisions, continuously adjustable.					
Delay Method		Continuous delay (STARTS AFTER DELAY), Trigger delay (TRIG, TV. LINE), Zero delay (DELAY TIME ZERO)					
Delay Time		From 500 nsec to 0.5sec. Available delay time is 0.2 to 10 times the A sweep time setting, continuously adjustable.					
Time difference measurement accuracy		± 2%					
Delay Jitter		1/20000 of ten times of A sweep time setting					
TRIGGERING							
Trigger mode		AUTO, NORM, FIX, SINGLE-RESET					
Trigger source		V.MODE; Trigger selected by vertical MODE switch. CH1; Triggered by CH1 signal CH2; Triggered by CH2 signal CH3/EXT; Triggered by CH3 signal LINE; Triggered by line voltage					
Coupling		AC, HFrej, DC, TV FRAME, TV LINE					
Trigger sensitivity		FREQ.RANGE	INT	EXT	FREQ.RANGE	INT	EXT
	DC	DC-50 MHz DC-60 MHz	1 div 1.5 div	0.5 Vp-p 0.8 Vp-p	DC - 40 MHz	1 div	0.5Vp-p
	AC	Same as for DC but increased minimum level below 10 Hz					
	AC, HF rej	Increased minimum level below 10 Hz and above 20 kHz					
	TV	FRAME, LINE	1 div	0.5 Vp-p	FRAME, LINE	1 div	0.5 Vp-p
		AUTO: Same as above specifications for above 50 Hz. FIX: Same as above specifications for above 50 Hz.					

SPECIFICATIONS

	CS-1065	CS-1045
CAL	1 V, $\pm 3\%$, square wave, positive polarity, approx 1 kHz	
INTENSITY MODULATION		
Sensitivity	+ 5 V (positive voltage decreases brightness)	
Input Impedance	Approx. 10 k Ω	
Usable Frequency Range	DC to 5 MHz	DC to 3.5 MHz
Δ Maximum Input Voltage	50 V (DC + AC peak)	
VERTICAL AXIS SIGNAL OUTPUT	CH1 OUTPUT	
Output Voltage	Approx. 50 mV/div into 50 Ω	
Output Impedance	Approx. 50 Ω	
Frequency Response		
5 mV/div to 5 V/div	100 Hz to 60 MHz, -3 dB into 50 Ω	100 Hz to 40 MHz, -3 dB into 50 Ω
1 mV/div, 2 mV/div	100 Hz to 20 MHz, -3 dB into 50 Ω	100 Hz to 15 MHz, -3 dB into 50 Ω
POWER REQUIREMENT		
Power Supply	100 V/120 V/220 V/240 V $\pm 10\%$	
Line Frequency	50/60 Hz	
Power Consumption	Approx. 61 W	
DIMENSIONS (W \times H \times D)	319(359) \times 132(145) \times 380(454) mm () dimensions include protrusion from basic outline dimensions	
WEIGHT	Approx. 9.2 kg	
ENVIRONMENTAL		
Within Specifications	10°C to 35°C, 85% max. relative humidity	
Full Operation	0°C to 40°C, 85% max. relative humidity	
ACCESSORIES SUPPLIED		
Probe	PC-29.....2	PC-20....2
Spare Fuse	1 A.....2 0.7 A.....2	
Instruction Manual	1	

* Circuit and rating are subject to change without notice due to developments in technology.

SAFETY

SAFETY

Before connecting the instrument to a power source, carefully read the following information, then verify that the proper power cord is used and the proper line fuse is installed for power source. The specified voltage is shown at the fuse holder of the AC inlet. If the power cord is not applied for specified voltage, there is always a certain amount of danger from electric shock.

Line voltage

This instrument operates using ac-power input voltages that 100/120/220/240 V at frequencies from 50 Hz to 60 Hz.

Power cord

The ground wire of the 3-wire ac power plug places the chassis and housing of the oscilloscope at earth ground. Do not attempt to defeat the ground wire connection or float the oscilloscope; to do so may pose a great safety hazard. The appropriate power cord is supplied by an option that is specified when the instrument is ordered.

The optional power cords are shown as follows in Fig. 1.

Line fuse

The fuse holder is located on the rear panel and contains the line fuse. Verify that the proper fuse is installed by replacing the line fuse.

Voltage conversion

This oscilloscope may be operated from either a 100 V to 240 V, 50/60 Hz power source. Use the following procedure to change from 100- to 240 volt operation or vice versa.

1. Remove the fuse holder.
2. Replace fuse F 1 with a fuse of appropriate value, 1 amp for 100 VAC to 120 VAC operation, 0.7 amp for 220 VAC to 240 VAC operation.
3. Reinsert it for appropriate voltage range.
4. When performing the reinsertion of fuse holder for the voltage conversion the appropriate power cord should be used. (See Fig. 1.)


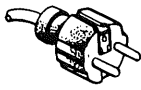


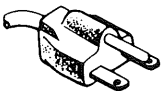
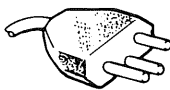
Plug configuration	Power cord and plug type	Factory installed instrument fuse	Line cord plug fuse	Parts No. for power cord and plate
	North American 120 volt/60 Hz Rated 15 amp (12 amp max; NEC)	1 A, 250 V Fast blow AGC/3AG	None	Cord: E30-1820-05
	Universal Europe 220 volt/50 Hz Rated 16 amp	0.7 A, 250 V Fast blow 5 x 20 mm	None	Cord: E30-1819-05
	U.K. 240 volt/50 Hz Rated 13 amp	0.7 A, 250 V Fast blow 5 x 20 mm	0.7 A Type C	—
	Australian 240 volt/50 Hz Rated 10 amp	0.7 A, 250 V Fast blow 5 x 20 mm	None	Cord: E30-1821-05
	North American 240 volt/60 Hz Rated 15 amp (12 amp max; NEC)	0.7 A, 250 V Fast blow AGC/3AG	None	—
	Switzerland 240 volt/50 Hz Rated 10 amp	0.7 A, 250 V Fast blow AGC/3AG 5 x 20 mm	None	—

Fig. 1 Power Input Voltage Configuration

BLOCK DIAGRAM

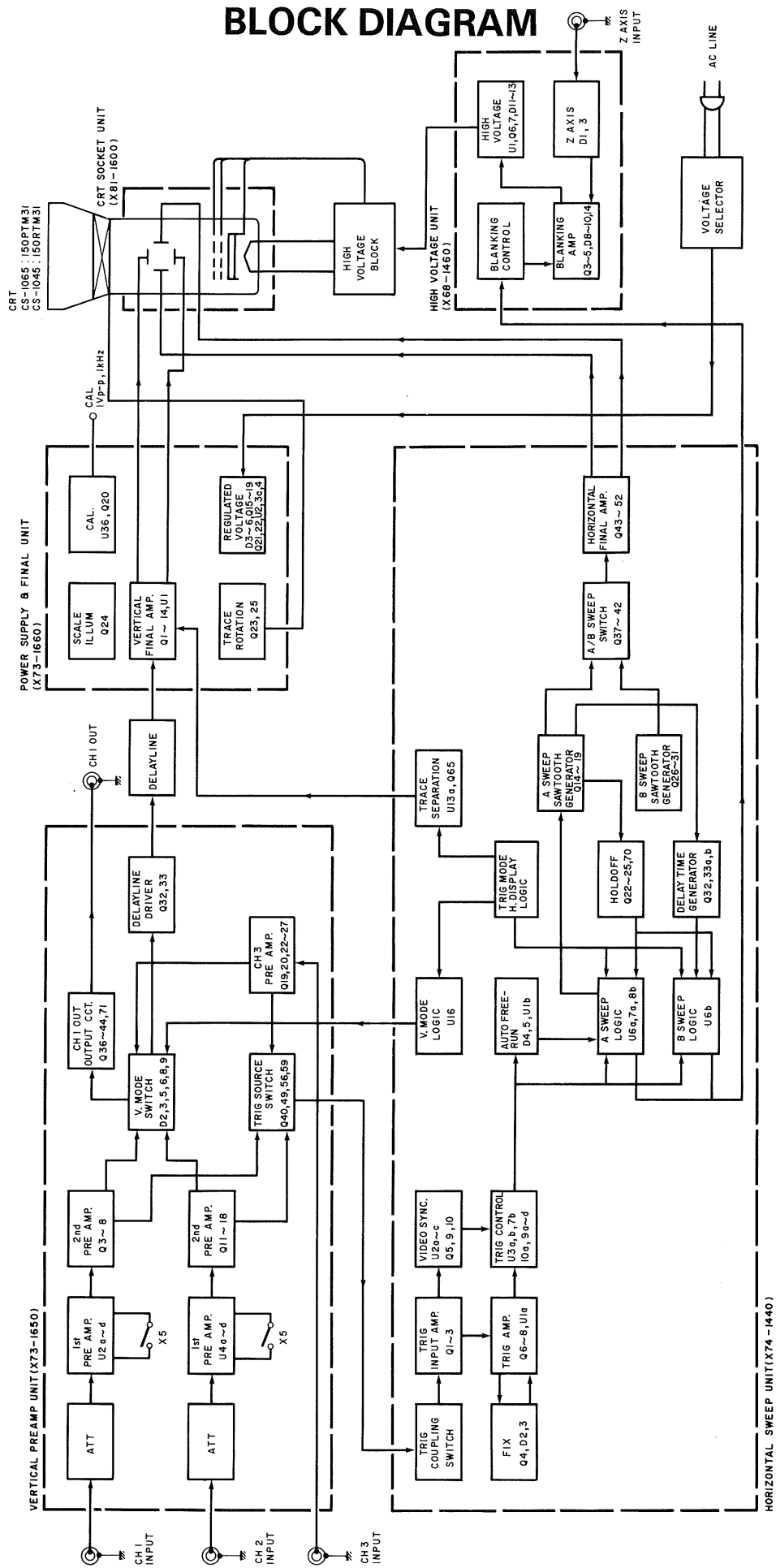


Fig. 2
Block diagram

CIRCUIT DESCRIPTION

1. VERTICAL PREAMPLIFIER CIRCUIT (X73-1650)

The signals from the input BNC of channel 1 and channel 2 are attenuated to a suitable value by 1st ATT, Q1, Q2, and Q69 of the head amplifier (Q9, Q10, and Q70 for channel 2), and 2nd ATT, and are then sent to U2a-e, Q3 and Q4 of the 1st preamp. DC feedback is applied to the head amplifiers from the op amp in order to reduce DC balance drift. The 1st preamp is a selectable gain type amplifier. When the range is set to 1 mV/div or 2 mV/div, the gain of the 1st preamp becomes 5 times the normal gain. Also, an adequate CMRR is obtained.

The signals from the 1st preamp pass through the emitter follower consisting of Q65 and Q66, then enter the 2nd preamplifier-cum-vertical mode switch consisting of Q5-Q8. Here, the CH1 ~ CH3 signals are switched by the V-MODE switch, and then sent to the delay line driver. Like the CH1 signals, the CH2 signals pass through the head amplifier, U4a-e, and Q11-Q14 of the 1st preamplifier, Q67 and Q68 of the emitter follower, and Q15-Q18 of the 2nd preamplifier. Q11 and Q14 are for CH2 INV, and are not provided in channel 1.

The input sensitivity of channel 3 is 0.5 V/div which is low compared with that of the other channels, hence 1/10 ATT is provided at the input. The signals which are attenuated by ATT pass through Q19, Q20, Q22, and Q23 of the head amplifier, then enter Q24-Q27 of the mode selector which is equivalent to the 2nd preamplifier of channel 1 and channel 2.

The delay line driver consists of Q30-Q33. Of these, Q32 and Q33 are connected in cascode with the based-grounded transistors Q1 and Q2 in the first stage of the vertical final amplifier. The delay line is inserted between the collector and emitter of this cascode amplifier.

2. TRIGGER SIGNAL SWITCHING CIRCUIT (X73-1650)

The trigger signals which are output differentially from each channel enter Q36-Q40, Q45-Q49, and Q52-Q56 of the respective trigger switching circuits. The line trigger signals from the power supply circuit enter the trigger switching circuit consisting of Q57-Q59.

The four trigger signals (Channel 1 to Channel 3, and LINE) pass through Q57-Q60, and are selected in accordance with the switching signals from the horizontal sweep unit. They then pass through the trigger output amplifier consisting of Q60 and Q61, and are sent from P10 to the horizontal sweep unit.

The signals from CH1 OUT are branched from the trigger switching circuit of channel 1, then pass through Q42, Q43, Q71, and Q44 of the output circuit, and are output from P17.

3. VERTICAL FINAL AMPLIFIER (X73-1660)

The signals which pass through the delay line are terminated by Q1 and Q2, and then amplified by Q3-Q6 of the cascode amplifier in the next stage.

The signals which have been converted to low impedance by the emitter follower of Q7 and Q8 are amplified to the 2.3 V/div (one side) deflection sensitivity of the CRT by Q9-Q14 of the final stage amplifier.

U1 is a servo circuit which is designed to regulate the operating point of the final stage amplifier. By means of this circuit, the deflection plates are maintained at a constant average voltage.

4. POWER SUPPLY CIRCUIT (X73-1660)

The power supply provides five regulated voltages, two unregulated voltages, and also one scale illumination output.

When the power switch is turned ON, first +10 V is provided by Q22 and U2a, and -10 V is provided by Q21 and U2b. The 5 V, 55 V, and 120 V outputs are regulated with reference to this -10 V.

Q26 and Q27 are ripple filters which are used for the unregulated +12 V and -12 V voltages.

The voltage for the scale illumination lamp is rectified by D6 and controlled by Q24.

5. TRACE ROTATION AND CAL CIRCUIT (X73-1660)

The trace rotation circuit is consisted of emitter follower of Q23 and Q25. It drives the rotator coil which is located on the cone of the CRT. The CAL circuit is an oscillator circuit consisting of the op amp U3b. It generates 1 kHz square wave which is switched by Q20 to become a 1 Vp-p CAL signal.

6. BLANKING CIRCUIT AND HIGH VOLTAGE CIRCUIT (X68-1460)

The unblanking signals from P11 are inverted and amplified by the blanking amplifier consisting of Q3-Q5, and are then superimposed on the cathode voltage by the DC recovery circuit consisting of D8-D10.

Q1 and Q2 constitutes an inverted amplifier for auto-focusing. It creates the focusing voltage from the blanking signals. The focusing voltage is superimposed on the high voltage by the DC recovery circuit consisting of D4-D6, and then used to drive the focusing electrode. The -1.5 kV high voltage for the cathode is generated by the converter oscillation circuit consisting of U1, Q6 and Q7, and also the high voltage converter block (W02-0423-05). Negative feedback is applied to the converter oscillation circuit from the cathode in order to obtain a regulated high voltage.

CIRCUIT DESCRIPTION

7. TRIGGER CIRCUIT (X74-1440)

The trigger signals sent from the vertical system pass through P10 then enter the trigger amplifier consisting of Q1-Q3, Q6, and Q7, where they are amplified to operate the ECL logic. Q4, Q8, and U1a constitute the trigger level setting circuit which is used for FIX synchronization. This circuit detects the peak-to-peak value of the signal, and takes it off as a center point voltage.

Q9 is a sync separator circuit which is used for TV synchronization. It clamps the sync tip and extracts the sync pulses. These pulses are then passed through an integrating circuit consisting of R39 and C19 in order to obtain the vertical sync pulses.

The signals which leave the trigger amplifier are wave-shaped by the Schmitt trigger circuit consisting of U4a and b, and the trigger slope is selected by U4c. These signals and the previously mentioned TV sync pulses drive the subsequent horizontal sweep circuit.

8. HORIZONTAL SWEEP CIRCUIT (X74-1440)

When the trigger pulses trigger flip-flop U6, the output will be inverted, and the Miller integrator circuit, which consists of Q16, Q17 and a group of RC circuits that can be selected by a rotary switch, starts the sweep. The sweep signal is output for an interval (sweep length) determined by the comparator consisting of Q20 and Q21, and the RS flip-flop consisting of U5a and U10b, then after a rest period determined by the hold-off circuit consisting of Q22, the flip-flop waits for the next trigger signal.

The B sweep takes place when flip-flop U6 is switched after a delay which is determined by the comparator consisting of Q32-Q34 and the voltage from the potentiometer. The sweep signal is generated by the Miller integrating circuit for B sweep consisting of Q28 and Q29.

The A sweep and B sweep signals are switched by Q67, Q37, Q40, and Q41 of the sweep switching circuit, and are sent to the horizontal final amplifier consisting of Q43-Q52.

9. CHANNEL SWITCHING SIGNAL GENERATOR CIRCUIT (X14-1440)

This is a timing generator circuit which is designed to turn each channel ON-OFF for DUAL and TRIPLE operation. U13c and d are CHOP generators for CHOP operation, and U11a and b are frequency divider circuits for DUAL or TRIPLE operation. The clock used for the frequency divider circuits for ALT operation is A blanking, and that used for CHOP operation is the AND signal resulting from A blanking and the output of the CHOP generator.

During V-MODE operation, the channel switching signal becomes the trigger selector signal. In all other cases, only the necessary trigger signal can be selected.

10. UNBLANKING SIGNAL GENERATOR CIRCUIT (X74-1440)

The unblanking signal is formed by the switching of A blanking and B blanking in each sweep mode. It is output from the emitter of Q68 superimposed on the intensity voltage.

ADJUSTMENT

To obtain the best performance, periodically calibrate the unit. Sometimes, only one mode need be calibrated, while at other times, all modes should be calibrated. When one mode is calibrated, it must be noted that the other modes may be affected. When calibrating all modes, perform the calibration in the specified sequence.

The following calibration required an accurate measuring instrument and an insulated adjusting flat blade screwdriver. If they are not available, contact your dealer. For optimum adjustment, turn the power on and warm up the scope sufficiently (more than 30 minutes) before starting.

Before calibrating the scope, check the power supply voltage.

TEST EQUIPMENT REQUIRED

The following instrument or their equivalent should be used for making adjustment.

Test Equipment	Model	Minimum Specification
Digital Multi-Meter	DL-706 (TRIO)	Impedance: More than 10 M Ω , Measuring range: 0.01 V to 199 V
Sine-Wave Generator	651 B (YHP)	Frequency: 10 Hz to 10 MHz, constant voltage over tuning range
Sine-Wave Generator	SG-503 (Tektronix)	Frequency: 50 kHz to 100 MHz, Output impedance: 50 Ω , constant voltage over tuning range.
Square-Wave Generator	PG-506 (Tektronix)	Output signal: 1 kHz, Amplitude: 10 mVp-p to 10 Vp-p, Accuracy: within $\pm 1\%$, Rise time: 35ns or less 100 kHz, Rise time: 1 ns or less
Q Meter	4343B (YHP)	—
Color Pattern Generator	CG-911A (TRIO)	—
Oscilloscope	CS-2100A (TRIO)	Sensitivity: more than 5 mV Frequency response: More than 100 MHz
Time-Marker Generator	TG-501 (Tektronix)	Time mark: 0.5 s to 0.1 μ s repetitive waveform
High-Voltage Probe	—	Input Impedance: 1000 M Ω
Termination	—	Impedance: 50 Ω Accuracy: within 3%
Termination	—	3 watts type impedance: 50 Ω
Attenuator	—	-20 dB attenuation (50 Ω)

Table 1

PREPARATION FOR ADJUSTMENT

Control Setting

The control setting listed below must be used for each adjustment procedure.

Exceptions to these settings will be noted as they occur.

After completing a adjustment, return the controls to the following settings.

NAME OF KNOBS	POSITION
INTENSITY	3 o'clock
FOCUS, ASTIG	Optimum position
CH1, CH2 \blacklozenge POSITION	Mechanical center
\blacktriangleleft \blacktriangleright POSITION/PULL $\times 10$ MAG	Mechanical center, push
VARIABLE, A VARIABLE (VOLTS/DIV, SWEEP TIME/DIV)	CAL
AC-GND-DC (CH1 and CH2)	DC (GND at no signal)
Vertical MODE	CH1
CH2 POLARITY	NORM
COUPLING	AC
SOURCE	V.MODE
TRIG. LEVEL	Mechanical center, push
TRIG. MODE	AUTO
VOLTS/DIV (CH1 and CH2)	10 mV/DIV
A, B SWEEP TIME/DIV	1 ms/DIV
HOLDOFF	Fully CCW, NORM, Push
B MODE	DELAY TIME ZERO
HORIZ MODE	A
DELAY TIME MULT	Optimum position

Table 2

ADJUSTMENT

POWER AND CRT ADJUSTMENT

Reference voltage (+ 120 V) adjustment

1. Connect a dc voltmeter to measure the voltage at P9 (Pin no.5) (X73-1660) with respect to the chassis.
2. Adjust VR1 for +120 V \pm 1.2 V reading on the meter.

Reference voltage check

1. Connect a dc voltage to measure the voltage at P9 (X73-1660) as shown in table 1.

Pin no.	4	3	2	1
Voltage	55V \pm 2.5V	-10V \pm 0.75V	10V \pm 0.75V	5V \pm 0.25V

Table 3

2. Connect a dc voltmeter to measure the voltage at P1 (X81-1600) using a high voltage probe and check the voltage for -1.5 kV \pm 0.07 kV reading on the meter.

ASTIG and FOCUS adjustment

1. Select the HORIZ DISPLAY switch to X-Y position and both channel 1 and channel 2 AC-GND-DC switches to GND positions.
2. Pull the PULL ASTIG control and adjust the FOCUS control for the sharpest, roundest spot when centering the ASTIG and FOCUS controls.

INTENSITY adjustment

1. Select the HORIZ DISPLAY switch to X-Y position and both channel 1 and channel 2 AC-GND-DC switches to GND positions.
2. Adjust VR1 (X68-1460) so that the trace disappears when the INTENSITY control setting is reduced to 10:00 position.
3. Clockwise rotation should increase brightness of the trace and counterclockwise rotation should decrease brightness of the trace. Fully counterclockwise should disappear the spot.

TRACE ROTATION adjustment

1. Set the channel 1 AC-GND-DC switch to GND position.
2. Set the scope controls to display a horizontal trace with no input signal (triggering MODE switch in AUTO position).
3. Use the channel 1 position control as required to position the trace along a horizontal line of the graticule scale.
4. Adjust TRACE ROTATION control so trace is parallel with the reference line on the graticule scale.

VERTICAL AXIS ADJUSTMENT

Channel 1 and channel 2 dc balance adjustment

1. Set the scope controls for a single horizontal trace on channel 1 with the channel 1 AC-GND-DC switch set to GND position.
2. Rotate the channel 1 VOLTS/DIV switch through the 5 mV, 10 mV, 20 mV and 50 mV positions while observing the trace.
3. If the trace moves vertically, adjust VR1 (X73-1650) (CH2; VR10) for minimum or zero vertical movement when performing step 2.
4. Rotate the channel 1 VOLTS/DIV switch through 1 mV, and 2 mV positions while observing the trace.
5. If the trace moves vertically, adjust VR4 (X73-1650) (CH2: VR13) for minimum or zero vertical movement when performing step 4.
6. Rotate the channel 1 VARIABLE control from maximum clockwise to maximum counterclockwise, while observing the trace.
7. If the trace moves vertically, adjust VR3 (X73-1650) (CH2:VR12) for minimum or zero vertical movement when performing step 6.
8. Repeat the entire procedure for channel 2.

Channel 2 invert position adjustment

1. Select CH2 mode and set the channel 2 position control to its mechanical center.
2. Pull the channel 2 position control and adjust VR16 (X73-1650) to center the trace vertically.
3. Repeat step 1 and 2 if necessary so trace does not shift when channel 2 position control is alternately pulled and pushed.

Channel 1 Position adjustment

1. Select CH1 mode and set the channel 1 position control to its mechanical center.
2. Adjust VR7 (X73-1650) to center the trace vertically.

Channel 2 Position adjustment

1. Select CH2 mode and set the channel 2 position control to its mechanical center.
2. Adjust VR17 (X73-1650) to center the trace vertically.

Channel 3 Position adjustment

1. Select the vertical MODE switch to TRI and set triggering SOURCE switch to CH3 position.
2. Adjust VR19 (X73-1650) to center the trace vertically.

Add position adjustment

1. Set the channel 1 and channel 2 position controls to their mechanical center and AC-GND-DC switches to GND positions and select the vertical MODE switch to ADD position.
2. Adjust VR27 (X73-1650) to center the trace vertically.

ADJUSTMENT

100 Hz square wave compensation

1. Using a square wave generator, apply a 100 Hz square wave signal to oscilloscope input to display a waveform of 6 divisions vertical amplitude.
2. Adjust VR2 (X73-1650) for the best flat-top waveform.
3. Repeat the entire procedure for channel 2.

Channel 1 gain adjustment

1. Apply a 50 mV peak to peak, 1 kHz square wave signal to channel 1 input and set the vertical MODE switch to CH1 position.
Set the scope controls to display a square wave on the CRT screen.
2. Adjust VR8 (X73-1650) for exactly 5 divisions vertical amplitude.
3. Apply a 5 mV peak to peak, 1 kHz square wave signal to channel 1 input and set the vertical MODE switch to CH 1 position.
Set the scope controls to display a square wave on the CRT screen.
4. Adjust VR30 (X73-1650) for exactly 5 divisions vertical amplitude.

Channel 2 gain and X gain adjustment

1. Apply a 50 mV peak to peak, 1 kHz square wave signal to channel 2 input and set the vertical MODE switch to CH2, set the scope controls to display a square wave on the CRT screen.
2. Adjust VR18 (X73-1650) for exactly 5 divisions vertical amplitude.
3. Select the HORIZ MODE switch to X-Y position.
4. Adjust VR21 (X73-1650) for exactly 5 divisions horizontal deflection on the CRT screen.
5. Apply a 5 mV peak to peak, 1 kHz square wave signal to channel 2 input and set the vertical MODE switch to CH2, set the scope controls to display a square wave on the CRT screen.
6. Adjust VR31 (X73-1650) for exactly 5 divisions vertical amplitude.

Channel 3 gain adjustment

1. Select the vertical MODE switch to TRI and set triggering SOURCE switch to CH3 position.
2. Apply a 2 V peak to peak, 1 kHz square wave signal to channel 3 input.
3. Adjust VR20 (X73-1650) to display a waveform of 4 divisions vertical amplitude.

TRIGGERING AND CH3 POSITION ADJUSTMENT

Triggering level adjustment

1. Apply a 1 kHz sine wave signal to channel 1 input and set the scope controls to display a waveform of 8 divisions vertical amplitude.
2. Set the triggering MODE switch to FIX position.
3. Adjust VR1 (X74-1440) so the triggering is satisfactory when the amplitude is less than 1 division.

Triggering level center adjustment

1. Apply a 1 kHz sine wave signal to channel 1 input and set the scope controls to display a waveform of 8 divisions vertical amplitude.
2. Set the channel 1 position control to its mechanical center.
3. Adjust VR13 (X74-1440) to start the trace from the center of the graticule scale when rotating the triggering LEVEL control to its mechanical center.

Channel 1 and channel 2 offset adjustment

1. Set the triggering SOURCE switch to CH1 position.
2. Apply a 1 kHz sine wave signal to channel 1 input and set the scope controls to start a waveform of 6 divisions vertical amplitude from the center graticule scale.
3. Adjust VR22 (X73-1650), if necessary, so the start point of the trace does not shift when switched the COUPLING switch to alternately AC and DC positions.
4. Repeat the entire procedure for channel 2 and channel 3, adjusting VR23, VR24 (X73-1650), respectively.

VERTICAL AXIS ADJUSTMENT

Channel 1 and channel 2 waveshape compensation

1. Apply a 1 kHz square wave signal to channel 1 input and set the scope controls to display a waveform of 6 divisions vertical amplitude.
2. Adjust TC13 (X73-1650) for the best flat-top waveform when setting the channel 1 VOLTS/DIV control to 0.1 V position and TC14 (X73-1650) when channel 1 VOLTS/DIV control to 1 V position.
3. Repeat the entire procedure for channel 2 (X73-1650), adjusting TC14 (X73-1650).

Channel 3 waveshape compensation

1. Select the vertical MODE switch to TRI position and triggering SOURCE switch to CH3 position.
2. Apply a 1 kHz square wave signal to channel 3 input to display a waveform of 6 divisions vertical amplitude.
3. Adjust TC5 (X73-1650) for the best flat-top waveform.

ADJUSTMENT

Channel 1 and channel 2 input capacity adjustment

1. Rotate the channel 1 VOLTS/DIV control to 10 mV position and connect a Q meter to channel 1 input to measure the input capacity for $20\text{pF} \pm 3\text{pF}$.

Adjustment control		VOLTS/DIV setting
CH1	CH2	
TC11 (X73-1650)	TC15 (X73-1650)	0.1 V/div
TC12 (X73-1650)	TC16 (X73-1650)	1 V/div

Table 4

2. Repeat the entire procedure for channel 1 VOLTS/DIV control to 0.1 V position and 1 V position.
3. Repeat the entire procedure for channel 2 input capacity adjustment.

Channel 1 overshoot adjustment

1. Apply a 1 MHz square wave signal to channel 1 input and set the scope controls to display a waveform of 6 divisions vertical amplitude.
2. Preset the adjustment controls as follows;
TC1 ~ TC9 ; mechanical center
(X73-1650)
3. Adjust the following controls listed in table below.

Se-quence	Adj. control	Unit no.	Procedure
1	TC7	X73-1650	Mid frequency range compensation for the best flat-top waveform.
2	TC2	X73-1650	Mid and high frequency ranges compensation for the best flat-top waveform.
3	TC1	X73-1650	High frequency range compensation for the best flat-top waveform.
4	TC1	X73-1660	High frequency range compensation for peak-top waveform.
5	TC2	X73-1660	High frequency range compensation for the best flat-top waveform.

Table 5

Channel 2 overshoot adjustment

1. Select the vertical MODE switch to CH2 position.
2. Apply a 1 MHz square wave signal to channel 2 input and set the scope controls to display a waveform of 6 divisions vertical amplitude.
3. Adjust the following controls listed in table below;

Se-quence	Adj. control	Unit no.	Procedure
1	TC4	X73-1650	Mid frequency range compensation for the best flat-top waveform.
2	TC3	X73-1650	High frequency range compensation for the best flat-top waveform.

Table 6

Channel 3 overshoot adjustment

1. Select the vertical MODE switch to ALT and TRI positions and triggering SOURCE switch to CH3 position and SWEEP TIME/DIV control to any position.
2. Apply a 1 MHz square wave signal to channel 3 input and set the scope controls to display a waveform of 6 divisions vertical amplitude.
3. Adjust TC8 (X73-1650) to the best flat-top waveform for high frequency range compensation.
4. Adjust TC6 (X73-1650) to compensate the overshoot for minimum.

HORIZONTAL AXIS ADJUSTMENT

1 ms sweep time, A and B sweep start points and MAG gain adjustment

1. Set the A and B SWEEP TIME/DIV controls to both 1 ms positions, channel 1 VOLTS/DIV control to 1 V position, B MODE switch to DELAY TIME ZERO position and HORIZ MODE switch to ALT position.
2. Apply a 1 ms marker signal to channel 1 input.
3. Adjust VR7 (X74-1440) so the first and 11th time marks of A sweep coincide with graticule scale.
4. Adjust VR10 (X74-1440) so the first and 11th time marks of B sweep coincide with graticule scale.
5. Adjust VR11 (X74-1440) to coincide the start point of A sweep with that of B sweep.
6. PULL the FINE control.
7. Adjust VR8 (X74-1440) so the each time mark of A sweep coincides with graticule scale.

Mag centering adjustment

1. Set the B MODE switch to DELAY TIME ZERO, HORIZ MODE switch to ALT, A and B SWEEP TIME/DIV controls to both 1 mV and channel 1 VOLTS/DIV to 1 V positions.

ADJUSTMENT

2. Apply a 5 ms marker signal to channel 1 input and set the scope controls to center the center of the A and B time marks.
3. Adjust VR9 (X74-1440) to center the center of the A and B time marks when pulled out the FINE control.
4. Repeat step 2 and 3.
5. The center time mark should not shift when setting the $\times 10$ MAG switch to on.

10 ms sweep time adjustment

1. Set the B MODE switch to DELAY TIME ZERO, HORIZ MODE switch to ALT, A and B SWEEP TIME/DIV controls to both 10 ms and channel 1 VOLTS/DIV control to 1 V positions.
2. Apply a 10 ms time marker signal to channel 1 input and set the scope controls to center the A and B time marks.
3. Adjust VR2 (X74-1440) to center the center of A time mark when again pushed in horizontal position control.
4. Adjust VR4 (X74-1440) to center the center of B time mark when pushed in horizontal position control.

10 μ s sweep time adjustment

1. Set the B MODE switch to DELAY TIME ZERO, HORIZ MODE switch to ALT, A and B SWEEP TIME/DIV controls to both 10 μ s and channel 1 VOLTS/DIV control to 1 V positions.
2. Apply a 10 μ s time marker signal to channel 1 input and set the scope controls to center the center of A and B time marks.
3. Adjust TC1 (X74-1440) to center the center of A time mark when pushed in horizontal position control.
4. Adjust TC4 (X74-1440) to center the center of B time mark when again pushed in horizontal position control.

Sweep linearity adjustment

1. Set the B MODE switch to DELAY TIME ZERO, HORIZ MODE switch to ALT, A and B SWEEP TIME/DIV controls to both 0.05 μ s and channel 1 VOLTS/DIV control to 1 V positions.
2. Apply a 0.05 μ s time marker signal to channel 1 input and the scope controls to center the center of A and B time marks.
3. Adjust TC5 (X74-1440) to center the center of A and B time marks.

Delay time multiplier adjustment

1. Set the B MODE switch to STARTS AFTER DELAY, HORIZ MODE switch to ALT, channel 1 AC-GND-DC switch to GND, A SWEEP TIME/DIV control to 0.1 ms and B SWEEP TIME/DIV control to 1 μ s positions.
2. Rotate the DELAY TIME MULT control to 0.20 position and set the scope controls to coincide A trace with the left end of the graticule scale, using the horizontal position control.

3. Adjust VR5 (X74-1440) to position B trace (intensified portion) to 0.2 div position.
4. Adjust VR6 (X74-1440) to position B trace to 10 div position (right end of the graticule scale) when rotated the DELAY TIME MULT control to 10.00 position.

X position adjustment

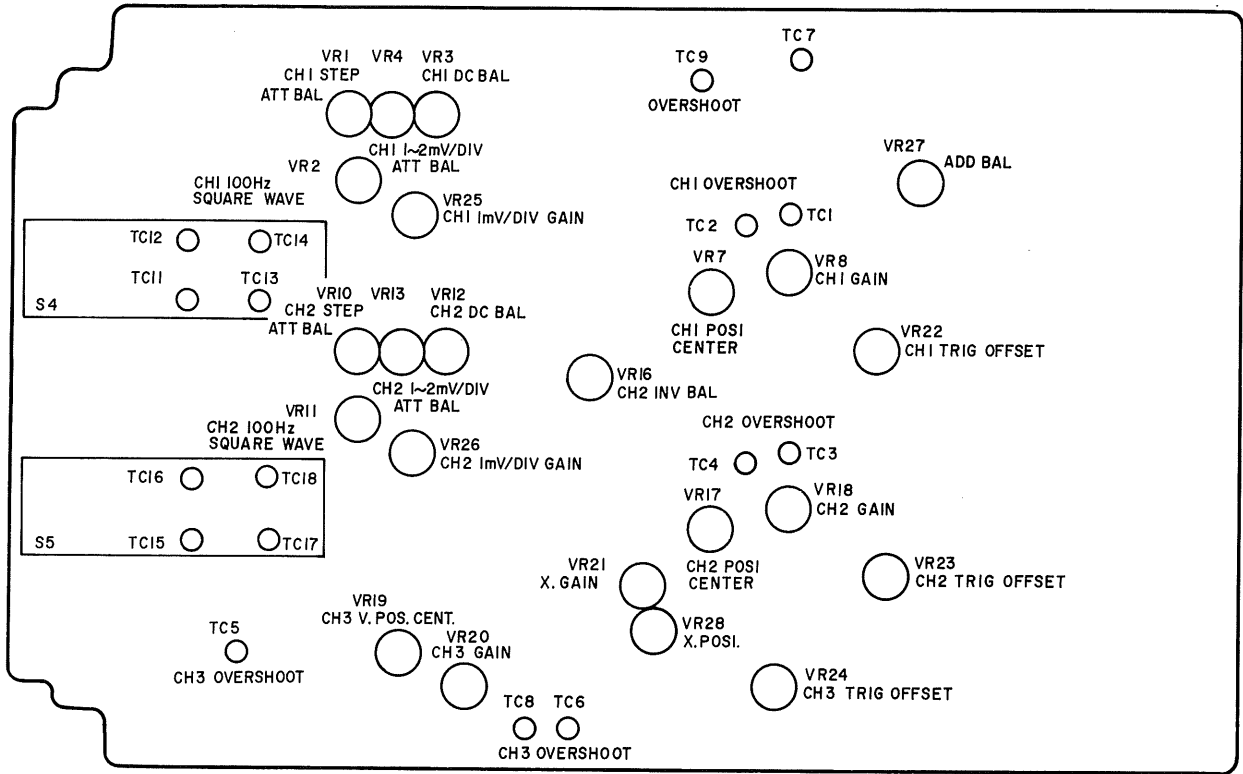
1. Select the vertical MODE switch to CH2 position and channel 2 AC-GND-DC switch to GND position.
2. Set the scope controls to display a trace to the graticule center.
3. Adjust VR28 (X73-1650) to position to trace to horizontal graticule when switched the HORIZ MODE switch to X-Y position.
4. Clockwise rotation of channel 2 position control should move up to 5 divisions upward and counterclockwise rotation should move up to 5 divisions downward.

Calibration Voltage adjustment.

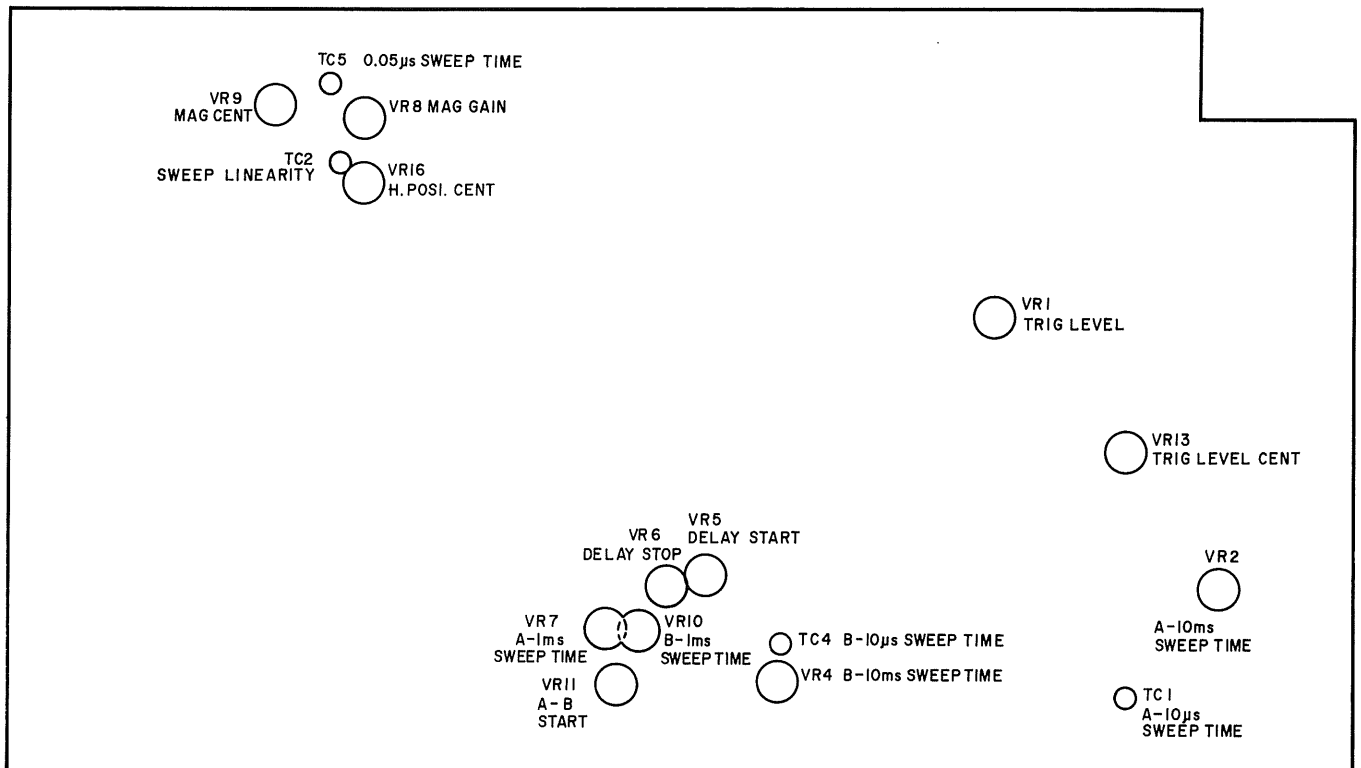
1. Apply a CAL signal to channel 1 input.
2. Adjust VR2 (X73-1660) for 0.5 division vertical amplitude.

ADJUSTMENT

VERTICAL PREAMP UNIT (X73-1650)

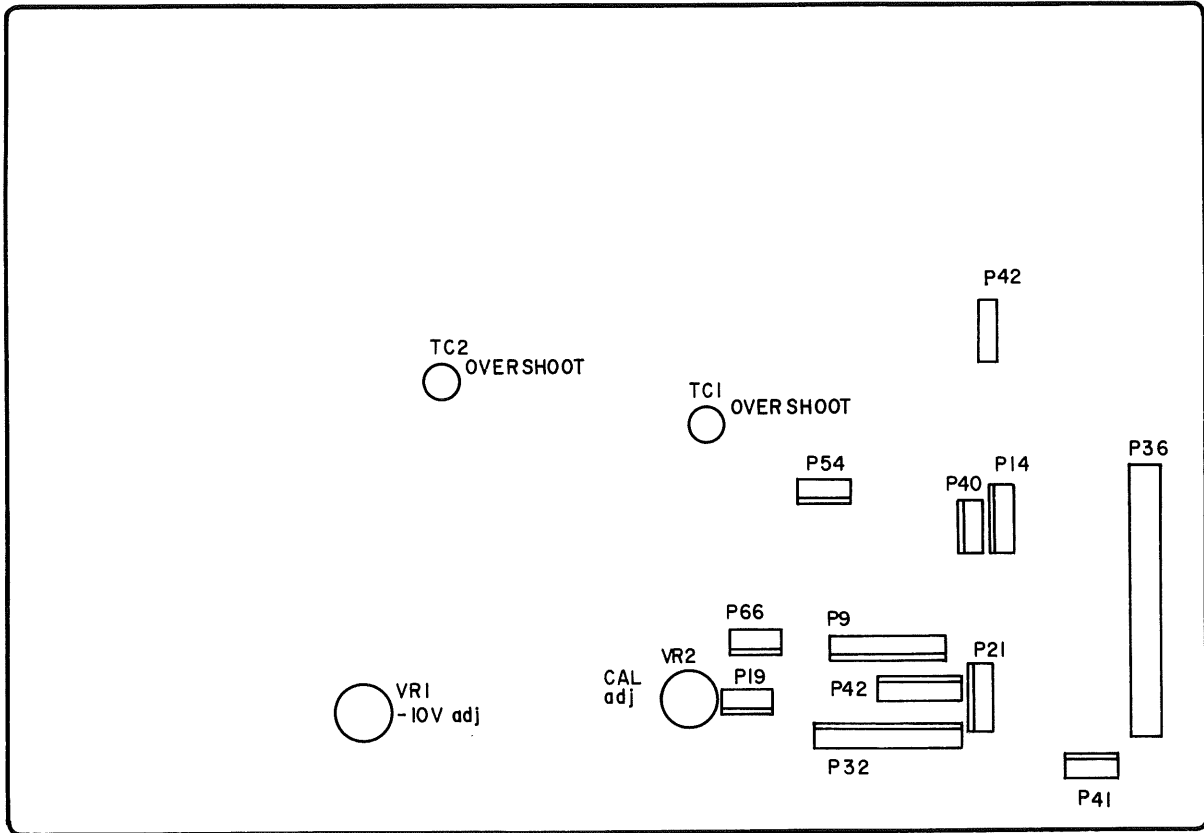


SWEEP UNIT (X74-1440)

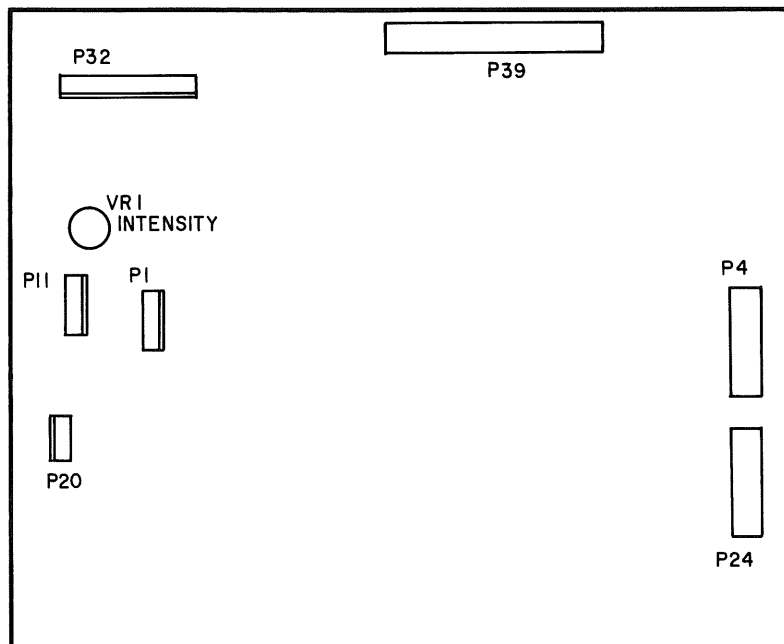


ADJUSTMENT

POWER & FINAL AMP UNIT (X73-1660)



HIGH VOLTAGE UNIT (X68-1460)



TROUBLESHOOTING

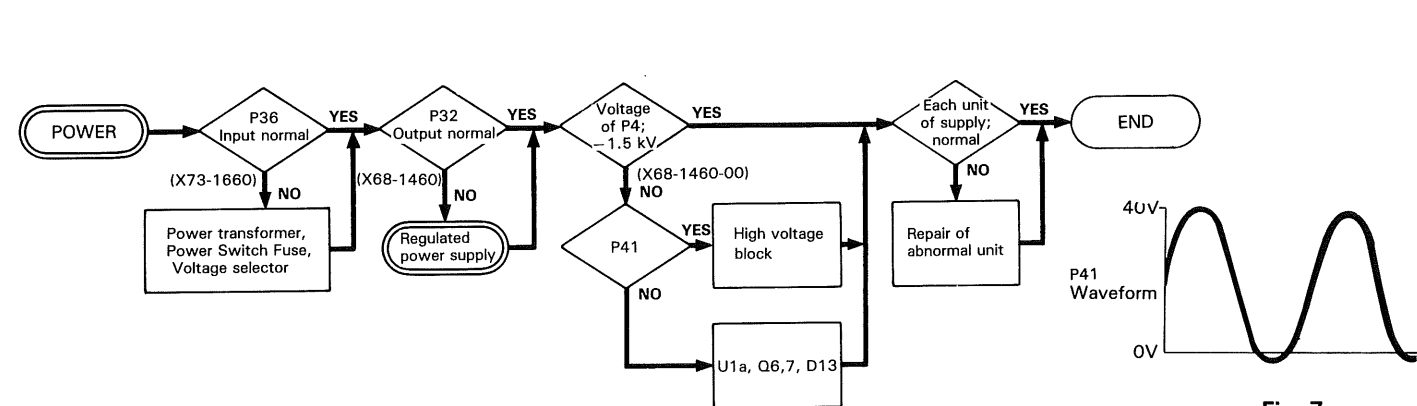
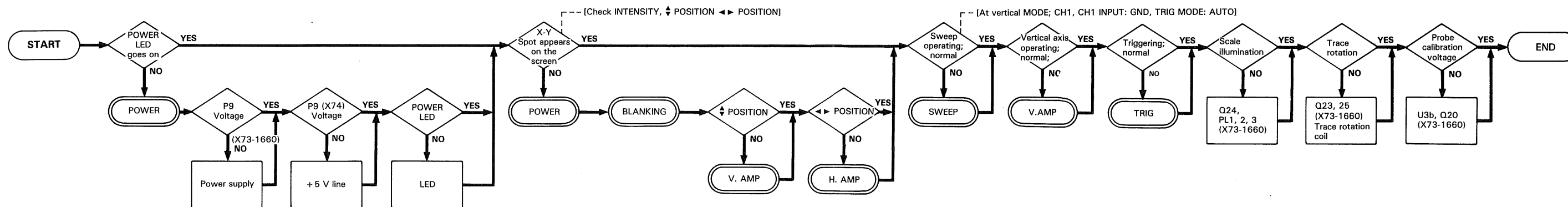


Fig. 7

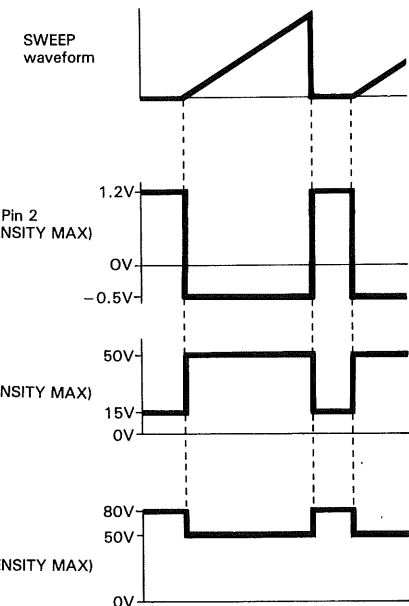
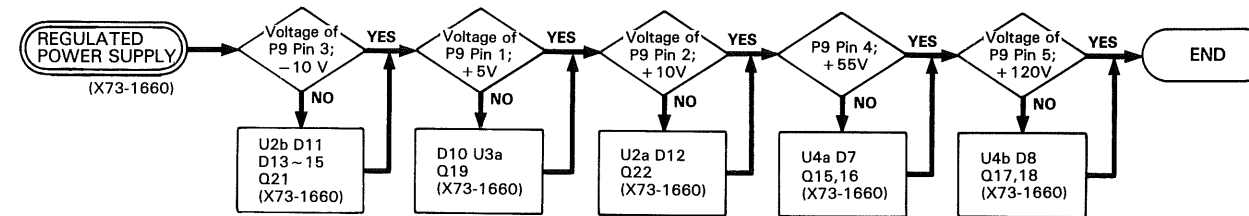


Fig. 8

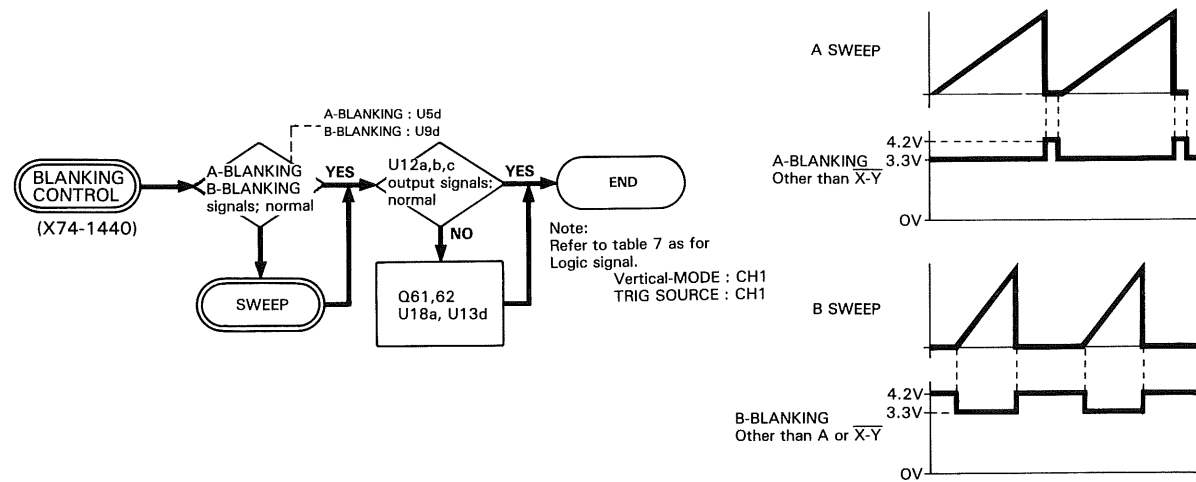
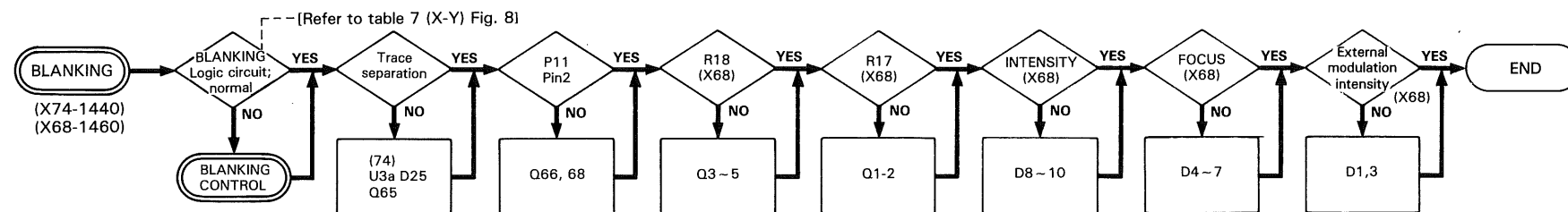
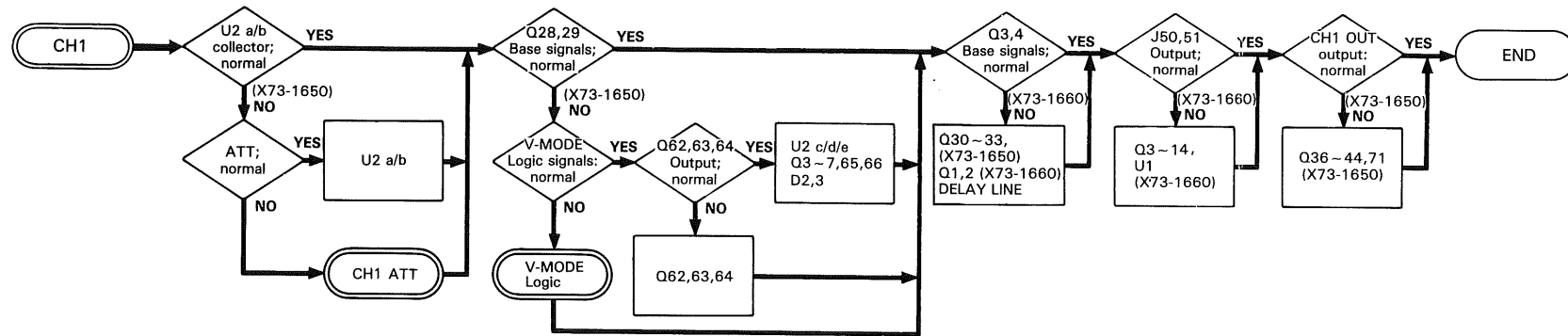
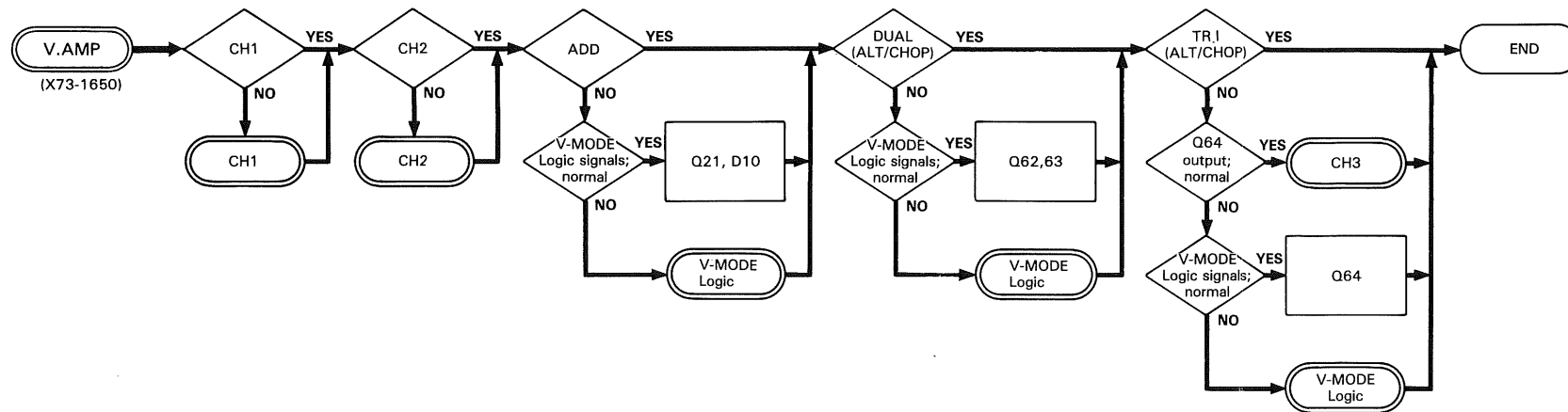


Fig. 9

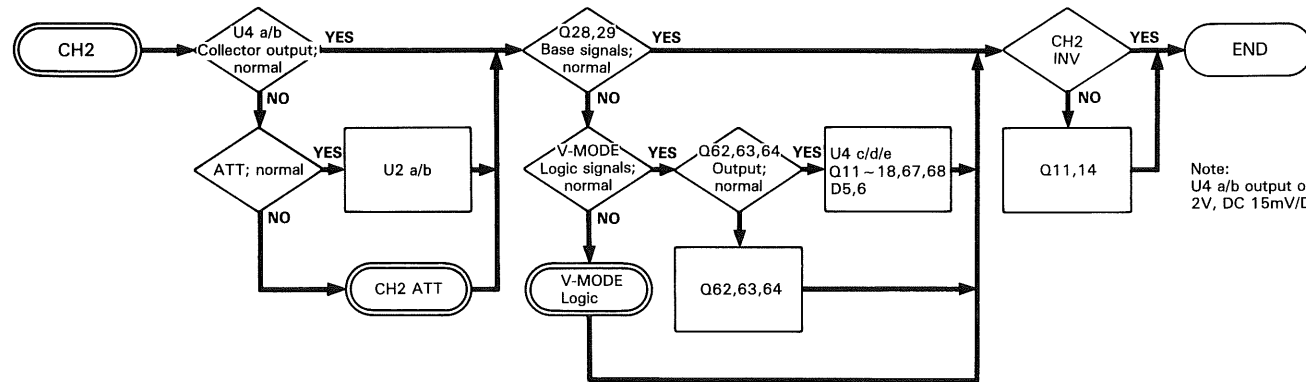
	U12						U18						
	Pin 8	Pin 12	Pin 6	Pin 9	Pin 10	Pin 11	Pin 1	Pin 2	Pin 3	Pin 4	Pin 4	Pin 15	Pin 1
A		H	H		H	H	L	L	L	H	L	H	
ALT						H				H	H	H	
B	H		H		L	H		H		L	H	L	
X-Y	H	L	H	L	H	H	H	H	H	L	L	L	L

Table 7

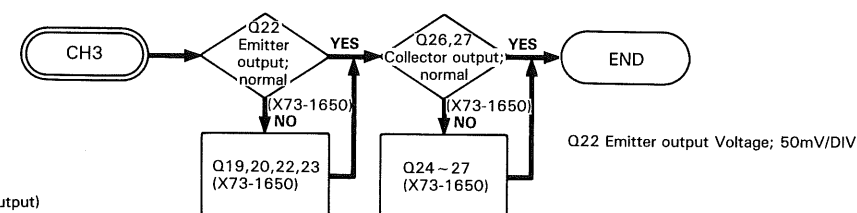
TROUBLESHOOTING



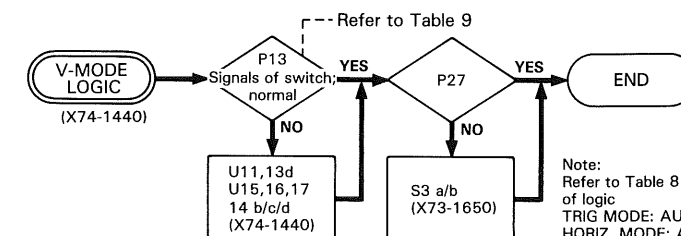
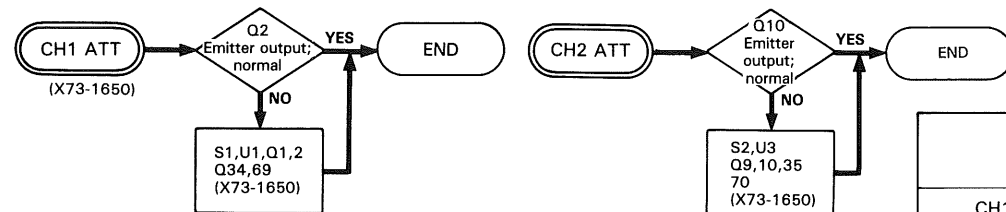
Note:
 • U2 a/b collector output voltage
 2V DC, 15mV/DIV (differential output)
 • Q28,29 Base signals
 3.6V DC, 100mV/DIV (differential output)
 Q3,4 Base signals:
 -3.5V DC, 200mV/DIV (differential output)
 P50,51 output
 37.4V DC, 4.6V/DIV (differential output)
 CH1 OUT
 AC coupling output
 50mV/DIV (into 50Ω termination)



Note:
 U4 a/b output of collector
 2V, DC 15mV/DIV (differential output)



Q22 Emitter output Voltage; 50mV/DIV



Note:
 Refer to Table 8 and 9 about signals
 of logic
 TRIG MODE: AUTO
 HORIZ, MODE; A

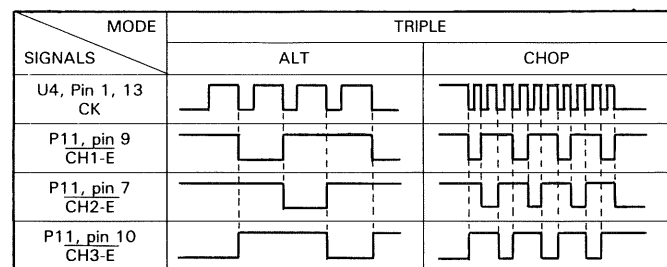
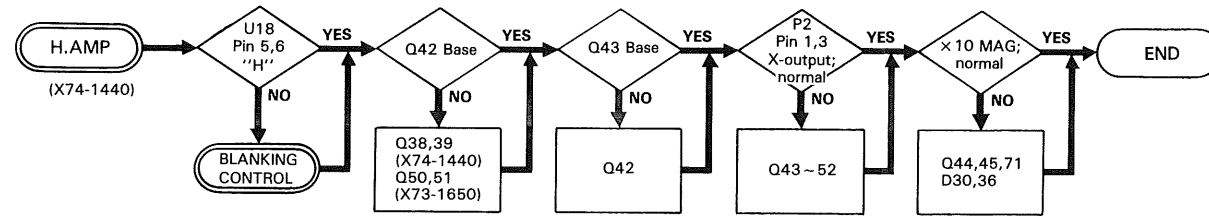


Table 8

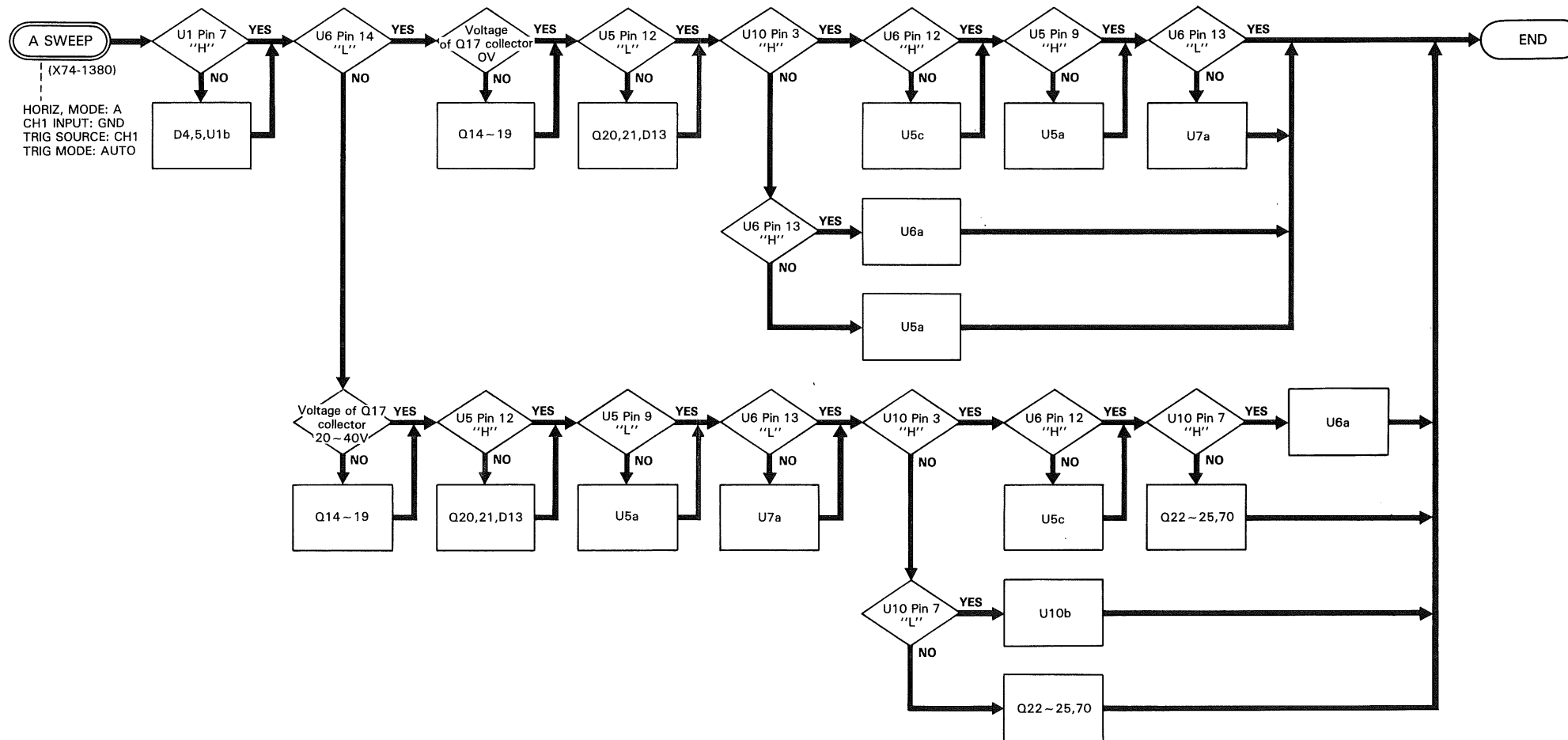
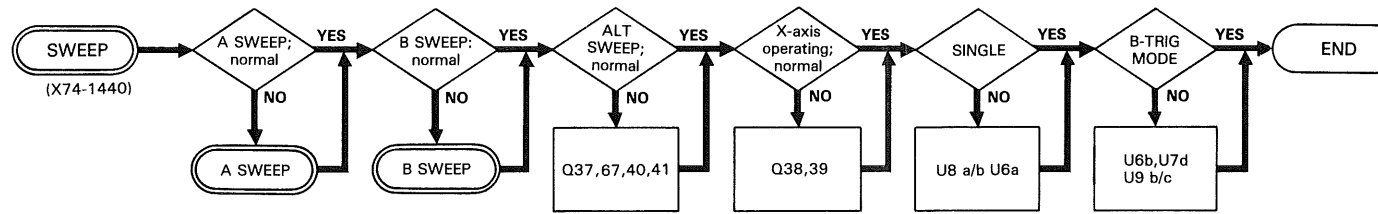
	P13 Pin 2 CH1	P13 Pin 3 CH2	P13 Pin 4 CH3	P13 Pin 5 ADD	U18 Pin 10	U11 Pin 6	U11 Pin 1	U15 Pin 3	U15 Pin 8	U17 Pin 6	U17 Pin 3	U14 Pin 3	U14 Pin 2	U17 Pin 4	P27 Pin 1	P27 Pin 2	P27 Pin 3	P27 Pin 4
CH1	L	H	H	H	L	H		L	L	H	H	L	H	L	L	H	H	L
CH2	H	L	H	H	L	L		L	H	L	H	L	H	L	L	H	L	H
ADD	L	L	H	L	L	H		L	L	L	H	-	H	L	-	H	L	L
DUAL	ALT			H	H	L			H	H	L	L	H	L	L	L	H	H
	CHOP			H	H	L			H	H	L	H	H	L	H	L	H	H
TRI	ALT			H	L			H	H	H	H	L	H	L	L	H	H	H
	CHOP			H	L			H	H	H	H	H	H	L	H	H	H	H
X-Y	L	H	H	H	H	H	L	L	L	H	H	L	L	H	L	H	-	-

Table 9

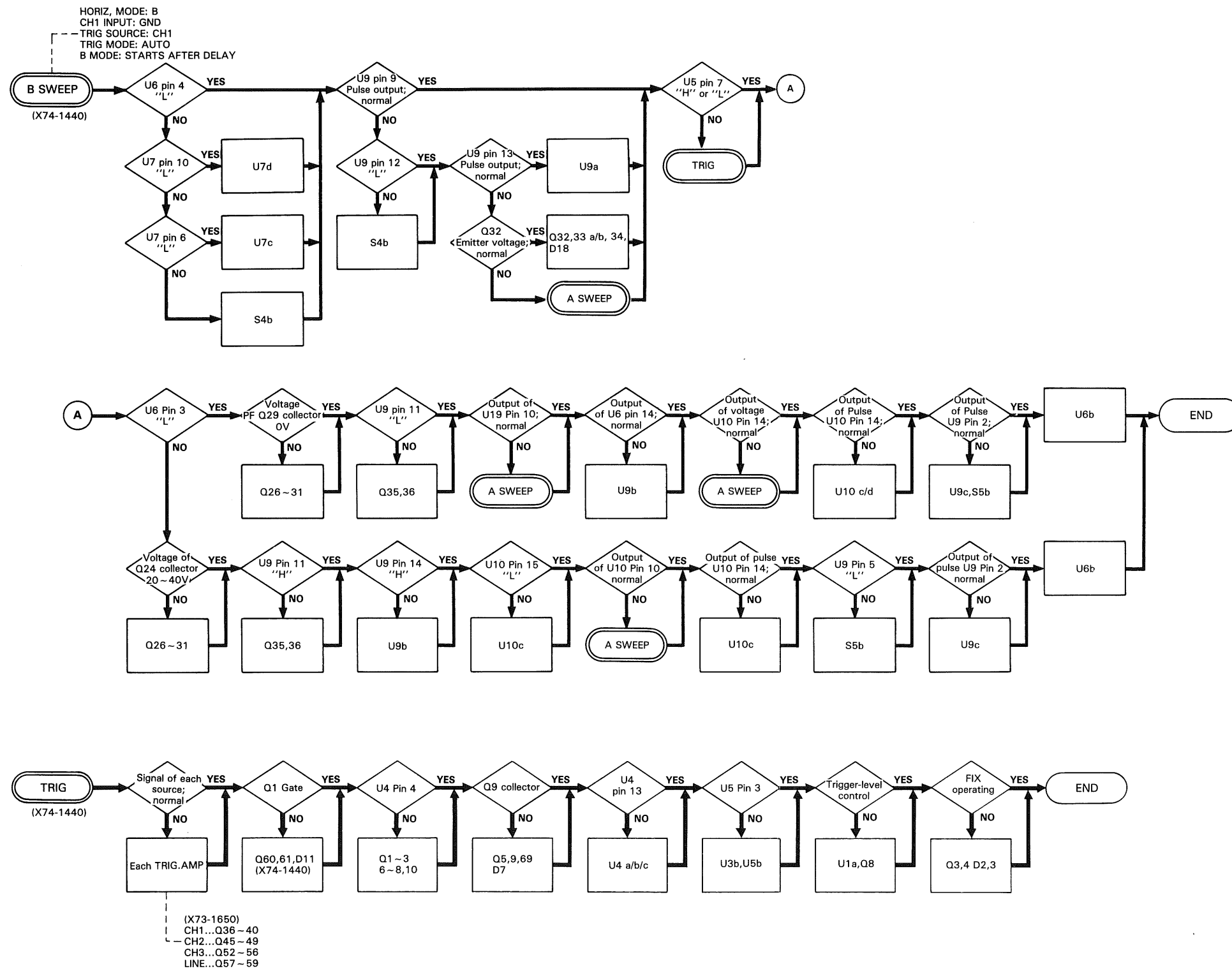
TROUBLESHOOTING



Note:
P2 Pin 1,3; 60V DC, 10V/DIV (differential output)



TROUBLESHOOTING



PARTS LIST

CS-1045 MAIN CHASSIS

Y70-1550-00

REF. NO	PARTS NO	NAME & DESCRIPTION
1	AR4133S	LED (RED)
2	A01-1155-02	CASE
3	A01-1156-12	CASE
4	A13-0904-12	FRAME
5	A13-0905-12	FRAME
6	A13-0906-02	FRAME
7	A13-0912-02	FRAME
8	A20-2795-11	PANEL
9	A21-1084-03	DECORATIVE PANEL
10	A22-0852-12	SUB PANEL
11	A23-1666-02	REAR PANEL
	A33-0502-05	REFLECTOR W/LAMP ASS'Y
13	B07-0714-03	ESCUTCHEON
14	B19-0726-04	FILTER
15	B20-0924-04	SCALE
16	B30-0951-25	LAMP
	B30-0952-05	LAMP W/B30-0951-05
	B40-2765-04	NAME PLATE (SERIAL NO)
19	B40-2862-03	NAME PLATE
25	B41-0710-04	CAUTION LABEL (HIGH VOLTAGE)
28	B41-0785-03	CAUTION LABEL
	B50-7587-00	INSTRUCTION MANUAL
	C91-1233-05	CAP. CERAMIC 3P 0.25P 3KV
20	D19-0908-03	EXTEN SION SHAFT
21	E04-0251-05	BNC RECEPTACLE
22	E18-0365-05	INLET SOCKET
23	E21-0660-04	TERMINAL (CAL)
24	E21-0667-05	TERMINAL
	E23-0018-04	EARTH LUG
	E23-0042-04	ERATH LUG
	E23-0513-05	EARTH LUG
	E23-0552-04	EARTHPLATE
26	E23-0561-14	EARTHPLATE
27	E30-1818-05	POWER CORD (JIS)
	E31-0564-05	LEAD WIRE WITH CONNECTOR
	E31-0717-05	LEAD WIRE WITH CONNECTOR
	E31-2558-15	LEAD WIRE WITH CONNECTOR
	E31-2617-05	LEAD WIRE WITH CONNECTOR
	E31-2618-05	LEAD WIRE WITH CONNECTOR
	E31-2619-05	LEAD WIRE WITH CONNECTOR
	E31-2620-05	LEAD WIRE WITH CONNECTOR
	E31-2621-05	LEAD WIRE WITH CONNECTOR
	E31-2622-05	LEAD WIRE WITH CONNECTOR
	E31-2623-05	LEAD WIRE WITH CONNECTOR
	E31-2624-05	LEAD WIRE WITH CONNECTOR
	E31-2625-05	LEAD WIRE WITH CONNECTOR
	E31-2626-05	LEAD WIRE WITH CONNECTOR
	E31-2627-05	LEAD WIRE WITH CONNECTOR
	E31-2628-05	LEAD WIRE WITH CONNECTOR
	E31-2629-05	LEAD WIRE WITH CONNECTOR
	E31-2630-05	LEAD WIRE WITH CONNECTOR
	E31-2631-05	LEAD WIRE WITH CONNECTOR
	E31-2668-05	LEAD WIRE WITH CONNECTOR
	E31-2678-05	LEAD WIRE WITH CONNECTOR
	E33-4096-00	WIRE ASSY
	F05-1023-05	FUSE 1A
	F07-0908-14	PROTECTION COVER
29	F10-1567-14	SHIELD PLATE
30	F10-1593-14	SHIELD PLATE
31	F11-0996-04	SHIELD CASE
32	F11-0998-03	SHIELD CASE
33	F20-0658-04	INSULATOR
34	G01-0909-04	COIL SPRING
35	G02-0606-14	SPRING FOR HANDLE
36	G16-0611-04	REFLECTOR SHEET (L)
37	G16-0612-04	REFLECTOR SHEET (R)
	H01-5796-04	CARTON BOX
	H10-2828-02	FOAMED STYRENE PAD
	H10-2829-02	FOAMED STYRENE PAD
	H12-0564-04	PAD
	H20-1719-04	VINYL COVER
	H25-0016-00	BAG
38	J02-0089-05	RUBBER LEG
39	J10-0409-02	BEZEL
	J19-1620-05	CORD CLAMP
41	J19-1635-04	HOLDER FOR LED
42	J19-1644-13	CRT HOLDER
43	J19-1645-14	BRACKET
44	J19-1646-04	BRACKET
45	J21-2906-05	GEAR FOR HANDLE
46	J21-2907-05	RING FOR HANDLE

REF. NO	PARTS NO	NAME & DESCRIPTION
47	J21-4555-04	BRACKET
48	J21-4562-03	BRACKET FOR CRT
	J25-3000-05	P.C. BOARD W/LAMP ASS'Y
49	J31-0608-05	COLLAR
50	J42-0528-05	BUSHING
51	J59-0403-05	NYLON RIVET
52	J61-0049-05	WIRE BAND
	J61-0408-05	WIRE WRAPPING BAND
	J61-0522-05	WIRE WRAPPING BAND
55	K01-0524-05	HANDLE
56	K21-0860-13	KNOB
57	K21-0885-03	KNOB
58	K21-0888-04	KNOB
59	K21-0889-04	KNOB
60	K23-0803-13	KNOB
61	K23-0805-03	KNOB
62	K27-0530-14	KNOB
63	L01-9526-05	POWER TRANSFORMER
64	L39-0524-05	COIL
65	L76-0110-05	DELAY LINE
	N08-0611-04	DRESSED SCREW
	N09-0623-04	SCREW
	N09-0705-05	SCREW, HEX SOCKET FLAT HD
	N09-0726-05	SCREW
	N09-0731-05	SCREW
	N09-0739-05	SCREW
	N10-2030-46	NUT, HEX
	N14-0609-04	NUT
	N14-0624-04	NUT
	N14-0625-04	NUT
	N15-1030-41	WASHER, FLAT FOR M3
	N15-1110-46	WASHER
	N17-1030-46	TOOTHED LOCK WASHER FOR M3
	N19-0710-05	WASHER
	N19-0725-04	WASHER
	N30-3035-46	SCREW, PAN HD M 3X35
	N32-3006-41	SCREW, FLAT HD M 3X6
	N32-3008-41	SCREW, FLAT HD M 3X8
	N34-3012-41	SCREW, TRUSS M 3X8
	N88-3008-41	SCREW, FLAT HD TAP TITE
	N89-3008-41	SCREW, BINDING TAP TITE
	N89-3010-41	SCREW, BINDING TAP TITE
	N89-3016-46	SCREW, BINDING TAP TITE
	RD14BB2E220J	RES. CARBON 22 5% 1/4W
	RD14BB2E220J	RES. CARBON 22 5% 1/4W
66	R03-1509-05	V.R. 10K
67	R05-3505-05	V.R. 20K B
68	R05-8001-05	V.R. 3M B
69	R29-1502-05	V.R. 100K
70	W01-0503-04	CORD WRAP
71	W02-0423-05	HIGH VOLTAGE POWER BLOCK
72	X68-1460-00	HIGH VOLTAGE UNIT
73	X73-1650-01	VERTICAL PREAMP UNIT
74	X73-1660-01	VERTICAL OUTPUT AMP UNIT
75	X74-1440-01	HOR. SWEEP UNIT
76	X81-1600-02	CRT SOCKET UNIT
	Y87-1840-00	PROBE PC-20
77	150RTM31	CRT
	212-3017-05	TUBE (PLASTIC)

VERTICAL PREAMP UNIT

X73-1650-01

REF. NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	E33-4105-00	WIRE ASSY
	F10-1588-04	SHIELD PLATE
	F10-1589-04	SHIELD PLATE
	F10-1590-04	SHIELD PLATE
	F10-1591-04	SHIELD PLATE
	J25-5104-22	PCB (UNMOUNTED)
	J61-0408-05	WIRE WRAPPING BAND
	S02-4504-05	ROTARY SWITCH
	212-1018-05	TUBE (PLASTIC)
C001	C91-0502-05	CAP. METAL FILM 0.01 20% 630V
C002	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C003	C91-0501-05	CAP. METAL FILM 0.047 10% 630V
C004	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V
C005	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C006	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C007	NO USE	
C008	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C009	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C010	CE04WC330M	CAP. ELECTRO 33 20% 16V

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
C011	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	C101	CE04W1C221M	CAP. ELECTRO 220 20% 16V
C012	CE04W1C330M	CAP. ELECTRO 33 20% 16V	C102	CE04W1C221M	CAP. ELECTRO 220 20% 16V
C013	NO USE		C103	CE04W1C221M	CAP. ELECTRO 220 20% 16V
C014	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D001	1S1544A	DIODE
C015	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D002	1SS132	DIODE
C016	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D003	1SS132	DIODE
C017	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D004	1S1544A	DIODE
C018	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D005	1SS132	DIODE
C019	C91-1239-05	CAP. CERAMIC 3P 0.25P 3KV	D006	1SS132	DIODE
C020	C91-1231-05	CAP. CERAMIC 3P 0.25P 3KV	D007	MTZ5.1JB	DIODE ZENER 5V
C021	C91-0502-05	CAP. METAL FILM 0.01 20% 630V	D008	1SS132	DIODE
C022	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D009	1SS132	DIODE
C023	C91-0501-05	CAP. METAL FILM 0.047 10% 630V	D010	MTZ7.5JC	DIODE ZENER 7.5V
C024	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V	D011	1SS132	DIODE
C025	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	D012	MTZ5.1JB	DIODE ZENER 5V
C026	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	D013	MTZ5.1JB	DIODE ZENER 5V
C027	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D014	1SS132	DIODE
C028	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D015	1S1544A	DIODE
C029	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D016	1SS132	DIODE
C030	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D017	1SS132	DIODE
C031	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D018	MTZ5.1JB	DIODE ZENER 5V
C032	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D019	MTZ5.1JB	DIODE ZENER 5V
C033	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D020	1SS132	DIODE
C034	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D021	1SS132	DIODE
C035	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	J006	E31-2616-05	LEAD WIRE WITH CONNECTOR
C036	C91-1239-05	CAP. CERAMIC 3P 0.25P 3KV	J027	E31-2672-05	LEAD WIRE WITH CONNECTOR
C037	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	J028	E31-2673-05	LEAD WIRE WITH CONNECTOR
C038	C91-0502-05	CAP. METAL FILM 0.01 20% 630V	J029	E31-2675-05	LEAD WIRE WITH CONNECTOR
C039	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	J030	E31-2676-05	LEAD WIRE WITH CONNECTOR
C040	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	J038	E31-2698-05	LEAD WIRE WITH CONNECTOR
C041	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	J062	E31-2673-05	LEAD WIRE WITH CONNECTOR
C042	NO USE		J063	E31-2675-05	LEAD WIRE WITH CONNECTOR
C043	CE04W1C330M	CAP. ELECTRO 33 20% 16V	J064	E31-2698-05	LEAD WIRE WITH CONNECTOR
C044	CC45CH1H0R5C	CAP. CERAMIC 0.5P 0.25P 50V	J065	E31-2698-05	LEAD WIRE WITH CONNECTOR
C045	CC45CH1H0R5C	CAP. CERAMIC 0.5P 0.25P 50V	P010	E40-0273-05	PIN CONNECTOR 2 P
C046	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	P011	NO USE	
C047	C91-1227-05	CAP. CERAMIC 3P 0.25P 3KV	P012	E40-0374-05	PIN CONNECTOR 3 P
C048	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V	P013	E40-0573-05	PIN CONNECTOR 5 P
C049	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V	P016	E40-0273-05	PIN CONNECTOR 2 P
C050	C91-1231-05	CAP. CERAMIC 3P 0.25P 3KV	P017	E40-0273-05	PIN CONNECTOR 2 P
C053	CC45CH1H221J	CAP. CERAMIC 220P 5% 50V	P018	E40-0273-05	PIN CONNECTOR 2 P
C054	CC45CH1H221J	CAP. CERAMIC 220P 5% 50V	P028	E40-0574-05	PIN CONNECTOR 5 P
C055	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P029	E40-0674-05	PIN CONNECTOR 6 P
C056	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P030	E40-0373-05	PIN CONNECTOR 3 P
C059	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	P042	E40-0312-05	PIN CONNECTOR 2 P
C060	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P056	E40-0273-05	PIN CONNECTOR 2 P
C061	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P057	E40-0273-05	PIN CONNECTOR 2 P
C062	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P058	E40-0273-05	PIN CONNECTOR 2 P
C063	CE04W1C101M	CAP. ELECTRO 100 20% 16V	P059	E40-0273-05	PIN CONNECTOR 2 P
C064	CE04W1C101M	CAP. ELECTRO 100 20% 16V	P060	E40-0273-05	PIN CONNECTOR 2 P
C065	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	Q001	2SK304(F)	FET, N-CHANNEL
C066	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	Q002	2SC3315(D)	TR. SI, NPN
C067	CC45CH1H090D	CAP. CERAMIC 9P 0.5P 50V	Q003	2SA1005(K)	TR. SI, PNP
C068	CC45CH1H090D	CAP. CERAMIC 9P 0.5P 50V	Q004	2SA1005(K)	TR. SI, PNP
C069	C91-1223-05	CAP. CERAMIC 3P 0.25P 3KV	Q005	2SC3354(S,T)	TR. SI, NPN
C070	C91-1234-05	CAP. CERAMIC 3P 0.25P 3KV	Q006	2SC3354(S,T)	TR. SI, NPN
C071	C91-1238-05	CAP. CERAMIC 3P 0.25P 3KV	Q007	2SC3354(S,T)	TR. SI, NPN
C072	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	Q008	2SC3354(S,T)	TR. SI, NPN
C073	CQ92M1H104K	CAP. MYLAR 0.1 10% 50V	Q009	2SK304(F)	FET, N-CHANNEL
C074	C91-1240-05	CAP. CERAMIC 3P 0.25P 3KV	Q010	2SC3315(D)	TR. SI, NPN
C075	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V	Q011	2SA1005(K)	TR. SI, PNP
C076	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V	Q012	2SA1005(K)	TR. SI, PNP
C077	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V	Q013	2SA1005(K)	TR. SI, PNP
C078	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	Q014	2SA1005(K)	TR. SI, PNP
C079	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV	Q015	2SC3354(S,T)	TR. SI, NPN
C080	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV	Q016	2SC3354(S,T)	TR. SI, NPN
C081	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV	Q017	2SC3354(S,T)	TR. SI, NPN
C082	CE04DW0J222M	CAP. ELECTRO 2200 20% 6.3V	Q018	2SC3354(S,T)	TR. SI, NPN
C083	CE04DW0J222M	CAP. ELECTRO 2200 20% 6.3V	Q019	2SK304(F)	FET, N-CHANNEL
C084	CQ92M1H104K	CAP. MYLAR 0.1 10% 50V	Q020	2SK304(F)	FET, N-CHANNEL
C085	CQ92M1H104K	CAP. MYLAR 0.1 10% 50V	Q021	2SA1005(K)	TR. SI, PNP
C086	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	Q022	2SC3315(D)	TR. SI, NPN
C087	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	Q023	2SC3315(D)	TR. SI, NPN
C088	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	Q024	2SC3354(S,T)	TR. SI, NPN
C089	CE04W1C330M	CAP. ELECTRO 33 20% 16V	Q025	2SC3354(S,T)	TR. SI, NPN
C090	CE04W1C330M	CAP. ELECTRO 33 20% 16V			
C091	NO USE				
C092	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			
C095	CE04W1C330M	CAP. ELECTRO 33 20% 16V			
C100	C91-1235-05	CAP. CERAMIC 3P 0.25P 3KV			

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION			
Q026	2SC3354(S,T)	TR. SI, NPN	R040	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
Q027	2SC3354(S,T)	TR. SI, NPN	R041	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
Q028	2SC3315(D)	TR. SI, NPN	R042	RN14BK2C5101F	RES. METAL FILM 5.1K	1%	1/6W	
Q029	2SC3315(D)	TR. SI, NPN	R043	NO USE				
Q030	2SA1206	TR. SI, PNP	R044	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W	
Q031	2SA1206	TR. SI, PNP	R045	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
Q032	2SC2644	TR. SI, NPN	R046	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
Q033	2SC2644	TR. SI, NPN	R047	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
Q034	2SK184(Y)	FET, N-CHANNEL	R048	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
Q035	2SK184(Y)	FET, N-CHANNEL	R049	RN14BK2C1002F	RES. METAL FILM 10K	1%	1/6W	
Q036	2SC3315(D)	TR. SI, NPN	R050	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W	
Q037	2SC3315(D)	TR. SI, NPN	R051	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q038	2SA1005(K)	TR. SI, PNP	R052	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q039	2SA1005(K)	TR. SI, PNP	R053	RN14BK2C9100F	RES. METAL FILM 910	1%	1/6W	
Q040	2SA1005(K)	TR. SI, PNP	R054	RN14BK2C9100F	RES. METAL FILM 910	1%	1/6W	
Q041	2SA1005(K)	TR. SI, PNP	R055	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W	
Q042	2SC3354(S,T)	TR. SI, NPN	R056	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W	
Q043	2SC3354(S,T)	TR. SI, NPN	R057	RD14BB2C470J	RES. CARBON 47	5%	1/6W	
Q044	2SC1973	TR. SI, NPN	R058	RD14BB2C470J	RES. CARBON 47	5%	1/6W	
Q045	2SC3315(D)	TR. SI, NPN	R059	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W	
Q046	2SC3315(D)	TR. SI, NPN	R060	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W	
Q047	2SA1005(K)	TR. SI, PNP	R061	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W	
Q048	2SA1005(K)	TR. SI, PNP	R062	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W	
Q049	2SA1005(K)	TR. SI, PNP	R063	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W	
Q050	2SC2785(F)	TR. SI, NPN	R064	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q051	2SC2785(F)	TR. SI, NPN	R065	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q052	2SC3315(D)	TR. SI, NPN	R066	RD14BB2C362J	RES. CARBON 3.6K	5%	1/6W	
Q053	2SC3315(D)	TR. SI, NPN	R067	RD14BB2C911J	RES. CARBON 910	5%	1/6W	
Q054	2SA1005(K)	TR. SI, PNP	R068	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q055	2SA1005(K)	TR. SI, PNP	R069	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q056	2SA1005(K)	TR. SI, PNP	R070	NO USE				
Q057	2SA1175(F)	TR. SI, PNP	R071	RD14BB2C105J	RES. CARBON 1M	5%	1/6W	
Q058	2SA1175(F)	TR. SI, PNP	R072	RD14BB2C330J	RES. CARBON 33	5%	1/6W	
Q059	2SA1005(K)	TR. SI, PNP	R073	RD14BB2C684J	RES. CARBON 680K	5%	1/6W	
Q060	2SC3354(S,T)	TR. SI, NPN	R074	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
Q061	2SC3354(S,T)	TR. SI, NPN	R075	RN14BK2C5003F	RES. METAL FILM 500K	1%	1/6W	
Q062	2SC2785(F)	TR. SI, NPN	R076	RN14BK2C5003F	RES. METAL FILM 500K	1%	1/6W	
Q063	2SC2785(F)	TR. SI, NPN	R077	RD14BB2C684J	RES. CARBON 680K	5%	1/6W	
Q064	2SC2785(F)	TR. SI, NPN	R078	RD14BB2C105J	RES. CARBON 1M	5%	1/6W	
Q065	2SC3315(D)	TR. SI, NPN	R079	RD14BB2C162J	RES. CARBON 1.6K	5%	1/6W	
Q066	2SC3315(D)	TR. SI, NPN	R080	RD14BB2C100J	RES. CARBON 10	5%	1/6W	
Q067	2SC3315(D)	TR. SI, NPN	R081	RD14BB2C103J	RES. CARBON 10K	5%	1/6W	
Q068	2SC3315(D)	TR. SI, NPN	R082	RD14BB2C132J	RES. CARBON 1.3K	5%	1/6W	
Q069	2SK304(F)	FET, N-CHANNEL	R083	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q070	2SK304(F)	FET, N-CHANNEL	R084	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
Q071	2SA1005(K)	TR. SI, PNP	R085	RD14BB2C100J	RES. CARBON 10	5%	1/6W	
R001	RD14BB2C105J	RES. CARBON 1M	R086	RD14BB2C331J	RES. CARBON 330	5%	1/6W	
R002	RD14BB2C330J	RES. CARBON 33	R087	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R003	RD14BB2C684J	RES. CARBON 680K	R088	RD14BB2C751J	RES. CARBON 750	5%	1/6W	
R004	RD14BB2C220J	RES. CARBON 22	R089	RD14BB2C181J	RES. CARBON 180	5%	1/6W	
R005	RN14BK2C5003F	RES. METAL FILM 500K	R090	RN14BK2C30R0F	RES. METAL FILM 30.0	1%	1/6W	
R006	RN14BK2C5003F	RES. METAL FILM 500K	R091	RD14BB2C301J	RES. CARBON 300	5%	1/6W	
R007	RD14BB2C684J	RES. CARBON 680K	R092	RD14BB2C621J	RES. CARBON 620	5%	1/6W	
R008	RD14BB2C105J	RES. CARBON 1M	R093	RD14BB2C270J	RES. CARBON 27	5%	1/6W	
R009	RD14BB2C162J	RES. CARBON 1.6K	R094	R92-1162-05	RES. FIXED 560	3,000PPM		
R010	RD14BB2C100J	RES. CARBON 10	R095	RN14BK2C1800F	RES. METAL FILM 180	1%	1/6W	
R011	RD14BB2C103J	RES. CARBON 10K	R096	RD14BB2C820J	RES. CARBON 82	5%	1/6W	
R012	RD14BB2C132J	RES. CARBON 1.3K	R097	NO USE				
R013	RD14BB2C101J	RES. CARBON 100	R098	RD14BB2C470J	RES. CARBON 47	5%	1/6W	
R014	RD14BB2C101J	RES. CARBON 100	R099	RD14BB2C560J	RES. CARBON 56	5%	1/6W	
R015	RD14BB2C100J	RES. CARBON 10	R100	RD14BB2C104J	RES. CARBON 100K	5%	1/6W	
R016	RD14BB2C331J	RES. CARBON 330	R101	RN14BK2C1801F	RES. METAL FILM 1.8K	1%	1/6W	
R017	RD14BB2C101J	RES. CARBON 100	R102	RN14BK2C1801F	RES. METAL FILM 1.8K	1%	1/6W	
R018	RD14BB2C751J	RES. CARBON 750	R103	RN14BK2C2700F	RES. METAL FILM 270	1%	1/6W	
R019	RD14BB2C181J	RES. CARBON 180	R104	RN14BK2C12R0F	RES. METAL FILM 12.0	1%	1/6W	
R020	RN14BK2C30R0F	RES. METAL FILM 30.0	R105	RN14BK2C1601F	RES. METAL FILM 1.6K	1%	1/6W	
R021	RD14BB2C301J	RES. CARBON 300	R106	RN14BK2C1601F	RES. METAL FILM 1.6K	1%	1/6W	
R022	RD14BB2C621J	RES. CARBON 620	R107	RN14BK2C3900F	RES. METAL FILM 390	1%	1/6W	
R023	RD14BB2C270J	RES. CARBON 27	R108	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R024	R92-1162-05	RES. FIXED 560	R109	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R025	RN14BK2C1800F	RES. METAL FILM 180	R110	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W	
R026	RD14BB2C820J	RES. CARBON 82	R111	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W	
R027	NO USE		R112	RN14BK2C5101F	RES. METAL FILM 5.1K	1%	1/6W	
R028	RD14BB2C470J	RES. CARBON 47	R113	RN14BK2C4700F	RES. METAL FILM 470	1%	1/6W	
R029	RD14BB2C560J	RES. CARBON 56	R114	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W	
R030	RD14BB2C104J	RES. CARBON 100K	R115	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
R031	RN14BK2C1801F	RES. METAL FILM 1.8K	R116	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W	
R032	RN14BK2C1801F	RES. METAL FILM 1.8K	R117	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R033	RN14BK2C2700F	RES. METAL FILM 270	R118	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R034	RN14BK2C12R0F	RES. METAL FILM 12.0	R119	RN14BK2C1002F	RES. METAL FILM 10K	1%	1/6W	
R035	RN14BK2C1601F	RES. METAL FILM 1.6K	R120	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W	
R036	RN14BK2C1601F	RES. METAL FILM 1.6K	R121	RN14BK2C1002F	RES. METAL FILM 10K	1%	1/6W	
R037	RN14BK2C3900F	RES. METAL FILM 390	R122	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W	
R038	RD14BB2C101J	RES. CARBON 100	R123	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R039	RD14BB2C101J	RES. CARBON 100	R124	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
			R125	RD14BB2C101J	RES. CARBON 100	5%	1/6W	

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	QTY	UNIT	REF. NO	PARTS NO	NAME & DESCRIPTION	QTY	UNIT		
R126	RD14BB2C101J	RES. CARBON	100	5%	1/6W	R219	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R127	RD14BB2C432J	RES. CARBON	4.3K	5%	1/6W	R220	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R128	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W	R221	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R129	RN14BK2C9100F	RES. METAL FILM	910	1%	1/6W	R222	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R130	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R223	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W
R131	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R224	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W
R132	RD14BB2C470J	RES. CARBON	47	5%	1/6W	R225	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R133	RD14BB2C470J	RES. CARBON	47	5%	1/6W	R226	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R134	RN14BK2C6800F	RES. METAL FILM	680	1%	1/6W	R227	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R135	RN14BK2C6800F	RES. METAL FILM	680	1%	1/6W	R228	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R136	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R229	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R137	RD14BB2C101J	RES. CARBON	100	5%	1/6W	R230	NO USE				
R138	RD14BB2C101J	RES. CARBON	100	5%	1/6W	R231	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R139	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W	R232	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R140	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W	R233	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R141	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W	R234	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R142	RD14BB2C911J	RES. CARBON	910	5%	1/6W	R235	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R143	RN14BK2C4700F	RES. METAL FILM	470	1%	1/6W	R236	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R144	NO USE					R237	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R145	RD14BB2C183J	RES. CARBON	18K	5%	1/6W	R238	RN14BK2C1000F	RES. METAL FILM	100	1%	1/6W
R146	RN14BK2C9003F	RES. METAL FILM	900K	1%	1/6W	R239	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R147	RN14BK2C1003F	RES. METAL FILM	100K	1%	1/6W	R240	RD14BB2C682J	RES. CARBON	6.8K	5%	1/6W
R148	RD14BB2C684J	RES. CARBON	680K	5%	1/6W	R241	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R149	NO USE					R242	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R150	RD14BB2C684J	RES. CARBON	680K	5%	1/6W	R243	RD14BB2C202J	RES. CARBON	2K	5%	1/6W
R151	NO USE					R244	RD14BB2C202J	RES. CARBON	2K	5%	1/6W
R152	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W	R245	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R153	RD14BB2C182J	RES. CARBON	1.8K	5%	1/6W	R246	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R154	NO USE					R247	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W
R155	RD14BB2C162J	RES. CARBON	1.6K	5%	1/6W	R248	RD14BB2C242J	RES. CARBON	2.4K	5%	1/6W
R156	RD14BB2C432J	RES. CARBON	4.3K	5%	1/6W	R249	RD14BB2C302J	RES. CARBON	3K	5%	1/6W
R157	NO USE					R250	RD14BB2C621J	RES. CARBON	620	5%	1/6W
R158	RN14BK2C7500F	RES. METAL FILM	750	1%	1/6W	R251	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R159	RN14BK2C7500F	RES. METAL FILM	750	1%	1/6W	R252	RN14BK2C2490F	RES. METAL FILM	249	1%	1/6W
R160	R92-1162-05	RES. FIXED	560	3,000PPM		R253	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R163	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W	R254	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W
R164	RD14BB2C272J	RES. CARBON	2.7K	5%	1/6W	R255	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R165	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W	R256	RD14BB2C561J	RES. CARBON	560	5%	1/6W
R166	RD14BB2C911J	RES. CARBON	910	5%	1/6W	R257	RD14BB2C511J	RES. CARBON	510	5%	1/6W
R169	RN14BK2C7500F	RES. METAL FILM	750	1%	1/6W	R258	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R170	RN14BK2C7500F	RES. METAL FILM	750	1%	1/6W	R259	RD14BB2C751J	RES. CARBON	750	5%	1/6W
R171	RN14BK2C6980F	RES. METAL FILM	698	1%	1/6W	R260	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R172	RN14BK2C6980F	RES. METAL FILM	698	1%	1/6W	R261	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R173	RD14BB2C470J	RES. CARBON	47	5%	1/6W	R262	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R174	RD14BB2C470J	RES. CARBON	47	5%	1/6W	R263	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R175	RD14BB2C100J	RES. CARBON	10	5%	1/6W	R264	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R176	NO USE					R265	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R177	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R266	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R178	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R267	RD14BB2C471J	RES. CARBON	470	5%	1/6W
R181	RD14BB2C220J	RES. CARBON	22	5%	1/6W	R268	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R182	RD14BB2C220J	RES. CARBON	22	5%	1/6W	R269	NO USE				
R183	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R270	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R184	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R271	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R185	RN14BK2C7500F	RES. METAL FILM	750	1%	1/6W	R272	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R186	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W	R273	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R187	RN14BK2C2201F	RES. METAL FILM	2.2K	1%	1/6W	R274	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R188	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R275	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R189	RN14BK2C8200F	RES. METAL FILM	820	1%	1/6W	R276	RD14BB2C161J	RES. CARBON	160	5%	1/6W
R190	RD14BB2C220J	RES. CARBON	22	5%	1/6W	R279	RD14BB2C301J	RES. CARBON	300	5%	1/6W
R191	RD14BB2C220J	RES. CARBON	22	5%	1/6W	R280	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R192	RN14BK2C6200F	RES. METAL FILM	620	1%	1/6W	R281	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R193	RN14BK2C6200F	RES. METAL FILM	620	1%	1/6W	R282	NO USE				
R194	RD14BB2C511J	RES. CARBON	510	5%	1/6W	R283	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R195	RD14BB2C132J	RES. CARBON	1.3K	5%	1/6W	R284	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R196	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W	R285	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R197	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W	R286	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R198	RN14BK2C5600F	RES. METAL FILM	560	1%	1/6W	R287	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R199	RN14BK2C1800F	RES. METAL FILM	180	1%	1/6W	R288	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R202	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R289	RD14BB2C100J	RES. CARBON	10	5%	1/6W
R203	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R290	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R206	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W	R291	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R207	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W	R292	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R210	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R293	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R211	RD14BB2C302J	RES. CARBON	3K	5%	1/6W	R294	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R214	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W	R295	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R215	RN14BK2C51R0F	RES. METAL FILM	51.0	1%	1/6W	R296	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R216	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W	R297	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R217	RD14BB2C101J	RES. CARBON	100	5%	1/6W	R298	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R218	RD14BB2C101J	RES. CARBON	100	5%	1/6W	R299	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
						R300	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
						R301	RD14BB2C184J	RES. CARBON	180K	5%	1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION			
R302	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R303	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R304	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R305	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R306	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R307	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R308	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
R309	RD14BB2C184J	RES. CARBON	180K	5%	1/6W
R310	RD14BB2C912J	RES. CARBON	9.1K	5%	1/6W
R311	RD14BB2C822J	RES. CARBON	8.2K	5%	1/6W
R312	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R313	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R314	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R315	RD14BB2C101J	RES. CARBON	100	5%	1/6W
S001	S32-4007-05	LEVER SWITCH			
S002	S32-4007-05	LEVER SWITCH			
S003	S33-2501-05	LEVER SWITCH			
TC001	C05-0444-05	CAP. TRIMMER	10P		
TC002	C05-0444-05	CAP. TRIMMER	10P		
TC003	C05-0444-05	CAP. TRIMMER	10P		
TC004	C05-0444-05	CAP. TRIMMER	10P		
TC005	C05-0444-05	CAP. TRIMMER	10P		
TC006	C05-0444-05	CAP. TRIMMER	10P		
TC007	C05-0444-05	CAP. TRIMMER	10P		
TC008	C05-0443-05	CAP. TRIMMER	6P		
TC009	C05-0444-05	CAP. TRIMMER	10P		
TH001	SDT1000	THERMISTOR			
TH002	SDT100	THERMISTOR			
TH003	SDT100	THERMISTOR			
TH004	SDT100	THERMISTOR			
U001	LF411CN	IC, DUAL JFET INPUT OP-AMP			
U002	CA3127E	IC, TR, ARRY N-P-N			
U003	LF411CN	IC, DUAL JFET INPUT OP-AMP			
U004	CA3127E	IC, TR, ARRY N-P-N			
VR001	R12-4510-05	RES. SEMI FIXED	50K B		
VR002	R12-0563-05	RES. SEMI FIXED	500 B		
VR003	R12-0561-05	RES. SEMI FIXED	100 B		
VR004	R12-4510-05	RES. SEMI FIXED	50K B		
VR007	R12-0561-05	RES. SEMI FIXED	100 B		
VR008	R12-0563-05	RES. SEMI FIXED	500 B		
VR009	R01-1513-05	V.R.	2K B		
VR010	R12-4510-05	RES. SEMI FIXED	50K B		
VR011	R12-0563-05	RES. SEMI FIXED	500 B		
VR012	R12-0561-05	RES. SEMI FIXED	100 B		
VR013	R12-4510-05	RES. SEMI FIXED	50K B		
VR016	R12-0561-05	RES. SEMI FIXED	100 B		
VR017	R12-0561-05	RES. SEMI FIXED	100 B		
VR018	R12-0563-05	RES. SEMI FIXED	500 B		
VR019	R12-0563-05	RES. SEMI FIXED	500 B		
VR020	R12-0563-05	RES. SEMI FIXED	500 B		
VR021	R12-2517-05	RES. SEMI FIXED	10K B		
VR022	R12-0561-05	RES. SEMI FIXED	100 B		
VR023	R12-0561-05	RES. SEMI FIXED	100 B		
VR024	R12-0561-05	RES. SEMI FIXED	100 B		
VR025	NO USE				
VR026	R12-0561-05	RES. SEMI FIXED	100 B		
VR027	R12-2517-05	RES. SEMI FIXED	10K B		
VR028	R01-1513-05	V.R.	2K B		
VR029	R06-1503-05	V.R.	2K B X2		
VR080	R12-0561-05	RES. SEMI FIXED	100 B		
VR031	R12-0561-05	RES. SEMI FIXED	100 B		

POWER & FINAL AMP UNIT

X73-1660-01

REF. NO	PARTS NO	NAME & DESCRIPTION			
	E31-2170-05	JUMPING WIRE			
	E33-4097-00	WIRE ASSY			
	F01-0813-05	HEAT SINK			
	F01-0855-03	HEAT SINK			
	J12-0504-05	SPRING PIPE			
	J25-5105-13	PCB (UNMOUNTED)			
	N09-0623-04	SCREW			
	N09-0731-04	SCREW			
	N14-0626-04	NUT			
	R92-0150-05	JUMPING RES.	ZERO OHM		
	212-1018-05	TUBE (PLASTIC)			
C001	CE04W1C330M	CAP. ELECTRO	33	20%	16V
C002	CE04W1C330M	CAP. ELECTRO	33	20%	16V
C003	CE04W1C330M	CAP. ELECTRO	33	20%	16V
C004	CC45SL1H471J	CAP. CERAMIC	470P	5%	50V
C005	CQ92FM1H104K	CAP. MYLAR	0.1	10%	50V
C006	CQ92FM1H103K	CAP. MYLAR	0.01	10%	50V
C007	CQ92FM1H102K	CAP. MYLAR	1000P	10%	50V
C008	CQ92FM1H104K	CAP. MYLAR	0.1	10%	50V
C009	CK45B2H103K	CAP. CERAMIC	0.01	10%	500V
C010	CC45CH1H180J	CAP. CERAMIC	18P	5%	50V
C011	CC45CH1H330J	CAP. CERAMIC	33P	5%	50V
C012	CE04W1H010M	CAP. ELECTRO	1	20%	50V
C013	C91-0769-05	CAP. CERAMIC	3P	0.25P	3KV
C014	CE04W2A4R7M	CAP. ELECTRO	4.7	20%	100V
C015	CE04W1A470M	CAP. ELECTRO	47	20%	10V
C016	CE04W1E220M	CAP. ELECTRO	22	20%	25V
C017	CE04W2C010	CAP. ELECTRO	1		160V
C018	CE04W2A471M	CAP. ELECTRO	470	20%	100V
C019	CE04W2E470	CAP. ELECTRO	47		250V
C020	CE04W1C472M	CAP. ELECTRO	4700	20%	16V
C021	CE04W1E220M	CAP. ELECTRO	22	20%	25V
C022	CE04W1E220M	CAP. ELECTRO	22	20%	25V
C023	CE04W1C330M	CAP. ELECTRO	33	20%	16V
C024	CE04W1E332M	CAP. ELECTRO	3300	20%	25V
C025	CE04W1E332M	CAP. ELECTRO	3300	20%	25V
C026	CE04W1C330M	CAP. ELECTRO	33	20%	16V
C027	CE04W1E220M	CAP. ELECTRO	22	20%	25V
C028	CE04W1E220M	CAP. ELECTRO	22	20%	25V
C029	CQ92FM1H103K	CAP. MYLAR	0.01	10%	50V
C030	CC45CH1H470J	CAP. CERAMIC	47P	5%	50V
C031	CQ92FM1H103K	CAP. MYLAR	0.01	10%	50V
C032	CQ92FM1H103K	CAP. MYLAR	0.01	10%	50V
C033	CE04W1H010M	CAP. ELECTRO	1	20%	50V
C034	CE04W1H010M	CAP. ELECTRO	1	20%	50V
D001	1SS132	DIODE			
D002	1SS132	DIODE			
D003	S1VB40	DIODE, BRIDGE			
D004	S2VB40F	DIODE, BRIDGE			
D005	S4VB40F	DIODE, BRIDGE			
D006	S1VB40	DIODE, BRIDGE			
D007	1SS132	DIODE			
D008	1SS132	DIODE			
D009	NO USE				
D010	MTZ7.5JA	DIODE, ZENER	7.1V		
D011	MTZ11JC	DIODE, ZENER	11V		
D012	MTZ11JC	DIODE, ZENER	11V		
D013	MTZ3.3JA	DIODE, ZENER	3.2V		
D014	MTZ3.3JA	DIODE, ZENER	3.2V		
D015	MTZ8.2JA	DIODE, ZENER	9.6V		
J050	E31-2613-05	LEAD WIRE WITH CONNECTOR			
J051	E31-2613-05	LEAD WIRE WITH CONNECTOR			
L001	L40-1011-04	FERRI INDUCTOR	100UH		
L002	L40-1011-04	FERRI INDUCTOR	100UH		
L003	L33-0806-05	CHOKE COIL			
L004	L33-0806-05	CHOKE COIL			
P009	E40-0673-05	PIN CONNECTOR	6 P		
P012	E40-0473-05	PIN CONNECTOR	4 P		
P013	NO USE				
P014	E40-0373-05	PIN CONNECTOR	3 P		
P019	E40-0273-05	PIN CONNECTOR	2 P		
P020	NO USE				
P021	E40-0373-05	PIN CONNECTOR	3 P		
P032	E40-0873-05	PIN CONNECTOR	8 P		

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
P036	E40-1004-05	PIN CONNECTOR 2 P
P040	E40-0273-05	PIN CONNECTOR 2 P
P041	E40-0273-05	PIN CONNECTOR 2 P
P042	E40-0311-05	PIN CONNECTOR 3 P
P054	E40-0273-05	PIN CONNECTOR 2 P
Q001	2SA1206	TR. SI, PNP
Q002	2SA1206	TR. SI, PNP
Q003	2SC2644	TR. SI, NPN
Q004	2SC2644	TR. SI, NPN
Q005	2SC2644	TR. SI, NPN
Q006	2SC2644	TR. SI, NPN
Q007	2SC2644	TR. SI, NPN
Q008	2SC2644	TR. SI, NPN
Q009	2SC2644	TR. SI, NPN
Q010	2SC2644	TR. SI, NPN
Q011	2SC2644	TR. SI, NPN
Q012	2SC2644	TR. SI, NPN
Q013	2SC3596(E)	TR. SI, NPN
Q014	2SC3596(E)	TR. SI, NPN
Q015	2SC2271(D)	TR. SI, NPN
Q016	2SD1263A(P, Q, R)	TR. SI, NPN
Q017	2SC2271(D)	TR. SI, NPN
Q018	2SD1263A(P, Q, R)	TR. SI, NPN
Q019	2SB943(P, Q, R)	TR. SI, PNP
Q020	2SC2785(F)	TR. SI, NPN
Q021	2SD1268(P, Q, R)	TR. SI, NPN
Q022	2SB943(P, Q, R)	TR. SI, PNP
Q023	2SA684(R)	TR. SI, PNP
Q024	2SD1268(P, Q, R)	TR. SI, NPN
Q025	2SC1384(R)	TR. SI, NPN
Q026	2SD1262A(Q)	TR. SI, NPN
Q027	2SB939A(Q)	TR. SI, PNP
R001	RN14BK2C91R0F	RES. METAL FILM 91.0 1% 1/6W
R002	RN14BK2C91R0F	RES. METAL FILM 91.0 1% 1/6W
R003	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R004	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R005	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R006	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R007	RN14BK2C5100F	RES. METAL FILM 510 1% 1/6W
R008	RN14BK2C5100F	RES. METAL FILM 510 1% 1/6W
R009	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W
R010	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W
R011	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R012	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R013	RN14BK2C3600F	RES. METAL FILM 360 1% 1/6W
R014	RN14BK2C3600F	RES. METAL FILM 360 1% 1/6W
R015	RN14BK2C1800F	RES. METAL FILM 180 1% 1/6W
R016	RD14BB2C133J	RES. CARBON 13K 5% 1/6W
R017	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R018	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R019	RD14BB2C100J	RES. CARBON 10 5% 1/6W
R020	RD14BB2C100J	RES. CARBON 10 5% 1/6W
R021	RN14BK2C4300F	RES. METAL FILM 430 1% 1/6W
R022	RN14BK2C4300F	RES. METAL FILM 430 1% 1/6W
R023	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R024	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R025	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R026	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R027	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R028	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R029	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R030	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R031	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
R032	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W
R033	RN14BK2E1200F	RES. METAL FILM 120 1% 1/4W
R034	RN14BK2E1200F	RES. METAL FILM 120 1% 1/4W
R035	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W
R036	RD14BB2C100J	RES. CARBON 10 5% 1/6W
R037	RD14BB2C100J	RES. CARBON 10 5% 1/6W
R038	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R039	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R040	RN14BK2C6802F	RES. METAL FILM 68K 1% 1/6W
R041	RN14BK2C6802F	RES. METAL FILM 68K 1% 1/6W
R042	RD14BB2C271J	RES. CARBON 270 5% 1/6W
R043	RN14BK2E1200F	RES. METAL FILM 120 1% 1/4W
R044	RS14AB3Y471J	RES. METAL FILM 470 5%
R045	RS14AB3Y471J	RES. METAL FILM 470 5%
R046	RN14BK2E1200F	RES. METAL FILM 120 1% 1/4W
R047	RD14BB2C271J	RES. CARBON 270 5% 1/6W
R048	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R049	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R050	RN14BK2C1002F	RES. METAL FILM 10K 1% 1/6W

REF. NO	PARTS NO	NAME & DESCRIPTION
R051	RD14BB2C301J	RES. CARBON 300 5% 1/6W
R052	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R053	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R054	RD14BB2C163J	RES. CARBON 16K 5% 1/6W
R055	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R056	RN14BK2C1103F	RES. METAL FILM 110K 1% 1/6W
R057	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R058	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R059	RD14BB2C183J	RES. CARBON 18K 5% 1/6W
R060	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R061	RN14BK2C2403F	RES. METAL FILM 240K 1% 1/6W
R062	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R063	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R064	RN14BK2C9100F	RES. METAL FILM 910 1% 1/6W
R065	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R066	RD14BB2C682J	RES. CARBON 6.8K 5% 1/6W
R067	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R068	RN14BK2C1002F	RES. METAL FILM 10K 1% 1/6W
R069	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R070	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
R071	RS14GB3A273J	RES. METAL FILM 27K 5% 1W
R072	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
R073	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R074	RS14GB3A163J	RES. METAL FILM 16K 5% 1W
R075	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
R076	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R077	RD14BB2C200J	RES. CARBON 20 5% 1/6W
R078	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R079	RN14BK2C3301F	RES. METAL FILM 3.3K 1% 1/6W
R080	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R081	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R082	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R083	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R084	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
R085	RN14BK2C4302F	RES. METAL FILM 43K 1% 1/6W
R086	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
R087	RN14BK2C9102F	RES. METAL FILM 91K 1% 1/6W
R088	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R089	RN14BK2C8200F	RES. METAL FILM 820 1% 1/6W
R090	RN14BK2C1000F	RES. METAL FILM 100 1% 1/6W
R091	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R092	RD14BB2C390J	RES. CARBON 39 5% 1/6W
R093	RD14BB2C390J	RES. CARBON 39 5% 1/6W
R094	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R095	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R096	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R097	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R098	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R099	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R100	RD14BB2C243J	RES. CARBON 24K 5% 1/6W

TC001	C05-0444-05	CAP. TRIMMER	10P
TC002	C05-0444-05	CAP. TRIMMER	10P

U001	NJM4558D	IC
U002	NJM4558D	IC
U003	NJM4558D	IC
U004	NJM4558D	IC

VR001	R12-1529-05	RES. SEMI FIXED	2K B
VR002	R12-0561-05	RES. SEMI FIXED	100 B

SWEEP UNIT

X74-1440-01

REF. NO	PARTS NO	NAME & DESCRIPTION	
	E31-2170-05	JUMPING WIRE	
	E33-4091-00	WIRE ASSY	
	F01-0820-04	HEAT SINK	
	J25-5103-12	PCB (UNMOUNTED)	
	N30-3006-46	SCREW, PAN HD M 3X6	
C001	C992FM1H103K	CAP. MYLAR	0.01 10% 50V
C002	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C003	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C004	CC45CH1H101J	CAP. CERAMIC	100P 5% 50V
C005	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C006	CE04W1C470M	CAP. ELECTRO	47 20% 16V
C007	CE04W1C470M	CAP. ELECTRO	47 20% 16V
C008	C992FM1H104K	CAP. MYLAR	0.1 10% 50V
C009	C992FM1H104K	CAP. MYLAR	0.1 10% 50V
C010	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C011	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C012	C91-0769-05	CAP. CERAMIC	3P 0.25P 3KV
C013	CC45CH1H680J	CAP. CERAMIC	68P 5% 50V

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
C014	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	C105	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C015	CE04BW1H010M	CAP. ELECTRO 1 20% 50V	C106	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C016	CE04W1C470M	CAP. ELECTRO 47 20% 16V	C107	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C017	NO USE		C110	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C018	CC45CH1H100D	CAP. CERAMIC 10P 0.5P 50V	C111	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C019	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V	C114	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C020	CC45CH1H100D	CAP. CERAMIC 10P 0.5P 50V	C117	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C021	NO USE		C118	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C022	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V	C119	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C023	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	C120	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C024	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	C121	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C025	C91-0574-05	CAP. MYLAR 1 5%	C122	CQ92FM1H223K	CAP. MYLAR 0.022 10% 50V
C026	C91-0573-05	CAP. MYLAR 0.01 1%	C123	NO USE	
C027	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	C124	CC45CH1H030C	CAP. CERAMIC 3P 0.25P 50V
C028	CM93BD2A900J	CAP. MICA 90P 5% 100V	C125	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C029	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	C126	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C030	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V	C127	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C031	CE04W1C470M	CAP. ELECTRO 47 20% 16V	C128	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C032	NO USE		D001	1SS132	DIODE
C033	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V	D002	1SS132	DIODE
C034	NO USE		D003	1SS132	DIODE
C035	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V	D004	1SS132	DIODE
C036	CE04W2C47	CAP. ELECTRO 4.7 160V	D005	1SS132	DIODE
C037	CQ92FM1H473K	CAP. MYLAR 0.047 10% 50V	D006	1SS132	DIODE
C038	C91-0574-05	CAP. MYLAR 1 5%	D007	1SS132	DIODE
C039	C91-0573-05	CAP. MYLAR 0.01 1%	D008	1SS132	DIODE
C040	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	D009	1SS132	DIODE
C041	CM93BD2A900J	CAP. MICA 90P 5% 100V	D010	1SS132	DIODE
C042	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	D011	1SS132	DIODE
C043	CC45SL1H221J	CAP. CERAMIC 220P 5% 50V	D012	1SS132	DIODE
C044	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	D013	1SS132	DIODE
C045	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	D014	1SS132	DIODE
C046	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V	D015	1SS132	DIODE
C047	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V	D016	1SS132	DIODE
C048	NO USE		D017	NO USE	
C049	CE04W1C330M	CAP. ELECTRO 33 20% 16V	D018	1SS132	DIODE
C050	NO USE		D021	1SS132	DIODE
C051	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V	D022	1SS132	DIODE
C052	NO USE		D023	1SS132	DIODE
C053	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V	D024	1SS132	DIODE
C054	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D025	MTZ7.5JA	DIODE, ZENER 9.6V
C055	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D026	1SS132	DIODE
C056	CE04BW1H010M	CAP. ELECTRO 1 20% 50V	D027	1SS132	DIODE
C057	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	D028	1SS132	DIODE
C058	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	D029	1SS132	DIODE
C059	NO USE		D030	1SS132	DIODE
C060	CE04BW1H010M	CAP. ELECTRO 1 20% 50V	D031	1SS132	DIODE
C063	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V	D032	1SS83	DIODE
C064	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	D033	1SS83	DIODE
C065	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	D034	1SS83	DIODE
C066	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	D035	1SS132	DIODE
C067	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V	D036	MTZ7.5JA	DIODE, ZENER 9.6V
C068	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V	J005	E31-2615-05	LEAD WIRE WITH CONNECTOR
C069	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	J025	E31-2669-05	LEAD WIRE WITH CONNECTOR
C070	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V	J026	E31-2671-05	LEAD WIRE WITH CONNECTOR
C071	CE04W1C330M	CAP. ELECTRO 33 20% 16V	J031	E31-2677-05	LEAD WIRE WITH CONNECTOR
C072	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	J034	E31-2699-05	LEAD WIRE WITH CONNECTOR
C073	CE04W1C330M	CAP. ELECTRO 33 20% 16V	J043	E31-2707-05	LEAD WIRE WITH CONNECTOR
C074	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	L001	L40-6801-03	FERRI INDUCTOR 68UH
C075	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V	L002	L40-4701-03	FERRI INDUCTOR 47UH
C076	CE04W1C330M	CAP. ELECTRO 33 20% 16V	L003	L40-4701-03	FERRI INDUCTOR 47UH
C077	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P002	E40-0374-05	PIN CONNECTOR 3 P
C078	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P007	E40-0273-05	PIN CONNECTOR 2 P
C079	CE04W2A3R3H	CAP. ELECTRO 3.3 20% 100V	P008	E40-0273-05	PIN CONNECTOR 2 P
C080	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P009	E40-0874-05	PIN CONNECTOR 8P
C081	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P010	E40-0273-05	PIN CONNECTOR 2 P
C082	NO USE		P011	E40-0373-05	PIN CONNECTOR 3 P
C083	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	P012	NO USE	
C084	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	P013	E40-1373-05	PIN CONNECTOR 13 P
C085	CE04W1C330M	CAP. ELECTRO 33 20% 16V	P014	NO USE	
C086	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV	P015	E40-0373-05	PIN CONNECTOR 3 P
C087	NO USE		P018	E40-0273-05	PIN CONNECTOR 2 P
C088	CE04W1C330M	CAP. ELECTRO 33 20% 16V			
C089	CE04W1C330M	CAP. ELECTRO 33 20% 16V			
C090	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			
C091	CE04BW1H010M	CAP. ELECTRO 1 20% 50V			
C092	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V			
C093	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V			
C094	CC45SL1H221J	CAP. CERAMIC 220P 5% 50V			
C095	CE04W2C3R3	CAP. ELECTRO 3.3 160V			
C096	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V			
C097	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			
C098	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			
C099	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			
C100	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV			

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
P025	E40-0573-05	PIN CONNECTOR 5 P	R015	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
P026	E40-0873-05	PIN CONNECTOR 8 P	R016	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
P027	E40-0573-05	PIN CONNECTOR 5 P	R017	RD14BB2C220J	RES. CARBON 22 5% 1/6W
			R018	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
P031	E40-0573-05	PIN CONNECTOR 5 P	R019	RD14BB2C220J	RES. CARBON 22 5% 1/6W
			R020	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q001	2SK241(Y)	FET, N-CHANNEL	R021	NO USE	
Q002	2SK241(Y)	FET, N-CHANNEL	R022	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
Q003	2SC2786(K)	TR. SI, NPN	R023	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q004	2SA1005(K)	TR. SI, PNP	R024	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q005	2SC2785(F)	TR. SI, NPN	R025	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W
Q006	2SC1215(S, T)	TR. SI, NPN	R026	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W
Q007	2SC1215(S, T)	TR. SI, NPN	R027	RD14BB2C680J	RES. CARBON 68 5% 1/6W
Q008	2SC2785(F)	TR. SI, NPN	R028	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q009	2SC2785(F)	TR. SI, NPN	R029	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q010	2SC2786(K)	TR. SI, NPN	R030	NO USE	
			R031	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q013	2SA1175(F)	TR. SI, PNP	R032	RD14BB2C432J	RES. CARBON 4.3K 5% 1/6W
Q014	2SA1005(K)	TR. SI, PNP	R033	RD14BB2C511J	RES. CARBON 510 5% 1/6W
Q015	2SA1175(F)	TR. SI, PNP			
Q016	2SK117(Y)	FET, P-CHANNEL	R036	RD14BB2C431J	RES. CARBON 430 5% 1/6W
Q017	2SC2785(F)	TR. SI, NPN	R037	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q018	2SA1175(F)	TR. SI, PNP	R038	RD14BB2C223J	RES. CARBON 22K 5% 1/6W
Q019	2SK117(GR)	FET, N-CHANNEL	R039	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q020	2SC2785(F)	TR. SI, NPN	R040	NO USE	
Q021	2SC2785(F)	TR. SI, NPN	R041	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q022	2SA1175(F)	TR. SI, PNP	R042	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q023	2SC2785(F)	TR. SI, NPN	R043	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q024	2SA1175(F)	TR. SI, PNP	R044	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q025	2SA1175(F)	TR. SI, PNP	R045	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q026	2SA1005(K)	TR. SI, PNP	R046	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q027	2SA1175(F)	TR. SI, PNP	R047	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q028	2SK117(Y)	FET, P-CHANNEL	R048	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q029	2SC2785(F)	TR. SI, NPN	R049	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q030	2SA1175(F)	TR. SI, PNP	R050	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q031	2SK117(GR)	FET, N-CHANNEL	R051	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q032	2SA1175(F)	TR. SI, PNP	R052	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q033	2SC3066(F, G)	TR. SI, NPN	R053	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q034	2SC2785(F)	TR. SI, NPN	R054	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q035	2SC2785(F)	TR. SI, NPN	R055	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q036	2SC2785(F)	TR. SI, NPN	R056	RD14BB2C154J	RES. CARBON 150K 5% 1/6W
Q037	2SC2786(K)	TR. SI, NPN	R057	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q038	2SC2786(K)	TR. SI, NPN	R058	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q039	2SC2785(F)	TR. SI, NPN	R059	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q040	2SC2785(F)	TR. SI, NPN	R060	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q041	2SC2786(K)	TR. SI, NPN	R061	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q042	2SC2785(F)	TR. SI, NPN	R062	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q043	2SA1005(K)	TR. SI, PNP	R063	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q044	2SK336	FET, N-CHANNEL	R064	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q045	2SK336	FET, N-CHANNEL	R065	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q046	2SA1005(K)	TR. SI, PNP	R066	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q047	2SC2785(F)	TR. SI, NPN	R067	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q048	2SC2785(F)	TR. SI, NPN	R068	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q049	2SC2912(S)	TR. SI, NPN	R069	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q050	2SC2912(S)	TR. SI, NPN	R070	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q051	2SA1210(S)	TR. SI, PNP	R071	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q052	2SA1210(S)	TR. SI, PNP	R072	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R073	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q059	2SC2785(F)	TR. SI, NPN	R074	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q060	2SA1175(F)	TR. SI, PNP	R075	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q061	2SA1005(K)	TR. SI, PNP	R076	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q062	2SC2786(K)	TR. SI, NPN	R077	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q063	2SA1005(K)	TR. SI, PNP	R078	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q064	2SC2785(F)	TR. SI, NPN	R079	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q065	2SA1175(F)	TR. SI, PNP	R080	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q066	2SA1005(K)	TR. SI, PNP	R081	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q067	2SC2785(F)	TR. SI, NPN	R082	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q068	2SA1175(F)	TR. SI, PNP	R083	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q069	2SC2785(F)	TR. SI, NPN	R084	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
Q070	2SC2785(F)	TR. SI, NPN	R085	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q071	2SC2785(F)	TR. SI, NPN	R086	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
			R087	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R001	RD14BB2C104J	RES. CARBON 100K 5% 1/6W	R088	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R002	RD14BB2C914J	RES. CARBON 910K 5% 1/6W	R089	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R003	RD14BB2C470J	RES. CARBON 47 5% 1/6W	R090	RD14BB2C111J	RES. CARBON 110 5% 1/6W
R004	RD14BB2C220J	RES. CARBON 22 5% 1/6W	R091	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R005	RD14BB2C470J	RES. CARBON 47 5% 1/6W	R092	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R006	RD14BB2C162J	RES. CARBON 1.6K 5% 1/6W	R093	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R007	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R094	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R008	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R095	RS14GB3A472J	RES. METAL FILM 4.7K 5% 1W
R009	RD14BB2C331J	RES. CARBON 330 5% 1/6W	R096	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R010	RD14BB2C911J	RES. CARBON 910 5% 1/6W	R097	RD14BB2C821J	RES. CARBON 820 5% 1/6W
R011	RN14BK2C9103F	RES. METAL FILM 910K 1% 1/6W	R098	RD14BB2C272J	RES. CARBON 2.7K 5% 1/6W
R012	RN14BK2C9103F	RES. METAL FILM 910K 1% 1/6W	R099	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R013	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R100	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R014	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W	R101	RD14BB2C911J	RES. CARBON 910 5% 1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION				REF. NO	PARTS NO	NAME & DESCRIPTION			
R102	RN14BK2H3004F	RES. METAL FILM 3M	1%	1/2W		R188	RN14BK2E6802F	RES. METAL FILM 68K	1%	1/4W	
R103	RN14BK2E1004F	RES. METAL FILM 1M	1%	1/4W		R189	RN14BK2E6802F	RES. METAL FILM 68K	1%	1/4W	
R104	RN14BK2E5003F	RES. METAL FILM 500K	1%	1/4W		R190	RN14BK2C1001F	RES. METAL FILM 1K	1%	1/6W	
R105	RN14BK2E3003F	RES. METAL FILM 300K	1%	1/4W		R191	RN14BK2C1001F	RES. METAL FILM 1K	1%	1/6W	
R106	RN14BK2E1003F	RES. METAL FILM 100K	1%	1/4W		R192	RD14BB3A183J	RES. CARBON	18K	5%	1W
R107	RN14BK2E4992F	RES. METAL FILM 49.9K	1%	1/4W		R193	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R108	R92-1066-05	RES. FIXED 29.8K	1%	1/4W		R194	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R109	R92-1065-05	RES. FIXED 9.92K	1%	1/4W		R195	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R110	R92-1064-05	RES. FIXED 4.95K	1%	1/4W		R196	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R111	R92-1064-05	RES. FIXED 4.95K	1%	1/4W		R197	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R112	RN14BK2C2202F	RES. METAL FILM 22K	1%	1/6W		R198	RD14BB2C183J	RES. CARBON	18K	5%	1/6W
R113	RN14BK2C2002F	RES. METAL FILM 20K	1%	1/6W		R199	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R114	RD14BB2C182J	RES. CARBON 1.8K	5%	1/6W		R200	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R115	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W							
R116	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R203	RD14BB2C331J	RES. CARBON	330	5%	1/6W
R117	RD14BB2C102J	RES. CARBON 1K	5%	1/6W							
R118	RD14BB2C222J	RES. CARBON 2.2K	5%	1/6W		R207	RD14BB2C820J	RES. CARBON	82	5%	1/6W
R119	RD14BB2C331J	RES. CARBON 330	5%	1/6W		R208	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R120	RD14BB2C102J	RES. CARBON 1K	5%	1/6W		R209	NO USE				
R121	RD14BB2C221J	RES. CARBON 220	5%	1/6W		R210	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R122	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R211	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R123	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R212	RD14BB2C111J	RES. CARBON	110	5%	1/6W
R124	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R213	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R125	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R214	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R126	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R215	RD14BB2C912J	RES. CARBON	9.1K	5%	1/6W
R127	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R216	RD14BB2C912J	RES. CARBON	9.1K	5%	1/6W
R128	RS14GB3A472J	RES. METAL FILM 4.7K	5%	1W		R217	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R129	RD14BB2C153J	RES. CARBON 15K	5%	1/6W		R218	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R130	RD14BB2C153J	RES. CARBON 15K	5%	1/6W		R219	RD14BB2C223J	RES. CARBON	22K	5%	1/6W
R131	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R220	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R132	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W		R221	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R133	RN14BK2H3004F	RES. METAL FILM 3M	1%	1/2W		R222	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R134	RN14BK2E1004F	RES. METAL FILM 1M	1%	1/4W		R223	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R135	RN14BK2E5003F	RES. METAL FILM 500K	1%	1/4W		R224	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R136	RN14BK2E3003F	RES. METAL FILM 300K	1%	1/4W		R225	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R137	RN14BK2E1003F	RES. METAL FILM 100K	1%	1/4W		R226	RD14BB2C392J	RES. CARBON	3.9K	5%	1/6W
R138	RN14BK2E4992F	RES. METAL FILM 49.9K	1%	1/4W		R227	RD14BB2C133J	RES. CARBON	13K	5%	1/6W
R139	R92-1066-05	RES. FIXED 29.8K	1%	1/4W		R228	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
R140	R92-1065-05	RES. FIXED 9.92K	1%	1/4W		R229	RD14BB2C394J	RES. CARBON	390K	5%	1/6W
R141	R92-1064-05	RES. FIXED 4.95K	1%	1/4W		R230	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
R142	R92-1064-05	RES. FIXED 4.95K	1%	1/4W		R231	RD14BB2C244J	RES. CARBON	240K	5%	1/6W
R143	RN14BK2C2202F	RES. METAL FILM 22K	1%	1/6W		R232	RD14BB2C820J	RES. CARBON	82	5%	1/6W
R144	RN14BK2C2002F	RES. METAL FILM 20K	1%	1/6W		R233	RD14BB2C222J	RES. CARBON	2.2K	5%	1/6W
R145	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W		R234	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R146	RD14BB2C182J	RES. CARBON 1.8K	5%	1/6W		R235	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R147	RD14BB2C113J	RES. CARBON 11K	5%	1/6W		R236	RD14BB2C301J	RES. CARBON	300	5%	1/6W
R148	RD14BB2C912J	RES. CARBON 9.1K	5%	1/6W		R237	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R149	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R238	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R150	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R239	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R151	RD14BB2C104J	RES. CARBON 100K	5%	1/6W		R240	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R152	RD14BB2C102J	RES. CARBON 1K	5%	1/6W		R241	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R153	RD14BB2C361J	RES. CARBON 360	5%	1/6W		R242	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W
R154	RD14BB2C822J	RES. CARBON 8.2K	5%	1/6W		R243	RD14BB2C151J	RES. CARBON	150	5%	1/6W
R155	RD14BB2C152J	RES. CARBON 1.5K	5%	1/6W		R244	RD14BB2C362J	RES. CARBON	3.6K	5%	1/6W
R156	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R245	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R157	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R246	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R158	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W		R247	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R159	RD14BB2C163J	RES. CARBON 16K	5%	1/6W		R248	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R160	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R249	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R161	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R250	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R162	RD14BB2C432J	RES. CARBON 4.3K	5%	1/6W		R251	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R163	RD14BB2C152J	RES. CARBON 1.5K	5%	1/6W		R252	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R164	NO USE					R253	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R165	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R254	RD14BB2C220J	RES. CARBON	22	5%	1/6W
R166	RD14BB2C432J	RES. CARBON 4.3K	5%	1/6W		R255	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R167	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R256	RD14BB2C111J	RES. CARBON	110	5%	1/6W
R168	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R257	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W	
R169	RD14BB2C392J	RES. CARBON 3.9K	5%	1/6W		R258	RN14BK2C1601F	RES. METAL FILM 1.6K	1%	1/6W	
R170	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R259	RN14BK2C5100F	RES. METAL FILM 510	1%	1/6W	
R171	NO USE					R260	RD14BB2C202J	RES. CARBON	2K	5%	1/6W
R172	RD14BB2C331J	RES. CARBON 330	5%	1/6W		R261	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R173	RD14BB2C331J	RES. CARBON 330	5%	1/6W		R262	NO USE				
R174	RD14BB2C182J	RES. CARBON 1.8K	5%	1/6W		R263	RD14BB2C472J	RES. CARBON	4.7K	5%	1/6W
R175	RD14BB2C182J	RES. CARBON 1.8K	5%	1/6W		R264	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R176	RD14BB2C273J	RES. CARBON 27K	5%	1/6W		R265	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R177	RD14BB2C104J	RES. CARBON 100K	5%	1/6W		R266	RD14BB2C105J	RES. CARBON	1M	5%	1/6W
R178	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R267	RD14BB2C622J	RES. CARBON	6.2K	5%	1/6W
R179	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R268	RD14BB2C332J	RES. CARBON	3.3K	5%	1/6W
R180	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R269	RD14BB2C134J	RES. CARBON	130K	5%	1/6W
R181	RN14BK2C3301F	RES. METAL FILM 3.3K	1%	1/6W		R270	RD14BB2C181J	RES. CARBON	180	5%	1/6W
R182	RN14BK2C3301F	RES. METAL FILM 3.3K	1%	1/6W		R271	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R183	RD14BB2C271J	RES. CARBON 270	5%	1/6W		R272	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R184	RD14BB2C271J	RES. CARBON 270	5%	1/6W		R273	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R185	RD14BB2C102J	RES. CARBON 1K	5%	1/6W		R274	RD14BB2C101J	RES. CARBON	100	5%	1/6W
R186	RD14BB2C102J	RES. CARBON 1K	5%	1/6W		R275	RD14BB2C470J	RES. CARBON	47	5%	1/6W
R187	RD14BB2C103J	RES. CARBON 10K	5%	1/6W		R276	RD14BB2C103J	RES. CARBON	10K	5%	1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
R277	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R278	NO USE	
R279	RD14BB2C203J	RES. CARBON 20K 5% 1/6W
R280	RD14BB2C622J	RES. CARBON 6.2K 5% 1/6W
R281	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R282	RD14BB2C471J	RES. CARBON 470 5% 1/6W
R283	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R284	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R285	RD14BB2C183J	RES. CARBON 18K 5% 1/6W
R286	NO USE	
R287	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R288	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R289	RD14BB2C102J	RES. CARBON 1K 5% 1/6W

S001	S32-4008-05	LEVER SWITCH
S002	S33-4503-05	LEVER SWITCH
S003	S01-5503-05	ROTARY SWITCH
S004	S37-2005-05	LEVER SWITCH
S005	S37-2005-05	LEVER SWITCH
S006	S33-2501-05	LEVER SWITCH

TC001	C05-0445-05	CAP. TRIMMER 20P
TC002	C05-0445-05	CAP. TRIMMER 20P
TC003	NO USE	
TC004	C05-0445-05	CAP. TRIMMER 20P
TC005	C05-0445-05	CAP. TRIMMER 20P

U001	TL082CP	IC, OP AMP
U002	MC14081BCP	IC, QUAD 2-INPUT AND GATE
U003	MC10105L	IC, DIGITAL
U004	MC10107L	IC, QUAD 2-INPUT EXC OR/NOR
U005	MC10103L	IC, QUAD 2-INPUT OR GATE
U006	MC10131L	IC, DUAL D-FFS
U007	MC10104L	IC, QUAD 2-INPUT AND GATE
U008	MC10105L	IC, DIGITAL
U009	MC10103L	IC, QUAD 2-INPUT OR GATE
U010	MC10102L	IC, QUAD 2-INPUT NOR GATE
U011	SN74LS112AN	IC, DUAL JK-FF
U012	SN74LS10N	IC, TRIPLE 3-INPUT NAND GATE
U013	SN74LS00N	IC, QUAD 2-INPUT NAND GATE
U014	SN74LS08N	IC, QUAD 2-INPUT AND GATE
U015	SN74LS08N	IC, QUAD 2-INPUT AND GATE
U016	SN74LS257AN	IC, QUAD DATE SELECTORS
U017	SN74LS32N	IC, QUAD 2-INPUT OR GATE
U018	SN74LS112AN	IC, DUAL JK-FF

VR001	R12-0563-05	RES. SEMI FIXED 500 B
VR002	R12-0563-05	RES. SEMI FIXED 500 B
VR003	R23-9503-05	V. R. 10K/20K
VR004	R12-0563-05	RES. SEMI FIXED 500 B
VR005	R12-2517-05	RES. SEMI FIXED 10K B
VR006	R12-3536-05	RES. SEMI FIXED 10K B
VR007	R12-2517-05	RES. SEMI FIXED 10K B
VR008	R12-0562-05	RES. SEMI FIXED 200 B
VR009	R12-1528-05	RES. SEMI FIXED 1K B
VR010	R12-2517-05	RES. SEMI FIXED 10K B
VR011	R12-1528-05	RES. SEMI FIXED 1K B
VR012	R01-1515-05	V. R. 1K
VR013	R12-3537-05	RES. SEMI FIXED 20K B
VR014	R01-3514-05	V. R. 20K
VR015	R23-3501-05	V. R. 10K X2
VR016	R12-3536-05	RES. SEMI FIXED 10K B
VR017	R23-9503-05	V. R. 10K/20K
VR018	R23-3501-05	V. R. 10K X2
VR019	R10-9505-05	V. R. 1K/200K
VR020	R10-9505-05	V. R. 1K/200K

HIGH VOLTAGE UNIT

X68-1460-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	F01-0813-05	HEAT SINK
	F15-0727-04	HOLDER (NEON TUBE)
	J25-5101-03	PCB (UNMOUNTED)
	N30-3006-46	SCREW, PAN HD M 3X6
C001	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C002	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V
C003	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C004	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C005	CC45CH2H050C	CAP. CERAMIC 5P 0.25P 500V
C006	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C007	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C008	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C009	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C010	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C011	C91-0571-05	CAP. CERAMIC 0.01 2KV
C012	NO USE	
C013	C91-0571-05	CAP. CERAMIC 0.01 2KV
C014	C91-0571-05	CAP. CERAMIC 0.01 2KV
C015	CE04W2E010	CAP. ELECTRO 1 250V
C016	C91-0571-05	CAP. CERAMIC 0.01 2KV
C017	C91-0571-05	CAP. CERAMIC 0.01 2KV
C018	C91-0571-05	CAP. CERAMIC 0.01 2KV
C019	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C020	CK45B3D102P	CAP. CERAMIC 1000P 2K
C021	CQ92FM1H154K	CAP. MYLAR 0.15 10% 50V
C022	CQ92FM1H154K	CAP. MYLAR 0.15 10% 50V
C023	NO USE	
C024	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C025	CK45B1H472K	CAP. CERAMIC 4700P 10% 50V
C026	C91-0571-05	CAP. CERAMIC 0.01 2KV
C027	C91-0571-05	CAP. CERAMIC 0.01 2KV
C028	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C029	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C030	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C031	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C032	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C033	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C034	CE04W2C3R3	CAP. ELECTRO 3.3 160V
C035	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V

D001	1SS132	DIODE
D002	NO USE	
D003	1SS132	DIODE
D004	1SS83	DIODE
D005	1SS83	DIODE
D006	1SR35-200	DIODE
D007	1SR35-200	DIODE
D008	1SS83	DIODE
D009	1SS83	DIODE
D010	1SR35-200	DIODE
D011	1SS132	DIODE
D012	1SS132	DIODE
D013	1SS132	DIODE
D014	1SR35-200	DIODE

L001	L40-1011-13	FERRI INDUCTOR 100UH
L002	L40-1011-13	FERRI INDUCTOR 100UH

NL001	NE-2B	NEON LAMP
NL002	NE-2B	NEON LAMP
NL003	NE-2B	NEON LAMP
NL004	NE-2B	NEON LAMP

P001	E40-0373-05	PIN CONNECTOR 3 P
P004	E40-0332-05	PIN CONNECTOR 3 P
P011	E40-0373-05	PIN CONNECTOR 3 P
P020	E40-0273-05	PIN CONNECTOR 2 P
P024	E40-0332-05	PIN CONNECTOR 3 P
P032	E40-0873-05	PIN CONNECTOR 8 P
P039	E40-0703-05	PIN CONNECTOR 7 P

Q001	2SA1208(S)	TR. SI, PNP
Q002	2SC2910(S)	TR. SI, NPN
Q003	2SA1210(S)	TR. SI, PNP

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
Q004	2SA1005(K)	TR. SI, PNP
Q005	2SC2912(S)	TR. SI, NPN
Q006	2SA1175(F)	TR. SI, PNP
Q007	2SD613(E)	
Q008	2SC2271(D)	TR. SI, NPN
Q009	NO USE	TR. SI, NPN
R001	RD14BB2H103J	RES. CARBON 10K 5% 1/2W
R002	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R003	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R004	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R005	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R006	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R007	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R008	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R009	RD14BB2C124J	RES. CARBON 120K 5% 1/6W
R010	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R011	RD14BB2C751J	RES. CARBON 750 5% 1/6W
R012	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R013	RD14BB2C124J	RES. CARBON 120K 5% 1/6W
R014	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R015	RD14BB2C752J	RES. CARBON 7.5K 5% 1/6W
R016	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R017	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R018	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R019	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R020	R92-1034-05	RES. METAL FILM 47M 5% 1/2W
R021	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R022	R92-1034-05	RES. METAL FILM 47M 5% 1/2W
R023	R92-1165-05	RES. FIXED 6.8M
R024	R92-1154-05	RES. FIXED 11M
R029	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
R030	R92-1125-05	RES. FIXED 7.5M
R031	R92-1125-05	RES. FIXED 7.5M
R035	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R036	NO USE	
R037	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R038	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W
R039	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R040	RD14BB2C563J	RES. CARBON 56K 5% 1/6W
R041	RD14BB2C563J	RES. CARBON 56K 5% 1/6W
R042	RD14BB2C133J	RES. CARBON 13K 5% 1/6W
R043	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R044	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
U001	NJM4558D	IC
VR001	R12-5525-05	RES. SEMI FIXED 100K B

CRT SOCKET UNIT

X81-1600-02

REF. NO	PARTS NO	NAME & DESCRIPTION
	E01-0103-05	CRT SOCKET
	E23-0503-05	TERMINAL
	J25-5102-04	PCB (UNMOUNTED)
C001	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V
C002	CC45CH1H010C	CAP. CERAMIC 1P 0.25P 50V
J001	E31-2611-05	LEAD WIRE WITH CONNECTOR
J002	E31-2612-05	LEAD WIRE WITH CONNECTOR
J003	NO USE	
J004	E31-2614-05	LEAD WIRE WITH CONNECTOR
R003	R92-1061-05	JUMPING RES. ZERO OHM
R004	RD14BB2E473J	RES. CARBON 47K 5% 1/4W

PARTS LIST

CS-1065 MAIN CHASSIS

Y70-1560-00

REF. NO	PARTS NO	NAME & DESCRIPTION
1	AR4133S	LED (RED)
2	A01-1155-02	CASE
3	A01-1156-12	CASE
4	A13-0904-12	FRAME
5	A13-0905-12	FRAME
6	A13-0906-12	FRAME
7	A13-0912-02	FRAME
8	A20-2795-11	PANEL
9	A21-1086-03	DECORATIVE PANEL
10	A22-0852-12	SUB PANEL
11	A23-1666-02	REAR PANEL
	A33-0502-05	REFLECTOR W/LAMP ASS'Y
13	B07-0714-03	ESCUICHEON
14	B19-0726-04	FILTER
15	B20-0923-04	SCALE
16	B30-0951-25	LAMP
	B30-0952-05	LAMP W/B30-0951-05
	B40-2765-04	NAME PLATE (SERIAL NO)
19	B40-2865-03	NAME PLATE
25	B41-0710-04	CAUTION LABEL (HIGH VOLTAGE)
28	B41-0787-03	CAUTION LABEL
	B50-7587-00	INSTRUCTION MANUAL
	C91-1233-05	CAP. CERAMIC 3P 0.25P 3KV
20	D19-0908-03	EXTEN SION SHAFT
21	E04-0251-05	BNC RECEPACLE
22	E18-0365-05	INLET SOCKET
23	E21-0660-04	TERMINAL (CAL)
24	E21-0667-05	TERMINAL
	E23-0018-04	EARTH LUG
	E23-0042-04	ERATH LUG
	E23-0513-05	EARTH LUG
	E23-0552-04	EARTHPLATE
26	E23-0561-14	EARTHPLATE
27	E30-1818-05	POWER CORD (JIS)
	E31-0564-05	LEAD WIRE WITH CONNECTOR
	E31-0717-05	LEAD WIRE WITH CONNECTOR
	E31-2558-15	LEAD WIRE WITH CONNECTOR
	E31-2617-05	LEAD WIRE WITH CONNECTOR
	E31-2618-05	LEAD WIRE WITH CONNECTOR
	E31-2619-05	LEAD WIRE WITH CONNECTOR
	E31-2620-05	LEAD WIRE WITH CONNECTOR
	E31-2621-05	LEAD WIRE WITH CONNECTOR
	E31-2622-05	LEAD WIRE WITH CONNECTOR
	E31-2623-05	LEAD WIRE WITH CONNECTOR
	E31-2624-05	LEAD WIRE WITH CONNECTOR
	E31-2625-05	LEAD WIRE WITH CONNECTOR
	E31-2626-05	LEAD WIRE WITH CONNECTOR
	E31-2627-05	LEAD WIRE WITH CONNECTOR
	E31-2628-05	LEAD WIRE WITH CONNECTOR
	E31-2629-05	LEAD WIRE WITH CONNECTOR
	E31-2630-05	LEAD WIRE WITH CONNECTOR
	E31-2631-05	LEAD WIRE WITH CONNECTOR
	E31-2668-05	LEAD WIRE WITH CONNECTOR
	E31-2678-05	LEAD WIRE WITH CONNECTOR
	E33-4096-00	WIRE ASSY
	F05-1023-05	FUSE 1A
	F07-0908-14	PROTECTION COVER
29	F10-1567-14	SHIELD PLATE
30	F10-1593-04	SHIELD PLATE
31	F11-0996-04	SHIELD CASE
32	F11-0998-03	SHIELD CASE
33	F20-0658-04	INSULATOR
34	G01-0909-04	COIL SPRING
35	G02-0606-14	SPRING FOR HANDLE
36	G16-0611-04	REFLECTOR SHEET (L)
37	G16-0612-04	REFLECTOR SHEET (R)
	H01-5799-04	CARTON BOX
	H10-2828-02	FOAMED STYRENE PAD
	H10-2829-02	FOAMED STYRENE PAD
	H12-0564-04	PAD
	H20-1719-04	VINYL COVER
	H25-0016-00	BAG
38	J02-0089-05	RUBBER LEG
39	J10-0409-02	BEZEL
	J19-1620-05	CORD CLAMP
41	J19-1635-04	HOLDER FOR LED
42	J19-1644-13	CRT HOLDER
43	J19-1645-24	BRACKET
44	J19-1646-04	BRACKET
45	J21-2906-05	GEAR FOR HANDLE
46	J21-2907-05	RING FOR HANDLE

REF. NO	PARTS NO	NAME & DESCRIPTION
47	J21-4555-04	BRACKET
48	J21-4562-03	BRACKET FOR CRT
	J25-3000-05	P.C. BOARD W/LAMP ASS'Y
49	J31-0608-05	COLLAR
50	J42-0528-05	BUSHING
51	J59-0403-05	NYLON RIVET
52	J61-0049-05	WIRE BAND
	J61-0408-05	WIRE WRAPPING BAND
	J61-0522-05	WIRE WRAPPING BAND
55	K01-0524-05	HANDLE
56	K21-0860-13	KNOB
57	K21-0885-03	KNOB
58	K21-0888-04	KNOB
59	K21-0889-04	KNOB
60	K23-0803-13	KNOB
61	K23-0805-03	KNOB
62	K27-0530-14	KNOB
63	L01-9526-05	POWER TRANSFORMER
64	L39-0524-05	COIL
65	L76-0110-05	DELAY LINE
	N08-0611-04	DRESSED SCREW
	N09-0623-04	SCREW
	N09-0705-05	SCREW, HEX SOCKET FLAT HD
	N09-0726-05'	SCREW
	N09-0731-05	SCREW
	N09-0739-05	SCREW
	N10-2030-46	NUT, HEX
	N14-0609-04	NUT
	N14-0624-04	NUT
	N14-0625-04	NUT
	N15-1030-41	WASHER, FLAT FOR M3
	N15-1110-46	WASHER
	N17-1030-46	TOOTHED LOCK WASHER FOR M3
	N19-0710-05	WASHER
	N19-0725-04	WASHER
	N30-3035-46	SCREW, PAN HD M 3X35
	N32-3008-41	SCREW, FLAT HD M 3X8
	N34-3012-41	SCREW, TRUSS M 3X8
	N88-3008-41	SCREW, FLAT HD TAP TITE
	N89-3008-41	SCREW, BINDING TAP TITE
	N89-3010-41	SCREW, BINDING TAP TITE
	N89-3016-46	SCREW, BINDING TAP TITE
	RD14BB2E220J	RES. CARBON 22 5% 1/4W
	RD14BB2E220J	RES. CARBON 22 5% 1/4W
66	R03-1509-05	V.R. 10K
67	R05-3505-05	V.R. 20K B
68	R05-8001-05	V.R. 3M B
69	R29-1502-05	V.R. 100K
70	W01-0503-04	CORD WRAP
71	W02-0423-05	HIGH VOLTAGE POWER BLOCK
72	X68-1460-00	HIGH VOLTAGE UNIT
73	X73-1650-00	VERTICAL PREAMP UNIT
74	X73-1660-00	VERTICAL OUTPUT AMP UNIT
75	X74-1440-00	HOR. SWEEP UNIT
76	X81-1600-00	CRT SOCKET UNIT
	Y87-1250-00	PROBE(PC-29)
77	150PTM31	CRT
	212-3017-05	TUBE (PLASTIC)

PARTS LIST

VERTICAL PRE AMP UNIT

X73-1650-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	E33-4105-00	WIRE ASSY
	F10-1588-04	SHIELD PLATE
	F10-1589-04	SHIELD PLATE
	F10-1590-04	SHIELD PLATE
	F10-1591-04	SHIELD PLATE
	J25-5104-22	PCB (UNMOUNTED)
	J61-0408-05	WIRE WRAPPING BAND
	S02-4504-05	ROTARY SWITCH
	212-1018-05	TUBE (PLASTIC)
C001	C91-0502-05	CAP. METAL FILM 0.01 20% 630V
C002	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C003	C91-0501-05	CAP. METAL FILM 0.047 10% 630V
C004	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V
C005	C092FM1H102K	CAP. MYLAR 1000P 10% 50V
C006	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C007		NO USE
C008	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C009	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C010	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C011	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C012	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C013		NO USE
C014	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C015	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C016	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C017	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C018	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C019	C91-1239-05	CAP. CERAMIC 3P 0.25P 3KV
C020	C91-1231-05	CAP. CERAMIC 3P 0.25P 3KV
C021	C91-0502-05	CAP. METAL FILM 0.01 20% 630V
C022	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C023	C91-0501-05	CAP. METAL FILM 0.047 10% 630V
C024	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V
C025	C092FM1H102K	CAP. MYLAR 1000P 10% 50V
C026	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C027	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C028	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C029	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C030	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C031	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C032	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C033	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C034	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C035	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C036	C91-1239-05	CAP. CERAMIC 3P 0.25P 3KV
C037	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C038	C91-0502-05	CAP. METAL FILM 0.01 20% 630V
C039	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C040	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C041	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C042		NO USE
C043	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C044	CC45CH1H0R5C	CAP. CERAMIC 0.5P 0.25P 50V
C045	CC45CH1H0R5C	CAP. CERAMIC 0.5P 0.25P 50V
C046	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C047	C91-1227-05	CAP. CERAMIC 3P 0.25P 3KV
C048	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C049	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C050	C91-1231-05	CAP. CERAMIC 3P 0.25P 3KV
C055	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C056	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C059	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C060	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C061	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C062	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C063	CE04W1C101M	CAP. ELECTRO 100 20% 16V
C064	CE04W1C101M	CAP. ELECTRO 100 20% 16V
C065	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C066	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C067	CC45CH1H090D	CAP. CERAMIC 9P 0.5P 50V
C068	CC45CH1H090D	CAP. CERAMIC 9P 0.5P 50V
C069	C91-1223-05	CAP. CERAMIC 3P 0.25P 3KV
C070	C91-1228-05	CAP. CERAMIC 3P 0.25P 3KV
C071	C91-1230-05	CAP. CERAMIC 3P 0.25P 3KV
C072	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C073	C092M1H104K	CAP. MYLAR 0.1 10% 50V
C074	CC45CH1H120J	CAP. CERAMIC 12P 5% 50V
6075	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V

REF. NO	PARTS NO	NAME & DESCRIPTION
C076	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V
C077	CC45CH1H330J	CAP. CERAMIC 33P 5% 50V
C078	CE04BW1E220M	CAP. ELECTRO 22 20% 25V
C079	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV
C080	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV
C081	C91-0745-05	CAP. CERAMIC 3P 0.25P 3KV
C082	CE04DWOJ222M	CAP. ELECTRO 2200 20% 6.3V
C083	CE04DWOJ222M	CAP. ELECTRO 2200 20% 6.3V
C084	C092M1H104K	CAP. MYLAR 0.1 10% 50V
C085	C092M1H104K	CAP. MYLAR 0.1 10% 50V
C086	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C087	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C088	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C089	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C090	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C091		NO USE
C092	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C095	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C096	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C097	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C098	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C101	CE04W1C221M	CAP. ELECTRO 220 20% 16V
C102	CE04W1C221M	CAP. ELECTRO 220 20% 16V
C103	CE04W1C221M	CAP. ELECTRO 220 20% 16V
D001	1S1544A	DIODE
D002	1SS132	DIODE
D003	1SS132	DIODE
D004	1S1544A	DIODE
D005	1SS132	DIODE
D006	1SS132	DIODE
D007	MTZ5.1JB	DIODE ZENER 5V
D008	1SS132	DIODE
D009	1SS132	DIODE
D010	MTZ7.5JC	DIODE ZENER 7.5V
D011	1SS132	DIODE
D012	MTZ5.1JB	DIODE ZENER 5V
D013	MTZ5.1JB	DIODE ZENER 5V
D014	1SS132	DIODE
D015	1S1544A	DIODE
D016	1SS132	DIODE
D017	1SS132	DIODE
D018	MTZ5.1JB	DIODE ZENER 5V
D019	MTZ5.1JB	DIODE ZENER 5V
D020	1SS132	DIODE
D021	1SS132	DIODE
J006	E31-2616-05	LEAD WIRE WITH CONNECTOR
J027	E31-2672-05	LEAD WIRE WITH CONNECTOR
J028	E31-2673-05	LEAD WIRE WITH CONNECTOR
J029	E31-2675-05	LEAD WIRE WITH CONNECTOR
J030	E31-2676-05	LEAD WIRE WITH CONNECTOR
J033	E31-2698-05	LEAD WIRE WITH CONNECTOR
J062	E31-2673-05	LEAD WIRE WITH CONNECTOR
J063	E31-2675-05	LEAD WIRE WITH CONNECTOR
J064	E31-2698-05	LEAD WIRE WITH CONNECTOR
J065	E31-2698-05	LEAD WIRE WITH CONNECTOR
P010	E40-0273-05	PIN CONNECTOR 2 P
P011		NO USE
P012	E40-0374-05	PIN CONNECTOR 3 P
P013	E40-0573-05	PIN CONNECTOR 5 P
P016	E40-0273-05	PIN CONNECTOR 2 P
P017	E40-0273-05	PIN CONNECTOR 2 P
P018	E40-0273-05	PIN CONNECTOR 2 P
P028	E40-0574-05	PIN CONNECTOR 5 P
P029	E40-0674-05	PIN CONNECTOR 6 P
P030	E40-0373-05	PIN CONNECTOR 3 P
P042	E40-0312-05	PIN CONNECTOR 2 P
P056	E40-0273-05	PIN CONNECTOR 2 P
P057	E40-0273-05	PIN CONNECTOR 2 P
P058	E40-0273-05	PIN CONNECTOR 2 P
P059	E40-0273-05	PIN CONNECTOR 2 P
P060	E40-0273-05	PIN CONNECTOR 2 P
Q001	2SK304(F)	FET, N-CHANNEL
Q002	2SC3315(D)	TR. SI, NPN

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
Q003	2SA1005(K)	TR. SI, PNP	R017	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q004	2SA1005(K)	TR. SI, PNP	R018	RD14BB2C751J	RES. CARBON 750 5% 1/6W
Q005	2SC3354(S,T)	TR. SI, NPN	R019	RD14BB2C181J	RES. CARBON 180 5% 1/6W
Q006	2SC3354(S,T)	TR. SI, NPN	R020	RN14BK2C30R0F	RES. METAL FILM 30.0 1% 1/6W
Q007	2SC3354(S,T)	TR. SI, NPN	R021	RD14BB2C301J	RES. CARBON 300 5% 1/6W
Q008	2SC3354(S,T)	TR. SI, NPN	R022	RD14BB2C621J	RES. CARBON 620 5% 1/6W
Q009	2SK304(F)	FET, N-CHANNEL	R023	RD14BB2C270J	RES. CARBON 27 5% 1/6W
Q010	2SC3315(D)	TR. SI, NPN	R024	R92-1162-05	RES. FIXED 560 3,000PPM
Q011	2SA1005(K)	TR. SI, PNP	R025	RN14BK2C1800F	RES. METAL FILM 180 1% 1/6W
Q012	2SA1005(K)	TR. SI, PNP	R026	RD14BB2C820J	RES. CARBON 82 5% 1/6W
Q013	2SA1005(K)	TR. SI, PNP	R027	NO USE	
Q014	2SA1005(K)	TR. SI, PNP	R028	RD14BB2C470J	RES. CARBON 47 5% 1/6W
Q015	2SC3354(S,T)	TR. SI, NPN	R029	RD14BB2C560J	RES. CARBON 56 5% 1/6W
Q016	2SC3354(S,T)	TR. SI, NPN	R030	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
Q017	2SC3354(S,T)	TR. SI, NPN	R031	RN14BK2C1801F	RES. METAL FILM 1.8K 1% 1/6W
Q018	2SC3354(S,T)	TR. SI, NPN	R032	RN14BK2C1801F	RES. METAL FILM 1.8K 1% 1/6W
Q019	2SK304(F)	FET, N-CHANNEL	R033	RN14BK2C2700F	RES. METAL FILM 270 1% 1/6W
Q020	2SK304(F)	FET, N-CHANNEL	R034	RN14BK2C12R0F	RES. METAL FILM 12.0 1% 1/6W
Q021	2SA1005(K)	TR. SI, PNP	R035	RN14BK2C1601F	RES. METAL FILM 1.6K 1% 1/6W
Q022	2SC3315(D)	TR. SI, NPN	R036	RN14BK2C1601F	RES. METAL FILM 1.6K 1% 1/6W
Q023	2SC3315(D)	TR. SI, NPN	R037	RN14BK2C3900F	RES. METAL FILM 390 1% 1/6W
Q024	2SC3354(S,T)	TR. SI, NPN	R038	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q025	2SC3354(S,T)	TR. SI, NPN	R039	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q026	2SC3354(S,T)	TR. SI, NPN	R040	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W
Q027	2SC3354(S,T)	TR. SI, NPN	R041	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W
Q028	2SC3315(D)	TR. SI, NPN	R042	RN14BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W
Q029	2SC3315(D)	TR. SI, NPN	R043	RN14BK2C4700F	RES. METAL FILM 470 1% 1/6W
Q030	2SA1206	TR. SI, PNP	R044	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
Q031	2SA1206	TR. SI, PNP	R045	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W
Q032	2SC2644	TR. SI, NPN	R046	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W
Q033	2SC2644	TR. SI, NPN	R047	RD14BB2C220J	RES. CARBON 22 5% 1/6W
Q034	2SK184(Y)	FET, N-CHANNEL	R048	RD14BB2C220J	RES. CARBON 22 5% 1/6W
Q035	2SK184(Y)	FET, N-CHANNEL	R049	RN14BK2C1002F	RES. METAL FILM 10K 1% 1/6W
Q036	2SC3315(D)	TR. SI, NPN	R050	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
Q037	2SC3315(D)	TR. SI, NPN	R051	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q038	2SA1005(K)	TR. SI, PNP	R052	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q039	2SA1005(K)	TR. SI, PNP	R053	RN14BK2C9100F	RES. METAL FILM 910 1% 1/6W
Q040	2SA1005(K)	TR. SI, PNP	R054	RN14BK2C9100F	RES. METAL FILM 910 1% 1/6W
Q041	2SA1005(K)	TR. SI, PNP	R055	RN14BK2C8200F	RES. METAL FILM 820 1% 1/6W
Q042	2SC3354(S,T)	TR. SI, NPN	R056	RN14BK2C8200F	RES. METAL FILM 820 1% 1/6W
Q043	2SC3354(S,T)	TR. SI, NPN	R057	RD14BB2C470J	RES. CARBON 47 5% 1/6W
Q044	2SC1973	TR. SI, NPN	R058	RD14BB2C470J	RES. CARBON 47 5% 1/6W
Q045	2SC3315(D)	TR. SI, NPN	R059	RN14BK2C6800F	RES. METAL FILM 680 1% 1/6W
Q046	2SC3315(D)	TR. SI, NPN	R060	RN14BK2C6800F	RES. METAL FILM 680 1% 1/6W
Q047	2SA1005(K)	TR. SI, PNP	R061	RN14BK2C8200F	RES. METAL FILM 820 1% 1/6W
Q048	2SA1005(K)	TR. SI, PNP	R062	RD14BB2C272J	RES. CARBON 2.7K 5% 1/6W
Q049	2SA1005(K)	TR. SI, PNP	R063	RD14BB2C272J	RES. CARBON 2.7K 5% 1/6W
Q050	2SC2785(F)	TR. SI, NPN	R064	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q051	2SC2785(F)	TR. SI, NPN	R065	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q052	2SC3315(D)	TR. SI, NPN	R066	RD14BB2C362J	RES. CARBON 3.6K 5% 1/6W
Q053	2SC3315(D)	TR. SI, NPN	R067	RD14BB2C911J	RES. CARBON 910 5% 1/6W
Q054	2SA1005(K)	TR. SI, PNP	R068	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q055	2SA1005(K)	TR. SI, PNP	R069	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q056	2SA1005(K)	TR. SI, PNP	R070	NO USE	
Q057	2SA1175(F)	TR. SI, PNP	R071	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
Q058	2SA1175(F)	TR. SI, PNP	R072	RD14BB2C330J	RES. CARBON 33 5% 1/6W
Q059	2SA1005(K)	TR. SI, PNP	R073	RD14BB2C684J	RES. CARBON 680K 5% 1/6W
Q060	2SC3354(S,T)	TR. SI, NPN	R074	RD14BB2C220J	RES. CARBON 22 5% 1/6W
Q061	2SC3354(S,T)	TR. SI, NPN	R075	RN14BK2C5003F	RES. METAL FILM 500K 1% 1/6W
Q062	2SC2785(F)	TR. SI, NPN	R076	RN14BK2C5003F	RES. METAL FILM 500K 1% 1/6W
Q063	2SC2785(F)	TR. SI, NPN	R077	RD14BB2C684J	RES. CARBON 680K 5% 1/6W
Q064	2SC2785(F)	TR. SI, NPN	R078	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
Q065	2SC3315(D)	TR. SI, NPN	R079	RD14BB2C162J	RES. CARBON 1.6K 5% 1/6W
Q066	2SC3315(D)	TR. SI, NPN	R080	RD14BB2C100J	RES. CARBON 10 5% 1/6W
Q067	2SC3315(D)	TR. SI, NPN	R081	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q068	2SC3315(D)	TR. SI, NPN	R082	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W
Q069	2SK304(F)	FET, N-CHANNEL	R083	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q070	2SK304(F)	FET, N-CHANNEL	R084	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q071	2SA1005(K)	TR. SI, PNP	R085	RD14BB2C100J	RES. CARBON 10 5% 1/6W
R001	RD14BB2C105J	RES. CARBON 1M 5% 1/6W	R086	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R002	RD14BB2C330J	RES. CARBON 33 5% 1/6W	R087	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R003	RD14BB2C684J	RES. CARBON 680K 5% 1/6W	R088	RD14BB2C751J	RES. CARBON 750 5% 1/6W
R004	RD14BB2C220J	RES. CARBON 22 5% 1/6W	R089	RD14BB2C181J	RES. CARBON 180 5% 1/6W
R005	RN14BK2C5003F	RES. METAL FILM 500K 1% 1/6W	R090	RN14BK2C30R0F	RES. METAL FILM 30.0 1% 1/6W
R006	RN14BK2C5003F	RES. METAL FILM 500K 1% 1/6W	R091	RD14BB2C301J	RES. CARBON 300 5% 1/6W
R007	RD14BB2C684J	RES. CARBON 680K 5% 1/6W	R092	RD14BB2C621J	RES. CARBON 620 5% 1/6W
R008	RD14BB2C105J	RES. CARBON 1M 5% 1/6W	R093	RD14BB2C270J	RES. CARBON 27 5% 1/6W
R009	RD14BB2C162J	RES. CARBON 1.6K 5% 1/6W	R094	R92-1162-05	RES. FIXED 560 3,000PPM
R010	RD14BB2C100J	RES. CARBON 10 5% 1/6W	R095	RN14BK2C1800F	RES. METAL FILM 180 1% 1/6W
R011	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R096	RD14BB2C820J	RES. CARBON 82 5% 1/6W
R012	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W	R097	NO USE	
R013	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R098	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R014	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R099	RD14BB2C560J	RES. CARBON 56 5% 1/6W
R015	RD14BB2C100J	RES. CARBON 10 5% 1/6W	R100	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R016	RD14BB2C331J	RES. CARBON 330 5% 1/6W	R101	RN14BK2C1801F	RES. METAL FILM 1.8K 1% 1/6W
			R102	RN14BK2C1801F	RES. METAL FILM 1.8K 1% 1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION				REF. NO	PARTS NO	NAME & DESCRIPTION			
R103	RN14BK2C2700F	RES. METAL FILM 270	1%	1/6W		R188	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W	
R104	RN14BK2C1200F	RES. METAL FILM 12.0	1%	1/6W		R189	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W	
R105	RN14BK2C1601F	RES. METAL FILM 1.6K	1%	1/6W		R190	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R106	RN14BK2C1601F	RES. METAL FILM 1.6K	1%	1/6W		R191	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R107	RN14BK2C3900F	RES. METAL FILM 390	1%	1/6W		R192	RN14BK2C6200F	RES. METAL FILM 620	1%	1/6W	
R108	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R193	RN14BK2C6200F	RES. METAL FILM 620	1%	1/6W	
R109	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R194	RD14BB2C430J	RES. CARBON 43	5%	1/6W	
R110	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W		R195	RD14BB2C222J	RES. CARBON 2.2K	5%	1/6W	
R111	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W		R196	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W	
R112	RN14BK2C5101F	RES. METAL FILM 5.1K	1%	1/6W		R197	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W	
R113	RN14BK2C4700F	RES. METAL FILM 470	1%	1/6W		R198	RN14BK2C5600F	RES. METAL FILM 560	1%	1/6W	
R114	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W		R199	RN14BK2C1800F	RES. METAL FILM 180	1%	1/6W	
R115	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R200	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R116	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R201	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R117	RD14BB2C220J	RES. CARBON 22	5%	1/6W		R202	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R118	RD14BB2C220J	RES. CARBON 22	5%	1/6W		R203	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R119	RN14BK2C1002F	RES. METAL FILM 10K	1%	1/6W		R204	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R120	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W		R205	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R121	RN14BK2C1002F	RES. METAL FILM 10K	1%	1/6W		R206	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R122	RN14BK2C3001F	RES. METAL FILM 3K	1%	1/6W		R207	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R123	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R208	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R124	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R209	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R125	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R210	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R126	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R211	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R127	RD14BB2C432J	RES. CARBON 4.3K	5%	1/6W		R212	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R128	RN14BK2C9100F	RES. METAL FILM 910	1%	1/6W		R213	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R129	RN14BK2C9100F	RES. METAL FILM 910	1%	1/6W		R214	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R130	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W		R215	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R131	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W		R216	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W	
R132	RD14BB2C470J	RES. CARBON 47	5%	1/6W		R217	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R133	RD14BB2C470J	RES. CARBON 47	5%	1/6W		R218	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R134	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W		R219	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R135	RN14BK2C6800F	RES. METAL FILM 680	1%	1/6W		R220	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R136	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W		R221	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R137	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R222	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R138	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R223	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R139	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W		R224	RN14BK2C51R0F	RES. METAL FILM 51.0	1%	1/6W	
R140	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W		R225	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R141	RD14BB2C362J	RES. CARBON 3.6K	5%	1/6W		R226	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R142	RD14BB2C911J	RES. CARBON 910	5%	1/6W		R227	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R143	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R228	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R144	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R229	RD14BB2C682J	RES. CARBON 6.8K	5%	1/6W	
R145	RD14BB2C183J	RES. CARBON 18K	5%	1/6W		R230	NO USE				
R146	RN14BK2C9003F	RES. METAL FILM 900K	1%	1/6W		R231	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W	
R147	RN14BK2C1003F	RES. METAL FILM 100K	1%	1/6W		R232	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W	
R148	RD14BB2C684J	RES. CARBON 680K	5%	1/6W		R233	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R149	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R234	RD14BB2C220J	RES. CARBON 22	5%	1/6W	
R150	RD14BB2C684J	RES. CARBON 680K	5%	1/6W		R235	RD14BB2C682J	RES. CARBON 6.8K	5%	1/6W	
R151	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R236	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R152	RD14BB2C122J	RES. CARBON 1.2K	5%	1/6W		R237	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R153	RD14BB2C182J	RES. CARBON 1.8K	5%	1/6W		R238	RN14BK2C1000F	RES. METAL FILM 100	1%	1/6W	
R154	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R239	RD14BB2C511J	RES. CARBON 510	5%	1/6W	
R155	RD14BB2C162J	RES. CARBON 1.6K	5%	1/6W		R240	RD14BB2C682J	RES. CARBON 6.8K	5%	1/6W	
R156	RD14BB2C432J	RES. CARBON 4.3K	5%	1/6W		R241	RD14BB2C332J	RES. CARBON 3.3K	5%	1/6W	
R157	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R242	RD14BB2C511J	RES. CARBON 510	5%	1/6W	
R158	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R243	RD14BB2C202J	RES. CARBON 2K	5%	1/6W	
R159	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R244	RD14BB2C202J	RES. CARBON 2K	5%	1/6W	
R160	R92-1162-05	RES. FIXED 560	3.00PPM			R245	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R161	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R246	RD14BB2C101J	RES. CARBON 100	5%	1/6W	
R162	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R247	RD14BB2C512J	RES. CARBON 5.1K	5%	1/6W	
R163	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W		R248	RD14BB2C242J	RES. CARBON 2.4K	5%	1/6W	
R164	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W		R249	RD14BB2C302J	RES. CARBON 3K	5%	1/6W	
R165	RD14BB2C362J	RES. CARBON 3.6K	5%	1/6W		R250	RD14BB2C621J	RES. CARBON 620	5%	1/6W	
R166	RD14BB2C911J	RES. CARBON 910	5%	1/6W		R251	RD14BB2C622J	RES. CARBON 6.2K	5%	1/6W	
R167	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R252	RN14BK2C2490F	RES. METAL FILM 249	1%	1/6W	
R168	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R253	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W	
R169	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R254	RD14BB2C272J	RES. CARBON 2.7K	5%	1/6W	
R170	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R255	RD14BB2C561J	RES. CARBON 560	5%	1/6W	
R171	RN14BK2C6980F	RES. METAL FILM 698	1%	1/6W		R256	RD14BB2C561J	RES. CARBON 560	5%	1/6W	
R172	RN14BK2C6980F	RES. METAL FILM 698	1%	1/6W		R257	RD14BB2C511J	RES. CARBON 510	5%	1/6W	
R173	RD14BB2C470J	RES. CARBON 47	5%	1/6W		R258	RD14BB2C751J	RES. CARBON 750	5%	1/6W	
R174	RD14BB2C470J	RES. CARBON 47	5%	1/6W		R259	RD14BB2C751J	RES. CARBON 750	5%	1/6W	
R175	RD14BB2C100J	RES. CARBON 10	5%	1/6W		R260	RD14BB2C470J	RES. CARBON 47	5%	1/6W	
R176	NO USE					R261	RD14BB2C471J	RES. CARBON 470	5%	1/6W	
R177	RD14BB2C302J	RES. CARBON 3K	5%	1/6W		R262	RD14BB2C471J	RES. CARBON 470	5%	1/6W	
R178	RD14BB2C302J	RES. CARBON 3K	5%	1/6W		R263	RD14BB2C471J	RES. CARBON 470	5%	1/6W	
R179	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R264	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W	
R180	RD14BB2C101J	RES. CARBON 100	5%	1/6W		R265	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W	
R181	RD14BB2C220J	RES. CARBON 22	5%	1/6W		R266	RD14BB2C472J	RES. CARBON 4.7K	5%	1/6W	
R182	RD14BB2C220J	RES. CARBON 22	5%	1/6W		R267	RD14BB2C471J	RES. CARBON 470	5%	1/6W	
R183	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W		R268	RD14BB2C104J	RES. CARBON 100K	5%	1/6W	
R184	RN14BK2C8200F	RES. METAL FILM 820	1%	1/6W		R269	NO USE				
R185	RN14BK2C7500F	RES. METAL FILM 750	1%	1/6W		R270	RD14BB2C103J	RES. CARBON 10K	5%	1/6W	
R186	RN14BK2C2201F	RES. METAL FILM 2.2K	1%	1/6W		R271	RD14BB2C103J	RES. CARBON 10K	5%	1/6W	
R187	RN14BK2C2201F	RES. METAL FILM 2.2K	1%	1/6W		R272	RD14BB2C103J	RES. CARBON 10K	5%	1/6W	
						R273	RD14BB2C103J	RES. CARBON 10K	5%	1/6W	

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	QTY	UNIT
R274	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R275	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R276	RD14BB2C161J	RES. CARBON	160	5% 1/6W
R279	RD14BB2C301J	RES. CARBON	300	5% 1/6W
R280	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R281	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R282	NO USE			
R283	RD14BB2C100J	RES. CARBON	10	5% 1/6W
R284	RD14BB2C103J	RES. CARBON	10K	5% 1/6W
R285	RD14BB2C102J	RES. CARBON	1K	5% 1/6W

R286	RD14BB2C102J	RES. CARBON	1K	5% 1/6W
R287	RD14BB2C102J	RES. CARBON	1K	5% 1/6W
R288	RD14BB2C102J	RES. CARBON	1K	5% 1/6W
R289	RD14BB2C100J	RES. CARBON	10	5% 1/6W
R290	RD14BB2C470J	RES. CARBON	47	5% 1/6W
R291	RD14BB2C470J	RES. CARBON	47	5% 1/6W
R292	RD14BB2C470J	RES. CARBON	47	5% 1/6W
R293	RD14BB2C470J	RES. CARBON	47	5% 1/6W
R294	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R295	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R296	RD14BB2C332J	RES. CARBON	3.3K	5% 1/6W
R297	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R298	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R299	RD14BB2C332J	RES. CARBON	3.3K	5% 1/6W
R300	RD14BB2C333J	RES. CARBON	33K	5% 1/6W
R301	NO USE			
R302	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R303	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R304	RD14BB2C332J	RES. CARBON	3.3K	5% 1/6W
R305	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R306	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R307	RD14BB2C332J	RES. CARBON	3.3K	5% 1/6W
R308	RD14BB2C333J	RES. CARBON	33K	5% 1/6W
R309	NO USE			
R310	RD14BB2C912J	RES. CARBON	9.1K	5% 1/6W
R311	RD14BB2C822J	RES. CARBON	8.2K	5% 1/6W
R312	RD14BB2C332J	RES. CARBON	3.3K	5% 1/6W
R313	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R314	RD14BB2C101J	RES. CARBON	100	5% 1/6W
R315	RD14BB2C101J	RES. CARBON	100	5% 1/6W

S001	S32-4007-05	LEVER SWITCH		
S002	S32-4007-05	LEVER SWITCH		
S003	S33-2501-05	LEVER SWITCH		

TC001	C05-0444-05	CAP. TRIMMER	10P	
TC002	C05-0444-05	CAP. TRIMMER	10P	
TC003	C05-0444-05	CAP. TRIMMER	10P	
TC004	C05-0444-05	CAP. TRIMMER	10P	
TC005	C05-0444-05	CAP. TRIMMER	10P	
TC006	C05-0443-05	CAP. TRIMMER	6P	
TC007	C05-0444-05	CAP. TRIMMER	10P	
TC008	C05-0444-05	CAP. TRIMMER	10P	
TC009	C05-0444-05	CAP. TRIMMER	10P	

TH001	SDT1000	THERMISTOR		
TH002	SDT100	THERMISTOR		
TH003	SDT100	THERMISTOR		
TH004	SDT100	THERMISTOR		

U001	LF411CN	IC, DUAL JFET INPUT OP-AMP		
U002	CA3127E	IC, TR, ARRY N-P-N		
U003	LF411CN	IC, DUAL JFET INPUT OP-AMP		
U004	CA3127E	IC, TR, ARRY N-P-N		

VR001	R12-4510-05	RES. SEMI FIXED 50K B		
VR002	R12-0563-05	RES. SEMI FIXED 500 B		
VR003	R12-0561-05	RES. SEMI FIXED 100 B		
VR004	R12-4510-05	RES. SEMI FIXED 50K B		

VR007	R12-0561-05	RES. SEMI FIXED 100 B		
VR008	R12-0563-05	RES. SEMI FIXED 500 B		
VR009	R01-1513-05	V. R. 2K B		
VR010	R12-4510-05	RES. SEMI FIXED 50K B		
VR011	R12-0563-05	RES. SEMI FIXED 500 B		
VR012	R12-0561-05	RES. SEMI FIXED 100 B		
VR013	R12-4510-05	RES. SEMI FIXED 50K B		

VR016	R12-0561-05	RES. SEMI FIXED 100 B		
VR017	R12-0561-05	RES. SEMI FIXED 100 B		
VR018	R12-0563-05	RES. SEMI FIXED 500 B		
VR019	R12-0563-05	RES. SEMI FIXED 500 B		
VR020	R12-0563-05	RES. SEMI FIXED 500 B		

REF. NO	PARTS NO	NAME & DESCRIPTION
VR021	R12-2517-05	RES. SEMI FIXED 10K B
VR022	R12-0561-05	RES. SEMI FIXED 100 B
VR023	R12-0561-05	RES. SEMI FIXED 100 B
VR024	R12-0561-05	RES. SEMI FIXED 100 B
VR025	NO USE	
VR026	R12-0561-05	RES. SEMI FIXED 100 B
VR027	R12-2517-05	RES. SEMI FIXED 10K B
VR028	R01-1513-05	V. R. 2K B
VR029	R06-1503-05	V. R. 2K B X2
VR030	R12-0561-05	RES. SEMI FIXED 100 B
VR031	R12-0561-05	RES. SEMI FIXED 100 B

POWER & FINAL AMP UNIT

X73-1660-00

REF. NO	PARTS NO	NAME & DESCRIPTION	QTY	UNIT
	E31-2170-05	JUMPING WIRE		
	E33-4097-00	WIRE ASSY		
	F01-0855-03	HEAT SINK		
	F02-0511-05	HEAT SINK		
	J12-0504-05	SPRING PIPE		
	J25-5105-13	PCB (UNMOUNTED)		
	J30-0605-05	SPACER		
	N09-0623-04	SCREW		
	N09-0731-04	SCREW		
	N14-0626-04	NUT		
	R92-0150-05	JUMPING RES. ZERO OHM		
	212-1018-05	TUBE (PLASTIC)		
C001	CE04W1C330M	CAP. ELECTRO	33	20% 16V
C002	CE04W1C330M	CAP. ELECTRO	33	20% 16V
C003	CE04W1C330M	CAP. ELECTRO	33	20% 16V
C004	CC45SL1H471J	CAP. CERAMIC	470P	5% 50V
C005	CQ92FM1H104K	CAP. MYLAR	0.1	10% 50V
C006	CQ92FM1H103K	CAP. MYLAR	0.01	10% 50V
C007	CQ92FM1H102K	CAP. MYLAR	1000P	10% 50V
C008	CQ92FM1H104K	CAP. MYLAR	0.1	10% 50V
C009	CK45B2H103K	CAP. CERAMIC	0.01	10% 500V
C010	CC45CH1H180J	CAP. CERAMIC	18P	5% 50V
C011	C91-1233-05	CAP. CERAMIC	3P	0.25P 3KV
C012	CE04W1H010M	CAP. ELECTRO	1	20% 50V
C013	C91-0769-05	CAP. CERAMIC	3P	0.25P 3KV
C014	CE04W2A4R7M	CAP. ELECTRO	4.7	20% 100V
C015	CE04W1A470M	CAP. ELECTRO	47	20% 10V
C016	CE04BW1E220M	CAP. ELECTRO	22	20% 25V
C017	CE04W2C010	CAP. ELECTRO	1	160V
C018	CE04W2A471M	CAP. ELECTRO	470	20% 100V
C019	CE04W2E470	CAP. ELECTRO	47	250V
C020	CE04W1C472M	CAP. ELECTRO	4700	20% 16V
C021	CE04W1E220M	CAP. ELECTRO	22	20% 25V
C022	CE04W1E220M	CAP. ELECTRO	22	20% 25V
C023	CE04W1C330M	CAP. ELECTRO	33	20% 16V
C024	CE04W1E332M	CAP. ELECTRO	3300	20% 25V
C025	CE04W1E332M	CAP. ELECTRO	3300	20% 25V
C026	CE04W1C330M	CAP. ELECTRO	33	20% 16V
C027	CE04W1E220M	CAP. ELECTRO	22	20% 25V
C028	CE04W1E220M	CAP. ELECTRO	22	20% 25V
C029	CQ92FM1H103K	CAP. MYLAR	0.01	10% 50V
C030	CC45CH1H330J	CAP. CERAMIC	33P	5% 50V
C031	CQ92FM1H103K	CAP. MYLAR	0.01	10% 50V
C032	CQ92FM1H103K	CAP. MYLAR	0.01	10% 50V
C033	CE04W1H010M	CAP. ELECTRO	1	20% 50V
C034	CE04W1H010M	CAP. ELECTRO	1	20% 50V

D001	1SS132	DIODE		
D002	1SS132	DIODE		
D003	S1VB40	DIODE, BRIDGE		
D004	S2VB40F	DIODE, BRIDGE		
D005	S4VB40F	DIODE, BRIDGE		
D006	S1VB40	DIODE, BRIDGE		
D007	1SS132	DIODE		
D008	1SS132	DIODE		
D009	NO USE			
D010	MTZ7.5JA	DIODE, ZENER	7.1V	
D011	MTZ11JC	DIODE, ZENER	11V	
D012	MTZ11JC	DIODE, ZENER	11V	
D013	MTZ3.3JA	DIODE, ZENER	3.2V	
D014	MTZ3.3JA	DIODE, ZENER	3.2V	
D015	MTZ8.2JA	DIODE, ZENER	9.6V	

J050	E31-2613-05	LEAD WIRE WITH CONNECTOR		
J051	E31-2613-05	LEAD WIRE WITH CONNECTOR		

L001	L40-1011-04	FERRI INDUCTOR	100UH	
L002	L40-1011-04	FERRI INDUCTOR	100UH	

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
L003	L40-2282-13	FERRI INDUCTOR 0.22UH	R036	RD14BB2C100J	RES. CARBON 10 5% 1/6W
L004	L40-2282-13	FERRI INDUCTOR 0.22UH	R037	RD14BB2C100J	RES. CARBON 10 5% 1/6W
P009	E40-0673-05	PIN CONNECTOR 6 P	R038	RD14BB2C470J	RES. CARBON 47 5% 1/6W
P012	E40-0473-05	PIN CONNECTOR 4 P	R039	RD14BB2C470J	RES. CARBON 47 5% 1/6W
P013	NO USE		R040	RN14BK2C6802F	RES. METAL FILM 68K 1% 1/6W
P014	E40-0373-05	PIN CONNECTOR 3 P	R041	RN14BK2C6802F	RES. METAL FILM 68K 1% 1/6W
P019	E40-0273-05	PIN CONNECTOR 2 P	R042	RD14BB2C301J	RES. CARBON 300 5% 1/6W
P020	NO USE		R043	RN14BK2E75R0F	RES. METAL FILM 75.0 1% 1/4W
P021	E40-0373-05	PIN CONNECTOR 3 P	R044	RS14AB3Y301J	RES. METAL FILM 300 5% 7W
P032	E40-0873-05	PIN CONNECTOR 8 P	R045	RS14AB3Y301J	RES. METAL FILM 300 5% 7W
P036	E40-1004-05	PIN CONNECTOR 2 P	R046	RN14BK2E75R0F	RES. METAL FILM 75.0 1% 1/4W
P040	E40-0273-05	PIN CONNECTOR 2 P	R047	RD14BB2C301J	RES. CARBON 300 5% 1/6W
P041	E40-0273-05	PIN CONNECTOR 2 P	R048	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
P042	E40-0311-05	PIN CONNECTOR 3P	R049	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
P054	E40-0273-05	PIN CONNECTOR 2 P	R050	RN14BK2C1002F	RES. METAL FILM 10K 1% 1/6W
Q001	2SA1206	TR. SI, PNP	R051	RD14BB2C301J	RES. CARBON 300 5% 1/6W
Q002	2SA1206	TR. SI, PNP	R052	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q003	2SC2644	TR. SI, NPN	R053	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q004	2SC2644	TR. SI, NPN	R054	RD14BB2C163J	RES. CARBON 16K 5% 1/6W
Q005	2SC2644	TR. SI, NPN	R055	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
Q006	2SC2644	TR. SI, NPN	R056	RN14BK2C1103F	RES. METAL FILM 110K 1% 1/6W
Q007	2SC2644	TR. SI, NPN	R057	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q008	2SC2644	TR. SI, NPN	R058	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q009	2SC2644	TR. SI, NPN	R059	RD14BB2C183J	RES. CARBON 18K 5% 1/6W
Q010	2SC2644	TR. SI, NPN	R060	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
Q011	2SC2644	TR. SI, NPN	R061	RN14BK2C2403F	RES. METAL FILM 240K 1% 1/6W
Q012	2SC2644	TR. SI, NPN	R062	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q013	2SC1164 (O)	TR. SI, NPN	R063	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q014	2SC1164 (O)	TR. SI, NPN	R064	RN14BK2C9100F	RES. METAL FILM 910 1% 1/6W
Q015	2SC2271 (D)	TR. SI, NPN	R065	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q016	2SD1263A (P, Q, R)	TR. SI, NPN	R066	RD14BB2C682J	RES. CARBON 6.8K 5% 1/6W
Q017	2SC2271 (D)	TR. SI, NPN	R067	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
Q018	2SD1263A (P, Q, R)	TR. SI, NPN	R068	RN14BK2C1002F	RES. METAL FILM 10K 1% 1/6W
Q019	2SB943 (P, Q, R)	TR. SI, PNP	R069	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q020	2SC2785 (F)	TR. SI, NPN	R070	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
Q021	2SD1268 (P, Q, R)	TR. SI, NPN	R071	RS14GB3A273J	RES. METAL FILM 27K 5% 1W
Q022	2SB943 (P, Q, R)	TR. SI, PNP	R072	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
Q023	2SA684 (R)	TR. SI, PNP	R073	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q024	2SD1268 (P, Q, R)	TR. SI, NPN	R074	RS14GB3A163J	RES. METAL FILM 16K 5% 1W
Q025	2SC1384 (R)	TR. SI, NPN	R075	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
Q026	2SD1262A (Q)	TR. SI, NPN	R076	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
Q027	2SB939A (Q)	TR. SI, PNP	R077	RD14BB2C200J	RES. CARBON 20 5% 1/6W
R001	RN14BK2C91R0F	RES. METAL FILM 91.0 1% 1/6W	R078	RD14BB2C241J	RES. CARBON 240 5% 1/6W
R002	RN14BK2C91R0F	RES. METAL FILM 91.0 1% 1/6W	R079	RN14BK2C3301F	RES. METAL FILM 3.3K 1% 1/6W
R003	RD14BB2C561J	RES. CARBON 560 5% 1/6W	R080	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R004	RD14BB2C561J	RES. CARBON 560 5% 1/6W	R081	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R005	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R082	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W
R006	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R083	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R007	RN14BK2C5100F	RES. METAL FILM 510 1% 1/6W	R084	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
R008	RN14BK2C5100F	RES. METAL FILM 510 1% 1/6W	R085	RN14BK2C4302F	RES. METAL FILM 43K 1% 1/6W
R009	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W	R086	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
R010	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W	R087	RN14BK2C9102F	RES. METAL FILM 91K 1% 1/6W
R011	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R088	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R012	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R089	RN14BK2C8200F	RES. METAL FILM 820 1% 1/6W
R013	RN14BK2C3600F	RES. METAL FILM 360 1% 1/6W	R090	RN14BK2C1000F	RES. METAL FILM 100 1% 1/6W
R014	RN14BK2C3600F	RES. METAL FILM 360 1% 1/6W	R091	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R015	RN14BK2C1800F	RES. METAL FILM 180 1% 1/6W	R092	RD14BB2C390J	RES. CARBON 39 5% 1/6W
R016	RD14BB2C133J	RES. CARBON 13K 5% 1/6W	R093	RD14BB2C390J	RES. CARBON 39 5% 1/6W
R017	RD14BB2C220J	RES. CARBON 22 5% 1/6W	R094	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R018	RD14BB2C220J	RES. CARBON 22 5% 1/6W	R095	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R019	RD14BB2C100J	RES. CARBON 10 5% 1/6W	R096	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R020	RD14BB2C100J	RES. CARBON 10 5% 1/6W	R097	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R021	RN14BK2C4300F	RES. METAL FILM 430 1% 1/6W	R098	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R022	RN14BK2C4300F	RES. METAL FILM 430 1% 1/6W	R099	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R023	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R100	RD14BB2C243J	RES. CARBON 24K 5% 1/6W
R024	RD14BB2C101J	RES. CARBON 100 5% 1/6W	TC001	C05-0444-05	CAP. TRIMMER 10P
R025	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W	TC002	C05-0444-05	CAP. TRIMMER 10P
R026	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W	U001	NJM4558D	IC
R027	RD14BB2C470J	RES. CARBON 47 5% 1/6W	U002	NJM4558D	IC
R028	RD14BB2C470J	RES. CARBON 47 5% 1/6W	U003	NJM4558D	IC
R029	RD14BB2C470J	RES. CARBON 47 5% 1/6W	U004	NJM4558D	IC
R030	RD14BB2C470J	RES. CARBON 47 5% 1/6W	VR001	R12-1529-05	RES. SEMI FIXED 2K B
R031	RD14BB2C303J	RES. CARBON 30K 5% 1/6W	VR002	R12-0561-05	RES. SEMI FIXED 100 B
R032	RN14BK2C3901F	RES. METAL FILM 3.9K 1% 1/6W			
R033	RN14BK2E75R0F	RES. METAL FILM 75.0 1% 1/4W			
R034	RN14BK2E75R0F	RES. METAL FILM 75.0 1% 1/4W			
R035	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W			

PARTS LIST

SWEEP UNIT

X74-1440-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	E33-4091-00	WIRE ASSY
	F01-0820-04	HEAT SINK
	J25-5103-12	PCB (UNMOUNTED)
	N30-3006-46	SCREW, PAN HD M 3X6
C001	CQ92FM1H103K	CAP. MYLAR 0.01 10% 50V
C002	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C003	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C004	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C005	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C006	CE04W1C470M	CAP. ELECTRO 47 20% 16V
C007	CE04W1C470M	CAP. ELECTRO 47 20% 16V
C008	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C009	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C010	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C011	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C012	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C013	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V
C014	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C015	CE04BW1H010M	CAP. ELECTRO 1 20% 50V
C016	CE04W1C470M	CAP. ELECTRO 47 20% 16V
C017	NO USE	
C018	CC45CH1H100D	CAP. CERAMIC 10P 0.5P 50V
C019	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V
C020	CC45CH1H100D	CAP. CERAMIC 10P 0.5P 50V
C021	NO USE	
C022	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C023	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C024	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C025	C91-0574-05	CAP. MYLAR 1 5% 50V
C026	C91-0573-05	CAP. MYLAR 0.01 1% 50V
C027	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C028	CM93BD2A900J	CAP. MICA 90P 5% 100V
C029	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C030	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C031	CE04W1C470M	CAP. ELECTRO 47 20% 16V
C032	NO USE	
C033	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V
C034	NO USE	
C035	CQ92FM1H222K	CAP. MYLAR 2200P 10% 50V
C036	CE04W2C47R	CAP. ELECTRO 4.7 160V
C037	CQ92FM1H473K	CAP. MYLAR 0.047 10% 50V
C038	C91-0574-05	CAP. MYLAR 1 5% 50V
C039	C91-0573-05	CAP. MYLAR 0.01 1% 50V
C040	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C041	CM93BD2A900J	CAP. MICA 90P 5% 100V
C042	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V
C043	CC45SL1H221J	CAP. CERAMIC 220P 5% 50V
C044	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C045	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C046	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V
C047	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V
C048	NO USE	
C049	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C050	NO USE	
C051	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V
C052	NO USE	
C053	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V
C054	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C055	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C056	CE04BW1H010M	CAP. ELECTRO 1 20% 50V
C057	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C058	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C059	NO USE	
C060	CE04BW1H010M	CAP. ELECTRO 1 20% 50V
C063	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C064	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C065	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C066	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C067	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V
C068	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V
C069	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C070	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C071	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C072	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C073	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C074	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C075	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V
C076	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C077	CE04W1C330M	CAP. ELECTRO 33 20% 16V

REF. NO	PARTS NO	NAME & DESCRIPTION
C078	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C079	CE04W2A3R3M	CAP. ELECTRO 3.3 20% 100V
C080	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C081	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C082	NO USE	
C083	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C084	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C085	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C086	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C087	NO USE	
C088	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C089	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C090	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C091	CE04BW1H010M	CAP. ELECTRO 1 20% 50V
C092	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C093	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C094	CC45SL1H221J	CAP. CERAMIC 220P 5% 50V
C095	CE04W2C3R3	CAP. ELECTRO 3.3 160V
C096	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C097	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C098	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C099	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C100	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C105	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C106	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C107	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C110	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C111	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C114	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C117	C91-0769-05	CAP. CERAMIC 3P 0.25P 3KV
C118	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C119	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C120	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C121	CE04W1C330M	CAP. ELECTRO 33 20% 16V
C122	CQ92FM1H223K	CAP. MYLAR 0.022 10% 50V
C123	NO USE	
C124	CC45CH1H030C	CAP. CERAMIC 3P 0.25P 50V
C125	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C126	CQ92FM1H104K	CAP. MYLAR 0.1 10% 50V
C127	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C128	CK45F1H103Z	CAP. CERAMIC 0.01 50V
D001	1SS132	DIODE
D002	1SS132	DIODE
D003	1SS132	DIODE
D004	1SS132	DIODE
D005	1SS132	DIODE
D006	1SS132	DIODE
D007	1SS132	DIODE
D008	1SS132	DIODE
D009	1SS132	DIODE
D010	1SS132	DIODE
D011	1SS132	DIODE
D012	1SS132	DIODE
D013	1SS132	DIODE
D014	1SS132	DIODE
D015	1SS132	DIODE
D016	1SS132	DIODE
D017	NO USE	
D018	1SS132	DIODE
D021	1SS132	DIODE
D022	1SS132	DIODE
D023	1SS132	DIODE
D024	1SS132	DIODE
D025	MTZ7.5JA	DIODE ZENER 9.6V
D026	1SS132	DIODE
D027	1SS132	DIODE
D028	1SS132	DIODE
D029	1SS132	DIODE
D030	NO USE	
D031	1SS132	DIODE
D032	1SS83	DIODE
D033	1SS83	DIODE
D034	1SS83	DIODE
D035	1SS132	DIODE
D036	MTZ7.5JA	DIODE, ZENER 9.6V
J005	E31-2615-05	LEAD WIRE WITH CONNECTOR

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
J025	E31-2669-05	LEAD WIRE WITH CONNECTOR	Q060	2SA1175(F)	TR. SI, PNP
J026	E31-2671-05	LEAD WIRE WITH CONNECTOR	Q061	2SA1005(K)	TR. SI, PNP
J031	E31-2677-05	LEAD WIRE WITH CONNECTOR	Q062	2SC2786(K)	TR. SI, NPN
J034	E31-2699-05	LEAD WIRE WITH CONNECTOR	Q063	2SA1005(K)	TR. SI, PNP
J043	E31-2707-05	LEAD WIRE WITH CONNECTOR	Q064	2SC2785(F)	TR. SI, NPN
L001	L40-6801-03	FERRI INDUCTOR 68UH	Q065	2SA1175(F)	TR. SI, PNP
L002	L40-4701-03	FERRI INDUCTOR 47UH	Q066	2SA1005(K)	TR. SI, PNP
L003	L40-4701-03	FERRI INDUCTOR 47UH	Q067	2SC2785(F)	TR. SI, NPN
P002	E40-0374-05	PIN CONNECTOR 3 P	Q068	2SA1175(F)	TR. SI, PNP
P007	E40-0273-05	PIN CONNECTOR 2 P	Q069	2SC2785(F)	TR. SI, NPN
P008	E40-0273-05	PIN CONNECTOR 2 P	Q070	2SC2785(F)	TR. SI, NPN
P009	E40-0874-05	PIN CONNECTOR 8P	Q071	2SC2785(F)	TR. SI, NPN
P010	E40-0273-05	PIN CONNECTOR 2 P	R001	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
P011	E40-0373-05	PIN CONNECTOR 3 P	R002	RD14BB2C914J	RES. CARBON 910K 5% 1/6W
P012	NO USE		R003	RD14BB2C470J	RES. CARBON 47 5% 1/6W
P013	E40-1373-05	PIN CONNECTOR 13 P	R004	RD14BB2C220J	RES. CARBON 22 5% 1/6W
P014	NO USE		R005	RD14BB2C470J	RES. CARBON 47 5% 1/6W
P015	E40-0373-05	PIN CONNECTOR 3 P	R006	RD14BB2C162J	RES. CARBON 1.6K 5% 1/6W
P018	E40-0273-05	PIN CONNECTOR 2 P	R007	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
P025	E40-0573-05	PIN CONNECTOR 5 P	R008	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
P026	E40-0873-05	PIN CONNECTOR 8 P	R009	RD14BB2C331J	RES. CARBON 330 5% 1/6W
P027	E40-0573-05	PIN CONNECTOR 5 P	R010	RD14BB2C911J	RES. CARBON 910 5% 1/6W
P031	E40-0573-05	PIN CONNECTOR 5 P	R011	RN14BK2C9103F	RES. METAL FILM 910K 1% 1/6W
Q001	2SK241(Y)	FET, N-CHANNEL	R012	RN14BK2C9103F	RES. METAL FILM 910K 1% 1/6W
Q002	2SK241(Y)	FET, N-CHANNEL	R013	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q003	2SC2786(K)	TR. SI, NPN	R014	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
Q004	2SA1005(K)	TR. SI, PNP	R015	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
Q005	2SC2785(F)	TR. SI, NPN	R016	RD14BB2C473J	RES. CARBON 47K 5% 1/6W
Q006	2SC1215(S, T)	TR. SI, NPN	R017	RD14BB2C220J	RES. CARBON 22 5% 1/6W
Q007	2SC1215(S, T)	TR. SI, NPN	R018	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
Q008	2SC2785(F)	TR. SI, NPN	R019	RD14BB2C220J	RES. CARBON 22 5% 1/6W
Q009	2SC2785(F)	TR. SI, NPN	R020	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q010	2SC2786(K)	TR. SI, NPN	R021	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q013	2SA1175(F)	TR. SI, PNP	R022	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
Q014	2SA1005(K)	TR. SI, PNP	R023	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q015	2SA1175(F)	TR. SI, PNP	R024	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q016	2SK117(Y)	FET, P-CHANNEL	R025	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W
Q017	2SC2785(F)	TR. SI, NPN	R026	RD14BB2C132J	RES. CARBON 1.3K 5% 1/6W
Q018	2SA1175(F)	TR. SI, PNP	R027	RD14BB2C680J	RES. CARBON 68 5% 1/6W
Q019	2SK117(GR)	FET, N-CHANNEL	R028	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q020	2SC2785(F)	TR. SI, NPN	R029	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q021	2SC2785(F)	TR. SI, NPN	R032	RD14BB2C432J	RES. CARBON 4.3K 5% 1/6W
Q022	2SA1175(F)	TR. SI, PNP	R033	RD14BB2C511J	RES. CARBON 510 5% 1/6W
Q023	2SC2785(F)	TR. SI, NPN	R036	RD14BB2C431J	RES. CARBON 430 5% 1/6W
Q024	2SA1175(F)	TR. SI, PNP	R037	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q025	2SA1175(F)	TR. SI, PNP	R038	RD14BB2C223J	RES. CARBON 22K 5% 1/6W
Q026	2SA1005(K)	TR. SI, PNP	R039	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q027	2SA1175(F)	TR. SI, PNP	R040	NO USE	
Q028	2SK117(Y)	FET, P-CHANNEL	R041	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q029	2SC2785(F)	TR. SI, NPN	R042	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q030	2SA1175(F)	TR. SI, PNP	R043	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q031	2SK117(GR)	FET, N-CHANNEL	R044	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q032	2SA1175(F)	TR. SI, PNP	R045	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q033	2SC3066(F, G)	TR. SI, NPN	R046	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q034	2SC2785(F)	TR. SI, NPN	R047	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q035	2SC2785(F)	TR. SI, NPN	R048	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q036	2SC2785(F)	TR. SI, NPN	R049	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q037	2SC2786(K)	TR. SI, NPN	R050	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q038	2SC2786(K)	TR. SI, NPN	R051	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q039	2SC2785(F)	TR. SI, NPN	R052	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q040	2SC2785(F)	TR. SI, NPN	R053	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q041	2SC2786(K)	TR. SI, NPN	R054	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q042	2SC2785(F)	TR. SI, NPN	R055	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q043	2SA1005(K)	TR. SI, PNP	R056	RD14BB2C154J	RES. CARBON 150K 5% 1/6W
Q044	2SK336	FET, N-CHANNEL	R057	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q045	2SK336	FET, N-CHANNEL	R058	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q046	2SA1005(K)	TR. SI, PNP	R059	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q047	2SC2785(F)	TR. SI, NPN	R060	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q048	2SC2785(F)	TR. SI, NPN	R061	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q049	2SC2912(S)	TR. SI, NPN	R062	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q050	2SC2912(S)	TR. SI, NPN	R063	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q051	2SA1210(S)	TR. SI, PNP	R064	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q052	2SA1210(S)	TR. SI, PNP	R065	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
Q059	2SC2785(F)	TR. SI, NPN	R066	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R067	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R068	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R069	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R070	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R071	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
			R072	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R073	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R074	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R075	RD14BB2C102J	RES. CARBON 1K 5% 1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
R076	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R162	RD14BB2C432J	RES. CARBON 4.3K 5% 1/6W
R077	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R163	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R078	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R164	NO USE	
R079	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R165	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R080	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R166	RD14BB2C432J	RES. CARBON 4.3K 5% 1/6W
R081	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R167	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R082	RD14BB2C221J	RES. CARBON 220 5% 1/6W	R168	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R083	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R169	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W
R084	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R170	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R085	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R171	NO USE	
R086	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R172	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R087	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R173	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R088	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R174	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
R089	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R175	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
R090	RD14BB2C111J	RES. CARBON 110 5% 1/6W	R176	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R091	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R177	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R092	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R178	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R093	RD14BB2C331J	RES. CARBON 330 5% 1/6W	R179	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R094	RD14BB2C153J	RES. CARBON 15K 5% 1/6W	R180	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R095	RS14GB3A472J	RES. METAL FILM 4.7K 5% 1W	R181	RN14BK2C3301F	RES. METAL FILM 3.3K 1% 1/6W
R096	RD14BB2C153J	RES. CARBON 15K 5% 1/6W	R182	RN14BK2C3301F	RES. METAL FILM 3.3K 1% 1/6W
R097	RD14BB2C821J	RES. CARBON 820 5% 1/6W	R183	RD14BB2C271J	RES. CARBON 270 5% 1/6W
R098	RD14BB2C272J	RES. CARBON 2.7K 5% 1/6W	R184	RD14BB2C271J	RES. CARBON 270 5% 1/6W
R099	RD14BB2C153J	RES. CARBON 15K 5% 1/6W	R185	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R100	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R186	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R101	RD14BB2C911J	RES. CARBON 910 5% 1/6W	R187	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R102	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W	R188	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
R103	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W	R189	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
R104	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W	R190	RN14BK2C1001F	RES. METAL FILM 1K 1% 1/6W
R105	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W	R191	RN14BK2C1001F	RES. METAL FILM 1K 1% 1/6W
R106	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W	R192	RD14BB3A183J	RES. CARBON 18K 5% 1W
R107	RN14BK2E4992F	RES. METAL FILM 49.9K 1% 1/4W	R193	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R108	R92-1066-05	RES. FIXED 29.8K 1% 1/4W	R194	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R109	R92-1065-05	RES. FIXED 9.92K 1% 1/4W	R195	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R110	R92-1064-05	RES. FIXED 4.95K 1% 1/4W	R196	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R111	R92-1064-05	RES. FIXED 4.95K 1% 1/4W	R197	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R112	RN14BK2C2202F	RES. METAL FILM 22K 1% 1/6W	R198	RD14BB2C183J	RES. CARBON 18K 5% 1/6W
R113	RD14BK2C2002F	RES. METAL FILM 20K 1% 1/6W	R199	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R114	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W	R200	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R115	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R207	RD14BB2C820J	RES. CARBON 82 5% 1/6W
R116	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R208	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R117	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R209	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R118	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	R210	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R119	RD14BB2C331J	RES. CARBON 330 5% 1/6W	R211	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R120	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R212	RD14BB2C111J	RES. CARBON 110 5% 1/6W
R121	RD14BB2C221J	RES. CARBON 220 5% 1/6W	R213	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R122	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R214	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R123	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R215	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R124	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R216	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R125	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R217	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R126	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R218	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R127	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R219	RD14BB2C223J	RES. CARBON 22K 5% 1/6W
R128	RS14GB3A472J	RES. METAL FILM 4.7K 5% 1W	R220	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R129	RD14BB2C153J	RES. CARBON 15K 5% 1/6W	R221	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R130	RD14BB2C153J	RES. CARBON 15K 5% 1/6W	R222	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R131	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R223	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R132	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R224	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R133	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W	R225	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R134	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W	R226	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W
R135	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W	R227	RD14BB2C133J	RES. CARBON 13K 5% 1/6W
R136	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W	R228	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R137	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W	R229	RD14BB2C394J	RES. CARBON 390K 5% 1/6W
R138	RN14BK2E4992F	RES. METAL FILM 49.9K 1% 1/4W	R230	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R139	R92-1066-05	RES. FIXED 29.8K 1% 1/4W	R231	RD14BB2C244J	RES. CARBON 240K 5% 1/6W
R140	R92-1065-05	RES. FIXED 9.92K 1% 1/4W	R232	RD14BB2C820J	RES. CARBON 82 5% 1/6W
R141	R92-1064-05	RES. FIXED 4.95K 1% 1/4W	R233	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R142	R92-1064-05	RES. FIXED 4.95K 1% 1/4W	R234	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R143	RN14BK2C2202F	RES. METAL FILM 22K 1% 1/6W	R235	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R144	RN14BK2C2002F	RES. METAL FILM 20K 1% 1/6W	R236	RD14BB2C301J	RES. CARBON 300 5% 1/6W
R145	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R237	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R146	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W	R238	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R147	RD14BB2C113J	RES. CARBON 11K 5% 1/6W	R239	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R148	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W	R240	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R149	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R241	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R150	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R242	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R151	RD14BB2C104J	RES. CARBON 100K 5% 1/6W	R243	RD14BB2C151J	RES. CARBON 150 5% 1/6W
R152	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R244	RD14BB2C362J	RES. CARBON 3.6K 5% 1/6W
R153	RD14BB2C361J	RES. CARBON 360 5% 1/6W	R245	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R154	RD14BB2C822J	RES. CARBON 8.2K 5% 1/6W	R246	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R155	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W	R247	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R156	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R248	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R157	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R249	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R158	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R250	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R159	RD14BB2C163J	RES. CARBON 16K 5% 1/6W	R251	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R160	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R252	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R161	RD14BB2C101J	RES. CARBON 100 5% 1/6W			

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
R253	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R254	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R255	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R256	RD14BB2C111J	RES. CARBON 110 5% 1/6W
R257	RN14BK2C6800F	RES. METAL FILM 680 1% 1/6W
R258	RN14BK2C1601F	RES. METAL FILM 1.6K 1% 1/6W
R259	RN14BK2C5100F	RES. METAL FILM 510 1% 1/6W
R260	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R261	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R262	NO USE	
R263	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R264	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R265	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R266	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
R267	RD14BB2C622J	RES. CARBON 6.2K 5% 1/6W
R268	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R269	RD14BB2C134J	RES. CARBON 130K 5% 1/6W
R270	RD14BB2C181J	RES. CARBON 180 5% 1/6W
R271	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R272	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R273	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R274	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R275	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R276	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R277	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R278	NO USE	
R279	RD14BB2C203J	RES. CARBON 20K 5% 1/6W
R280	RD14BB2C622J	RES. CARBON 6.2K 5% 1/6W
R281	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R282	RD14BB2C471J	RES. CARBON 470 5% 1/6W
R283	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R284	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R285	RD14BB2C183J	RES. CARBON 18K 5% 1/6W
R286	NO USE	
R287	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R288	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R289	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
S001	S32-4008-05	LEVER SWITCH
S002	S33-4503-05	LEVER SWITCH
S003	S01-5504-05	ROTARY SWITCH
S004	S37-2005-05	LEVER SWITCH
S005	S37-2005-05	LEVER SWITCH
S006	S33-2501-05	LEVER SWITCH
TC001	C05-0445-05	CAP. TRIMMER 20P
TC002	C05-0445-05	CAP. TRIMMER 20P
TC003	NO USE	
TC004	C05-0445-05	CAP. TRIMMER 20P
TC005	C05-0445-05	CAP. TRIMMER 20P
U001	TL082CP	IC, OP AMP
U002	MC14081BCP	IC, QUAL 2-INPUT AND GATE
U003	MC10105L	IC DIGITAL
U004	MC10107L	IC, QUAD 2-INPUT EXC OR/NOR
U005	MC10103L	IC, QUAD 2-INPUT OR GATE
U006	MC10131L	IC, DUAL D-FFS
U007	MC10104L	IC, QUAD 2-INPUT AND GATE
U008	MC10105L	IC DIGITAL
U009	MC10103L	IC, QUAD 2-INPUT OR GATE
U010	MC10102L	IC, QUAD 2-INPUT NOR GATE
U011	SN74LS112AN	IC, DUAL JK-FF
U012	SN74LS10N	IC, TRIPLE 3-INPUT NAND GATE
U013	SN74LS00N	IC, QUAD 2-INPUT NAND GATE
U014	SN74LS08N	IC, QUAD 2-INPUT AND GATE
U015	SN74LS08N	IC, QUAD 2-INPUT AND GATE
U016	SN74LS257AN	IC, QUAD DATE SELECTORS
U017	SN74LS32N	IC, QUAD 2-INPUT OR GATE
U018	SN74LS112AN	IC, DUAL JK-FF
VR001	R12-0563-05	RES. SEMI FIXED 500 B
VR002	R12-0563-05	RES. SEMI FIXED 500 B
VR003	R23-9503-05	V. R. 10K/20K
VR004	R12-0563-05	RES. SEMI FIXED 500 B
VR005	R12-2517-05	RES. SEMI FIXED 10K B
VR006	R12-3536-05	RES. SEMI FIXED 10K B
VR007	R12-2517-05	RES. SEMI FIXED 10K B
VR008	R12-0562-05	RES. SEMI FIXED 200 B
VR009	R12-1528-05	RES. SEMI FIXED 1K B
VR010	R12-2517-05	RES. SEMI FIXED 10K B
VR011	R12-1528-05	RES. SEMI FIXED 1K B
VR012	R01-1515-05	V. R. 1K
VR013	R12-3537-05	RES. SEMI FIXED 20K B
VR014	R01-3514-05	V. R. 20K
VR015	R23-3501-05	V. R. 10K X2
VR016	R12-3536-05	RES. SEMI FIXED 10K B

REF. NO	PARTS NO	NAME & DESCRIPTION
VR017	R23-9503-05	V. R. 10K/20K
VR018	R23-3501-05	V. R. 10K X2
VR019	R10-9505-05	V. R. 1K/200K
VR020	R10-9505-05	V. R. 1K/200K

HIGH VOLTAGE UNIT

X68-1460-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	F01-0813-05	HEAT SINK
	F15-0727-04	HOLDER (NEON TUBE)
	J25-5101-03	PCB (UNMOUNTED)
	N30-3006-46	SCREW, PAN HD M 3X6
C001	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C002	CC45CH1H150J	CAP. CERAMIC 15P 5% 50V
C003	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C004	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C005	CC45CH2H050C	CAP. CERAMIC 5P 0.25% 500V
C006	CC45CH2H010C	CAP. CERAMIC 1P 0.25% 500V
C007	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C008	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C009	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C010	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C011	C91-0571-05	CAP. CERAMIC 0.01 2KV
C012	NO USE	
C013	C91-0571-05	CAP. CERAMIC 0.01 2KV
C014	C91-0571-05	CAP. CERAMIC 0.01 2KV
C015	CE04W2E010	CAP. ELECTRO 1 250V
C016	C91-0571-05	CAP. CERAMIC 0.01 2KV
C017	C91-0571-05	CAP. CERAMIC 0.01 2KV
C018	C91-0571-05	CAP. CERAMIC 0.01 2KV
C019	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C020	CK45B3D102P	CAP. CERAMIC 1000P 2K
C021	C092FM1H154K	CAP. MYLAR 0.15 10% 50V
C022	C092FM1H154K	CAP. MYLAR 0.15 10% 50V
C023	NO USE	
C024	C092FM1H102K	CAP. MYLAR 1000P 10% 50V
C025	CK45B1H472K	CAP. CERAMIC 4700P 10% 50V
C026	C91-0571-05	CAP. CERAMIC 0.01 2KV
C027	C91-0571-05	CAP. CERAMIC 0.01 2KV
C028	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C029	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
C030	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C031	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C032	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C033	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C034	CE04W2C3R3	CAP. ELECTRO 3.3 150V
C035	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
D001	1SS132	DIODE
D002	NO USE	
D003	1SS132	DIODE
D004	1SS83	DIODE
D005	1SS83	DIODE
D006	1SR35-200	DIODE
D007	1SR35-200	DIODE
D008	1SS83	DIODE
D009	1SS83	DIODE
D010	1SR35-200	DIODE
D011	1SS132	DIODE
D012	1SS132	DIODE
D013	1SS132	DIODE
D014	1SR35-200	DIODE
L001	L40-1011-13	FERRI INDUCTOR 100UH
L002	L40-1011-13	FERRI INDUCTOR 100UH
NL001	NE-2B	NEON LAMP
NL002	NE-2B	NEON LAMP
NL003	NE-2B	NEON LAMP
NL004	NE-2B	NEON LAMP
P001	E40-0373-05	PIN CONNECTOR 3 P
P004	E40-0332-05	PIN CONNECTOR 3 P
P011	E40-0373-05	PIN CONNECTOR 3 P
P020	E40-0273-05	PIN CONNECTOR 2 P
P024	E40-0332-05	PIN CONNECTOR 3 P
P032	E40-0873-05	PIN CONNECTOR 8 P

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
P039	E40-0703-05	PIN CONNECTOR 7 P
Q001	2SA1208(S)	TR. SI, PNP
Q002	2SC2910(S)	TR. SI, NPN
Q003	2SA1210(S)	TR. SI, PNP
Q004	2SA1005(K)	TR. SI, PNP
Q005	2SC2912(S)	TR. SI, NPN
Q006	2SA1175(F)	TR. SI, PNP
Q007	2SD613(E)	TR. SI, NPN
Q008	2SC2271(D)	TR. SI, NPN
Q009	NO USE	
R001	RD14BB2H103J	RES. CARBON 10K 5% 1/2W
R002	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R003	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R004	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R005	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R006	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R007	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R008	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R009	RD14BB2C124J	RES. CARBON 120K 5% 1/6W
R010	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R011	RD14BB2C751J	RES. CARBON 750 5% 1/6W
R012	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R013	RD14BB2C124J	RES. CARBON 120K 5% 1/6W
R014	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R015	RD14BB2C752J	RES. CARBON 7.5K 5% 1/6W
R016	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R017	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R018	RD14BB2C470J	RES. CARBON 47 5% 1/6W
R019	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R020	R92-1034-05	RES. METAL FILM 47M 5% 1/2W
R021	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R022	R92-1034-05	RES. METAL FILM 47M 5% 1/2W
R023	R92-1165-05	RES. FIXED 6.8M
R024	R92-1154-05	RES. FIXED 11M
R029	RN14BK2C1003P	RES. METAL FILM 100K 1% 1/6W
R030	R92-1125-05	RES. FIXED 7.5M
R031	R92-1125-05	RES. FIXED 7.5M
R035	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R036	NO USE	
R037	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R038	RD14BB2C392J	RES. CARBON 3.9K 5% 1/6W
R039	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R040	RD14BB2C563J	RES. CARBON 56K 5% 1/6W
R041	RD14BB2C563J	RES. CARBON 56K 5% 1/6W
R042	RD14BB2C133J	RES. CARBON 13K 5% 1/6W
R043	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R044	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
U001	NJM4558D	IC
VR001	R12-5525-05	RES. SEMI FIXED 100K B

CRT SOCKET UNIT

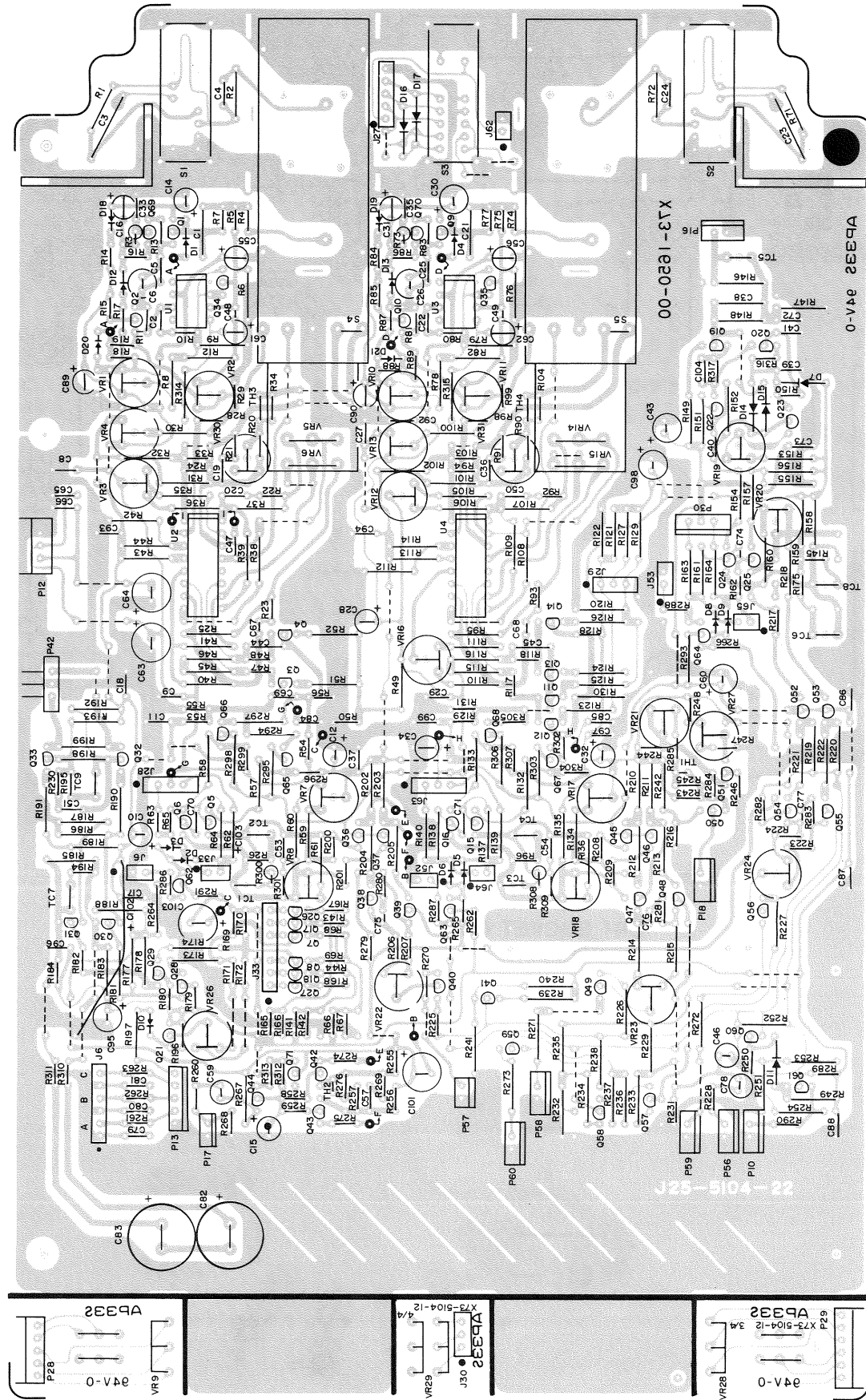
X81-1600-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	E01-0103-05	CRT SOCKET
	E23-0503-05	TERMINAL
	J25-5102-04	PCB (UNMOUNTED)
C001	CC45CH1H020C	CAP. CERAMIC 2P 0.25P 50V
C002	CC45CH1H010C	CAP. CERAMIC 1P 0.25P 50V
J001	E31-2611-05	LEAD WIRE WITH CONNECTOR
J002	E31-2612-05	LEAD WIRE WITH CONNECTOR
J003	NO USE	
J004	E31-2614-05	LEAD WIRE WITH CONNECTOR
R003	RD14BB2C6R8J	RES. CARBON 6.8 5% 1/6W
R004	RD14BB2E473J	RES. CARBON 47K 5% 1/4W

P.C. BOARD

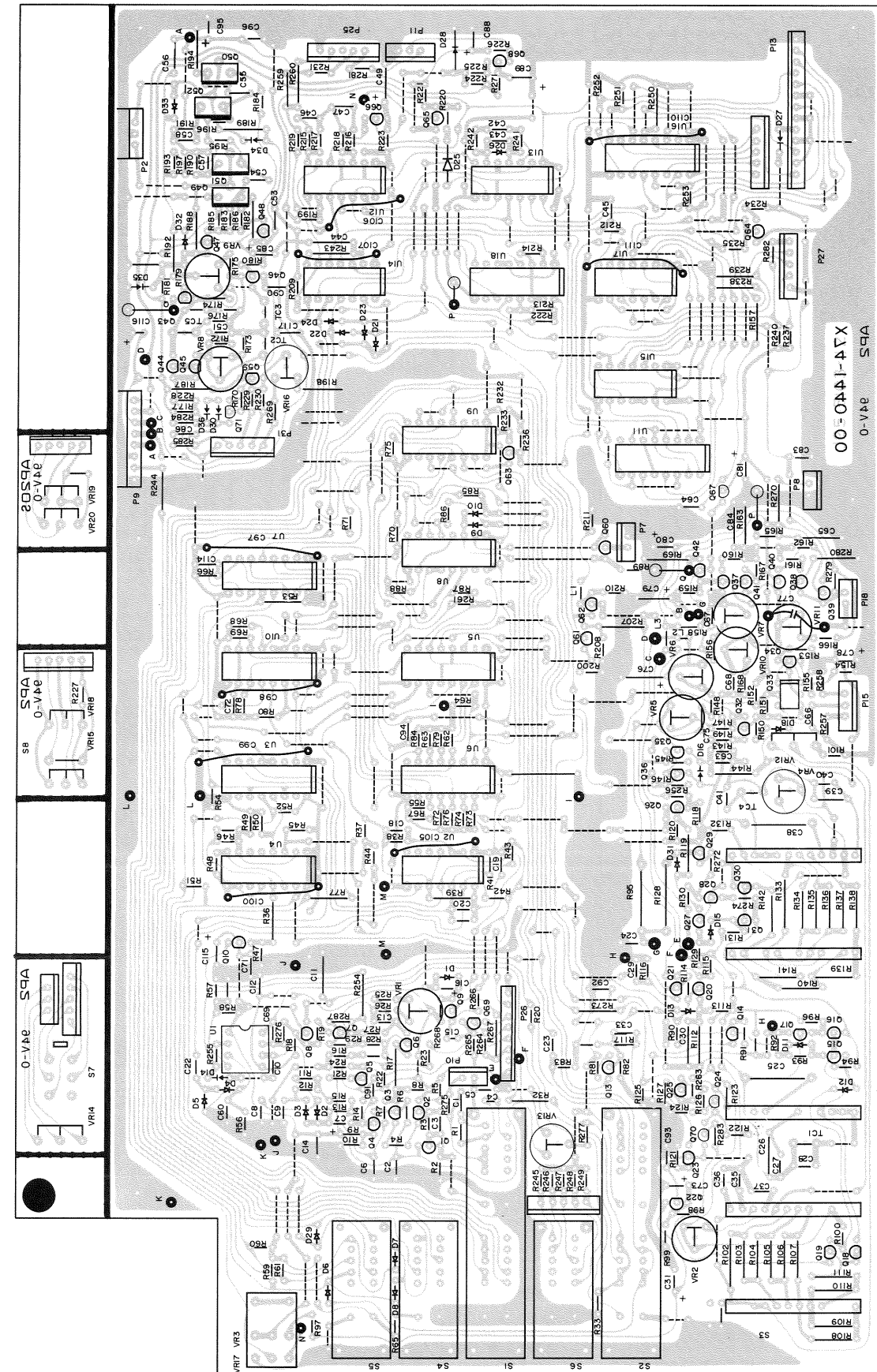
VERTICAL PREAMP UNIT (X73-1650)

Foil side view



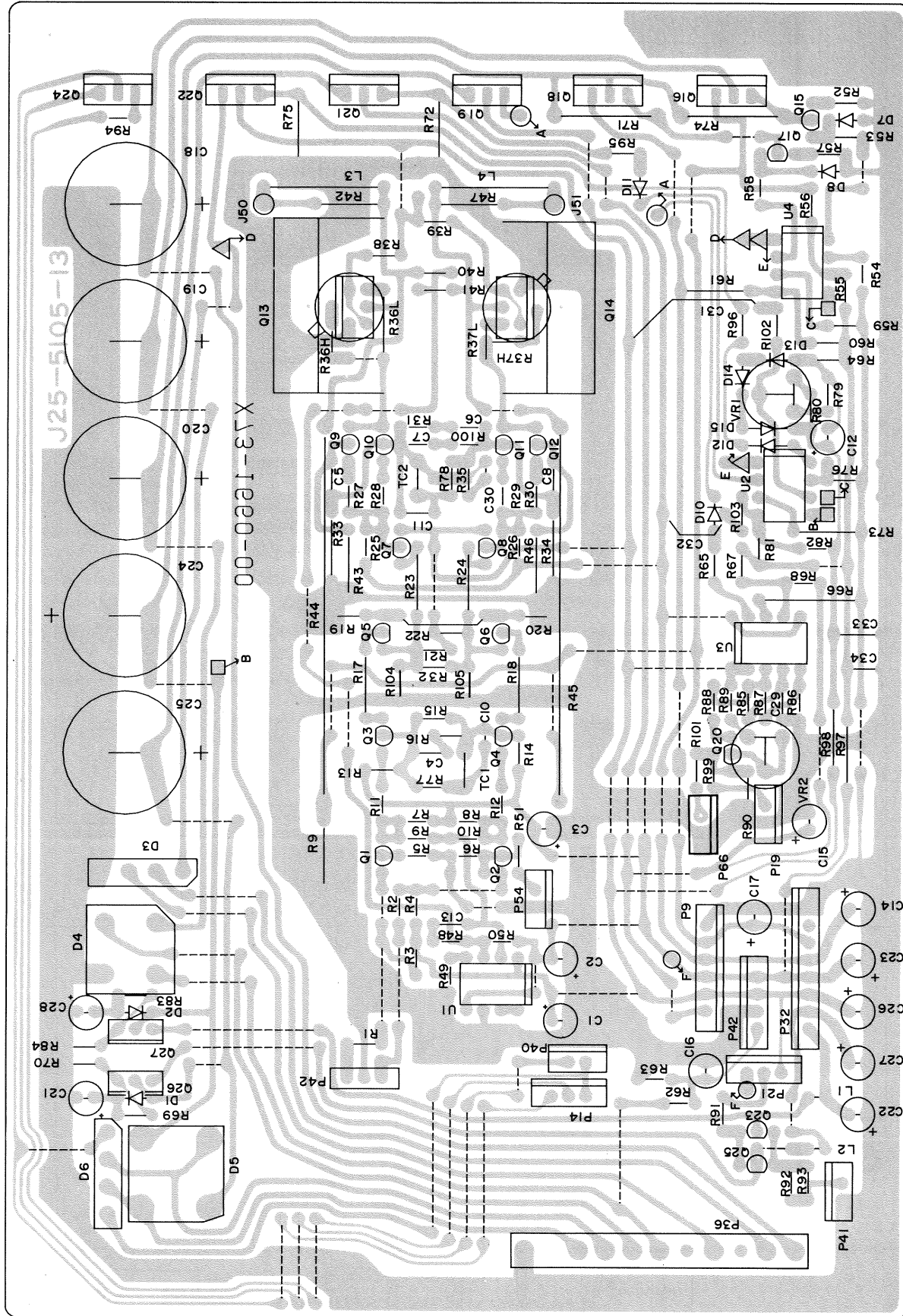
SWEEP UNIT (X74-1440)

Foil side view

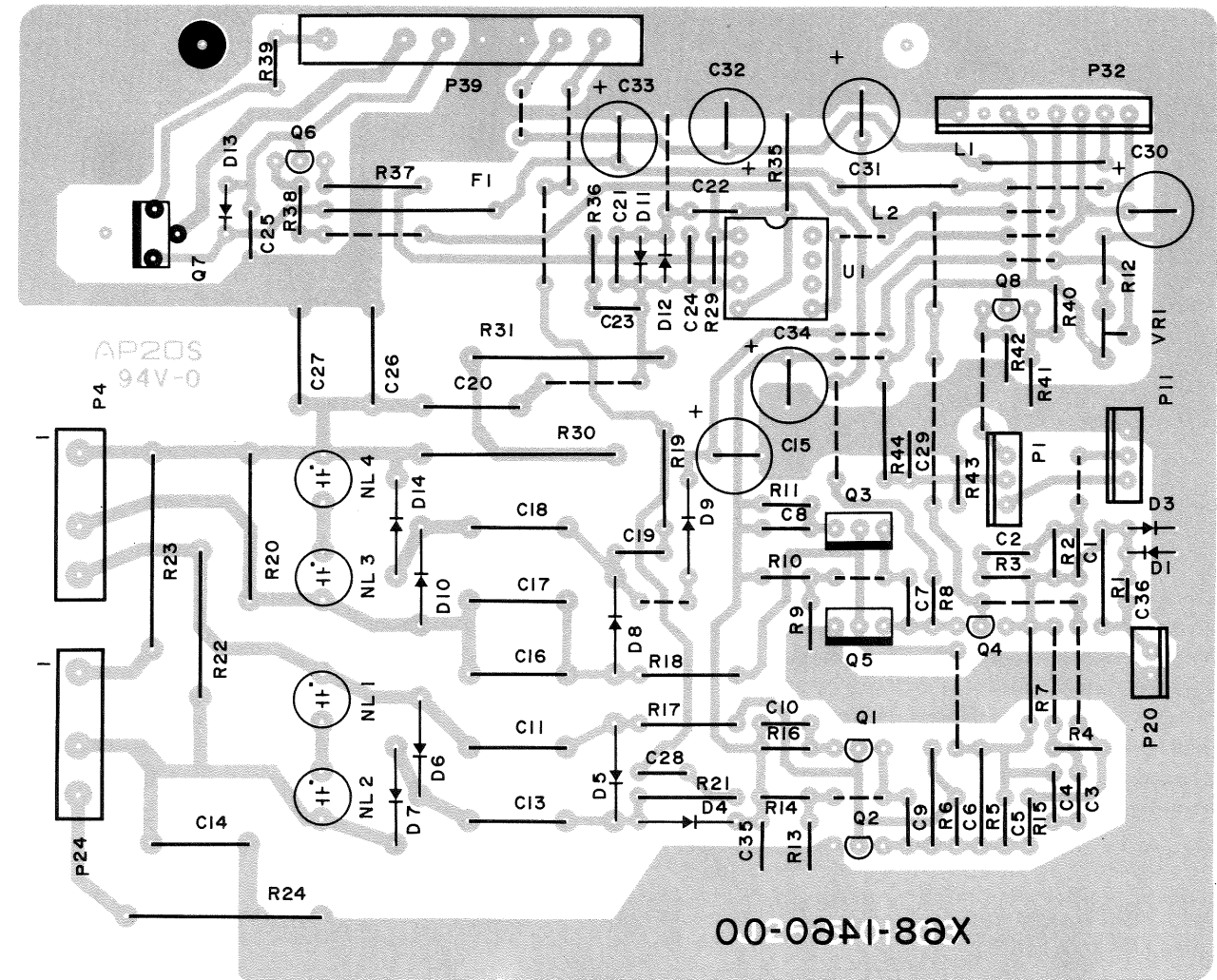


P.C. BOARD

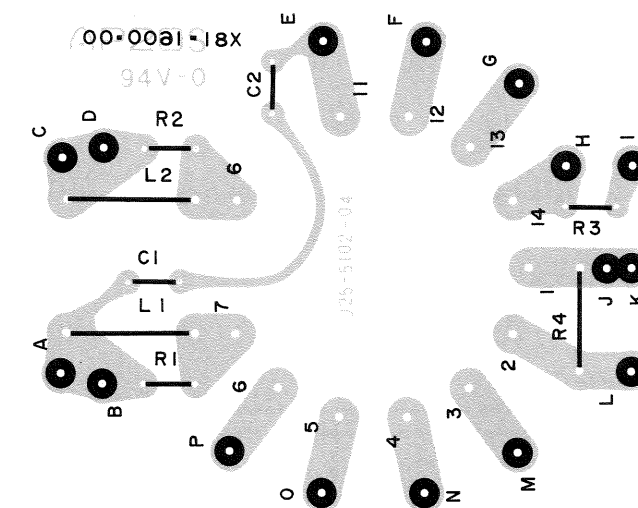
POWER & FINAL AMP UNIT (X73-1660)
Foil side view



HIGH VOLTAGE UNIT (X68-1460)
Foil side view

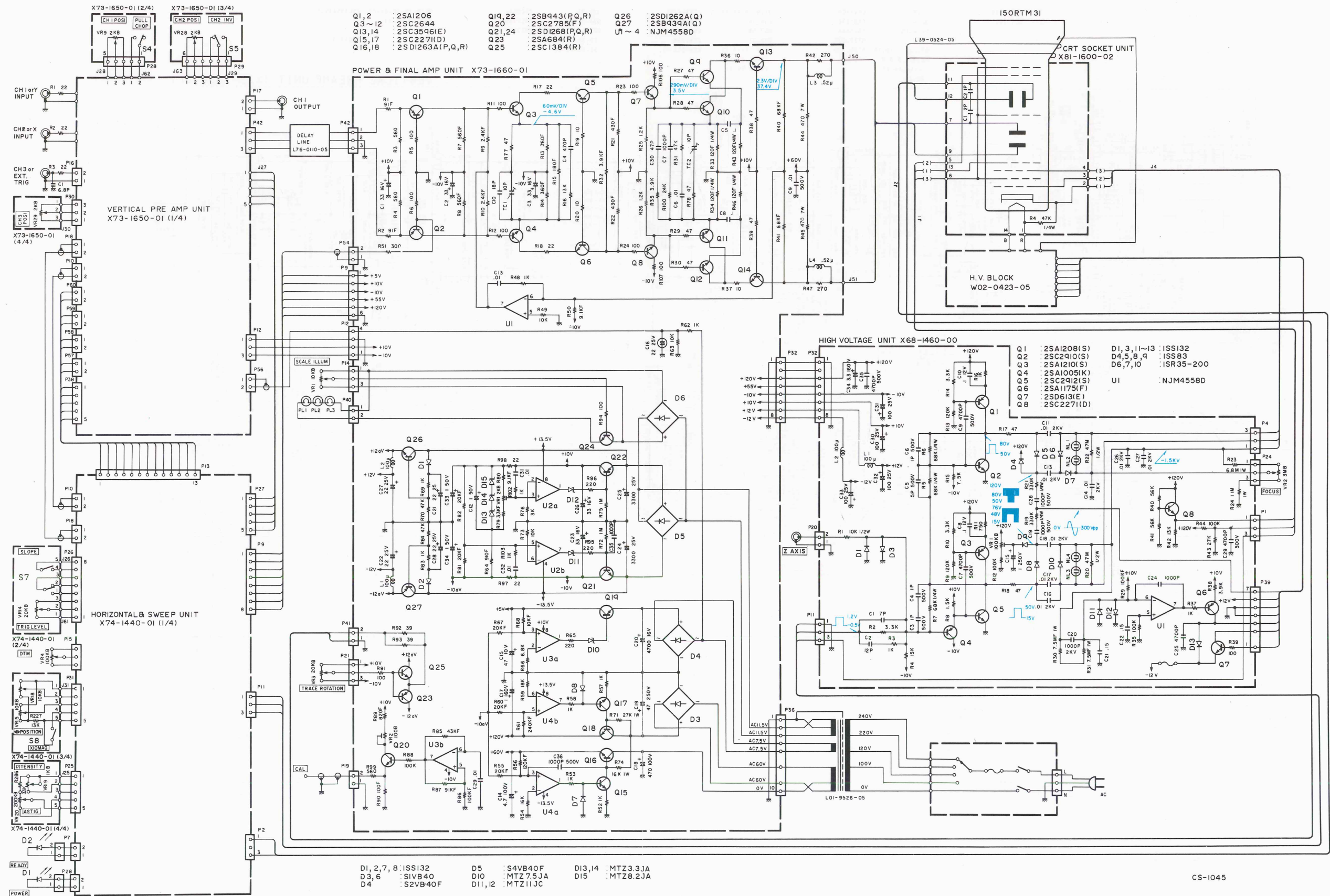


CRT SOCKET UNIT (X81-1600)
Foil side view



SCHEMATIC DIAGRAM

CS-1045



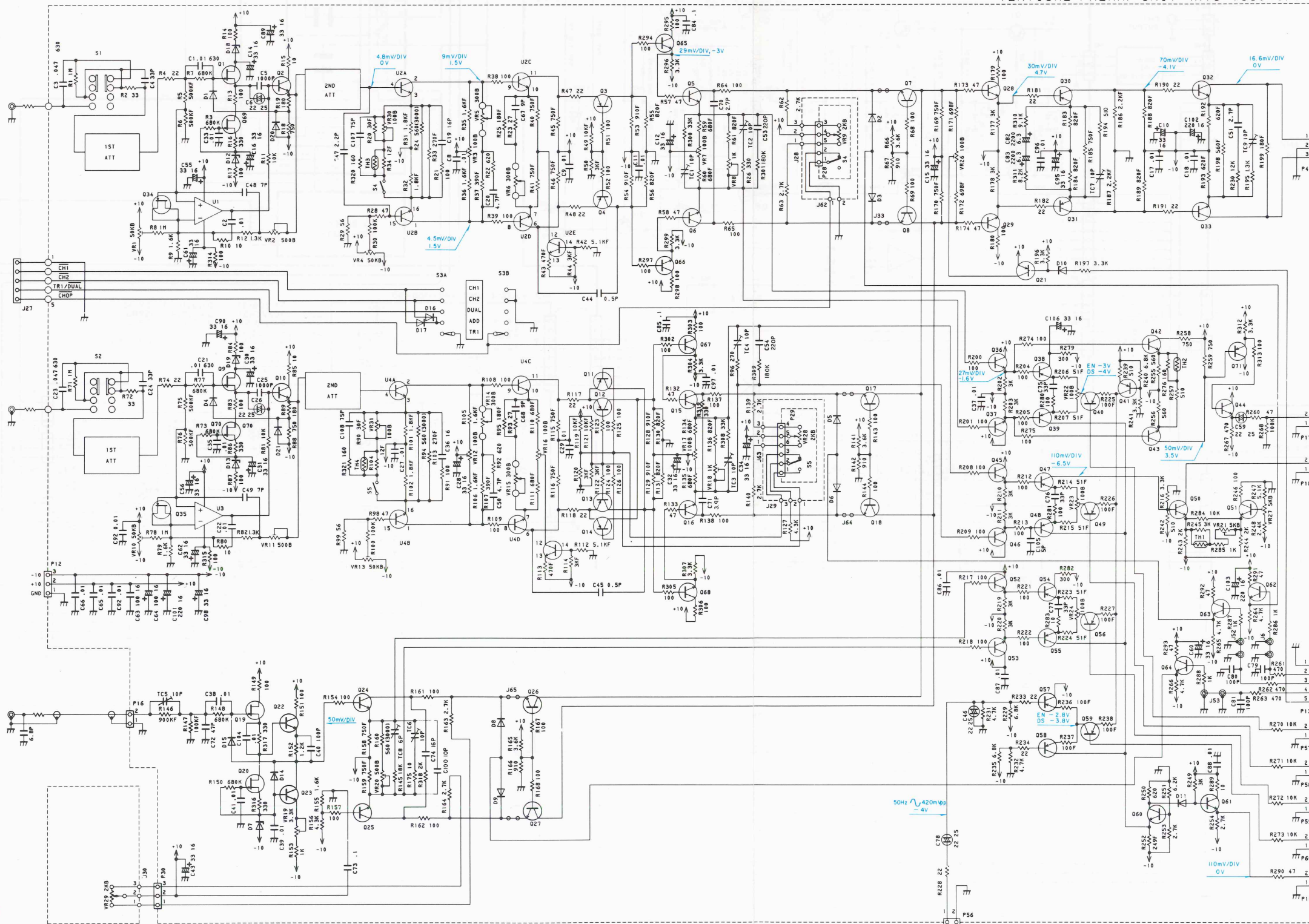
CS-1045

SCHEMATIC DIAGRAM

CS-1045

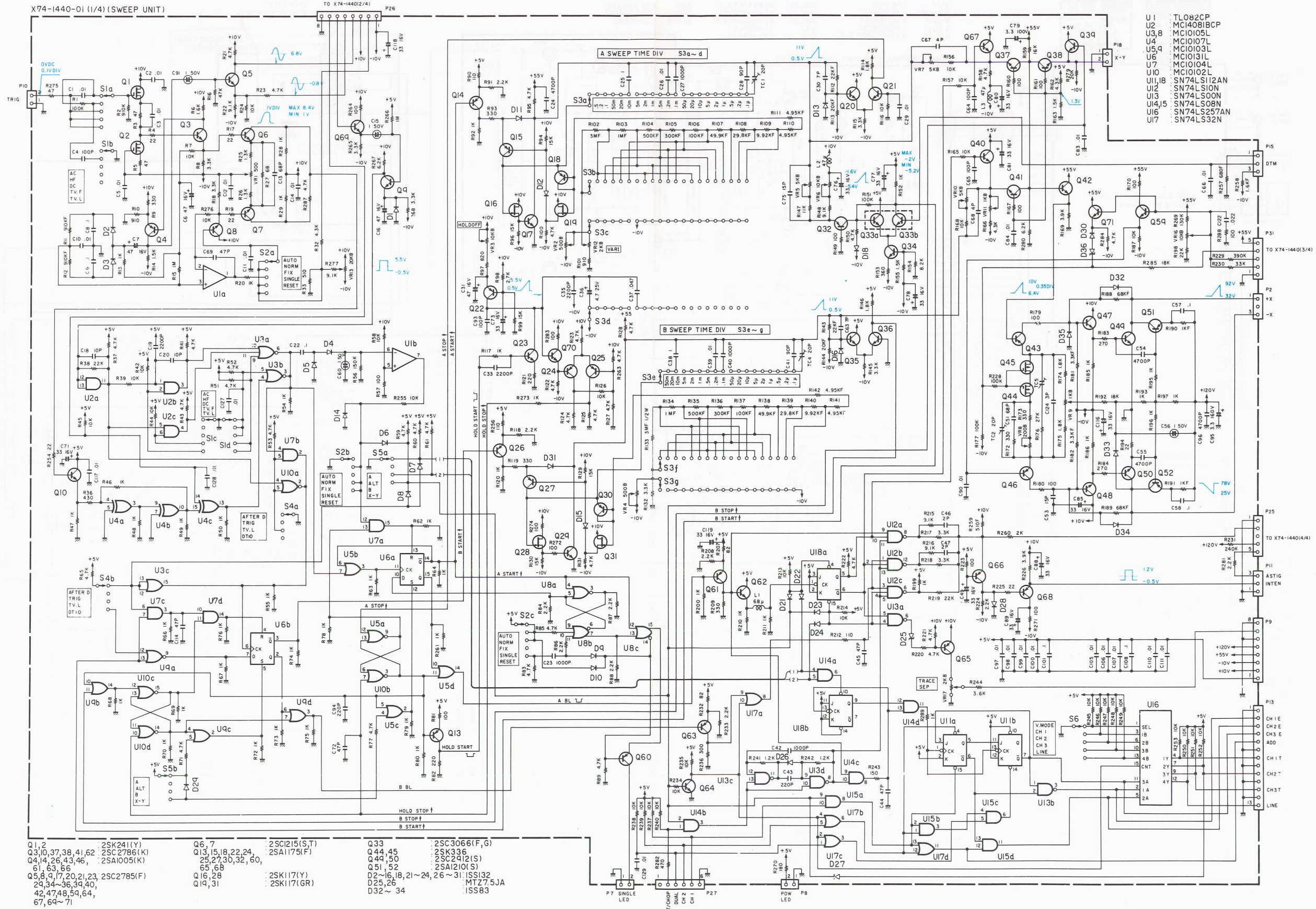
TH1	SDT-1000	U1.3	LF411CN	Q1.9.19.20.69.70	2SK304 (F)	Q32.33	2SC2644	05-8.15-18.24-27	2SC3354 (S.1)
TH2-4	SDT-100	U2.4	CA3127E	Q34.35	2SK184 (T)	Q50.51.62-64	2SC2785 (F)	42.43.60.61	
		D1.4.15	1S1544A	Q57.58	2SA1175 (F)	Q2.10.22.23.28	2SC3315 (D)		
		D10	MTZ7.5JC	Q30.31	2SA1206	29.36.37.45.46			
		D7.12.13.18.19	MTZ5.1JB	Q3.4.11-14.21	2SA1005 (K)	52.53.65-68			
		D2.3.5.6.8.9	1S5132	3B-41.47-49					
		11.14.16.17		54-56.59.71					
		20.21							

VERTICAL PREAMP UNIT (X73-1650-01)



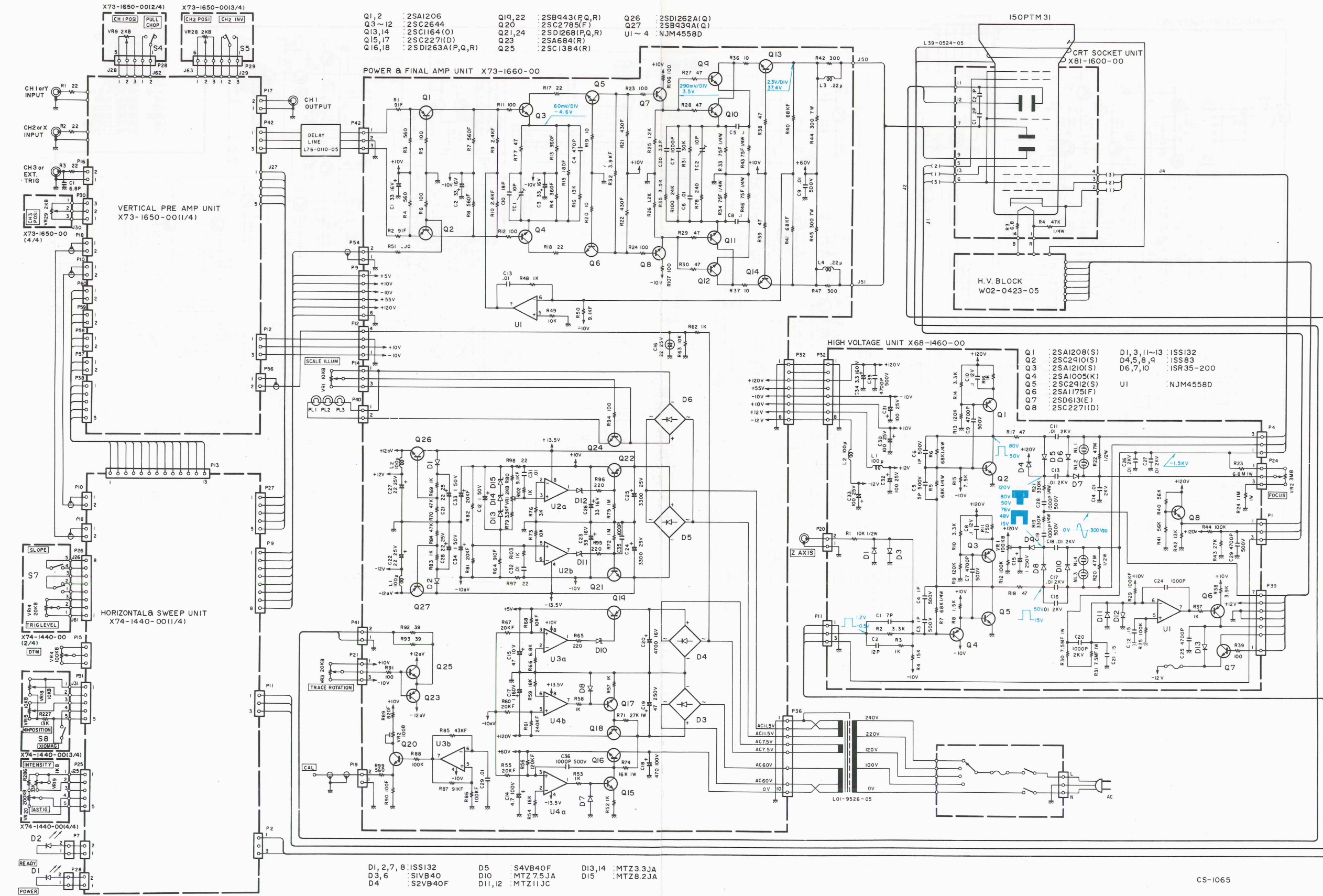
SCHEMATIC DIAGRAM

CS-1045



SCHEMATIC DIAGRAM

CS-1065



- | | | | | | |
|---------|-------------------|---------|------------------|--------|---------------|
| Q1, 2 | : 2SA1206 | Q19, 22 | : 2SB943(P,Q,R) | Q26 | : 2SD1262A(Q) |
| Q3 ~ 12 | : 2SC2644 | Q20 | : 2SC2785(F) | Q27 | : 2SB939A(Q) |
| Q13, 14 | : 2SC1164(O) | Q21, 24 | : 2SD1268(P,Q,R) | UI ~ 4 | : NJM4558D |
| Q15, 17 | : 2SC2271(D) | Q23 | : 2SA684(R) | | |
| Q16, 18 | : 2SD1263A(P,Q,R) | Q25 | : 2SC1384(R) | | |

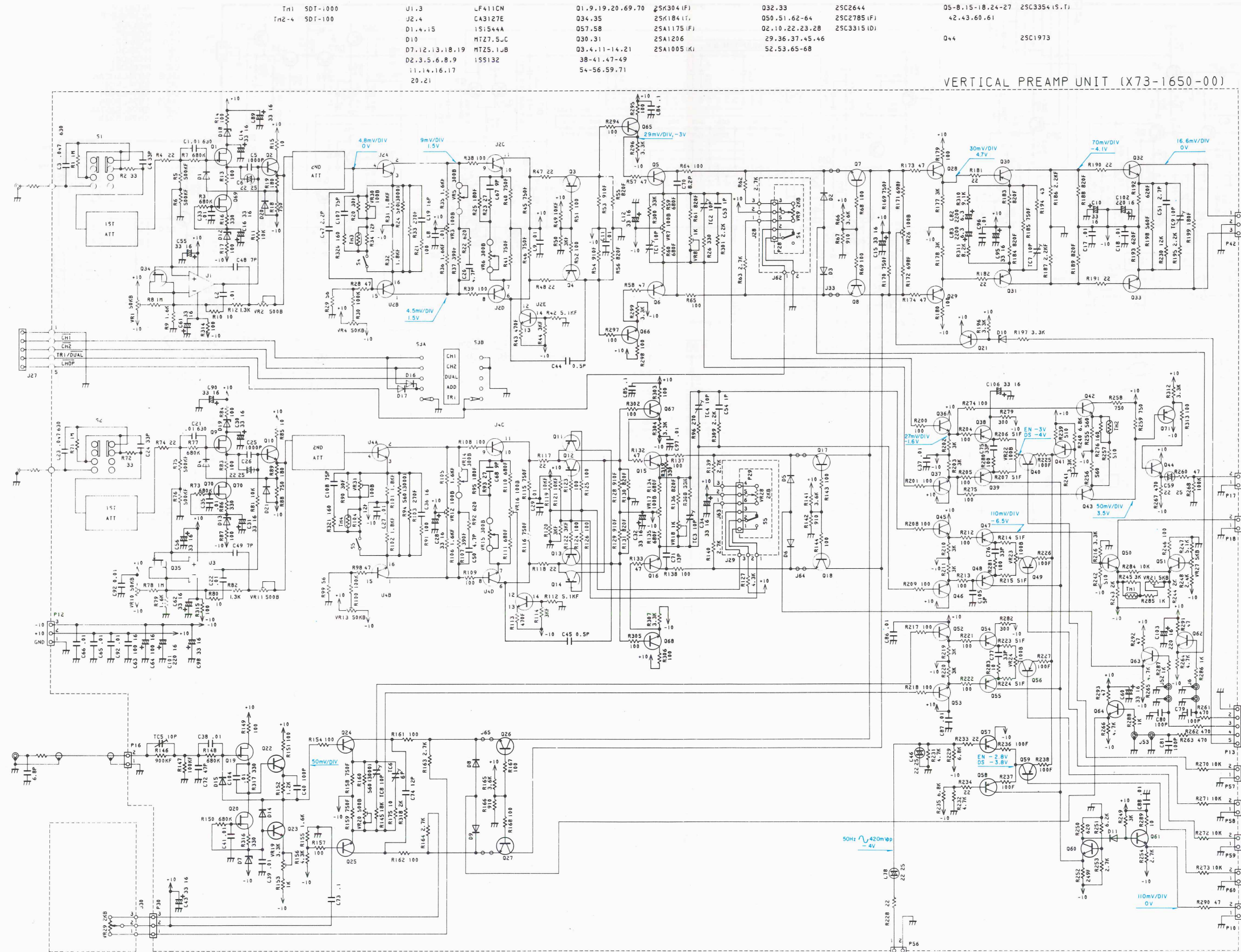
- | | | | |
|----|--------------|----------------|-------------|
| Q1 | : 2SA1208(S) | D1, 3, 11 ~ 13 | : ISS132 |
| Q2 | : 2SC2410(S) | D4, 5, 8, 9 | : ISS83 |
| Q3 | : 2SA1210(S) | D6, 7, 10 | : ISR35-200 |
| Q4 | : 2SA1005(K) | | |
| Q5 | : 2SC2412(S) | UI | : NJM4558D |
| Q6 | : 2SA1175(F) | | |
| Q7 | : 2SD6131(E) | | |
| Q8 | : 2SC2271(D) | | |

- | | | | | | |
|-------------|-----------|---------|------------|---------|------------|
| D1, 2, 7, 8 | : ISS132 | D5 | : S4VB40F | D13, 14 | : MTZ3.3JA |
| D3, 6 | : S1VB40 | D10 | : MTZ7.5JA | D15 | : MTZ8.2JA |
| D4 | : S2VB40F | D11, 12 | : MTZ11JC | | |

CS-1065

SCHEMATIC DIAGRAM

CS-1065

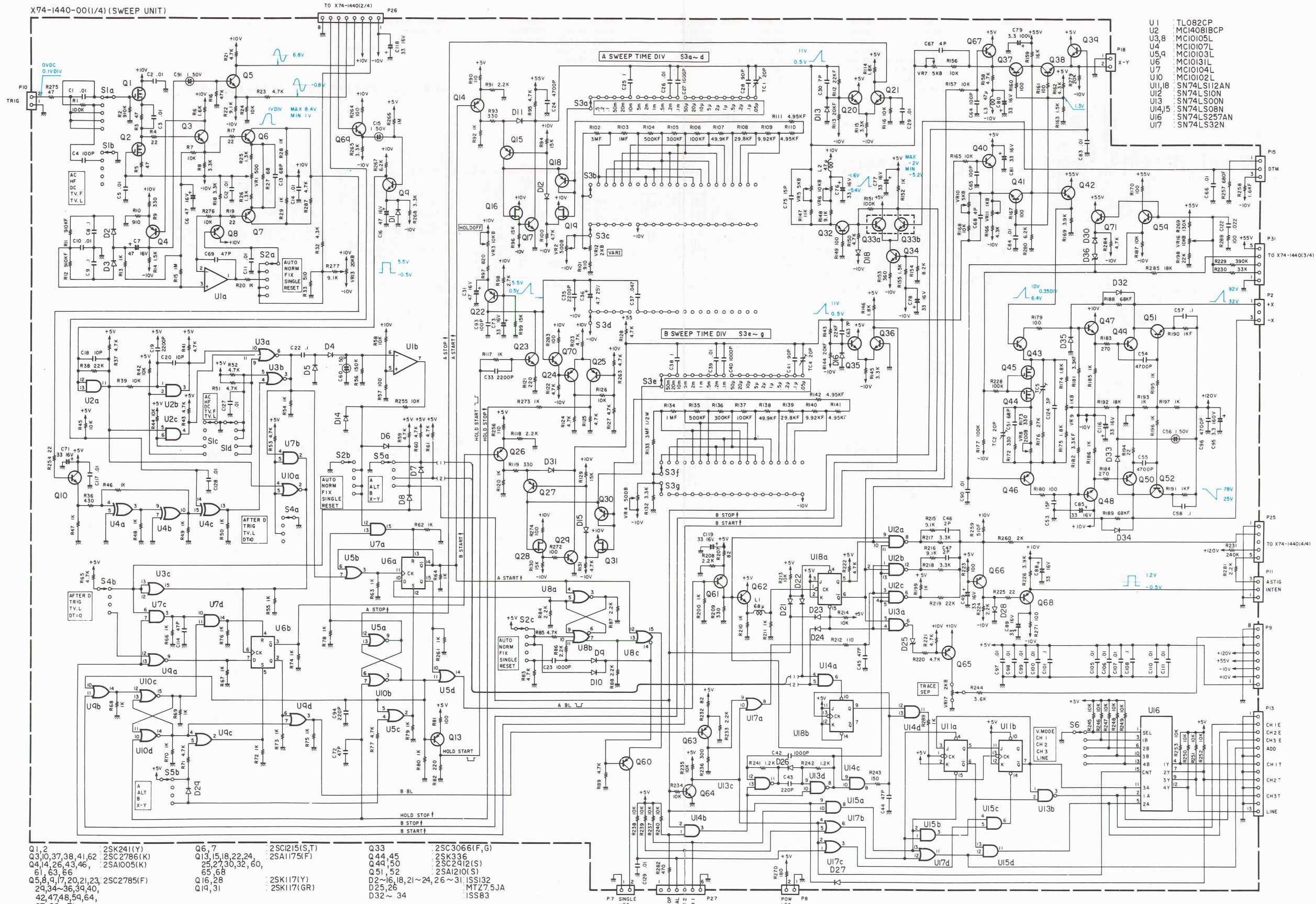


Tn1	SDT-1000	U1.3	LF411CN	01.9,19,20,69,70	25K304 (F)	032.33	25C2644	05-8,15-18,24-27	25C3354 (S,T)
Tn2-4	SDT-100	J2.4	CA3127E	034.35	25K184 (F)	050.51,62-64	25C2785 (F)	42,43,60,61	
		D1.4,15	151544A	057.58	25A1175 (F)	02.10,22,23,28	25C3315 (D)		
		D10	MT27.5-C	030.31	25A1206	29,36,37,45,46		Q4.4	25C1973
		D7,12,13,18,19	MT25.1-B	03.4,11-14,21	25A1005 (K)	52,53,65-68			
		D2,3,5,6,8,9	15S132	38-41,47-49					
		11,14,16,17		54-56,59,71					
		20,21							

SCHEMATIC DIAGRAM

CS-1065

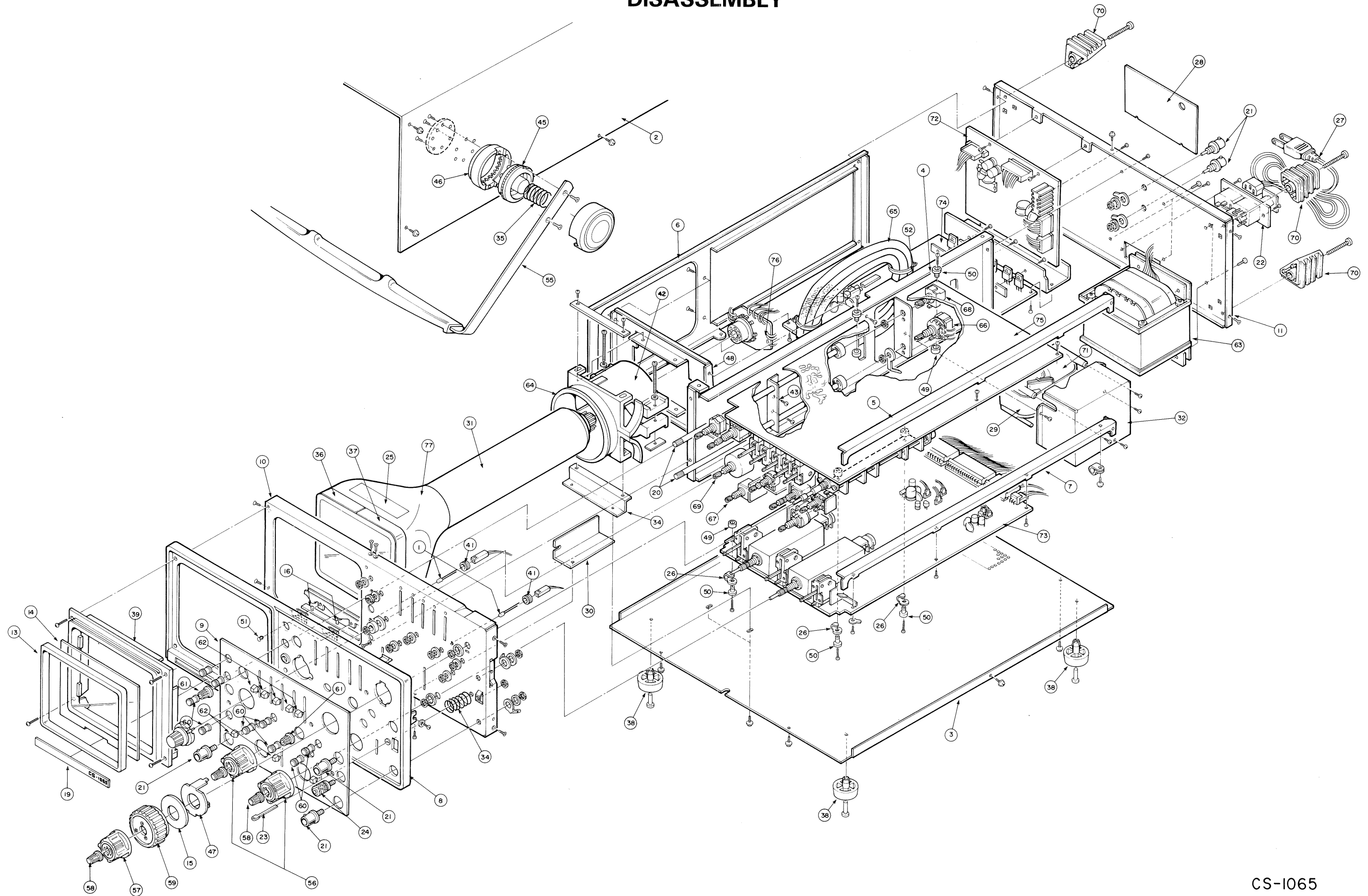
X74-1440-00(1/4) (SWEEP UNIT)



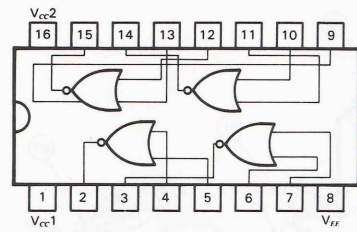
- U1 : TL082CP
- U2 : MC1408BCP
- U3,8 : MC10105L
- U4 : MC10107L
- U5,9 : MC10103L
- U6 : MC10104L
- U7 : MC10102L
- U11,18 : SN74LS112AN
- U12 : SN74LS10N
- U13 : SN74LS00N
- U14,15 : SN74LS08N
- U16,17 : SN74LS257AN
- U17 : SN74LS32N

- | | | |
|--|------------------------------|-------------------------------|
| Q1, 2 : 2SK241(Y) | Q6, 7 : 2SC1215(S,T) | Q33 : 2SC3066(F,G) |
| Q3,10,37,38,41,62 : 2SC2786(K) | Q13,15,18,22,24 : 2SA1175(F) | Q44,45 : 2SK336 |
| Q4,14,26,43,46 : 2SA1005(K) | 25,27,30,32, 60, 61, 63, 66 | Q44,50 : 2SC2912(S) |
| Q5,8,9,17,20,21,23 : 2SC2785(F) | Q16,28 : 2SK117(Y) | Q51, 52 : 2SA1210(S) |
| 29,34~36,39,40, 42,47,48,54,64, 67,69~71 | Q19,31 : 2SK117(GR) | D2~6,18,21~24, 26~31 : ISS132 |
| | | D25,26 : MTZ7.5JA |
| | | D32~34 : ISS83 |

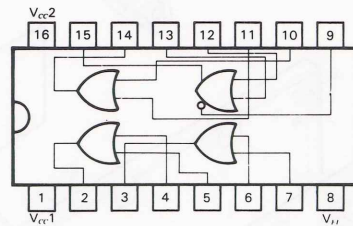
DISASSEMBLY



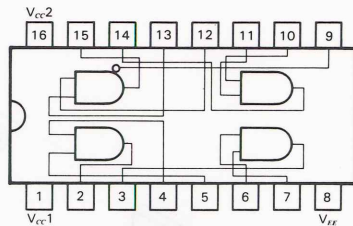
SEMICONDUCTORS



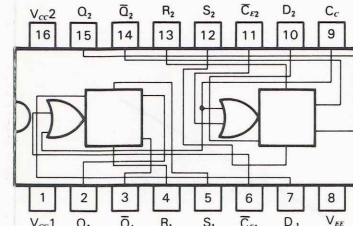
MC10102L



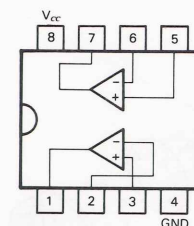
MC10103L



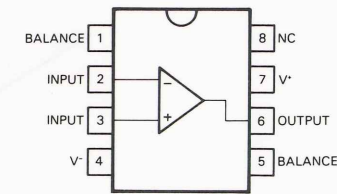
MC10104L



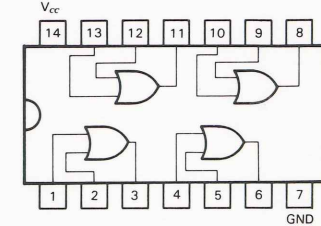
MC10131L



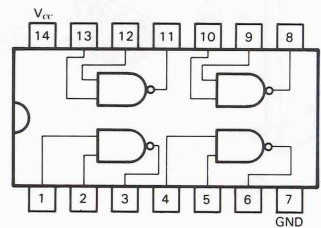
TL082CP
NJM4558D



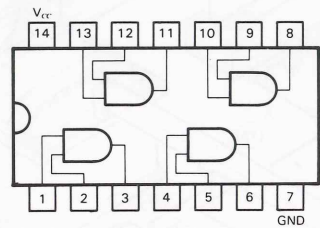
LF411CN



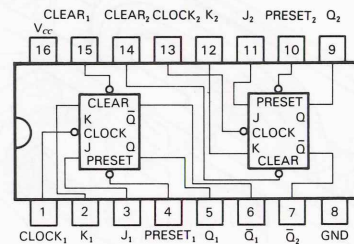
SN74LS32N



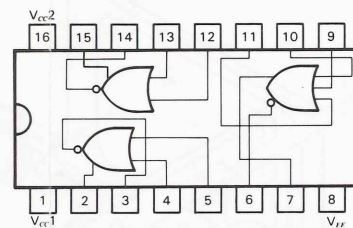
SN74LS00N



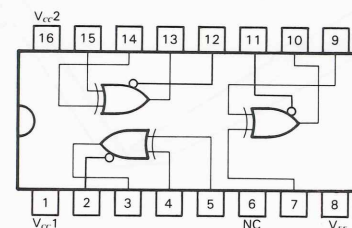
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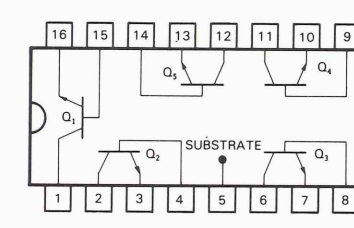
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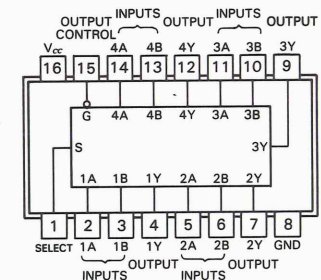
MC10105L



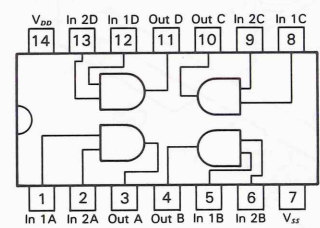
MC10107L



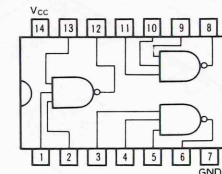
CA3127E



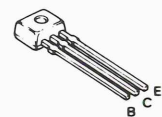
SN74LS257AN



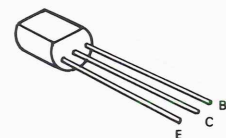
MC14081BCP



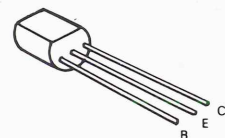
SN74LS10N



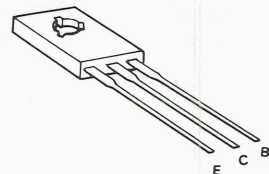
2SA1175 (F)
2SC2785 (F)
2SC2786 (K)



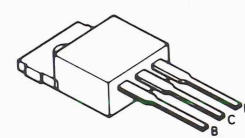
2SA684 (R)
2SA1005 (K)
2SC1215 (S, T)
2SC1384 (R)
2SC2271 (D)
2SC1973
2SA1208 (S)
2SC2910 (S)



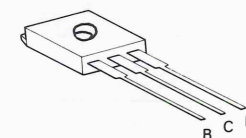
2SC2644



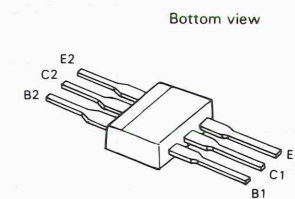
2SC2912 (S)
2SA1210 (S)
2SC3596 (E)



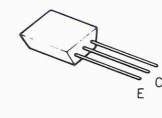
2SD613 (E)



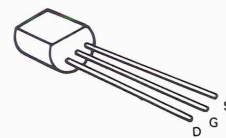
2SB939A (Q)
2SD1262A (Q)
2SD1268 (P, Q, R)
2SD1263A (P, Q, R)
2SB943 (P, Q, R)



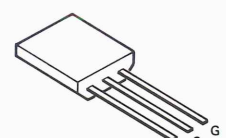
2SC3066 (F, G)



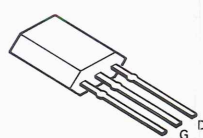
2SC3354 (T, S)
2SC3315 (D)



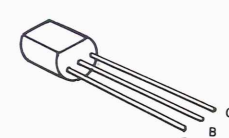
2SK117 (Y)
2SK117 (GR)



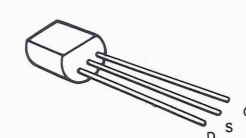
2SK241 (Y)



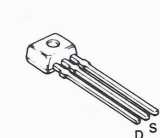
2SK304



2SA1206



2SK336



2SK184 (Y)

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