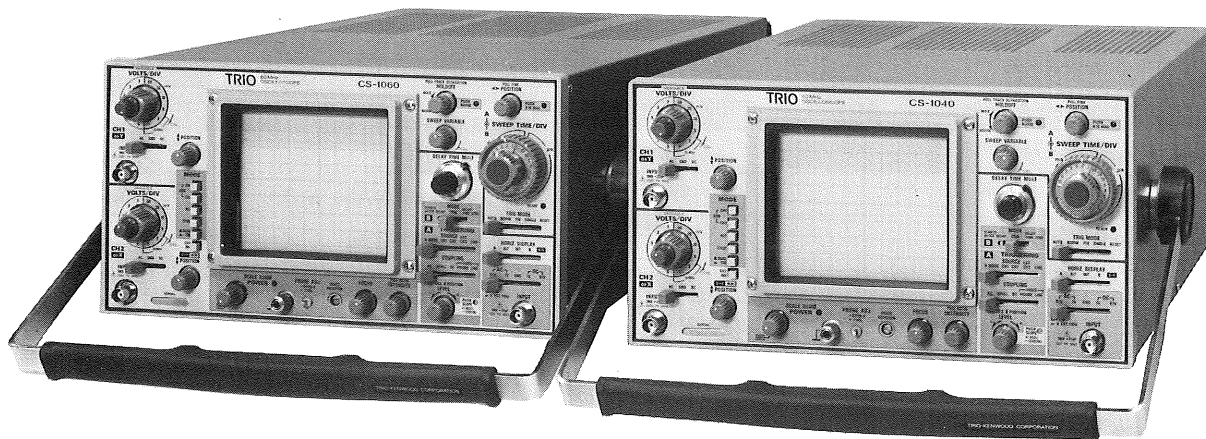


CS-1060 CS-1040 (TRIPLE TRACE OSCILLOSCOPE)



TRIO

SPECIFICATIONS

	CS-1060	CS-1040
CRT	150HTM31 Rectangular, with internal graticule	150JTM31 Rectangular, with internal graticule
Acceleration Voltage	16 kV	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		
5mV/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	5.8 nsec or less (60 MHz) 17.5 nsec or less (20 MHz)	8.8 nsec or less (40 MHz) 23.4 nsec or less (15 MHz)
Signal Delay Time	Approx. 20 nsec on the CRT screen	
Crosstalk	-40 dB minimum	
Operating Modes	CH1; single trace CH2; single trace ADD; CH1 + CH2 added as a single trace DUAL; CH1 and CH2, dual trace TRIPLE; CH1, CH2 and CH3 triple trace ALT; dual trace or triple trace, alternating CHOP; dual or triple trace, chopped	
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)	
Non-Distorted Maximum Amplitude	More than 8 div (DC to 60 MHz)	More than 8 div (DC to 40 MHz)
VERTICAL AXIS	CH3	
Sensitivity	0.1 V/div and 1 V/div ±3%	
Input Resistance	1 MΩ ± 2%	
Input Capacitance	Approx 27pF	
Frequency Response	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
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 DISPLAY switch, X-Y operation is selectable CH1; Y axis CH2; X axis	
Sensitivity	Same as vertical axis (CH2)	

SPECIFICATIONS

		CS-1060	CS-1040				
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					
△ 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 INT; Duration of B sweep is displayed as an intensified portion of A sweep. B; Delayed sweep X-Y; X-Y oscilloscope					
Sweep Time	A	0.05 μ s/div to 0.5 s/div, \pm 3% in 22 ranges, in 1-2-5 sequence. Vernier control provides fully adjustable sweep time between steps.		0.1 μ s/div to 0.5 s/div, \pm 3% in 21 ranges, in 1-2-5 sequence. Vernier control provides fully adjustable sweep time between steps.			
	B	0.05 μ s/div to 50 ms/div in 19 ranges, in 1-2-5 sequence.		0.1 μ s/div to 50 ms/div in 18 ranges, in 1-2-5 sequence.			
Sweep Magnification		\times 10 (ten times) \pm 5%					
Linearity		\pm 3% all ranges, \pm 5% on 0.05 μ s/div to 0.1 μ s/div range at \times 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), 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		\pm 2%					
Delay Jitter		1/20000 of ten times of A sweep time setting					
TRIGGERING							
Trigger mode		AUTO, NORM, FIX, SINGLE					
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, VIDEO FRAME, VIDEO LINE					
Trigger sensitivity		FREQ.RANGE	INT	EXT	FREQ.RANGE	INT	EXT
	DC	DC -60 MHz	1 div	0.1 Vp-p	DC -40 MHz	1 div	0.1 Vp-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					
	VIDEO	FRAME, LINE	1 div	0.1 Vp-p	FRAME, LINE	1 div	0.1 Vp-p
		AUTO: Same as above specifications for above 50 Hz. FIX: Same as above specifications for above 50 Hz.					

SPECIFICATIONS

	CS-1060	CS-1040
PROBE ADJ. VOLTAGE	0.5 V, $\pm 6\%$, square wave, positive polarity, approx 1 kHz	
INTENSITY MODULATION		
Sensitivity	TTL compatible positive voltage increases brightness, negative 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
GATE OUTPUT		
Output Voltage	TTL compatible	
Output Impedance	Approx. 220 Ω	
SWEEP OUTPUT		
Output Voltage	1 Vp-p	
Output Impedance	Approx. 1 k Ω	
POWER REQUIREMENT		
Power Supply	100 V/120 V/220 V/240 V $\pm 10\%$	
Line Frequency	50/60 Hz	
Power Consumption	Approx. 65 W	
DIMENSIONS (W \times H \times D)	304(346) \times 160(173) \times 401(461) mm () dimensions include protrusion from basic outline dimensions	
WEIGHT	Approx. 11 kg	
ENVIRONMENTAL		
Within Specifications	10°C to 35°C, 85% max. relative humidity	
Full Operation	0°C to 50°C, 90% max. relative humidity	
ACCESSORIES SUPPLIED		
Probe	PC-29.....2	PC-20.....2
Spare Fuse	2 A.....2 1 A.....2	
Operators Manual	1	

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

STANDARD ACCESSORIES INCLUDED

Probe (PC-20)	Y87-1840-00
Attenuation.....	1/10, 1/1
Input Impedance	
1/10	10 M Ω , 18pF or less
1/1	1 M Ω , 100pF or less
Probe (PC-29)	Y87-1250-00
Attenuation	1/10
Input Impedance.....	10 M Ω , 18pF or less

Instruction Manual.....	B50-7510-00
Replacement Fuse	
2 A	F05-2023-05
1 A	F05-1023-05

OPTIONAL ACCESSORIES

Probe Pouch (MC-78).....	Y87-1600-00
Service Manual	B51-1034-00

SPECIFICATIONS

CRT 150HTM 31 SPECIFICATIONS (150JTM31 for CS-1040)

Screen and Shape

Dimensions;

Overall length;	310 ± 7 mm (300 ± 7 mm)
Face plate dimensions;	149 ± 3 mm
Screen shape;	Rectangular flat face, internal graticule, metal back

Deflection and focusing system;	Electrostatic deflection, electrostatic focusing and post-deflection acceleration
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Color;	Green
Persistence;	Medium short
Useful display area	Y axis.....80 mm X axis.....100 mm

Heating

Heater voltage	6.3 V
Heater current	95 mA

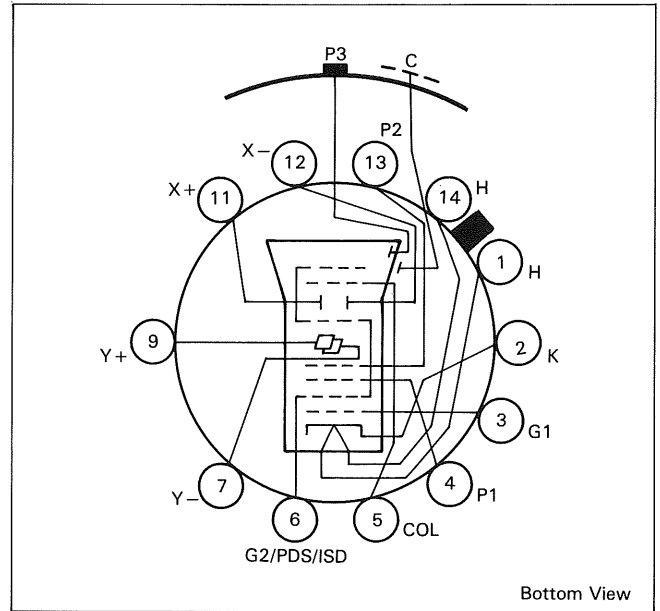


Fig. 2 150HTM31 Basing

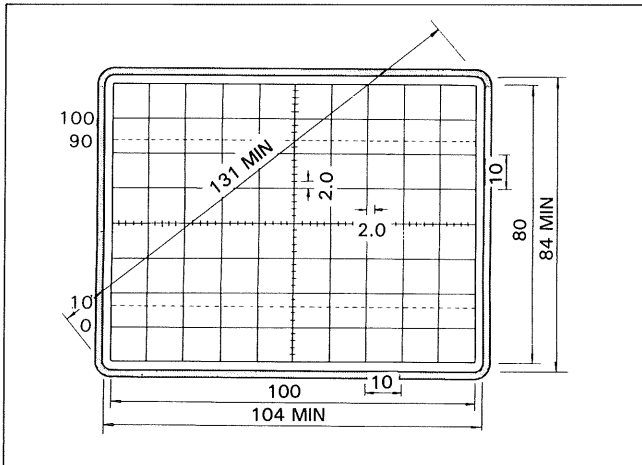


Fig. 1 Graticule

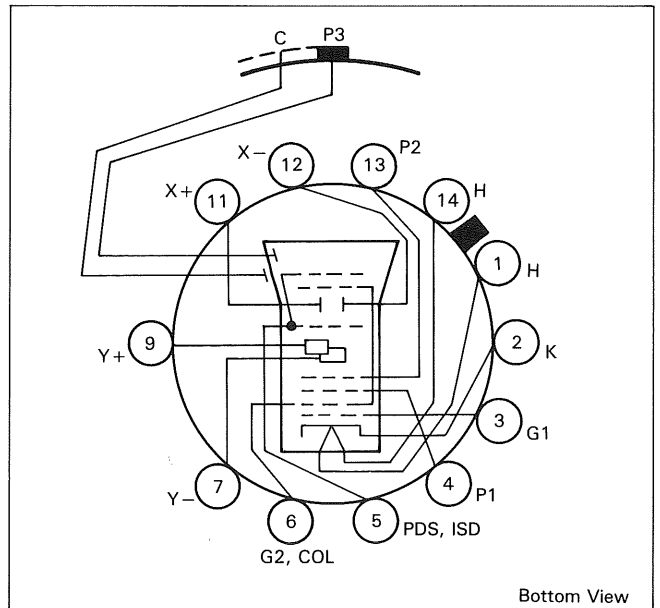


Fig. 3 150JTM31 Basing

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 left side of the power cord on the rear panel. 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. 4.

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 top section of case.
2. Unplug the leadwire of the voltage selector P37 located on the connection unit (X77-1300).
3. Reinsert it for appropriate voltage range.
4. Replace fuse F 1 with a fuse of appropriate value, 2 amp for 100 VAC to 120 VAC operation, 1 amp for 220 VAC to 240 VAC operation.
5. When performing the reinsertion of leadwire for the voltage conversion the appropriate power cord should be used. (See Fig. 4.)


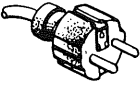
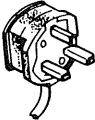

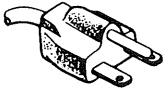
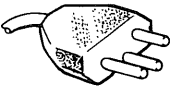
Plug configuration	Power cord and plug type	Factory installed instrument fuse	Line cord plug fuse	Parts No. for power cord and plate
	North American 120 volt/60 Hz Rated 15 amp (12 amp max; NEC)	2 A, 250 V Fast blow AGC/3AG	None	Cord: E30-1854-05 Plate: J21-2985-04
	Universal Europe 220 volt/50 Hz Rated 16 amp	1 A, 250 V Fast blow 5 x 20 mm	None	Cord: E30-1852-05 Plate: J21-2984-04
	U.K. 240 volt/50 Hz Rated 13 amp	1 A, 250 V Fast blow 5 x 20 mm	1 A Type C	—
	Australian 240 volt/50 Hz Rated 10 amp	1 A, 250 V Fast blow 5 x 20 mm	None	Cord: E30-1853-05 Plate: J21-2983-04
	North American 240 volt/60 Hz Rated 15 amp (12 amp max; NEC)	1 A, 250 V Fast blow AGC/3AG	None	—
	Switzerland 240 volt/50 Hz Rated 10 amp	1 A, 250 V Fast blow AGC/3AG 5 x 20 mm	None	—

Fig. 4 Power Input Voltage Configuration

CIRCUIT DESCRIPTION

VERTICAL ATTENUATOR UNIT

The CS-1060/1040's attenuator unit includes attenuators, $\times 5$ amplifier, and preamplifier. First attenuator immediately comes after the AC-GND-DC selector switch and second attenuator follows impedance conversion. First attenuator provides attenuations of 1/1, 1/10, and 1/100, and the second of 1/1, 1/2, and 1/5. In impedance conversion, the input signal is separated into high- and low-frequency components and the high-frequency components are converted by Q3 and the low-frequency are converted by U1.

The $\times 5$ amplifier comprises U2c/d and Q7, 8, operating only when the 1 mV/div and 2 mV/div ranges are selected. The preamplifier comprises U2a/b and Q9, 10 and amplifies the output signal of the attenuator, supplying the resulting signal to the preamplifier unit. In this stage, VARIABLE ATT (VR5, 6) permits to vary gain continuously.

VERTICAL PREAMPLIFIER UNIT

The vertical preamplifier unit comprises three preamplifiers which amplify signals channel 1 and channel 2 coming from the attenuator unit and signal channel 3 coming from the sweep unit; vertical mode selector which switches the signals; and the output amplifier which delivers the selected signal to the vertical final amp unit.

The preamplifier of channel 1 comprises Q1, 2 of the POSITION circuit and Q3-5, Q12 and Q13 of the cascode amplifier. The signals developing at the emitters of Q3 and Q4 pass through emitter followers Q6 and Q7 before getting output as signal channel 1 trigger signal via Q8 and as channel 1 output signal via the channel 1 output circuit of Q9-11 and D3.

Similarly, the preamplifier of channel 2 comprises Q21, 22 of the POSITION circuit and Q23-25 and Q30-32 of the cascode amplifier which is provided with the capability of CH2 INV. The signals developing at the emitters of Q23 and Q24 pass through Q26-29 before getting output as X-Y and channel 2 trigger signals.

The vertical mode selector switches channels by driving Q47-49 according to the Enable signal supplied from the vertical mode logic of the trigger unit. The selected signal passes emitter followers Q61, 62 and go out through the output amplifier of Q64-67. The output amplifier includes U2 and Q63 which keep the operating level of Q61, 62 fixed and the vertical mode trigger output circuit comprising Q68, 69 and D31, 32.

Preamplifier of channel 3 comprises Q41-46 of cascode amplifier.

VERTICAL FINAL AMPLIFIER

The vertical signal comes from the vertical preamplifier to the final amplifier via a delay line. The final amplifier comprises grounded-base Q1, 2 and two stages of cascode amplifiers, Q3-6 and Q7-10. The output of the amplifier is connected to the Y-deflection plate of the CRT. The final

amplifier also includes U1 and D1, 2 which keep the operating level fixed, eliminating adjustment.

VERTICAL MODE LOGIC

The vertical-MODE switch signal and the horizontal display signal both enter the vertical mode logic, one from the vertical preamplifier unit and the other from the sweep unit. The logic comprises U8c/d, U5a, and D18 of the chop signal generator; U3b and U5b of the divider during horizontal display ALT mode; and U4, U6, U7a/b/d, and U8b generating the Enable signal, and controls vertical mode.

TRIGGER SIGNAL GENERATOR

Output trigger signals of channel 1, channel 2 and vertical mode coming from the vertical preamplifier unit and channel 3 and line coming from the sweep unit, one is selected by the trigger source selection circuit comprising S1, Q1-3, and D1-6 and again by the trigger coupling selection circuit comprising S2a/b and Q4-6. For ordinary signal, the trigger amplifier of Q16-19 amplifies the selected trigger signal, the Schmitt circuit of U11a/b shapes its waveform, and U11c selects SLOPE. The trigger level is controlled by varying the base level of Q17, with U9b and Q7 driven by the signal supplied from VR7a. At FIX, the outputs of Q9 and D12, 13 determine the level.

For video signal, on the other hand, the video synchronization circuit comprising Q10-15, Q59, U9a, D7, 8, D11, and D14 separates the sync signals which are output as trigger signals after U12b has shaped the waveform. The trigger signal, selected by U12a/c/d, is delivered to the sweep unit.

BLANKING CIRCUIT

The A-blanking and B-blanking signals coming from the sweep unit enter the blanking control circuit via Q20, 21 and Q58. The blanking control circuit comprises U1a/c, U2a/b/c, U3a, U5c/d, U7c and U8a. The logic signal formed of the HORIZ DISPLAY switch and blanking signals drives Q22-24 to control the collector current of Q26 and generate the output signal to the blanking amplifier.

U1d, U2c, Q29-32, and Q57 form the trace separation circuit which controls the vertical position of B-sweep when selected HORIZ DISPLAY switch to ALT.

The input signal to the blanking amplifier varies also with INTENSITY control and the outputs of Q25 and of the external intensity modulation circuit comprising Q28 and D19, 20. The blanking amplifier consists of Q27 and Q33-40. The amplified signal is, after added with a high dc voltage by the dc regenerating circuit of D31-36, sent to the CRT as the auto-focus and intensity signals. The dc-dc converter is formed of Q51, 52, Q55, 56, and U10b.

CIRCUIT DESCRIPTION

CHANNEL 3 ATTENUATOR CIRCUIT

The channel 3 input terminal is common to the input of external trigger signal. The input signal enters the amplifier of Q1-5, Q34, and U8 via the channel 3 attenuator which selects either 0.1 V/div or 1 V/div. Channel 3 position control varied by detecting the dc signal coming from the trigger unit with U8 and driving the base of Q4. The outputs of differential amplifiers Q4-5 are delivered respectively to the trigger source selecting circuit and the channel 3 preamplifier as the channel 3 trigger signal and the channel 3 signal.

HORIZONTAL SWEEP CIRCUIT

The trigger pulse comes from the trigger control unit to the A sweep logic circuit of U1a, U2a/b, U3a, and U5a/b and to the B sweep logic circuit of U1b, U3c/d, U4, and U6. To the A/B sweep logic circuit, signals come from the holdoff circuit comprising U5c, Q16, 17, Q35, 36, and D10, the delay time generator of Q19, 20 and Q22, and the auto-free-run circuit of U2c/d, U3b, and U5d. These signals, together with the signals of trigger mode and the horizontal display logic, time the generation of the sawtooth waves which are supplied to the A/B sweep sawtooth wave generators.

The A sweep sawtooth wave generator comprises Q6-8, Q37, Q41, D4, sweep rotary switch, and R-C providing time constants out of which the rotary switch selects one. When H (high) comes from the A sweep logic, Q6 turns off and its collector voltage falls. Then Q41 turns off, the gate voltage of Q7 falls, and Q7, 8 turn off. As a result, the capacitor selected with the sweep rotary switch begins to get charged, with a sawtooth wave generated. When the voltage across the capacitor rises to a certain level, the sweep stop circuit of Q9, 10 inverts flip-flop U5a/b to stop sweep.

B sweep is performed similarly. The sawtooth wave generator of Q11-13, Q38, and Q42, the sweep stop circuit of Q14, 15 and flip-flop U6a/b cooperate to generate a sawtooth wave.

U7b/c is a flip-flop working for single sweep (sweep will be performed only once after getting reset). U7a and Q33 drive the READY LED.

A/B-SWEEP AND X-Y SELECTION CIRCUIT

The A/B sweep and X-Y selection circuits, comprising Q18, Q23-28, Q40, and D11, switches the sawtooth waves generated by the A/B sweep sawtooth wave generators and the X signal of the channel 2 preamplifier. During A sweep, D11 turns off according to signal QB and Q23 turns on so that the sawtooth wave of A sweep is output from emitter follower Q26. During B sweep (or X-Y) mode, Q18 and Q40 turns off and signal comes from Q24 and Q25. Q27 controls the emitter currents of Q23 and Q24 to move horizontal position.

HORIZONTAL FINAL AMPLIFIER UNIT

The horizontal signal comes from the A/B sweep and X-Y selection circuits to the horizontal final amplifier comprising Q41-50, which amplifies the signal before applying to the X deflection plate of the CRT. Q43, 44 are FET switches which are on during $\times 10$ MAG mode to raise gain to ten times.

HIGH-VOLTAGE BLOCK

(*applies to the CS-1040.)

The acceleration voltage of the CRT is 16 kV (*12 kV). The converter transformer and the high-voltage rectification circuit are contained in the high-voltage block sealed with resin for safety. The outputs of the high-voltage block are -1.75 kV dc (applied to the cathode), 6.3 V ac (for the CRT's heater), and 14 kV (*10.5 kV) (applied to the anode for acceleration).

PROBE CALIBRATION VOLTAGE GENERATOR

The probe calibration voltage generator is mounted on the connection unit and comprises U1a and D1-3.

The trace rotation circuit, also mounted on the connection unit, drives the rotation coil to vary the declination of the trace according to the outputs of Q1, 2.

POWER SUPPLY

The voltage regulator generates varying voltages with reference to -15 V. D21 provides the reference voltage. Operational amplifier U9a compares voltages. And Q2 regulates the -20 V which D14 provides to generate -15 V.

For $+5$ V, a voltage divided from -15 V with resistors is applied to U10b, which drives Q4 to regulate the $+9$ V provided by D15. Similarly, $+15$ V, $+50$ V, and $+120$ V are obtained by regulating the voltages which D14, D17, and D16 have rectified respectively with U9b and Q3; U10a, Q31, and Q5; and U11, Q32, and Q6.

BLOCK DIAGRAM

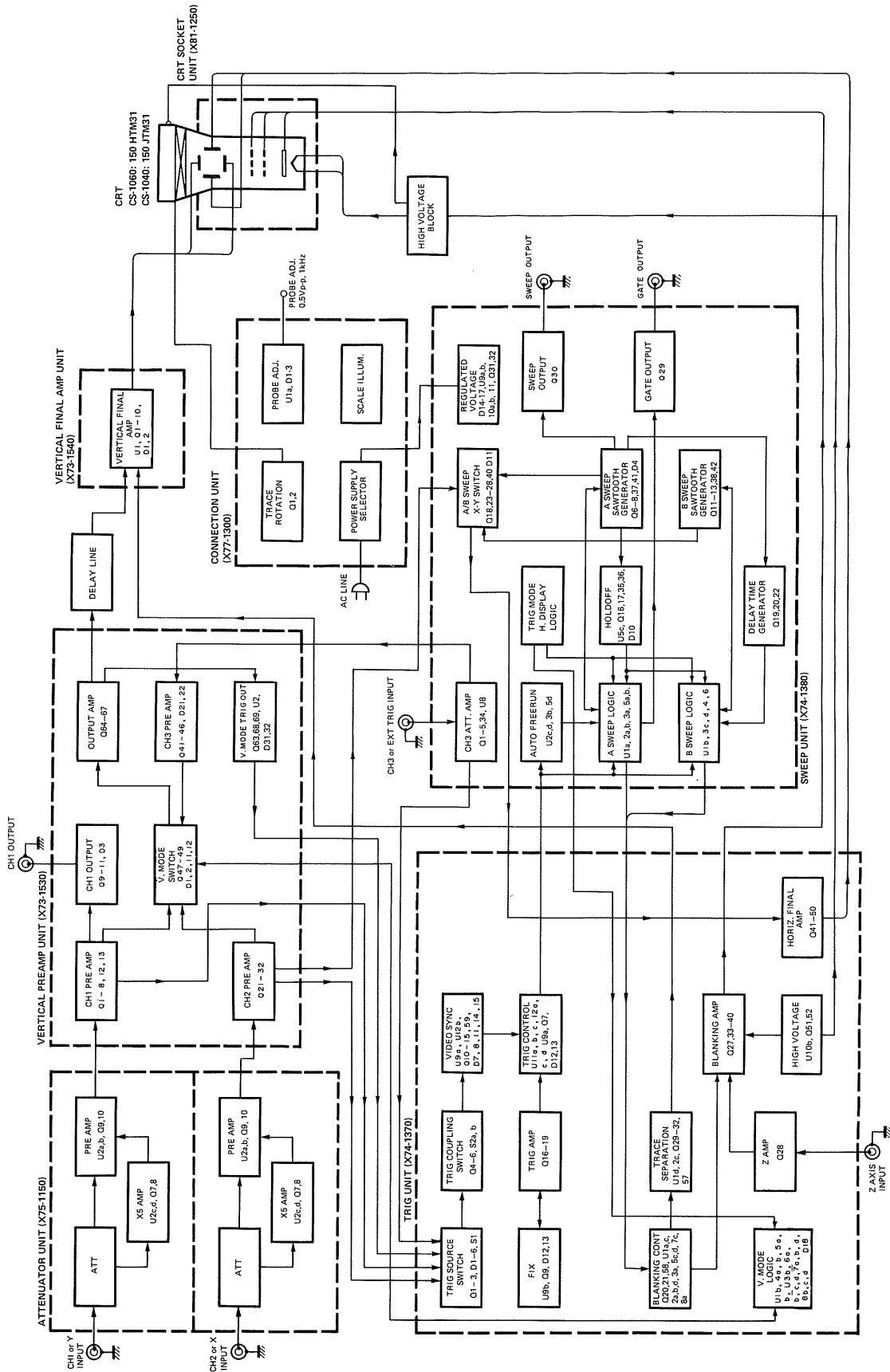


Fig. 5

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 \blacktriangle POSITION	Mechanical center
\blacktriangleleft \blacktriangleright POSITION/PULL $\times 10$ MAG VARIABLE, A VARIABLE (VOLTS/DIV, SWEEP TIME/DIV)	Mechanical center, push 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 DISPLAY	A
CH3 AC, GND, DC	DC, 0.1 V
DUAL TRI	DUAL (■)
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 TP12 (X74-1380) with respect to the chassis.
2. Adjust VR7 for + 120 V \pm 1.2 V reading on the meter.

Reference voltage check

1. Connect a dc voltage to measure the voltage at P24 (X74-1380) as shown in table 1.

Pin no.	4	7	8	9
Voltage	50V \pm 2.5V	15V \pm 0.75V	- 15V \pm 0.75V	5V \pm 0.25V

Table 3

2. Connect a dc voltmeter to measure the voltage at TP10 (X74-1370) using a high voltage probe and check the voltage for - 1.75 kV \pm 0.08 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 VR5 (X74-1370) so that the trace disappears when the INTENSITY control setting is reduced to 9:30 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.

Pattern distortion adjustment

1. Select the HORIZ DISPLAY switch to X-Y position.
2. Apply a 50 kHz sine wave signal to channel 1 input and apply a 1 kHz sine wave signal to channel 2 input to display a waveform of 8 div \times 8 div amplitude.
3. Adjust VR6 (X74-1370) so the vertical and horizontal bendings are less than 0.2 division.

CRT centering adjustment

1. Short the test point TP1 to TP2 on the vertical output unit (X73-1540).
2. Select auto triggering mode.
3. Adjust VR1 (X73-1540) to center the trace vertically.

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 VARIABLE control from maximum clockwise to maximum counterclockwise, while observing the trace.
3. If the trace moves vertically, adjust VR4 (X75-1150) for minimum or zero vertical movement when performing step 2.
4. Rotate the channel 1 VOLTS/DIV switch through the 10 mV, 20 mV and 50 mV positions while observing the trace.
5. If the trace moves vertically, adjust VR2 (X75-1150) for minimum or zero vertical movement when performing step 4.
6. Rotate the channel 1 VOLTS/DIV switch through 1 mV and 2 mV positions while observing the trace.
7. If the trace moves vertically, adjust VR3 (X75-1150) 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. Push the channel 2 INV push-button and adjust VR12 (X73-1530) to center the trace vertically.
3. Repeat step 1 and 2 if necessary so trace does not shift when channel 2 INV switch is alternately pushed and pushed.

Channel 2 position adjustment

1. Select CH2 mode and set the channel 2 position control to its mechanical center.
2. Adjust VR31 (X73-1530) to center the trace vertically.

Channel 1 position adjustment

1. Select CH1 mode and set the channel 1 position control to its mechanical center.
2. Adjust VR2 (X73-1530) 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 (both CH1 and CH2 engaged).
2. Adjust VR32 (X73-1530) to center the trace vertically.

ADJUSTMENT

Vertical position readjustment

1. Set the channel 1 and channel 2 position control to their mechanical positions and AC-GND-DC switches to GND positions.
2. Select the vertical MODE switch to CH1 or CH2 position.
3. Adjust VR31 (X73-1530) to center the trace vertically and repeat the entire procedure for ADD mode adjusting VR32 (X73-1530).

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 VR1 (X75-1150) for the best flat-top waveform.
3. Repeat the entire procedure for channel 2.
4. Select the vertical MODE switch to CH3 position.
5. Repeat the entire procedure, adjusting VR14 (X74-1380) for channel 3 square wave compensation.

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 VR34 (X73-1530) for exactly 5 divisions vertical amplitude.

CH1 OUTPUT adjustment

1. Connect the CH1 OUTPUT connector to channel 1 of test oscilloscope through a 50 ohm BNC cable.
2. Set test oscilloscope; channel 1 VOLTS/DIV for 50 mV position.
3. Adjust VR6 (X73-1530) to display a 5 divisions vertical amplitude on the test oscilloscope.

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 VR14 (X73-1530) for exactly 5 divisions vertical amplitude.
3. Select the HORIZ DISPLAY switch to X-Y position.
4. Adjust VR16 (X73-1530) for exactly 5 divisions horizontal deflection on the CRT screen.

Channel 3 gain adjustment

1. Select the vertical MODE switch to both ALT and TRI and set triggering SOURCE switch to CH3 position.
2. Apply a 0.5 V peak to peak, 1 kHz square wave signal to channel 3 input.
3. Adjust VR22 (X73-1530) to display a waveform of 5 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 (X74-1370) 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 VR2 (X74-1370) to start the trace from the center of the graticule scale when rotating the triggering LEVEL control to its mechanical center.

Line triggering adjustment

1. Set the triggering SOURCE switch to LINE position.
2. Apply a line voltage (50/60 Hz) to channel 1 input.
3. Set the triggering LEVEL control to its mechanical center.
4. Adjust VR12 (X74-1380), if necessary so the trace does not shift when switching the COUPLING switch to alternately AC and DC position.

Vertical MODE offset adjustment

1. 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 of the graticule scale.
2. Adjust VR36 (X73-1530), if necessary so the start point of the trace does not shift when switching the COUPLING switch to alternately AC and DC positions.

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 VR5 (X73-1530), if the COUPLING switch to alternately AC and DC positions.
4. Repeat the entire procedure for channel 2, adjusting VR15 (X73-1530).

Channel 3 offset and position adjustment

1. Set the channel 2 VOLTS/DIV control to 0.1 V position and vertical MODE and triggering MODE switches to both CH2 positions.
2. Set the channel 3 position control to its mechanical center.
3. Apply a 1 kHz sine wave signal to channel 2 input and set the scope controls to display a waveform of 8 divisions vertical amplitude.

ADJUSTMENT

sions vertical amplitude on the center of the CRT screen.

- Set the start point of the trace to the center with the triggering LEVEL control.
- Select the vertical MODE switch to ALT and TRI positions and triggering SOURCE switch to CH3 position.
- Apply a 1 kHz sine wave signal to channel 3 input and adjust VR13 (X74-1380), if necessary so the start point of the trace does not shift when switching the COUPLING switch to alternately AC and DC positions.
- Set channel 3, AC (0.1 V, 1 V), GND, DC (1 V, 0.1 V) switch to GND position.
- Adjust VR23 (X73-1530) to center the trace vertically.
- Clockwise rotation should move up to 5 divisions upward and counterclockwise rotation should move up to 5 divisions downward.

VERTICAL AXIS ADJUSTMENT

Channel 1 and channel 2 waveshape compensation

- 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.
- Adjust TC1 (X75-1150) for the best flat-top waveform when setting the channel 1 VOLTS/DIV control to 0.1 V position and TC3 (X75-1150) when channel 1 VOLTS/DIV control to 1 V position.
- Repeat the entire procedure for channel 2.

Channel 3 waveshape compensation

- Select the vertical MODE switch to ALT and TRI positions and triggering SOURCE switch to CH3 position.
- Apply a 1 kHz square wave signal to channel 3 input to display a waveform of 6 divisions vertical amplitude.
- Adjust TC2 (X74-1380) for the best flat-top waveform when switching channel 3, AC (0.1 V, 1 V), GND, DC (1 V, 0.1 V) switch from 0.1 V range to 1 V range of DC position.

Channel 1 and channel 2 input capacity adjustment

- 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
TC2 (X75-1150)	0.1 mV/div
TC4 (X75-1150)	1 V/div

Table 4

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

Channel 3 input capacity adjustment

- Set the channel 3, AC (0.1 V, 1 V), GND, DC (1 V, 0.1 V) switch to DC (0.1 V) position.

- Connect a Q meter to channel 3 input and check the input capacity is less than 27pF reading on the meter.
- Adjust TC1 (X74-1380) for less than 27pF reading on the meter when switching the AC (0.1 V, 1 V), GND, DC (1 V, 0.1 V) switch from DC (0.1 V) to DC (1 V) position.

Channel 1 overshoot adjustment

- 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.
- Preset the adjustment controls as follows;

VR3 (X73-1530)	counter clockwise rotation
VR2 (X73-1540)	counter clockwise rotation
TC1 (X73-1530)	mechanical center
TC31 (X73-1530)	mechanical center
VR7 (X75-1150)	mechanical center
TC7 (X75-1150)	mechanical center
TC5 (X75-1150)	mechanical center
VR3 (X73-1540)	mechanical center
TC1 (X73-1540)	mechanical center
TC2 (X73-1540)	mechanical center
- Adjust the following controls listed in table below.

Se-quence	Adj. control	Unit no.	Procedure
1	TC1, VR3	X73-1530	Mid frequency range compensation for the best flat-top waveform.
2	VR2, TC1	X73-1540	Mid and high frequency ranges compensation for the best flat-top waveform. Note; VR3 (X73-1540) to fully C.W.
3	VR3	X73-1540	High frequency range compensation for the best flat-top waveform.
4	VR7, TC7	X75-1150	High frequency range compensation for peak-top waveform.
5	VR3	X73-1540	High frequency range compensation for the best flat-top waveform.
6	VR7, TC7	X75-1150	High frequency range compensation for the best flat-top waveform.
7	TC31	X73-1530	High frequency range compensation for the best flat-top waveform.
8			Repeat the entire procedure for step 4 to 7.

Table 5

ADJUSTMENT

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	VR13, TC11	X73-1530	Mid frequency range compensation for the best flat-top waveform.
2	VR7	X75-1150	High frequency range compensation for the best flat-top waveform.
3	TC7, TC5	X75-1150	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 TC21 and VR21 (X73-1530) to the best flat-top waveform for high frequency range compensation.
4. Adjust TC4 (X74-1370) 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 DISPLAY switch to ALT position.
2. Apply a 1 ms marker signal to channel 1 input.
3. Adjust VR1 (X74-1380) so the first and 11th time marks of A sweep coincide with graticule scale.
4. Adjust VR2 (X74-1380) so the first and 11th time marks of B sweep coincide with graticule scale.
5. Adjust VR9 (X74-1380) to coincide the start point of A sweep with that of B sweep.
6. Push the horizontal position control and check the LED lights.
7. Adjust VR3 (X74-1370) 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 DISPLAY switch to ALT, A and B SWEEP TIME/DIV controls to both 1 mV and channel 1 VOLTS/DIV to 1 V

positions.

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 (horizontal position to pushed in).
3. Adjust VR4 (X74-1370) to center the center of the A and B time marks when again pushed in horizontal position.
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 DISPLAY 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 VR3 (X74-1380) to center the center of A time mark when again pushed in horizontal position control.
4. Adjust VR4 (X74-1380) 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 DISPLAY 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 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 TC5 (X74-1380) to center the center of A time mark when pushed in horizontal position control.
4. Adjust TC6 (X74-1380) 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 DISPLAY 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 TC1 (X74-1370) to center the center of A and B time marks when pushed in horizontal position control.

Delay time multiplier adjustment

1. Set the B MODE switch to STARTS AFTER DELAY, HORIZ DISPLAY switch to INT, 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 posi-

ADJUSTMENT

tion control.

- Adjust VR6 (X74-1380) to position B trace (intensified portion) to 0.2 div position.
- Adjust VR5 (X74-1380) 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

- Select the vertical MODE switch to CH2 position and

channel 2 AC-GND-DC switch to GND position.

- Set the scope controls to display a trace to the graticule center.
- Adjust VR8 (X74-1380) to position to trace to horizontal graticule when switching the HORIZ DISPLAY switch to X-Y position.
- Clockwise rotation of channel 2 position control should move up to 5 divisions upward and counterclockwise rotation should move up to 5 divisions downward.

VERTICAL ATTENUATOR UNIT (X75-1150)

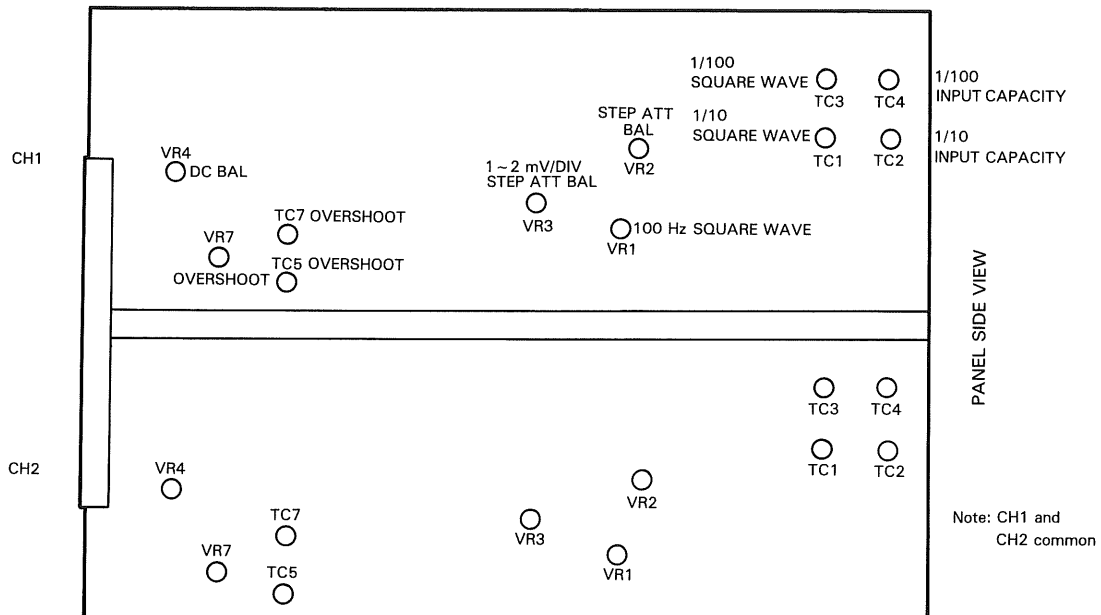


Fig. 6

VERTICAL PREAMP UNIT (X73-1530)

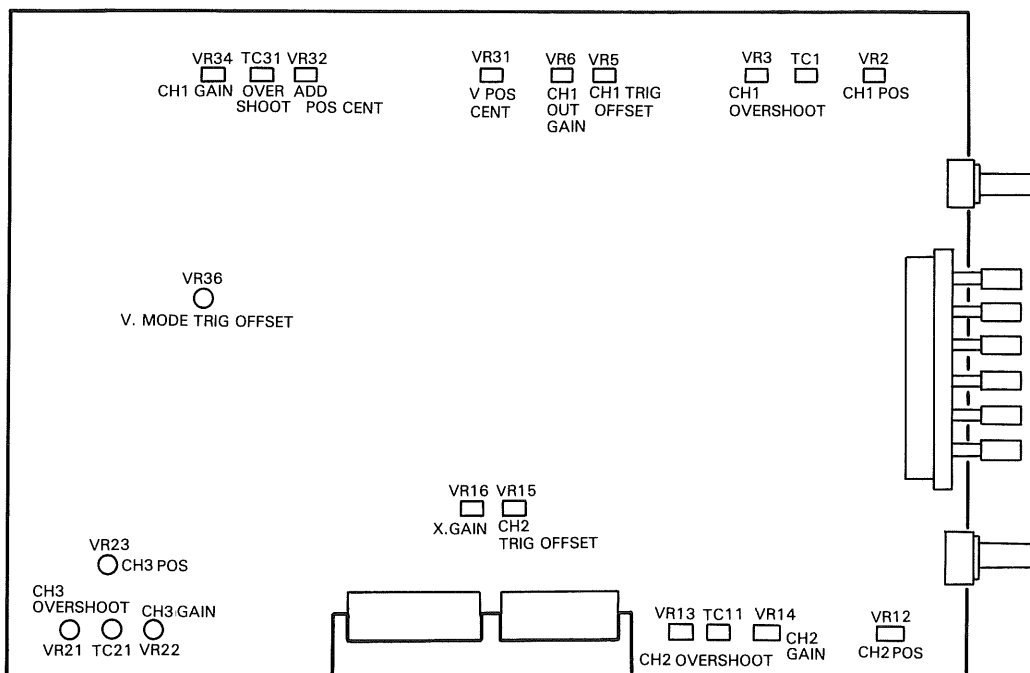


Fig. 7

ADJUSTMENT

VERTICAL FINAL UNIT (X73-1540)

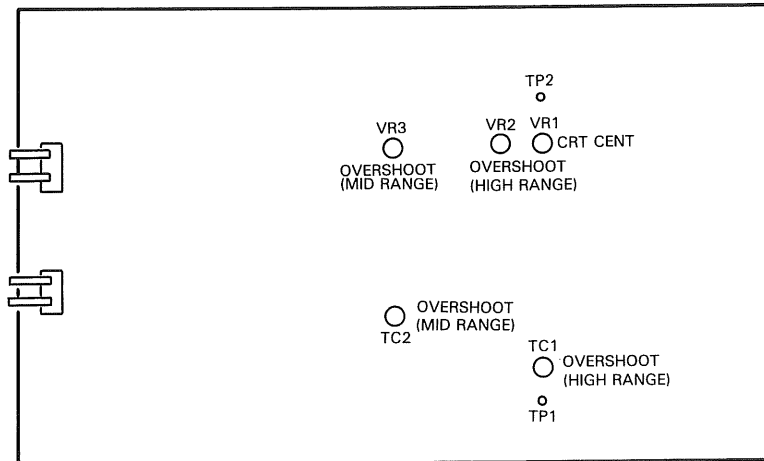


Fig. 8

SWEEP UNIT (X74-1380) TRIG UNIT (X74-1370)

[] = TRIG UNIT (X74-1370)

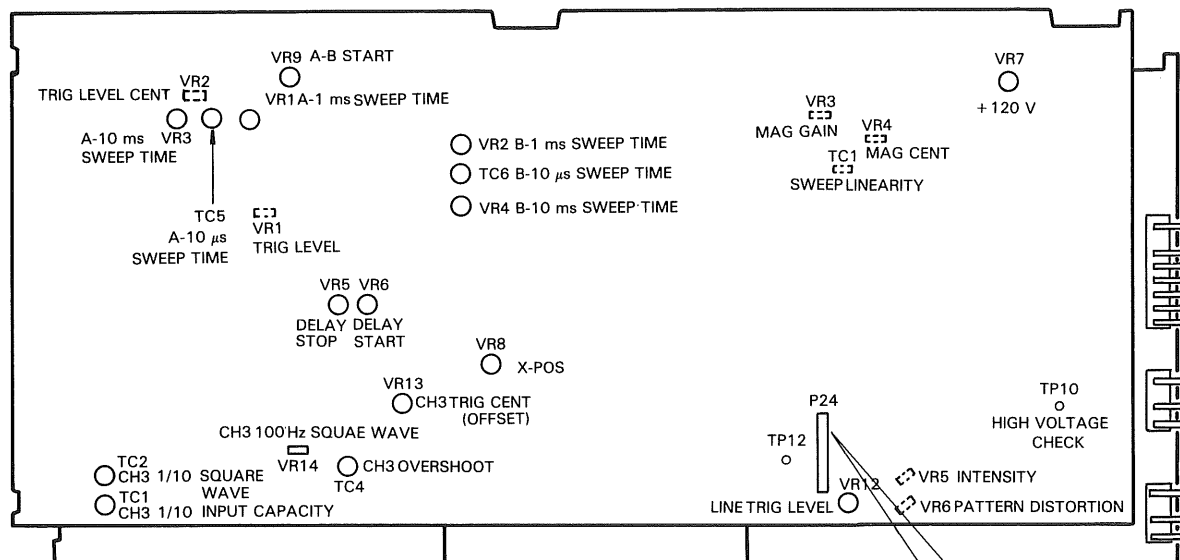
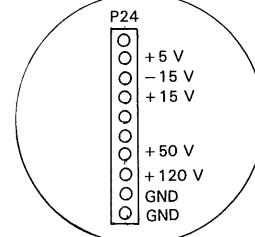


Fig. 9



TROUBLESHOOTING

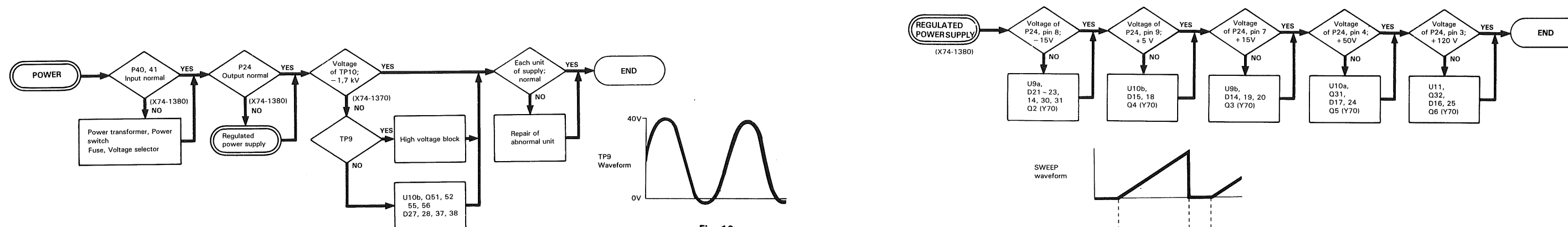
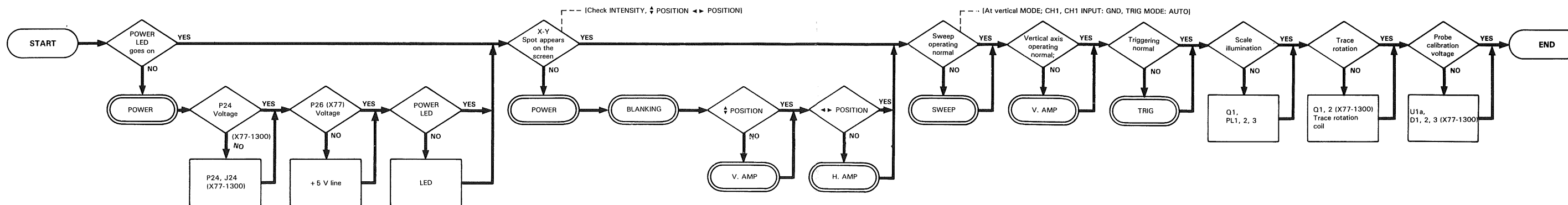


Fig. 10

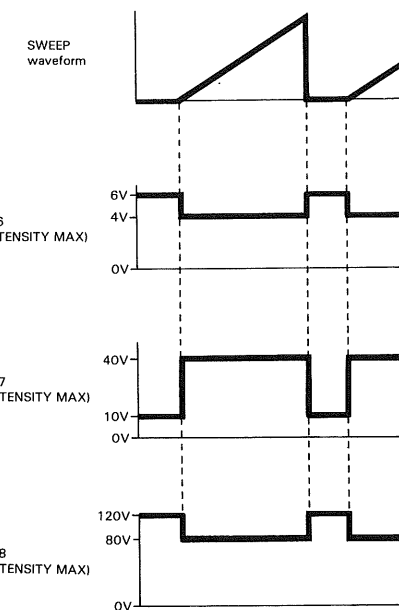
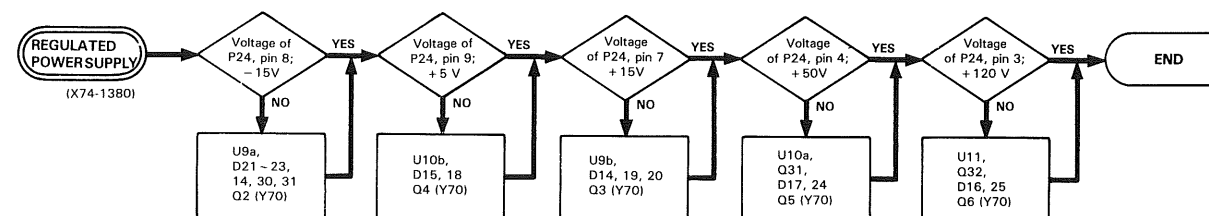
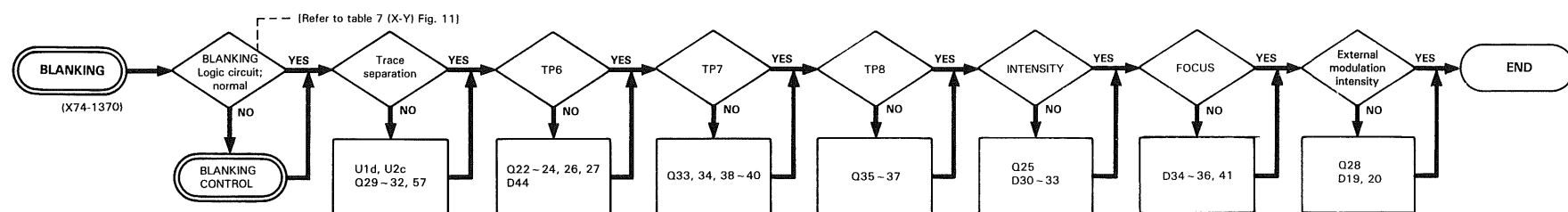


Fig. 11

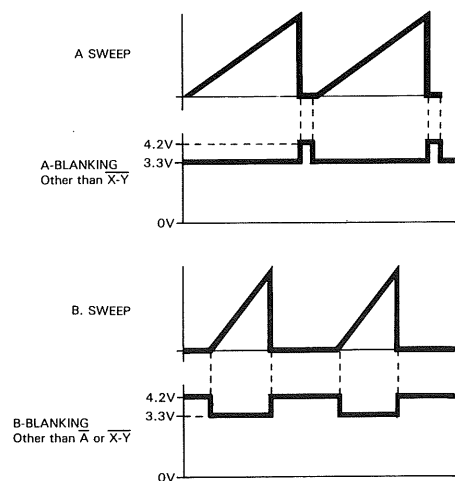
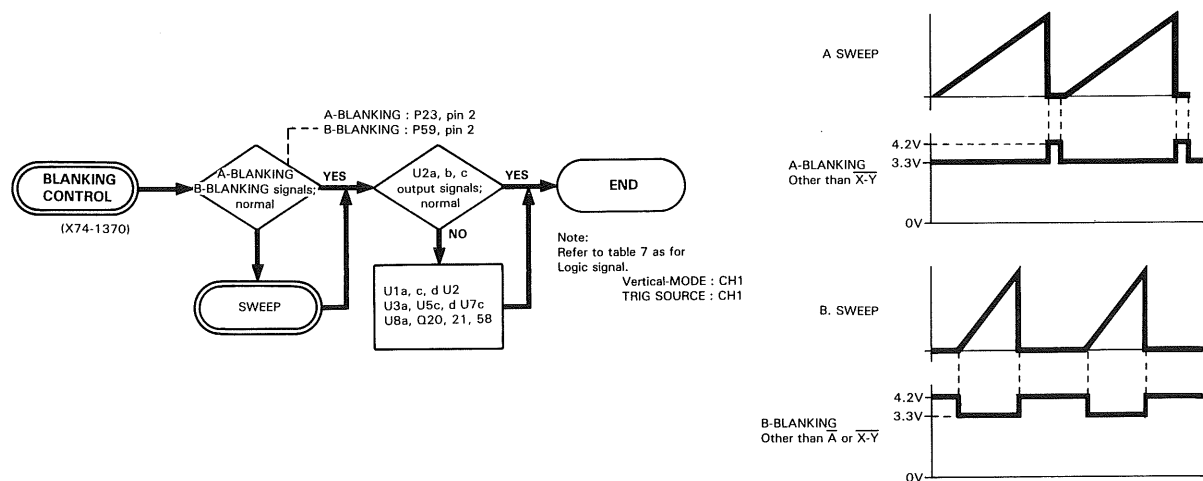


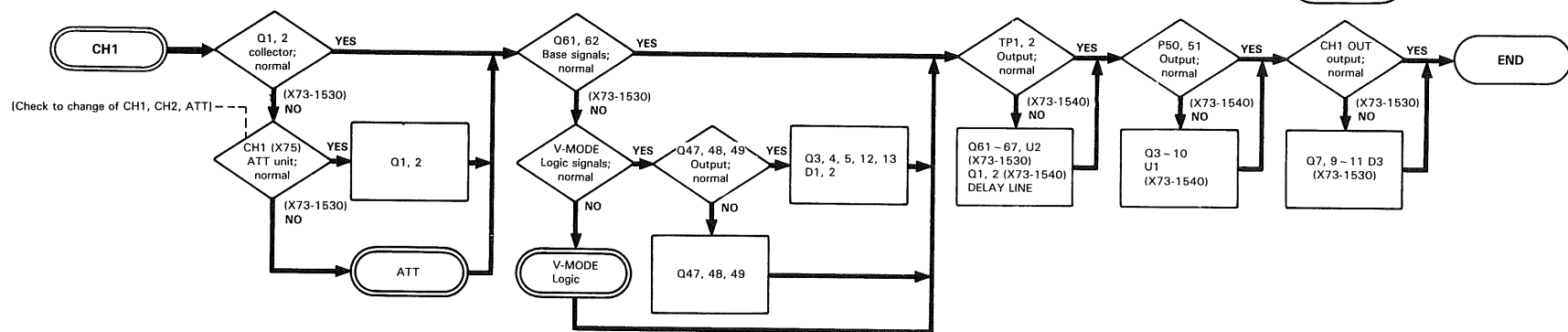
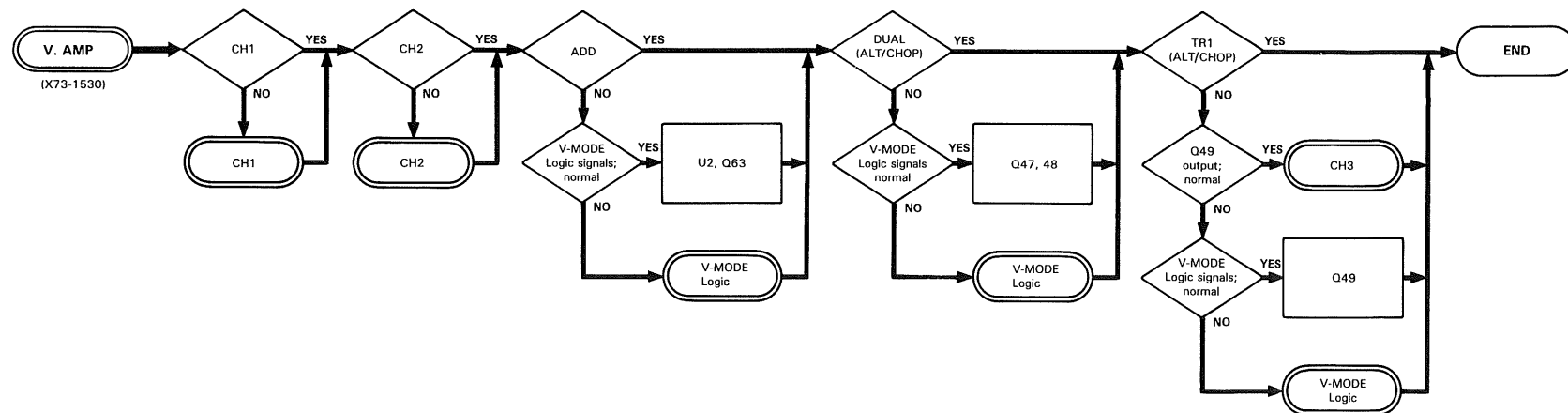
Fig. 12

SIGNALS	U5			U1		U2								
	Pin 10	Pin 13	Pin 9	Pin 2	Pin 10	Pin 1	Pin 4	Pin 5	Pin 2	Pin 12	Pin 1	Pin 6	Pin 11	Pin 3
H. DISPLAY														
A	[A]	L	H	L	H	H	[A]	H	L	L	H	[A] [A] [A]	H	H
ALT	[A]	[B]	H	H	H	H	[A]	TOGGLE at CK	[B]	TOGGLE at CK	H	[A] [A] [A]	[B] [B] [B]	[B]
INT	[A]	[B]	H	L	H	H	[A]	H	[B]	L	H	[A] [A] [A]	[B] [B] [B]	[B]
B	[A]	[B]	H	H	L	H	[A]	L	[B]	H	L	H	[B] [B] [B]	H
X-Y	L	L	H	H	H	L	H	H	L	L	L	L	H	H

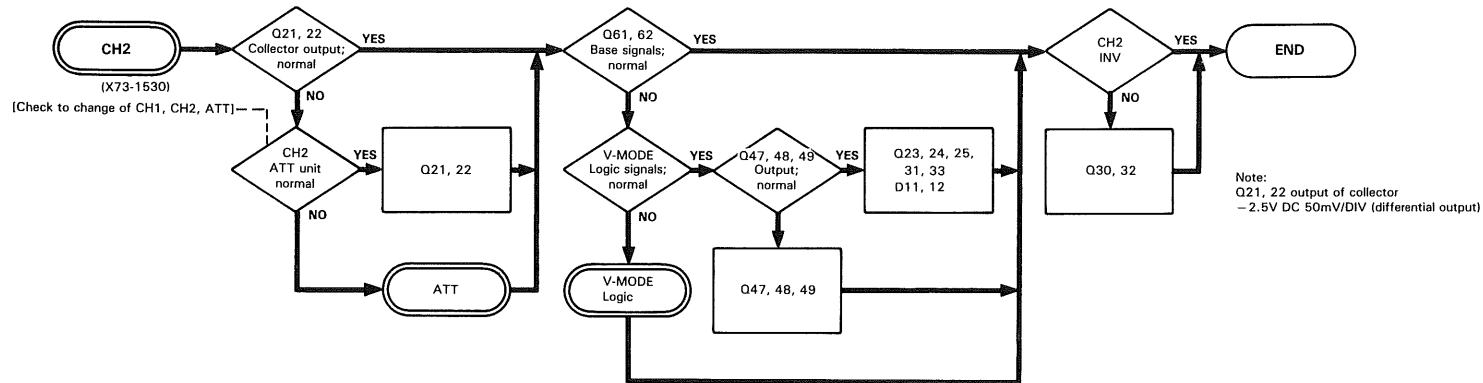
Table 7

Note: [A]: A sweep - H
[B]: B sweep - H

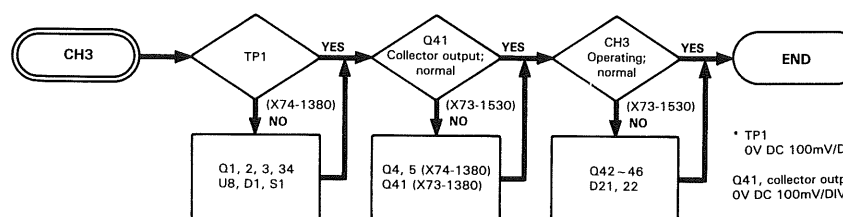
TROUBLESHOOTING



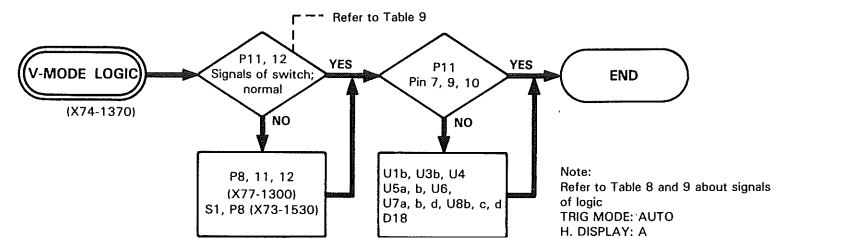
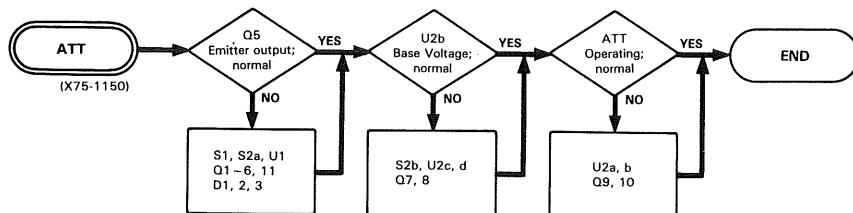
Note:
 * Q1, 2 collector output voltage
 - 2.5V DC, 50mV/DIV (differential output)
 • Q61, 62 Base signals
 8.1V DC 100mV/DIV (differential output)
 TP1, 2 Output
 - 4.3 V DC 200mV/DIV (differential output)
 P50, 51 output
 34V DC 5V/DIV (differential output)
 CH1 OUT
 AC coupling output
 50mV/DIV (into 50Ω termination)



Note:
 Q21, 22 output of collector
 - 2.5V DC 50mV/DIV (differential output)



* TP1
 0V DC 100mV/DIV
 Q41, collector output
 0V DC 100mV/DIV



Note:
 Refer to Table 8 and 9 about signals of logic
 TRIG MODE: AUTO
 H. DISPLAY: A

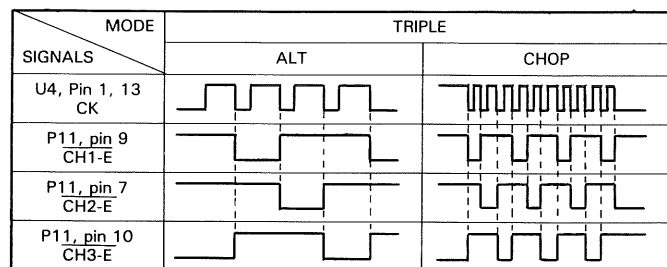
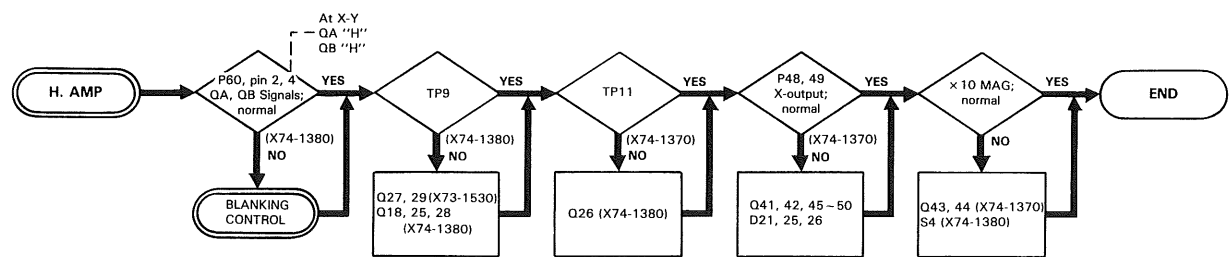


Table 8

IC or SIGNALS	P11	P12	P12	P11	U7	U1	U1	U4	U4	U4	U7	U4	U4a			U4b	U7	P11	P11	P11
	Pin 6 CH1	Pin 2 CH2	Pin 1 DUAL	Pin 5 CHOP	Pin 5,12 X-Y	Pin 4 A-BLK	Pin 5	Pin 1,13 CK	Pin 15 R	Pin 4 S	Pin 11	Pin 14 R	Pin 5 Q	Pin 6 Q̄	Pin 7 Q̄	Pin 3	Pin 9 CH1-E	Pin 7 CH2-E	Pin 10 CH3-E	
CH1	L	H	-	L	L		H		L	H	-	L	L	H	H	H	L	H	H	
CH2	H	L	-	L	L		H		H	L	-	L	H	L	H	H	H	L	H	
ADD	L	L	-	L	L		H		L	L	-	L	H	H	H	L	L	L	H	
DUAL	ALT	H	H	L	L		H		H	H	L	L	TOGGLE at CLK			H	H	TOGGLE		H
	CHOP	H	H	L	H				H	H	L	L	TOGGLE at CLK			H	H	TOGGLE		H
TR1	ALT	H	H	H	L		H		H	H	H	H				Refer to Table-8	H	Refer to Table-8		
	CHOP	H	H	H	H				H	H	H	H								
X-Y	-	-	-	-	H	L	H	L	L	H	H	L	L	H	H	H	L	H	H	

Table 9

TROUBLESHOOTING



QA, QB signals

	QA	QB
A	H	L
INT	H	L
B	L	H
X-Y	H	H

Table 10

Note:
P48, 49
60V DC
10V/DIV (differential output)

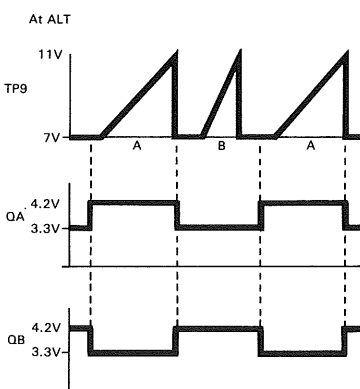
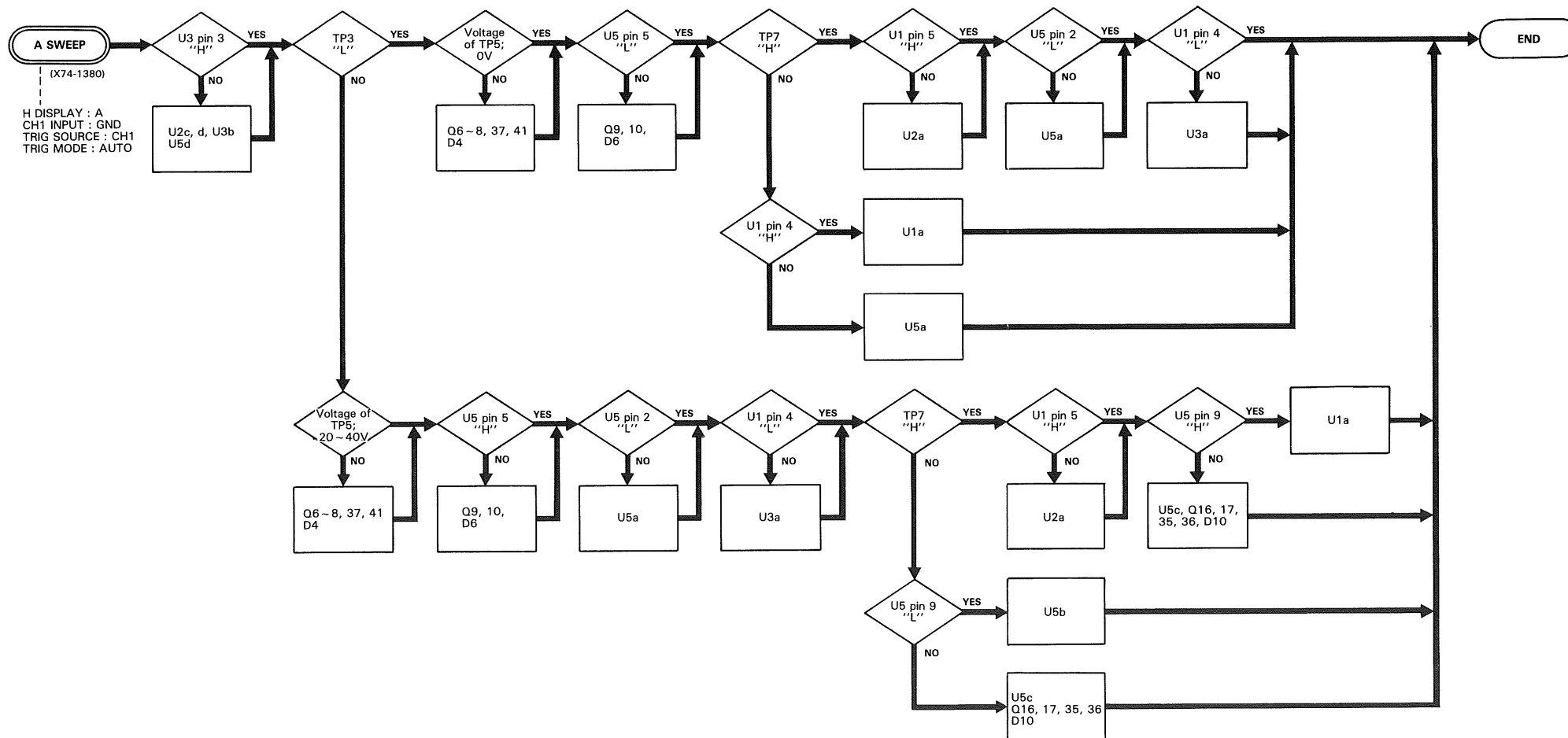
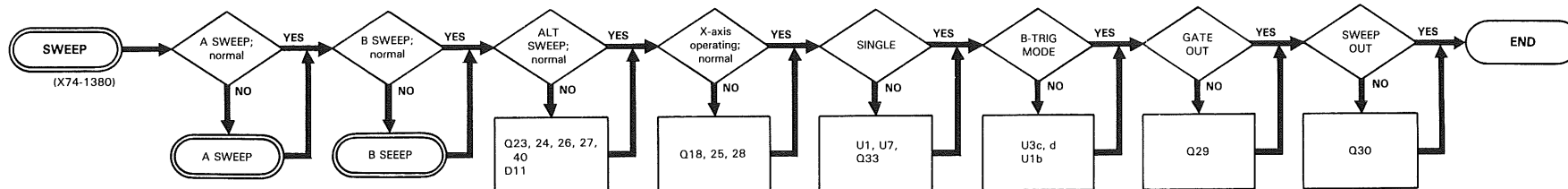


Fig. 13



PARTS LIST

MIAN CHASSIS CS-1060

(Y70-1440-21)

REF.NO	PARTS NO	NAME & DESCRIPTION
1	A01-1105-12	CASE
2	A01-1106-02	CASE
3	A10-1436-02	CHASSIS
4	A20-2764-11	PANEL
5	A21-1038-02	DECORATIVE PANEL
6	A22-0827-13	SUB PANEL
7	A22-0831-12	SUB PANEL
8	A23-1644-02	REAR PANEL
9	A33-0502-05	REFLECTOR (FOR LAMP ASS'Y)
10	A33-0503-05	REFLECTOR (FOR LAMP ASS'Y)
11	B07-0712-13	ESCUTCHEON FOR FILTER
12	B19-0726-04	FILTER
13	B20-0924-04	SCALE
14	B30-0903-15	LED LAMP (RED)
15	B30-0940-05	LAMP ASS'Y
15	B30-0941-05	LAMP
16	B40-2765-04	NAME PLATE (SERIAL NO)
—	B41-0710-04	CAUTION LABEL (HIGH VOLTAGE)
—	B41-0758-03	CAUTION LABEL
—	B50-7510-00	INSTRUCTION
17	E04-0251-05	BNC RECEPTACLE
18	E21-0657-04	TERMINAL (GMD)
19	E21-0660-04	TERMINAL (CAL)
—	E23-0043-04	EARTH LUG
—	E23-0513-05	EARTH LUG
—	E23-0522-14	EARTH PLATE
—	E23-0524-04	EARTH LUG
20	E30-0545-05	AC POWER CORD
—	E30-1851-05	POWER CORD ASS'Y (JIS)
—	E31-2371-05	LEAD WIRE WITH CONNECTOR
—	E31-2372-05	LEAD WIRE WITH CONNECTOR
—	E31-2391-05	LEAD WIRE WITH CONNECTOR
—	E31-2392-05	LEAD WIRE WITH CONNECTOR
—	E31-2393-05	LEAD WIRE WITH CONNECTOR
—	E31-2394-05	LEAD WIRE WITH CONNECTOR
—	E31-2395-05	LEAD WIRE WITH CONNECTOR
—	E31-2396-15	LEAD WIRE WITH CONNECTOR
—	E31-2397-05	LEAD WIRE WITH CONNECTOR
—	E31-2398-15	LEAD WIRE WITH CONNECTOR
—	E31-2399-05	LEAD WIRE WITH CONNECTOR
—	E31-2400-05	LEAD WIRE WITH CONNECTOR
—	E31-2401-05	LEAD WIRE WITH CONNECTOR
—	E31-2402-15	LEAD WIRE WITH CONNECTOR
—	E31-2403-05	LEAD WIRE WITH CONNECTOR
—	E31-2404-05	LEAD WIRE WITH CONNECTOR
—	E31-2405-05	LEAD WIRE WITH CONNECTOR
—	E31-2406-05	LEAD WIRE WITH CONNECTOR
—	E31-2407-15	LEAD WIRE WITH CONNECTOR
—	E31-2408-05	LEAD WIRE WITH CONNECTOR
—	E31-2409-05	LEAD WIRE WITH CONNECTOR
—	E31-2410-05	LEAD WIRE WITH CONNECTOR
—	E31-2411-05	LEAD WIRE WITH CONNECTOR
—	E31-2412-05	LEAD WIRE WITH CONNECTOR
—	E31-2413-05	LEAD WIRE WITH CONNECTOR
—	E31-2414-05	LEAD WIRE WITH CONNECTOR
—	E31-2415-05	LEAD WIRE WITH CONNECTOR
—	E31-2416-05	LEAD WIRE WITH CONNECTOR
—	E31-2417-05	LEAD WIRE WITH CONNECTOR
—	E31-2418-05	LEAD WIRE WITH CONNECTOR
—	E31-2419-05	LEAD WIRE WITH CONNECTOR
—	E31-2420-05	LEAD WIRE WITH CONNECTOR
—	E31-2478-05	LEAD WIRE WITH CONNECTOR
—	E31-2479-05	LEAD WIRE WITH CONNECTOR
21	F01-0838-03	HEAT SINK
22	F05-1023-05	FUSE 1A
22	F05-2023-05	FUSE 2A
23	F07-0908-14	PROTECTION COVER
24	F10-1567-04	EARTH BAND (FOR H.VOLT BLCKE)
25	F11-0981-13	SHIELD CASE
—	F20-0639-04	INSULATOR
26	G02-0606-14	SPRING FOR HANDLE
27	G02-0607-04	SPRING FOR CRT
28	G16-0602-04	REFLECTOR SHEET(L)
29	G16-0603-04	REFLECTOR SHEET(R)
—	H01-5704-04	CARTON BOX
—	H10-2817-01	FOAMED STYRENE PAD
—	H10-2818-01	FOAMED STYRENE PAD
—	H20-1719-04	VINYL COVER
—	H25-0016-00	BAG
—	H25-0029-04	BAG
30	J02-0089-05	LEG
31	J10-0100-12	BEZEL
32	J13-0033-15	FUSE HOLDER
33	J19-1313-05	LEAD HOLDER
—	J19-1620-05	CORD CLAMP
34	J19-1633-03	HOLDER FOR CRT
35	J19-1634-04	HOLDER FOR LEAD
36	J19-1635-04	HOLDER FOR LED
37	J19-1637-03	HOLDER FOR DELAY LINE
38	J21-2906-05	GEAR FOR HANDLE
39	J21-2907-05	RING FOR HANDLE
40	J21-2970-23	BLACKET FOR CRT

REF.NO	PARTS NO	NAME & DESCRIPTION
41	J21-2979-14	BLACKET FOR SCALE
42	J21-2980-04	BRACKET FOR P.C.BOARD
43	J21-2983-04	AC CORD BRACKET
44	J25-3000-05	P.C.BOARD (FOR LAMP ASS'Y)
45	J31-0603-04	COLLAR
46	J31-0604-04	COLLAR
47	J42-0083-05	BUSHING
—	J42-0524-04	BUSHING
48	J59-0403-05	NYLON RIVET
—	J61-0049-05	WIRE BAND
—	J61-0401-05	WIRE BAND
49	J61-0515-05	SUPPORT (I TYPE)
50	J61-0518-05	SUPPORT (T TYPE)
51	J61-0519-04	SUPPORT (P.C.BOARD)
52	K01-0520-05	HANDLE
53	K21-0855-14	KNOB
54	K21-0858-04	KNOB
55	K21-0860-03	KNOB
56	K21-0862-03	KNOB
57	K21-0863-03	KNOB
58	K21-0864-03	KNOB
59	K21-0866-13	KNOB
60	K27-0530-04	KNOB FOR LEVER
61	L01-9364-05	POWER TRANSFORMER
62	L39-0518-05	ROTATOR COIL
63	L76-0107-05	DELAY LINE
—	N08-0611-04	DRESSED SCREW
—	N09-0705-05	SCREW, HEX SOCKET FLAT HD
—	N09-0710-05	SCREW, SEMS PAN HD
—	N09-0715-04	SCREW, PAN HD M 4X31
—	N09-0717-05	SCREW, TRUSS HD M 3X12
—	N09-0720-05	SCREW, SEMS PAN HD
—	N10-2070-46	NUT, HEX
—	N15-1030-41	WASHER, FLAT FOR M3
—	N15-1110-46	WASHER
—	N19-0704-04	WASHER
—	N19-0710-05	WASHER
—	N30-3004-46	SCREW, PAN HD M 3X4
—	N30-3006-41	SCREW, PAN HD M 3X6
—	N30-3008-46	SCREW, PAN HD M 3X8
—	N30-4006-41	SCREW, PAN HD M 4X6
—	N30-4012-41	SCREW, PAN HD M 4X12
—	N32-3008-41	SCREW, FLAT HD M 3X8
—	N88-3006-46	SCREW, FLAT HD TAP TITE
—	N88-3008-46	SCREW, FLAT HD TAP TITE
—	N89-3006-41	SCREW, BINDING TAP TITE
—	N89-3010-41	SCREW, BINDING TAP TITE
64	R03-3502-15	V.R. 20K B
65	R05-3505-05	V.R. 20K B
66	R05-8001-05	V.R. 3M B
67	R10-9502-05	V.R. 10K,200K B
68	R29-0504-05	V.R. 1K B
69	SLP5200	LED (RED, GREEN)
70	W01-0503-04	CORD WRAP
71	W02-0411-05	HIGH VOLTAGE POWER BLOCK
72	X73-1530-01	VERTICAL PREAMP UNIT
73	X73-1540-01	VERTICAL OUTPUT AMP UNIT
74	X74-1370-01	TRIGGER UNIT
75	X74-1380-01	SWEEP UNIT
76	X75-1150-00	ATTENUATOR UNIT
77	X77-1300-00	CONNECTION UNIT
78	X81-1250-03	CRT SOCKET UNIT
—	Y87-1840-00	PROBE PC-20
79	150JTM31	CRT
—	212-2014-05	TUBE (PLASTIC)
—	212-3017-05	TUBE (PLASTIC)
—	490-0009-05	TAPE
Q001	2SD1276(Q)	TR. SI, NPN
Q002	2SD1276(Q)	TR. SI, NPN
Q003	2SB950(P,Q)	TR. SI, PNP
Q004	2SB950(P,Q)	TR. SI, PNP
Q005	2SB940(P)	TR. SI, PNP
Q006	2SA1156(K,L)	TR. SI, PNP

VERTICAL ATTENUATOR UNIT

(X75-1150-00)

REF.NO	PARTS NO	NAME & DESCRIPTION
X75-1	A22-0832-13	SUB PANEL
X75-2	E04-0251-05	BNC RECEPTACLE
—	E23-0015-04	EARTH LUG
—	E23-0015-04	EARTH LUG
—	E23-0513-05	EARTH LUG
—	E23-0522-14	EARTH PLATE
—	E31-2170-05	JUMPING WIRE
—	F10-1566-04	SHIELD PLATE
—	G13-0716-04	CUSHION
X75-3	J19-1638-14	HOLDER FOR P.C.B
—	J25-5017-03	P.C.BOARD (UNMOUNTED)
—	N30-3006-46	SCREW, PAN HD M 3X6
—	N89-3006-46	SCREW, BINDING TAP TITE
—	001-0801-05	COATING WIRE

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION			
	002-0001-05	BRAIDED WIRE			
	212-1018-05	TUBE (PLASTIC)			
	212-1018-05	TUBE (PLASTIC)			
C001	C91-0501-05	CAP. METAL FILM	0.047	10%	630V
C002	C91-0502-05	CAP. METAL FILM	0.01	20%	630V
C003	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C004	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C005	NO USE				
C006	CC45FCH1H220J	CAP. CERAMIC	22P	5%	50V
C007	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C008	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C009	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C010	CE04W1E101M	CAP. ELECTRO	100	20%	25V
C011	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C012	CE04W1E101M	CAP. ELECTRO	100	20%	25V
C015	CC45FCH1H040C	CAP. CERAMIC	4P	0.25P	50V
C016	CC45SL1H331J	CAP. CERAMIC	330P	5%	50V
C017	CC45FCH1H390J	CAP. CERAMIC	39P	5%	50V
C018	NO USE				
C019	CC45FCH1H070D	CAP. CERAMIC	7P	0.5P	50V
C020	NO USE				
C021	CC45FCH1H390J	CAP. CERAMIC	39P	5%	50V
C022	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C023	CC45FCH1H330J	CAP. CERAMIC	33P	5%	50V
C024	CC45CH1H121J	CAP. CERAMIC	120P	5%	50V
D001	DS442X	DIODE, SILICON SWITCHING			
D002	WZ-050	DIODE, ZENER	5V		
D003	WZ-050	DIODE, ZENER	5V		
P055	E40-0673-05	PIN CONNECTOR	6		CONTACT
Q001	2SK117(D)	FET, N-CHANNEL			
Q002	2SK117(D)	FET, N-CHANNEL			
Q003	2SK107(3)	FET, N-CHANNEL			
Q004	2SK107(3)	FET, N-CHANNEL			
Q005	2SA1005(K)	TR. SI, PNP			
Q006	2SA1005(K)	TR. SI, PNP			
Q007	2SA1005(K)	TR. SI, PNP			
Q008	2SA1005(K)	TR. SI, PNP			
Q009	2SA1005(K)	TR. SI, PNP			
Q010	2SA1005(K)	TR. SI, PNP			
Q011	2SK117(D)	FET, N-CHANNEL			
R001	RD14BB2E220J	RES. CARBON	22	5%	1/4W
R002	RD14BB2E105J	RES. CARBON	1M	5%	1/4W
R003	RN14BK2E5003F	RES. METAL FILM	500K	1%	1/4W
R004	RN14BK2E5003F	RES. METAL FILM	500K	1%	1/4W
R005	RD14BB2E334J	RES. CARBON	330K	5%	1/4W
R006	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R007	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R008	RD14BB2E391J	RES. CARBON	390	5%	1/4W
R009	RD14BB2E681J	RES. CARBON	680	5%	1/4W
R010	RD14BB2E472J	RES. CARBON	4.7K	5%	1/4W
R011	RN14BK2E1301F	RES. METAL FILM	1.3K	1%	1/4W
R012	RN14BK2E1601F	RES. METAL FILM	1.6K	1%	1/4W
R013	RD14BB2E105J	RES. CARBON	1M	5%	1/4W
R014	RD14BB2E182J	RES. CARBON	1.8K	5%	1/4W
R015	RD14BB2E241J	RES. CARBON	240	5%	1/4W
R016	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R017	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R018	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R019	RD14BB2E681J	RES. CARBON	680	5%	1/4W
R020	RD14BB2E332J	RES. CARBON	3.3K	5%	1/4W
R021	RD14BB2E332J	RES. CARBON	3.3K	5%	1/4W
R022	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R023	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R024	RN14BK2E1201F	RES. METAL FILM	1.2K	1%	1/4W
R025	RN14BK2E3000F	RES. METAL FILM	300	1%	1/4W
R026	RD14BB2E684J	RES. CARBON	680K	5%	1/4W
R029	RD14BB2E620J	RES. CARBON	62	5%	1/4W
R030	RN14BK2E1200F	RES. METAL FILM	120	1%	1/4W
R031	RN14BK2E2400F	RES. METAL FILM	240	1%	1/4W
R032	RN14BK2E2400F	RES. METAL FILM	240	1%	1/4W
R033	RN14BK2E1200F	RES. METAL FILM	120	1%	1/4W
R034	RN14BK2E2400F	RES. METAL FILM	240	1%	1/4W
R035	RN14BK2E1200F	RES. METAL FILM	120	1%	1/4W
R036	RN14BK2E30R0F	RES. METAL FILM	30.0	1%	1/4W
R037	R92-1045-05	RES. METAL FILM	72	1%	1/4W
R038	RN14BK2E76R8F	RES. METAL FILM	76.8	1%	1/4W
R039	R92-1046-05	RES. METAL FILM	48	1%	1/4W
R040	RD14BB2E562J	RES. CARBON	5.6K	5%	1/4W
R041	RD14BB2E511J	RES. CARBON	510	5%	1/4W
R042	RD14BB2E121J	RES. CARBON	120	5%	1/4W
R043	RD14BB2E132J	RES. CARBON	1.3K	5%	1/4W
R044	RD14BB2E132J	RES. CARBON	1.3K	5%	1/4W
R045	RN14BK2E3300F	RES. METAL FILM	330	1%	1/4W
R046	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R047	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R048	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R049	NO USE				
R050	RD14BB2E132J	RES. CARBON	1.3K	5%	1/4W
R051	RD14BB2E132J	RES. CARBON	1.3K	5%	1/4W
R052	RN14BK2E3300F	RES. METAL FILM	330	1%	1/4W

REF.NO	PARTS NO	NAME & DESCRIPTION			
R053	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R054	RD14BB2E301J	RES. CARBON	300	5%	1/4W
R055	RD14BB2E432J	RES. CARBON	4.3K	5%	1/4W
R056	RD14BB2E362J	RES. CARBON	3.6K	5%	1/4W
R057	RD14BB2E334J	RES. CARBON	330K	5%	1/4W
R058	RD14BB2C330J	RES. CARBON	33	5%	1/6W
S001	S32-4007-05	SLIDE SWITCH			
S002	S02-4501-05	ROTARY SWITCH			
TC005	C05-0430-05	CAP. TRIMMER	50P		
TC006	NO USE				
TC007	C05-0427-05	CAP. TRIMMER	10P		
U001	LF411CN	IC, DUAL JFET INPUT OP-AMP			
U002	CA3127E	IC. TR, ARRY N-P-N			
VR001	R12-0058-05	RES. SEMI FIXED	470 B		
VR002	R12-3502-05	RES. SEMI FIXED	33K B		
VR003	R12-3502-05	RES. SEMI FIXED	33K B		
VR004	R12-0502-05	RES. SEMI FIXED	100 B		
VR005	S02-4501-05	ROTARY SWITCH			
VR006	S02-4501-05	ROTARY SWITCH			
VR007	R12-0502-05	RES. SEMI FIXED	100 B		

VERTICAL PREAMP UNIT

(X73-1530-00)

REF.NO	PARTS NO	NAME & DESCRIPTION			
	E23-0526-04	EARTH PLATE			
	E31-2170-05	JUMPING WIRE			
	E33-4042-00	WIRE ASS'Y			
	J25-5021-13	PCB (UNMOUNTED)			
	J31-0604-04	COLLAR			
X73-1	K27-0528-04	KNOB FOR PUSH			
C001	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C002	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C003	CC45FCH1H050C	CAP. CERAMIC	5P	0.25P	50V
C004	CC45FCH1H220J	CAP. CERAMIC	22P	5%	50V
C005	NO USE				
C006	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C007	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C008	CE04BW1E220M	CAP. ELECTRO	22	20%	25V
C011	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C012	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C013	CC45FCH1H050C	CAP. CERAMIC	5P	0.25P	50V
C014	CC45FCH1H100D	CAP. CERAMIC	10P	0.5P	50V
C015	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C016	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C017	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C018	CE04FW1A470M	CAP. ELECTRO	47	20%	10V
C021	CE04FW1E100M	CAP. ELECTRO	10	20%	25V
C022	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C023	CC45FCH1H020C	CAP. CERAMIC	2P	0.25P	50V
C024	NO USE				
C025	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C028	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C031	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C032	NO USE				
C033	CE04FW1E330M	CAP. ELECTRO	33	20%	25V
C034	CC45CH1H470J	CAP. CERAMIC	47P	5%	50V
C035	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C036	CC45FCH1H050C	CAP. CERAMIC	5P	0.25P	50V
C037	CC45FCH1H100D	CAP. CERAMIC	10P	0.5P	50V
C038	CC45FCH1H220J	CAP. CERAMIC	22P	5%	50V
C039	CC45FCH1H050C	CAP. CERAMIC	5P	0.25P	50V
C044	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C045	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C046	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C047	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C048	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C049	NO USE				
C050	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C051	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C052	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C053	NO USE				
C054	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C055	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C056	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C057	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C058	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C059	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C060	NO USE				
C061	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C062	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C063	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C064	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C065	CE04FW1E220M	CAP. ELECTRO	22	20%	25V

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
C066	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q061	2SC1215(S,T)	TR. SI, NPN
C067	NO USE		Q062	2SC1215(S,T)	TR. SI, NPN
C068	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q063	2SA1005(K)	TR. SI, PNP
C069	NO USE		Q064	2SA1005(K)	TR. SI, PNP
C070	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q065	2SA1005(K)	TR. SI, PNP
C071	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q066	2SC2644	TR. SI, NPN
C072	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	Q067	2SC2644	TR. SI, NPN
C073	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	Q068	2SC1215(S,T)	TR. SI, NPN
C074	CE04FW1E220M	CAP. ELECTRO 22 20% 25V	Q069	2SC1215(S,T)	TR. SI, NPN
C075	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R001	RD14BB2E220J	RES. CARBON 22 5% 1/4W
C076	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R002	RD14BB2E220J	RES. CARBON 22 5% 1/4W
C077	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R003	RD14BB2E243J	RES. CARBON 24K 5% 1/4W
C078	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R004	RD14BB2E623J	RES. CARBON 62K 5% 1/4W
C079	CE04FW1E220M	CAP. ELECTRO 22 20% 25V	R005	RD14BB2E220J	RES. CARBON 22 5% 1/4W
C080	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R006	RD14BB2E220J	RES. CARBON 22 5% 1/4W
C081	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R007	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
C082	CE04FW1E220M	CAP. ELECTRO 22 20% 25V	R008	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
C083	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	R009	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
C084	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R010	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
C085	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R011	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
C086	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R012	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
C087	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R013	NO USE	
C088	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R014	RD14BB2E220J	RES. CARBON 22 5% 1/4W
C089	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R015	RD14BB2E470J	RES. CARBON 47 5% 1/4W
C090	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R016	RD14BB2E471J	RES. CARBON 470 5% 1/4W
C091	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R017	RD14BB2E471J	RES. CARBON 470 5% 1/4W
C092	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R018	RN14BK2E2701F	RES. METAL FILM 2.7K 1% 1/4W
C093	CE04W1J330M	CAP. ELECTRO 33 20% 63V	R019	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
C094	CK45B2H222K	CAP. CERAMIC 2200P 10% 500V	R020	RN14BK2E3000F	RES. METAL FILM 300 1% 1/4W
D001	DS442X	DIODE, SILICON SWITCHING	R021	NO USE	
D002	DS442X	DIODE, SILICON SWITCHING	R022	RD14BB2E681J	RES. CARBON 680 5% 1/4W
D003	WZ-075	DIODE, ZENER 7.5V	R023	RD14BB2E151J	RES. CARBON 150 5% 1/4W
D011	DS442X	DIODE, SILICON SWITCHING	R024	RD14BB2E151J	RES. CARBON 150 5% 1/4W
D012	DS442X	DIODE, SILICON SWITCHING	R025	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
D021	DS442X	DIODE, SILICON SWITCHING	R026	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
D022	DS442X	DIODE, SILICON SWITCHING	R027	RD14BB2E221J	RES. CARBON 220 5% 1/4W
D031	GMA-01	DIODE	R028	RD14BB2E221J	RES. CARBON 220 5% 1/4W
D032	GMA-01	DIODE	R029	RD14BB2E471J	RES. CARBON 470 5% 1/4W
L001	L40-6882-02	FERRI INDUCTOR 68UH	R030	RD14BB2E471J	RES. CARBON 470 5% 1/4W
P001	E40-0273-05	PIN CONNECTOR 2 CONTACT	R031	RD14BB2E511J	RES. CARBON 510 5% 1/4W
P002	E40-0273-05	PIN CONNECTOR 2 CONTACT	R032	RD14BB2E431J	RES. CARBON 430 5% 1/4W
P003	E40-0273-05	PIN CONNECTOR 2 CONTACT	R033	RD14BB2E151J	RES. CARBON 150 5% 1/4W
P004	E40-0273-05	PIN CONNECTOR 2 CONTACT	R034	RD14BB2E331J	RES. CARBON 330 5% 1/4W
P005	E40-0273-05	PIN CONNECTOR 2 CONTACT	R035	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P006	E40-0473-05	PIN CONNECTOR 4 CONTACT	R036	RD14BB2E470J	RES. CARBON 47 5% 1/4W
P007	E40-1116-05	PIN CONNECTOR 11P	R037	RD14BB2E470J	RES. CARBON 47 5% 1/4W
P008	E40-1116-05	PIN CONNECTOR 11P	R038	RD14BB2E391J	RES. CARBON 390 5% 1/4W
P052	E40-0415-05	PIN CONNECTOR 4 CONTACT	R039	RD14BB2E470J	RES. CARBON 47 5% 1/4W
P055	E40-0673-05	PIN CONNECTOR 6 CONTACT	R040	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
P056	E40-0673-05	PIN CONNECTOR 6 CONTACT	R041	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q001	2SA1005(K)	TR. SI, PNP	R042	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q002	2SA1005(K)	TR. SI, PNP	R043	RN14BK2E4301F	RES. METAL FILM 4.3K 1% 1/4W
Q003	2SC1215(S,T)	TR. SI, NPN	R044	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W
Q004	2SC1215(S,T)	TR. SI, NPN	R045	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q005	2SC1215(S,T)	TR. SI, NPN	R046	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q006	2SA1005(K)	TR. SI, PNP	R047	NO USE	
Q007	2SA1005(K)	TR. SI, PNP	R048	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q008	2SC1215(S,T)	TR. SI, NPN	R051	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q009	2SC1215(S,T)	TR. SI, NPN	R052	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q010	2SA1005(K)	TR. SI, PNP	R053	RD14BB2E243J	RES. CARBON 24K 5% 1/4W
Q011	2SC1215(S,T)	TR. SI, NPN	R054	RD14BB2E623J	RES. CARBON 62K 5% 1/4W
Q012	2SC1215(S,T)	TR. SI, NPN	R055	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q013	2SC1215(S,T)	TR. SI, NPN	R056	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q021	2SA1005(K)	TR. SI, PNP	R057	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
Q022	2SA1005(K)	TR. SI, PNP	R058	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
Q023	2SC1215(S,T)	TR. SI, NPN	R059	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
Q024	2SC1215(S,T)	TR. SI, NPN	R060	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
Q025	2SC1215(S,T)	TR. SI, NPN	R061	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
Q026	2SA1005(K)	TR. SI, PNP	R062	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
Q027	2SA1005(K)	TR. SI, PNP	R063	NO USE	
Q028	2SC1215(S,T)	TR. SI, NPN	R064	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q029	2SC1215(S,T)	TR. SI, NPN	R065	RD14BB2E470J	RES. CARBON 47 5% 1/4W
Q030	2SC1215(S,T)	TR. SI, NPN	R066	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q031	2SC1215(S,T)	TR. SI, NPN	R067	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q032	2SC1215(S,T)	TR. SI, NPN	R068	RN14BK2E2701F	RES. METAL FILM 2.7K 1% 1/4W
Q033	2SC1215(S,T)	TR. SI, NPN	R069	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
Q041	2SA1005(K)	TR. SI, PNP	R070	RN14BK2E3000F	RES. METAL FILM 300 1% 1/4W
Q042	2SC1215(S,T)	TR. SI, NPN	R071	NO USE	
Q043	2SC1215(S,T)	TR. SI, NPN	R072	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q044	2SC1215(S,T)	TR. SI, NPN	R073	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q045	2SC1215(S,T)	TR. SI, NPN	R074	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q046	2SC1215(S,T)	TR. SI, NPN	R075	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q047	2SC2786(K)	TR. SI, NPN	R076	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q048	2SC2786(K)	TR. SI, NPN	R077	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q049	2SC2786(K)	TR. SI, NPN	R078	RD14BB2E331J	RES. CARBON 330 5% 1/4W
			R079	RD14BB2C471J	RES. CARBON 470 5% 1/6W
			R080	RD14BB2E471J	RES. CARBON 470 5% 1/4W
			R081	RD14BB2E511J	RES. CARBON 510 5% 1/4W
			R082	RD14BB2E151J	RES. CARBON 150 5% 1/4W
			R083	RD14BB2E151J	RES. CARBON 150 5% 1/4W
			R084	RD14BB2E220J	RES. CARBON 22 5% 1/4W
			R085	RD14BB2E220J	RES. CARBON 22 5% 1/4W
			R086	RD14BB2E220J	RES. CARBON 22 5% 1/4W
			R087	RD14BB2E220J	RES. CARBON 22 5% 1/4W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION			
R088	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R089	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R090	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R091	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R092	RN14BK2E4301F	RES. METAL FILM	4.3K	1%	1/4W
R093	RN14BK2E6800F	RES. METAL FILM	680	1%	1/4W
R094	RN14BK2E4301F	RES. METAL FILM	4.3K	1%	1/4W
R095	RN14BK2E6800F	RES. METAL FILM	680	1%	1/4W
R096	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R101	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R102	RN14BK2E4700F	RES. METAL FILM	470	1%	1/4W
R103	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R104	RN14BK2E4701F	RES. METAL FILM	4.7K	1%	1/4W
R105	RN14BK2E5601F	RES. METAL FILM	5.6K	1%	1/4W
R106	RN14BK2E2201F	RES. METAL FILM	2.2K	1%	1/4W
R107	RD14BB2E391J	RES. CARBON	390	5%	1/4W
R108	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R109	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R110	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R111	RN14BK2E5101F	RES. METAL FILM	5.1K	1%	1/4W
R112	RN14BK2E2701F	RES. METAL FILM	2.7K	1%	1/4W
R113	RN14BK2E3000F	RES. METAL FILM	300	1%	1/4W
R114	RD14BB2E391J	RES. CARBON	390	5%	1/4W
R115	NO USE				
R116	RD14BB2E132J	RES. CARBON	1.3K	5%	1/4W
R117	RD14BB2E220J	RES. CARBON	22	5%	1/4W
R118	RD14BB2E220J	RES. CARBON	22	5%	1/4W
R119	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R120	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R121	RN14BK2E6800F	RES. METAL FILM	680	1%	1/4W
R122	RN14BK2E4301F	RES. METAL FILM	4.3K	1%	1/4W
R123	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R124	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R125	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R126	RD14BB2E472J	RES. CARBON	4.7K	5%	1/4W
R127	RD14BB2E472J	RES. CARBON	4.7K	5%	1/4W
R128	RD14BB2E472J	RES. CARBON	4.7K	5%	1/4W
R129	RD14BB2E100J	RES. CARBON	10	5%	1/4W
R130	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R131	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R132	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R133	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R151	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R152	RD14BB2E471J	RES. CARBON	470	5%	1/4W
R153	RD14BB2E242J	RES. CARBON	2.4K	5%	1/4W
R154	RD14BB2E242J	RES. CARBON	2.4K	5%	1/4W
R155	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R156	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R157	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R158	RD14BB2E272J	RES. CARBON	2.7K	5%	1/4W
R159	RN14BK2E4702F	RES. METAL FILM	47K	1%	1/4W
R160	RN14BK2E4702F	RES. METAL FILM	47K	1%	1/4W
R161	RN14BK2E4701F	RES. METAL FILM	4.7K	1%	1/4W
R162	RN14BK2E4701F	RES. METAL FILM	4.7K	1%	1/4W
R163	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R164	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R165	RD14BB2E472J	RES. CARBON	4.7K	5%	1/4W
R166	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R167	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R168	RD14BB2E911J	RES. CARBON	910	5%	1/4W
R169	RD14BB2E911J	RES. CARBON	910	5%	1/4W
R170	NO USE				
R171	RD14BB2E511J	RES. CARBON	510	5%	1/4W
R172	RD14BB2E112J	RES. CARBON	1.1K	5%	1/4W
R173	RD14BB2E112J	RES. CARBON	1.1K	5%	1/4W
R174	RD14BB2E392J	RES. CARBON	3.9K	5%	1/4W
R175	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R176	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R177	RD14BB2E133J	RES. CARBON	13K	5%	1/4W
R178	RD14BB2E431J	RES. CARBON	430	5%	1/4W
R179	RD14BB2E431J	RES. CARBON	430	5%	1/4W
R180	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R181	RD14BB2E100J	RES. CARBON	10	5%	1/4W
R182	RD14BB2E333J	RES. CARBON	33K	5%	1/4W
R183	RD14BB2E181J	RES. CARBON	180	5%	1/4W
R186	RD14BB2E331J	RES. CARBON	330	5%	1/4W
R187	RD14BB2E100J	RES. CARBON	10	5%	1/4W
R188	RN14BK2E6800F	RES. METAL FILM	680	1%	1/4W
R189	RD14BB2E470J	RES. CARBON	47	5%	1/4W
R190	RD14BB2E182J	RES. CARBON	1.8K	5%	1/4W
R191	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R192	RD14BB2E680J	RES. CARBON	68	5%	1/4W
R193	NO USE				
R194	RN14BK2E1501F	RES. METAL FILM	1.5K	1%	1/4W
R195	RD14BB2E682J	RES. CARBON	6.8K	5%	1/4W
R198	RD14BB2C821J	RES. CARBON	820	5%	1/6W
R201	RD14BB2E621J	RES. CARBON	620	5%	1/4W
R202	RD14BB2E621J	RES. CARBON	620	5%	1/4W
R203	RD14BB2E621J	RES. CARBON	620	5%	1/4W
R204	RD14BB2E621J	RES. CARBON	620	5%	1/4W

REF.NO	PARTS NO	NAME & DESCRIPTION			
S001	S42-4510-05	PUSH SWITCH			
TC001	C05-0434-05	CAP. TRIMMER	20P		
TC011	C05-0434-05	CAP. TRIMMER	20P		
TC021	C05-0422-05	CAP. TRIMMER	20P		
TC031	C05-0432-05	CAP. TRIMMER	6P		
TP001	E23-0046-04	TERMINAL			
TP002	E23-0046-04	TERMINAL			
TP003	E23-0046-04	TERMINAL			
TP004	E23-0046-04	TERMINAL			
TP005	E23-0046-04	TERMINAL			
U002	TL082CP	IC		OP AMP.	
VR001	R05-3506-05	V.R.	10K	B	
VR002	R12-3523-05	RES. SEMI FIXED	20K	B	
VR003	R12-3522-05	RES. SEMI FIXED	10K	B	
VR004	NO USE				
VR005	R12-0543-05	RES. SEMI FIXED	500	B	
VR006	R12-0541-05	RES. SEMI FIXED	100	B	
VR011	R05-3506-05	V.R.	10K	B	
VR012	R12-3523-05	RES. SEMI FIXED	20K	B	
VR013	R12-3522-05	RES. SEMI FIXED	10K	B	
VR014	R12-0543-05	RES. SEMI FIXED	500	B	
VR015	R12-0543-05	RES. SEMI FIXED	500	B	
VR016	R12-0541-05	RES. SEMI FIXED	100	B	
VR021	R12-3521-05	RES. SEMI FIXED	20K	B	
VR022	R12-2512-05	RES. SEMI FIXED	5K	B	
VR023	R12-0421-05	RES. SEMI FIXED	100	B	
VR031	R12-0541-05	RES. SEMI FIXED	100	B	
VR032	R12-0541-05	RES. SEMI FIXED	100	B	
VR033	NO USE				
VR034	R12-1520-05	RES. SEMI FIXED	2KB		
VR035	NO USE				
VR036	R12-1517-05	RES. SEMI FIXED	1K	B	

VERTICAL FINAL UNIT

(X73-1540-00)

REF.NO	PARTS NO	NAME & DESCRIPTION			
X73-2	E31-2170-05	JUMPING WIRE			
X73-3	F02-0511-05	HEAT SINK			
X73-4	F02-0512-05	HEAT SINK			
	J21-2981-04	BRACKET FOR TR			
	J25-5020-13	PCB (UNMOUNTED)			
	J30-0605-05	SPACER			
	212-1018-05	TUBE (PLASTIC)			
C001	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C002	CC45FCH1H060D	CAP. CERAMIC	6P	0.5P	50V
C003	CK45B1H332K	CAP. CERAMIC	3300P	10%	50V
C004	NO USE				
C005	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C006	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C007	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C008	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C009	CC45CH1H680J	CAP. CERAMIC	68P	5%	50V
C010	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C011	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C012	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C015	CE04FW1E470M	CAP. ELECTRO	47	20%	25V
C016	CE04FW1E220M	CAP. ELECTRO	22	20%	25V
C017	CK45F1H103Z	CAP. CERAMIC	0.01		50V
C020	CE04W1J330M	CAP. ELECTRO	33	20%	63V
C021	CE04W1J330M	CAP. ELECTRO	33	20%	63V
C022	CK45B2H472K	CAP. CERAMIC	4700P	10%	500V
C023	CK45B1H472K	CAP. CERAMIC	4700P	10%	50V
C024	CC45CH1H270J	CAP. CERAMIC	27P	5%	50V
D001	WZ-100	DIODE, ZENER	10V		
D002	WZ-100	DIODE, ZENER	10V		
L001	L40-4782-13	FERRI INDUCTOR	0.47UH	20%	
L002	L40-4782-13	FERRI INDUCTOR	0.47UH	20%	
L003	L40-4782-13	FERRI INDUCTOR	0.47UH	20%	
L004	L40-4782-13	FERRI INDUCTOR	0.47UH	20%	
L005	NO USE				
P006	E40-0473-05	PIN CONNECTOR	4	CONTACT	
P009	E40-0273-05	PIN CONNECTOR	2	CONTACT	
P050	E40-0202-05	PIN CONNECTOR	2P		
P051	E40-0202-05	PIN CONNECTOR	2P		
P052	E40-0444-05	PIN CONNECTOR	4P		

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
Q001	2SA1206(K)	TR. SI, PNP		F20-0622-05	INSULATOR
Q002	2SA1206(K)	TR. SI, PNP		J25-5016-22	PCB (UNMOUNTED)
Q003	2SC2644	TR. SI, NPN		N19-0191-05	WASHER NONMETAL
Q004	2SC2644	TR. SI, NPN		N30-3006-46	SCREW, PAN HD M 3X8
Q005	2SC2644	TR. SI, NPN		N30-3008-46	SCREW, PAN HD M 3X8
Q006	2SC2644	TR. SI, NPN	C001	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q007	2SC1164(D)	TR. SI, NPN	C002	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q008	2SC1164(D)	TR. SI, NPN	C003	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q009	2SC1164(D)	TR. SI, NPN	C004	CQ93M1H103K	CAP. MYLAR 0.01 10% 50V
Q010	2SC1164(D)	TR. SI, NPN	C005	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
R001	RD14BB2E910J	RES. CARBON 91 5% 1/4W	C006	CE04HW1H010M	CAP. ELECTRO 1 20% 50V
R002	RD14BB2E910J	RES. CARBON 91 5% 1/4W	C007	CE04HW1H010M	CAP. ELECTRO 1 20% 50V
R003	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C008	CE04HW1H010M	CAP. ELECTRO 1 20% 50V
R004	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C009	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R005	RD14BB2E132J	RES. CARBON 1.3K 5% 1/4W	C010	CE04HW1H010M	CAP. ELECTRO 1 20% 50V
R006	RD14BB2E132J	RES. CARBON 1.3K 5% 1/4W	C011	CE04W1E100M	CAP. ELECTRO 10 20% 25V
R007	RD14BB2E751J	RES. CARBON 750 5% 1/4W	C012	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R008	RD14BB2E562J	RES. CARBON 5.6K 5% 1/4W	C013	CK45B1H222K	CAP. CERAMIC 2200P 10% 50V
R009	RD14BB2E562J	RES. CARBON 5.6K 5% 1/4W	C014	CC45SL1H331J	CAP. CERAMIC 330P 5% 50V
R010	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C015	CC45FCH1H270J	CAP. CERAMIC 27P 5% 50V
R011	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C016	NO USE	
R012	RD14BB2E681J	RES. CARBON 680 5% 1/4W	C017	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
R013	RD14BB2E5R6J	RES. CARBON 5.6 5% 1/4W	C018	NO USE	
R014	RD14BB2E681J	RES. CARBON 680 5% 1/4W	C019	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V
R015	RD14BB2E241J	RES. CARBON 240 5% 1/4W	C020	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V
R016	RD14BB2E163J	RES. CARBON 16K 5% 1/4W	C021	CC45FCH1H150J	CAP. CERAMIC 15P 5% 50V
R017	NO USE		C022	CC45FCH1H150J	CAP. CERAMIC 15P 5% 50V
R018	RD14BB2E220J	RES. CARBON 22 5% 1/4W	C023	NO USE	
R019	RD14BB2E220J	RES. CARBON 22 5% 1/4W	C024	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R020	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	C025	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R021	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	C026	CK45FB1H102K	CAP. CERAMIC 1000P 10% 50V
R022	RD14BY2H621J	RES. CARBON 620 5% 1/2W	C027	CC45CH1H221J	CAP. CERAMIC 220P 5% 50V
R023	RD14BY2H621J	RES. CARBON 620 5% 1/2W	C028	NO USE	
R024	RD14BB2E751J	RES. CARBON 750 5% 1/4W	C029	CC45FCH1H120J	CAP. CERAMIC 12P 5% 50V
R025	RD14BB2E751J	RES. CARBON 750 5% 1/4W	C030	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R026	RD14BB2E220J	RES. CARBON 22 5% 1/4W	C031	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
R027	RD14BB2E220J	RES. CARBON 22 5% 1/4W	C032	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V
R028	RS14GB3D820J	RES. METAL FILM 82 5% 2W	C033	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
R029	RS14GB3D820J	RES. METAL FILM 82 5% 2W	C034	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
R030	RD14BB2E6R8J	RES. CARBON 6.8 5% 1/4W	C035	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V
R031	RD14BB2E560J	RES. CARBON 56 5% 1/4W	C036	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
R032	RD14BB2E242J	RES. CARBON 2.4K 5% 1/4W	C037	CC45CH1H181J	CAP. CERAMIC 180P 5% 50V
R033	RD14BB2E100J	RES. CARBON 10 5% 1/4W	C038	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R034	RD14BB2E100J	RES. CARBON 10 5% 1/4W	C039	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R035	RD14BB2E470J	RES. CARBON 47 5% 1/4W	C040	NO USE	
R036	RD14BB2E470J	RES. CARBON 47 5% 1/4W	C041	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
R037	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W	C042	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V
R038	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W	C043	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
R039	RD14BB2E301J	RES. CARBON 300 5% 1/4W	C044	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
R040	RD14BB2E301J	RES. CARBON 300 5% 1/4W	C045	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V
R041	RS14AB3Y301J	RES. METAL FILM 300 5% 7W	C046	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
R042	RD14BB2E301J	RES. CARBON 300 5% 1/4W	C047	CE04HW1H010M	CAP. ELECTRO 1 20% 50V
R043	RD14BB2E301J	RES. CARBON 300 5% 1/4W	C048	CK45E3D102P	CAP. CERAMIC 1000P 2K
R044	RS14AB3Y301J	RES. METAL FILM 300 5% 7W	C049	C91-0571-05	CAP. CERAMIC 0.01 2KV
R045	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W	C050	C91-0571-05	CAP. CERAMIC 0.01 2KV
R046	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	C051	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R047	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	C052	CQ93M1H154K	CAP. MYLAR 0.15 10% 50V
R048	NO USE		C053	CQ93M1H154K	CAP. MYLAR 0.15 10% 50V
R049	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W	C054	CK45B1H472K	CAP. CERAMIC 4700P 10% 50V
R050	RD14BB2C621J	RES. CARBON 620 5% 1/6W	C055	NO USE	
R051	RD14BB2E221J	RES. CARBON 220 5% 1/4W	C056	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
TC001	C05-0422-05	CAP. TRIMMER 20P	C057	NO USE	
TC002	C05-0422-05	CAP. TRIMMER 20P	C058	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
TH001	SDT-100	THERMISTOR	C059	CE04W2E010	CAP. ELECTRO 1 250V
TH002	SDT-20	THERMISTOR	C060	C91-0571-05	CAP. CERAMIC 0.01 2KV
TH003	SDT-100	THERMISTOR	C061	C91-0571-05	CAP. CERAMIC 0.01 2KV
TP001	E23-0046-04	TERMINAL	C062	C91-0571-05	CAP. CERAMIC 0.01 2KV
TP002	E23-0046-04	TERMINAL	C063	C91-0571-05	CAP. CERAMIC 0.01 2KV
TP003	E23-0046-04	TERMINAL	C064	CE04W1V221M	CAP. ELECTRO 220 20% 35V
TP004	E23-0046-04	TERMINAL	C065	CE04W1V221M	CAP. ELECTRO 220 20% 35V
U001	NJM4558D	IC, DUAL OP-AMP	C066	CE04W1V221M	CAP. ELECTRO 220 20% 35V
VR001	R12-0539-05	RES. SEMI FIXED 200 B	C067	CE04W1V221M	CAP. ELECTRO 220 20% 35V
VR002	R12-1517-05	RES. SEMI FIXED 1K B	C068	CE04W2C3R3	CAP. ELECTRO 3.3 160V
VR003	R12-0539-05	RES. SEMI FIXED 200 B	C069	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
			C070	CE04W2C100	CAP. ELECTRO 10 160V
			C071	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
			C072	CE04W1E331M	CAP. ELECTRO 330 20% 25V
			C073	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C074	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C075	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C076	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C077	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C078	CE04W1E331M	CAP. ELECTRO 330 20% 25V
			C079	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C080	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C081	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C082	CE04W1E101M	CAP. ELECTRO 100 20% 25V
			C083	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C084	CE04W1A471M	CAP. ELECTRO 470 20% 10V
			C085	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C086	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C087	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C088	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C089	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C090	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C091	CK45F1H103Z	CAP. CERAMIC 0.01 50V

TRIG UNIT

(X74-1370-00)

REF.NO	PARTS NO	NAME & DESCRIPTION
	CC45FCH1H200J	CAP. CERAMIC 20P 5% 50V
	E23-0527-04	EARTH PLATE
	E31-2170-05	JUMPING WIRE
	E31-2390-05	LEAD WIRE WITH CONNECTOR
	E33-4040-00	WIRE ASS'Y
X74-1	F01-0813-05	HEAT SINK
X74-2	F01-0820-04	HEAT SINK
	F15-0727-04	HOLDER (NEON TUBE)

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
C092	CK45F1H103Z	CAP. CERAMIC 0.01 50V	NL004	NE-2B	NEON LAMP
C093	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	P002	E40-0673-05	PIN CONNECTOR 6 CONTACT
C094	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	P009	E40-0273-05	PIN CONNECTOR 2 CONTACT
C095	CE04W1A471M	CAP. ELECTRO 470 20% 10V	P010	E40-0916-05	PIN CONNECTOR 9P
C096	CE04FW1A101M	CAP. ELECTRO 100 20% 10V	P011	E40-1016-05	PIN CONNECTOR 10P
C097	C91-0571-05	CAP. CERAMIC 0.01 2KV	P012	E40-1016-05	PIN CONNECTOR 10P
C098	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	P013	E40-0873-05	PIN CONNECTOR 8 CONTACT
C099	NO USE		P014	E40-0273-05	PIN CONNECTOR 2 CONTACT
C100	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V	P015	E40-0373-05	PIN CONNECTOR 3 CONTACT
C101	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V	P016	E40-0373-05	PIN CONNECTOR 3 CONTACT
C102	NO USE		P017	E40-0373-05	PIN CONNECTOR 3 CONTACT
C103	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P018	E40-0704-05	PIN CONNECTOR 7P
C104	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P019	E40-0335-05	PIN CONNECTOR 3P
C105	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P020	E40-0335-05	PIN CONNECTOR 3P
C106	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P021	E40-0373-05	PIN CONNECTOR 3 CONTACT
C107	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P022	NO USE	
C108	CE04W1E101M	CAP. ELECTRO 100 20% 25V	P023	E40-0273-05	PIN CONNECTOR 2 CONTACT
C109	CE04W1E101M	CAP. ELECTRO 100 20% 25V	P048	E23-0046-04	TERMINAL
C110	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P049	E23-0046-04	TERMINAL
C111	CE04W1E101M	CAP. ELECTRO 100 20% 25V	P057	E40-0273-05	PIN CONNECTOR 2 CONTACT
C112	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	P058	E40-0273-05	PIN CONNECTOR 2 CONTACT
C113	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V	P059	E40-0273-05	PIN CONNECTOR 2 CONTACT
C114	NO USE		P060	E40-0273-05	PIN CONNECTOR 2 CONTACT
C115	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	P061	E40-0273-05	PIN CONNECTOR 2 CONTACT
C116	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	Q001	2SC2785(F)	TR. SI, NPN
C117	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q002	2SA1005(K)	TR. SI, PNP
C118	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q003	2SC2786(K)	TR. SI, NPN
C119	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q004	2SK117(Y)	FET, N-CHANNEL
C120	C91-0571-05	CAP. CERAMIC 0.01 2KV	Q005	2SK117(Y)	FET, N-CHANNEL
C121	NO USE		Q006	2SC2786(K)	TR. SI, NPN
C122	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V	Q007	2SC2786(K)	TR. SI, NPN
D001	DS442X	DIODE, SILICON SWITCHING	Q008	NO USE	
D002	DS442X	DIODE, SILICON SWITCHING	Q009	2SA1005(K)	TR. SI, PNP
D003	DS442X	DIODE, SILICON SWITCHING	Q010	2SC2785(F)	TR. SI, NPN
D004	DS442X	DIODE, SILICON SWITCHING	Q011	2SC2785(F)	TR. SI, NPN
D005	DS442X	DIODE, SILICON SWITCHING	Q012	2SA1175(F)	TR. SI, PNP
D006	DS442X	DIODE, SILICON SWITCHING	Q013	2SC2785(F)	TR. SI, NPN
D007	DS442X	DIODE, SILICON SWITCHING	Q014	2SC2785(F)	TR. SI, NPN
D008	DS442X	DIODE, SILICON SWITCHING	Q015	2SA1175(F)	TR. SI, PNP
D011	1N60	DIODE GERMA	Q016	2SC1215(T,S)	TR. SI, NPN
D012	1N60	DIODE GERMA	Q017	2SC1215(T,S)	TR. SI, NPN
D013	1N60	DIODE GERMA	Q018	2SA1005(K)	TR. SI, PNP
D014	DS442X	DIODE, SILICON SWITCHING	Q019	2SA1005(K)	TR. SI, PNP
D015	DS442X	DIODE, SILICON SWITCHING	Q020	2SA1175(F)	TR. SI, PNP
D016	WZ-150	DIODE, ZENER 15V	Q021	2SA1175(F)	TR. SI, PNP
D017	DS442X	DIODE, SILICON SWITCHING	Q022	2SC2785(F)	TR. SI, NPN
D018	DS442X	DIODE, SILICON SWITCHING	Q023	2SC2785(F)	TR. SI, NPN
D019	DS442X	DIODE, SILICON SWITCHING	Q024	2SC2785(F)	TR. SI, NPN
D020	DS442X	DIODE, SILICON SWITCHING	Q025	2SC2785(F)	TR. SI, NPN
D021	DS442X	DIODE, SILICON SWITCHING	Q026	2SA1175(F)	TR. SI, PNP
D024	1SS83	DIODE SILICON SWITCHING	Q027	2SA1175(F)	TR. SI, PNP
D025	1SS83	DIODE SILICON SWITCHING	Q028	2SC2785(F)	TR. SI, NPN
D026	1SS83	DIODE SILICON SWITCHING	Q029	2SA1175(F)	TR. SI, PNP
D027	DS442X	DIODE, SILICON SWITCHING	Q030	2SA1175(F)	TR. SI, PNP
D028	DS442X	DIODE, SILICON SWITCHING	Q031	2SC2785(F)	TR. SI, NPN
D029	DS442X	DIODE, SILICON SWITCHING	Q032	2SC2785(F)	TR. SI, NPN
D030	1SS83	DIODE SILICON SWITCHING	Q033	2SA1175(F)	TR. SI, PNP
D031	1SS83	DIODE SILICON SWITCHING	Q034	2SA1175(F)	TR. SI, PNP
D032	W06C	DIODE SILICON RECTIFIER	Q035	2SC2785(F)	TR. SI, NPN
D033	W06C	DIODE SILICON RECTIFIER	Q036	2SC2912(S)	TR. SI, NPN
D034	1SS83	DIODE SILICON SWITCHING	Q037	2SA1210(S)	TR. SI, PNP
D035	W06C	DIODE SILICON RECTIFIER	Q038	2SC2785(F)	TR. SI, NPN
D036	W06C	DIODE SILICON RECTIFIER	Q039	2SC2912(S)	TR. SI, NPN
D037	DS442X	DIODE, SILICON SWITCHING	Q040	2SA1210(S)	TR. SI, PNP
D038	DS442X	DIODE, SILICON SWITCHING	Q041	2SA1005(K)	TR. SI, PNP
D041	1SS83	DIODE SILICON SWITCHING	Q042	2SA1005(K)	TR. SI, PNP
D042	DS442X	DIODE, SILICON SWITCHING	Q043	2SK336	FET, N-CHANNEL
D043	DS442X	DIODE, SILICON SWITCHING	Q044	2SK336	FET, N-CHANNEL
D044	GMA-01	DIODE	Q045	2SC2785(F)	TR. SI, NPN
L005	L40-1011-04	FERRI INDUCTOR 100UH	Q046	2SC2912(S)	TR. SI, NPN
L006	L40-1011-04	FERRI INDUCTOR 100UH	Q047	2SA1210(S)	TR. SI, PNP
L007	L40-1011-13	FERRI INDUCTOR 100UH	Q048	2SC2785(F)	TR. SI, NPN
L008	L40-1011-13	FERRI INDUCTOR 100UH	Q049	2SC2912(S)	TR. SI, NPN
L009	L40-1011-04	FERRI INDUCTOR 100UH	Q050	2SA1210(S)	TR. SI, PNP
L010	L40-1011-04	FERRI INDUCTOR 100UH	Q051	2SA1175(F)	TR. SI, PNP
L011	L40-1011-13	FERRI INDUCTOR 100UH	Q052	2SD613(E)	TR. SI, NPN
L012	L40-1011-13	FERRI INDUCTOR 100UH	Q053	NO USE	
L013	L40-1011-04	FERRI INDUCTOR 100UH	Q054	2SA1175(F)	TR. SI, PNP
L014	L40-1011-04	FERRI INDUCTOR 100UH	Q055	2SD1262A(Q)	TR. SI, NPN
L015	L40-1011-13	FERRI INDUCTOR 100UH	Q056	2SB939A(Q)	TR. SI, PNP
L016	L40-1011-13	FERRI INDUCTOR 100UH	Q057	2SC2785(F)	TR. SI, NPN
L017	L40-1011-04	FERRI INDUCTOR 100UH	Q058	2SC2785(F)	TR. SI, NPN
L018	L40-1011-04	FERRI INDUCTOR 100UH	Q059	2SA1175(F)	TR. SI, PNP
L019	L40-1011-04	FERRI INDUCTOR 100UH	Q060	2SC2785(F)	TR. SI, NPN
L020	L40-1011-04	FERRI INDUCTOR 100UH	R001	RD14BB2E470J	RES. CARBON 47 5% 1/4W
L021	L40-4701-03	FERRI INDUCTOR 47UH	R002	RD14BB2E470J	RES. CARBON 47 5% 1/4W
L022	L40-6801-03	FERRI INDUCTOR 68UH	R003	RD14BB2E470J	RES. CARBON 47 5% 1/4W
NL001	NE-2B	NEON LAMP	R004	RD14BB2E470J	RES. CARBON 47 5% 1/4W
NL002	NE-2B	NEON LAMP	R005	RD14BB2E470J	RES. CARBON 47 5% 1/4W
NL003	NE-2B	NEON LAMP	R006	RD14BB2C681J	RES. CARBON 680 5% 1/6W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
R007	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R104	RD14BB2C221J	RES. CARBON 220 5% 1/6W
R008	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R105	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
R009	RN14BK2E4700F	RES. METAL FILM 470 1% 1/4W	R106	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R010	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W	R107	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R011	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R108	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R012	RN14BK2E5601F	RES. METAL FILM 5.6K 1% 1/4W	R109	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R013	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R110	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
R014	RN14BK2E3900F	RES. METAL FILM 390 1% 1/4W	R111	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R015	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R112	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R016	RD14BB2E104J	RES. CARBON 100K 5% 1/4W	R113	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R017	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W	R114	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
R018	RD14BB2E330J	RES. CARBON 33 5% 1/4W	R115	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
R019	RD14BB2E330J	RES. CARBON 33 5% 1/4W	R116	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
R020	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R117	RD14BB2E223J	RES. CARBON 22K 5% 1/4W
R021	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R118	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R022	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R119	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R023	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R120	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R024	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R121	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R025	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R122	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R026	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R123	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R027	RD14BB2E223J	RES. CARBON 22K 5% 1/4W	R124	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R028	RD14BB2E223J	RES. CARBON 22K 5% 1/4W	R125	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R029	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	R126	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R030	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R127	RD14BB2E683J	RES. CARBON 68K 5% 1/4W
R031	NO USE		R128	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R032	RD14BB2E105J	RES. CARBON 1M 5% 1/4W	R129	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R033	RD14BB2E105J	RES. CARBON 1M 5% 1/4W	R130	NO USE	
R034	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R131	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R035	RD14BB2E100J	RES. CARBON 10 5% 1/4W	R132	RN14BK2E2201F	RES. METAL FILM 2.2K 1% 1/4W
R036	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R133	RN14BK2E2201F	RES. METAL FILM 2.2K 1% 1/4W
R037	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R134	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R038	RD14BB2E393J	RES. CARBON 39K 5% 1/4W	R135	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
R039	RD14BB2E223J	RES. CARBON 22K 5% 1/4W	R136	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
R040	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R137	RD14BB2E391J	RES. CARBON 390 5% 1/4W
R041	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R138	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R042	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R139	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R043	RD14BB2E393J	RES. CARBON 39K 5% 1/4W	R140	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R044	RD14BB2E393J	RES. CARBON 39K 5% 1/4W	R141	RD14BB2E221J	RES. CARBON 220 5% 1/4W
R045	RD14BB2C393J	RES. CARBON 39K 5% 1/6W	R142	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
R046	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R143	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R047	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R144	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R048	RD14BB2E473J	RES. CARBON 47K 5% 1/4W	R145	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R049	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R146	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R050	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R147	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R051	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R148	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
R052	RD14BB2C393J	RES. CARBON 39K 5% 1/6W	R149	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R053	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R150	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R054	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R151	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R055	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R152	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R056	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R153	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R057	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R154	RN14BK2E5601F	RES. METAL FILM 5.6K 1% 1/4W
R058	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R155	RN14BK2H1302F	RES. METAL FILM 13K 1% 1/2W
R059	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R156	RN14BK2E2401F	RES. METAL FILM 2.4K 1% 1/4W
R060	NO USE		R157	RN14BK2E82R0F	RES. METAL FILM 82.0 1% 1/4W
R061	RD14BB2E104J	RES. CARBON 100K 5% 1/4W	R158	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R062	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R159	RD14BY2H912J	RES. CARBON 9.1K 5% 1/2W
R063	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R160	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R064	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R161	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R065	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R162	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R066	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R163	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R067	RD14BB2E123J	RES. CARBON 12K 5% 1/4W	R164	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R068	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R165	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R069	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R166	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R070	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R167	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R071	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R168	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R072	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R169	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
R073	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R175	R92-1026-05	RES. METAL FILM 3.3M
R074	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R176	R92-1047-05	RES. METAL FIXED15M 1% 1W
R075	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R177	RN14BK2E1543F	RES. METAL FILM 154K 1% 1/4W
R076	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R178	RD14BB2E154J	RES. CARBON 150K 5% 1/4W
R077	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R179	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R078	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R180	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R079	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R181	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R080	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R182	R92-1058-05	RES. METAL FILM 15M 5% 1W
R081	RD14BB2C820J	RES. CARBON 82 5% 1/6W	R183	R92-1057-05	RES. METAL FILM 2.2M 5% 1/2W
R082	RD14BB2E301J	RES. CARBON 300 5% 1/4W	R184	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R083	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R185	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R084	RD14BB2C820J	RES. CARBON 82 5% 1/6W	R186	R92-1034-05	RES. METAL FILM 47M
R085	RD14BB2E301J	RES. CARBON 300 5% 1/4W	R187	R92-1034-05	RES. METAL FILM 47M
R086	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R188	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R087	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R189	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R088	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R190	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R089	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R191	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R090	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R192	RN14BK2E4300F	RES. METAL FILM 430 1% 1/4W
R091	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R193	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R092	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R194	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R093	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R195	RD14BB2E912J	RES. CARBON 9.1K 5% 1/4W
R094	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R196	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R095	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R197	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R096	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R198	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R097	RD14BB2C821J	RES. CARBON 820 5% 1/6W	R199	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R098	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R200	RD14BB2C151J	RES. CARBON 150 5% 1/6W
R099	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R201	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R100	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R202	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R101	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R203	RD14BB2C393J	RES. CARBON 39K 5% 1/6W
R102	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R103	RD14BB2E181J	RES. CARBON 180 5% 1/4W			

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
R204	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	C034	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V
R205	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	C035	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R206	RD14BB2E151J	RES. CARBON 150 5% 1/4W	C036	NO USE	
R207	RD14BB2E681J	RES. CARBON 680 5% 1/4W	C037	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R208	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	C038	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V
R209	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	C039	CQ93M1H682J	CAP. MYLAR 6800P 5% 50V
R210	RD14BB2C220J	RES. CARBON 22 5% 1/6W	C040	CQ93M1H223K	CAP. MYLAR 0.022 10% 50V
R211	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C041	CE04W1E4R7M	CAP. ELECTRO 4.7 20% 25V
R212	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C042	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R213	RD14BB2C563J	RES. CARBON 56K 5% 1/6W	C043	C90-0915-05	CAP. ELECTRO 6800 20% 35V
R214	RD14BB2E471J	RES. CARBON 470 5% 1/4W	C044	C90-0915-05	CAP. ELECTRO 6800 20% 35V
R215	RD14BB2C471J	RES. CARBON 470 5% 1/6W	C045	C90-0916-05	CAP. ELECTRO 4700 20% 16V
R216	RD14BB2C621J	RES. CARBON 620 5% 1/6W	C046	C90-0910-05	CAP. ELECTRO 100 20% 200V
R217	RD14BB2E101J	RES. CARBON 100 5% 1/4W	C047	CE04W2A221M	CAP. ELECTRO 220 20% 100V
S001	S33-2501-05	LEVER SWITCH	C048	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
S002	S32-4008-05	LEVER SWITCH	C049	CE04FW1A101M	CAP. ELECTRO 100 20% 10V
S003	S32-2012-05	LEVER SWITCH	C050	CE04W1A471M	CAP. ELECTRO 470 20% 10V
TC001	C05-0434-05	CAP. TRIMMER 20P	C051	CK45F1H103Z	CAP. CERAMIC 0.01 50V
U001	SN74LS08N	IC, QUAD 2-INPUT AND GATE	C052	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
U002	SN74LS00N	IC, QUAD 2-INPUT NAND GATE	C053	CE04FW1A101M	CAP. ELECTRO 100 20% 10V
U003	SN74LS112N	IC, DUAL J-K FLIP-FLOP	C054	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
U004	SN74LS112N	IC, DUAL J-K FLIP-FLOP	C055	CK45F1H103Z	CAP. CERAMIC 0.01 50V
U005	SN74LS08N	IC, QUAD 2-INPUT AND GATE	C056	CE04W1E101M	CAP. ELECTRO 100 20% 25V
U006	SN74LS08N	IC, QUAD 2-INPUT AND GATE	C057	CK45F1H103Z	CAP. CERAMIC 0.01 50V
U007	SN74LS32N	IC, QUAD 2-INPUT OR GATE	C058	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
U008	SN74LS00N	IC, QUAD 2-INPUT NAND GATE	C059	CK45F1H103Z	CAP. CERAMIC 0.01 50V
U009	TL082CP	IC OP AMP.	C060	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
U010	NJM4558D	IC, DUAL OP-AMP	C061	CK45F1H103Z	CAP. CERAMIC 0.01 50V
U011	MC10107L	IC, QUAD 2-INPUT EXC DR/NDR	C062	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
U012	MC10104L	IC, QUAD 2-INPUT AND GATE	C063	CE04W1J100M*	CAP. ELECTRO 10 20% 63V
VR001	R12-0541-05	RES. SEMI FIXED 100 B	C064	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
VR002	R12-4508-05	RES. SEMI FIXED 50KB	C065	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
VR003	R12-0541-05	RES. SEMI FIXED 100 B	C066	NO USE	
VR004	R12-1519-05	RES. SEMI FIXED 1K B	C067	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
VR005	R12-5517-05	RES. SEMI FIXED 100KB	C068	CE04W2C100	CAP. ELECTRO 10 160V
VR006	R12-5517-05	RES. SEMI FIXED 100KB	C069	CE04W1A471M	CAP. ELECTRO 470 20% 10V
VR007	R10-3502-05	V.R. 10KB X2	C070	CE04W1E331M	CAP. ELECTRO 330 20% 25V
VR008	R10-9503-05	V.R. WITH SW 2KBX10KB	C071	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
VR009	R06-1502-05	V.R. 2K B	C072	CE04W1E101M	CAP. ELECTRO 100 20% 25V

SWEEP UNIT

(X74-1380-00)

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
X74-3	E04-0251-05	BNC RECEPTACLE	C095	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	E23-0046-04	TERMINAL	C096	CK45B1H102K	CAP. CERAMIC 1000P 10% 50V
	E23-0527-04	EARTH PLATE	C103	CE04W1A470M	CAP. ELECTRO 47 20% 10V
	E31-2170-05	JUMPING WIRE	C104	CE04W1A470M	CAP. ELECTRO 47 20% 10V
	E31-2386-05	LEAD WIRE WITH CONNECTOR	C105	CK45B1H222K	CAP. CERAMIC 2200P 10% 50V
	E33-4041-00	WIRE ASS'Y	C106	CC45CH1H030C	CAP. CERAMIC 3P 0.25P 50V
X74-4	F10-1571-04	SHIELD PLATE	C107	NO USE	
X74-5	J19-1636-14	BNC HOLDER	C108	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V
	J25-5018-22	PCB (UNMOUNTED)	C109	NO USE	
	N15-1090-46	WASHER	C110	CE04W1E470M	CAP. ELECTRO 47 20% 25V
	N30-3006-46	SCREW, PAN HD M 3X6	C111	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C001	CQ93M1H473K	CAP. MYLAR 0.047 10% 50V	C112	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C002	CM93BD2A470J	CAP. MICA 47P 5% 100V	D001	1S1544A	DIODE
C003	CQ92FM1H103K	CAP. MYLAR 0.01 10% 50V	D002	DS442X	DIODE, SILICON SWITCHING
C004	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D003	DS442X	DIODE, SILICON SWITCHING
C005	CE04W1E220M	CAP. ELECTRO 22 20% 25V	D004	DS442X	DIODE, SILICON SWITCHING
C006	NO USE		D005	NO USE	
C007	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	D006	DS442X	DIODE, SILICON SWITCHING
C008	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D007	DS442X	DIODE, SILICON SWITCHING
C009	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D008	NO USE	
C010	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D009	DS442X	DIODE, SILICON SWITCHING
C011	NO USE		D010	DS442X	DIODE, SILICON SWITCHING
C012	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D011	DS442X	DIODE, SILICON SWITCHING
C013	CK45B1H102K	CAP. CERAMIC 1000P 10% 50V	D012	DS422X	DIODE, SILICON SWITCHING
C014	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	D013	NO USE	
C015	CE04FW1H010M	CAP. ELECTRO 1 20% 50V	D014	S4VB40F1	DIODE, BRIDGE
C016	CE04W1A101M	CAP. ELECTRO 100 20% 10V	D015	S2VB40F	DIODE, BRIDGE
C017	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D016	S2VB40F	DIODE, BRIDGE
C018	NO USE		D017	S1QB60	DIODE
C019	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D018	DS442X	DIODE, SILICON SWITCHING
C020	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D019	WZ-085	DIODE, ZENER 8.5V
C021	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D020	WZ-150	DIODE, ZENER 15V
C022	NO USE		D021	WZ-050	DIODE, ZENER 5V
C023	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D022	WZ-085	DIODE, ZENER 8.5V
C024	C91-0574-05	CAP. MYLAR 1 5% 50V			
C025	C91-0573-05	CAP. MYLAR 0.01 1% 50V			
C026	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V			
C027	CM93BD2A101J	CAP. MICA 100P 5% 100V			
C028	NO USE				
C029	C91-0574-05	CAP. MYLAR 1 5% 50V			
C030	C91-0573-05	CAP. MYLAR 0.01 1% 50V			
C031	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V			
C032	CM93BD2A101J	CAP. MICA 100P 5% 100V			
C033	NO USE				

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
D023	WZ-150	DIODE, ZENER 15V	R005	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
D024	DS442X	DIODE, SILICON SWITCHING	R006	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
D025	DS442X	DIODE, SILICON SWITCHING	R007	RD14BB2E181J	RES. CARBON 180 5% 1/4W
D029	DS422X	DIODE, SILICON SWITCHING	R008	RD14BB2C181J	RES. CARBON 180 5% 1/6W
D030	GMA-01	DIODE	R009	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
D031	DS442X	DIODE, SILICON SWITCHING	R010	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
D032	DS422X	DIODE, SILICON SWITCHING	R011	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
D033	DS422X	DIODE, SILICON SWITCHING	R012	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
L001	L40-4701-03	FERRI INDUCTOR 47UH	R013	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
L002	L40-4701-03	FERRI INDUCTOR 47UH	R014	RN14BK2E4302F	RES. METAL FILM 43K 1% 1/4W
L003	L40-4701-03	FERRI INDUCTOR 47UH	R015	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
L004	NO USE		R016	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
L005	L40-1011-04	FERRI INDUCTOR 100UH	R017	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
L006	L40-1011-04	FERRI INDUCTOR 100UH	R018	RD14BB2C101J	RES. CARBON 100 5% 1/6W
L007	L40-1011-13	FERRI INDUCTOR 100UH	R019	RD14BB2E391J	RES. CARBON 390 5% 1/4W
L008	L40-1011-04	FERRI INDUCTOR 100UH	R020	RD14BB2E391J	RES. CARBON 390 5% 1/4W
L009	L40-1011-04	FERRI INDUCTOR 100UH	R021	RD14BB2C471J	RES. CARBON 470 5% 1/6W
L010	L40-1011-13	FERRI INDUCTOR 100UH	R022	RD14BB2E821J	RES. CARBON 820 5% 1/4W
L011	L40-1011-13	FERRI INDUCTOR 100UH	R023	RD14BB2E101J	RES. CARBON 100 5% 1/4W
L012	L40-4701-03	FERRI INDUCTOR 47UH	R024	NO USE	
P005	E40-0273-05	PIN CONNECTOR 2 CONTACT	R025	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
P013	E40-1173-05	PIN CONNECTOR	R026	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
P014	NO USE		R027	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P015	E40-0373-05	PIN CONNECTOR 3 CONTACT	R028	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P022	E40-0673-05	PIN CONNECTOR 6 CONTACT	R029	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P023	E40-0473-05	PIN CONNECTOR 4 CONTACT	R030	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P024	E40-1073-05	PIN CONNECTOR 10P	R031	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P039	E40-0373-05	PIN CONNECTOR 3 CONTACT	R032	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P040	E40-0446-05	CONNECTOR 4P	R033	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P041	E40-0746-05	PIN CONNECTOR 7P	R034	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
P042	E40-0773-05	PIN CONNECTOR 7P	R035	RD14BB2E681J	RES. CARBON 680 5% 1/4W
P043	E40-0773-05	PIN CONNECTOR 7P	R036	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
P044	E40-0373-05	PIN CONNECTOR 3 CONTACT	R037	RD14BB2E392J	RES. CARBON 3.9K 5% 1/4W
P045	E40-0473-05	PIN CONNECTOR 4 CONTACT	R038	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P046	E40-0273-05	PIN CONNECTOR 2 CONTACT	R039	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
P047	E40-0273-05	PIN CONNECTOR 2 CONTACT	R040	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P058	E40-0273-05	PIN CONNECTOR 2 CONTACT	R041	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P059	NO USE		R042	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P060	E40-0473-05	PIN CONNECTOR 4 CONTACT	R043	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q001	2SK107(3)	FET, N-CHANNEL	R044	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q002	2SK107(3)	FET, N-CHANNEL	R045	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q003	2SC1215(T,S)	TR. SI, NPN	R046	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q004	2SC1215(T,S)	TR. SI, NPN	R047	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q005	2SC1215(T,S)	TR. SI, NPN	R048	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q006	2SA1175(F)	TR. SI, PNP	R049	RD14BB2C820J	RES. CARBON 82 5% 1/6W
Q007	2SK117(Y)	FET, N-CHANNEL	R050	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q008	2SC2785(F)	TR. SI, NPN	R051	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q009	2SC2785(F)	TR. SI, NPN	R052	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q010	2SC2785(F)	TR. SI, NPN	R053	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q011	2SA1175(F)	TR. SI, PNP	R054	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q012	2SK117(Y)	FET, N-CHANNEL	R055	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q013	2SC2785(F)	TR. SI, NPN	R056	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q014	2SC2785(F)	TR. SI, NPN	R057	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q015	2SC2785(F)	TR. SI, NPN	R058	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q016	2SA1175(F)	TR. SI, PNP	R059	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q017	2SC2785(F)	TR. SI, NPN	R060	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q018	2SC2785(F)	TR. SI, NPN	R061	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q019	2SC2785(F)	TR. SI, NPN	R062	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q020	2SA1239(F)	TR. SI, PNP-DUAL	R063	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q021	NO USE		R064	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q022	2SA1175(F)	TR. SI, PNP	R065	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q023	2SC2785(F)	TR. SI, NPN	R066	RD14BB2E820J	RES. CARBON 82 5% 1/4W
Q024	2SC2785(F)	TR. SI, NPN	R067	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q025	2SC2785(F)	TR. SI, NPN	R068	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q026	2SC2785(F)	TR. SI, NPN	R069	RN14BK2E3602F	RES. METAL FILM 36K 1% 1/4W
Q027	2SA1175(F)	TR. SI, PNP	R070	RN14BK2E3302F	RES. METAL FILM 33K 1% 1/4W
Q028	2SA1175(F)	TR. SI, PNP	R071	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q029	2SA1175(F)	TR. SI, PNP	R072	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
Q030	2SC2785(F)	TR. SI, NPN	R073	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q031	2SC2271(D)	TR. SI, NPN	R074	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q032	2SC2271(D)	TR. SI, NPN	R075	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q033	2SA1175(F)	TR. SI, PNP	R076	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
Q034	2SK117(O)	FET, N-CHANNEL	R077	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q035	2SC2785(F)	TR. SI, NPN	R078	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
Q036	2SA1175(F)	TR. SI, PNP	R079	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q037	2SK117(GR)	FET, N-CHANNEL	R080	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q038	2SK117(GR)	FET, N-CHANNEL	R081	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q039	NO USE		R082	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
Q040	2SC2785(F)	TR. SI, NPN	R083	RS14GB3D103J	RES. METAL FILM 10K 5% 2W
Q041	2SA1175(F)	TR. SI, PNP	R084	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W
Q042	2SA1175(F)	TR. SI, PNP	R085	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
Q043	2SA1175(F)	TR. SI, PNP	R086	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W
Q044	2SA1175(F)	TR. SI, PNP	R087	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W
R001	RD14BB2E105J	RES. CARBON 1M 5% 1/4W	R088	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W
R002	RN14BK2E9003F	RES. METAL FILM 900K 1% 1/4W	R089	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W
R003	RN14BK2E1113F	RES. METAL FILM 111K 1% 1/4W	R090	RN14BK2E3002F	RES. METAL FILM 30K 1% 1/4W
R004	RD14BB2E430J	RES. CARBON 43 5% 1/4W	R091	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W
			R092	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
			R093	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
			R094	RD14BB2E113J	RES. CARBON 11K 5% 1/4W
			R095	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
			R096	RS14GB3D103J	RES. METAL FILM 10K 5% 2W
			R097	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W
			R098	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
			R099	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W
			R100	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
R101	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W	R197	RD14BB2C363J	RES. CARBON 36K 5% 1/6W
R102	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W	R202	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R103	RN14BK2E3002F	RES. METAL FILM 30K 1% 1/4W	R203	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R104	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W	R204	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R105	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W	R205	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R106	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W	R206	NO USE	
R107	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R207	RD14BB2E681J	RES. CARBON 680 5% 1/4W
R108	RN14BK2E3602F	RES. METAL FILM 36K 1% 1/4W	R217	RD14BB2E270J	RES. CARBON 27 5% 1/4W
R109	RN14BK2E3302F	RES. METAL FILM 33K 1% 1/4W	R218	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R110	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R219	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R111	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R220	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R112	RD14BB2E113J	RES. CARBON 11K 5% 1/4W	R221	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R113	RD14BB2E912J	RES. CARBON 9.1K 5% 1/4W	R224	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R114	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	R225	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R115	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R228	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R116	RD14BB2E113J	RES. CARBON 11K 5% 1/4W	R229	NO USE	
R117	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	R230	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R118	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R231	NO USE	
R119	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R232	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R120	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	R233	NO USE	
R121	RD14BB2E473J	RES. CARBON 47K 5% 1/4W	R234	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R122	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R235	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R123	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	S001	S32-4008-05	LEVER SWITCH
R124	RD14BB2E681J	RES. CARBON 680 5% 1/4W	S002	S33-4503-05	LEVER SWITCH
R125	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	S003	S32-4008-05	LEVER SWITCH
R126	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W	S004	NO USE	
R127	RD14BB2E622J	RES. CARBON 6.2K 5% 1/4W	S005	S29-5502-05	ROTARY SWITCH
R128	RD14BB2E622J	RES. CARBON 6.2K 5% 1/4W	TC001	C05-0422-05	CAP. TRIMMER 20P
R129	RD14BB2E153J	RES. CARBON 15K 5% 1/4W	TC002	C05-0421-05	CAP. TRIMMER 10P
R130	RD14BB2E104J	RES. CARBON 100K 5% 1/4W	TC003	C05-0420-05	CAP. TRIMMER 6P
R131	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	TC004	C05-0422-05	CAP. TRIMMER 20P
R132	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	TC005	C05-0422-05	CAP. TRIMMER 20P
R133	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	TC006	C05-0422-05	CAP. TRIMMER 20P
R134	RD14BB2E113J	RES. CARBON 11K 5% 1/4W	U001	MC10131L	IC, DUAL D-FFS
R135	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	U002	MC10103L	IC, QUAD 2-INPUT OR GATE
R136	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	U003	MC10104L	IC, QUAD 2-INPUT AND GATE
R137	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	U004	MC10103L	IC, QUAD 2-INPUT OR GATE
R138	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	U005	MC10102L	IC, QUAD 2-INPUT NOR GATE
R139	RD14BB2E471J	RES. CARBON 470 5% 1/4W	U006	MC10102L	IC, QUAD 2-INPUT NOR GATE
R140	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	U007	MC10105L	IC DIGITAL
R141	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	U008	NJM4558D	IC, DUAL OP-AMP
R142	RD14BB2E391J	RES. CARBON 390 5% 1/4W	U009	NJM4558D	IC, DUAL OP-AMP
R143	NO USE		U010	NJM4558D	IC, DUAL OP-AMP
R144	RD14BB2E473J	RES. CARBON 47K 5% 1/4W	U011	NJM4558D	IC, DUAL OP-AMP
R145	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	VR001	R12-2512-05	RES. SEMI FIXED 5K B
R146	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	VR002	R12-2512-05	RES. SEMI FIXED 5K B
R147	RD14BB2E470J	RES. CARBON 47 5% 1/4W	VR003	R12-0540-05	RES. SEMI FIXED 500 B
R148	RD14BB2E221J	RES. CARBON 220 5% 1/4W	VR004	R12-0540-05	RES. SEMI FIXED 500 B
R149	RD14BB2E473J	RES. CARBON 47K 5% 1/4W	VR005	R12-2512-05	RES. SEMI FIXED 5K B
R150	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	VR006	R12-1518-05	RES. SEMI FIXED 2K B
R151	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	VR007	R12-1518-05	RES. SEMI FIXED 2K B
R152	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	VR008	R12-1518-05	RES. SEMI FIXED 2K B
R153	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W	VR009	R12-1518-05	RES. SEMI FIXED 2K B
R154	RD14BB2C822J	RES. CARBON 8.2K 5% 1/6W	VR010	R10-3502-05	V.R. 10KB X2
R155	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W	VR011	R10-3502-05	V.R. 10KB X2
R156	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W	VR012	R12-0540-05	RES. SEMI FIXED 500 B
R157	RD14BB2E392J	RES. CARBON 3.9K 5% 1/4W	VR013	R12-3521-05	RES. SEMI FIXED 20K B
R158	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	VR014	R12-3520-05	RES. SEMI FIXED 10K B
R159	RD14BB2C561J	RES. CARBON 560 5% 1/6W			
R160	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W			
R161	RD14BB2C682J	RES. CARBON 6.8K 5% 1/6W			
R162	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W			
R163	RD14BB2C561J	RES. CARBON 560 5% 1/6W			
R164	RD14BB2E103J	RES. CARBON 10K 5% 1/4W			
R165	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W			
R166	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R167	RD14BB2C561J	RES. CARBON 560 5% 1/6W			
R168	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W			
R169	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W			
R170	RD14BB2E123J	RES. CARBON 12K 5% 1/4W			
R171	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R172	RN14BK2E1203F	RES. METAL FILM 120K 1% 1/4W			
R173	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W			
R174	RD14BB2E123J	RES. CARBON 12K 5% 1/4W			
R175	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R176	RD14BY2H333J	RES. CARBON 33K 5% 1/2W			
R177	RD14BB2E220J	RES. CARBON 22 5% 1/4W			
R178	RD14BB2E220J	RES. CARBON 22 5% 1/4W			
R179	RD14BB2E101J	RES. CARBON 100 5% 1/4W			
R180	RD14BB2E101J	RES. CARBON 100 5% 1/4W			
R181	RD14BB2E101J	RES. CARBON 100 5% 1/4W			
R182	RD14BB2E473J	RES. CARBON 47K 5% 1/4W			
R183	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W			
R184	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W			
R185	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W			
R186	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W			
R187	RD14BY2H103J	RES. CARBON 10K 5% 1/2W			
R188	RD14BB2E223J	RES. CARBON 22K 5% 1/4W			
R189	RD14BB2E681J	RES. CARBON 680 5% 1/4W			
R190	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R191	RD14BB2C105J	RES. CARBON 1M 5% 1/6W			
R192	RD14BB2C105J	RES. CARBON 1M 5% 1/6W			
R193	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W			
R194	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W			
R195	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R196	RD14BB2C393J	RES. CARBON 39K 5% 1/6W			

CONNECTION UNIT

(X77-1300-00)

REF.NO	PARTS NO	NAME & DESCRIPTION
	E31-2170-05	JUMPING WIRE
	J25-5019-13	PCB (UNMOUNTED)
C001	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C002	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
C003	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
C004	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
C005	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
C006	CE04FW1V330M	CAP. ELECTRO 33 20% 35V
C007	CE04FW1V330M	CAP. ELECTRO 33 20% 35V
C008	NO USE	
C009	CE04W1E221M	CAP. ELECTRO 220 20% 25V
C010	CE04W1E221M	CAP. ELECTRO 220 20% 25V
C011	NO USE	
C012	CE04FW1A101M	CAP. ELECTRO 100 20% 10V
C013	C91-0572-05	CAP. CERAMIC 0.1 12V
C014	CQ93M1H103J	CAP. MYLAR 0.01 5% 50V
C015	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C016	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C017	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C018	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C022	CK45B1H103K	CAP. CERAMIC 0.01 10% 50V

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
D001	WZ-085	DIODE, ZENER 8.5V	A33-0502-05		REFLECTOR (FOR LAMP ASS'Y)
D002	DS442X	DIODE, SILICON SWITCHING	A33-0503-05		REFLECTOR (FOR LAMP ASS'Y)
D003	DS442X	DIODE, SILICON SWITCHING	B07-0712-13		ESCUTCHEON FOR FILTER
D004	DS442X	DIODE, SILICON SWITCHING	B19-0726-04		FILTER
P007	E40-1111-05	PIN CONNECTOR 11P	B20-0923-04		SCALE
P008	E40-1111-05	PIN CONNECTOR 11P	B30-0903-15		LED LAMP (RED)
P009	NO USE		B30-0940-05		LAMP ASS'Y
P010	E40-0911-05	PIN CONNECTOR 9P	B30-0941-05		LAMP
P011	E40-1011-05	PIN CONNECTOR 10P	B40-2765-04		NAME PLATE (SERIAL NO)
P012	E40-1011-05	PIN CONNECTOR 10P	B41-0710-04		CAUTION LABEL (HIGH VOLTAGE)
P022	E40-0673-05	PIN CONNECTOR 6 CONTACT	B41-0756-03		CAUTION LABEL
P023	NO USE		B50-7511-00		INSTRUCTION MANUAL
P024	E40-1073-05	PIN CONNECTOR 10P	E04-0251-05		BNC RECEPTACLE
P025	E40-0673-05	PIN CONNECTOR 6 CONTACT	E21-0657-04		TERMINAL (GND)
P026	E40-0273-05	PIN CONNECTOR 2 CONTACT	E21-0660-04		TERMINAL (CAL)
P027	E40-0373-05	PIN CONNECTOR 3 CONTACT	E23-0043-04		EARTH LUG
P028	E40-0273-05	PIN CONNECTOR 2 CONTACT	E23-0513-05		EARTH LUG
P029	E40-0273-05	PIN CONNECTOR 2 CONTACT	E23-0522-14		EARTH PLATE
P030	E40-0373-05	PIN CONNECTOR 3 CONTACT	E23-0524-04		EARTH LUG
P031	E40-0373-05	PIN CONNECTOR 3 CONTACT	E30-0545-05		AC POWER CORD
P032	E40-0273-05	PIN CONNECTOR 2 CONTACT	E30-1851-05		POWER CORD ASS'Y (JIS)
P033	E40-7203-05	PIN CONNECTOR 3P	E31-2371-05		LEAD WIRE WITH CONNECTOR
P034	E40-0604-05	PIN CONNECTOR 6P	E31-2372-05		LEAD WIRE WITH CONNECTOR
P035	E40-7204-05	PIN CONNECTOR 4P	E31-2391-05		LEAD WIRE WITH CONNECTOR
P036	E40-0804-05	PIN CONNECTOR 8P	E31-2392-05		LEAD WIRE WITH CONNECTOR
P037	E40-0804-05	PIN CONNECTOR 8P	E31-2393-05		LEAD WIRE WITH CONNECTOR
Q001	2SC1384(R)	TR, SI, NPN	E31-2394-05		LEAD WIRE WITH CONNECTOR
Q002	2SA684(R)	TR, SI, PNP	E31-2395-05		LEAD WIRE WITH CONNECTOR
R001	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	E31-2396-15		LEAD WIRE WITH CONNECTOR
R002	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	E31-2397-05		LEAD WIRE WITH CONNECTOR
R003	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	E31-2398-15		LEAD WIRE WITH CONNECTOR
R004	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	E31-2399-05		LEAD WIRE WITH CONNECTOR
R005	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	E31-2400-05		LEAD WIRE WITH CONNECTOR
R006	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	E31-2401-05		LEAD WIRE WITH CONNECTOR
R007	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	E31-2402-15		LEAD WIRE WITH CONNECTOR
R008	RS14GB3D820J	RES. METAL FILM 82 5% 2W	E31-2403-05		LEAD WIRE WITH CONNECTOR
R009	RD14BB2E331J	RES. CARBON 330 5% 1/4W	E31-2404-05		LEAD WIRE WITH CONNECTOR
R010	RD14BB2E470J	RES. CARBON 47 5% 1/4W	E31-2405-05		LEAD WIRE WITH CONNECTOR
R011	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W	E31-2406-05		LEAD WIRE WITH CONNECTOR
R012	RN14BK2E9102F	RES. METAL FILM 91K 1% 1/4W	E31-2407-15		LEAD WIRE WITH CONNECTOR
R013	RN14BK2E4302F	RES. METAL FILM 43K 1% 1/4W	E31-2408-05		LEAD WIRE WITH CONNECTOR
R014	RN14BK2E3601F	RES. METAL FILM 3.6K 1% 1/4W	E31-2409-05		LEAD WIRE WITH CONNECTOR
R015	RN14BK2E1300F	RES. METAL FILM 130 1% 1/4W	E31-2410-05		LEAD WIRE WITH CONNECTOR
R016	NO USE		E31-2411-05		LEAD WIRE WITH CONNECTOR
R017	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	E31-2412-05		LEAD WIRE WITH CONNECTOR
R018	RD14BB2E101J	RES. CARBON 100 5% 1/4W	E31-2413-05		LEAD WIRE WITH CONNECTOR
R019	RD14BB2E101J	RES. CARBON 100 5% 1/4W	E31-2414-05		LEAD WIRE WITH CONNECTOR
R020	RD14BB2E221J	RES. CARBON 220 5% 1/4W	E31-2415-05		LEAD WIRE WITH CONNECTOR
R021	RD14BB2E471J	RES. CARBON 470 5% 1/4W	E31-2416-05		LEAD WIRE WITH CONNECTOR
R022	RD14BB2E471J	RES. CARBON 470 5% 1/4W	E31-2417-05		LEAD WIRE WITH CONNECTOR
R023	RD14BB2E471J	RES. CARBON 470 5% 1/4W	E31-2418-05		LEAD WIRE WITH CONNECTOR
R024	RD14BB2C101J	RES. CARBON 100 5% 1/6W	E31-2419-05		LEAD WIRE WITH CONNECTOR
U001	NJM4558D	IC, DUAL OP-AMP	E31-2420-05		LEAD WIRE WITH CONNECTOR
			F01-0838-03		HEAT SINK
			F05-1023-05		FUSE 1A
			F05-2023-05		FUSE 2A
			F07-0908-14		PROTECTION COVER
			F10-1567-04		EARTH BAND (FOR H.VOLT BLCKE)
			F11-0981-13		SHIELD CASE
			F20-0639-04		INSULATOR
			G02-0606-14		SPRING FOR HANDLE
			G02-0607-04		SPRING FOR CRT
			G16-0602-04		REFLECTOR SHEET(L)
			G16-0603-04		REFLECTOR SHEET(R)
			H01-5702-04		CARTON BOX
			H10-2817-01		FOAMED STYRENE PAD
			H10-2818-01		FOAMED STYRENE PAD
			H20-1719-04		VINYL COVER
			H25-0016-00		BAG
			H25-0029-04		BAG
			J02-0089-05		LEG
			J10-0100-12		BEZEL
			J13-0033-15		FUSE HOLDER
			J19-1313-05		LEAD HOLDER
			J19-1620-05		CORD CLAMP
			J19-1633-03		HOLDER FOR CRT
			J19-1634-04		HOLDER FOR LEAD
			J19-1635-04		HOLDER FOR LEAD
			J19-1637-03		HOLDER FOR DELAY LINE
			J21-2906-05		GEAR FOR HANDLE
			J21-2907-05		RING FOR HANDLE
			J21-2970-23		BLACKET FOR CRT
			J21-2979-14		BLACKET FOR SCALE
			J21-2980-04		BRACKET FOR P.C.BOARD
			J21-2983-04		AC CORD BRACKET
			J25-3000-05		P.C.BOARD (FOR LAMP ASS'Y)
			J31-0603-04		COLLAR
			J31-0604-04		COLLAR
			J42-0083-05		BUSHING
			J42-0523-04		BUSHING
			J59-0403-05		NYLON RIVET
			J61-0049-05		WIRE BAND
			J61-0401-05		WIRE BAND
			J61-0515-05		SUPPORT (I TYPE)

CRT UNIT

(X81-1250-02)

REF. NO	PARTS NO	NAME & DESCRIPTION
	E01-0103-05	CRT SOCKET
	E23-0503-05	TERMINAL
	J25-2996-24	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM
J016	E31-2390-05	LEAD WIRE WITH CONNECTOR
J017	E31-2390-05	LEAD WIRE WITH CONNECTOR
J018	NO USE	
J019	E31-2388-05	LEAD WIRE WITH CONNECTOR
J020	NO USE	
J021	E31-2387-05	LEAD WIRE WITH CONNECTOR
J022	NO USE	
J023	E31-2389-05	LEAD WIRE WITH CONNECTOR
R003	RD14BB2E473J	RES. CARBON 47K 5% 1/4W

MAIN CHASSIS CS-1040

(Y70-1450-21)

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1105-12	CASE
	A01-1106-02	CASE
	A10-1436-02	CHASSIS
	A20-2764-11	PANEL
	A21-1036-02	DECORATIVE PANEL
	A22-0827-13	SUB PANEL
	A22-0831-12	SUB PANEL
	A23-1644-02	REAR PANEL

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
	J61-0518-05	SUPPORT (T TYPE)	C023	CC45FCH1H020C	CAP. CERAMIC 2P 0.25P 50V
	J61-0519-04	SUPPORT (P.C.BOARD)	C024	NO USE	
	K01-0520-05	HANDLE	C025	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	K21-0855-14	KNOB	C028	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	K21-0858-04	KNOB			
	K21-0860-03	KNOB	C031	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	K21-0862-03	KNOB	C032	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V
	K21-0863-03	KNOB	C033	CE04FW1E330M	CAP. ELECTRO 33 20% 25V
	K21-0864-03	KNOB	C034	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
	K21-0866-13	KNOB	C035	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	K27-0530-04	KNOB FOR LEVER	C036	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V
	L01-9364-05	POWER TRANSFORMER	C037	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V
	L39-0518-05	ROTATOR COIL	C038	CC45FCH1H220J	CAP. CERAMIC 22P 5% 50V
	L76-0107-05	DELAY LINE	C039	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V
	N08-0611-04	DRESSED SCREW	C044	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N09-0705-05	SCREW, HEX SOCKET FLAT HD	C045	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N09-0710-05	SCREW, SEMS PAN HD	C046	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	N09-0715-04	SCREW, PAN HD M 4X31	C047	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	N09-0717-05	SCREW, TRUSS HD M 3X12	C048	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N09-0720-05	SCREW, SEMS PAN HD	C049	NO USE	
	N10-2070-46	NUT, HEX	C050	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N15-1030-41	WASHER, FLAT FOR M3	C051	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N15-1110-46	WASHER	C052	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N19-0704-04	WASHER	C053	NO USE	
	N19-0710-05	WASHER	C054	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N30-3004-46	SCREW, PAN HD M 3X4	C055	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	N30-3006-41	SCREW, PAN HD M 3X6	C056	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N30-3008-46	SCREW, PAN HD M 3X8	C057	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	N30-4006-41	SCREW, PAN HD M 4X6	C058	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	N30-4012-41	SCREW, PAN HD M 4X12	C059	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N32-3008-41	SCREW, FLAT HD M 3X8	C060	NO USE	
	N88-3006-46	SCREW, FLAT HD TAP TITE	C061	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N88-3008-46	SCREW, FLAT HD TAP TITE	C062	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N89-3006-41	SCREW, BINDING TAP TITE	C063	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N89-3010-41	SCREW, BINDING TAP TITE	C064	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	R03-3502-15	V.R. 20K B	C065	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	R05-3505-05	V.R. 20K B	C066	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	R05-8001-05	V.R. 3M B	C067	NO USE	
	R10-9502-05	V.R. 10K,200K B	C068	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	R29-0504-05	V.R. 1K B	C069	NO USE	
	SLP520D	LED (RED, GREEN)	C070	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	W01-0503-04	CORD WRAP	C071	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	W02-0412-05	HIGH VOLTAGE POWER BLOCK	C072	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X73-1530-00	VERTICAL PREAMP UNIT	C073	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X73-1540-00	VERTICAL OUTPUT AMP UNIT	C074	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	X74-1370-00	TRIGGER UNIT	C075	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X74-1380-00	SWEEP UNIT	C076	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X75-1150-00	ATTENUATOR UNIT	C077	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X77-1300-00	CONNECTION UNIT	C078	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	X81-1250-02	CRT SOCKET UNIT	C079	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	Y87-1250-00	PROBE(PC-29)	C080	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	150HTM31	CRT	C081	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	212-2014-05	TUBE (PLASTIC)	C082	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
	212-3017-05	TUBE (PLASTIC)	C083	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
	490-0009-05	TAPE	C084	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q001	2SD1276(Q)	TR. SI, NPN	C085	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q002	2SD1276(Q)	TR. SI, NPN	C086	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q003	2SB950(P,Q)	TR. SI, PNP	C087	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q004	2SB950(P,Q)	TR. SI, PNP	C088	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q005	2SB940(P)	TR. SI, PNP	C089	CK45F1H103Z	CAP. CERAMIC 0.01 50V
Q006	2SA1156(K,L)	TR. SI, PNP	C090	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C091	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C092	CK45F1H103Z	CAP. CERAMIC 0.01 50V
			C093	CE04W1J330M	CAP. ELECTRO 33 20% 63V
			C094	CK45B2H222K	CAP. CERAMIC 2200P 10% 500V

VERTICAL PREAMP UNIT

(X73-1530-01)

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
	E23-0526-04	EARTH PLATE	D001	DS442X	DIODE, SILICON SWITCHING
	E31-2170-05	JUMPING WIRE	D002	DS442X	DIODE, SILICON SWITCHING
	E33-4042-00	WIRE ASS'Y	D003	MTZ7.5JC	DIODE, ZENER 7.5V
	J25-5021-13	PCB (UNMOUNTED)	D011	DS442X	DIODE, SILICON SWITCHING
	J31-0604-04	COLLAR	D012	DS442X	DIODE, SILICON SWITCHING
	K27-0528-04	KNOB FOR PUSH	D021	DS442X	DIODE, SILICON SWITCHING
C001	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D022	DS442X	DIODE, SILICON SWITCHING
C002	CK45F1H103Z	CAP. CERAMIC 0.01 50V			
C003	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D031	GMA01	DIODE
C004	CC45FCH1H220J	CAP. CERAMIC 22P 5% 50V	D032	GMA01	DIODE
C005	NO USE		L001	L40-6882-02	FERRI INDUCTOR 68UH
C006	CE04FW1E220M	CAP. ELECTRO 22 20% 25V	P001	E40-0273-05	PIN CONNECTOR 2 CONTACT
C007	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P002	E40-0273-05	PIN CONNECTOR 2 CONTACT
C008	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	P003	E40-0273-05	PIN CONNECTOR 2 CONTACT
C011	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P004	E40-0273-05	PIN CONNECTOR 2 CONTACT
C012	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P005	E40-0273-05	PIN CONNECTOR 2 CONTACT
C013	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	P006	E40-0473-05	PIN CONNECTOR 4 CONTACT
C014	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V	P007	E40-1116-05	PIN CONNECTOR 11P
C015	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P008	E40-1116-05	PIN CONNECTOR 11P
C016	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P052	E40-0415-05	PIN CONNECTOR 4 CONTACT
C017	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P055	E40-0673-05	PIN CONNECTOR 6 CONTACT
C018	CE04FW1A470M	CAP. ELECTRO 47 20% 10V	P056	E40-0673-05	PIN CONNECTOR 6 CONTACT
C021	CE04FW1E100M	CAP. ELECTRO 10 20% 25V			
C022	CK45F1H103Z	CAP. CERAMIC 0.01 50V			

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
Q001	2SA1005(K)	TR. SI, PNP	R051	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q002	2SA1005(K)	TR. SI, PNP	R052	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q003	2SC1215(S,T)	TR. SI, NPN	R053	RD14BB2E243J	RES. CARBON 24K 5% 1/4W
Q004	2SC1215(S,T)	TR. SI, NPN	R054	RD14BB2E623J	RES. CARBON 62K 5% 1/4W
Q005	2SC1215(S,T)	TR. SI, NPN	R055	RD14BB2E470J	RES. CARBON 47 5% 1/4W
Q006	2SA1005(K)	TR. SI, PNP	R056	RD14BB2E470J	RES. CARBON 47 5% 1/4W
Q007	2SA1005(K)	TR. SI, PNP	R057	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
Q008	2SC1215(S,T)	TR. SI, NPN	R058	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
Q009	2SC1215(S,T)	TR. SI, NPN	R059	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
Q010	2SA1005(K)	TR. SI, PNP	R060	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W
Q011	2SC1215(S,T)	TR. SI, NPN	R061	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
Q012	2SC1215(S,T)	TR. SI, NPN	R062	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W
Q013	2SC1215(S,T)	TR. SI, NPN	R063	NO USE	
Q021	2SA1005(K)	TR. SI, PNP	R064	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q022	2SA1005(K)	TR. SI, PNP	R065	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q023	2SC1215(S,T)	TR. SI, NPN	R066	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q024	2SC1215(S,T)	TR. SI, NPN	R067	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q025	2SC1215(S,T)	TR. SI, NPN	R068	RN14BK2E2701F	RES. METAL FILM 2.7K 1% 1/4W
Q026	2SA1005(K)	TR. SI, PNP	R069	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
Q027	2SA1005(K)	TR. SI, PNP	R070	RN14BK2E3000F	RES. METAL FILM 300 1% 1/4W
Q028	2SC1215(S,T)	TR. SI, NPN	R071	NO USE	
Q029	2SC1215(S,T)	TR. SI, NPN	R072	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q030	2SC1215(S,T)	TR. SI, NPN	R073	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q031	2SC1215(S,T)	TR. SI, NPN	R074	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q032	2SC1215(S,T)	TR. SI, NPN	R075	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q033	2SC1215(S,T)	TR. SI, NPN	R076	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q041	2SA1005(K)	TR. SI, PNP	R077	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q042	2SC1215(S,T)	TR. SI, NPN	R078	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q043	2SC1215(S,T)	TR. SI, NPN	R079	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q044	2SC1215(S,T)	TR. SI, NPN	R080	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q045	2SC1215(S,T)	TR. SI, NPN	R081	RD14BB2E511J	RES. CARBON 510 5% 1/4W
Q046	2SC1215(S,T)	TR. SI, NPN	R082	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q047	2SC2786(K)	TR. SI, NPN	R083	RD14BB2E151J	RES. CARBON 150 5% 1/4W
Q048	2SC2786(K)	TR. SI, NPN	R084	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q049	2SC2786(K)	TR. SI, NPN	R085	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q061	2SC1215(S,T)	TR. SI, NPN	R086	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q062	2SC1215(S,T)	TR. SI, NPN	R087	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q063	2SA1005(K)	TR. SI, PNP	R088	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q064	2SA1005(K)	TR. SI, PNP	R089	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q065	2SA1005(K)	TR. SI, PNP	R090	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q066	2SC2644	TR. SI, NPN	R091	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q067	2SC2644	TR. SI, NPN	R092	RN14BK2E4301F	RES. METAL FILM 4.3K 1% 1/4W
Q068	2SC1215(S,T)	TR. SI, NPN	R093	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W
Q069	2SC1215(S,T)	TR. SI, NPN	R094	RN14BK2E4301F	RES. METAL FILM 4.3K 1% 1/4W
R001	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R095	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W
R002	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R096	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R003	RD14BB2E243J	RES. CARBON 24K 5% 1/4W	R101	RD14BB2E470J	RES. CARBON 47 5% 1/4W
R004	RD14BB2E623J	RES. CARBON 62K 5% 1/4W	R102	RN14BK2E4700F	RES. METAL FILM 470 1% 1/4W
R005	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R103	RD14BB2E470J	RES. CARBON 47 5% 1/4W
R006	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R104	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R007	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W	R105	RN14BK2E5601F	RES. METAL FILM 5.6K 1% 1/4W
R008	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W	R106	RN14BK2E2201F	RES. METAL FILM 2.2K 1% 1/4W
R009	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W	R107	RD14BB2E391J	RES. CARBON 390 5% 1/4W
R010	RN14BK2E1202F	RES. METAL FILM 12K 1% 1/4W	R108	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R011	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W	R109	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R012	RD14BB2E152J	RES. CARBON 1.5K 5% 1/4W	R110	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R013	NO USE		R111	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
R014	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R112	RN14BK2E2701F	RES. METAL FILM 2.7K 1% 1/4W
R015	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R113	RN14BK2E3000F	RES. METAL FILM 300 1% 1/4W
R016	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R114	RD14BB2E391J	RES. CARBON 390 5% 1/4W
R017	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R115	NO USE	
R018	RN14BK2E2701F	RES. METAL FILM 2.7K 1% 1/4W	R116	RD14BB2E132J	RES. CARBON 1.3K 5% 1/4W
R019	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W	R117	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R020	RN14BK2E3000F	RES. METAL FILM 300 1% 1/4W	R118	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R021	NO USE		R119	RD14BB2E470J	RES. CARBON 47 5% 1/4W
R022	RD14BB2E681J	RES. CARBON 680 5% 1/4W	R120	RD14BB2E470J	RES. CARBON 47 5% 1/4W
R023	RD14BB2E151J	RES. CARBON 150 5% 1/4W	R121	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W
R024	RD14BB2E151J	RES. CARBON 150 5% 1/4W	R122	RN14BK2E4301F	RES. METAL FILM 4.3K 1% 1/4W
R025	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R123	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R026	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R124	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R027	RD14BB2E221J	RES. CARBON 220 5% 1/4W	R125	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R028	RD14BB2E221J	RES. CARBON 220 5% 1/4W	R126	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R029	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R127	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R030	RD14BB2E471J	RES. CARBON 470 5% 1/4W	R128	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R031	RD14BB2E511J	RES. CARBON 510 5% 1/4W	R129	RD14BB2E100J	RES. CARBON 10 5% 1/4W
R032	RD14BB2E431J	RES. CARBON 430 5% 1/4W	R130	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R033	RD14BB2E151J	RES. CARBON 150 5% 1/4W	R131	RD14BB2E680J	RES. CARBON 68 5% 1/4W
R034	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R132	RD14BB2E680J	RES. CARBON 68 5% 1/4W
R035	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R133	RD14BB2E680J	RES. CARBON 68 5% 1/4W
R036	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R151	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R037	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R152	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R038	RD14BB2E391J	RES. CARBON 390 5% 1/4W	R153	RD14BB2E242J	RES. CARBON 2.4K 5% 1/4W
R039	RD14BB2E470J	RES. CARBON 47 5% 1/4W	R154	RD14BB2E242J	RES. CARBON 2.4K 5% 1/4W
R040	RD14BB2E104J	RES. CARBON 100K 5% 1/4W	R155	RD14BB2E331J	RES. CARBON 330 5% 1/4W
R041	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R156	RD14BB2E331J	RES. CARBON 330 5% 1/4W
R042	RD14BB2E220J	RES. CARBON 22 5% 1/4W	R157	RD14BB2E272J	RES. CARBON 2.7K 5% 1/4W
R043	RN14BK2E4301F	RES. METAL FILM 4.3K 1% 1/4W	R158	RD14BB2E272J	RES. CARBON 2.7K 5% 1/4W
R044	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W	R159	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
R045	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R160	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
R046	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R161	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R047	NO USE		R162	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R048	RD14BB2E272J	RES. CARBON 2.7K 5% 1/4W	R163	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
			R164	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
			R165	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
R166	RD14BB2E331J	RES. CARBON 330 5% 1/4W	C006	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
R167	RD14BB2E331J	RES. CARBON 330 5% 1/4W	C007	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R168	RD14BB2E911J	RES. CARBON 910 5% 1/4W	C008	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
R169	RD14BB2E911J	RES. CARBON 910 5% 1/4W	C009	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V
R170	RD14BB2E100J	RES. CARBON 10 5% 1/4W	C010	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R171	RD14BB2E511J	RES. CARBON 510 5% 1/4W	C011	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R172	RD14BB2E112J	RES. CARBON 1.1K 5% 1/4W	C012	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
R173	RD14BB2E112J	RES. CARBON 1.1K 5% 1/4W	C015	CE04FW1E470M	CAP. ELECTRO 47 20% 25V
R174	RD14BB2E392J	RES. CARBON 3.9K 5% 1/4W	C016	CE04FW1E220M	CAP. ELECTRO 22 20% 25V
R175	RD14BB2E331J	RES. CARBON 330 5% 1/4W	C017	CK45F1H103Z	CAP. CERAMIC 0.01 50V
R176	RD14BB2E331J	RES. CARBON 330 5% 1/4W	C020	CE04W1J330M	CAP. ELECTRO 33 20% 63V
R177	RD14BB2E133J	RES. CARBON 13K 5% 1/4W	C021	CE04W1J330M	CAP. ELECTRO 33 20% 63V
R178	RD14BB2E431J	RES. CARBON 430 5% 1/4W	C022	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
R179	RD14BB2E431J	RES. CARBON 430 5% 1/4W	C023	CK45B1H472K	CAP. CERAMIC 4700P 10% 50V
R180	RD14BB2E331J	RES. CARBON 330 5% 1/4W	C024	CC45CH1H270J	CAP. CERAMIC 27P 5% 50V
R181	RD14BB2E100J	RES. CARBON 10 5% 1/4W	D001	WZ-100	DIODE, ZENER 10V
R182	RD14BB2E333J	RES. CARBON 33K 5% 1/4W	D002	WZ-100	DIODE, ZENER 10V
R183	RD14BB2E181J	RES. CARBON 180 5% 1/4W	L001	L40-4782-13	FERRI INDUCTOR 0.47UH 20%
R186	RD14BB2E331J	RES. CARBON 330 5% 1/4W	L002	L40-4782-13	FERRI INDUCTOR 0.47UH 20%
R187	RD14BB2E100J	RES. CARBON 10 5% 1/4W	L003	L40-4782-13	FERRI INDUCTOR 0.47UH 20%
R188	RN14BK2E6800F	RES. METAL FILM 680 1% 1/4W	L004	L40-4782-13	FERRI INDUCTOR 0.47UH 20%
R189	RD14BB2E470J	RES. CARBON 47 5% 1/4W	L005	NO USE	
R190	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	P006	E40-0473-05	PIN CONNECTOR 4 CONTACT
R191	RD14BB2E101J	RES. CARBON 100 5% 1/4W	P009	E40-0273-05	PIN CONNECTOR 2 CONTACT
R192	RD14BB2E680J	RES. CARBON 68 5% 1/4W	P050	E40-0202-05	PIN CONNECTOR 2P
R193	NO USE		P051	E40-0202-05	PIN CONNECTOR 2P
R194	RN14BK2E1501F	RES. METAL FILM 1.5K 1% 1/4W	P052	E40-0444-05	PIN CONNECTOR 4P
R195	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	Q001	2SA1206(K)	TR. SI, PNP
R198	RD14BB2C821J	RES. CARBON 820 5% 1/6W	Q002	2SA1206(K)	TR. SI, PNP
R201	RD14BB2E621J	RES. CARBON 620 5% 1/4W	Q003	2SC2644	TR. SI, NPN
R202	RD14BB2E621J	RES. CARBON 620 5% 1/4W	Q004	2SC2644	TR. SI, NPN
R203	RD14BB2E621J	RES. CARBON 620 5% 1/4W	Q005	2SC2644	TR. SI, NPN
R204	RD14BB2E621J	RES. CARBON 620 5% 1/4W	Q006	2SC2644	TR. SI, NPN
S001	S42-4510-05	PUSH SWITCH	Q007	2SC1164(D)	TR. SI, NPN
TC001	C05-0434-05	CAP. TRIMMER 20P	Q008	2SC1164(D)	TR. SI, NPN
TC011	C05-0434-05	CAP. TRIMMER 20P	Q009	2SC1164(D)	TR. SI, NPN
TC021	C05-0422-05	CAP. TRIMMER 20P	Q010	2SC1164(D)	TR. SI, NPN
TP001	E23-0046-04	TERMINAL	R001	RD14BB2E910J	RES. CARBON 91 5% 1/4W
TP002	E23-0046-04	TERMINAL	R002	RD14BB2E910J	RES. CARBON 91 5% 1/4W
TP003	E23-0046-04	TERMINAL	R003	RD14BB2E101J	RES. CARBON 100 5% 1/4W
TP004	E23-0046-04	TERMINAL	R004	RD14BB2E101J	RES. CARBON 100 5% 1/4W
TP005	E23-0046-04	TERMINAL	R005	RD14BB2E132J	RES. CARBON 1.3K 5% 1/4W
U002	TL082CP	IC, OP-AMP.	R006	RD14BB2E132J	RES. CARBON 1.3K 5% 1/4W
VR001	R05-3506-05	V.R. 10K B	R007	RD14BB2E751J	RES. CARBON 750 5% 1/4W
VR002	R12-3523-05	RES. SEMI FIXED 20K B	R008	RD14BB2E562J	RES. CARBON 5.6K 5% 1/4W
VR003	R12-3522-05	RES. SEMI FIXED 10K B	R009	RD14BB2E562J	RES. CARBON 5.6K 5% 1/4W
VR004	NO USE		R010	RD14BB2E331J	RES. CARBON 330 5% 1/4W
VR005	R12-0543-05	RES. SEMI FIXED 500 B	R011	RD14BB2E331J	RES. CARBON 330 5% 1/4W
VR006	R12-0541-05	RES. SEMI FIXED 100 B	R012	RD14BB2E681J	RES. CARBON 680 5% 1/4W
VR011	R05-3506-05	V.R. 10K B	R013	RD14BB2E5R6J	RES. CARBON 5.6 5% 1/4W
VR012	R12-3523-05	RES. SEMI FIXED 20K B	R014	RD14BB2E681J	RES. CARBON 680 5% 1/4W
VR013	R12-3522-05	RES. SEMI FIXED 10K B	R015	RD14BB2E241J	RES. CARBON 240 5% 1/4W
VR014	R12-0543-05	RES. SEMI FIXED 500 B	R016	RD14BB2E163J	RES. CARBON 16K 5% 1/4W
VR015	R12-0543-05	RES. SEMI FIXED 500 B	R017	NO USE	
VR016	R12-0541-05	RES. SEMI FIXED 100 B	R018	RD14BB2E220J	RES. CARBON 22 5% 1/4W
VR021	R12-3521-05	RES. SEMI FIXED 20K B	R019	RD14BB2E220J	RES. CARBON 22 5% 1/4W
VR022	R12-2512-05	RES. SEMI FIXED 5K B	R020	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
VR023	R12-0421-05	RES. SEMI FIXED 100 B	R021	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
VR031	R12-0541-05	RES. SEMI FIXED 100 B	R022	RD14BY2H621J	RES. CARBON 620 5% 1/2W
VR032	R12-0541-05	RES. SEMI FIXED 100 B	R023	RD14BY2H621J	RES. CARBON 620 5% 1/2W
VR033	NO USE		R024	RD14BB2E751J	RES. CARBON 750 5% 1/4W
VR034	R12-1520-05	RES. SEMI FIXED 2KB	R025	RD14BB2E751J	RES. CARBON 750 5% 1/4W
VR035	NO USE		R026	RD14BB2E220J	RES. CARBON 22 5% 1/4W
VR036	R12-1517-05	RES. SEMI FIXED 1K B	R027	RD14BB2E220J	RES. CARBON 22 5% 1/4W
VERTICAL FINAL UNIT					
(X73-1540-01)					
REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
E31	E31-2170-05	JUMPING WIRE	R028	RS14GB3D101J	RES. METAL FILM 100 5% 2W
F02	F02-0511-05	HEAT SINK	R029	RS14GB3D101J	RES. METAL FILM 100 5% 2W
F02	F02-0512-05	HEAT SINK	R030	RD14BB2E5R1J	RES. CARBON 5.1 5% 1/4W
J21	J21-2981-04	BRACKET FOR TR	R031	RD14BB2E680J	RES. CARBON 68 5% 1/4W
J25	J25-5020-13	PCB (UNMOUNTED)	R032	RD14BB2E242J	RES. CARBON 2.4K 5% 1/4W
J30	J30-0605-05	SPACER	R033	RD14BB2E100J	RES. CARBON 10 5% 1/4W
T12	T12-1018-05	TUBE (PLASTIC)	R034	RD14BB2E100J	RES. CARBON 10 5% 1/4W
C001	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R035	RD14BB2E470J	RES. CARBON 47 5% 1/4W
C002	CC45FCH1H060D	CAP. CERAMIC 6P 0.5P 50V	R036	RD14BB2E470J	RES. CARBON 47 5% 1/4W
C003	CK45B1H332K	CAP. CERAMIC 3300P 10% 50V	R037	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
C004	NO USE		R038	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W
C005	CK45F1H103Z	CAP. CERAMIC 0.01 50V	R039	RD14BB2E361J	RES. CARBON 360 5% 1/4W
			R040	RD14BB2E361J	RES. CARBON 360 5% 1/4W
			R041	RS14AB3Y361J	RES. METAL FILM 360 5% 7W
			R042	RD14BB2E361J	RES. CARBON 360 5% 1/4W
			R043	RD14BB2E361J	RES. CARBON 360 5% 1/4W
			R044	RS14AB3Y361J	RES. METAL FILM 360 5% 7W
			R045	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
			R046	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
			R047	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
			R048	NO USE	
			R049	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
			R050	RD14BB2C621J	RES. CARBON 620 5% 1/6W
			R051	RD14BB2E221J	RES. CARBON 220 5% 1/4W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
TC001	C05-0422-05	CAP. TRIMMER 20P	C060	C91-0571-05	CAP. CERAMIC 0.01 2KV
TC002	C05-0422-05	CAP. TRIMMER 20P	C061	C91-0571-05	CAP. CERAMIC 0.01 2KV
TH001	SDT-100	THERMISTOR	C062	C91-0571-05	CAP. CERAMIC 0.01 2KV
TH002	SDT-20	THERMISTOR	C063	C91-0571-05	CAP. CERAMIC 0.01 2KV
TH003	SDT-100	THERMISTOR	C064	CE04W1V221M	CAP. ELECTRO 220 20% 35V
TP001	E23-0046-04	TERMINAL	C065	CE04W1V221M	CAP. ELECTRO 220 20% 35V
TP002	E23-0046-04	TERMINAL	C066	CE04W1V221M	CAP. ELECTRO 220 20% 35V
TP003	E23-0046-04	TERMINAL	C067	CE04W1V221M	CAP. ELECTRO 220 20% 35V
TP004	E23-0046-04	TERMINAL	C068	CE04W2C3R3	CAP. ELECTRO 3.3 160V
U001	NJM4558D	IC, DUAL OP-AMP	C069	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
VR001	R12-0539-05	RES. SEMI FIXED 200 B	C070	CE04W2C100	CAP. ELECTRO 10 160V
VR002	R12-1517-05	RES. SEMI FIXED 1K B	C071	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V
VR003	R12-0539-05	RES. SEMI FIXED 200 B	C072	CE04W1E331M	CAP. ELECTRO 330 20% 25V

TRIG UNIT

(X74-1370-01)

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
	E23-0527-04	EARTH PLATE	C073	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	E31-2170-05	JUMPING WIRE	C074	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	E31-2390-05	LEAD WIRE WITH CONNECTOR	C075	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	E33-4040-00	WIRE ASS'Y	C076	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	F01-0813-05	HEAT SINK	C077	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	F01-0820-04	HEAT SINK	C078	CE04W1E331M	CAP. ELECTRO 330 20% 25V
	F15-0727-04	HOLDER (NEON TUBE)	C079	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	F20-0622-05	INSULATOR	C080	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	J25-5016-22	PCB (UNMOUNTED)	C081	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	N19-0191-05	WASHER NONMETAL	C082	CE04W1E101M	CAP. ELECTRO 100 20% 25V
	N30-3006-46	SCREW, PAN HD M 3X6	C083	CK45F1H103Z	CAP. CERAMIC 0.01 50V
	N30-3008-46	SCREW, PAN HD M 3X8	C084	CE04W1A471M	CAP. ELECTRO 470 20% 10V
C001	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C085	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C002	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C086	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C003	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C087	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C004	CQ93M1H103K	CAP. MYLAR 0.01 10% 50V	C088	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C005	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	C089	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C006	CE04HW1H010M	CAP. ELECTRO 1 20% 50V	C090	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C007	CE04HW1H010M	CAP. ELECTRO 1 20% 50V	C091	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C008	CE04HW1H010M	CAP. ELECTRO 1 20% 50V	C092	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C009	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C093	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C010	CE04HW1H010M	CAP. ELECTRO 1 20% 50V	C094	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C011	CE04W1E100M	CAP. ELECTRO 10 20% 25V	C095	CE04W1A471M	CAP. ELECTRO 470 20% 10V
C012	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C096	CE04FW1A101M	CAP. ELECTRO 100 20% 10V
C013	CK45B1H222K	CAP. CERAMIC 2200P 10% 50V	C097	C91-0571-05	CAP. CERAMIC 0.01 2KV
C014	CC45SL1H331J	CAP. CERAMIC 330P 5% 50V	C098	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C015	CC45FCH1H270J	CAP. CERAMIC 27P 5% 50V	C099	NO USE	
C016	NO USE		C100	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C017	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	C101	CK45B2H102K	CAP. CERAMIC 1000P 10% 500V
C018	NO USE		C102	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C019	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	C103	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C020	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V	C104	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C021	CC45FCH1H150J	CAP. CERAMIC 15P 5% 50V	C105	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C022	CC45FCH1H150J	CAP. CERAMIC 15P 5% 50V	C106	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C023	NO USE		C107	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C024	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C108	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C025	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C109	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C026	CK45FB1H102K	CAP. CERAMIC 1000P 10% 50V	C110	CK45F1H103Z	CAP. CERAMIC 0.01 50V
C027	CC45CH1H221J	CAP. CERAMIC 220P 5% 50V	C111	CE04W1E101M	CAP. ELECTRO 100 20% 25V
C028	NO USE		C112	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C029	CC45FCH1H120J	CAP. CERAMIC 12P 5% 50V	C113	CC45CH1H680J	CAP. CERAMIC 68P 5% 50V
C030	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C114	NO USE	
C031	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	C115	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C032	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V	C116	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V
C033	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	C117	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C034	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	C118	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C035	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V	C119	C90-0298-05	CAP. CERAMIC 0.1 20% 12V
C036	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	C120	C91-0571-05	CAP. CERAMIC 0.01 2KV
C037	CC45CH1H181J	CAP. CERAMIC 180P 5% 50V	C121	NO USE	
C038	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C122	CC45CH1H070D	CAP. CERAMIC 7P 0.5P 50V
C039	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D001	DS442X	DIODE, SILICON SWITCHING
C040	NO USE		D002	DS442X	DIODE, SILICON SWITCHING
C041	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D003	DS442X	DIODE, SILICON SWITCHING
C042	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V	D004	DS442X	DIODE, SILICON SWITCHING
C043	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	D005	DS442X	DIODE, SILICON SWITCHING
C044	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D006	DS442X	DIODE, SILICON SWITCHING
C045	CC45CH2H010C	CAP. CERAMIC 1P 0.25P 500V	D007	DS442X	DIODE, SILICON SWITCHING
C046	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	D008	DS442X	DIODE, SILICON SWITCHING
C047	CE04HW1H010M	CAP. ELECTRO 1 20% 50V	D011	1N60	DIODE GERMA
C048	CK45E3D102P	CAP. CERAMIC 1000P 2K	D012	1N60	DIODE GERMA
C049	C91-0571-05	CAP. CERAMIC 0.01 2KV	D013	1N60	DIODE GERMA
C050	C91-0571-05	CAP. CERAMIC 0.01 2KV	D014	DS442X	DIODE, SILICON SWITCHING
C051	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D015	DS442X	DIODE, SILICON SWITCHING
C052	CQ93M1H154K	CAP. MYLAR 0.15 10% 50V	D016	MTZ16JA	DIODE, ZENER 15V
C053	CQ93M1H154K	CAP. MYLAR 0.15 10% 50V	D017	DS442X	DIODE, SILICON SWITCHING
C054	CK45B1H472K	CAP. CERAMIC 4700P 10% 50V	D018	DS442X	DIODE, SILICON SWITCHING
C055	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D019	DS442X	DIODE, SILICON SWITCHING
C056	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D020	DS442X	DIODE, SILICON SWITCHING
C057	NO USE		D021	DS442X	DIODE, SILICON SWITCHING
C058	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	D024	1SS83	DIODE SILICON SWITCHING
C059	CE04W2E010	CAP. ELECTRO 1 250V	D025	1SS83	DIODE SILICON SWITCHING
			D026	1SS83	DIODE SILICON SWITCHING
			D027	DS442X	DIODE, SILICON SWITCHING
			D028	DS442X	DIODE, SILICON SWITCHING
			D029	DS442X	DIODE, SILICON SWITCHING
			D030	1SS83	DIODE SILICON SWITCHING
			D031	1SS83	DIODE SILICON SWITCHING
			D032	W06C	DIODE SILICON RECTIFIER
			D033	W06C	DIODE SILICON RECTIFIER
			D034	1SS83	DIODE SILICON SWITCHING

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
D035	W06C	DIODE SILICON RECTIFIER	Q037	2SA1210(S)	TR. SI, PNP
D036	W06C	DIODE SILICON RECTIFIER	Q038	2SC2785(F)	TR. SI, NPN
D037	DS442X	DIODE, SILICON SWITCHING	Q039	2SC2912(S)	TR. SI, NPN
D038	DS442X	DIODE, SILICON SWITCHING	Q040	2SA1210(S)	TR. SI, PNP
			Q041	2SA1005(K)	TR. SI, PNP
D041	1SS83	DIODE SILICON SWITCHING	Q042	2SA1005(K)	TR. SI, PNP
D042	DS442X	DIODE, SILICON SWITCHING	Q043	2SK336	FET, N-CHANNEL
D043	DS442X	DIODE, SILICON SWITCHING	Q044	2SK336	FET, N-CHANNEL
D044	GMA-01	DIODE	Q045	2SC2785(F)	TR. SI, NPN
			Q046	2SC2912(S)	TR. SI, NPN
L005	L40-1011-04	FERRI INDUCTOR 100UH	Q047	2SA1210(S)	TR. SI, PNP
L006	L40-1011-04	FERRI INDUCTOR 100UH	Q048	2SC2785(F)	TR. SI, NPN
L007	L40-1011-13	FERRI INDUCTOR 100UH	Q049	2SC2912(S)	TR. SI, NPN
L008	L40-1011-13	FERRI INDUCTOR 100UH	Q050	2SA1210(S)	TR. SI, PNP
L009	L40-1011-04	FERRI INDUCTOR 100UH	Q051	2SA1175(F)	TR. SI, PNP
L010	L40-1011-04	FERRI INDUCTOR 100UH	Q052	2SD613(E)	TR. SI, NPN
L011	L40-1011-13	FERRI INDUCTOR 100UH	Q053	2SC2271(D)	TR. SI, NPN
L012	L40-1011-13	FERRI INDUCTOR 100UH	Q054	2SA1175(F)	TR. SI, PNP
L013	L40-1011-04	FERRI INDUCTOR 100UH	Q055	2SD1262A(Q)	TR. SI, NPN
L014	L40-1011-04	FERRI INDUCTOR 100UH	Q056	2SB939A(Q)	TR. SI, PNP
L015	L40-1011-13	FERRI INDUCTOR 100UH	Q057	2SC2785(F)	TR. SI, NPN
L016	L40-1011-13	FERRI INDUCTOR 100UH	Q058	2SC2785(F)	TR. SI, NPN
L017	L40-1011-04	FERRI INDUCTOR 100UH	Q059	2SA1175(F)	TR. SI, PNP
L018	L40-1011-04	FERRI INDUCTOR 100UH	Q060	2SC2785(F)	TR. SI, NPN
L019	L40-1011-04	FERRI INDUCTOR 100UH			
L020	L40-1011-04	FERRI INDUCTOR 100UH	R001	RD14BB2E470J	RES. CARBON 47 5% 1/4W
L021	L40-4701-03	FERRI INDUCTOR 47UH	R002	RD14BB2E470J	RES. CARBON 47 5% 1/4W
L022	L40-6801-03	FERRI INDUCTOR 68UH	R003	RD14BB2E470J	RES. CARBON 47 5% 1/4W
			R004	RD14BB2E470J	RES. CARBON 47 5% 1/4W
NL001	NE-2B	NEON LAMP	R005	RD14BB2E470J	RES. CARBON 47 5% 1/4W
NL002	NE-2B	NEON LAMP	R006	RD14BB2C681J	RES. CARBON 680 5% 1/6W
NL003	NE-2B	NEON LAMP	R007	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
NL004	NE-2B	NEON LAMP	R008	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
			R009	RN14BK2E4700F	RES. METAL FILM 470 1% 1/4W
P002	E40-0673-05	PIN CONNECTOR 6 CONTACT	R010	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
			R011	RD14BB2E101J	RES. CARBON 100 5% 1/4W
P009	E40-0273-05	PIN CONNECTOR 2 CONTACT	R012	RN14BK2E5601F	RES. METAL FILM 5.6K 1% 1/4W
P010	E40-0916-05	PIN CONNECTOR 9P	R013	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
P011	E40-1016-05	PIN CONNECTOR 10P	R014	RN14BK2E3900F	RES. METAL FILM 390 1% 1/4W
P012	E40-1016-05	PIN CONNECTOR 10P	R015	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P013	E40-0873-05	PIN CONNECTOR 8 CONTACT	R016	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
P014	E40-0273-05	PIN CONNECTOR 2 CONTACT	R017	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
P015	E40-0373-05	PIN CONNECTOR 3 CONTACT	R018	RD14BB2E330J	RES. CARBON 33 5% 1/4W
P016	E40-0373-05	PIN CONNECTOR 3 CONTACT	R019	RD14BB2E330J	RES. CARBON 33 5% 1/4W
P017	E40-0373-05	PIN CONNECTOR 3 CONTACT	R020	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P018	E40-0704-05	PIN CONNECTOR 7P	R021	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P019	E40-0335-05	PIN CONNECTOR 3P	R022	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
P020	E40-0335-05	PIN CONNECTOR 3P	R023	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
P021	E40-0373-05	PIN CONNECTOR 3 CONTACT	R024	RD14BB2E101J	RES. CARBON 100 5% 1/4W
P022	NO USE		R025	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
P023	E40-0273-05	PIN CONNECTOR 2 CONTACT	R026	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
			R027	RD14BB2E223J	RES. CARBON 22K 5% 1/4W
P048	E23-0046-04	TERMINAL	R028	RD14BB2E223J	RES. CARBON 22K 5% 1/4W
P049	E23-0046-04	TERMINAL	R029	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
			R030	RD14BB2E471J	RES. CARBON 470 5% 1/4W
P057	E40-0273-05	PIN CONNECTOR 2 CONTACT	R031	NO USE	
P058	E40-0273-05	PIN CONNECTOR 2 CONTACT	R032	RD14BB2E105J	RES. CARBON 1M 5% 1/4W
P059	E40-0273-05	PIN CONNECTOR 2 CONTACT	R033	RD14BB2E105J	RES. CARBON 1M 5% 1/4W
P060	E40-0273-05	PIN CONNECTOR 2 CONTACT	R034	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
P061	E40-0273-05	PIN CONNECTOR 2 CONTACT	R035	RD14BB2E100J	RES. CARBON 10 5% 1/4W
			R036	RD14BB2E101J	RES. CARBON 100 5% 1/4W
Q001	2SC2785(F)	TR. SI, NPN	R037	RD14BB2E101J	RES. CARBON 100 5% 1/4W
Q002	2SA1005(K)	TR. SI, PNP	R038	RD14BB2E393J	RES. CARBON 39K 5% 1/4W
Q003	2SC2786(K)	TR. SI, NPN	R039	RD14BB2E223J	RES. CARBON 22K 5% 1/4W
Q004	2SK117(Y)	FET, N-CHANNEL	R040	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q005	2SK117(Y)	FET, N-CHANNEL	R041	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q006	2SC2786(K)	TR. SI, NPN	R042	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q007	2SC2786(K)	TR. SI, NPN	R043	RD14BB2E393J	RES. CARBON 39K 5% 1/4W
Q008	NO USE		R044	RD14BB2E393J	RES. CARBON 39K 5% 1/4W
Q009	2SA1005(K)	TR. SI, PNP	R045	RD14BB2C393J	RES. CARBON 39K 5% 1/6W
Q010	2SC2785(F)	TR. SI, NPN	R046	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q011	2SC2785(F)	TR. SI, NPN	R047	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q012	2SA1175(F)	TR. SI, PNP	R048	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
Q013	2SC2785(F)	TR. SI, NPN	R049	RD14BB2E101J	RES. CARBON 100 5% 1/4W
Q014	2SC2785(F)	TR. SI, NPN	R050	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q015	2SA1175(F)	TR. SI, PNP	R051	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
Q016	2SC1215(T,S)	TR. SI, NPN	R052	RD14BB2C393J	RES. CARBON 39K 5% 1/6W
Q017	2SC1215(T,S)	TR. SI, NPN	R053	RD14BB2E471J	RES. CARBON 470 5% 1/4W
Q018	2SA1005(K)	TR. SI, PNP	R054	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q019	2SA1005(K)	TR. SI, PNP	R055	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q020	2SA1175(F)	TR. SI, PNP	R056	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
Q021	2SA1175(F)	TR. SI, PNP	R057	RD14BB2E470J	RES. CARBON 47 5% 1/4W
Q022	2SC2785(F)	TR. SI, NPN	R058	RD14BB2E470J	RES. CARBON 47 5% 1/4W
Q023	2SC2785(F)	TR. SI, NPN	R059	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
Q024	2SC2785(F)	TR. SI, NPN	R060	NO USE	
Q025	2SC2785(F)	TR. SI, NPN	R061	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
Q026	2SA1175(F)	TR. SI, PNP	R062	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q027	2SA1175(F)	TR. SI, PNP	R063	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q028	2SC2785(F)	TR. SI, NPN	R064	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q029	2SA1175(F)	TR. SI, PNP	R065	RD14BB2E220J	RES. CARBON 22 5% 1/4W
Q030	2SA1175(F)	TR. SI, PNP	R066	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
Q031	2SC2785(F)	TR. SI, NPN	R067	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
Q032	2SC2785(F)	TR. SI, NPN	R068	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q033	2SA1175(F)	TR. SI, PNP	R069	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q034	2SA1175(F)	TR. SI, PNP	R070	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q035	2SC2785(F)	TR. SI, NPN	R071	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q036	2SC2912(S)	TR. SI, NPN			

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
R072	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R169	RD14BB2E433J	RES. CARBON 43K 5% 1/4W
R073	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R170	RD14BB2E823J	RES. CARBON 82K 5% 1/4W
R074	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R171	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R075	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R172	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R076	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R175	R92-1026-05	RES. METAL FILM 3.3M
R077	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R176	R92-1047-05	RES. METAL FIXED 15M 1% 1W
R078	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R177	RN14BK2E1543F	RES. METAL FILM 154K 1% 1/4W
R079	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R178	RD14BB2E154J	RES. CARBON 150K 5% 1/4W
R080	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R179	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R081	RD14BB2C820J	RES. CARBON 82 5% 1/6W	R180	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R082	RD14BB2E301J	RES. CARBON 300 5% 1/4W	R181	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R083	RD14BB2C102J	RES. CARBON 1K 5% 1/6W	R182	R92-1058-05	RES. METAL FILM 15K 5% 1W
R084	RD14BB2C820J	RES. CARBON 82 5% 1/6W	R183	R92-1057-05	RES. METAL FILM 2.2M 5% 1/2W
R085	RD14BB2E301J	RES. CARBON 300 5% 1/4W	R184	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R086	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R185	RD14BB2E334J	RES. CARBON 330K 5% 1/4W
R087	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R186	R92-1034-05	RES. METAL FILM 47M
R088	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R187	R92-1034-05	RES. METAL FILM 47M
R089	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R188	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R090	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R189	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R091	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R190	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R092	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R191	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R093	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R192	RN14BK2E4300F	RES. METAL FILM 430 1% 1/4W
R094	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R193	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R095	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R194	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R096	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R195	RD14BB2E912J	RES. CARBON 9.1K 5% 1/4W
R097	RD14BB2C821J	RES. CARBON 820 5% 1/6W	R196	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R098	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W	R197	RD14BB2E330J	RES. CARBON 33 5% 1/4W
R099	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R198	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R100	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R199	RD14BB2C331J	RES. CARBON 330 5% 1/6W
R101	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R200	RD14BB2C151J	RES. CARBON 150 5% 1/6W
R102	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R201	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R103	RD14BB2E181J	RES. CARBON 180 5% 1/4W	R202	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R104	RD14BB2C221J	RES. CARBON 220 5% 1/6W	R203	RD14BB2C393J	RES. CARBON 39K 5% 1/6W
R105	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W	R204	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R106	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R205	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R107	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R206	RD14BB2E151J	RES. CARBON 150 5% 1/4W
R108	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W	R207	RD14BB2E681J	RES. CARBON 680 5% 1/4W
R109	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R208	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R110	RD14BB2E153J	RES. CARBON 15K 5% 1/4W	R209	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R111	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W	R210	RD14BB2C220J	RES. CARBON 22 5% 1/6W
R112	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R211	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R113	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R212	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R114	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	R213	RD14BB2C563J	RES. CARBON 56K 5% 1/6W
R115	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W	R214	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R116	RD14BB2E153J	RES. CARBON 15K 5% 1/4W	R215	RD14BB2C471J	RES. CARBON 470 5% 1/6W
R117	RD14BB2E223J	RES. CARBON 22K 5% 1/4W	R216	RD14BB2C621J	RES. CARBON 620 5% 1/6W
R118	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W	R217	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R119	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	S001	S33-2501-05	LEVER SWITCH
R120	RD14BB2E471J	RES. CARBON 470 5% 1/4W	S002	S32-4008-05	LEVER SWITCH
R121	RD14BB2E683J	RES. CARBON 68K 5% 1/4W	S003	S32-2012-05	LEVER SWITCH
R122	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	TC001	C05-0434-05	CAP. TRIMMER 20P
R123	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	TC002	C05-0432-05	CAP. TRIMMER 6P
R124	RD14BB2E471J	RES. CARBON 470 5% 1/4W	U001	SN74LS08N	IC, QUAD 2-INPUT AND GATE
R125	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	U002	SN74LS00N	IC, QUAD 2-INPUT NAND GATE
R126	RD14BB2E471J	RES. CARBON 470 5% 1/4W	U003	SN74LS112N	IC, DUAL J-K FLIP-FLOP
R127	RD14BB2E683J	RES. CARBON 68K 5% 1/4W	U004	SN74LS112N	IC, DUAL J-K FLIP-FLOP
R128	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	U005	SN74LS08N	IC, QUAD 2-INPUT AND GATE
R129	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	U006	SN74LS08N	IC, QUAD 2-INPUT AND GATE
R130	NO USE		U007	SN74LS32N	IC, QUAD 2-INPUT OR GATE
R131	RD14BB2E101J	RES. CARBON 100 5% 1/4W	U008	SN74LS00N	IC, QUAD 2-INPUT NAND GATE
R132	RN14BK2E2201F	RES. METAL FILM 2.2K 1% 1/4W	U009	TL082CP	IC OP AMP.
R133	RN14BK2E2201F	RES. METAL FILM 2.2K 1% 1/4W	U010	NJM4558D	IC, DUAL OP-AMP
R134	RD14BB2E101J	RES. CARBON 100 5% 1/4W	U011	MC10107L	IC, QUAD 2-INPUT EXC OR/NOR
R135	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	U012	MC10104L	IC, QUAD 2-INPUT AND GATE
R136	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	VR001	R12-0541-05	RES. SEMI FIXED 100 B
R137	RD14BB2E391J	RES. CARBON 390 5% 1/4W	VR002	R12-4508-05	RES. SEMI FIXED 50KB
R138	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W	VR003	R12-0541-05	RES. SEMI FIXED 100 B
R139	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W	VR004	R12-1519-05	RES. SEMI FIXED 1K B
R140	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	VR005	R12-5517-05	RES. SEMI FIXED 100KB
R141	RD14BB2E221J	RES. CARBON 220 5% 1/4W	VR006	R12-5517-05	RES. SEMI FIXED 100KB
R142	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W	VR007	R10-3502-05	V.R. 10KB X2
R143	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	VR008	R10-9503-05	V.R. WITH SW 2KBX10KB
R144	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	VR009	R06-1502-05	V.R. 2K B
R145	RD14BB2E101J	RES. CARBON 100 5% 1/4W			
R146	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W			
R147	RD14BB2E471J	RES. CARBON 470 5% 1/4W			
R148	RN14BK2E6802F	RES. METAL FILM 68K 1% 1/4W			
R149	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R150	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R151	RD14BB2E101J	RES. CARBON 100 5% 1/4W			
R152	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R153	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R154	RN14BK2E5601F	RES. METAL FILM 5.6K 1% 1/4W			
R155	RN14BK2H1302F	RES. METAL FILM 13K 1% 1/2W			
R156	RN14BK2E2401F	RES. METAL FILM 2.4K 1% 1/4W			
R157	RN14BK2E82R0F	RES. METAL FILM 82.0 1% 1/4W			
R158	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R159	RD14BY2H912J	RES. CARBON 9.1K 5% 1/2W			
R160	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R161	RD14BB2E473J	RES. CARBON 47K 5% 1/4W			
R162	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R163	RD14BB2E473J	RES. CARBON 47K 5% 1/4W			
R164	RD14BB2E473J	RES. CARBON 47K 5% 1/4W			
R165	RD14BB2E473J	RES. CARBON 47K 5% 1/4W			
R166	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W			
R167	RD14BB2E102J	RES. CARBON 1K 5% 1/4W			
R168	RD14BB2E103J	RES. CARBON 10K 5% 1/4W			

SWEEP UNIT

(X74-1380-01)

REF. NO	PARTS NO	NAME & DESCRIPTION
	E04-0251-05	BNC RECEPTACLE
	E23-0046-04	TERMINAL
	E23-0527-04	EARTH PLATE
	E31-2170-05	JUMPING WIRE
	E31-2386-05	LEAD WIRE WITH CONNECTOR
	E33-4041-00	WIRE ASS'Y
	F10-1571-04	SHIELD PLATE
	J19-1636-14	BNC HOLDER
	J25-5018-22	PCB (UNMOUNTED)
	N15-1090-46	WASHER

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
C001	N30-3006-46	SCREW, PAN HD	C103	CE04W1A470M	CAP. ELECTRO 47 20% 10V
C002	CQ93M1H473K	CAP. MYLAR 0.047 10% 50V	C104	CE04W1A470M	CAP. ELECTRO 47 20% 10V
C003	CM93BD2A470J	CAP. MICA 47P 5% 100V	C105	CK45B1H222K	CAP. CERAMIC 2200P 10% 50V
C004	CQ92FM1H103K	CAP. MYLAR 0.01 10% 50V	C106	CC45CH1H030C	CAP. CERAMIC 3P 0.25P 50V
C005	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C107	NO USE	
C006	CE04BW1E220M	CAP. ELECTRO 22 20% 25V	C108	CC45CH1H040C	CAP. CERAMIC 4P 0.25P 50V
C007	NO USE		C109	NO USE	
C008	CC45CH1H470J	CAP. CERAMIC 47P 5% 50V	C110	CE04W1E470M	CAP. ELECTRO 47 20% 25V
C009	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C111	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C010	CK45F1H103Z	CAP. CERAMIC 0.01 50V	C112	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V
C011	NO USE		D001	1S1544A	DIODE
C012	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D002	DS442X	DIODE, SILICON SWITCHING
C013	CK45B1H102K	CAP. CERAMIC 1000P 10% 50V	D003	DS442X	DIODE, SILICON SWITCHING
C014	CC45CH1H101J	CAP. CERAMIC 100P 5% 50V	D004	DS442X	DIODE, SILICON SWITCHING
C015	CE04FW1H101M	CAP. ELECTRO 1 20% 50V	D005	NO USE	
C016	CE04W1A101M	CAP. ELECTRO 100 20% 10V	D006	DS442X	DIODE, SILICON SWITCHING
C017	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D007	DS442X	DIODE, SILICON SWITCHING
C018	NO USE		D008	NO USE	
C019	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D009	DS442X	DIODE, SILICON SWITCHING
C020	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D010	DS442X	DIODE, SILICON SWITCHING
C021	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D011	DS442X	DIODE, SILICON SWITCHING
C022	NO USE		D012	DS422X	DIODE, SILICON SWITCHING
C023	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D013	NO USE	
C024	C91-0574-05	CAP. MYLAR 1 5%	D014	S4VB40F1	DIODE, BRIDGE
C025	C91-0573-05	CAP. MYLAR 0.01 1%	D015	S2VB40F	DIODE, BRIDGE
C026	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	D016	S2VB40F	DIODE, BRIDGE
C027	CM93BD2A101J	CAP. MICA 100P 5% 100V	D017	S1VB60	DIODE
C028	NO USE		D018	DS442X	DIODE, SILICON SWITCHING
C029	C91-0574-05	CAP. MYLAR 1 5%	D019	WZ-085	DIODE, ZENER 8.5V
C030	C91-0573-05	CAP. MYLAR 0.01 1%	D020	WZ-150	DIODE, ZENER 15V
C031	CQ92FM1H102K	CAP. MYLAR 1000P 10% 50V	D021	WZ-050	DIODE, ZENER 5V
C032	CM93BD2A101J	CAP. MICA 100P 5% 100V	D022	WZ-085	DIODE, ZENER 8.5V
C033	NO USE		D023	WZ-150	DIODE, ZENER 15V
C034	CC45FCH1H100D	CAP. CERAMIC 10P 0.5P 50V	D024	DS442X	DIODE, SILICON SWITCHING
C035	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D025	DS442X	DIODE, SILICON SWITCHING
C036	NO USE		D029	DS422X	DIODE, SILICON SWITCHING
C037	CK45F1H103Z	CAP. CERAMIC 0.01 50V	D030	GMA-01	DIODE
C038	CC45FCH1H050C	CAP. CERAMIC 5P 0.25P 50V	D031	DS442X	DIODE, SILICON SWITCHING
C039	CQ93M1H682J	CAP. MYLAR 6800P 5% 50V	D032	DS422X	DIODE, SILICON SWITCHING
C040	CQ93M1H223K	CAP. MYLAR 0.022 10% 50V	D033	DS422X	DIODE, SILICON SWITCHING
C041	CE04W1E4R7M	CAP. ELECTRO 4.7 20% 25V	L001	L40-4701-03	FERRI INDUCTOR 47UH
C042	CK45F1H103Z	CAP. CERAMIC 0.01 50V	L002	L40-4701-03	FERRI INDUCTOR 47UH
C043	C90-0915-05	CAP. ELECTRO 6800 20% 35V	L003	L40-4701-03	FERRI INDUCTOR 47UH
C044	C90-0915-05	CAP. ELECTRO 6800 20% 35V	L004	NO USE	
C045	C90-0916-05	CAP. ELECTRO 4700 20% 16V	L005	L40-1011-04	FERRI INDUCTOR 100UH
C046	C90-0910-05	CAP. ELECTRO 100 20% 200V	L006	L40-1011-04	FERRI INDUCTOR 100UH
C047	CE04W2A221M	CAP. ELECTRO 220 20% 100V	L007	L40-1011-13	FERRI INDUCTOR 100UH
C048	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	L008	L40-1011-04	FERRI INDUCTOR 100UH
C049	CE04FW1A101M	CAP. ELECTRO 100 20% 10V	L009	L40-1011-04	FERRI INDUCTOR 100UH
C050	CE04W1A470M	CAP. ELECTRO 47 20% 10V	L010	L40-1011-13	FERRI INDUCTOR 100UH
C051	CK45F1H103Z	CAP. CERAMIC 0.01 50V	L011	L40-1011-13	FERRI INDUCTOR 100UH
C052	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	L012	L40-4701-03	FERRI INDUCTOR 47UH
C053	CE04FW1A101M	CAP. ELECTRO 100 20% 10V	P005	E40-0273-05	PIN CONNECTOR 2 CONTACT
C054	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	P013	E40-1173-05	PIN CONNECTOR
C055	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P014	NO USE	
C056	CE04W1E101M	CAP. ELECTRO 100 20% 25V	P015	E40-0373-05	PIN CONNECTOR 3 CONTACT
C057	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P022	E40-0673-05	PIN CONNECTOR 6 CONTACT
C058	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	P023	E40-0473-05	PIN CONNECTOR 4 CONTACT
C059	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P024	E40-1073-05	PIN CONNECTOR 10P
C060	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	P039	E40-0373-05	PIN CONNECTOR 3 CONTACT
C061	CK45F1H103Z	CAP. CERAMIC 0.01 50V	P040	E40-0446-05	CONNECTOR 4P
C062	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	P041	E40-0746-05	PIN CONNECTOR 7P
C063	CE04W1J100M	CAP. ELECTRO 10 20% 63V	P042	E40-0773-05	PIN CONNECTOR 7P
C064	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	P043	E40-0773-05	PIN CONNECTOR 7P
C065	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	P044	E40-0373-05	PIN CONNECTOR 3 CONTACT
C066	NO USE		P045	E40-0473-05	PIN CONNECTOR 4 CONTACT
C067	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V	P046	E40-0273-05	PIN CONNECTOR 2 CONTACT
C068	CE04W2C100	CAP. ELECTRO 10 20% 160V	P047	E40-0273-05	PIN CONNECTOR 2 CONTACT
C069	CE04W1A470M	CAP. ELECTRO 47 20% 10V	P058	E40-0273-05	PIN CONNECTOR 2 CONTACT
C070	CE04W1E331M	CAP. ELECTRO 330 20% 25V	P059	NO USE	
C071	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	P060	E40-0473-05	PIN CONNECTOR 4 CONTACT
C072	CE04W1E101M	CAP. ELECTRO 100 20% 25V	Q001	2SK107(3)	FET, N-CHANNEL
C073	CE04W1E331M	CAP. ELECTRO 330 20% 25V	Q002	2SK107(3)	FET, N-CHANNEL
C074	CE04FW1E470M	CAP. ELECTRO 47 20% 25V	Q003	2SC1215(T,S)	TR. SI, NPN
C075	CE04W1E101M	CAP. ELECTRO 100 20% 25V	Q004	2SC1215(T,S)	TR. SI, NPN
C076	CE04W2E47	CAP. ELECTRO 4.7 20% 250V	Q005	2SC1215(T,S)	TR. SI, NPN
C077	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q006	2SA1175(F)	TR. SI, PNP
C078	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q007	2SK117(Y)	FET, N-CHANNEL
C079	CK45F1H103Z	CAP. CERAMIC 0.01 50V	Q008	2SC2785(F)	TR. SI, NPN
C080	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q009	2SC2785(F)	TR. SI, NPN
C081	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q010	2SC2785(F)	TR. SI, NPN
C082	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q011	2SA1175(F)	TR. SI, PNP
C083	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q012	2SK117(Y)	FET, N-CHANNEL
C084	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q013	2SC2785(F)	TR. SI, NPN
C085	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q014	2SC2785(F)	TR. SI, NPN
C086	C90-0298-05	CAP. CERAMIC 0.1 20% 12V	Q015	2SC2785(F)	TR. SI, NPN
C087	NO USE		Q016	2SA1175(F)	TR. SI, PNP
C088	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V			
C089	CK45B2H472K	CAP. CERAMIC 4700P 10% 500V			
C090	CK45F1H103Z	CAP. CERAMIC 0.01 50V			
C091	CC45SL1H391J	CAP. CERAMIC 390P 5% 50V			
C092	CC45SL1H391J	CAP. CERAMIC 390P 5% 50V			
C095	CE04FW1E470M	CAP. ELECTRO 47 20% 25V			
C096	CK45B1H102K	CAP. CERAMIC 1000P 10% 50V			

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION	REF.NO	PARTS NO	NAME & DESCRIPTION
Q017	2SC2785(F)	TR. SI, NPN	R066	RD14BB2E820J	RES. CARBON 82 5% 1/4W
Q018	2SC2785(F)	TR. SI, NPN	R067	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q019	2SC2785(F)	TR. SI, NPN	R068	RD14BB2E331J	RES. CARBON 330 5% 1/4W
Q020	2SA1239(F)	TR. SI, PNP-DUAL	R069	RN14BK2E3602F	RES. METAL FILM 36K 1% 1/4W
Q021	NO USE		R070	RN14BK2E3302F	RES. METAL FILM 33K 1% 1/4W
Q022	2SA1175(F)	TR. SI, PNP	R071	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q023	2SC2785(F)	TR. SI, NPN	R072	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
Q024	2SC2785(F)	TR. SI, NPN	R073	RD14BB2C101J	RES. CARBON 100 5% 1/6W
Q025	2SC2785(F)	TR. SI, NPN	R074	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q026	2SC2785(F)	TR. SI, NPN	R075	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
Q027	2SA1175(F)	TR. SI, PNP	R076	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
Q028	2SA1175(F)	TR. SI, PNP	R077	RD14BB2C221J	RES. CARBON 220 5% 1/6W
Q029	2SA1175(F)	TR. SI, PNP	R078	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
Q030	2SC2785(F)	TR. SI, NPN	R079	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
Q031	2SC2271(D)	TR. SI, NPN	R080	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
Q032	2SC2271(D)	TR. SI, NPN	R081	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
Q033	2SA1175(F)	TR. SI, PNP	R082	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
Q034	2SK117(G)	FET, N-CHANNEL	R083	RS14GB3D103J	RES. METAL FILM 10K 5% 2W
Q035	2SC2785(F)	TR. SI, NPN	R084	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W
Q036	2SA1175(F)	TR. SI, PNP	R085	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
Q037	2SK117(GR)	FET, N-CHANNEL	R086	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W
Q038	2SK117(GR)	FET, N-CHANNEL	R087	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W
Q039	NO USE		R088	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W
Q040	2SC2785(F)	TR. SI, NPN	R089	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W
Q040	2SC2785(F)	TR. SI, NPN	R090	RN14BK2E3002F	RES. METAL FILM 30K 1% 1/4W
Q041	2SA1175(F)	TR. SI, PNP	R091	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W
Q042	2SA1175(F)	TR. SI, PNP	R092	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
Q043	2SA1175(F)	TR. SI, PNP	R093	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
Q044	2SA1175(F)	TR. SI, PNP	R094	RD14BB2E113J	RES. CARBON 11K 5% 1/4W
R001	RD14BB2E105J	RES. CARBON 1M 5% 1/4W	R095	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
R002	RN14BK2E9003F	RES. METAL FILM 900K 1% 1/4W	R096	RS14GB3D103J	RES. METAL FILM 10K 5% 2W
R003	RN14BK2E1113F	RES. METAL FILM 111K 1% 1/4W	R097	RN14BK2H3004F	RES. METAL FILM 3M 1% 1/2W
R004	RD14BB2E430J	RES. CARBON 43 5% 1/4W	R098	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W
R005	RN14BK2E1004F	RES. METAL FILM 1M 1% 1/4W	R099	RN14BK2E5003F	RES. METAL FILM 500K 1% 1/4W
R006	RD14BB2E104J	RES. CARBON 100K 5% 1/4W	R100	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W
R007	RD14BB2E181J	RES. CARBON 180 5% 1/4W	R101	RN14BK2E1003F	RES. METAL FILM 100K 1% 1/4W
R008	RD14BB2C181J	RES. CARBON 180 5% 1/6W	R102	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W
R009	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W	R103	RN14BK2E3002F	RES. METAL FILM 30K 1% 1/4W
R010	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W	R104	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W
R011	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R105	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
R012	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R106	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
R013	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W	R107	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R014	RN14BK2E4302F	RES. METAL FILM 43K 1% 1/4W	R108	RN14BK2E3602F	RES. METAL FILM 36K 1% 1/4W
R015	RD14BB2E103J	RES. CARBON 10K 5% 1/4W	R109	RN14BK2E3302F	RES. METAL FILM 33K 1% 1/4W
R016	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R110	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R017	RD14BB2E473J	RES. CARBON 47K 5% 1/4W	R111	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
R018	RD14BB2C101J	RES. CARBON 100 5% 1/6W	R112	RD14BB2E113J	RES. CARBON 11K 5% 1/4W
R019	RD14BB2E391J	RES. CARBON 390 5% 1/4W	R113	RD14BB2E912J	RES. CARBON 9.1K 5% 1/4W
R020	RD14BB2E391J	RES. CARBON 390 5% 1/4W	R114	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
R021	RD14BB2C471J	RES. CARBON 470 5% 1/6W	R115	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R022	RD14BB2E821J	RES. CARBON 820 5% 1/4W	R116	RD14BB2E113J	RES. CARBON 11K 5% 1/4W
R023	RD14BB2E101J	RES. CARBON 100 5% 1/4W	R117	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R024	NO USE		R118	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R025	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R119	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
R026	RD14BB2C103J	RES. CARBON 10K 5% 1/6W	R120	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R027	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R121	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R028	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R122	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R029	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R123	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W
R030	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R124	RD14BB2E681J	RES. CARBON 680 5% 1/4W
R031	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R125	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R032	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R126	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R033	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R127	RD14BB2E622J	RES. CARBON 6.2K 5% 1/4W
R034	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R128	RD14BB2E622J	RES. CARBON 6.2K 5% 1/4W
R035	RD14BB2E681J	RES. CARBON 680 5% 1/4W	R129	RD14BB2E153J	RES. CARBON 15K 5% 1/4W
R036	RD14BB2E182J	RES. CARBON 1.8K 5% 1/4W	R130	RD14BB2E104J	RES. CARBON 100K 5% 1/4W
R037	RD14BB2E392J	RES. CARBON 3.9K 5% 1/4W	R131	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R038	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R132	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R039	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R133	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R040	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R134	RD14BB2E113J	RES. CARBON 11K 5% 1/4W
R041	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R135	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R042	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R136	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R043	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R137	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R044	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R138	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R045	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R139	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R046	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R140	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
R047	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R141	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R048	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W	R142	RD14BB2E391J	RES. CARBON 390 5% 1/4W
R049	RD14BB2C820J	RES. CARBON 82 5% 1/6W	R143	NO USE	
R050	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R144	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R051	RD14BB2E331J	RES. CARBON 330 5% 1/4W	R145	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R052	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R146	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R053	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R147	RD14BB2E470J	RES. CARBON 47 5% 1/4W
R054	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W	R148	RD14BB2E221J	RES. CARBON 220 5% 1/4W
R055	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R149	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R056	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R150	RD14BB2E332J	RES. CARBON 3.3K 5% 1/4W
R057	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R151	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R058	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R152	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R059	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R153	RD14BB2C182J	RES. CARBON 1.8K 5% 1/6W
R060	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R154	RD14BB2C822J	RES. CARBON 8.2K 5% 1/6W
R061	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R155	RN14BK2E5001F	RES. METAL FILM 5K 1% 1/4W
R062	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R156	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
R063	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R157	RD14BB2E392J	RES. CARBON 3.9K 5% 1/4W
R064	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R158	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R065	RD14BB2E102J	RES. CARBON 1K 5% 1/4W	R159	RD14BB2C561J	RES. CARBON 560 5% 1/6W
			R160	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
			R161	RD14BB2C682J	RES. CARBON 6.8K 5% 1/6W

PARTS LIST

REF.NO	PARTS NO	NAME & DESCRIPTION
R162	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
R163	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R164	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R165	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R166	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R167	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R168	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
R169	RN14BK2E5002F	RES. METAL FILM 50K 1% 1/4W
R170	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R171	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R172	RN14BK2E1203F	RES. METAL FILM 120K 1% 1/4W
R173	RN14BK2E1502F	RES. METAL FILM 15K 1% 1/4W
R174	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R175	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R176	RD14BY2H333J	RES. CARBON 33K 5% 1/2W
R177	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R178	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R179	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R180	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R181	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R182	RD14BB2E473J	RES. CARBON 47K 5% 1/4W
R183	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R184	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R185	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R186	RD14BB2E472J	RES. CARBON 4.7K 5% 1/4W
R187	RD14BY2H103J	RES. CARBON 10K 5% 1/2W
R188	RD14BB2E223J	RES. CARBON 22K 5% 1/4W
R189	RD14BB2E681J	RES. CARBON 680 5% 1/4W
R190	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R191	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
R192	RD14BB2C105J	RES. CARBON 1M 5% 1/6W
R193	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R194	RD14BB2E222J	RES. CARBON 2.2K 5% 1/4W
R195	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R196	RD14BB2C393J	RES. CARBON 39K 5% 1/6W
R197	RD14BB2C363J	RES. CARBON 36K 5% 1/6W
R202	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R203	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R204	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R205	RD14BB2E220J	RES. CARBON 22 5% 1/4W
R206	NO USE	
R207	RD14BB2E681J	RES. CARBON 680 5% 1/4W
R217	RD14BB2E270J	RES. CARBON 27 5% 1/4W
R217	RD14BB2E270J	RES. CARBON 27 5% 1/4W
R218	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R219	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R219	RD14BB2C751J	RES. CARBON 750 5% 1/6W
R220	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R221	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W
R221	RD14BB2C751J	RES. CARBON 750 5% 1/6W
R224	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R225	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R228	RD14BB2C332J	RES. CARBON 3.3K 5% 1/6W
R229	NO USE	
R230	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R231	NO USE	
R232	RD14BB2C222J	RES. CARBON 2.2K 5% 1/6W
R233	NO USE	
R234	RD14BB2E471J	RES. CARBON 470 5% 1/4W
R235	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
S001	S32-4008-05	LEVER SWITCH
S002	S33-4503-05	LEVER SWITCH
S003	S32-4008-05	LEVER SWITCH
S004	NO USE	
S005	S29-5501-05	ROTARY SWITCH
TC001	C05-0422-05	CAP. TRIMMER 20P
TC002	C05-0421-05	CAP. TRIMMER 10P
TC003	C05-0420-05	CAP. TRIMMER 6P
TC004	C05-0422-05	CAP. TRIMMER 20P
TC005	C05-0422-05	CAP. TRIMMER 20P
TC006	C05-0422-05	CAP. TRIMMER 20P
U001	MC10131L	IC, DUAL D-FFS
U002	MC10103L	IC, QUAD 2-INPUT OR GATE
U003	MC10104L	IC, QUAD 2-INPUT AND GATE
U004	MC10103L	IC, QUAD 2-INPUT OR GATE
U005	MC10102L	IC, QUAD 2-INPUT NOR GATE
U006	MC10102L	IC, QUAD 2-INPUT NOR GATE
U007	MC10105L	IC DIGITAL
U008	NJM4558D	IC, DUAL OP-AMP
U009	NJM4558D	IC, DUAL OP-AMP
U010	NJM4558D	IC, DUAL OP-AMP
U011	NJM4558D	IC, DUAL OP-AMP
VR001	R12-2512-05	RES. SEMI FIXED 5K B
VR002	R12-2512-05	RES. SEMI FIXED 5K B
VR003	R12-0540-05	RES. SEMI FIXED 500 B

REF.NO	PARTS NO	NAME & DESCRIPTION
VR004	R12-0540-05	RES. SEMI FIXED 500 B
VR005	R12-2512-05	RES. SEMI FIXED 5K B
VR006	R12-1518-05	RES. SEMI FIXED 2K B
VR007	R12-1518-05	RES. SEMI FIXED 2K B
VR008	R12-1518-05	RES. SEMI FIXED 2K B
VR009	R12-1518-05	RES. SEMI FIXED 2K B
VR010	R10-3502-05	V.R. 10KB X2
VR011	R10-3502-05	V.R. 10KB X2
VR012	R12-0540-05	RES. SEMI FIXED 500 B
VR013	R12-3521-05	RES. SEMI FIXED 20K B
VR014	R12-3520-05	RES. SEMI FIXED 10K B

CRT UNIT

(X81-1250-03)

REF.NO	PARTS NO	NAME & DESCRIPTION
	E01-0103-05	CRT SOCKET
	E23-0503-05	TERMINAL
	J25-2996-24	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM
J016	E31-2390-05	LEAD WIRE WITH CONNECTOR
J017	E31-2390-05	LEAD WIRE WITH CONNECTOR
J018	NO USE	
J019	E31-2388-05	LEAD WIRE WITH CONNECTOR
J020	NO USE	
J021	E31-2387-05	LEAD WIRE WITH CONNECTOR
J022	NO USE	
J023	E31-2389-05	LEAD WIRE WITH CONNECTOR
R003	RD14BB2E473J	RES. CARBON 47K 5% 1/4W

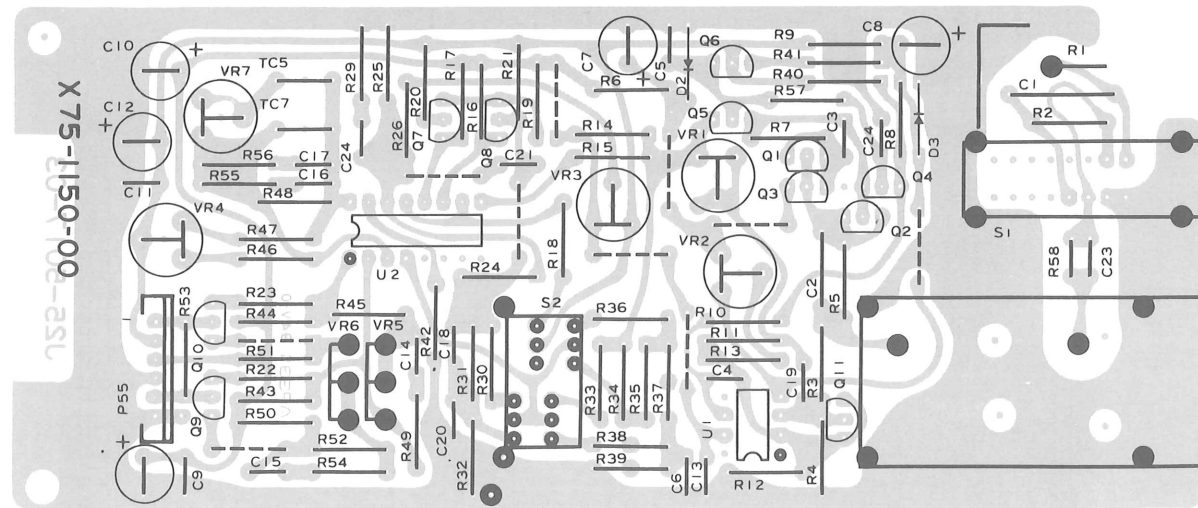
NOTE:

The following parts are added to PC Board (X73-1530-00, X73-1530-01).

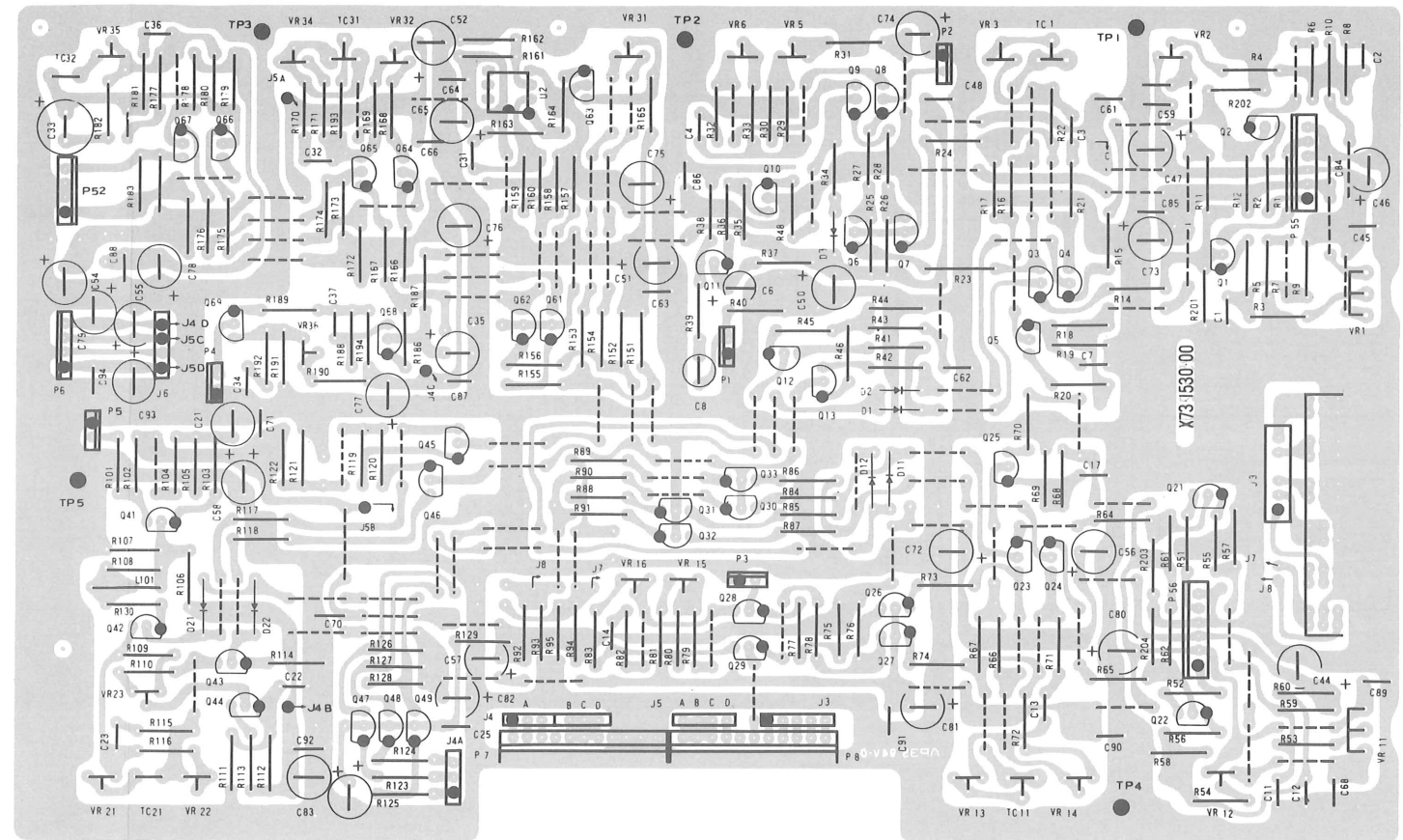
- R205 RD14BB2C122J REG. CARBON 1.2 kΩ ± 5%
- C95 CC45CH1H030C CAP. CERAMIC 3 pF ± 0.25 pF 50 V

P.C. BOARD

VERTICAL ATTENUATOR UNIT (X75-1150-00)
(Note: CH1, CH2 common)

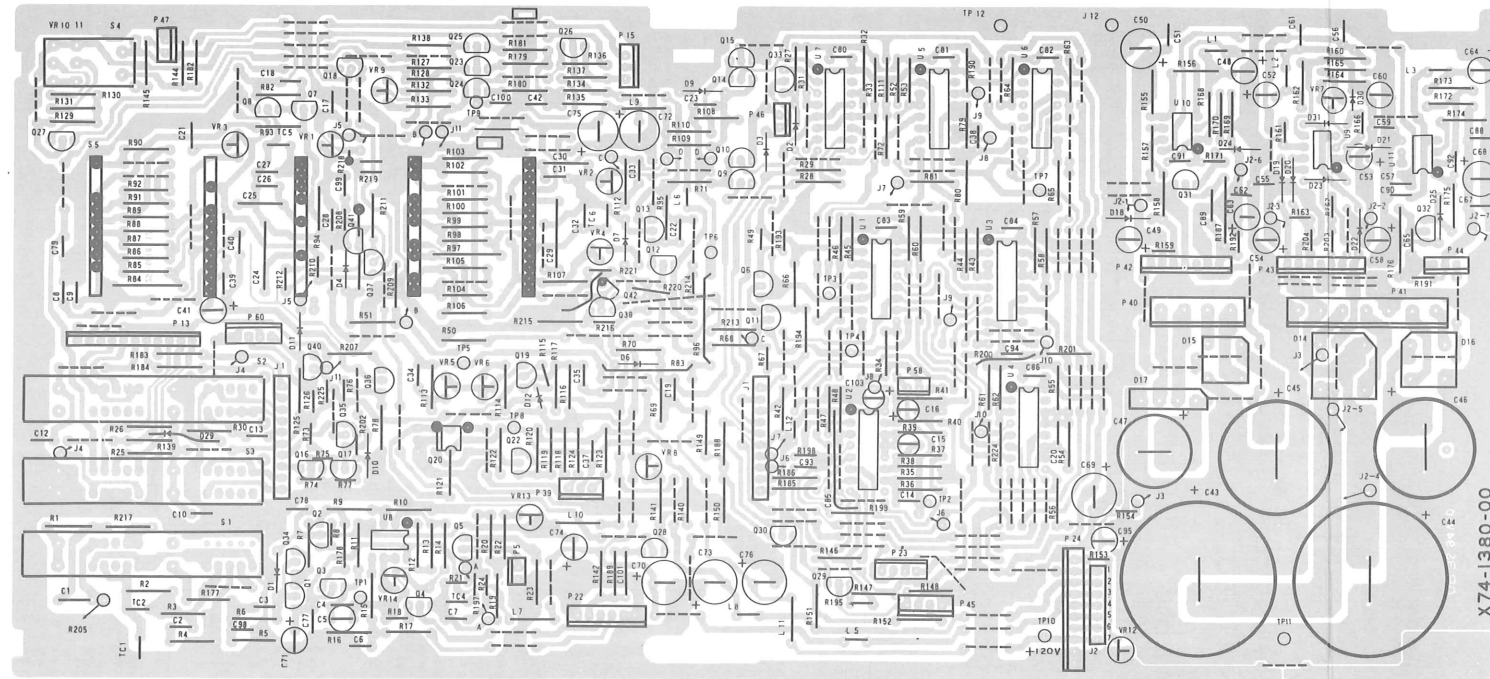


VERTICAL PREAMP UNIT (X73-1530-00), (X73-1530-01)

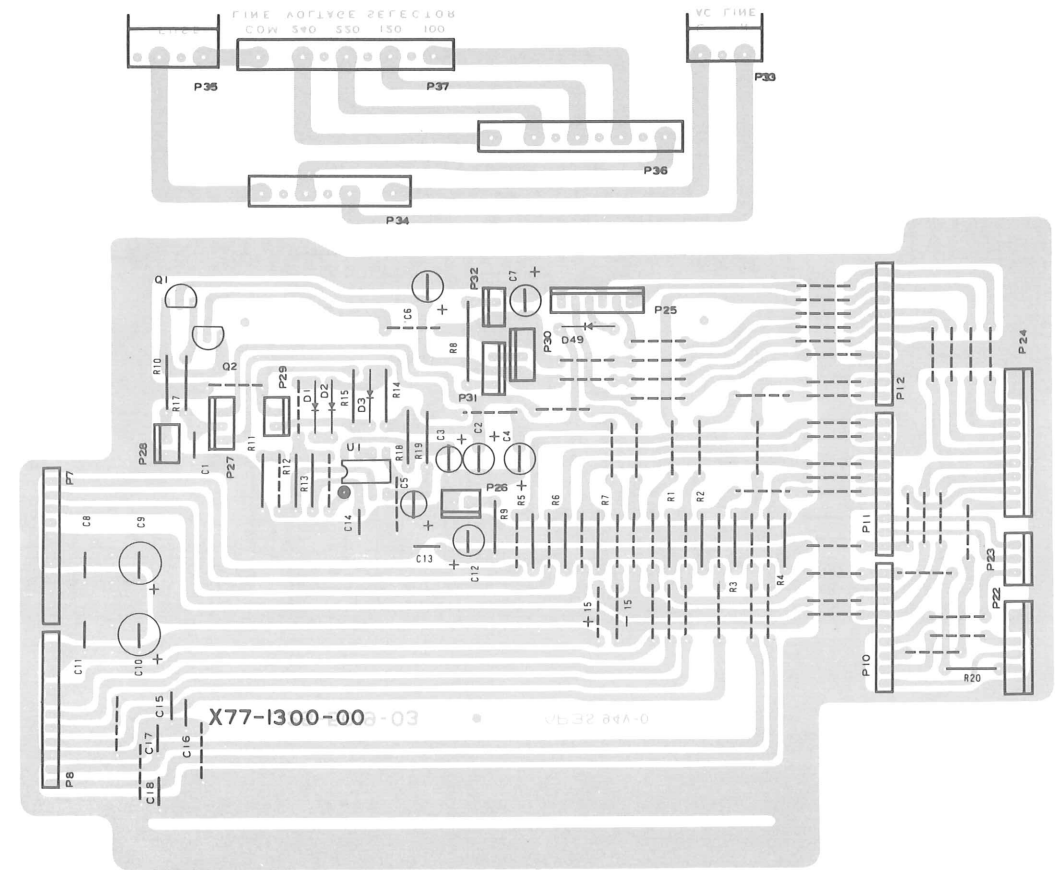


P.C. BOARD

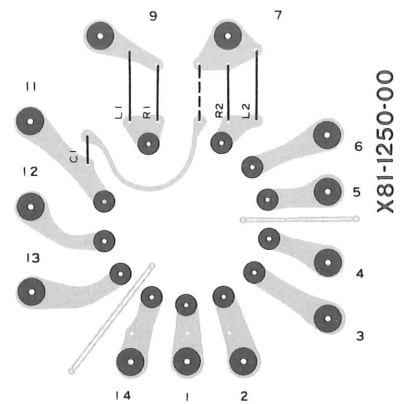
SWEEP UNIT (X74-1380-00), (X74-1380-01)



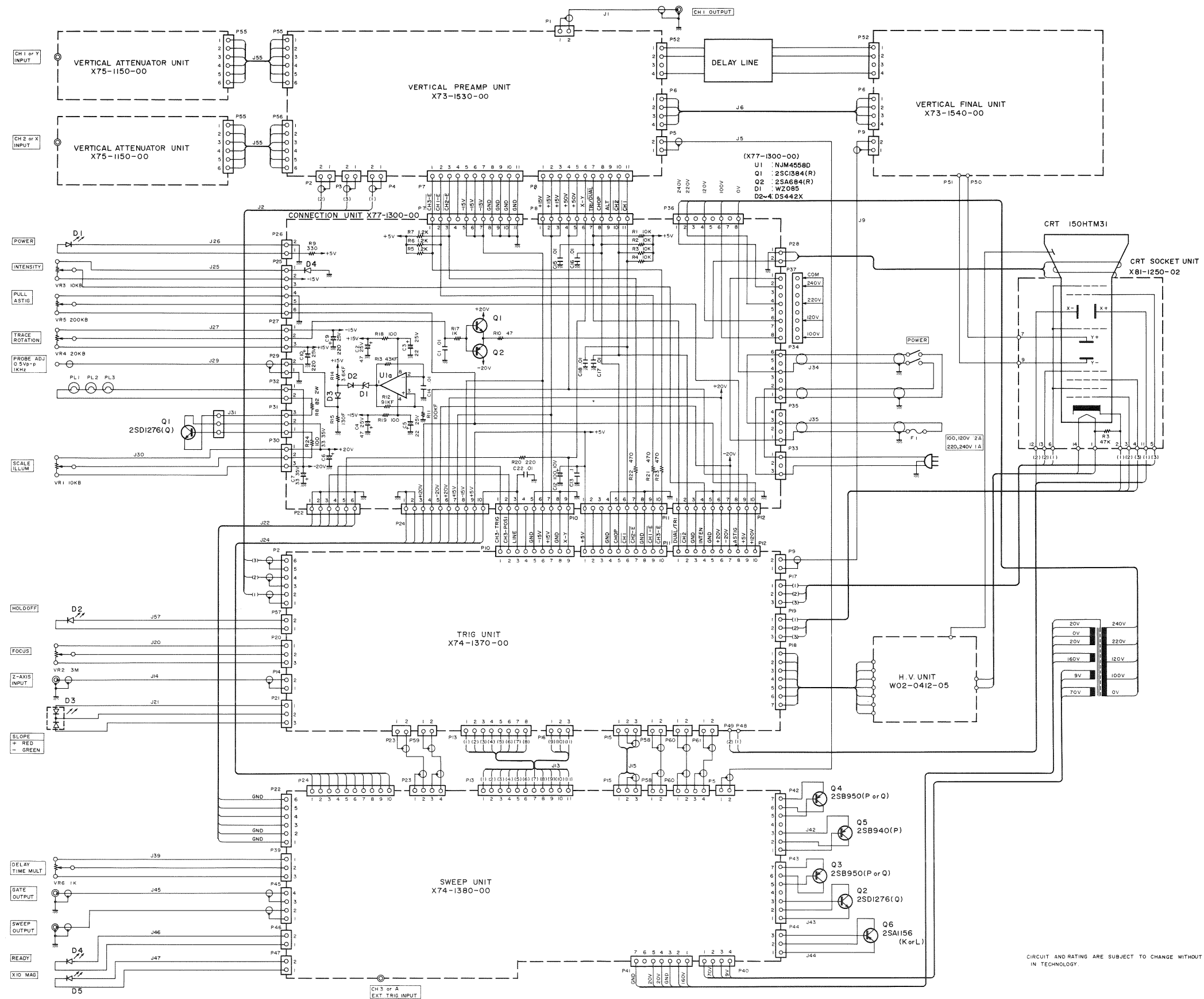
CONNECTION UNIT (X77-1300-00)



**CRT UNIT
(X81-1250-02)
(X81-1250-03)**

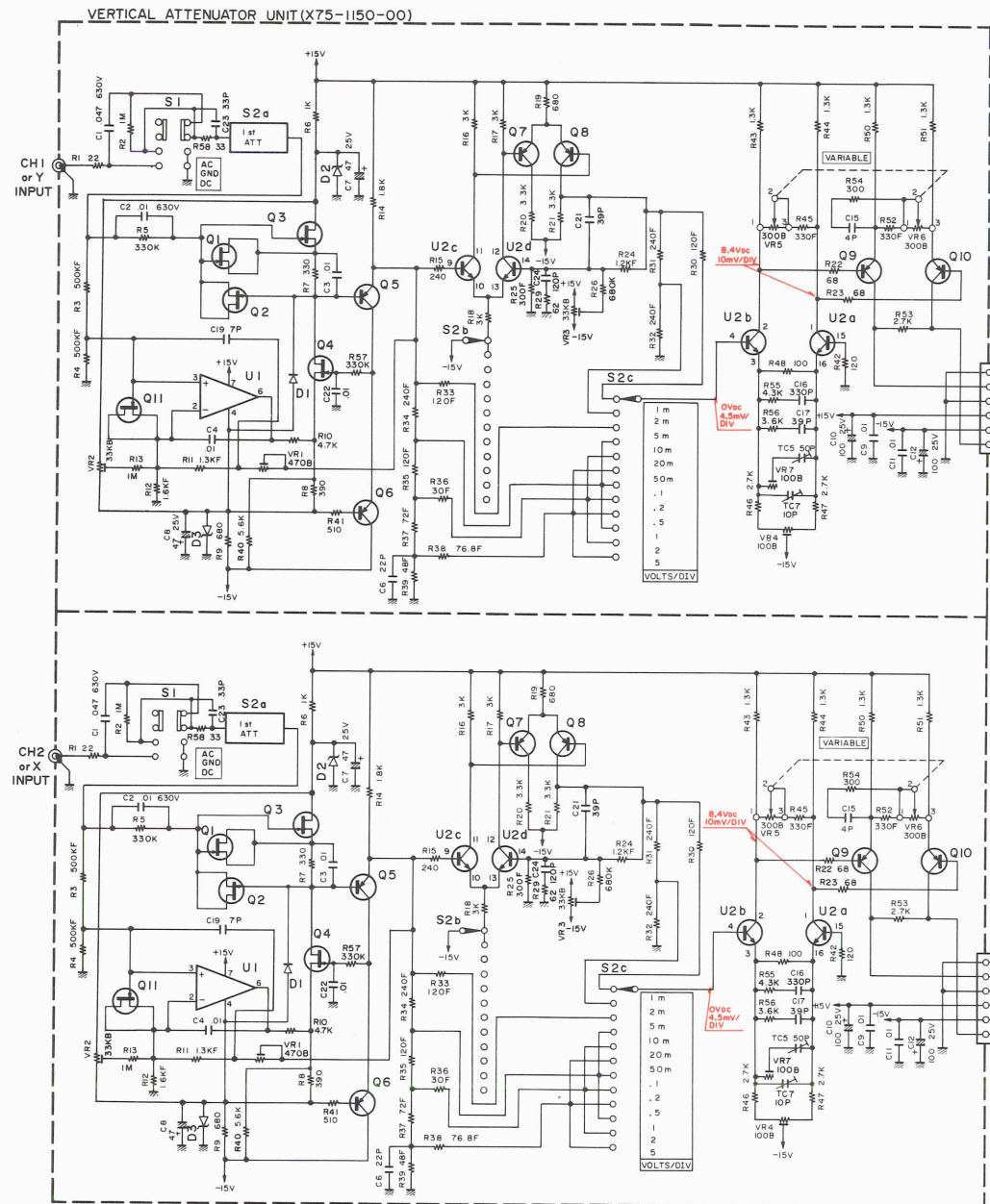


SCHEMATIC DIAGRAM

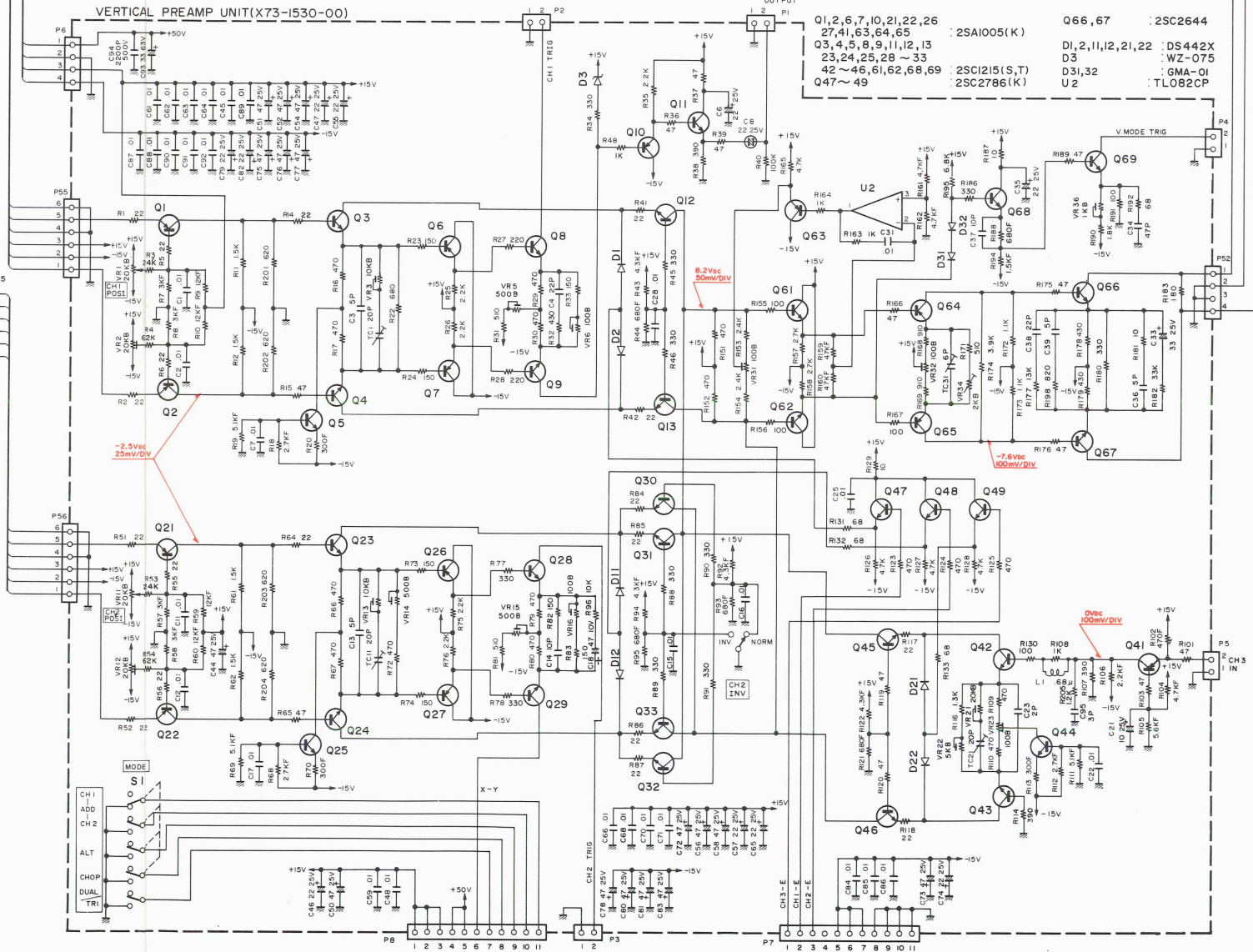


CIRCUIT AND RATING ARE SUBJECT TO CHANGE WITHOUT NOTICE DUE TO DEVELOPMENTS IN TECHNOLOGY.

SCHEMATIC DIAGRAM



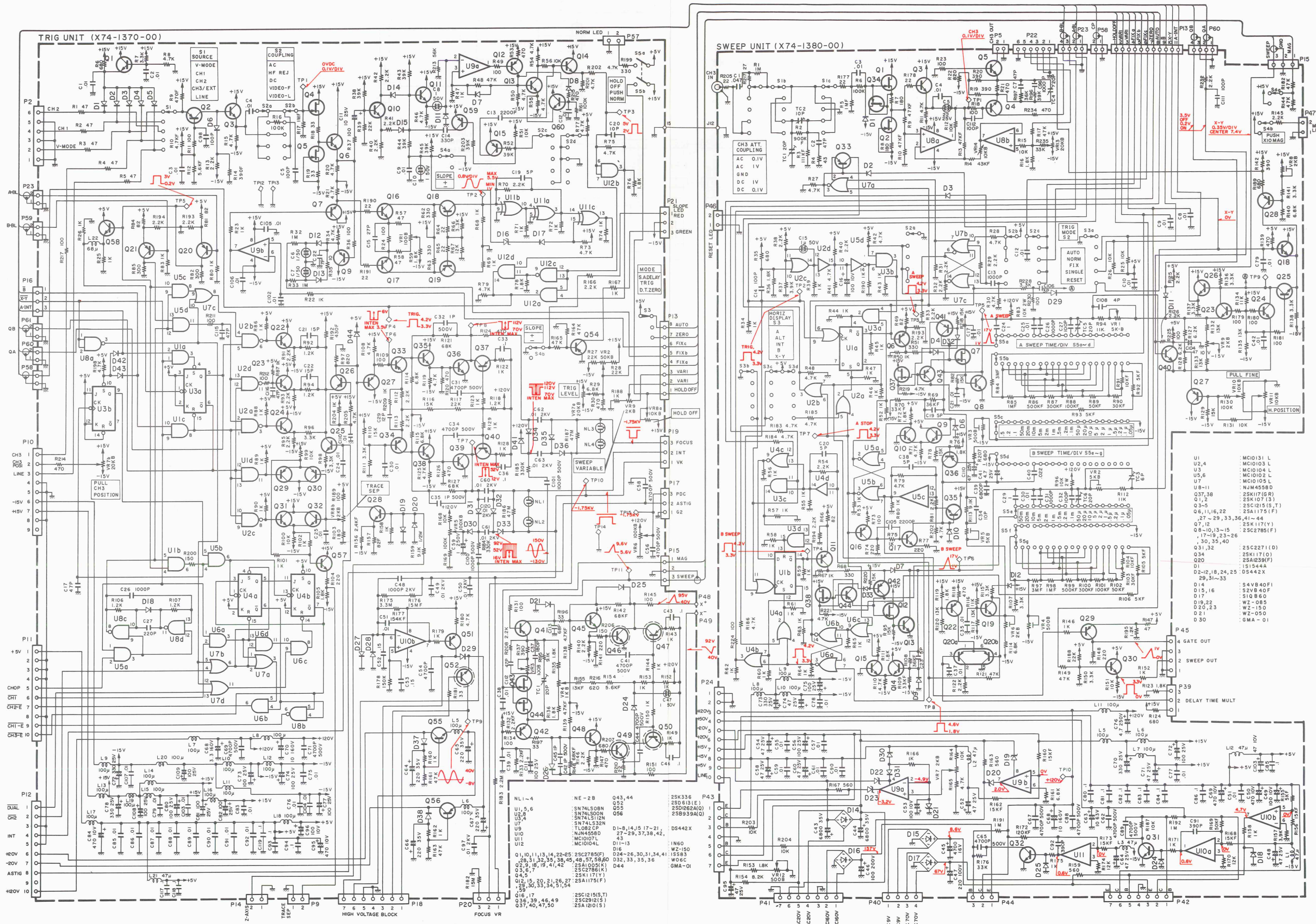
- Q1,2,11 : 2SK117(O)
- Q3,4 : 2SK107(3)
- Q5 ~ 10 : 2SA1005(K)
- D2,3 : WZ-050
- D1 : DS442X
- U1 : LF411CN
- U2 : CA3127E



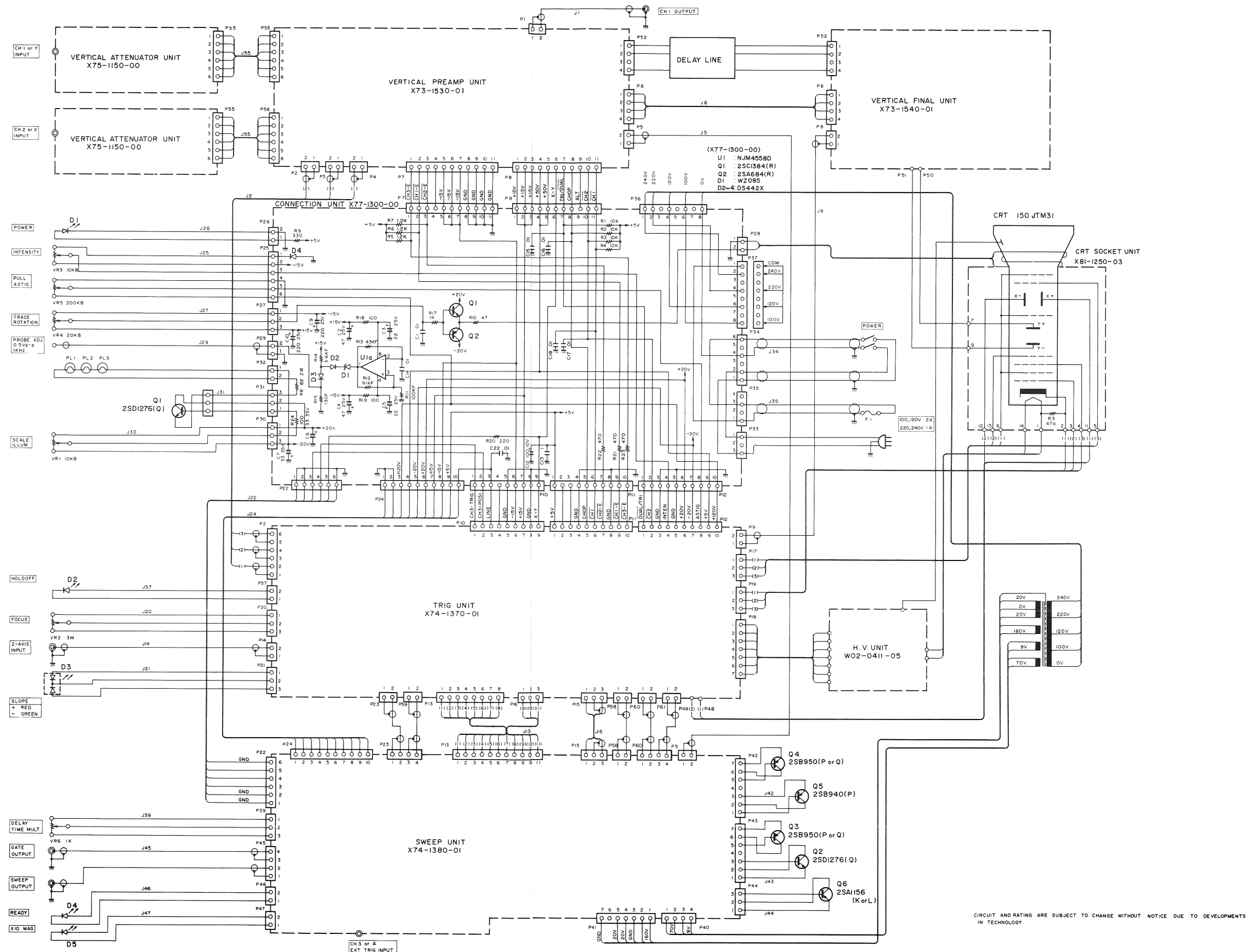
- D1,2 : WZ-100
- Q1,2 : 2SA1206(K)
- Q3,4 : 2SC2644
- Q7 ~ 10 : 2SC1164(O)
- U1 : NJM4558D
- TH1,3 : SDT-100
- TH2 : SDT-20

- Q1,2,6,7,10,21,22,26 : 2SA1005(K)
- 27,41,63,64,65 : 2SC2644
- Q3,4,5,8,9,11,12,13 : 2SA1005(K)
- 23,24,25,28 ~ 33 : WZ-075
- 42 ~ 46,61,62,68,69 : 2SC1215(S,T)
- 47 ~ 49 : 2SC2786(K)
- Q66,67 : 2SC2644
- D1,2,11,12,21,22 : DS442X
- D3 : WZ-075
- D31,32 : GMA-01
- U2 : TL082CP

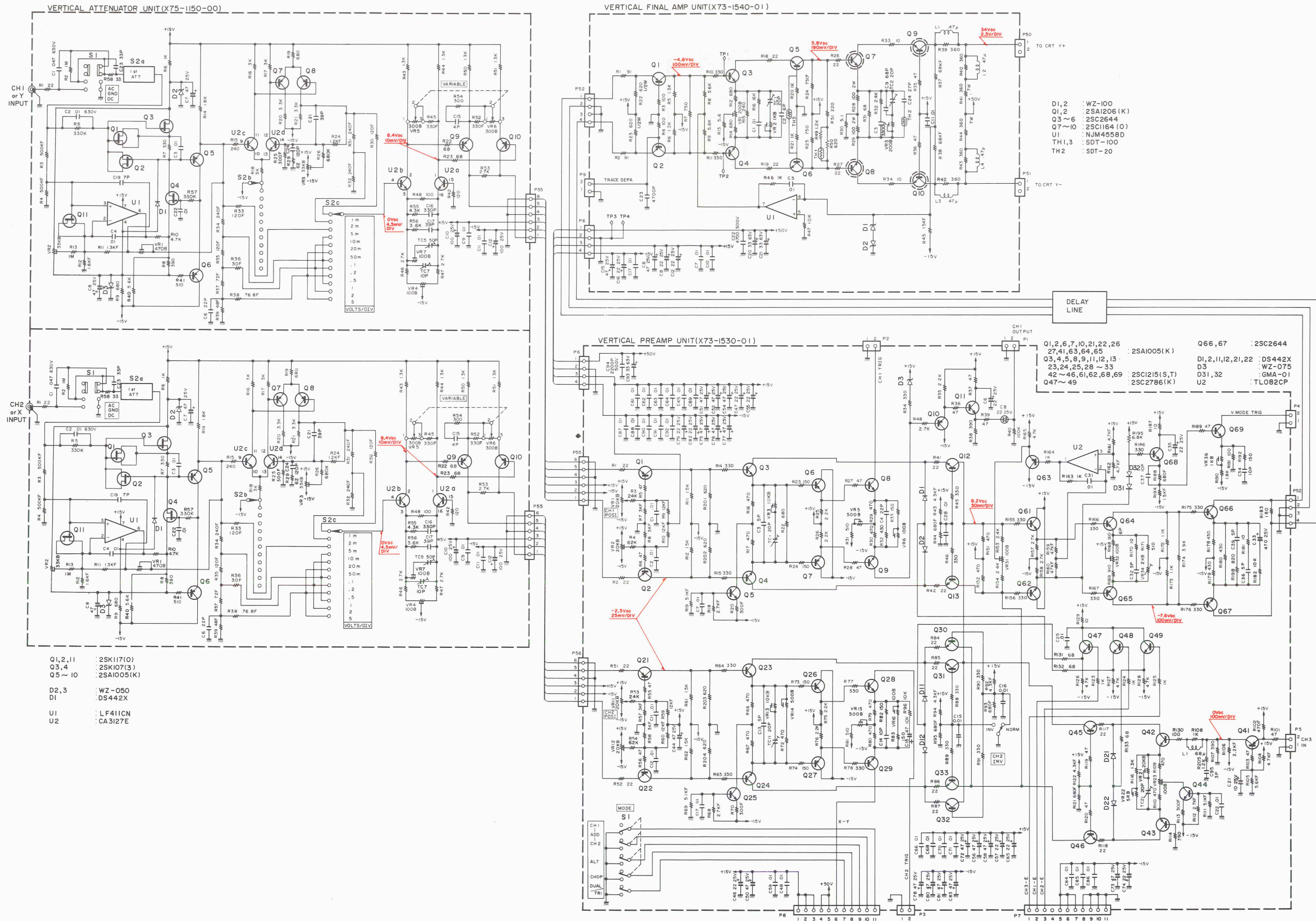
SCHEMATIC DIAGRAM



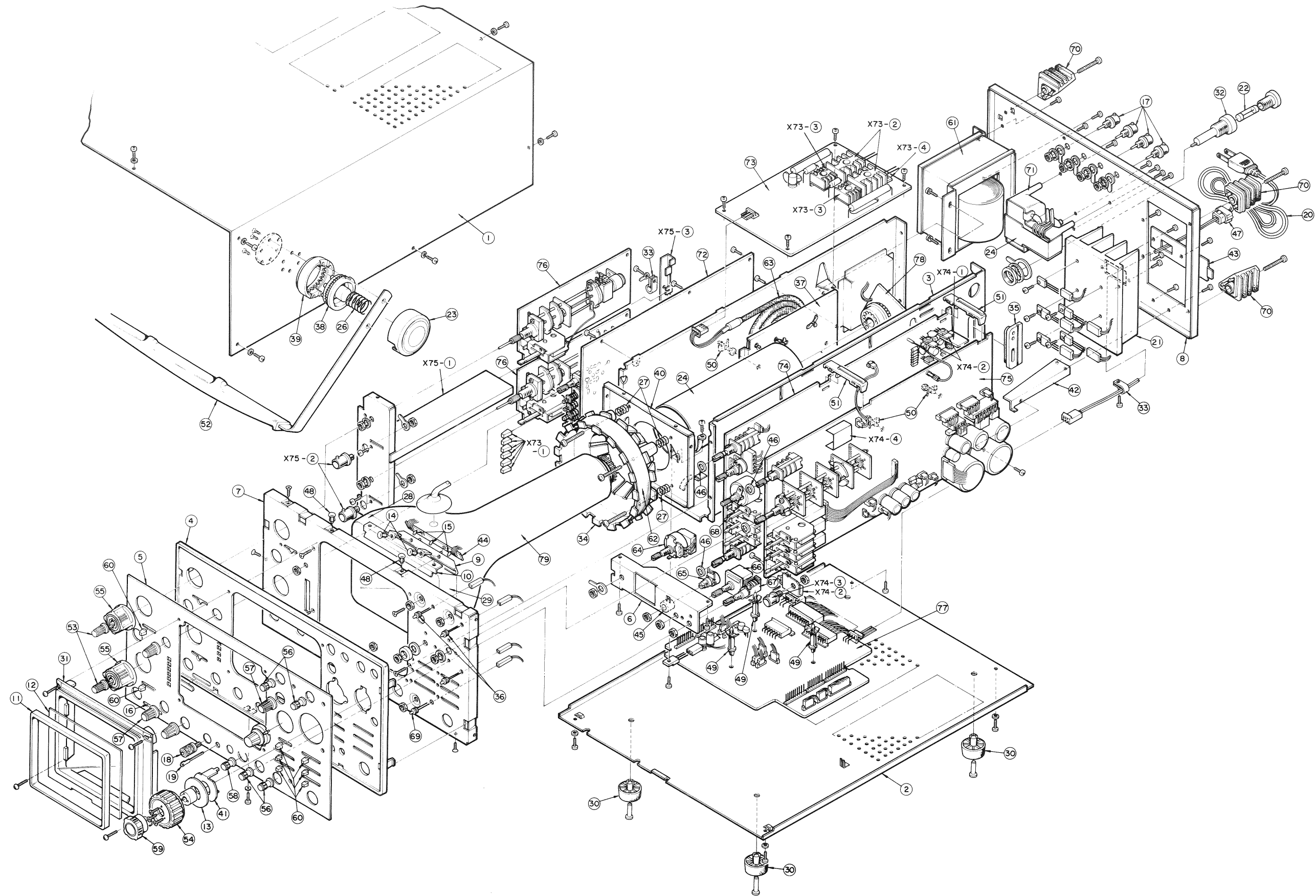
SCHEMATIC DIAGRAM



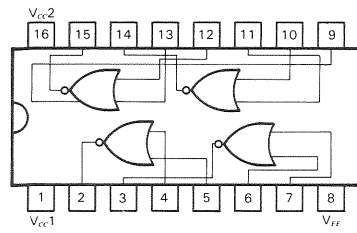
SCHEMATIC DIAGRAM



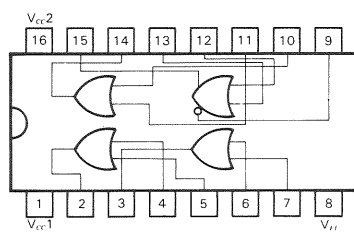
DISASSEMBLY



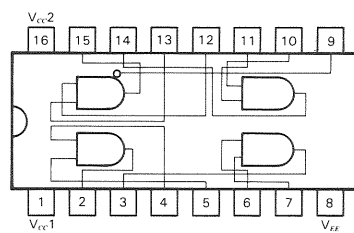
SEMICONDUCTORS



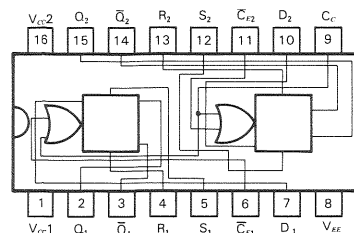
MC10102L



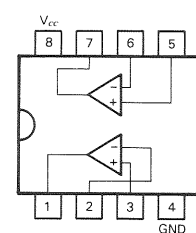
MC10103L



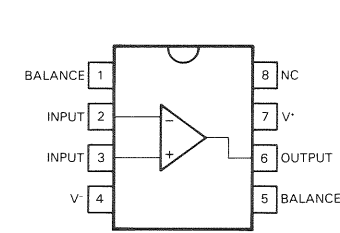
MC10104L



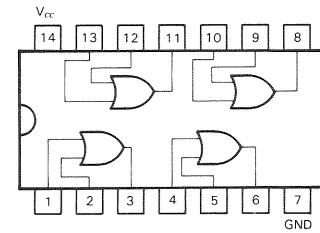
MC10131L



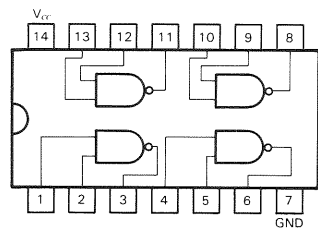
TL082CP
NJM4558D



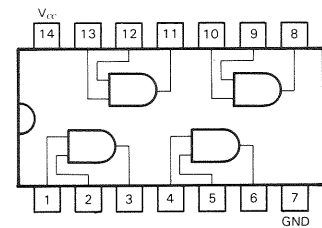
LF411CN



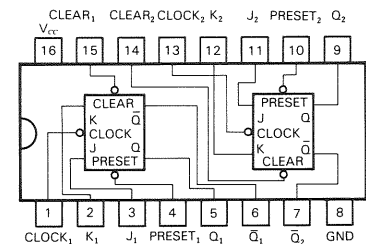
SN74LS32N



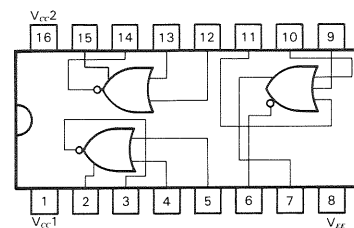
SN74LS00N



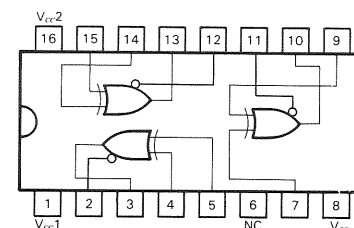
SN74LS08N



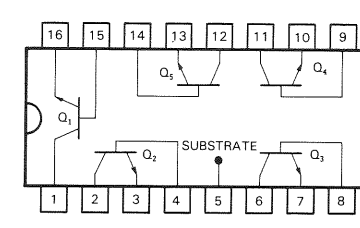
SN74LS112N



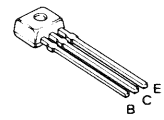
MC10105L



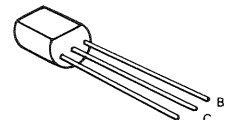
MC10107L



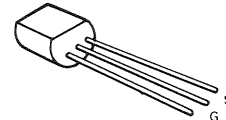
CA3127E



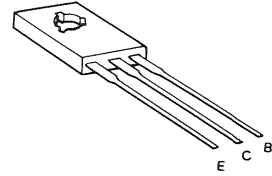
2SA1175 (F)
2SC2785 (F)
2SC2786 (K)



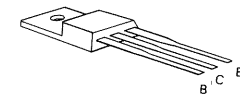
2SA684 (R)
2SA1005 (K)
2SC1215 (S, T)
2SC1384 (R)
2SC2271 (D)



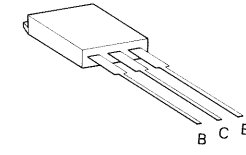
2SK117 (O, Y, GR)



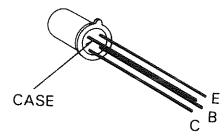
2SC2912 (S)
2SA1210 (S)
2SA1156 (K, L)



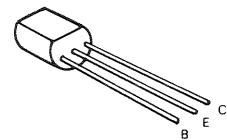
2SB950 (P, Q)
2SB940 (P)
2SD613 (E)
2SD1276 (Q)



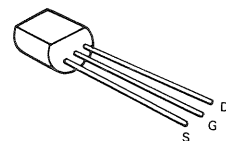
2SB939A (Q)
2SD1262A (Q)



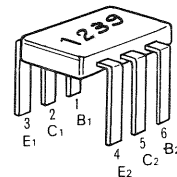
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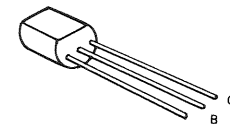
2SC2644



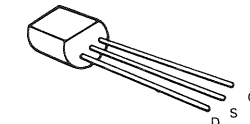
2SK107 (3)



2SA1239 (F)



2SA1206 (K)



2SK336

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