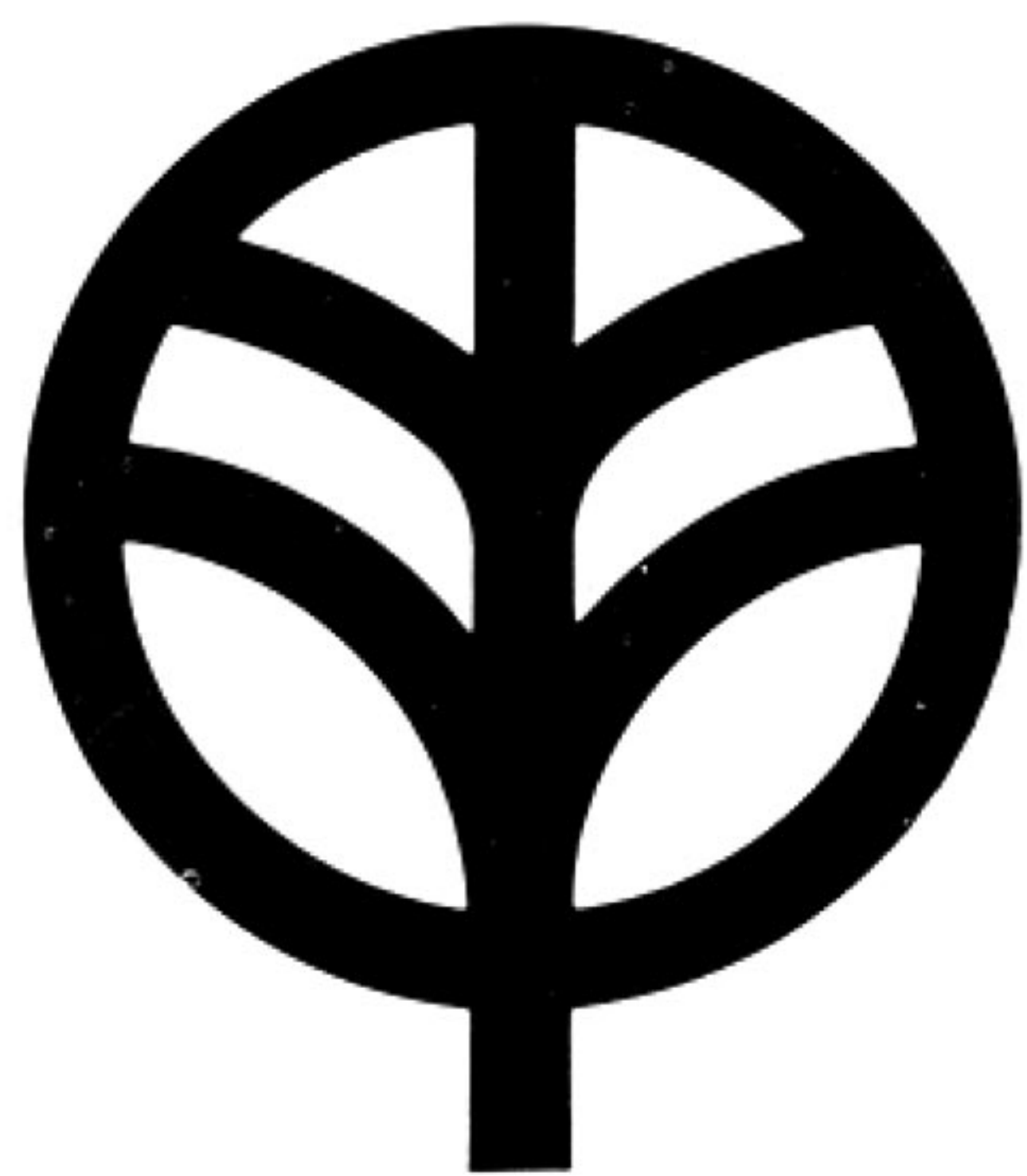




KENWOOD
HI/FI STEREO COMPONENTS

SERVICE MANUAL

KR-7070A



AUTO TUNING STEREO RECEIVER

SPECIFICATIONS

FM TUNER SECTION

Antenna Impedance	: 300 ohms balanced 75 ohms unbalanced
Usable Sensitivity (IHF)	1.5 μ V
Frequency Response	20 Hz to 15,000 Hz +0, -2dB
Harmonic Distortion	Mono : Less than 0.4%
(at 400 Hz, 100% Mod.)	Stereo : Less than 0.6%
Signal to Noise Ratio	. Better than 70 dB
Capture Ratio (IHF)	1.5 dB
Selectivity IHF	Better than 75 dB
(Alt. Channel)	
Image Rejection	Better than 100 dB
IF Rejection	Better than 100 dB
Spurious Signal Rejection	Better than 100 dB
AM Supersession	Better than 55 dB
Stereo Separation	. Better than 40 dB at 1,000 Hz
	. Better than 25 dB at 10,000 Hz
Sub Carrier Suppression	Better than 55 dB

AM TUNER SECTION

Antenna	Built-in ferrite loopstick antenna
	External antenna terminals
Usable Sensitivity (IHF)	15 μ V
Signal to Noise Ratio	. 50 dB at 1 mV input
Selectivity (IHF)	Better than 30 dB
Image Rejection	. Better than 70 dB
IF Rejection	. Better than 60 dB

AMPLIFIER SECTION

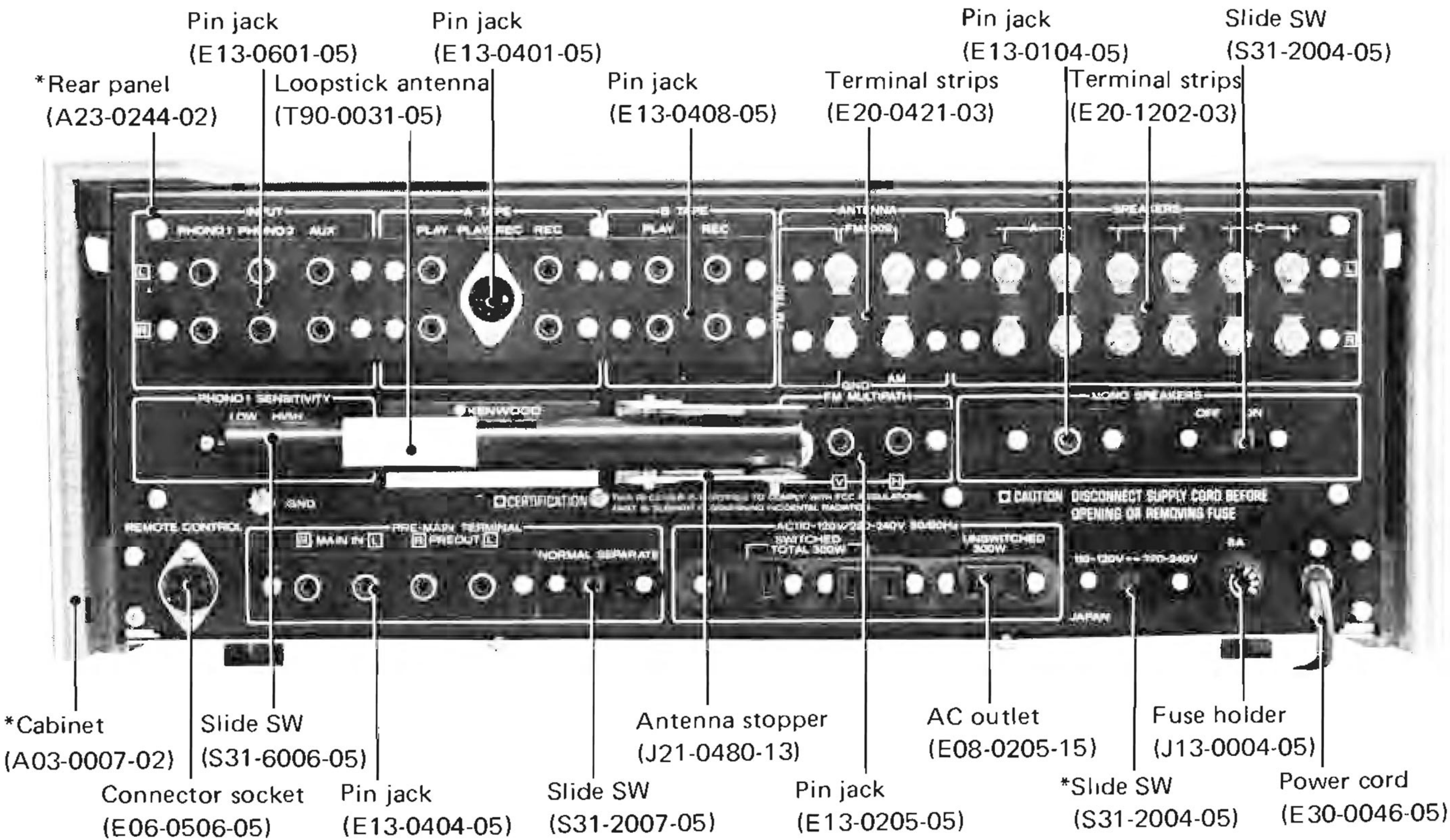
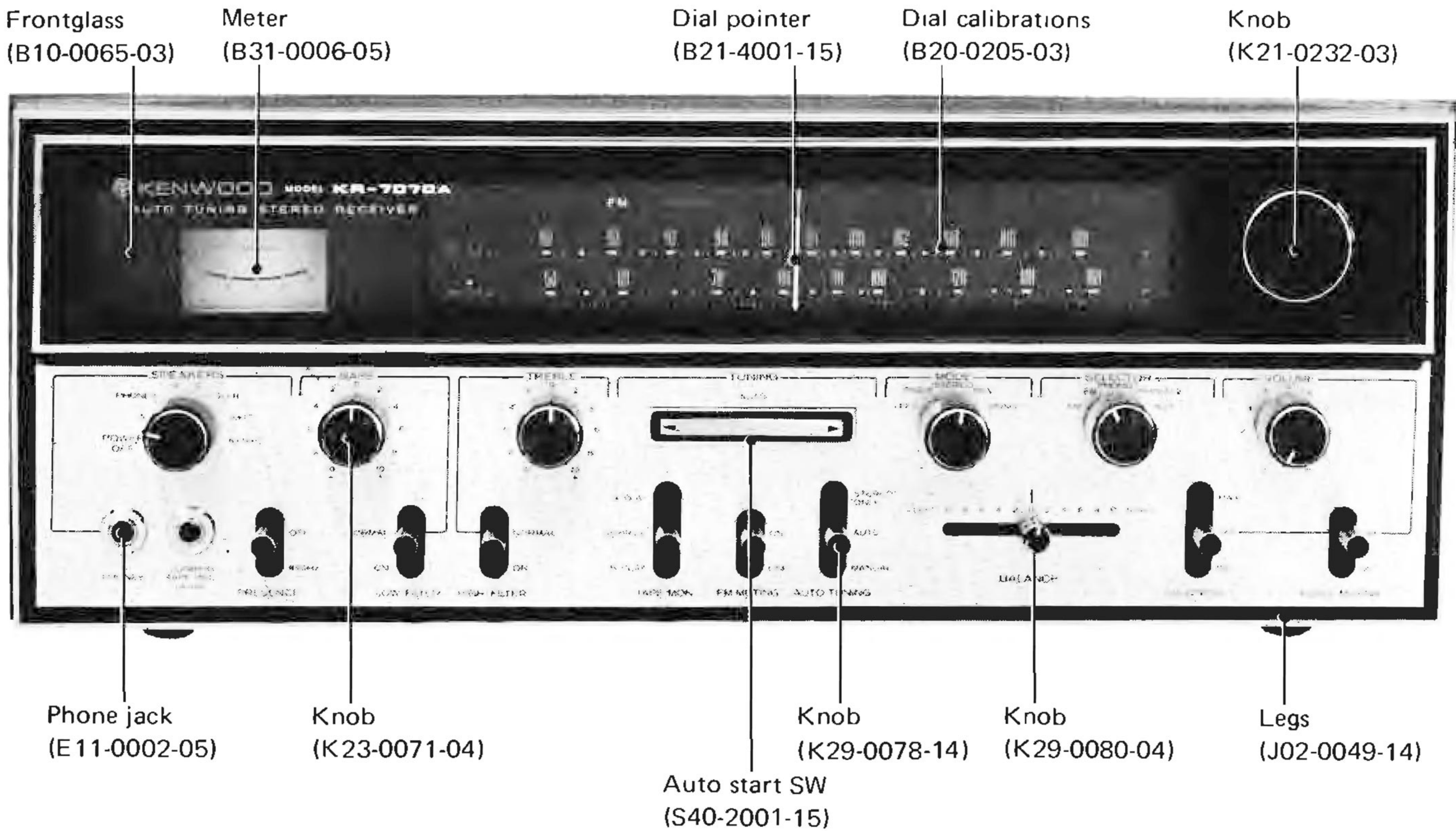
Dynamic Power Output (IHF)	: 300 watts both channels at 4 ohms
	220 watts both channels at 8 ohms
Continous Power Output	
Each Channel Driven	. 110/110 watts at 4 ohms
	. 90/90 watts at 8 ohms
Both Channels Driven	. 95/95 watts at 4 ohms
	. 80/80 watts at 8 ohms
Mono Output	. 5 watts
Harmonic Distortion	: Less than 0.5% at rated output
	Less than 0.05% at -3 dB rated output
Intermodulation Distortion	: Less than 0.5% at rated output
	: Less than 0.1% at -3 dB rated output
Frequency Response	
Main Input	: 5 Hz to 120,000 Hz $\pm$ 1.5 dB
High Level (Aux) Input	: 12 Hz to 40,000 Hz $\pm$ 1.5 dB

Power Bandwidth (IHF)	: 10 Hz to 30,000 Hz
Input Sensitivity (for rated output)	. PHONO 1 0.05 mV (200 ohms)
	(switchable) . 2.5 mV (50k ohms)
	. PHONO 2 . 2.5 mV (50k ohms)
	. AUX/TAPE PLAY . 200 mV (100k ohms)
	. Main Input . 1V (100k ohms)
Recording Output (below rated input)	. Pin Jack . 200 mV
	. DIN Connector . 40 mV
	: DUBBING . 200 mV
Hum & Noise (below rated output)	. PHONO 1 45 dB (0.05 mV)
	65 dB (2.5 mV)
	. PHONO 2 65 dB
	. AUX/TAPE PLAY 75 dB
Damping Factor	50 at 8 ohms
	. 100 at 16 ohms
Speaker Impedance	accepts 4 to 16 ohms
Bass Control	. $\pm$ 10 dB at 100 Hz
Treble Control	. $\pm$ 10 dB at 10,000 Hz
Low Filter	. -7 dB at 100 Hz
High Filter	-10 dB at 10,000 Hz
Loudness Control (at -30 dB)	. MAX +10 dB at 100 Hz, +5 dB at 10,000 Hz
	MID +6 dB at 100 Hz
Presence Control	700 Hz +6 dB at 700 Hz
Audio Muting	-20 dB

GENERAL

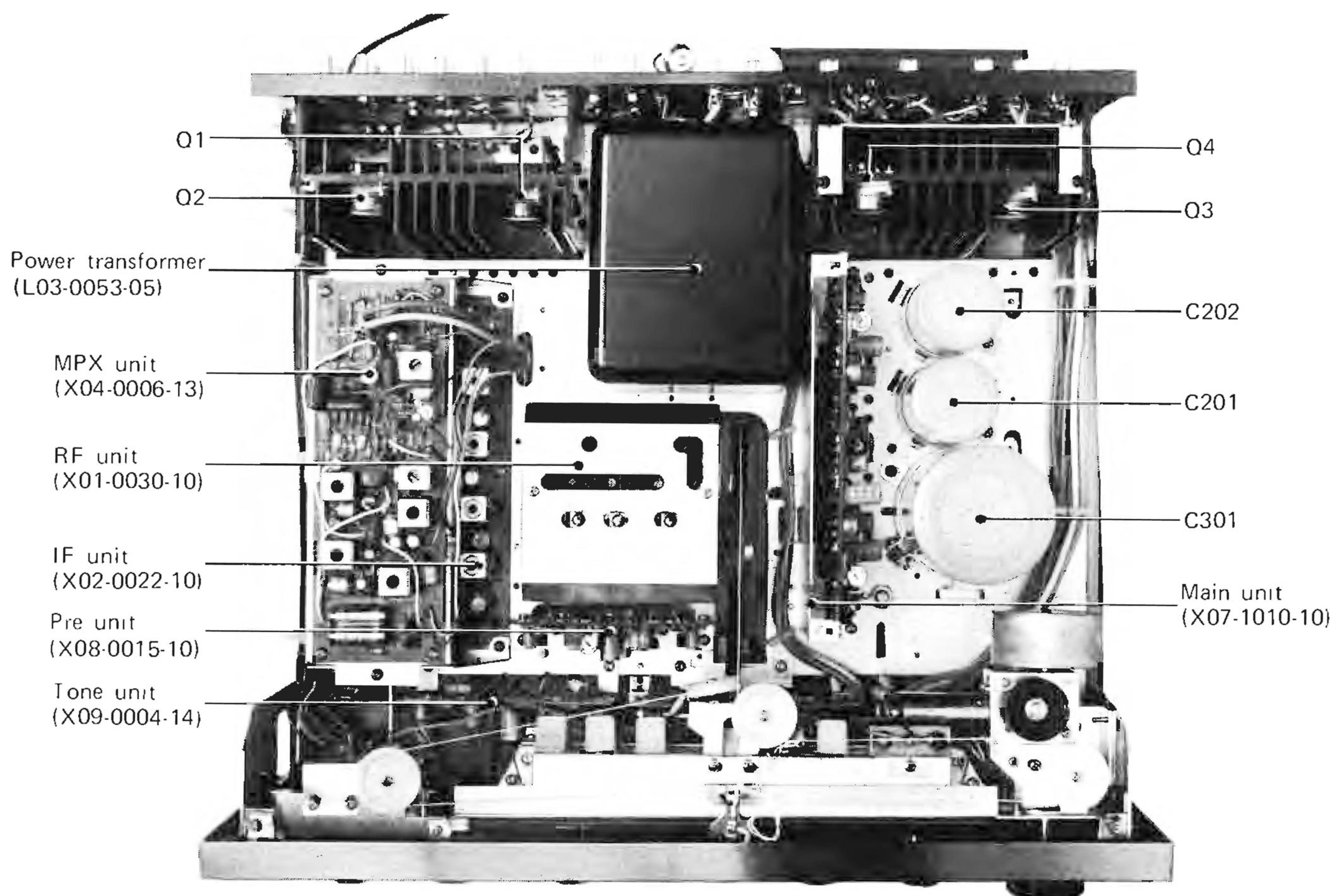
Switches	SPEAKERS	: POWER OFF, A, PHONES, B, C, A + B, A + C, A + B + C.
	SELECTOR MODE	AM, FM, PHONO 1, PHONO 2, AUX LEFT, RIGHT, STEREO, REV, MONO.
Lever-Action Switches		. TAPE MONITOR, LOWER & HIGH FILTER, FM MUTING, AUTO TUNING, LOUDNESS, AUDIO MUTING.
AC Outlets		2 switched & 1 unswitched
Power Voltage		AC 110-120V/220-240V 50/60 Hz
Power consumption		. 320 watts at full power
		40 watts at no signal
Dimensions		17" (W) x 6-1/2" (H) x 15" (D)
Weight		40 lbs.
Accessory Parts		Walnut Cabinet
		AUTOMATIC REMOTE TUNING CONTROLLER and VOLUME CONTROLLER (with 13 feet cord)

EXTERNAL VIEW



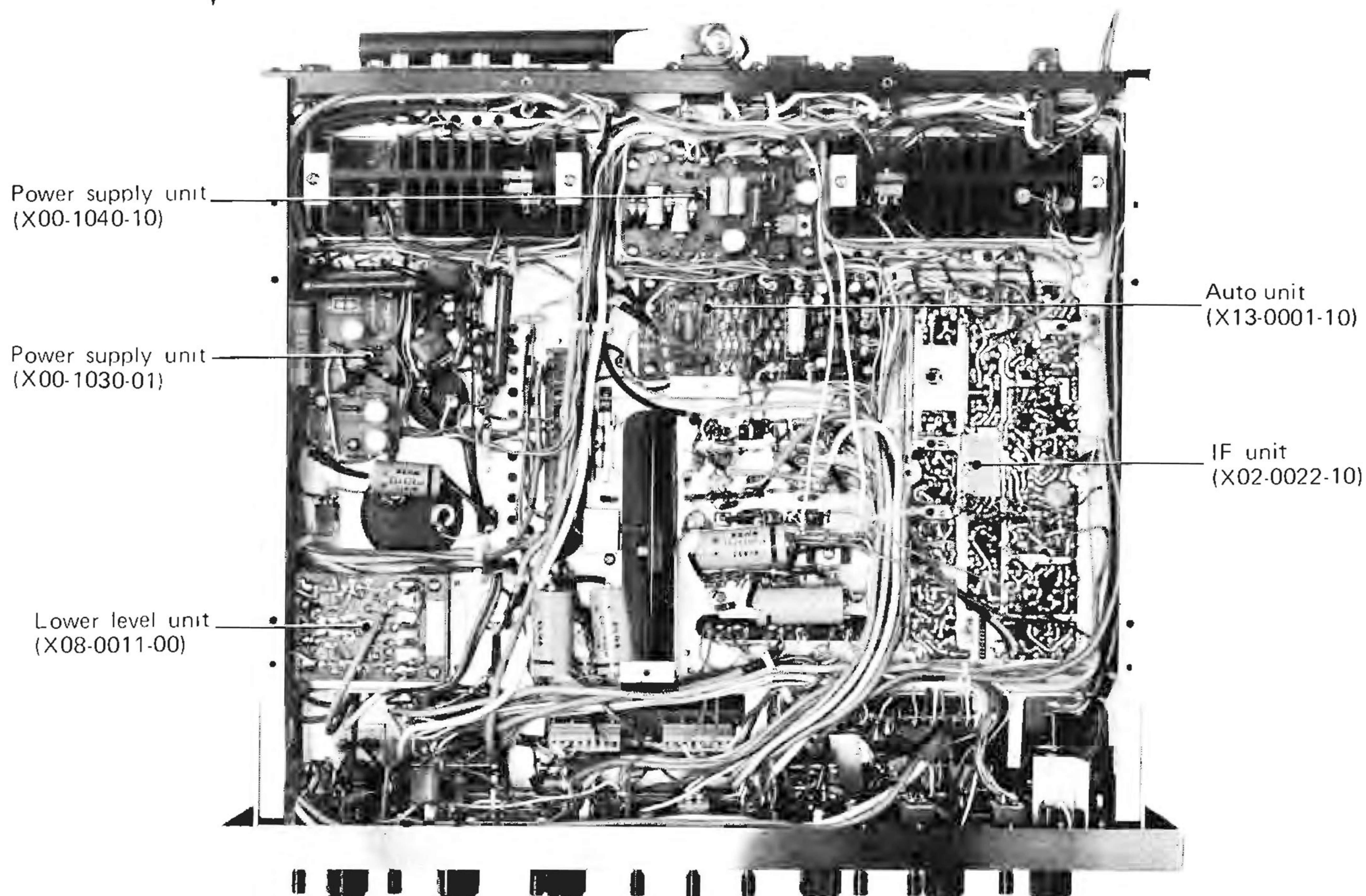
*See the parts list.

TOP & BOTTOM CHASSIS VIEW



▲ TOP CHASSIS VIEW

▼ BOTTOM CHASSIS VIEW



ADJUSTMENTS

FM ALIGNMENT PROCEDURE

Instruments: FM SSG, AC VTVM & Oscilloscope, Peak Responcing Volt Meter (STEP 6 ~ 11)
 Warm-up: Allow 30 minutes warm-up period for receiver and equipments.
 Selector SW: Always place in FM position, MUTING in "OFF", AUTO TUNING in "MANUAL" (STEP 1 ~ 5).
 Alignment tools: IF transformers require a plastic screwdriver-type alignment tool.

STEP	ALIGN	DUMMY ANTENNA	FM SSG		TUNING DIAL SETTING	OUTPUT INDICATOR	ADJUST	REMARKS	
			COUPL-ING	INPUT SIGNAL					
1	IFT	Direct	High side to (A) Low side to Chassis	10.7 MHz (Unmod.)	Any non-interfering setting	Tuning Indicator	(X01-0030-10) La5	Maximum Deflection	
2	DIS-CRIMI-NATOR	300 ohm Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod.) 75 kHz (Dev.) 0.5 ~ 1 mV (Input)	Tune for maximum using tuning indicator	VTVM at LEFT output jack of TAPE REC	(X02-0022-10) Lb4 Top & Bottom	Maximum Deflection	
3	RF AMP CIRCUIT	300 ohm Carbon Resistor	FM Antenna Terminal	90 MHz 400 Hz (Mod.) 75 kHz (Dev.) 1.5μV ~ 2μV (Input)	90 MHz	VTVM & Xtal earphone at LEFT output jack of TAPE REC	(X01-0030-10) La1 ~ 4	Maximum Deflection	
4	RF AMP CIRCUIT	300 ohm Carbon Resistor	FM Antenna Terminal	105 MHz 400 Hz (Mod.) 75 kHz (Dev.) 1.5μV ~ 2μV (Input)	105 MHz	VTVM & Xtal earphone at LEFT output jack of TAPE REC	(X01-0030-10) CTa1 ~ 4	Maximum Deflection	
5	Repeat steps 3 & 4 until no further improvement is possible.								
* In this adjustment, the SSG output voltage should be set so that linear amplification is maintained at the IF stage.									
STEP	FM MUT-ING	AUTO TUN-ING	DUMMY ANTENNA	FM SSG		TUNING DIAL SETTING	OUTPUT INDICATOR	ADJUST	REMARKS
				COUPL-ING	FREQUEN-CY				
*6	OFF	MAN-UAL	300 ohm Carbon Resistor	FM Antenna Terminal	98 MHz (Unmod.)	98 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) Lb5 Top & Bottom	Maximum Deflection
7	OFF	ATUO	300 ohm Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod. 30%) 1mV	98 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) VRb1	Set the output to 2.5V
8	OFF	AUTO	300 ohm Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod. 30%) 1mV	98 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) VRb2	4, 5 Indicates
9	OFF	AUTO	300 ohm Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod. 30%) 20μV	98 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) VRb3	Set the output to 1.8V
10	ON	AUTO	300 ohms Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod. 30%) 20μV	98 MHz	Oscilloscope at jack of TAPE REC	(X02-0022-10) VRb1	Check to be seen Waveform
11	ON	MAN-UAL	300 ohms Carbon Resistor	FM Antenna Terminal	98 MHz 400 Hz (Mod. 30%) 10μV	98 MHz	Oscilloscope at jack of TAPE REC	—	Check to be seen Waveform

ADJUSTING THE SQUELCH (MUTING)

The MUTING is related with the AUTO-Tuning, Accordingly, when the AUTO-Tuning is correctly adjusted, the MUTING is so adjusted. In this case, it is only necessary to make sure that the MUTING is properly adjusted.

STEP	AUTO TUNING	DUMMY ANTENNA	FM SSG		OUTPUT INDICATOR	REMARKS
			COUPLING	INPUT SIGNAL		
1	MANUAL	300 ohm Carbon Resistor	FM ANT Terminal	98 MHz (400 Hz. Mod.) 10 μ V	Oscilloscope at jack of TAPE REC	Check to be seen Waveform
2	AUTO	300 ohm Carbon Resistor	FM ANT Terminal	98 MHz (400 Hz. Mod.) 14 μ V	Oscilloscope at jack of TAPE REC	Check to be seen Waveform

FM MPX ALIGNMENT PROCEDURE

(a) SCA FILTER

Instruments: Audio SSG, AC VTVM & Oscilloscope.
 Selector SW: Always place in "FM" position, MUTING in "OFF", "AUTO TUNING" in "MANUAL".
 Warm-up: Allow 30 minutes warm-up period for Receiver and equipments.

STEP	AUDIO SIGNAL GENERATOR COUPLING	AUDIO SIGNAL GENERATOR FREQUENCY	AC VTVM & OSCILLOSCOPE COUPLING	ADJUST	REMARKS
1	High side to (B) Low side to chassis	72 kHz (0.7V)	High side to (C) Low side to chassis	(X04-0006-13) Lc7	Minimum Deflection
2	High side to (B) Low side to chassis	66 kHz (0.7V)	High side to (C) Low side to chassis	(X04-0006-13) CTc 1	Minimum Deflection

(b) MPX

Instruments: FM SSG, Audio SSG, AC VTVM & Oscilloscope.

Selector SW: Always place in FM AUTO position, MUTING in "OFF", AUTO in "MANUAL".

Warm-up: Allow 30 minutes warm-up period for Receiver and equipments.

STEP	ALIGN	COUPL- ING	FM SSG		19 kHz PILOT CARRIER SWITCH	AC VTVM & OSCILLOSCOPE CONNECTION	ADJUST	REMARKS
			MODULA- TION FRE- QUENCY	INPUT SELEC- TOR				
1	19 kHz STAGE	FM Antenna terminal	OFF	OFF	ON	High side to (D) Low side to chassis	(X04-0006-13) Lc 1 ~ 3	Maximum Deflection
2	38 kHz STAGE	FM Antenna terminal	400Hz (Mod.)	L + R or REVERSE	ON	Left or Right jack of TAPE REC.	(X04-0006-13) Lc3	To obtain a stable waveform at 400 Hz on Oscilloscope
3	SEPARA- TION CONTROL	FM Antenna terminal	98 MHz 2kHz(Mod.) 67.5 kHz (Dev.) 1mV(Input)	LEFT	ON	Right jack of TAPE REC. output	(X08-0015-10) VRd1	Minimum Deflection
4	SEPARA- TION CONTROL	FM Antenna terminal	98 MHz 2kHz(Mod.) 67.5 kHz (Dev.) 1mV(Input)	RIGHT	ON	Left jack of TAPE REC. Output	(X08-0015-10) VRd1	Minimum Deflection
5	Repeat steps 3 & 4 until no further improvement is possible.							

AM ALIGNMENT PROCEDURE

Alignment tools: IF transformers require a plastic screwdriver-type alignment tool.
 Instrument: AM SSG, AC VTVM & Oscilloscope, Peak Responcing Volt Meter (STEP 10 ~ 15).
 Selector SW: Always place in AM position, AUTO TUNING in "MANUAL".
 Warm-up: Allow 30 minutes warm-up period for Receiver and equipments.

STEP	ALIGN	DUMMY ANTENNA	AM SSG		TUNING DIAL SETTING	OUTPUT INDICATOR	ADJUST	REMARKS
			COUPL-ING	FRE-QUENCY				
1	IFT	Direct	AM ANT Terminals	455 kHz (400 Hz 30%) AM	Any non-interfering setting	Tuning Indicator, VTVM & Oscilloscope	(X02-0022-10) Lb9, Lb11 Top & Bottom	Maximum Deflection
2	OSC		AM ANT Terminals	600 kHz (400 Hz 30%) AM	600 kHz	Tuning Indicator, VTVM & Oscilloscope	(X02-0022-10) Lb12	Maximum Deflection
3	OSC		AM ANT Terminals	1,400 kHz (400 Hz 30%) AM	1,400 kHz	Tuning Indicator, VTVM & Oscilloscope	(X01-0030-10) CTa8	Maximum Deflection
4	Repeat steps 2 & 3 until no further improvement is possible.							
5	RF AMP.		AM ANT Terminals	600 kHz (400 Hz 30%) AM	600 kHz	Tuning Indicator, VTVM & Oscilloscope	(X02-0022-10) Lb9	Maximum Deflection
6	RF AMP.		AM ANT Terminals	1,400 kHz (400 Hz 30%) AM	1,400 kHz	Tuning Indicator, VTVM & Oscilloscope	(X01-0030-10) CTa7	Maximum Deflection
7	ANT CIRCUIT		AM ANT Terminals	600 kHz (400 Hz 30%) AM	600 kHz	Tuning Indicator, VTVM & Oscilloscope	(X02-0022-10) Lb9, Ferrite Loopstick ant.	Maximum Deflection
8	ANT CIRCUIT		AM ANT Terminals	1,400 kHz (400 Hz 30%) AM	1,400 kHz	Tuning Indicator, VTVM & Oscilloscope	(X01-0030-10) CTa6, 7	Maximum Deflection
9	Repeat steps 5 ~ 8 until no further improvement is possible.							
*	Before adjusting, looking at front of amplifier, VRb6 in X02-0022-10 sets counterclockwise.							
STEP	AUTO TUNING	DUMMY ANTENNA	AM SSG		TUNING DIAL SETTING	OUTPUT INDICATOR	ADJUST	REMARKS
			COUPL-ING	FRE-QUENCY				
10	MANUAL	Direct	AM ANT Terminals	1 MHz 30μV	1 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) Lb13	Maximum Deflection
11	MANUAL	Direct	AM ANT Terminals	1 MHz 3mV	1 MHz	VTVM at Terminal No. 6 in X04-0006-13	—	Remember the output
12	MANUAL	Direct	AM ANT Terminals	1 MHz 30μV	1 MHz	VTVM at Terminal No. 6 in X04-0006-13	(X02-0022-10) VRb5	Set the output to a half of the step 2
13	MANUAL	Direct	AM ANT Terminals	1 MHz 30μV	1 MHz	VTVM at Terminal No. 7 in X04-0006-13	(X02-0022-10) VRb6	Set the output to more than 10V
14	MANUAL	Direct	AM ANT Terminals	1 MHz 100mV	1 MHz	TUNING METER	(X02-0022-10) VRb4	4, 5 Indicates
15	AUTO	Direct	AM ANT Terminals	1 MHz Input of the half of TUNING METER	1 MHz	TUNIGN METER	(X02-0022-10) Lb14 Top	4, 5 Indicates

AMPLIFIER ALIGNMENT PROCEDURE

Idling Current

1. Connect the dummy load (8Ω , 80 watts) to the output terminal.
2. Connect the audio generator to the main unit and oscilloscope and VTVM are connected across the dummy.
3. Before checking the idling current, turn on power switch in a few minutes, adjust the variable resistor (VRe1, 2) so that tester (or DC VTVM) coupling to the collector of transistors indicates 50mA. And also check the waveform to be correct feeding the signal (1000Hz) to the set.

Testing Procedures

Perform the test according to the following procedures.

1. Using a tester, measure the voltage between the chassis and collector of the power transistor Q1 or Q3. If a tester indicates approximately 100V, it is normal.
2. Also measure the voltage between the chassis and collector of the power transistor Q2 or Q4. If a tester indicates approximately 50V, it is normal.

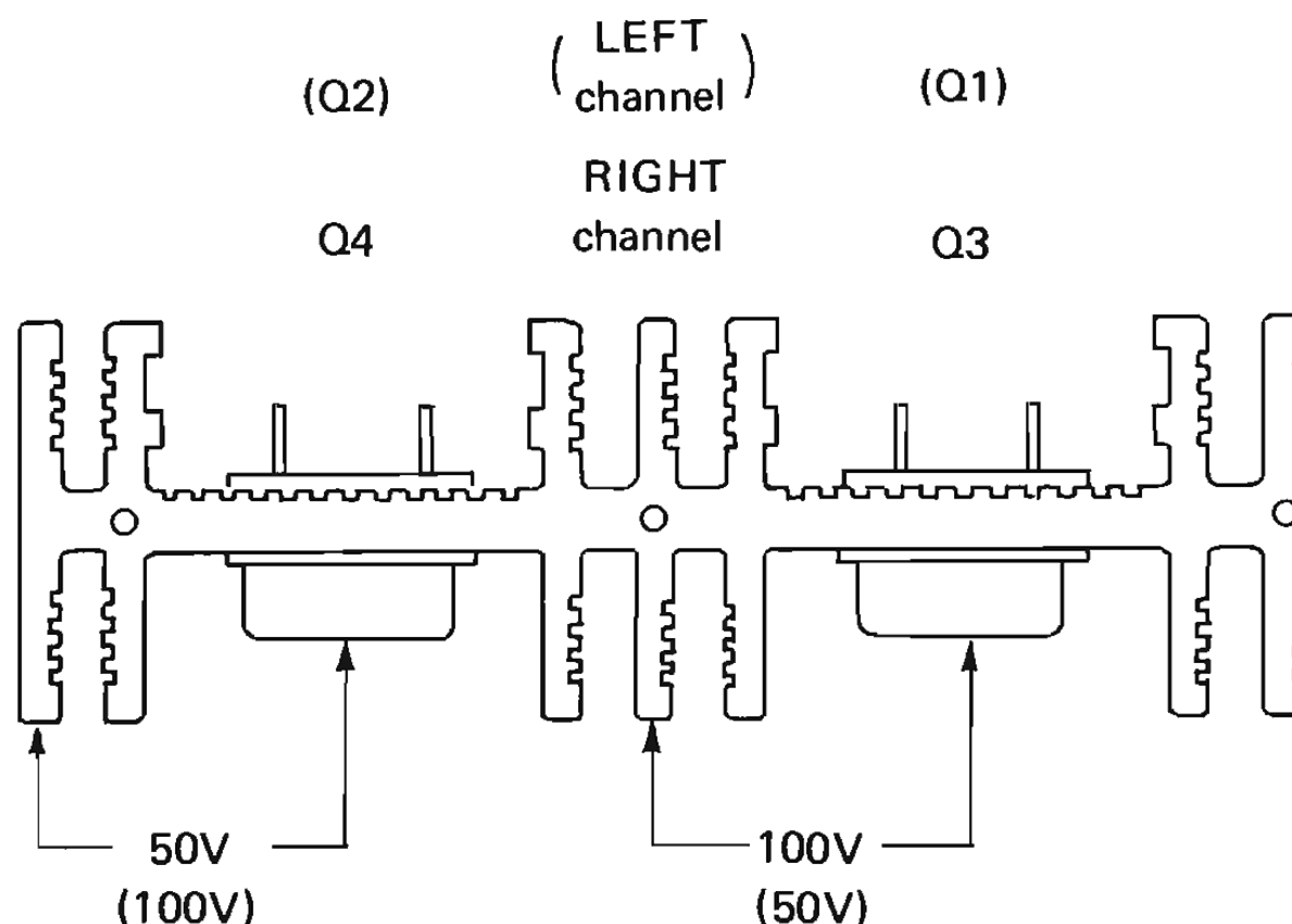
Production Adjustment Procedures

The protection circuit in "X07-1010-10" is a non-adjustment circuit. But, check the circuit for normal operation as follows for cautions sake;

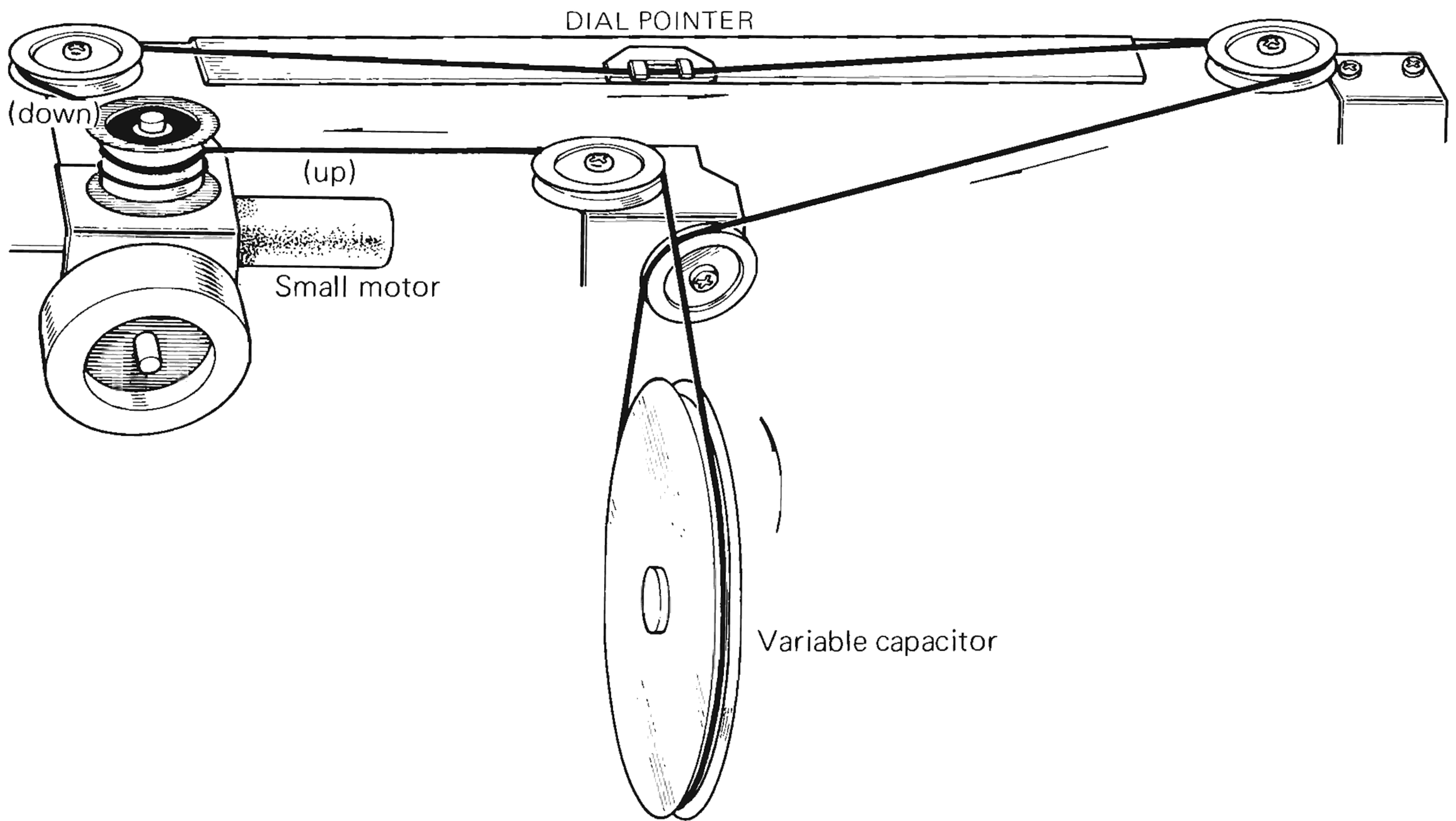
With a 8 ohms dummy load and an oscilloscope connected in parallel to the output terminal, place the controls on "KR-7070A" in their normal positions.

Apply a signal of 1,000 Hz to the input and adjust the volume control until "X07-1010-10" provides an output of 10 W as measured across the dummy load.

Try to short across the dummy and then restore it to the normal connection under the above conditions and check to see that the scope sweeps with no waveform once and then with the waveform represented, thereby showing that the protection circuit is operated normally. If the protection circuit fails to operate, turn off the power switch immediately, otherwise the final stage transistors may be damaged. And then check transistors, Qe11 ~ 13 and Diodes, Del, 2 whether they are good or not.



DIAL CORD STRINGING



* In America add to the parts of (K), in Canada do to the parts of (P), and in others do to the parts of (U).

Circuit No.	Part No.	Description	Remarks
UNIT			
—	X01-0030-10	FM-RF unit	
—	X02-0022-10	FM-IF, AM-IF unit	
—	X04-0006-13	MPX unit	
—	X07-1010-10	MAIN unit	
—	X08-0015-10	PRE unit	
—	X09-0004-14	NF TONE unit	
—	X13-0001-10	AUTO unit	
—	X08-0011-00	LOW LEVEL unit	
—	X00-1030-01	POWER SUPPLY unit	
—	X00-1040-10	POWER SUPPLY unit (for tuner)	
—	X09-1030-10	20dB AMP unit	
—	*Y15-1060-10	REMOTE BOX (K. P)	
—	*Y15-1060-81	REMOTE BOX (U)	
CAPACITOR			
C101	CK94YG1E103Z	Ceramic	0.01 μ F +80%, -20%
C102, 103	CC94SL1H101K	Ceramic	100pF $\pm$ 10%
C121, 122	CQ93M1H222J	Mylar	0.0022 μ F $\pm$ 5%
C123, 124	CQ93M1H473M	Mylar	0.047 μ F $\pm$ 20%
C125, 126	CQ93M1H333M	Mylar	0.033 μ F $\pm$ 20%
C127, 128	CQ93M1H222M	Mylar	0.0022 μ F $\pm$ 20%
C129 ~ 132	CQ93M1H224M	Mylar	0.22 μ F $\pm$ 20%
C133, 134	CS04E1E010M	Tantalum	1 μ F 25WV
C135, 136	CC94SL1H151K	Ceramic	150pF $\pm$ 10%
C201, 202	C90-0099-05	Electrolytic block	3300 μ F 80WV
C203, 204	CQ93M1H224M	Mylar	0.22 μ F $\pm$ 20%
C301	CE62AW2A502	Electrolytic block	5000 μ F 100WV*
C302	C90-0036-05	Oil filled	0.01 μ F $\pm$ 20%
C303 ~ 305	CE02W1C102	Electrolytic tubular	1000 μ F 16WV
C306	CE02W1V102	Electrolytic tubular	1000 μ F 35WV
C307	CQ93M1H104M	Mylar	0.1 μ F $\pm$ 20%
C308, 309	CE04W1E4R7	PC electrolytic	4.7 μ F 25WV
C310	CE04W0F101	PC electrolytic	100 μ F 3.15WV
C311	CE02W1E471	Electrolytic tubular	470 μ F 25WV
RESISTOR			
R101 ~ 103	PD14BY2E104J	Insulated carbon film	100k Ω $\pm$ 5% 1/4W
R104, 105	PD14BY2E394J	Insulated carbon film	390k Ω $\pm$ 5% 1/4W
R106	PD14BY2E103J	Insulated carbon film	10k Ω $\pm$ 5% 1/4W
R107, 108	PD14BY2E470J	Insulated carbon film	47 Ω $\pm$ 5% 1/4W
R109 ~ 113	PD14BY2E103J	Insulated carbon film	10k Ω $\pm$ 5% 1/4W
R114	PD14BY2E820J	Insulated carbon film	82 Ω $\pm$ 5% 1/4W
R121 ~ 124	PD14BY2E682J	Insulated carbon film	6.8k Ω $\pm$ 5% 1/4W
R125, 126	PD14BY2E683J	Insulated carbon film	68k Ω $\pm$ 5% 1/4W
R127, 128	PD14BY2E103J	Insulated carbon film	10k Ω $\pm$ 5% 1/4W
R129, 130	PD14BY2E273J	Insulated carbon film	27k Ω $\pm$ 5% 1/4W
R131, 132	PD14BY2E332J	Insulated carbon film	3.3k Ω $\pm$ 5% 1/4W
R133, 134	PD14BY2E104J	Insulated carbon film	100k Ω $\pm$ 5% 1/4W
R137, 138	PD14BY2E562J	Insulated carbon film	5.6k Ω $\pm$ 5% 1/4W
R201 ~ 204	RN14AB3FR47JA	Metal film	0.47 Ω $\pm$ 5% 3W
R205, 206	RN14AB3D4R7K	Metal film	4.7 Ω $\pm$ 10% 2W
R207, 208	R92-0002-05	Wire Wound	22 Ω $\pm$ 10% 15W
R209, 210	RC05GF2H561K	Carbon composition	560 Ω $\pm$ 10% 1/2W

* In America add to the parts of (K), in Canada do to the parts of (P), and in others do to the parts of (U).

Circuit No.	Part No.	Description				Remarks
R211, 212	RC05GF2H102K	Carbon composition	1kΩ	±10%	1/2W	
R213, 214	RN14AB3D100K	Metal film	10Ω	±10%	2W	
R301	RW14AG3K221J	Wire wound	220Ω	±5%	8W	
R302	RW14AG3K102J	Wire wound	1kΩ	±5%	8W	
R303	RC05GF2H105K	Carbon composition	1MΩ	±10%	1/2W	
R304	RC05GF2H220K	Carbon composition	22Ω	±10%	1/2W	
R305	RC05GF2H120K	Carbon composition	12Ω	±10%	1/2W	
R306	RC05GF2H180K	Carbon compsoition	18Ω	±10%	1/2W	
R307	RC05GF2H271K	Carbon composition	270Ω	±10%	1/2W	
R308	RC05GF2H101K	Carbon composition	100Ω	±10%	1/2W	
SEMICONDUCTOR						
Q1 ~ 4		2SC898R				
D2, 3		1S1555				
D4, 5		STV-3				
D6		FR-2P				
SWTICH						
S1	S10-6010-05	SELECTOR (rotary) Y · 6 · 14 · 5				
S2	S01-2013-05	MODE (rotary) F · 2 · 4 · 5				
S6	S05-4002-05	SPEAKERS (rotary) F · 4 · 8 · 8				
S7	S36-2002-15	AUDIO MUTING (lever)				
S8	S36-2020-05	LOUDNESS (rotary-lever)				
S9	S36-4005-05	AUTO TUNING (rotary-lever)				
S10	S36-2002-15	FM MUTING (lever)				
S11	S36-2002-15	PRESENCE (lever)				
S12	S36-2002-15	HIGH-FILTER (lever)				
S13	S36-2002-15	LOW-FILTER (lever)				
S14	S36-4005-05	MONITOR (rotary-lever)				
S15	S31-2007-05	PRE/MAIN SEPARATE (slide)				
S16	S31-6006-05	PHONO 1 SENSITIVITY (slide)				
S17	S31-2004-05	MONO SPEAKERS (slide)				
S19	S40-2001-15	AUTO TURN (leaf)				
S20	S59-2001-05	RETURN (leaf)				
—	*S31-2004-05	Power voltage selector (U)				
POTENTIOMETER						
VR1	R07-4003-05	VOLUME	50kΩ	(B)	dual	
VR2	R13-4002-15	BALANCE	50kΩ	(G)	slide	
VR3	R07-5002-15	TREBLE	100kΩ	(B)	dual	
VR4	R07-5002-15	BASS	100kΩ	(B)	dual	
VR5	R01-1004-05	AUTO TUNING MOTOR	5kΩ	(B)		
MISCELLANEOUS						
—	A01-0013-12	Case				
—	*A03-0007-02	Cabinet (U, P)				
—	A20-0436-01	Panel assembly				
—	A21-0073-02	Ornamental panel				
—	A22-0019-31	Sub panel				
—	*A23-0243-02	Rear panel (K, P)				
—	*A23-0244-02	Rear panel (U)				
—	A40-0084-03	Bottom plate				
—	B10-0065-03	Front glass				
—	B20-0205-03	Dial calibrations				

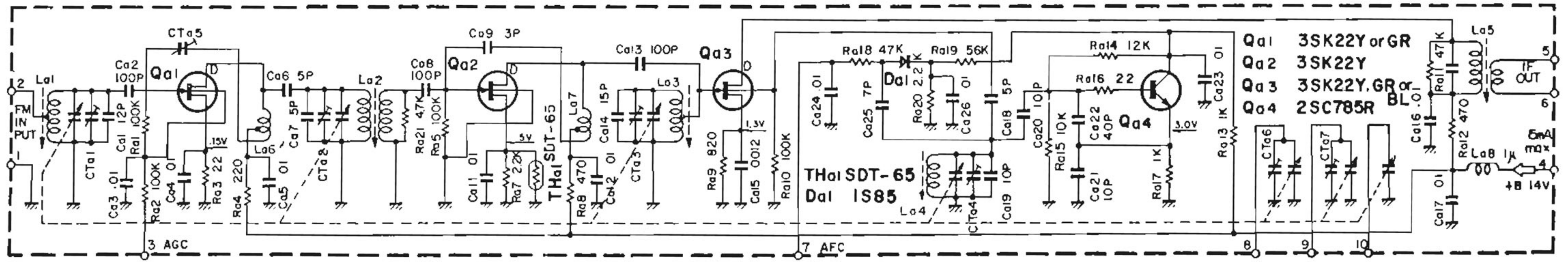
* In America add to the parts of (K), in Canada do to the parts of (P), and in others do to the parts of (U).

Circuit No.	Part No.	Description	Remarks
—	B21-4001-15	Dial pointer (yellow)	
P. L	B30-0015-15	Fuse type pilot lamp x 6	
P. L	B30-0029-15	Pilot lamp x 5	
M	B31-0006-05	Meter	
—	*B40-0530-04	Destination plate (K)	
—	*B40-0531-04	Destination plate (U)	
—	*B40-0533-04	Destination plate (P)	
—	B41-0140-04	Fuse sticker	
—	B42-0009-04	Passed sticker	
—	B42-0161-04	Loopstick antenna caution sticker	
—	*B42-0220-04	UL caution sticker (K)	
—	*B42-0267-04	UL caution sticker (U)	
—	*B46-0002-00	Warranty card (K, U)	
—	*B46-0003-00	Warranty card (U)	
—	*B46-0021-00	Warranty card (P)	
—	*B50-0714-00	Instruction manual (K, P)	
—	*B50-0715-00	Instruction manual (U)	
—	B52-0108-00	Schematic diagram	
—	*B58-0003-00	Power supply caution card (U)	
—	*B58-0101-00	Power voltage selector caution card (U)	
—	*B58-0043-00	Carton case caution card (K, P)	
—	*B59-0018-00	KENWOOD service stations list (U)	
—	D01-0009-05	Flywheel	
—	D10-0026-04	Return lever x 2	
—	D15-0016-04	Pulley (27 ϕ)	
—	D15-0017-04	Pulley	
—	D15-0073-04	Pulley x 4	
—	D21-0048-04	Return lever shaft	
—	*D32-0021-04	Switch stopper (U) x 2, (K, P) x 1	
—	D40-0018-15	Motor gear box assembly	
—	E02-0207-05	Transistor socket	
—	E06-0506-05	5P connector socket	
—	E08-0205-15	AC outlet x 3	
—	E09-0801-05	8P connector	
—	E09-0802-05	8P connector	
—	E10-0801-05	8P PC board connector	
—	E10-2201-05	22P PC board connector	
J	E11-0002-05	Phone jack x 2	
J	E13-0104-05	1P pin jack	
J	E13-0205-05	2P pin jack	
J	E13-0401-05	4P pin jack (with DIN)	
J	E13-0404-05	4P pin jack (PRE/MAIN)	
J	E13-0408-05	4P pin jack	
J	E13-0601-05	6P pin jack	
—	E15-0035-15	Pilot lamp socket x 5	
—	E30-0046-05	Power cord	
—	F01-0093-03	Heat sink x 2	
F	*F05-5022-05	Fuse (5A) (K, P)	
F	*F05-3022-05	Fuse (3A) (U) x2, (K) x1	
—	F07-0221-24	Lever switch cover x 5	
—	F07-0222-24	Lever switch cover x 3	

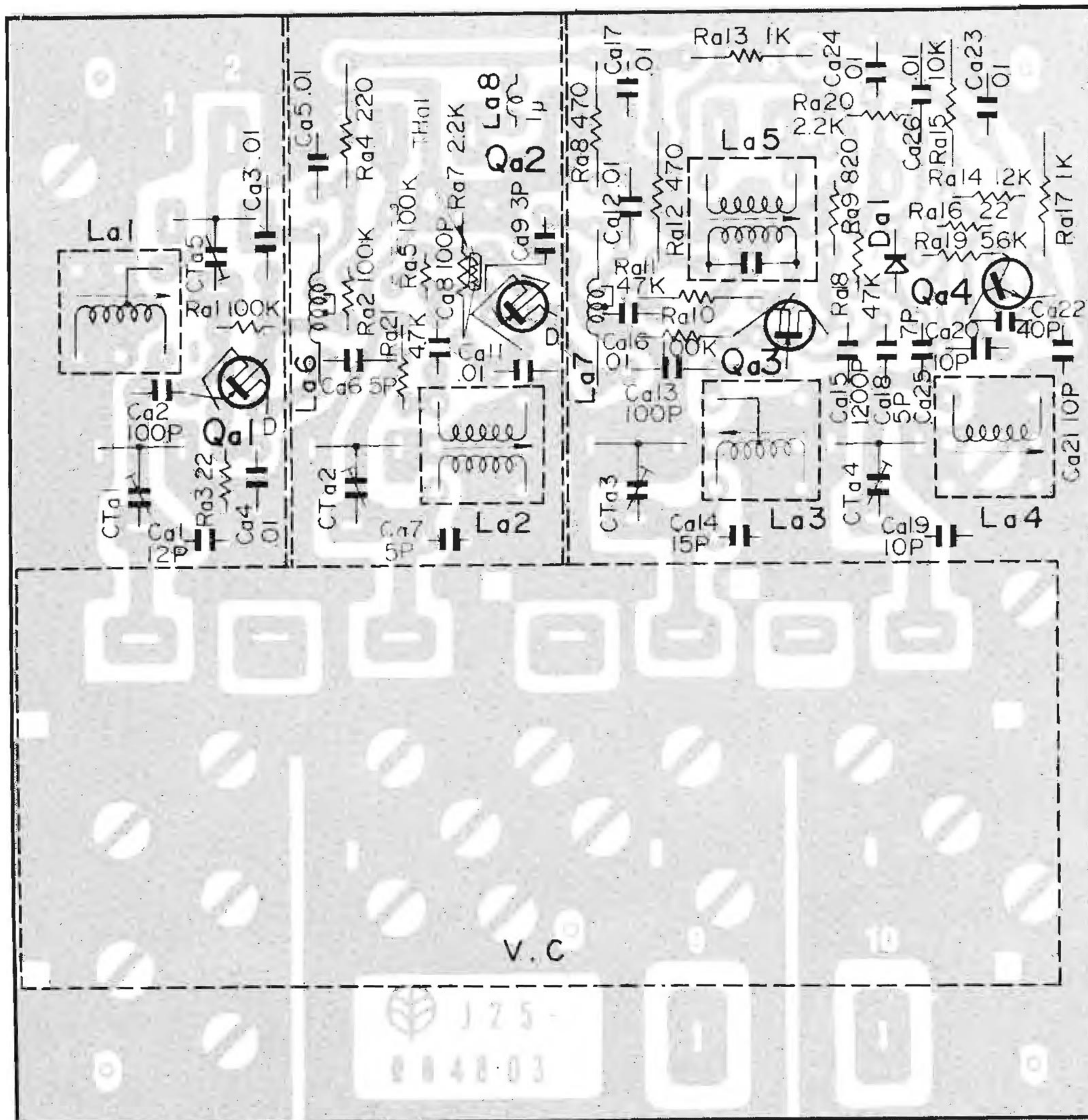
* In America add to the parts of (K), in Canada do to the parts of (P), and in others do to the parts of (U).

Circuit No.	Part No.	Description	Remarks
—	F10-0239-04	INPUT shield cover	
—	F10-0240-04	MAIN shield cover	
—	F10-0241-04	POWER shield cover	
—	F11-0025-04	Return switch shield cover	
—	G01-0045-14	Dial spring	
—	*H01-0687-14	Carton case (K)	
—	*H01-0708-04	Carton case (U, P)	
—	*H03-0065-24	Carton case (K, P)	
—	J02-0049-14	Legs x 4	
—	J13-0004-05	Fuse holder	
—	J13-0023-05	Fuse holder x 7	
—	J19-0010-04	Varistor stopper	
—	J19-0029-14	Front glass stopper x 2	
—	J19-0030-04	Dial calibrations stopper (L)	
—	J19-0031-14	Dial calibrations stopper (R)	
—	J19-0032-04	Meter illumination hardware	
—	J21-0086-13	MPX stopper (A)	
—	J21-0087-04	MPX stopper (B)	
—	J21-0088-14	MPX stopper (C)	
—	J21-0092-04	Pilot lamp holder hardware	
—	J21-0480-13	Antenna stopper	
—	J21-0586-04	Dial pointer hardware	
—	J21-0835-04	Small pulley stopper	
—	J21-0836-04	Heat sink stopper (A)	
—	J21-0837-04	Heat sink stopper (B)	
—	J25-0597-04	PC board	
—	K21-0232-03	Knob (TUNING)	
—	K23-0071-04	Knob x 6	
—	K29-0078-14	Knob x 8	
—	K29-0080-04	Knob (BALANCE)	
P. T	L03-0053-05	Power transformer (117Vx2/70Vx3A/24Vx0.3A/10Vx0.5A/7.5V1.6A)	
—	L19-0009-05	Balun transformer	
L1	L33-0025-05	Choke coil (1 μ H)	
L2	L33-0086-05	Ferri-inductor (1 μ H)	
ANT	T90-0031-05	Loopstick antenna	

SCHEMATIC DIAGRAM

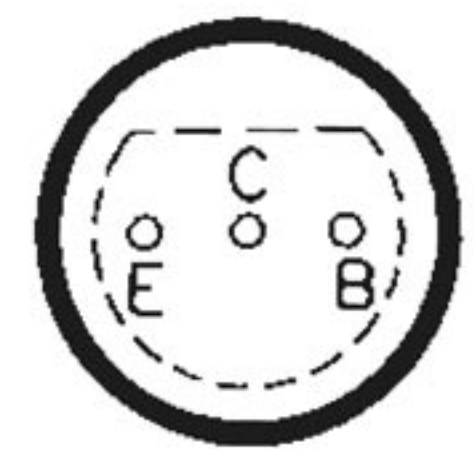


SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



BOTTOM VIEW OF TRANSISTORS

2SC785R



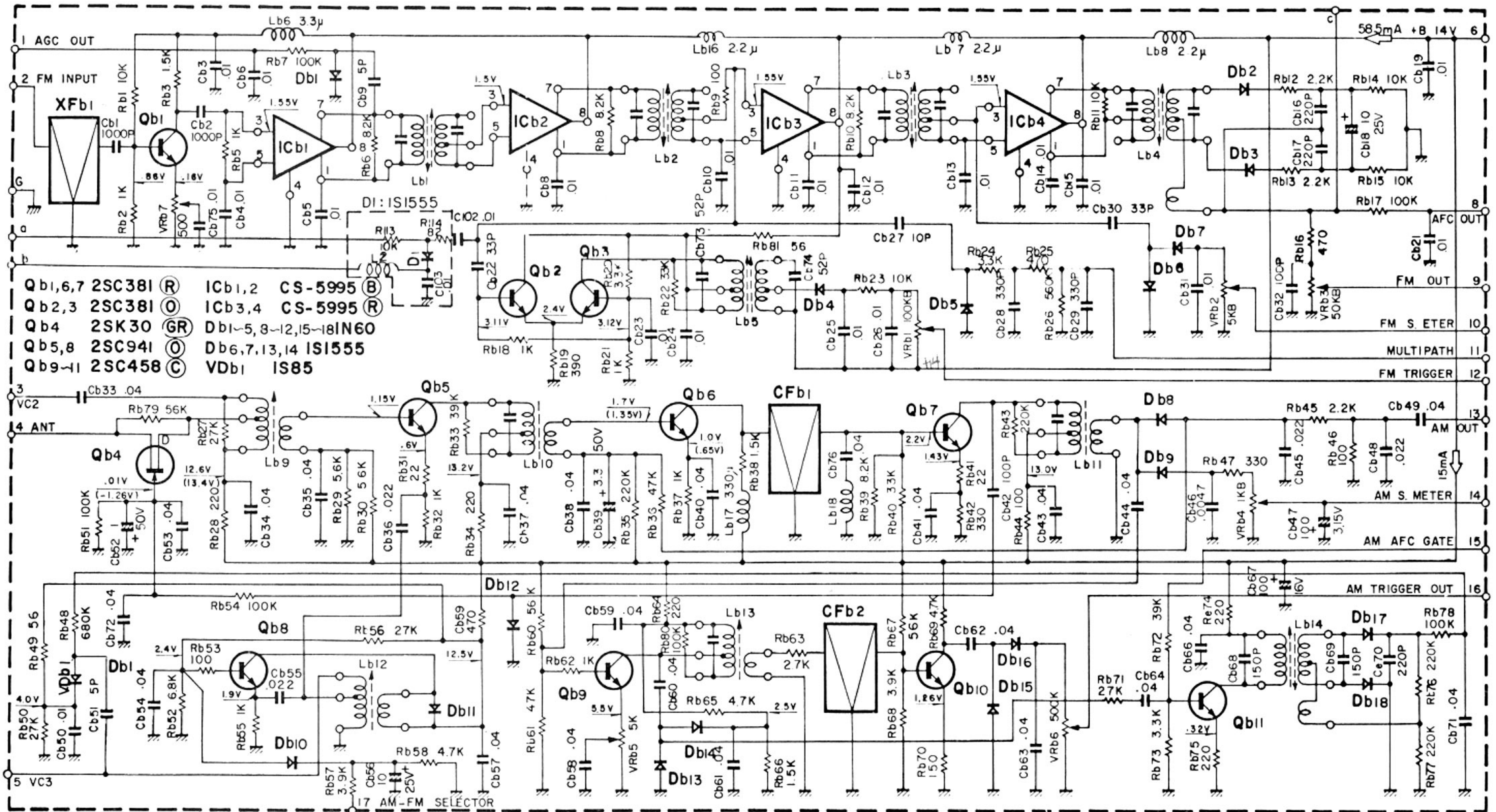
3SK22



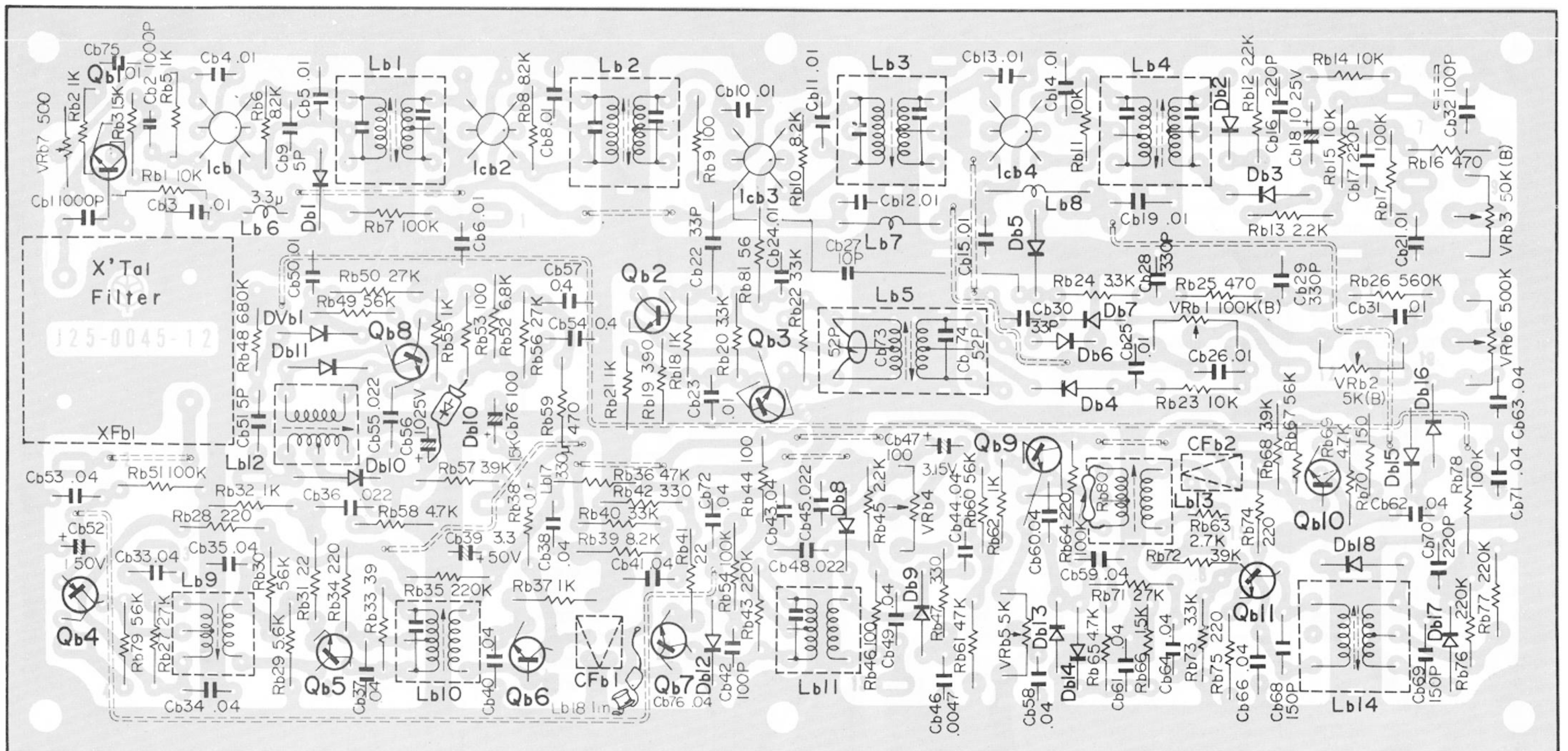
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description			Remarks	
CAPACITOR						
Ca1	CC94SH1H120J	Ceramic	12pF	±5%		
Ca2	CC94SL1H101K	Ceramic	100pF	±10%		
Ca3 ~ 5	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%		
Ca6, 7	CC94SL1H050D	Ceramic	5pF	±0.5pF		
Ca8	CC94SL1H101K	Ceramic	100pF	±10%		
Ca9	CC94SL1H030C	Ceramic	3pF	±0.25pF		
Ca11, 12	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%		
Ca13	CC94SL1H101K	Ceramic	100pF	±10%		
Ca14	CC94SH1H150J	Ceramic	15pF	±5%		
Ca15	CM93E1H122K	Mica	100pF	±10%		
Ca16, 17	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%		
Ca18	CC94TH1H050C	Ceramic	5pF	±0.25pF		
Ca19 ~ 21	CC94TH1H100C	Ceramic	10pF	±0.25pF		
Ca22	CC94TH1H400J	Ceramic	40pF	±5%		
Ca23, 24	CK94YG1E103E	Ceramic	0.01μF	+80%, -20%		
Ca25	CC94TH1H070C	Ceramic	7pF	±0.25pF		
Ca26	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%		
CTa1 ~ 4	C05-0010-05	Ceramic trimmer				
CTa5	C05-0009-05	Ceramic trimmer				
V. C.	C01-0005-05	Variable capacitor				
RESISTOR						
Ra1, 2	PD14CY2E104K	Insulated carbon film	100kΩ	±10%	1/4W	
Ra3	PD14CY2E220K	Insulated carbon film	22Ω	±10%	1/4W	
Ra4	PD14BY2B221K	Insulated carbon film	220Ω	±10%	1/8W	
Ra5	PD14CY2E104K	Insulated carbon film	100kΩ	±10%	1/4W	
Ra7	PD14BY2B222K	Insulated carbon film	2.2kΩ	±10%	1/8W	
Ra8	PD14BY2B471K	Insulated carbon film	470Ω	±10%	1/8W	
Ra9		Insulated carbon film	820Ω	±10%	1/4W	
	PD14CY2E821K	3SK22 (Y)	820Ω	±10%	1/4W	
	PD14CY2E182K	*Qa3 3SK22 (GR)	1.8kΩ	±10%	1/4W	
	PD14CY2E332K	3SK22 (BL)	3.3kΩ	±10%	1/4W	
Ra10	PD14CY2E104K	Insulated carbon film	100kΩ	±10%	1/4W	
Ra11	PD14BY2B473K	Insulated carbon film	47kΩ	±10%	1/8W	
Ra12	PD14BY2B471K	Insulated carbon film	470Ω	±10%	1/8W	
Ra13	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W	
Ra14	PD14CY2E123K	Insulated carbon film	12kΩ	±10%	1/4W	
Ra15	PD14BY2B103K	Insulated carbon film	10kΩ	±10%	1/8W	
Ra16	PD14CY2E220K	Insulated carbon film	22Ω	±10%	1/4W	
Ra17	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W	
Ra18	PD14CY2E473K	Insulated carbon film	47kΩ	±10%	1/4W	
Ra19	PD14CY2E562K	Insulated carbon film	56kΩ	±10%	1/4W	
Ra20	PD14CY2E222K	Insulated carbon film	2.2kΩ	±10%	1/4W	
Ra21	PD14CY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W	
SEMICONDUCTOR						
Qa1		3SK22 (Y) or (GR)				
Qa2		3SK22 (Y)				
Qa3		3SK22 (Y), (BL) or (GR)				
Qa4		2SC785R				
Da1		1S85 (White)				
THa1		SDT-65				
COIL						
La1	L33-0301-04	FM ANT-COIL				
La2	L34-0035-04	FM RF 1-COIL				
La3	L34-0289-04	FM RF 2-COIL				
La4	L34-0290-04	OSC-COIL				
La5	L30-0022-05	IFT-COIL				
La6, 7	L33-0027-04	Choke coil				
La8	L33-0086-05	Ferri-inductor				
MISCELLANEOUS						
—	A10-0188-03	Chassis				
—	A44-0001-04	Bottom plate				
—	F07-0099-03	Shield case				
—	F10-0089-04	Shield plate				
—	J25-0048-03	PC board				

SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qb1 2SC381 (R) Qb2, 3 2SC381 (O) Qb4 2SK30 (GR) Qb5 2SC941 (R) or (O) Qb6, 7 2SC381 (R) Qb8 2SC941 (R) or (O)
 Qb9 ~ 11 2SC458 (C) Db1 ~ 5 1N60 Db6, 7 1S1555 Db8 ~ 12 1N60 Db13, 14 1S1555 Db15 ~ 18 1N60 VDb1 1S85 (white)
 ICb1, 2 CS5995 (B) ICb3, 4 CS5995 (R)

BOTTOM VIEW OF TRANSISTOR

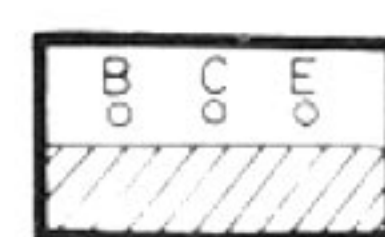
2SC381
2SC941



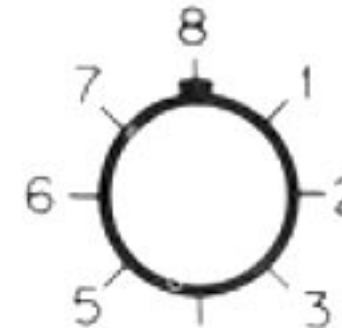
2SK30



2SC458



CS5995



PARTS DESCRIPTION LIST

Circuit No.	Part No.	Description			Re- marks
CAPACITOR					
Cb1, 2	CK94YY1H102M	Ceramic	0.001μF	±20%	
Cb3~6	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb8	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb9	CC94SL1H050D	Ceramic	5pF	±0.5pF	
Cb10~15	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb16, 17	CC94SL1H221K	Ceramic	220pF	±10%	
Cb18	CE04W1E100	PC electrolytic	10μF	25WV	
Cb19	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb21	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb22	CC94SL1H330J	Ceramic	33pF	±5%	
Cb23~26	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb27	CC94SL1H100F	Ceramic	10pF	±1%	
Cb28, 29	CC94SL1H331K	Ceramic	330pF	±10%	
Cb30	CC94SL1H330J	Ceramic	33pF	±5%	
Cb31	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb32	CK94SL1H101K	Ceramic	100pF	±10%	
Cb33~35	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb36	CQ93M1H223K	Mylar	0.022μF	±10%	
Cb37, 38	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb39	CE04W1H3R3	PC electrolytic	3.3μF	50WV	
Cb40, 41	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb42	CC94SL1H101K	Ceramic	100pF	±10%	
Cb43, 44	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb45	CQ93M1H223K	Mylar	0.022μF	±10%	
Cb46	CK94YY1H472M	Ceramic	0.0047μF	±20%	
Cb47	CE04W0F101	PC electrolytic	100μF	3.15WV	
Cb48	CQ93M1H223K	Mylar	0.022μF	±10%	
Cb49	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb50	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb51	CC94SL1H050D	Ceramic	5pF	±0.5pF	
Cb52	CE04W1H010	PC electrolytic	3.3μF	50WV	
Cb53, 54	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb55	CQ93M1H223K	Mylar	0.022μF	±10%	
Cb56	CE04W1E100	PC electrolytic	10μF	25WV	

Cb57~64	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb66	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb67	CE04W1C101	PC electrolytic	100μF	16WV	
Cb68, 69	CC94CG1H151J	Ceramic	150pF	±5%	
Cb70	CC94SL1H221K	Ceramic	220pF	±10%	
Cb71, 72	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	
Cb75	CK94YG1E103Z	Ceramic	0.01μF	+80%, -20%	
Cb76	CK94YG1E403Z	Ceramic	0.04μF	+80%, -20%	

RESISTOR					
Rb1	PD14BY2B103K	Insulated carbon film	10kΩ	±10%	1/8W
Rb2	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb3	PD14BY2B152K	Insulated carbon film	1.5kΩ	±10%	1/8W
Rb5	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb6	PD14BY2B822K	Insulated carbon film	8.2kΩ	±10%	1/8W
Rb7	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb8	PD14BY2B822K	Insulated carbon film	8.2kΩ	±10%	1/8W
Rb9	PD14BY2B101K	Insulated carbon film	100Ω	±10%	1/8W
Rb10	PD14BY2B822K	Insulated carbon film	8.2kΩ	±10%	1/8W
Rb11	PD14BY2B103K	Insulated carbon film	10kΩ	±10%	1/8W
Rb12, 13	PD14BY2B222K	Insulated carbon film	2.2kΩ	±10%	1/8W
Rb14, 15	PD14BY2B103K	Insulated carbon film	10kΩ	±10%	1/8W
Rb16	PD14BY2B471K	Insulated carbon film	470Ω	±10%	1/8W
Rb17	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb18	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb19	PD14BY2B391K	Insulated carbon film	390Ω	±10%	1/8W
Rb20	PD14BY2B332K	Insulated carbon film	3.3kΩ	±10%	1/8W
Rb21	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb22	PD14BY2B333K	Insulated carbon film	33kΩ	±10%	1/8W
Rb23	PD14BY2B103K	Insulated carbon film	10kΩ	±10%	1/8W
Rb24	PD14BY2B332K	Insulated carbon film	3.3kΩ	±10%	1/8W
Rb25	PD14BY2B471K	Insulated carbon film	470Ω	±10%	1/8W
Rb26	RC05GF2E564K	Carbon composition	560kΩ	±10%	1/4W
Rb27	PD14BY2B273K	Insulated carbon film	27kΩ	±10%	1/8W
Rb28	PD14BY2B221K	Insulated carbon film	220Ω	±10%	1/8W
Rb29	PD14BY2B562K	Insulated carbon film	5.6kΩ	±10%	1/8W
Rb30	PD14BY2B563K	Insulated carbon film	56kΩ	±10%	1/8W
Rb31	PD14BY2B220K	Insulated carbon film	22Ω	±10%	1/8W
Rb32	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb33	PD14BY2B392K	Insulated carbon film	39kΩ	±10%	1/8W
Rb34	PD14BY2B221K	Insulated carbon film	220Ω	±10%	1/8W
Rb35	PD14BY2B224K	Insulated carbon film	220kΩ	±10%	1/8W
Rb36	PD14BY2B472K	Insulated carbon film	47kΩ	±10%	1/8W
Rb37	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb38	PD14BY2B152K	Insulated carbon film	1.5kΩ	±10%	1/8W
Rb39	PD14BY2B822K	Insulated carbon film	8.2kΩ	±10%	1/8W
Rb40	PD14BY2B333K	Insulated carbon film	33kΩ	±10%	1/8W
Rb41	PD14BY2B220K	Insulated carbon film	22Ω	±10%	1/8W
Rb42	PD14BY2B331K	Insulated carbon film	330Ω	±10%	1/8W
Rb43	PD14BY2B224K	Insulated carbon film	220kΩ	±10%	1/8W
Rb44	PD14BY2B101K	Insulated carbon film	100Ω	±10%	1/8W
Rb45	PD14BY2B222K	Insulated carbon film	2.2kΩ	±10%	1/8W

Circuit No.	Part No.	Description			Re- marks
Rb46	PD14BY2B101K	Insulated carbon film	100Ω	±10%	1/8W
Rb47	PD14BY2B331K	Insulated carbon film	330Ω	±10%	1/8W
Rb48	RC05GF2E684K	Carbon composition	680kΩ	±10%	1/4W
Rb49	PD14BY2B563K	Insulated carbon film	56kΩ	±10%	1/8W
Rb50	PD14BY2B273K	Insulated carbon film	27kΩ	±10%	1/8W
Rb51	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb52	PD14BY2B682K	Insulated carbon film	6.8kΩ	±10%	1/8W
Rb53	PD14BY2B101K	Insulated carbon film	100Ω	±10%	1/8W
Rb54	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb55	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb56	PD14BY2B273K	Insulated carbon film	27kΩ	±10%	1/8W
Rb57	PD14BY2B392K	Insulated carbon film	3.9kΩ	±10%	1/8W
Rb58	PD14BY2B472K	Insulated carbon film	4.7kΩ	±10%	1/8W
Rb59	PD14BY2B471K	Insulated carbon film	470Ω	±10%	1/8W
Rb60	PD14BY2B563K	Insulated carbon film	56kΩ	±10%	1/8W
Rb61	PD14BY2B472K	Insulated carbon film	47kΩ	±10%	1/8W
Rb62	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W
Rb63	PD14BY2B227K	Insulated carbon film	2.7kΩ	±10%	1/8W
Rb64	PD14BY2B221K	Insulated carbon film	220Ω	±10%	1/8W
Rb65	PD14BY2B472K	Insulated carbon film	4.7kΩ	±10%	1/8W
Rb66	PD14BY2B152K	Insulated carbon film	1.5kΩ	±10%	1/8W
Rb67	PD14BY2B563K	Insulated carbon film	56kΩ	±10%	1/8W
Rb68	PD14BY2B392K	Insulated carbon film	3.9kΩ	±10%	1/8W
Rb69	PD14BY2B472K	Insulated carbon film	4.7kΩ	±10%	1/8W
Rb70	PD14BY2B151K	Insulated carbon film	150Ω	±10%	1/8W
Rb71	PD14BY2B273K	Insulated carbon film	27kΩ	±10%	1/8W
Rb72	PD14BY2B392K	Insulated carbon film	39kΩ	±10%	1/8W
Rb73	PD14BY2B332K	Insulated carbon film	3.3kΩ	±10%	1/8W
Rb74, 75	PD14BY2B221K	Insulated carbon film	220Ω	±10%	1/8W
Rb76, 77	PD14BY2B224K	Insulated carbon film	220kΩ	±10%	1/8W
Rb78	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb79	PD14BY2B563K	Insulated carbon film	56kΩ	±10%	1/8W
Rb80	PD14BY2B104K	Insulated carbon film	100kΩ	±10%	1/8W
Rb81	PD14BY2B560K	Insulated carbon film	56Ω	±10%	1/8W

POTENTIOMETER					
VRb1	R12-5013-05	PC trimmer potentiometer	100kΩ (B)		
VRb2	R12-2008-05	PC trimmer potentiometer	5kΩ (B)		
VRb3	R12-4007-05	PC trimmer potentiometer	50kΩ (B)		
VRb4	R12-1007-05	PC trimmer potentiometer	1kΩ (B)		
VRb5	R12-2008-05	PC trimmer potentiometer	5kΩ (B)		
VRb6	R12-7007-05	PC trimmer potentiometer	500kΩ (B)		
VRb7	R12-0026-05	PC trimmer potentiometer	500Ω (B)		

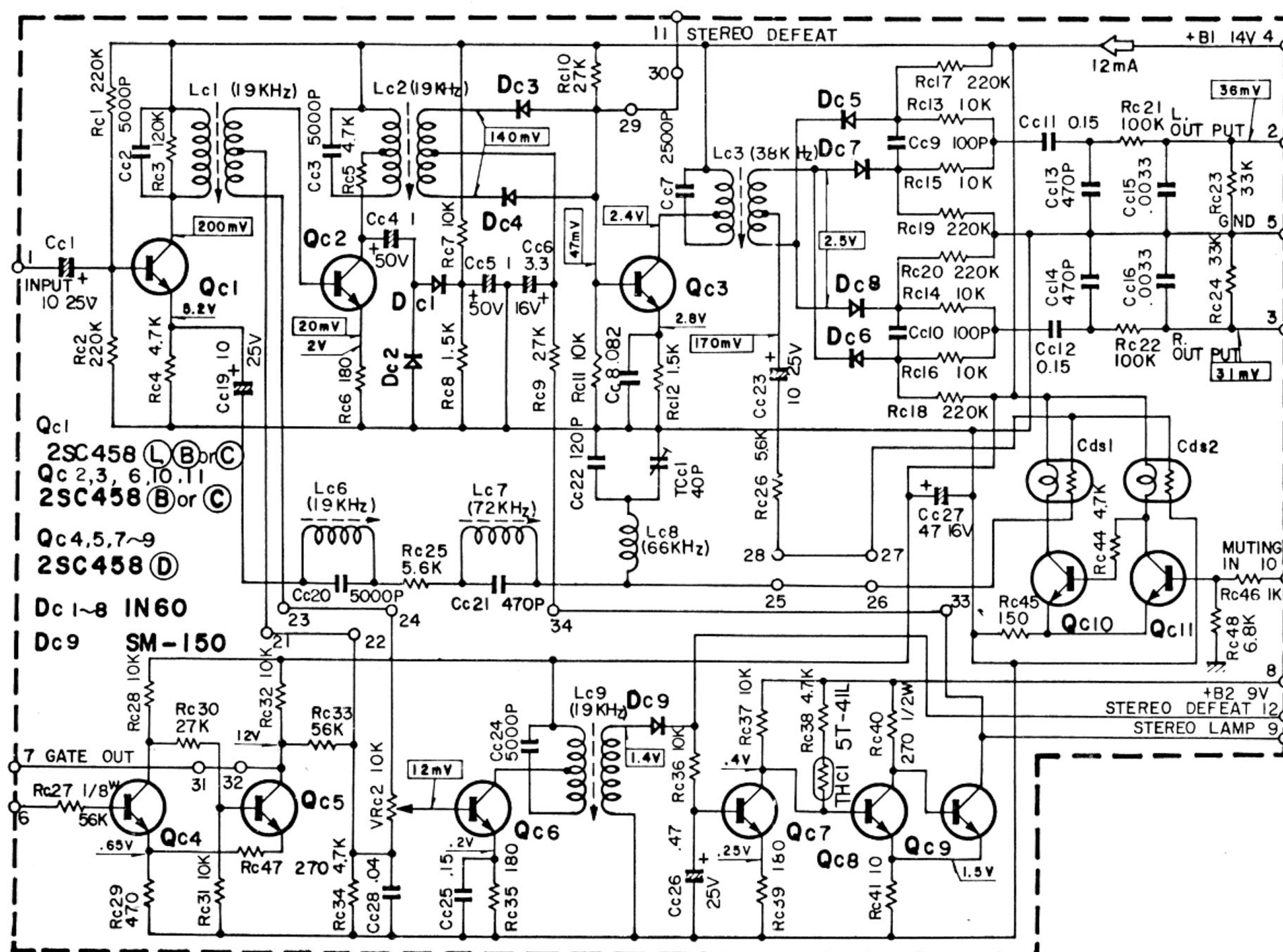
SEMICONDUCTOR					
Qb1		2SC381 (R)			
Qb2, 3		2SC381 (O)			
Qb4		2SK30 (GR) · FET			
Qb5		2SC941 (R) or (O)			
Qb6, 7		2SC381 (R)			
Qb8		2SC941 (R) or (O)			
Qb9~11		2SC458 (C)			
Db1~5		1N60			
Db6, 7		1S1555			
Db8~12		1N60			
Db13, 14		1S1555			
Db15~18		1N60			
VDb1		1S85 (White)			
ICb1, 2		CS5995 (B)			
ICb3, 4		CS5995			

IF TRANSFORMER					
Lb1~3	L30-0014-05	FM IFT			
Lb4	L30-0016-05	FM IFT			
Lb5	L30-0017-05	FM IFT			
Lb6	L33-0088-05	CHOKE COIL (FL5H3R3M)			
Lb7, 8	L33-0031-04	CHOKE COIL (2.2μH)			
Lb9	L31-0027-15	AM-RF-TUNING COIL			
Lb10	L31-0027-25	AM IFT			
Lb11	L30-0019-05	AM IFT			
Lb12	L32-0090-05	AM OSC COIL			
Lb13	L30-0018-05	AM IFT			
Lb14	L30-0020-05	AM IFT			
Lb16	L33-0031-04	CHOKE COIL			
Lb17	L33-0100-05	CHOKE COIL			
Lb18	L33-0103-05	CHOKE COIL			

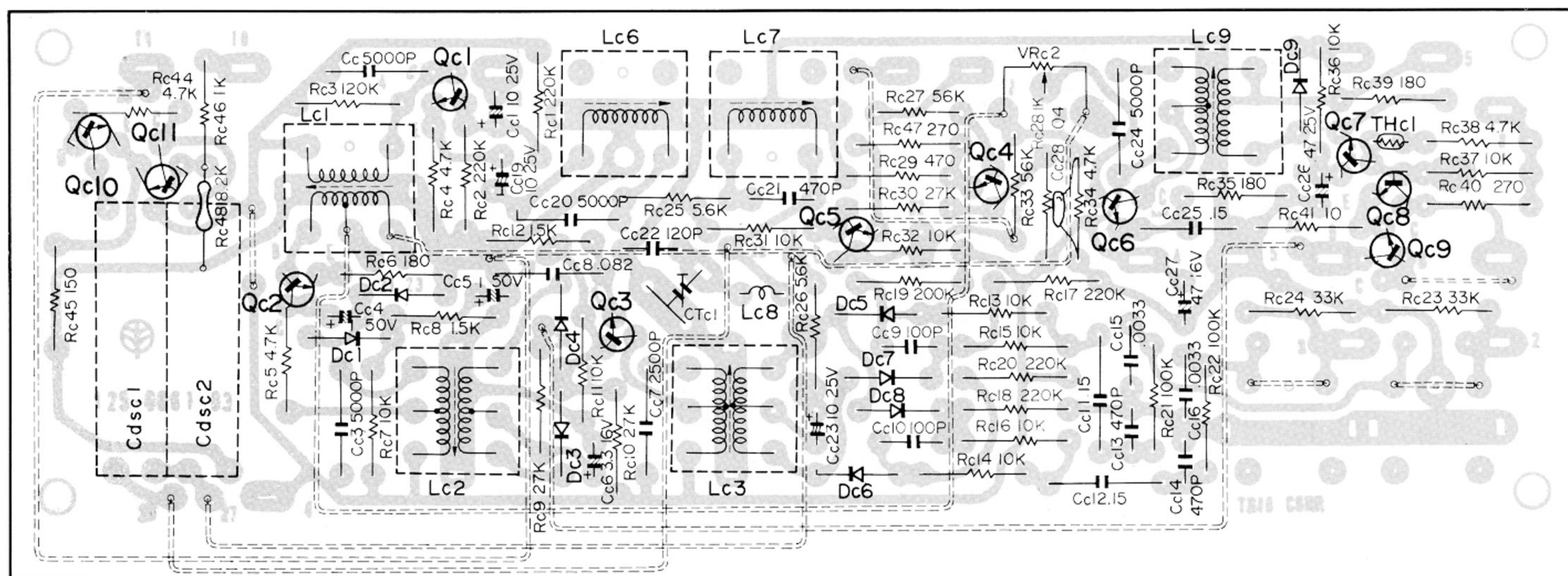
FILTER					
XFb1	L71-0001-05	Crystal filter			
CFb1	L72-0002-05 or L72-0005-05	Ceramic filter			
CFb2	L72-0004-05 or L72-0003-15	Ceramic filter			

MISCELLANEOUS					
—	J25-0045-12	PC board			
—	F10-0033-04	Shield cover			
—	F10-0050-04	Shield cover			

SCHEMATIC DIAGRAM

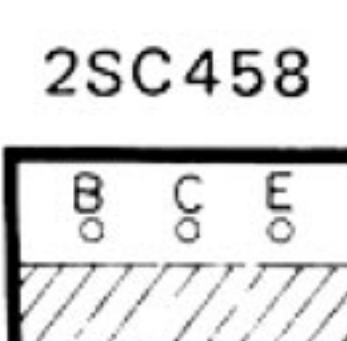


SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qc1 2SC458 (L), (B), (C) Qc2, 3, 10, 11 2SC458 (B) or (C) Qc4, 5, 7 ~ 9 2SC458 (D) Dc1 ~ 8 1N60 Dc9 SM-150 THc1 5T-41L

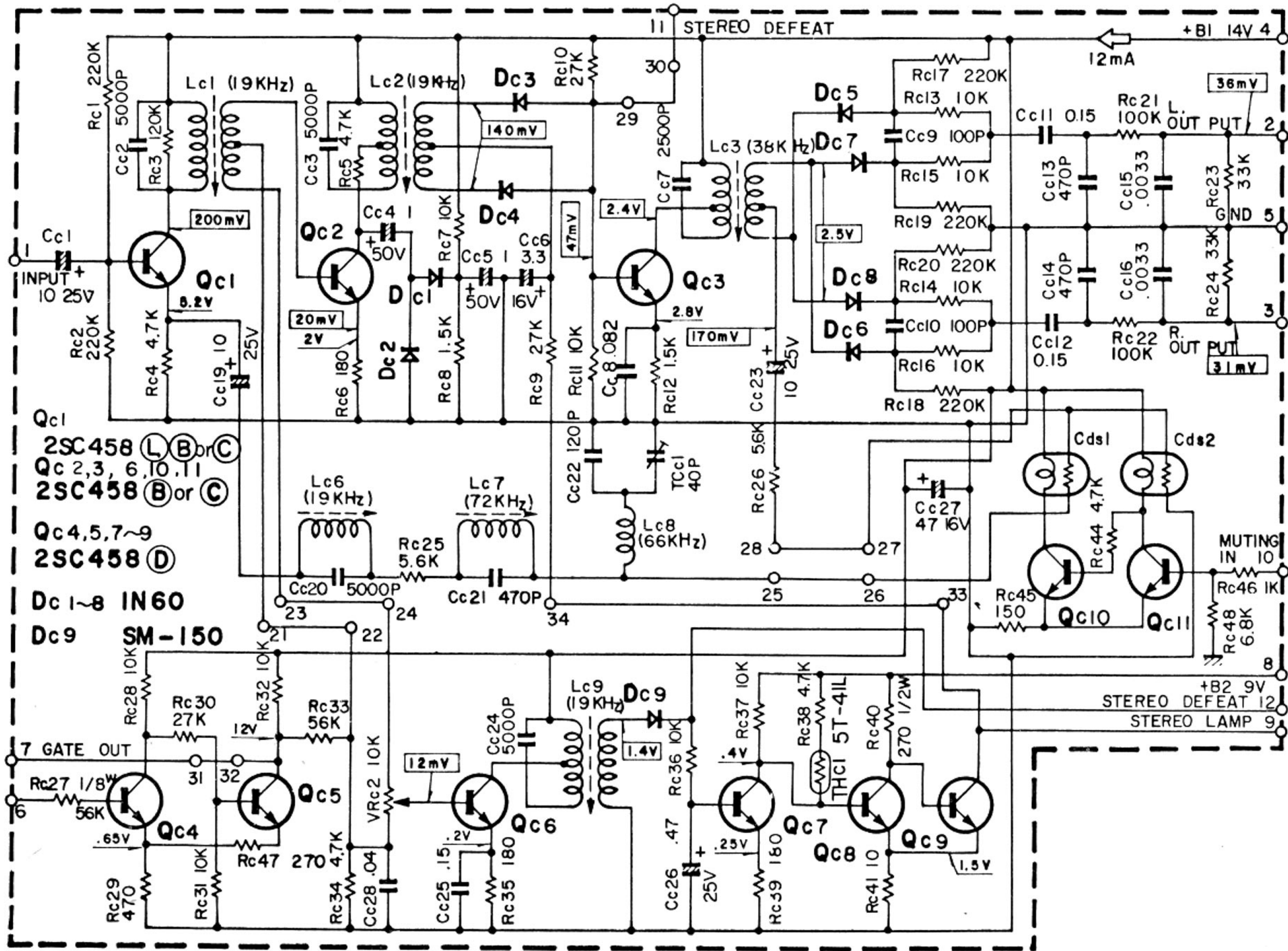
BOTTOM VIEW OF TRANSISTOR



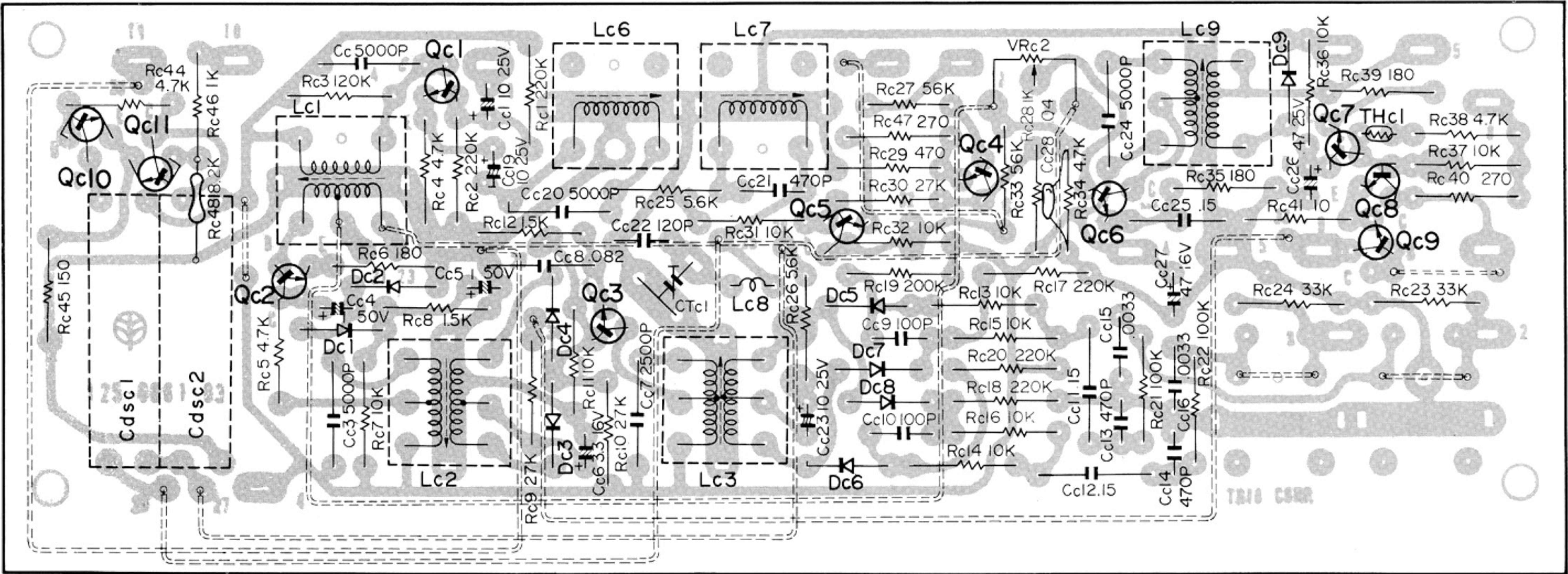
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Cc1	CE04W1E100	PC electrolytic	10μF	25WV		
Cc2, 3	CQ08S2B502J	Polyester	5000pF	±5%		
Cc4, 5	CE04W1H010	PC electrolytic	1μF	50WV		
Cc6	CE04W1C3R3	PC electrolytic	3.3μF	16WV		
Cc7	CQ08S2B252J	Polyester	2500pF	±5%		
Cc8	CQ93M1H823K	Mylar	0.082μF	±10%		
Cc9, 10	CQ08S2B101J	Polyester	100pF	±5%		
Cc11, 12	CQ93M1H154K	Mylar	0.15μF	±10%		
Cc13, 14	CK94YG1H471K	Ceramic	470pF	±10%		
Cc15, 16	CQ93M1H332J	Mylar	3300pF	±5%		
Cc19	CE04W1E100	PC electrolytic	10μF	25WV		
Cc20	CQ08S2B502J	Polyester	5000pF	±5%		
Cc21	CQ08S2B471J	Polyester	470pF	±5%		
Cc22	CQ08S2B121J	Polyester	120pF	±5%		
Cc23	CE04W1E100	PC electrolytic	10μF	25WV		
Cc24	CQ08S2B502J	Polyester	5000pF	±5%		
Cc25	CQ93M1H154K	Mylar	0.15μF	±10%		
Cc26	CA06W1ER47M	Solid aluminum	0.47μF	25WV		
Cc27	CE04W1C470	PC electrolytic	47μF	16WV		
Cc28	CK94YG1H403Z	Ceramic	0.04μF	+80%, −20%		
CTc1	C05-0015-05	Trimmer				
RESISTOR						
Rc1, 2	PD14BY2E224K	Insulated carbon film	220kΩ	±10%	1/4W	
Rc3	PD14BY2E124K	Insulated carbon film	120kΩ	±10%	1/4W	
Rc4, 5	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W	
Rc6	PD14BY2E181K	Insulated carbon film	180Ω	±10%	1/4W	
Rc7	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
Rc8	PD14BY2E152K	Insulated carbon film	1.5kΩ	±10%	1/4W	
Rc9, 10	PD14BY2E273K	Insulated carbon film	27kΩ	±10%	1/4W	
Rc11	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
Rc12	PD14BY2E152K	Insulated carbon film	1.5kΩ	±10%	1/4W	
Rc13 ~ 16	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W	
Rc21, 22	PD14BY2E104J	Insulated carbon film	100kΩ	±5%	1/4W	
Rc23, 24	PD14BY2E333J	Insulated carbon film	33kΩ	±5%	1/4W	
Rc25, 26	PD14BY2E562K	Insulated carbon film	5.6kΩ	±10%	1/4W	
Rc27	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W	
Rc28	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
Rc29	PD14BY2E471K	Insulated carbon film	470Ω	±10%	1/4W	
Rc30	PD14BY2E273K	Insulated carbon film	27kΩ	±10%	1/4W	
Rc31, 32	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
Rc33	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W	
Rc34	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W	
Rc35	PD14BY2E181K	Insulated carbon film	180Ω	±10%	1/4W	
Rc36, 37	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
Rc38	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W	
Rc39	PD14BY2E181K	Insulated carbon film	180Ω	±10%	1/4W	
Rc40	RC05GF2H271K	Carbon cimposition	270Ω	±10%	1/2W	
Rc41	PD14BY2E100K	Insulated carbon film	10Ω	±10%	1/4W	
Rc44	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W	
Rc45	PD14BY2E151K	Insulated carbon film	150Ω	±10%	1/4W	
Rc46	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W	
Rc47	PD14BY2B271K	Insulated carbon film	270Ω	±10%	1/8W	
Rc48	PD14BY2E822K	Insulated carbon film	8.2kΩ	±10%	1/4W	
VRc2	R12-3022-05	PC trimmer potentiometer	10kΩ (B)			
SEMICONDUCTOR						
Qc1		2SC458 (L), (B) or (C)				
Qc2, 3		2SC458 (B) or (C)				
Qc4, 5		2SC458 (D)				
Qc6		2SC458 (B) or (C)				
Qc7 ~ 9		2SC 458 (D)				
Qc10, 11		2SC458 (B) or (C)				
Dc1 ~ 8		1N60				
Dc9		SM-150 (01)				
THc1		5T-41L				
COIL						
Lc1, 2	L35-0031-05	19KHz TUNING COIL				
Lc3	L35-0034-05	38KHz TUNING COIL				
Lc6	L35-0031-05	19KHz TUNING COIL				
Lc7	L35-0030-05	72KHz TRAP COIL				
Lc8	L33-0124-05	Ferri-inductor (FL11H-393J)				
Lc9	L35-0032-05	19KHz TUNING COIL				
MISCELLANEOUS						
—	J25-0061-03	PC board				

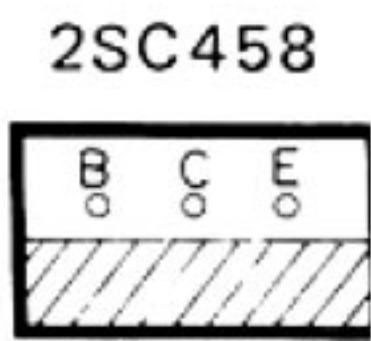
SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



BOTTOM VIEW OF TRANSISTOR

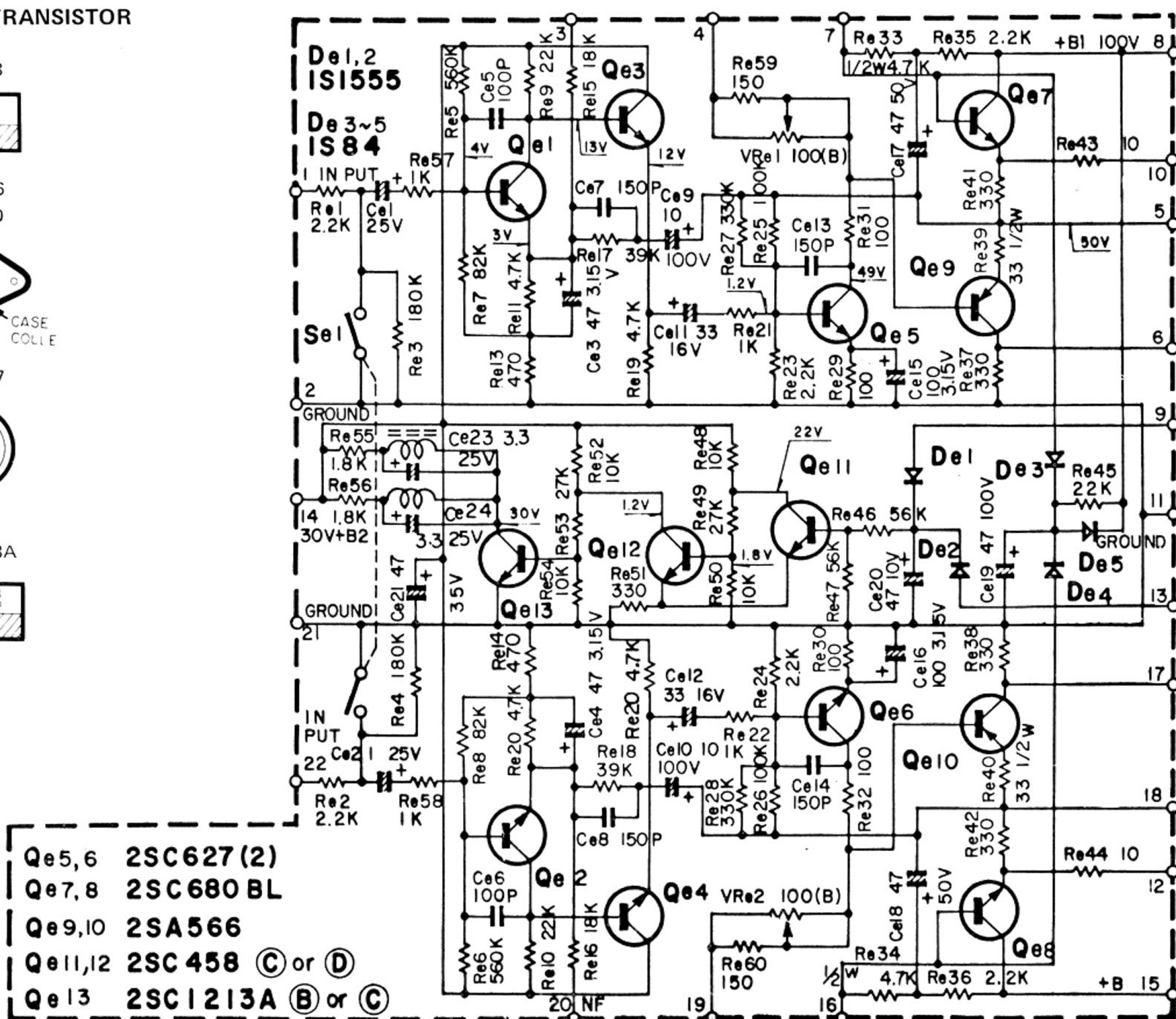
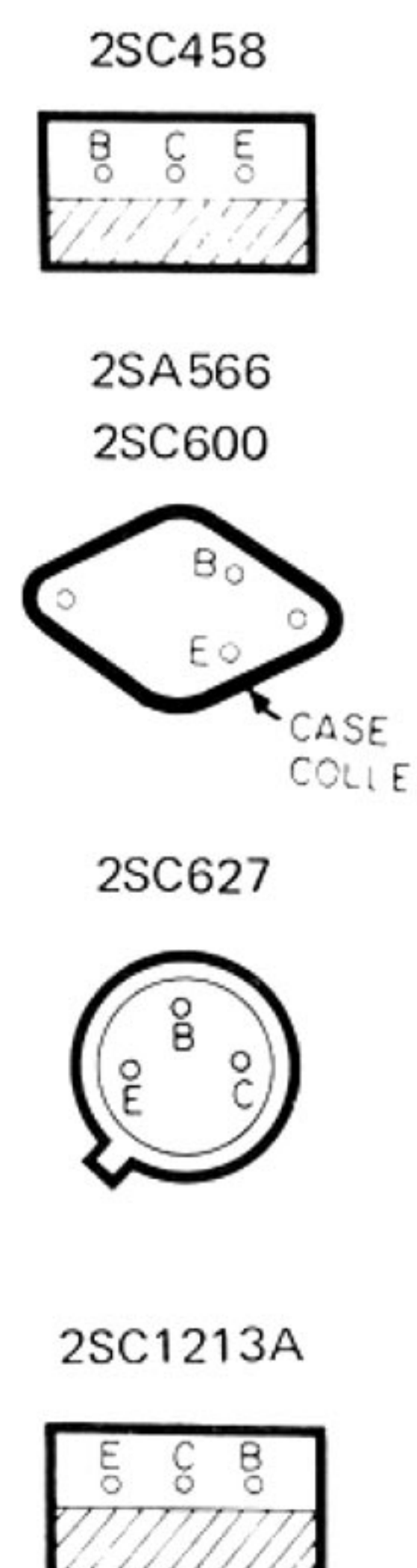


PARTS DESCRIPTION LIST

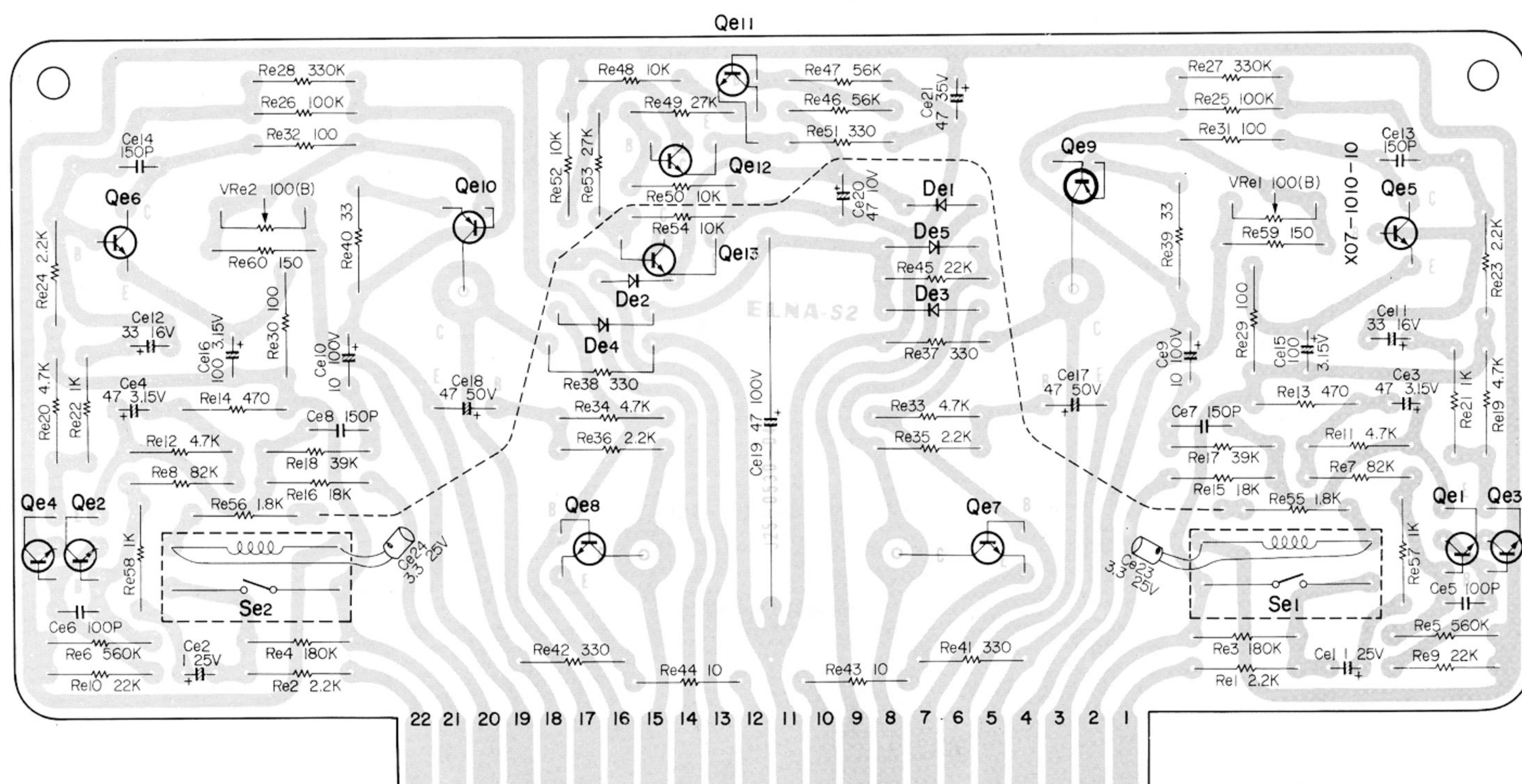
Circuit No.	Parts No.	Description				Remarks	
CAPACITOR							
Cc1	CE04W1E100	PC electrolytic	10μF	25WV			
Cc2, 3	CQ08S2B502J	Polyester	5000pF	±5%			
Cc4, 5	CE04W1H010	PC electrolytic	1μF	50WV			
Cc6	CE04W1C3R3	PC electrolytic	3.3μF	16WV			
Cc7	CQ08S2B252J	Polyester	2500pF	±5%			
Cc8	CQ93M1H823K	Mylar	0.082μF	±10%			
Cc9, 10	CQ08S2B101J	Polyester	100pF	±5%			
Cc11, 12	CQ93M1H154K	Mylar	0.15μF	±10%			
Cc13, 14	CK94YG1H471K	Ceramic	470pF	±10%			
Cc15, 16	CQ93M1H332J	Mylar	3300pF	±5%			
Cc19	CE04W1E100	PC electrolytic	10μF	25WV			
Cc20	CQ08S2B502J	Polyester	5000pF	±5%			
Cc21	CQ08S2B471J	Polyester	470pF	±5%			
Cc22	CQ08S2B121J	Polyester	120pF	±5%			
Cc23	CE04W1E100	PC electrolytic	10μF	25WV			
Cc24	CQ08S2B502J	Polyester	5000pF	±5%			
Cc25	CQ93M1H154K	Mylar	0.15μF	±10%			
Cc26	CA06W1ER47M	Solid aluminum	0.47μF	25WV			
Cc27	CE04W1C470	PC electrolytic	47μF	16WV			
Cc28	CK94YG1H403Z	Ceramic	0.04μF	+80%, −20%			
CTc1	C05-0015-05	Trimmer					
RESISTOR							
Rc1, 2	PD14BY2E224K	Insulated carbon film	220kΩ	±10%		1/4W	
Rc3	PD14BY2E124K	Insulated carbon film	120kΩ	±10%		1/4W	
Rc4, 5	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%		1/4W	
Rc6	PD14BY2E181K	Insulated carbon film	180Ω	±10%		1/4W	
Rc7	PD14BY2E103K	Insulated carbon film	10kΩ	±10%		1/4W	
Rc8	PD14BY2E152K	Insulated carbon film	1.5kΩ	±10%		1/4W	
Rc9, 10	PD14BY2E273K	Insulated carbon film	27kΩ	±10%	1/4W		
Rc11	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W		
Rc12	PD14BY2E152K	Insulated carbon film	1.5kΩ	±10%	1/4W		
Rc13 ~ 16	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W		
Rc21, 22	PD14BY2E104J	Insulated carbon film	100kΩ	±5%	1/4W		
Rc23, 24	PD14BY2E333J	Insulated carbon film	33kΩ	±5%	1/4W		
Rc25, 26	PD14BY2E562K	Insulated carbon film	5.6kΩ	±10%	1/4W		
Rc27	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W		
Rc28	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W		
Rc29	PD14BY2E471K	Insulated carbon film	470Ω	±10%	1/4W		
Rc30	PD14BY2E273K	Insulated carbon film	27kΩ	±10%	1/4W		
Rc31, 32	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W		
Rc33	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W		
Rc34	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Rc35	PD14BY2E181K	Insulated carbon film	180Ω	±10%	1/4W		
Rc36, 37	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W		
Rc38	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Rc39	PD14BY2E181K	Insulated carbon film	180Ω	±10%	1/4W		
Rc40	RC05GF2H271K	Carbon cimposition	270Ω	±10%	1/2W		
Rc41	PD14BY2E100K	Insulated carbon film	10Ω	±10%	1/4W		
Rc44	PD14BY2E472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Rc45	PD14BY2E151K	Insulated carbon film	150Ω	±10%	1/4W		
Rc46	PD14BY2B102K	Insulated carbon film	1kΩ	±10%	1/8W		
Rc47	PD14BY2B271K	Insulated carbon film	270Ω	±10%	1/8W		
Rc48	PD14BY2E822K	Insulated carbon film	8.2kΩ	±10%	1/4W		
VRc2	R12-3022-05	PC trimmer potentiometer	10kΩ (B)				
SEMICONDUCTOR							
Qc1		2SC458 (L), (B) or (C)					
Qc2, 3		2SC458 (B) or (C)					
Qc4, 5		2SC458 (D)					
Qc6		2SC458 (B) or (C)					
Qc7 ~ 9		2SC 458 (D)					
Qc10, 11		2SC458 (B) or (C)					
Dc1 ~ 8		1N60					
Dc9		SM-150 (01)					
THc1		5T-41L					
COIL							
Lc1, 2	L35-0031-05	19KHz TUNING COIL					
Lc3	L35-0034-05	38KHz TUNING COIL					
Lc6	L35-0031-05	19KHz TUNING COIL					
Lc7	L35-0030-05	72KHz TRAP COIL					
Lc8	L33-0124-05	Ferri-inductor (FL11H-393J)					
Lc9	L35-0032-05	19KHz TUNING COIL					
MISCELLANEOUS							
—	J25-0061-03	PC board					

SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qe1 ~ 4:2SC458LG C or D, Qe5,6:2SC627(2), Qe7,8:2SC680(BL), Qe9,10:2SA566, Qe11,12:2SC458C or D, Qe13:2SC1213A(B) or (C)
De1,2:1S1555, De3,4,5:1S84

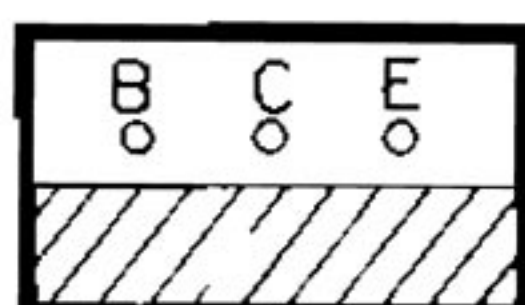
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Ce1, 2	CS04D1E010X or M	Tantalum	1μF	25WV		
Ce3, 4	CE04W0F470	PC electrolytic	47μF	3.15WV		
Ce5, 6	CC94SL1H101K	Ceramic	100pF	±10%		
Ce7, 8	CC94SL1H151K	Ceramic	150pF	±10%		
Ce9, 10	CE04W2A100	PC electrolytic	10μF	100WV		
Ce11, 12	CE04W1C330	PC electrolytic	33μF	16WV		
Ce13, 14	CC94SL1H151K	Ceramic	150pF	±10%		
Ce15, 16	CE04W0F101	PC electrolytic	100μF	3.15WV		
Ce17, 18	CE04W1H470	PC electrolytic	47μF	50WV		
Ce19	CE02W2A470	Electrolytic tubular	47μF	100WV		
Ce20	CE04W1A470	PC electrolytic	47μF	10WV		
Ce21	CE04W1V470	PC electrolytic	47μF	35WV		
Ce23, 24	CE04W1E3R3	PC electrolytic	3.3μF	25WV		
RESISTOR						
Re1, 2	PD14BY2E222J	Insulated carbon film	2.2kΩ	±5%	1/4W	
Re3, 4	PD14BY2E184J	Insulated carbon film	180kΩ	±5%	1/4W	
Re5, 6	PD14BY2E564J	Insulated carbon film	560kΩ	±5%	1/4W	
Re7, 8	PD14BY2E823J	Insulated carbon film	82kΩ	±5%	1/4W	
Re9, 10	PD14BY2E223J	Insulated carbon film	22kΩ	±5%	1/4W	
Re11, 12	PD14BY2E472J	Insulated carbon film	4.7kΩ	±5%	1/4W	
Re13, 14	PD14BY2E471J	Insulated carbon film	470Ω	±5%	1/4W	
Re15, 16	PD14BY2E183J	Insulated carbon film	18kΩ	±5%	1/4W	
Re17, 18	PD14BY2E393J	Insulated carbon film	39kΩ	±5%	1/4W	
Re19, 20	PD14BY2E472J	Insulated carbon film	4.7kΩ	±5%	1/4W	
Re21, 22	PD14BY2E102J	Insulated carbon film	1kΩ	±5%	1/4W	
Re23, 24	PD14BY2E222J	Insulated carbon film	2.2kΩ	±5%	1/4W	
Re25, 26	PD14BY2E104J	Insulated carbon film	100kΩ	±5%	1/4W	
Re27, 28	PD14BY2E334J	Insulated carbon film	330kΩ	±5%	1/4W	
Re29 ~ 32	PD14BY2E101J	Insulated carbon film	100Ω	±5%	1/4W	
Re33, 34	RC05GF2H472J	Carbon composition	4.7kΩ	±5%	1/2W	
Re35, 36	PD14BY2E222J	Insulated carbon film	2.2kΩ	±5%	1/4W	
Re37, 38	RC05GF2H331K	Carbon composition	330Ω	±10%	1/2W	
Re39, 40	RC05GF2H330K	Carbon composition	33Ω	±10%	1/2W	
Re41, 42	RC05GF2H331K	Carbon composition	330Ω	±10%	1/2W	
Re43, 44	RC05GF2H100K	Carbon composition	10Ω	±10%	1/2W	
Re45	PD14BY2E223J	Insulated carbon film	22kΩ	±5%	1/4W	
Re46, 47	PD14BY2E563J	Insulated carbon film	56kΩ	±5%	1/4W	
Re48	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W	
Re49	PD14BY2E273J	Insulated carbon film	27kΩ	±5%	1/4W	
Re50	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W	
Re51	PD14BY2E331J	Insulated carbon film	330Ω	±5%	1/4W	
Re52	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W	
Re53	PD14BY2E273J	Insulated carbon film	27kΩ	±5%	1/4W	
Re54	PD14BY2E103J	Insulated carbon film	10kΩ	±5%	1/4W	
Re55, 56	PD14BY2E182J	Insulated carbon film	1.8kΩ	±5%	1/4W	
Re57, 58	PD14BY2E102J	Insulated carbon film	1kΩ	±5%	1/4W	
Re59, 60	PD14BY2E151J	Insulated carbon film	150Ω	±5%	1/4W	
SEMICONDUCTOR						
Qe1 ~ 4		2SC458LG (C) or (D)				
Qe5, 6		2SC627 (2)				
Qe7, 8		2SC680BL				
Qe9, 10		2SA566				
Qe11, 12		2SC458 (C) or (D)				
Qe13		2SC1213A (B) or (C)				
De1, 2		1S1555				
De3 ~ 5		1S84				
POTENTIOMETER/RELAY						
VRe1, 2	R12-0048-05	PC trimmer potentiometer 100Ω (B)				
Se1, 2	S51-1003-05	Relay (12V, 8.6mA)				
MISCELLANEOUS						
—	J25-0530-04	PC board				

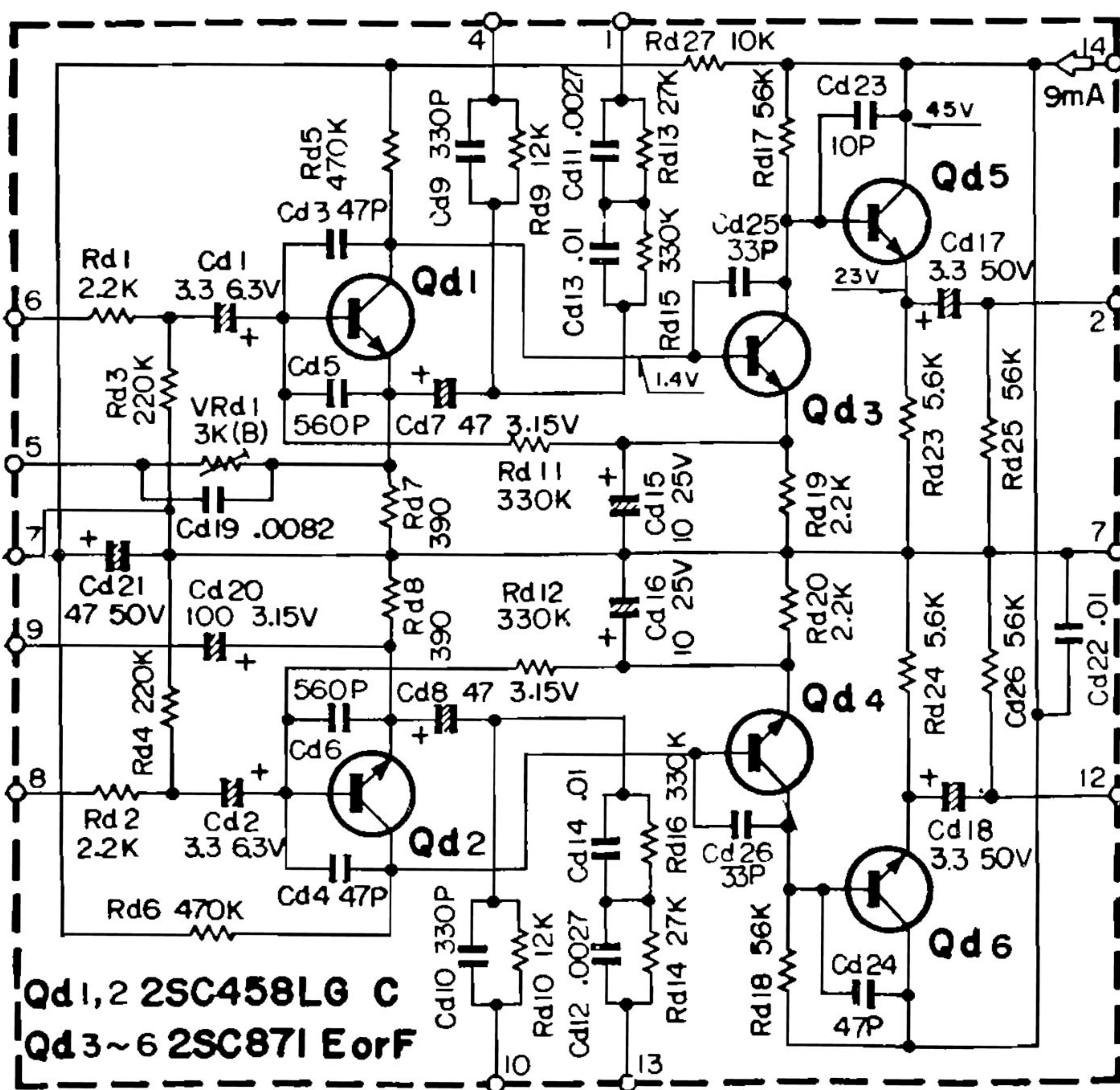
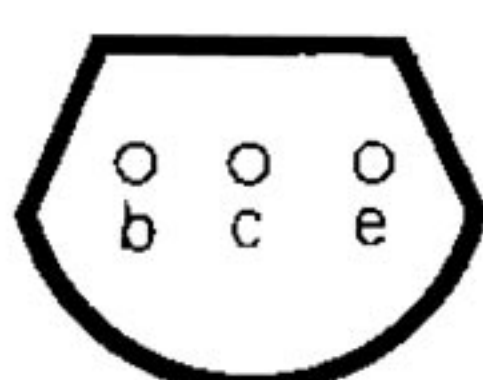
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR

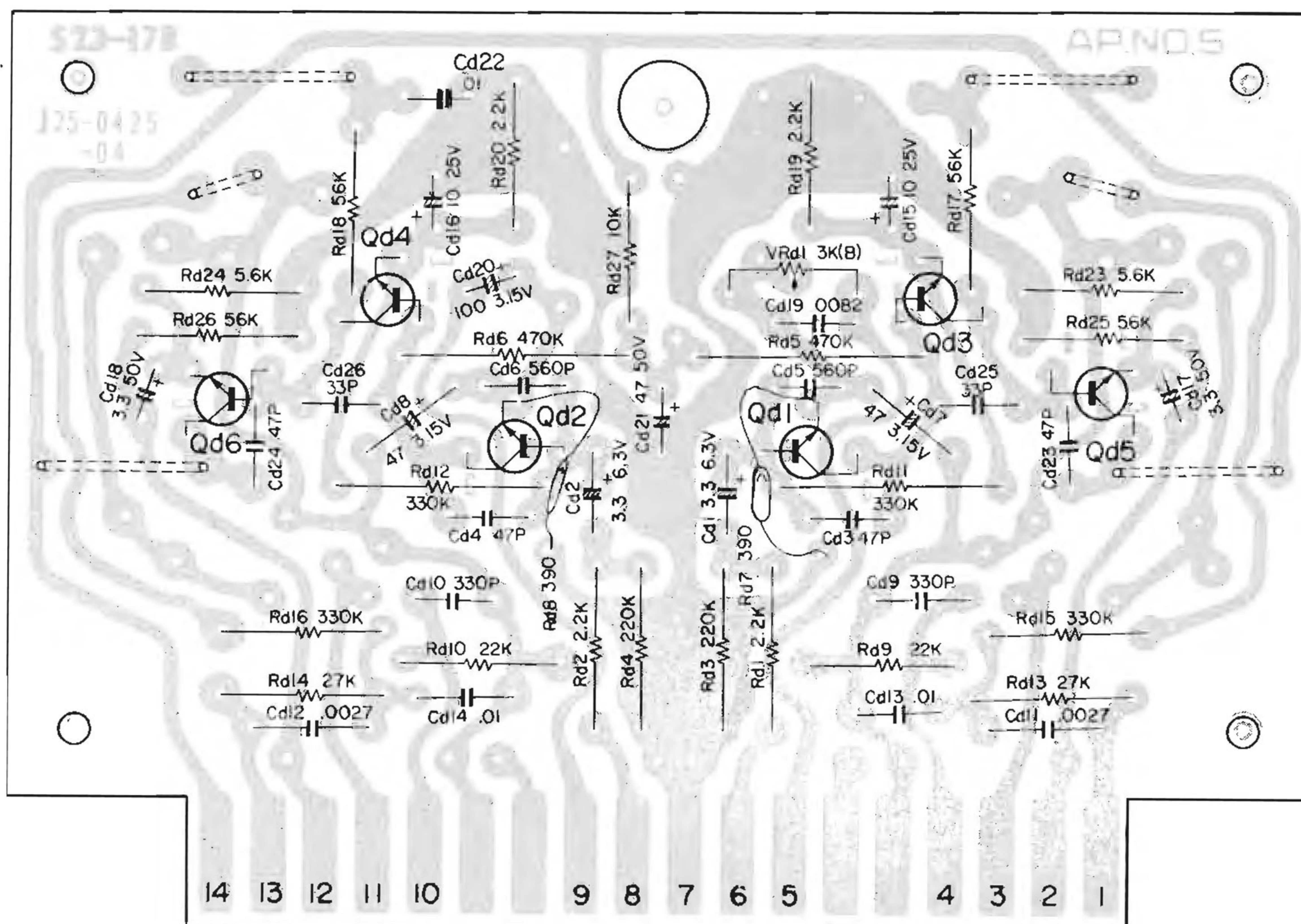
2SC458



2SC871



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



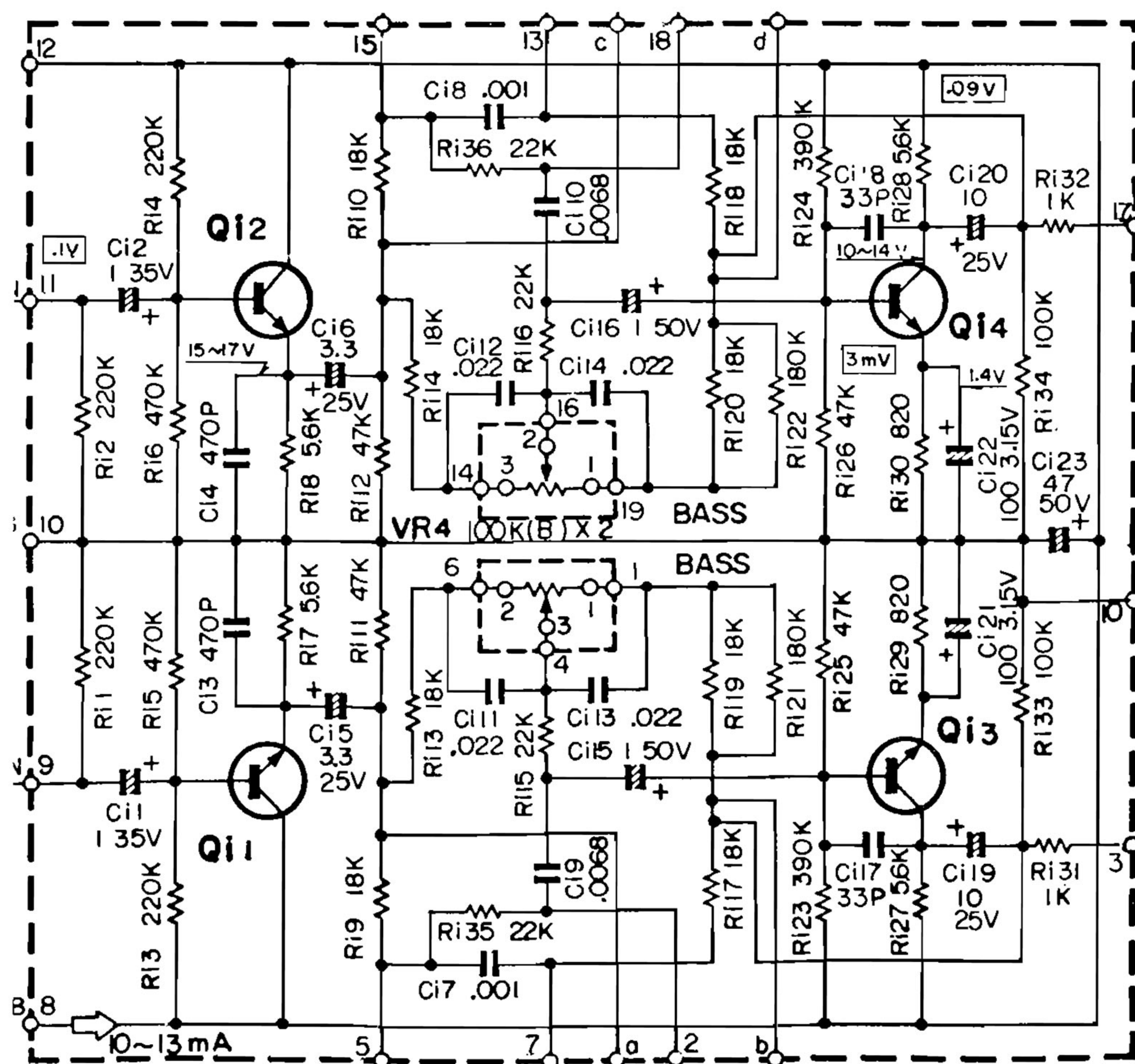
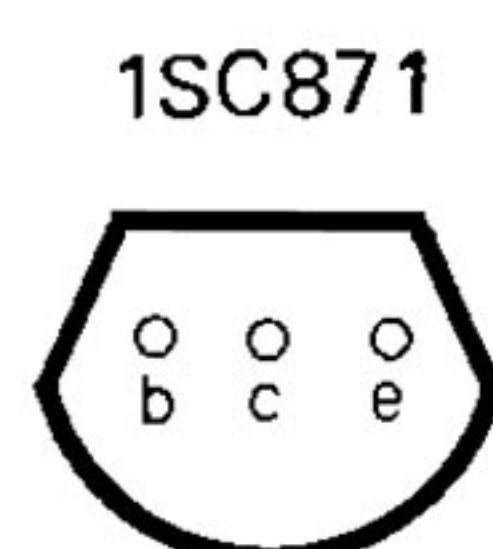
Qd1,2 2SC458L Qd3 ~ 6 2SC871(E) or (F)

PARTS DESCRIPTION LIST

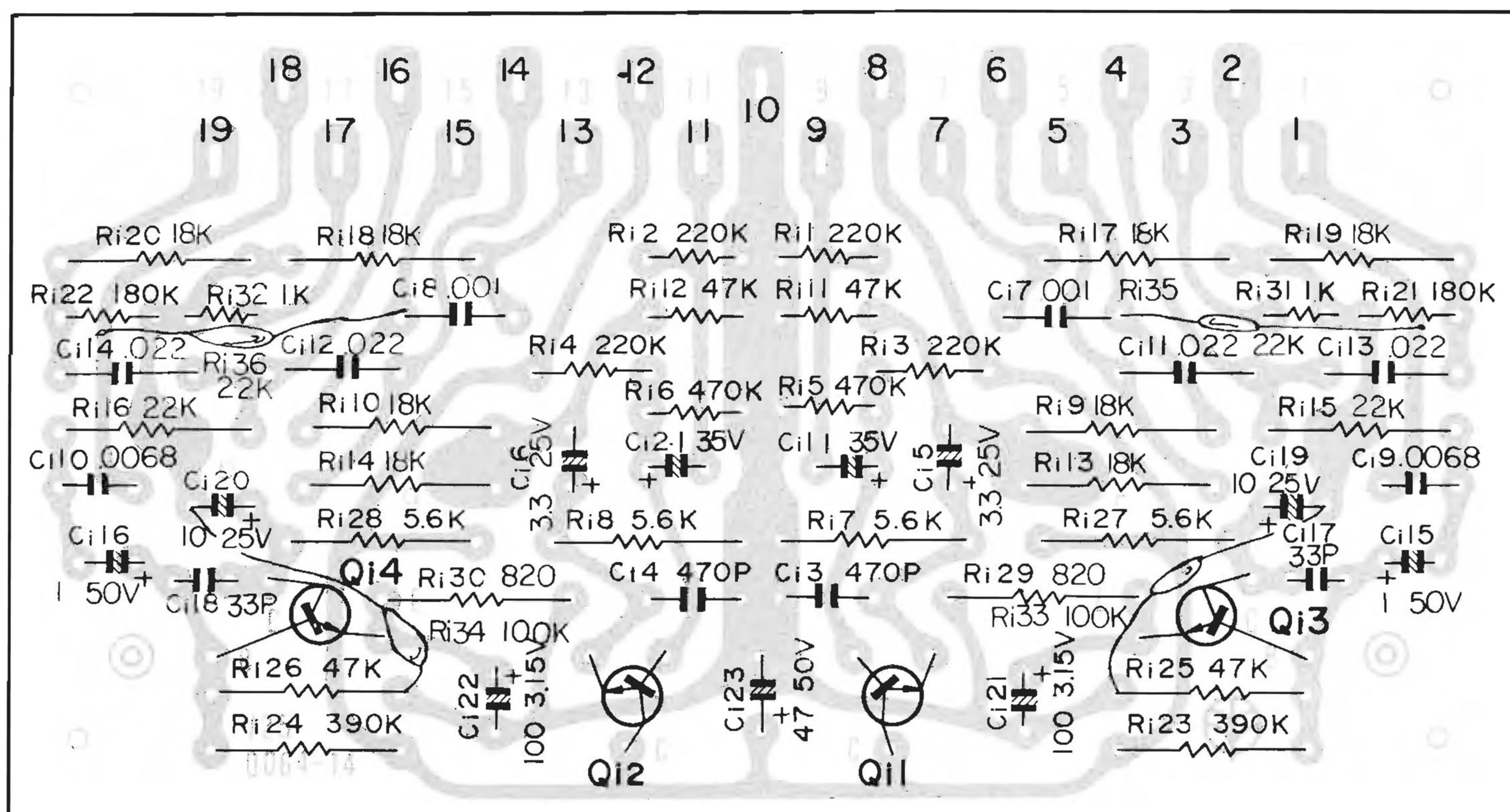
Circuit No.	Parts No.	Description			Remarks	
CAPACITOR						
Cd1, 2	CA04E0J3R3XT	Solid aluminum	3.3μF	6.3WV		
Cd3, 4	CC94SL1H470K	Ceramic	47pF	±10%		
Cd5, 6	CK94YY1H561M	Ceramic	560pF	±20%		
Cd7, 8	CE04W0F470	PC electrolytic	47μF	6.3WV		
Cd9, 10	CC94SL1H331K	Ceramic	330pF	±10%		
Cd11, 12	CQ93M1H272J	Mylar	0.0027μF	±5%		
Cd13, 14	CQ93M1H103J	Mylar	0.01μF	±5%		
Cd15, 16	CE04W1E100	PC electrolytic	10μF	25WV		
Cd17, 18	CE04W1H3R3	PC electrolytic	3.3μF	50WV		
Cd19	CQ93M1H922K	Mylar	0.0082μF	±10%		
Cd20	CE04W0F101	PC electrolytic	100μF	3.15WV		
Cd21	CE04W1H470	PC electrolytic	47μF	50WV		
Cd22	CK94YY1H103M	Ceramic	0.01μF	±20%		
Cd23, 24	CC94SL1H470K	Ceramic	47pF	±10%		
Cd25, 26	CC94SL1H330K	Ceramic	33pF	±10%		
RESISTOR						
Rd1, 2	PD14BY2E222K	Insulated carbon film	2.2kΩ	±10%	1/4W	
Rd3, 4	PD14BY2E224K	Insulated carbon film	220kΩ	±10%	1/4W	
Rd5, 6	R92-0053-05	Insulated carbon film	470kΩ	±5%	1/4W	
Rd7, 8	PD14BY2E391F	Insulated carbon film	390Ω	±1%	1/4W	
Rd9, 10	PD14BY2E123J	Insulated carbon film	12kΩ	±5%	1/4W	
Rd11, 12	R92-0026-05	Insulated carbon film	330kΩ	±5%	1/4W	
Rd13, 14	PD14BY2E273J	Insulated carbon film	27kΩ	±5%	1/4W	
Rd15, 16	PD14BY2E334J	Insulated carbon film	330kΩ	±5%	1/4W	
Rd17, 18	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W	
Rd19, 20	PD14BY2E222K	Insulated carbon film	2.2kΩ	±10%	1/4W	
Rd23, 24	PD14BY2E562K	Insulated carbon film	5.6kΩ	±10%	1/4W	
Rd25, 26	PD14BY2E563K	Insulated carbon film	56kΩ	±10%	1/4W	
Rd27	PD14BY2E103K	Insulated carbon film	10kΩ	±10%	1/4W	
SEMICONDUCTOR/POTENTIOMETER						
Qd1, 2	R12-1016-05	2SC458LG (C)				
Qd3 ~ 6		2SC871 (E) or (F)				
VRd1		PC trimmer potentiometer 3kΩ (B)				
MISCELLANEOUS						
—	J25-0425-04	PC board				

SCHEMATIC DIAGRAM

BOTTOM VIEW OF
TRANSISTOR



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Q11 ~ 4 2SC871 (E) ~ (F)

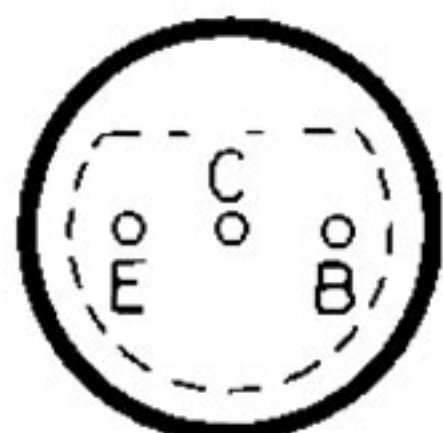
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Ci1, 2	CS04D1V010M	Tantalum	1μF	25WV		
Ci3, 4	CK94YY1H471M	Ceramic	470pF	±20%		
Ci5, 6	CE04W1E3R3GP	PC electrolytic	3.3μF	25WV		
Ci7, 8	CQ93M1H102J	Mylar	0.001μF	±5%		
Ci9, 10	CQ93M1H682J	Mylar	0.0068μF	±5%		
Ci11 ~ 14	CQ93M1H223J	Mylar	0.022μF	±5%		
Ci15, 16	CE04W1H010	PC electrolytic	1μF	50WV		
Ci17, 18	CC94SL1H330K	Ceramic	33pF	±10%		
Ci19, 20	CE04W1E100	PC electrolytic	10μF	25WV		
Ci21, 22	CE04W0F101	PC electrolytic	100μF	3.15WV		
Ci23	CE04W1H470	PC electrolytic	47μF	50WV		
RESISTOR						
Ri1 ~ 4	PD14CY2E224K	Insulated carbon film	220kΩ	±10%	1/4W	
Ri5, 6	PD14CY2E474K	Insulated carbon film	470kΩ	±10%	1/4W	
Ri7, 8	PD14BY2E562K	Insulated carbon film	5.6kΩ	±10%	1/4W	
Ri9, 10	PD14BY2E183J	Insulated carbon film	18kΩ	±5%	1/4W	
Ri11, 12	PD14CY2E473K	Insulated carbon film	47kΩ	±10%	1/4W	
Ri13, 14	PD14BY2E183J	Insulated carbon film	18kΩ	±5%	1/4W	
Ri15, 16	PD14BY2E223J	Insulated carbon film	22kΩ	±5%	1/4W	
Ri17 ~ 20	PD14BY2E183J	Insulated carbon film	18kΩ	±5%	1/4W	
Ri21, 22	PD14CY2E184J	Insulated carbon film	180kΩ	±5%	1/4W	
Ri23, 24	PD14BY2E394K	Insulated carbon film	390kΩ	±10%	1/4W	
Ri25, 26	PD14BY2E473K	Insulated carbon film	47kΩ	±10%	1/4W	
Ri27, 28	PD14BY2E562K	Insulated carbon film	5.6kΩ	±10%	1/4W	
Ri29, 30	PD14BY2E821J	Insulated carbon film	820Ω	±5%	1/4W	
Ri31, 32	PD14CY2E102K	Insulated carbon film	1kΩ	±10%	1/4W	
Ri33, 34	PD14BY2E104J	Insulated carbon film	100kΩ	±5%	1/4W	
Ri35, 36	PD14BY2E223J	Insulated carbon film	22kΩ	±5%	1/4W	
SEMICONDUCTOR						
Qi1 ~ 4		2SC871 (E) or (F)				
MISCELLANEOUS						
—	J25-0064-14	PC board				

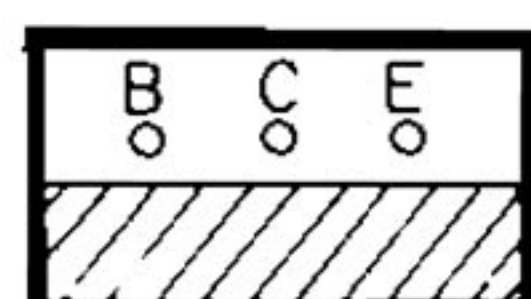
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR

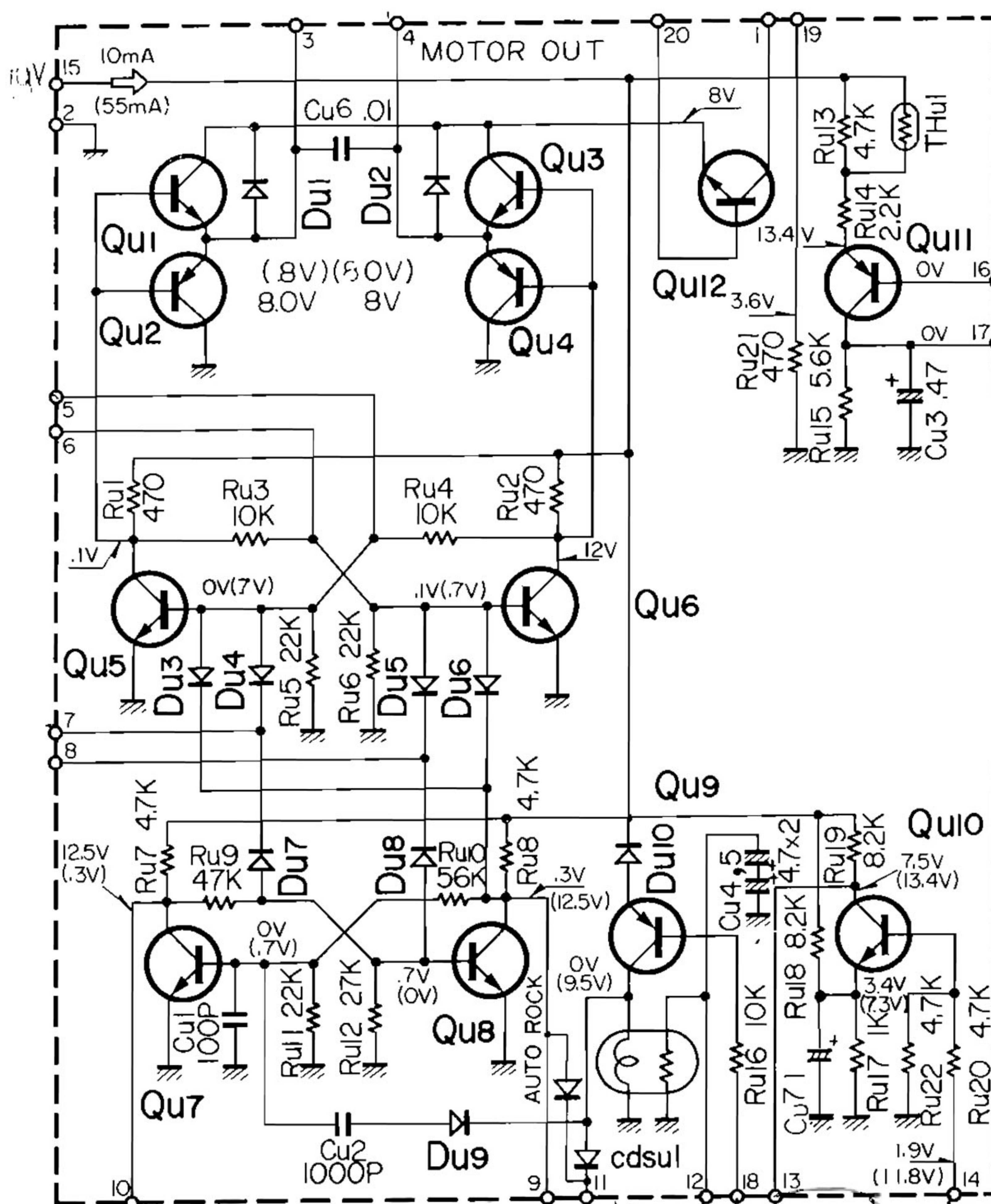
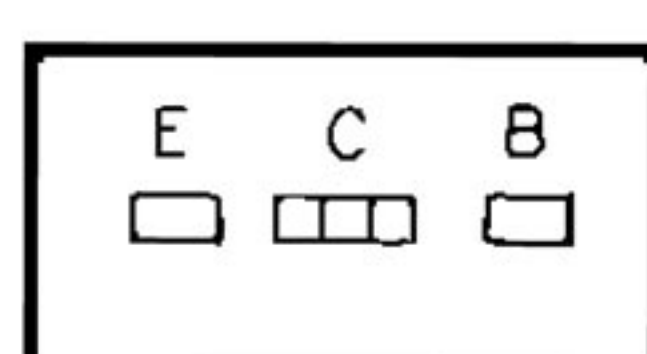
2SA495
2SA562
2SC735



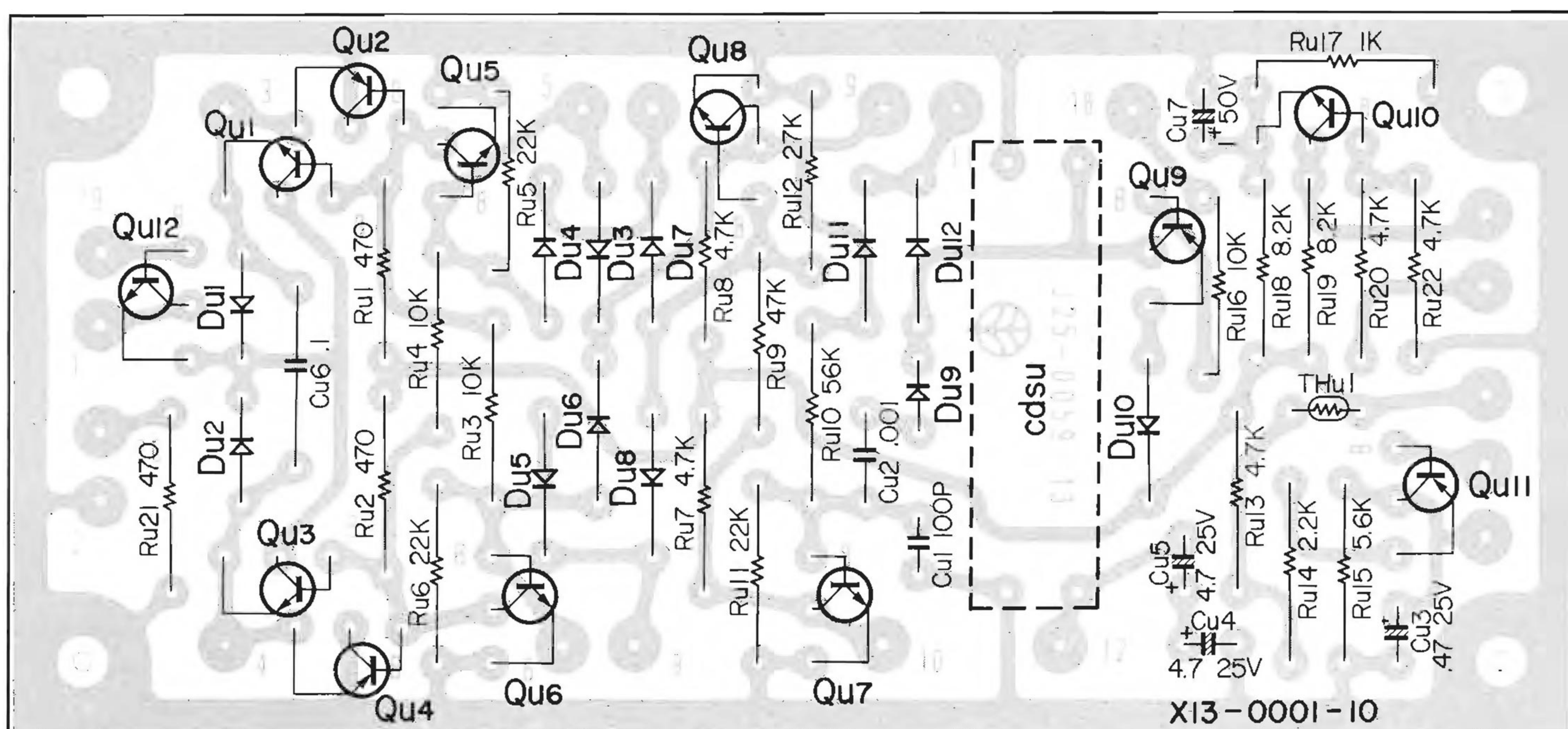
2SC458



2SC1212



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qu1,3,5,6 2SC735O or Y, Qu2,4 2SA562O or Y, Qu7,8,10.2SC458C or D
Qu9,11:2SA495Y, Qu12.2SC1212(A) or (B), Du1,2.1S1555, Du3 ~ 9 1N60
Du10:1S994, Du11,12 1N60 THu1 SDT-1000L

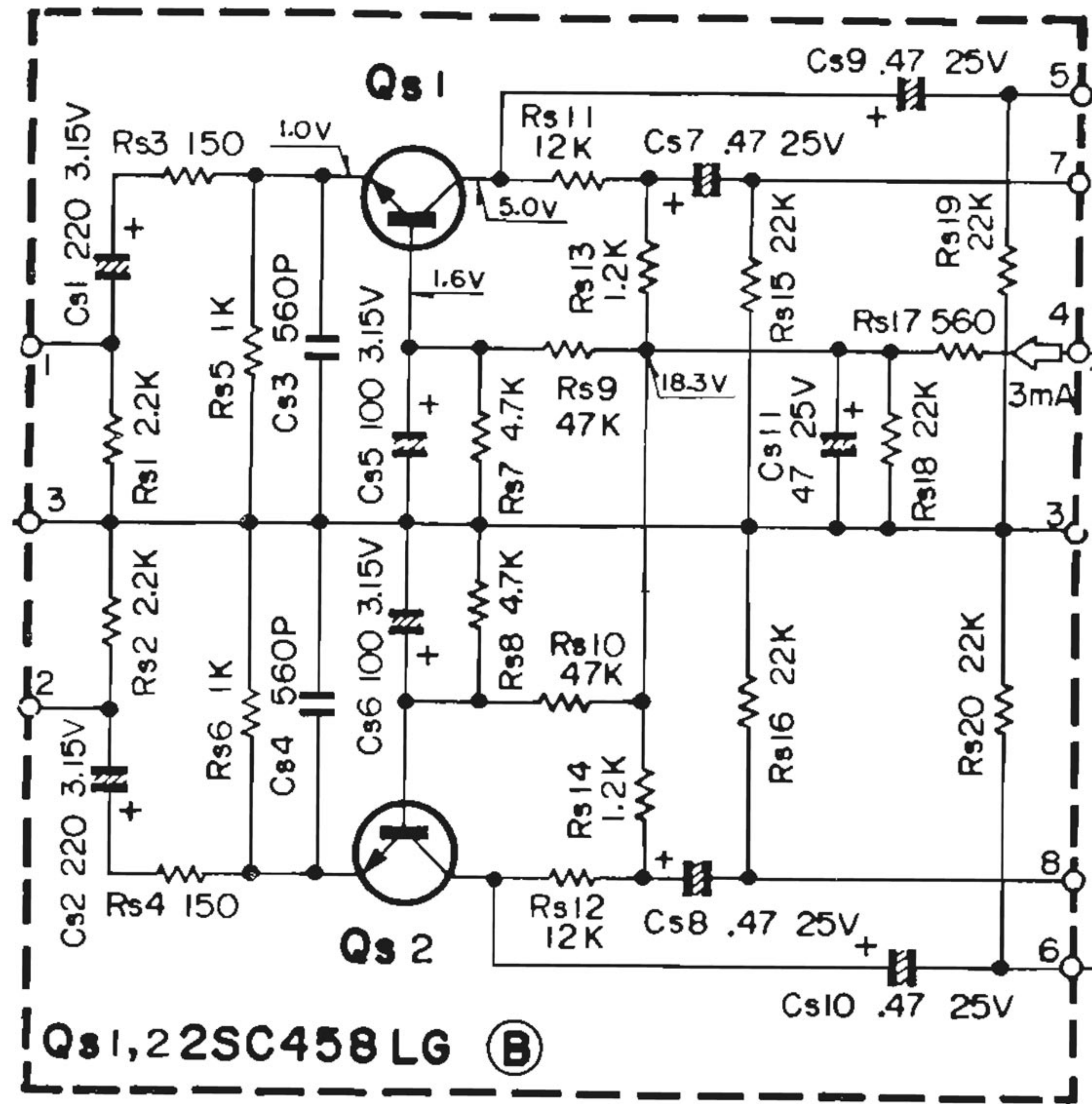
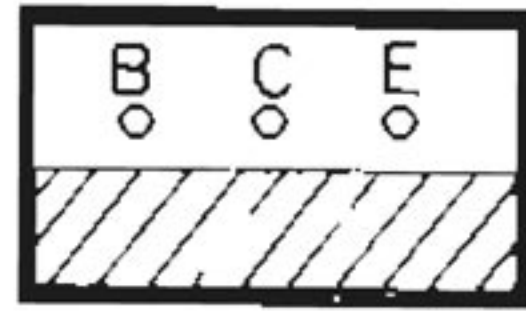
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks	
CAPACITOR							
Cu1	CC94SL1H101K	Ceramic	100pF	±10%			
Cu2	CK94YY1H102M	Ceramic	1000pF	±20%			
Cu3	CA06W1ER47M	Solid aluminum	0.47μF	±20%			
Cu4, 5	CE04W1E4R7	PC electrolytic	4.7μF	25WV			
Cu6	CQ93M1H104M	Mylar	0.1μF	±20%			
Cu7	CE04W1H010	PC electrolytic	1μF	50WV			
RESISTOR							
Ru1, 2	PD14BY471K	Insulated carbon film	470Ω	±10%	1/4W		
Ru3, 4	PD14BY103K	Insulated carbon film	10kΩ	±10%	1/4W		
Ru5, 6	PD14BY223K	Insulated carbon film	22kΩ	±10%	1/4W		
Ru7, 8	PD14BY472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Ru9	PD14BY473K	Insulated carbon film	47kΩ	±10%	1/4W		
Ru10	PD14BY563K	Insulated carbon film	56kΩ	±10%	1/4W		
Ru11	PD14BY223K	Insulated carbon film	22kΩ	±10%	1/4W		
Ru12	PD14BY273K	Insulated carbon film	27kΩ	±10%	1/4W		
Ru13	PD14BY472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Ru14	PD14BY222K	Insulated carbon film	2.2kΩ	±10%	1/4W		
Ru15	PD14BY562K	Insulated carbon film	5.6kΩ	±10%	1/4W		
Ru16	PD14BY103K	Insulated carbon film	10kΩ	±10%	1/4W		
Ru17	PD14BY102K	Insulated carbon film	1kΩ	±10%	1/4W		
Ru18, 19	PD14BY822K	Insulated carbon film	8.2kΩ	±10%	1/4W		
Ru20	PD14BY472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
Ru21	PD14BY471K	Insulated carbon film	470Ω	±10%	1/4W		
Ru22	PD14BY472K	Insulated carbon film	4.7kΩ	±10%	1/4W		
SEMICONDUCTOR							
Qu1		2SC735 (O) or (Y)					
Qu2		2SA562 (O) or (Y)					
Qu3		2SC735 (O) or (Y)					
Qu4		2SA562 (O) or (Y)					
Qu5, 6		2SC735 (O) or (Y)					
Qu7, 8		2SC458 (C) or (D)					
Qu9		2SA495Y					
Qu10		2SC458 (C) or (D)					
Qu11		2SA495Y					
Qu12		2SC1212 (A) or (B)					
Du1, 2		1S555					
Du3 ~9		1N60					
Du10		1S994					
Du11, 12		1N60					
THu1		SDT-1000L					
Cdsu1		P388-W10-380					
MISCELLANEOUS							
—	J25-0059-13	PC board					

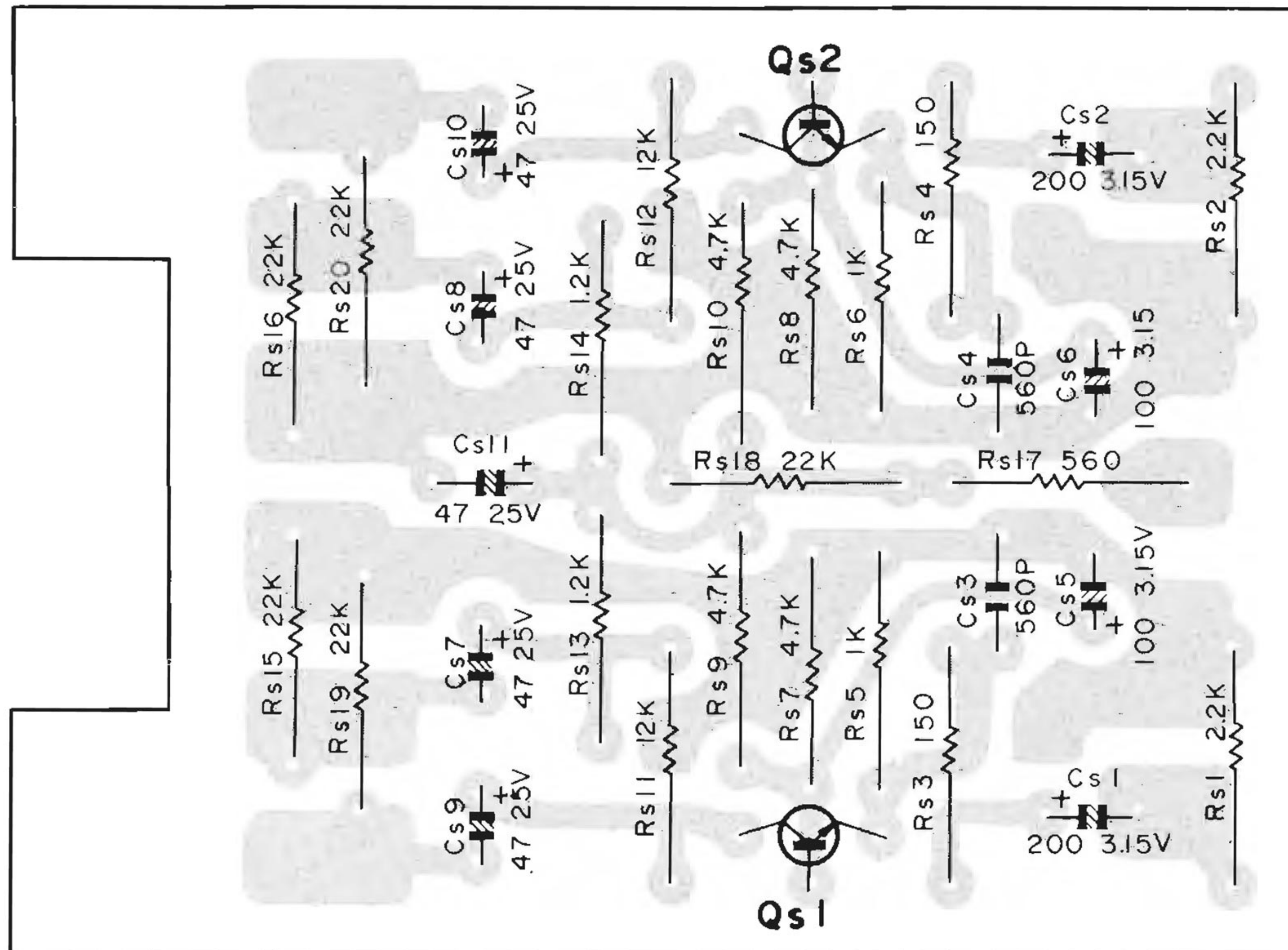
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTORS

2SC458LG (B)



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qs1,2 2SC458LG (B)

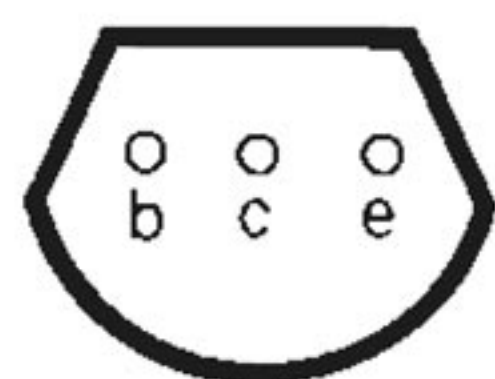
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Cs1, 2	CE04W0F221	PC electrolytic	220μF	3.15WV		
Cs3, 4	CK94YY2H561MZ	Ceramic	560pF	±20%		
Cs5, 6	CE04W0F101	PC electrolytic	100μF	3.15WV		
Cs7 ~ 10	C90-0078-05	Tantalum	0.47μF	±20%		
Cs11	CE04W1E470	PC electrolytic	47μF	25WV		
RESISTOR						
Rs1, 2	PD14BY2E222K	Insulated carbon film	2.2kΩ	±10%	1/4W	
Rs3, 4	PD14BY2E151J	Insulated carbon film	150Ω	±5%	1/4W	
Rs5, 6	PD14BY3E102J	Insulated carbon film	1kΩ	±5%	1/4W	
Rs7, 8	PD14BY2E472J	Insulated carbon film	4.7kΩ	±5%	1/4W	
Rs9, 10	PD14BY2E473J	Insulated carbon film	47kΩ	±5%	1/4W	
Rs11, 12	R92-0018-05	Special insulated carbon film	12kΩ	±5%	1/4W	
Rs13, 14	PD14BY2E122J	Insulated carbon film	1.2kΩ	±5%	1/4W	
Rs15, 16	PD14BY2E223K	Insulated carbon film	22kΩ	±10%	1/4W	
Rs17	PD14BY2E561J	Insulated carbon film	560Ω	±5%	1/4W	
Rs18	PD14BY2E223J	Insulated carbon film	22kΩ	±5%	1/4W	
Rs19, 20	PD14BY2E223K	Insulated carbon film	22kΩ	±10%	1/4W	
SEMICONDUCTOR						
Qs1, 2		2SC458LG (B)				
MISCELLANEOUS						
—	J25-0325-04	PC board				

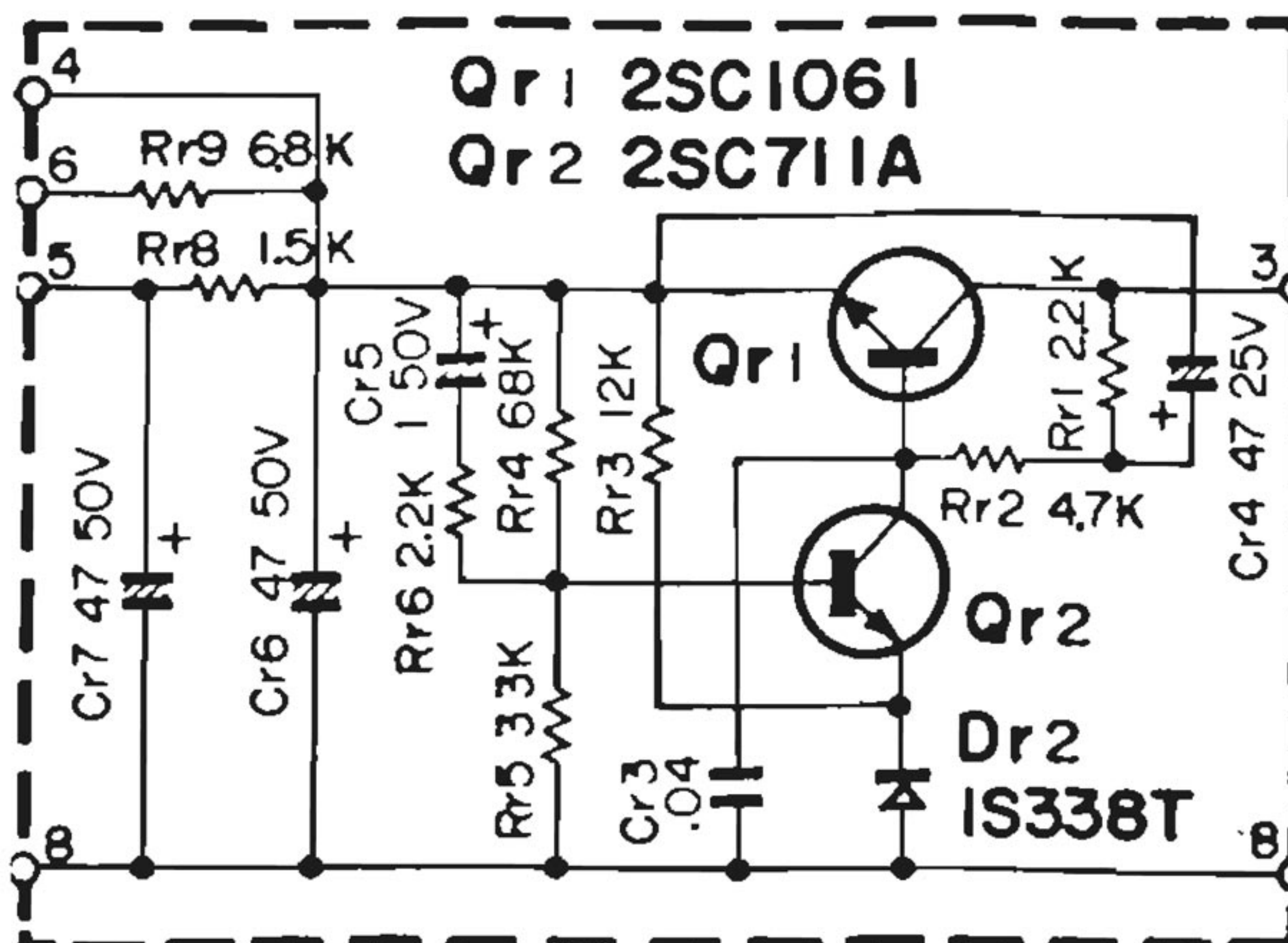
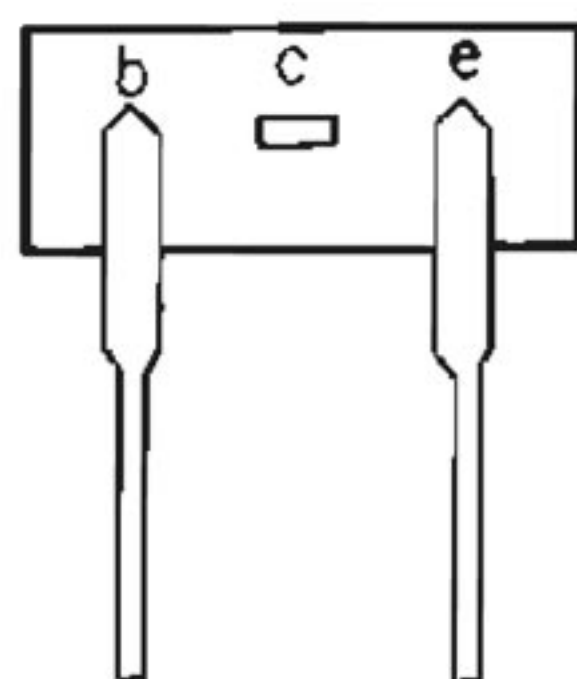
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR

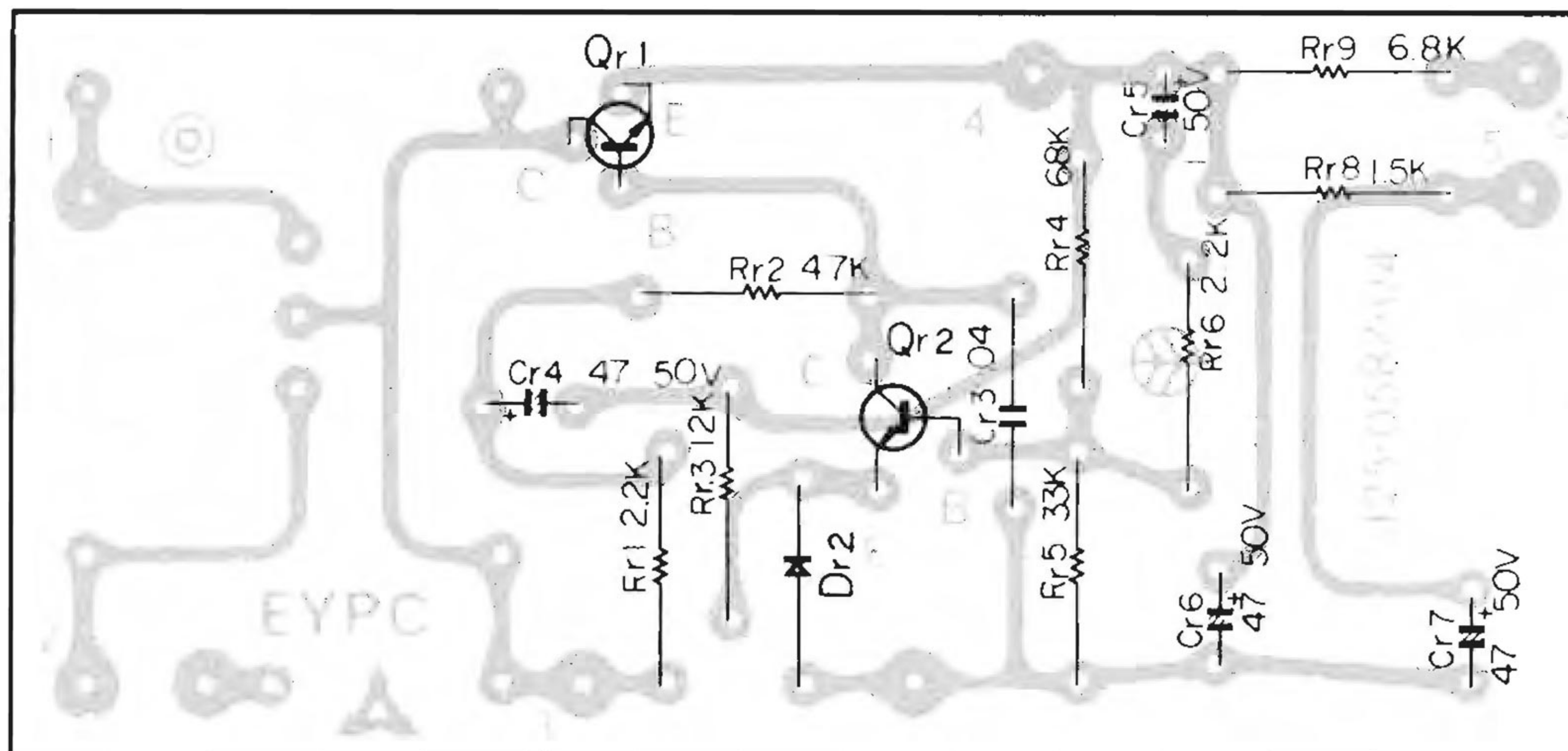
2SC711A



2SC1061



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qr1 2SC1061 Qr2 2SC711A

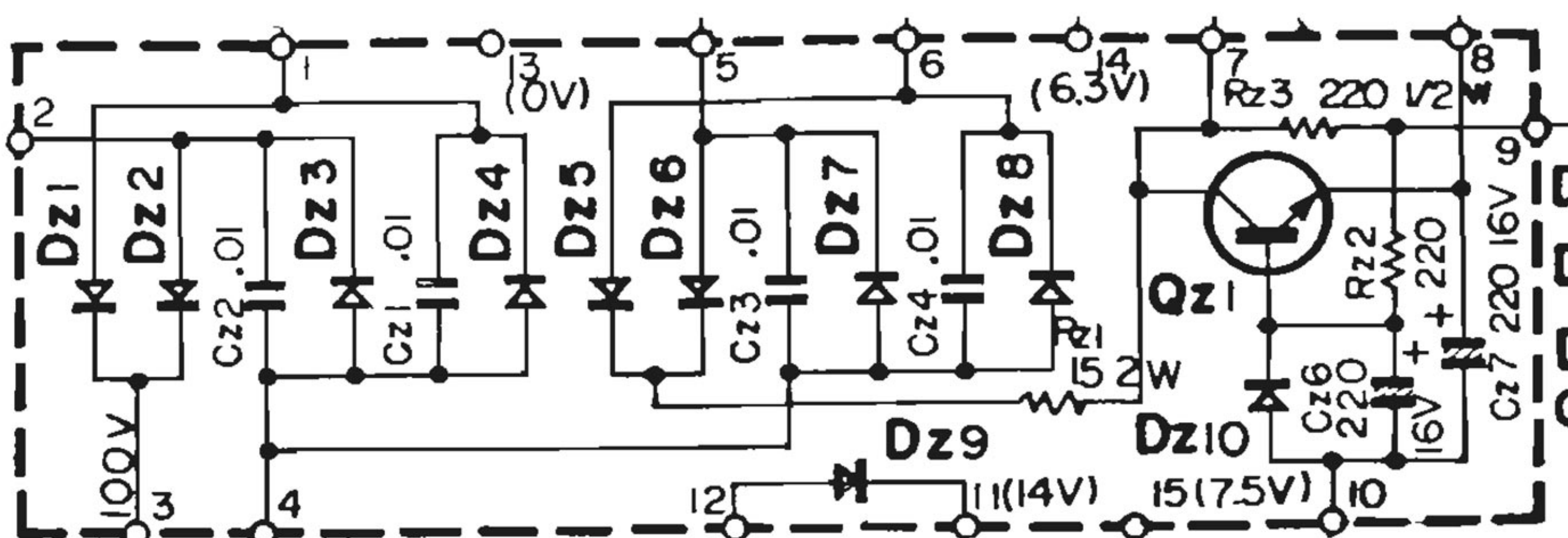
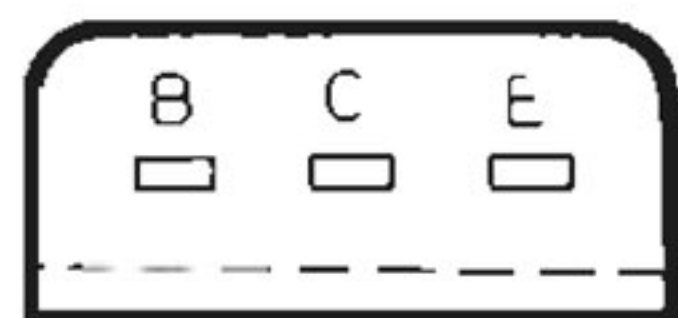
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Cr3	CK94YG1E403Z	Ceramic	0.04μF	+80%, −20%		
Cr4	CE04W1E470	PC electrolytic	47μF	25WV		
Cr5	CE04W1H010	PC electrolytic	1μF	50WV		
Cr6, 7	CE04W1H470	PC electrolytic	47μF	50WV		
RESISTOR						
Rr1	PD14BY2E222J	Insulated carbon film	2.2kΩ	±5%	1/4W	
Rr2	PD14BY2E472J	Insulated carbon film	4.7kΩ	±5%	1/4W	
Rr3	PD14BY2E123J	Insulated carbon film	12kΩ	±5%	1/4W	
Rr4	PD14BY2E683J	Insulated carbon film	68kΩ	±5%	1/4W	
Rr5	PD14BY2E333J	Insulated carbon film	33kΩ	±5%	1/4W	
Rr6	PD14BY2E222J	Insulated carbon film	2.2kΩ	±5%	1/4W	
Rr8	PD14BY2E152J	Insulated carbon film	1.5kΩ	±5%	1/4W	
Rr9	PD14BY2E682J	Insulated carbon film	6.8kΩ	±5%	1/4W	
SEMICONDUCTOR						
Qr1		2SC1061				
Qr2		2SC711A				
Dr2		1S338T				
MISCELLANEOUS						
—	J25-0587-04	PC board				

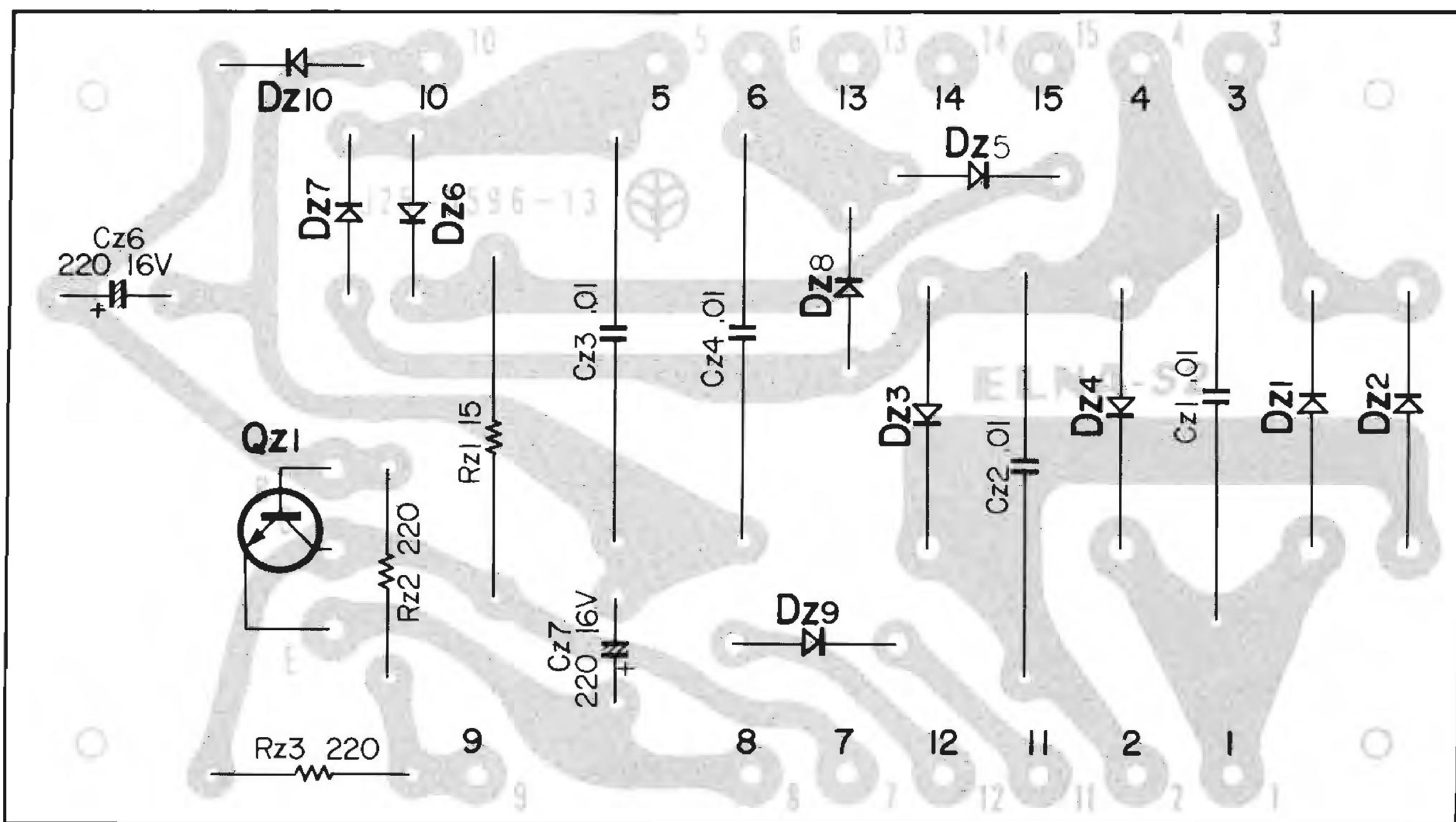
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR

2SD235



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qz1 2SD235, Dz1 ~ 4 U05C, Dz5 ~ 9 RV 1, Dz10 1S338T

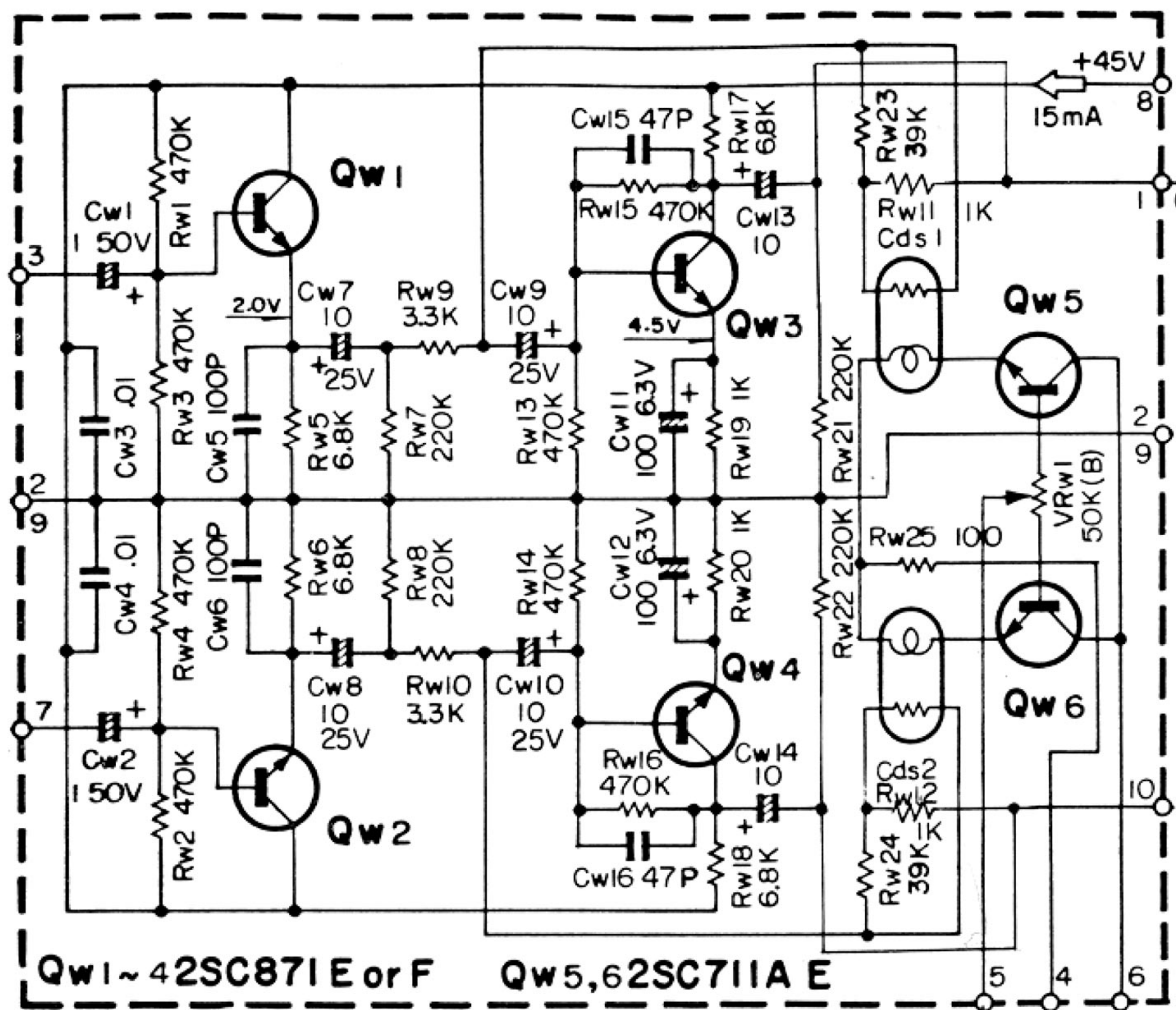
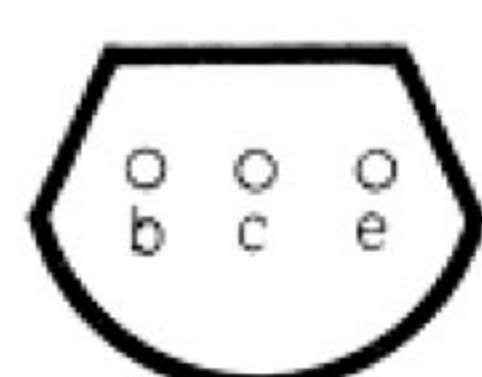
PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Cz1, 2	C90-0036-05	Oil filled	0.01μF	±20%		
Cz3, 4	CP02B2J103M	Oil filled	0.01μF	±20%		
Cz5, 6	CE04W1C221	PC electrolytic	220μF	16WV		
RESISTOR						
Rz1	RW14AG3D150J	Wire wound	15Ω	±5%	2W	
Rz2, 3	RC05GF2H221K	Carbon composition	220Ω	±10%	1/2W	
SEMICONDUCTOR						
Qz1		2SD235				
Dz1 ~ 4		U05C				
Dz5 ~ 9		RV-1				
Dz10		1S338T				
MISCELLANEOUS						
—	J25-0596-03	PC board				

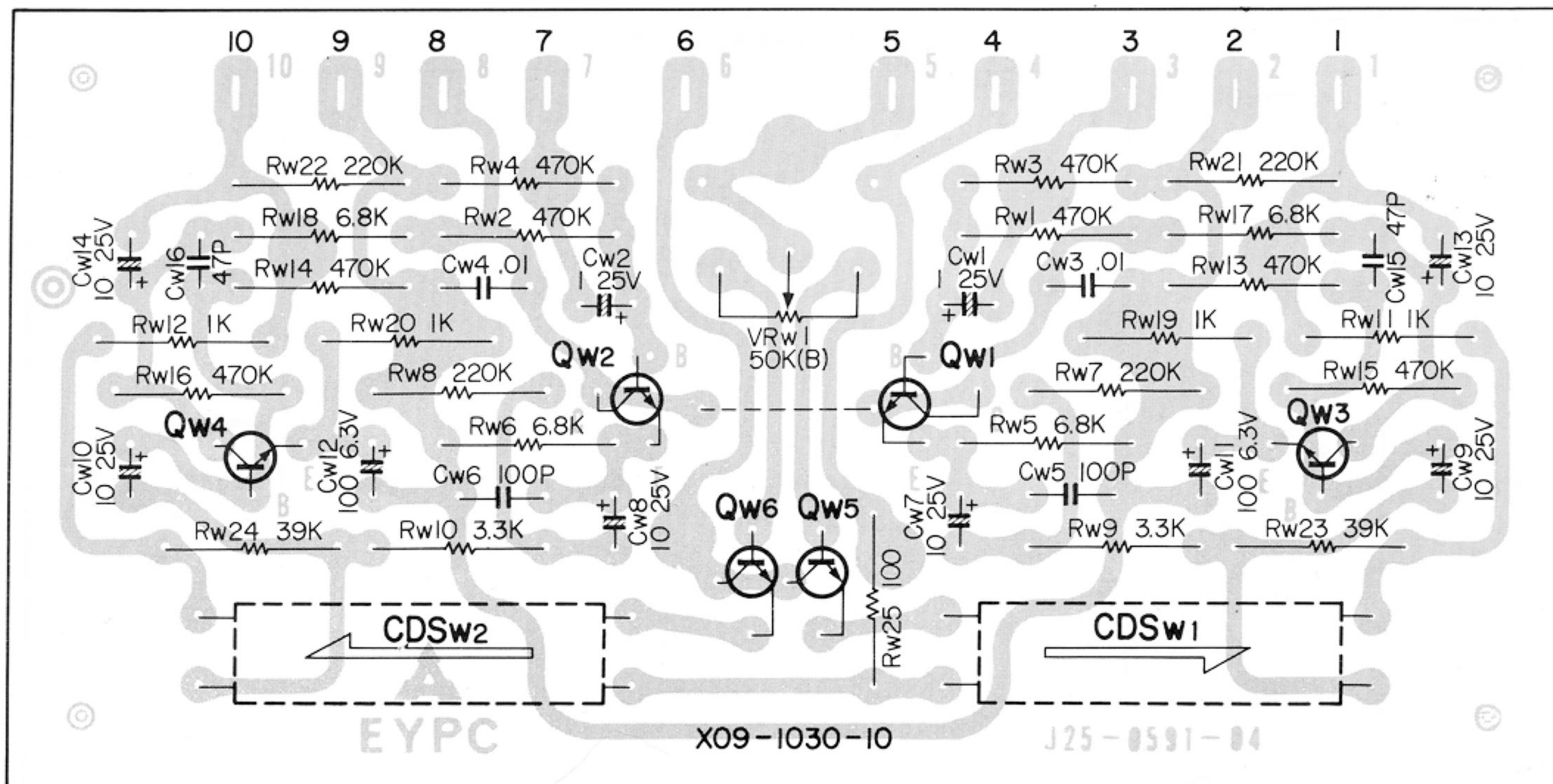
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTOR

2SC711A
2SC871



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qw1 ~ 4:2SC871E or F, Qw5,6:2SC711A(E), CDSw1,2:P388-W10-380

PARTS DESCRIPTION LIST

Circuit No.	Parts No.	Description				Remarks
CAPACITOR						
Cw1, 2	CE04W1H010	PC electrolytic	1μF	50WV		
Cw3, 4	CK94YG1H103Z	Ceramic	0.01μF	+80%, −20%		
Cw5, 6	CC94SL1H101K	Ceramic	100pF	±10%		
Cw7 ~ 10	CE04W1H010	PC electrolytic	1μF	50WV		
Cw11, 12	CE04W0J101	PC electrolytic	100μF	3.15WV		
Cw13, 14	CE04W1E100	PC electrolytic	10μF	25WV		
Cw15, 16	CC94SL1H470K	Ceramic	47pF	±10%		
RESISTOR						
Rw1 ~ 4	PD14BY2E474J	Insulated carbon film	470kΩ	±5%	1/4W	
Rw5, 6	PD14BY2E682J	Insulated carbon film	6.8kΩ	±5%	1/4W	
Rw7, 8	PD14BY2E224J	Insulated carbon film	220kΩ	±5%	1/4W	
Rw9, 10	PD14BY2E332J	Insulated carbon film	3.3kΩ	±5%	1/4W	
Rw11, 12	PD14BY2E102J	Insulated carbon film	1kΩ	±5%	1/4W	
Rw13 ~ 16	PD14BY2E474J	Insulated carbon film	470kΩ	±5%	1/4W	
Rw17, 18	PD14BY2E682J	Insulated carbon film	6.8kΩ	±5%	1/4W	
Rw19, 20	PD14BY2E102J	Insulated carbon film	1kΩ	±5%	1/4W	
Rw21, 22	PD14BY2E224J	Insulated carbon film	220kΩ	±5%	1/4W	
Rw23, 24	PD14BY2E393J	Insulated carbon film	39kΩ	±5%	1/4W	
Rw25	PD14BY2E101J	Insulated carbon film	100Ω	±5%	1/4W	
Rw26	PD14BY2E183J	Insulated carbon film	18kΩ	±5%	1/4W	
SEMICONDUCTOR/POTENTIOMETER						
Qw1 ~ 4		2SC871 (E) or (F)				
Qw5, 6		2SC711A (E)				
CdSw1, 2		P388-W10-380 (A)				
VRw1	R12-4016-05	PC trimmer potentiometer 50kΩ (B)				
MISCELLANEOUS						
—	J25-0591-04	PC board				

COLOR CODE

RESISTOR

COLOR (meaning)	1st (value)	2nd (value)	3rd (multiplier)	4th (tolerance)
Black	0	0	10^0	—
Brown	1	1	10^1	$\pm 1\%$
Red	2	2	10^2	$\pm 2\%$
Orange	3	3	10^3	—
Yellow	4	4	10^4	—
Green	5	5	10^5	—
Blue	6	6	10^6	—
Purple	7	7	10^7	—
Grey	8	8	10^8	—
White	9	9	10^9	—
Golden	—	—	10^{-1}	$\pm 5\%$
Silver	—	—	10^{-2}	$\pm 10\%$
Non-color	—	—	—	$\pm 20\%$

CAPACITOR (MICA)

COLOR (meaning)	1st (grade)	2nd (value)	3rd (value)	4th (multiplier)	5th (tolerance)	6th (characteristic)
Black	X	0	0	10^0	$\pm 20\%$	—
Brown	—	1	1	10^1	$\pm 1\%$	B
Red	Z	2	2	10^2	$\pm 2\%$	C
Orange	—	3	3	10^3	—	D
Yellow	—	4	4	10^4	—	E
Green	—	5	5	—	* $\pm 5\%$	—
Blue	—	6	6	—	—	—
Purple	—	7	7	—	—	—
Grey	Y	8	8	—	—	—
White	—	9	9	0.1	$\pm 10\%$	—

Unit = pF
 * Capacitance being less than 10pF is $\pm 0.5\text{pF}$ on tolerance.

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