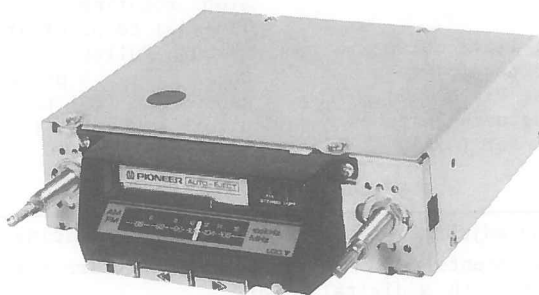




PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



MODEL KP-4000G

SEQUENCE OF OPERATION

PLAY

Pressing a cassette into the unit moves Slide (6A) to cause Rod (28) to slide Lever (22A). Lever (22A) causes Pawl (29) to pivot Assembly (32). Assembly (32), locked by Cam (25) and Spring (26), releases Guide (3) and causes Lever (22B) to pivot Cam (34). Cam (34) causes Spring (35) to move Guide (3), pressing Bushing (2) against Lever (22A).

When the cassette is fully inserted, Lever (22A) releases Bushing (2) to allow Spring (35) to pivot Guide (3). Guide (3) moves Holder (6) and causes Plate (58) to pivot Plate (56), actuating Switches (S1, S2). Holder (6) lowers the cassette onto Spindles (11A, 11B) and causes Stopper (64) to release Arm (53). Arm (53), pivoted by Spring (54), slides Lever (68) to cause Spring (69) to pivot Arm (70A), pressing Shaft (70D) against Spindle (11B).

The motor -- through Pulley (9), Belt (78), Pulley (70B), Clutch (70F) and Shaft (70D) -- drives Spindle (11B).

Arm (53) also slides Plate (51) to move the head into the cassette and allow Spring (40) to press Roller (39) against the capstan.

FAST FORWARD (FROM PLAY)

Pressing the Fast Forward button causes Lever (91A) to move Plate (84A). Plate (84A) slides Lever (20) and pivots Lever (84) to slide Plate (51). Plate (51) moves the head from the tape, Roller (39) from the capstan, and pivots Arm (53). Arm (53) releases Lever (68) to allow Pulley (70B), moved by tension of Belt (78), to pivot Arm (70A). Arm (70A) moves Shaft (70D) from Spindle (11B).

Lever (20) causes Spring (18) to pivot Arm (89). Arm (89) moves Base (90) to press Idler (88B) against Flywheel (77) and Gear (87A) against Spindle (11B).

The motor -- through Pulley (9), Belt (78), Flywheel (77), Idler (88B), Clutch (88F), Gear (88D), Gear (87B) and Gear (87A) -- drives Spindle (11B).

Releasing the Fast Forward button allows Springs (18, 54, 85, 86) to reverse Fast Forward sequence.

REWIND (FROM PLAY)

Pressing the Rewind button causes Lever (91B) to move Plate (84A). Plate (84A) slides Lever (20) and pivots Lever (84) to slide Plate (51). Plate (51) moves the head from the tape, Roller (39) from the capstan, and pivots Arm (53).

Arm (53) releases Lever (68) to allow Pulley (70B), moved by tension of Belt (78), to pivot Arm (70A). Arm (70A) moves Shaft (70D) from Spindle (11B).

Lever (20) causes Spring (18) to pivot Arm (89). Arm (89) moves Base (90) to press Idler (88B) against Flywheel (77) and Gear (87B) against Spindle (11A).

The motor -- through Pulley (9), Belt (78), Flywheel (77), Idler (88B), Clutch (88F), Gear (88D) and Gear (87B) -- drives Spindle (11B).

Releasing the Rewind button allows Springs (18, 54, 85, 86) to reverse Rewind sequence.

STOP/EJECT

Pressing the Stop/Eject button causes Lever (91C) to pivot Actuator (95). Actuator (95) causes Link (94) to pivot Cam (25), releasing Assembly (32). Spring (31) causes Lever (22B) to release Cam (34) and pivot Assembly (32).

PIONEER MODELS KP-4000G, ZE

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6AL926

Assembly (32) pivots Arm (53), locked by Stopper (64) and Spring (66), to slide Plate (51) and release Lever (68). Lever (68) allows Spring (69) to release Arm (70A). Tension of Belt (78) causes Pulley (70B) to pivot Arm (70A), moving Shaft (70D) from Spindle (11B). Plate (51) moves the head and Roller (39) from the cassette.

Cam (34), pivoted by Spring (33), lifts Guide (3) to move Bushing (2), cause Holder (6) to raise the cassette, and to release Plate (58). Plate (58) allows Plate (56) to actuate Switches (S1, S2). Bushing (2) releases Lever (22A),

moved by Spring (27), to cause Rod (28) to move Slide (6A), ejecting the cassette.

AUTO-STOP

At the end of the tape, when Spindle (11A) stops rotating, increased tape tension causes Tip (45) to pivot Arm (49). The motor -- through Pulley (9) and Belt (78) -- drives Flywheel (77). A projection on Flywheel (77) causes Arm (49) to slide Arm (74). Arm (74) pivots Link (75) to move Cam (25) initiating Stop sequence.

ADJUSTMENTS

IMPORTANT: Before making any adjustments, refer to "General Servicing Information" on page 4.

1. All voltage measurements referred to in this chart are made at a tape speed of 1 7/8 ips with a digital meter.
2. All torque measurements are made at a tape speed of 1 7/8 ips with a spring scale applied to a point 1 inch from spindle center.
3. All pressure measurements are made by using a spring scale to determine that point at which pressure is just removed.

ADJUST	REMARKS
Switch Actuator	Loosen screw holding Plate (56) to Plate (58). Insert a cassette and hold Plate (56) firmly against Switches (S1, S2). Position Plate (58) for 1/32 inch clearance between Plate (58) and Guide (3). Tighten the screw.
Play Take-up Torque	Nominal value 3/4 oz. No adjustment provided.
Fast Forward Torque	Nominal value 1 1/4 oz. No adjustment provided.
Rewind Torque	Nominal value 1 1/4 oz. No adjustment provided.
Pressure Roller Pressure	Nominal value 16 oz. No adjustment provided.
Record/Play Head Azimuth	Connect AC meter across speaker, play an azimuth-test tape and adjust B1 for maximum output.
Auto-stop Sensor Tip Pressure	Nominal value 1 oz. Adjust by moving Spring (72) from hole to hole.

TROUBLE CHART

IMPORTANT: Before consulting this chart, refer to "General Servicing Information" on page 4.

SYMPTOM	REMARKS
Take-up erratic or inoperative in Play	Spindle (11B) dirty, worn or binding. Shaft (70D) dirty, worn or binding. Clutch (70F) dirty or worn. Pulley (70B) dirty, worn or binding. Spring (69, 70C) weak or out of place.
Take-up erratic or inoperative in Fast Forward	Spindle (11B) dirty, worn or binding. Idler (88B) dirty, worn or binding. Gear (87A, 87B, 88D) worn or binding. Spring (18, 88C) weak or out of place. Lever (20) binding.
Rewind erratic or inoperative	Spindle (11A) dirty, worn or binding. Idler (88B) dirty, worn or binding. Gear (87A, 87B, 88D) worn or binding. Spring (18, 88C) weak or out of place. Lever (20) binding.
Capstan does not rotate	Belt (78) dirty, worn or broken. Flywheel binding. Motor defective or not supplied with power.

TROUBLE CHART (Continued)

IMPORTANT: Before consulting this chart, refer to "General Servicing Information" on page 4.

SYMPTOM	REMARKS
Tape rides up and down between capstan and pressure roller.	Capstan bent. Roller (39) worn. Excessive take-up torque.
Wow or flutter	Roller (39) dirty or worn. Belt (78) dirty or worn. Bearing (76) binding. Cassette defective. Motor defective. Excessive take-up torque.
Auto-stop erratic or inoperative.	Tip (45) worn or out of place. Arm (49) binding. Plate (71) binding or worn. Flywheel worn. Spring (72) weak or out of place. Assembly (32) worn. Cam (25) worn.

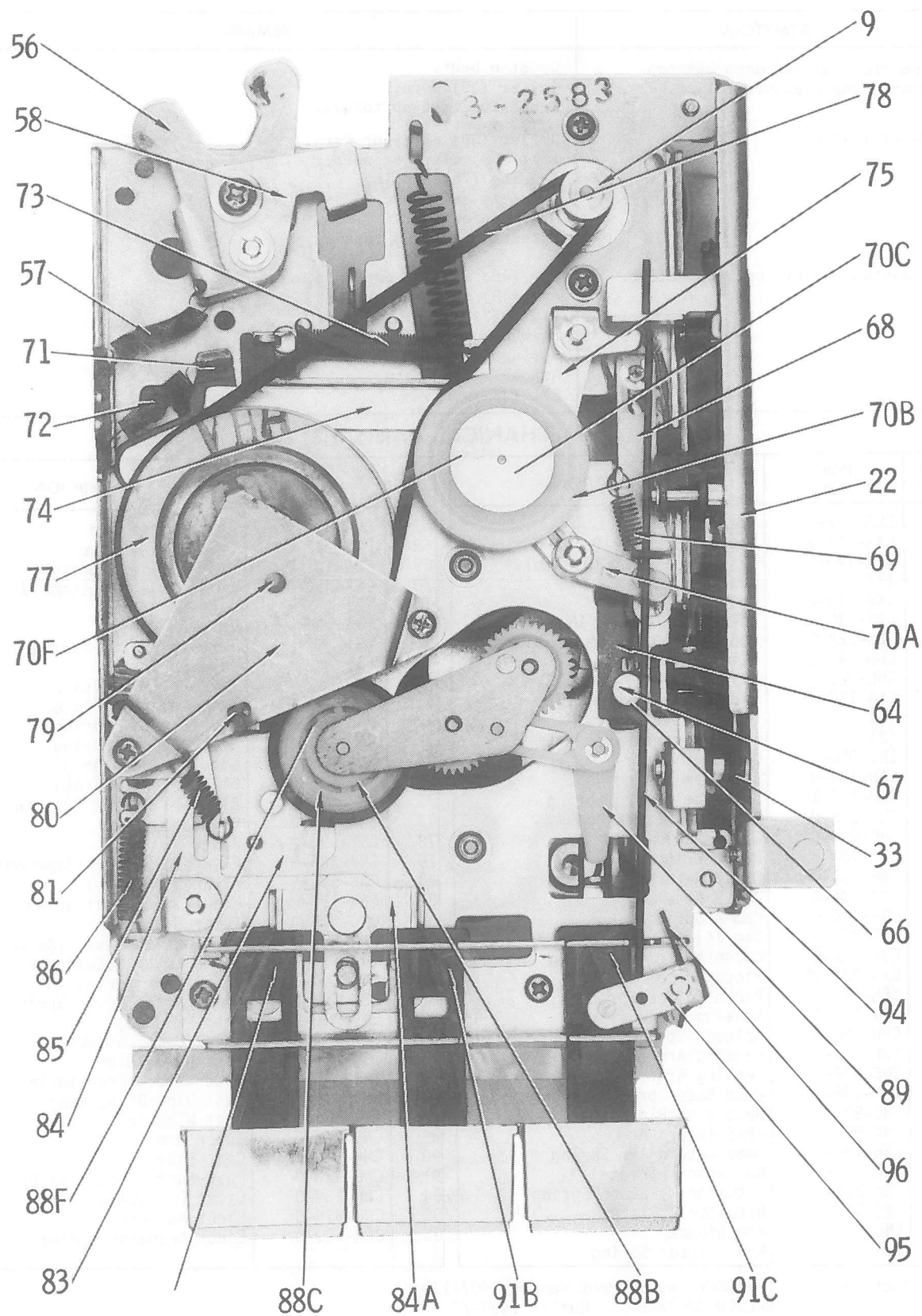
MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
2	CLA-327-0	Bushing	67	CLA-311-0	Arm Stopper Rod
3	CXA-741-0	Cassette Holder Guide	68	CNC-927-0	Drive Idler Lever
6	CXA-740-0	Cassette Holder (Assembly)	69	CBH-181-0	Drive Pulley Spring
6A	(1)	Cassette Slide	70	CXA-732-0	Drive Pulley (Assembly)
9	CXA-743-0	Motor Pulley	70A	(3)	Take-up Arm
11	CXA-730-0	Reel (Spindle) (2 Used)	70B	(3)	Take-up Pulley
13	CBH-222-0	Supply Spindle Drag Spring	70C	(3)	Take-up Clutch Spring
18	CBH-191-0	Slide Lever Spring	70D	(3)	Take-up Shaft
20	CNC-922-A	Slide Lever	70F	(3)	Take-up Felt Clutch
22	CXA-737-A	Side Frame (Assembly)	71	CNC-917-0	Stop Lever 1 (Plate)
22A	(2)	Cam B Drive Lever	72	CBH-189-0	Stop Lever 1 Spring
22B	(2)	Cam B Return Lever	73	CBH-190-0	Stop Lever 2 Spring
25	CNC-910-0	Lock Cam	74	CNC-918-0	Stop Lever 2 (Arm)
26	CBH-186-0	Lock Cam Spring	75	CNC-919-0	Stop Lever 3 (Link)
27	CBH-187-A	Cassette Return Spring	76	CNR-035-A	Flywheel Holder (Bearing)
28	CLA-325-0	Cassette Return Rod	77	CNR-034-0	Flywheel
29	CNC-909-0	Cam B Pawl	78	CNT-036-0	Belt
30	CBH-183-0	Pawl Spring	79	CNV-266-0	Flywheel Spacer (Bearing)
31	CBH-185-0	Cam B Return Lever Spring	80	CNC-930-0	Flywheel Bracket
32	CXA-736-0	Cam B Assembly	81	CBH-197-0	Head Plate Position Spring
33	CBH-184-0	Cam A Spring	83	CNC-926-0	Idler Gear Lever
34	CXA-735-0	Cam (A)	84	CXA-733-0	Combination Lever (Assembly)
35	CBH-212-0	Cassette Holder Spring	84A	(4)	Slide Lever Actuator Plate
39*	CXA-731-0*	Pinch Roller*	85	CBH-196-0	Idler Gear Spring
40	CBH-179-0	Pinch Roller Spring	86	CBH-182-0	Combination Lever Spring
45	CNV-265-0	Sensing Piece (Tip)	87	CNV-260-0	Gear (2 Used)
47	CBH-198-0	Azimuth Spring	88	CXA-742-0	Idler Gear (Assembly)
48	CBH-193-0	Sensing Arm Spring	88B	(5)	Fast Wind Idler
49	CNC-924-0	Sensing Arm	88C	(5)	Fast Wind Clutch Spring
50	CBH-195-0	Head Base Spring	88D	(5)	Fast Wind Drive Gear
51	CNC-928-0	Head Base Plate	88F	(5)	Fast Wind Felt Clutch
53	CNC-925-0	Head Return Arm	89	CNV-264-0	Idler Arm
54	CBH-194-0	Head Return Arm Spring	90	CNC-916-0	Gear Base
56	CNC-932-0	Actuator 1 (Plate)	91	CNC-920-0	Push-button Lever (3 Used)
57	CBH-211-0	Actuator 1 Return Spring	94	CBH-209-0	Eject Pin (Link)
58	CNC-967-0	Actuator 2 Plate	95	CNC-929-0	Eject Actuator
64	CNC-931-0	Arm Stopper	96	CBH-199-0	Eject Actuator Spring
66	CBH-200-0	Arm Stopper Spring			

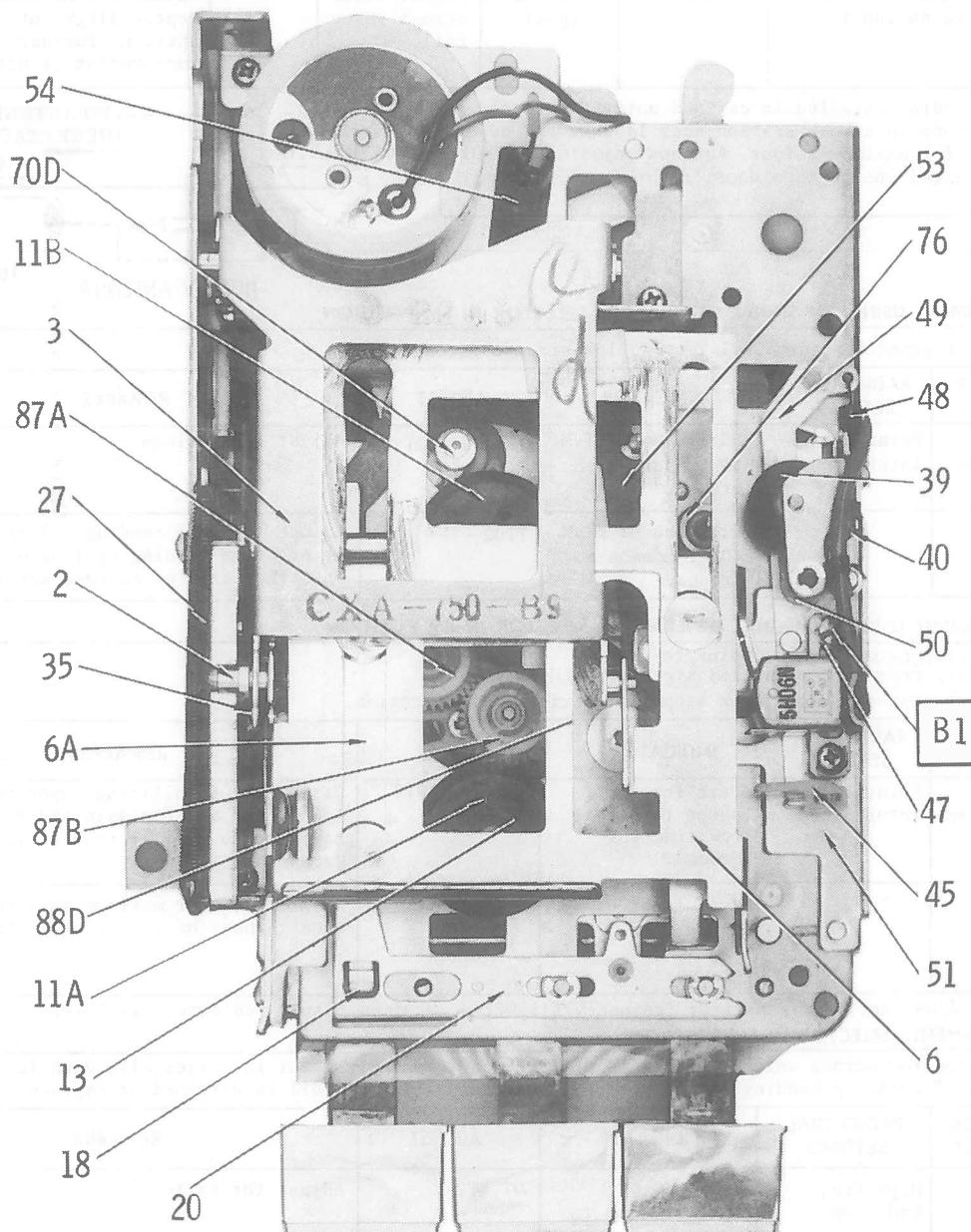
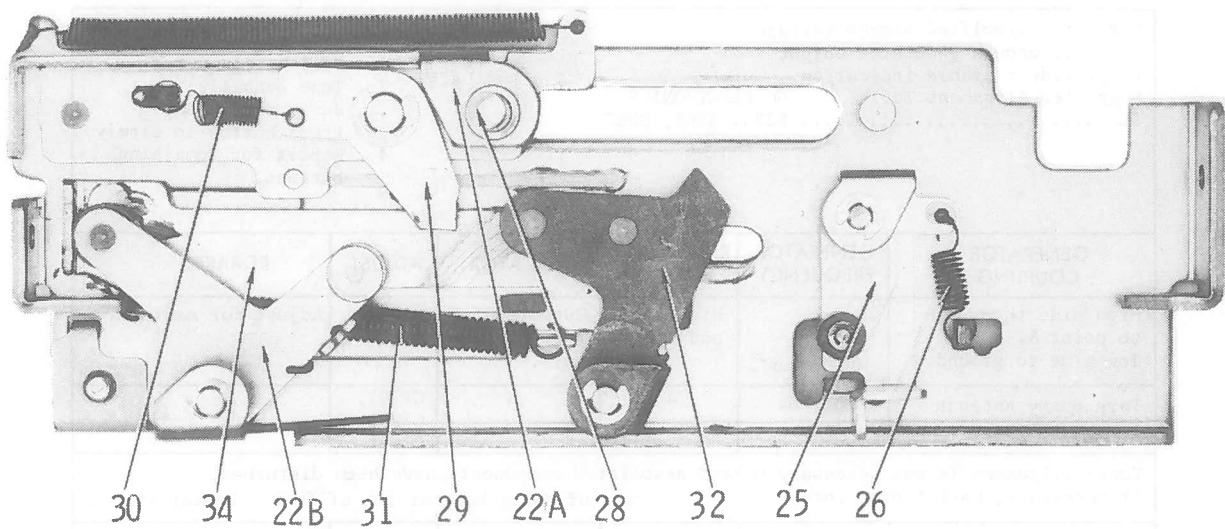
* Pinch Roller - E-V/GAME Replacement Number 1407-179.
WALSCO Replacement Number 1499-70.

- (1) Part of Assembly (6).
- (2) Part of Assembly (22).
- (3) Part of Assembly (70).
- (4) Part of Assembly (84).
- (5) Part of Assembly (88).

PIONEER MODELS KP-4000G,ZE



TAPE DECK-BOTTOM VIEW



TAPE DECK-TOP & END VIEWS

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

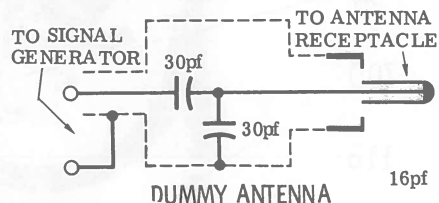
Suggested Alignment Tools: GC ELECTRONICS
ALL 8290, 8868, 9087

PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to point A, low side to ground.	400-Hz mod.	High freq. end stop.	Output meter across voice coil.	T202	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	CT202, CT201, CT601	"
Tuner alignment is not necessary unless associated components have been disturbed. If necessary, back tuning cores out of coils but not out of forms. Repeat step 2.					
Thru dummy antenna to antenna input.	600kHz	Tune to signal	Output meter across voice coil.	T201	Adjust for maximum. Repeat alignment until no further improvement is noted.

With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust CT601 for maximum output. Antenna adjustment CT601 is located inside tape door, right front corner.



FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

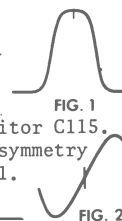
High side of generator thru .001uF to A, low side to ground.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to B, common to ground.	(1) T101, IFT	Adjust for maximum.
"	"	DC probe of VTVM to C, common to ground.	T102	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001uF to A.
Use 60-hertz, frequency-modulated signal, 450kHz sweep.
Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to B, low side to ground.	(1) T101, IFT	Disconnect stabilizing capacitor C115. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C115.
"	"	Vert input of scope to C, low side to ground.	T102	Adjust T102 for maximum amplitude and straightness of line similar to Fig. 2.



(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

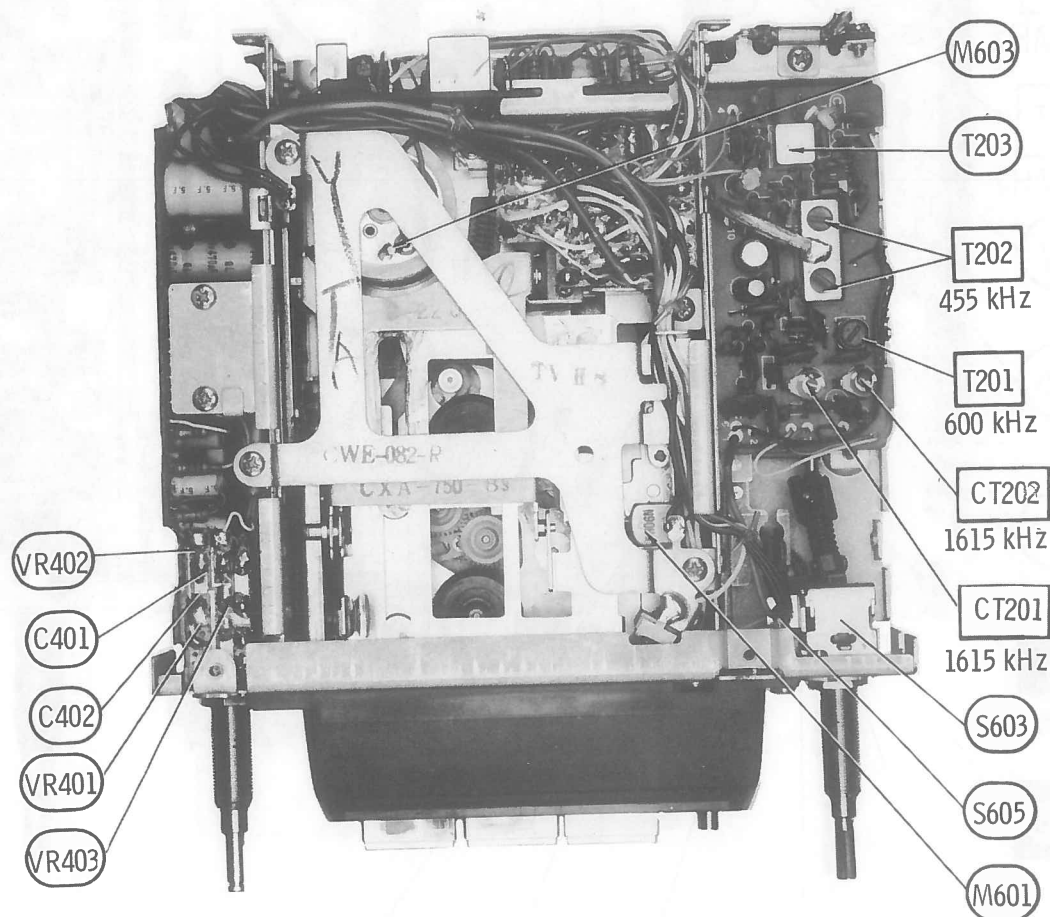
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Unmodulated	High freq End stop	DC probe of VTVM to B, common to ground.	OT, RT, AT	Adjust for maximum.
Unmodulated		"		Adjust for maximum. Repeat FM RF steps until no further improvement is noted.

ALIGNMENT INSTRUCTIONS (Continued)

FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ($\pm .0001\%$ ACCURACY)

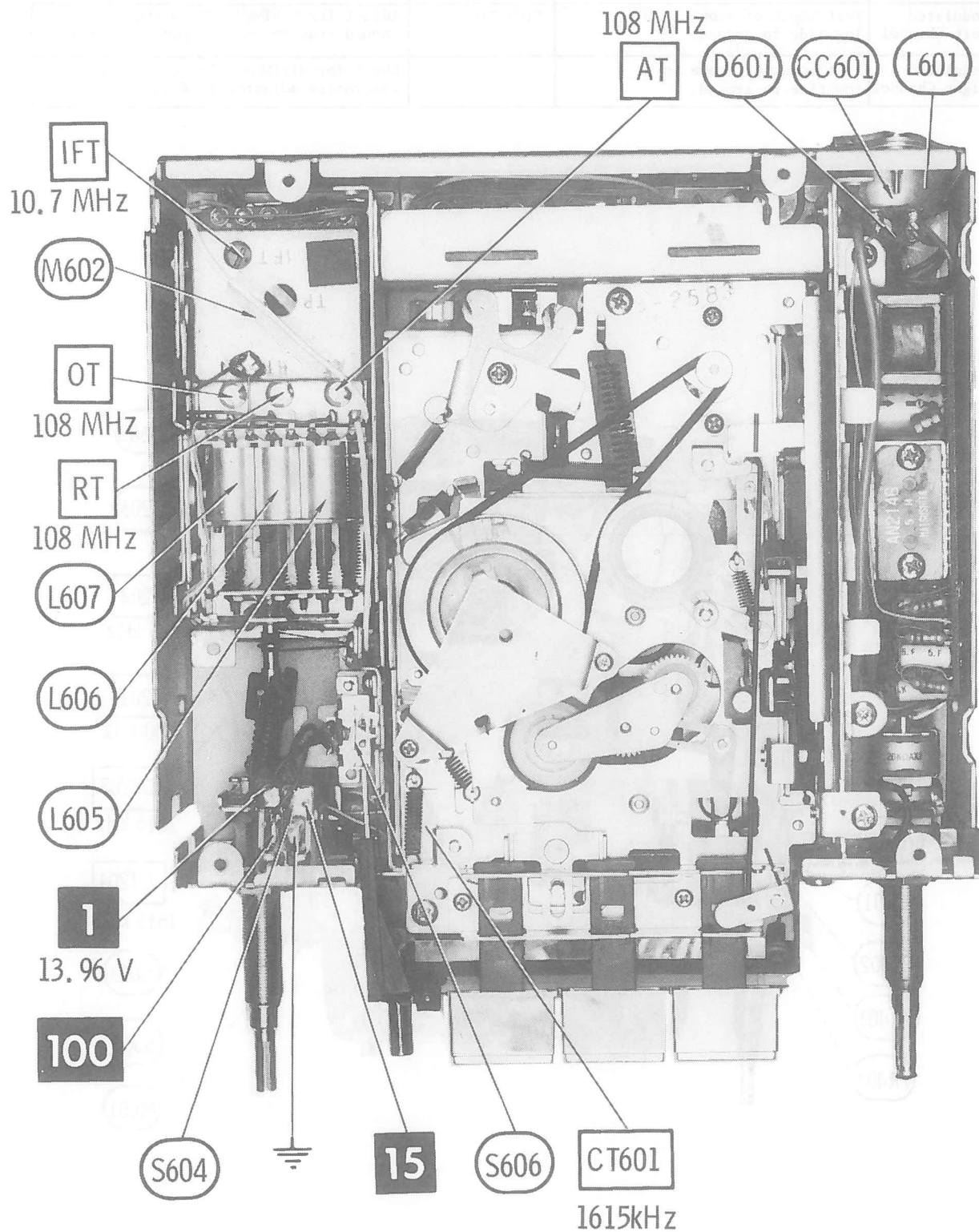
High side of generator thru 47K to A, low side to ground.

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
Modulated Left Channel	Vert input of scope to D, low side to ground.	T103, T104	Adjust for MINIMUM. This step should require only slight adjustment.
Modulated Right Channel	Vert input of scope to E, low side to ground.		Check for MINIMUM. If necessary, make compromise adjustment of T103, T104.

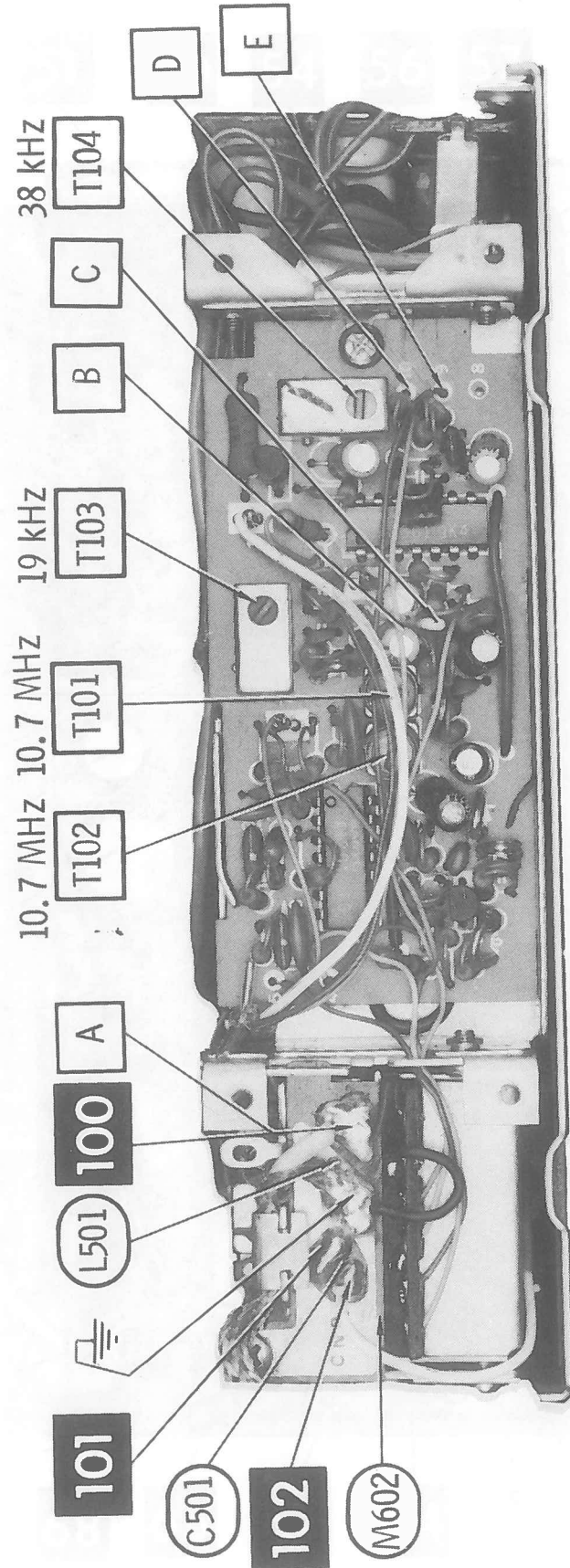


PIONEER MODELS KP-4000G, ZE

CHASSIS-TOP VIEW

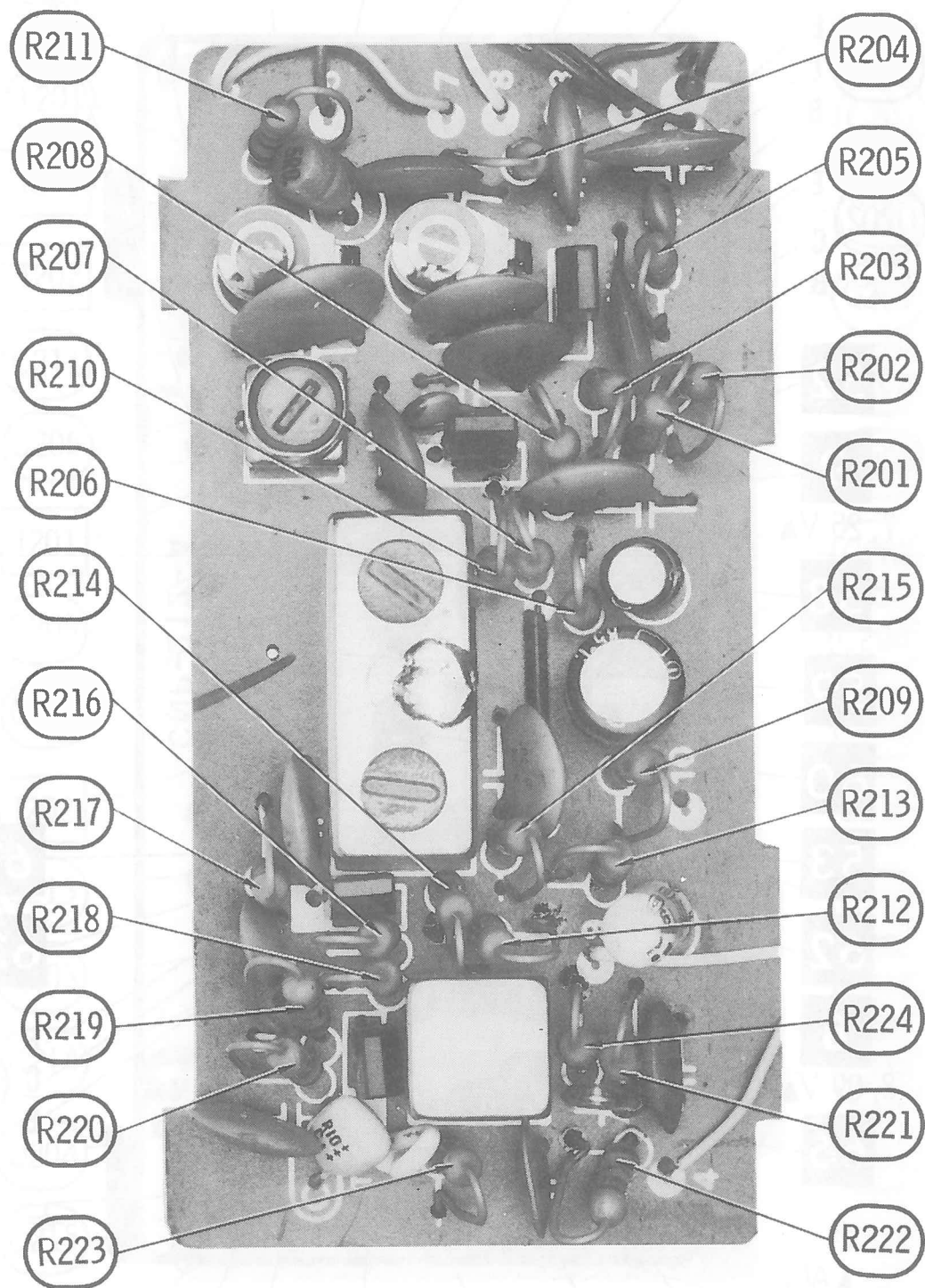


CHASSIS-BOTTOM VIEW

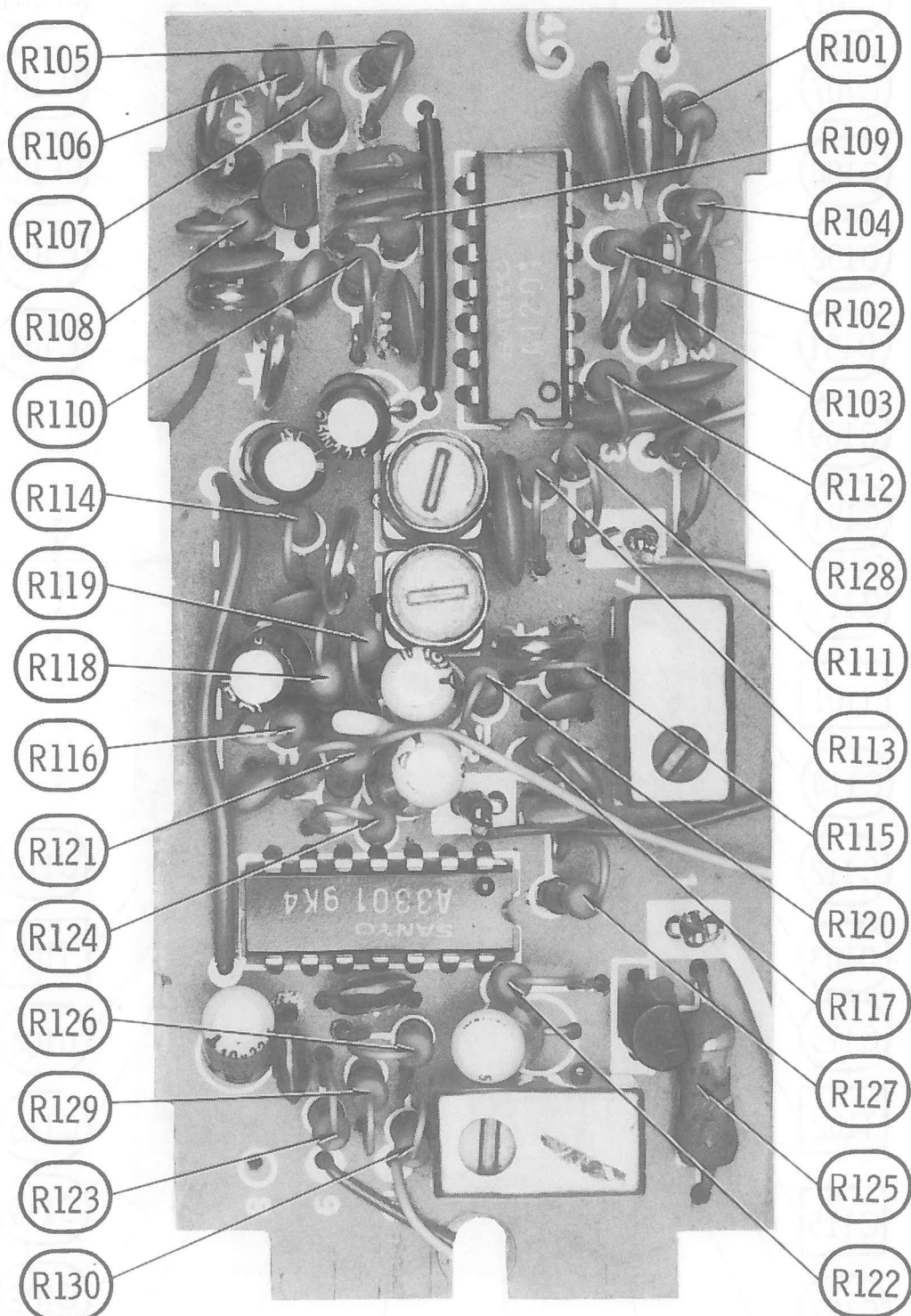


PIONEER MODELS KP-4000G.ZE

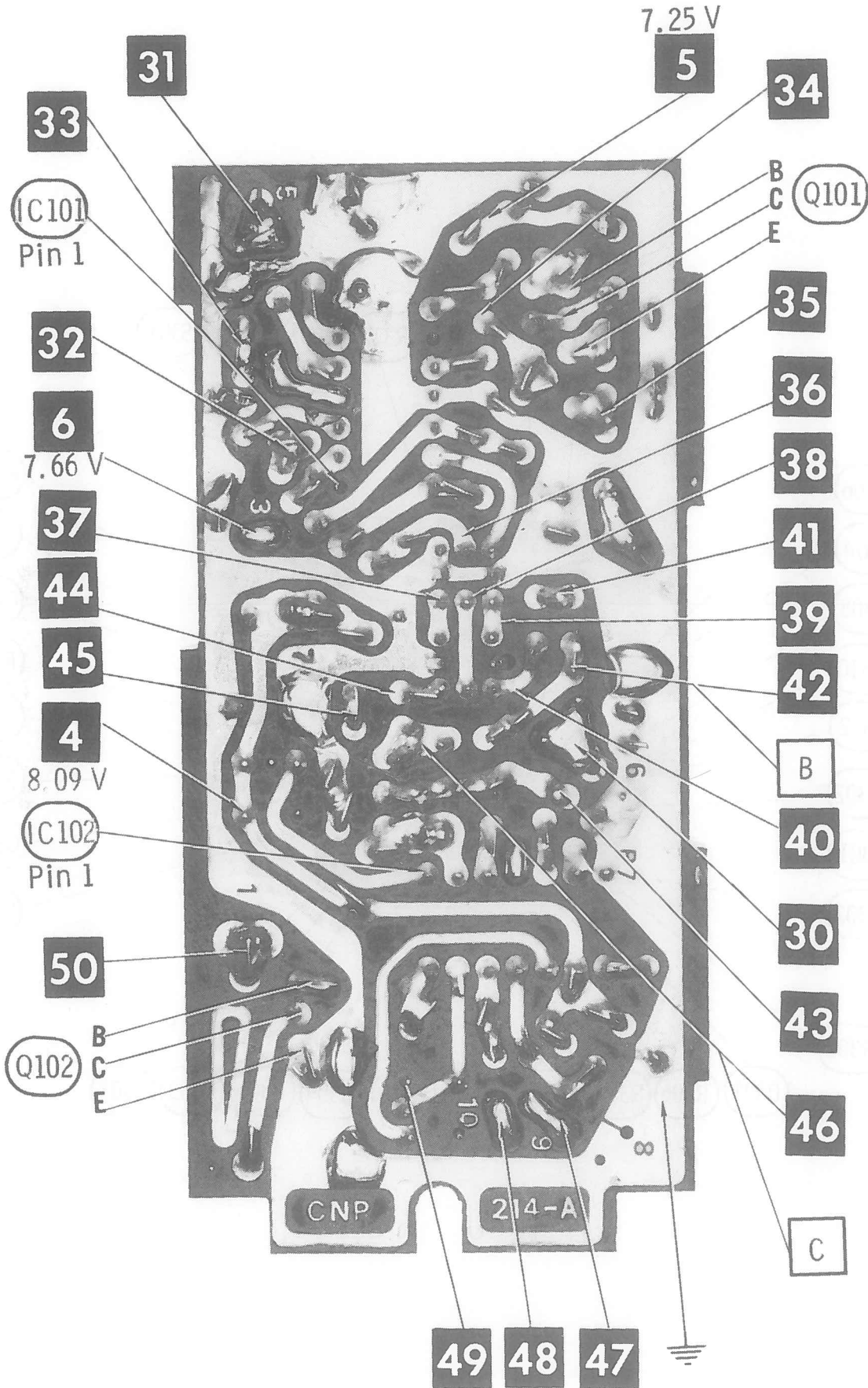
CHASSIS-REAR VIEW



AM BOARD

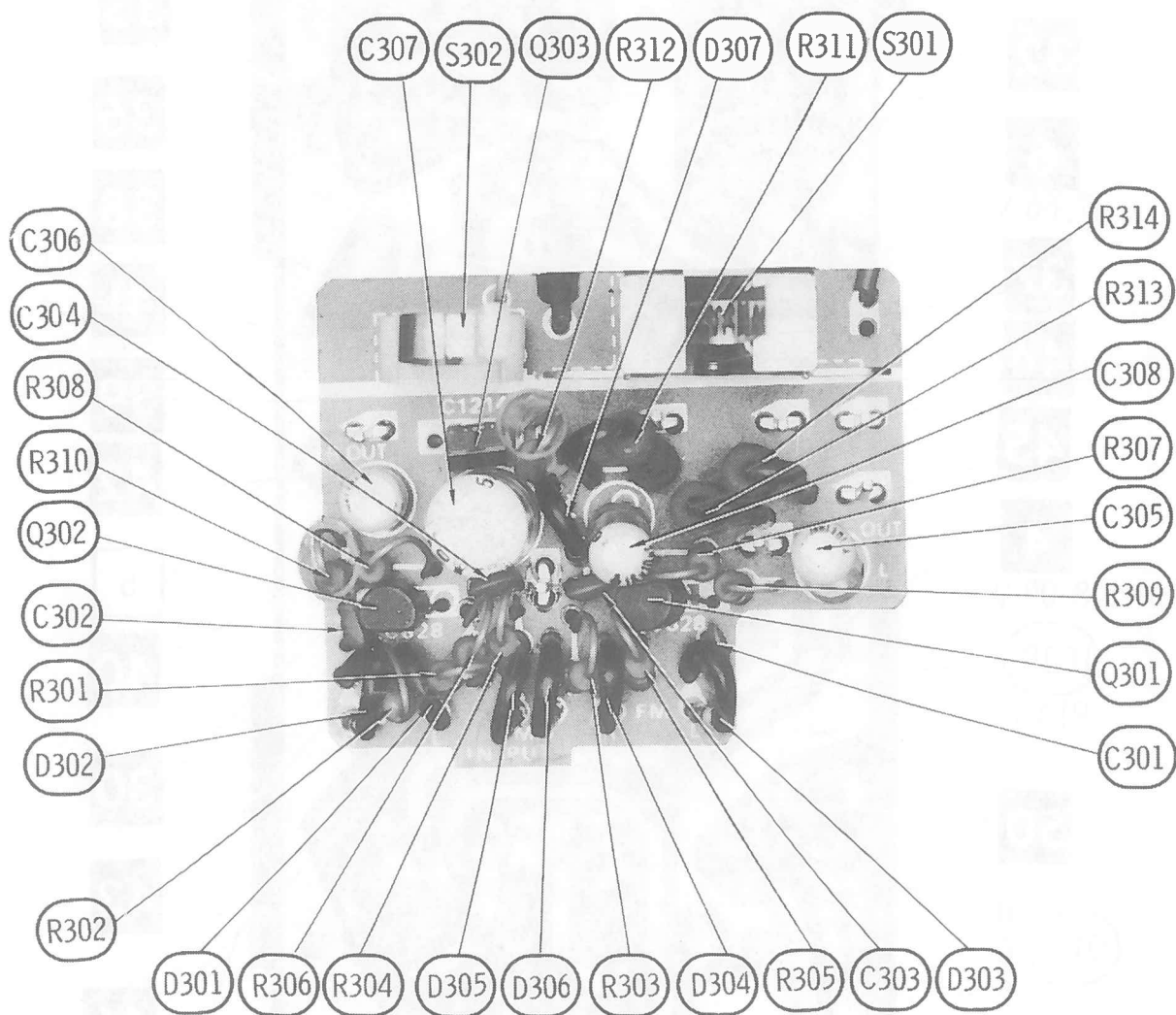


FM BOARD

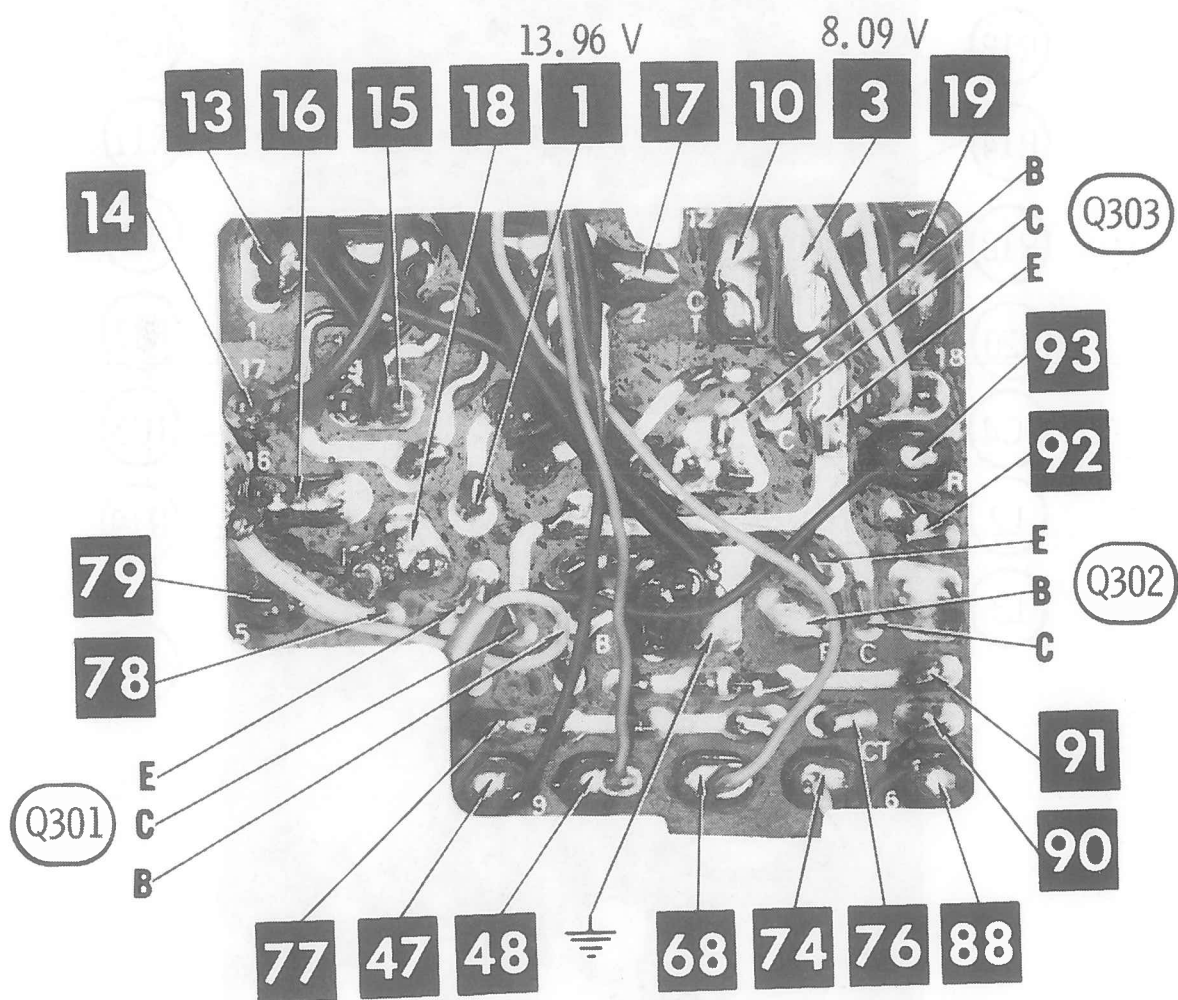


PIONEER MODELS KP-4000G,ZE

FM BOARD

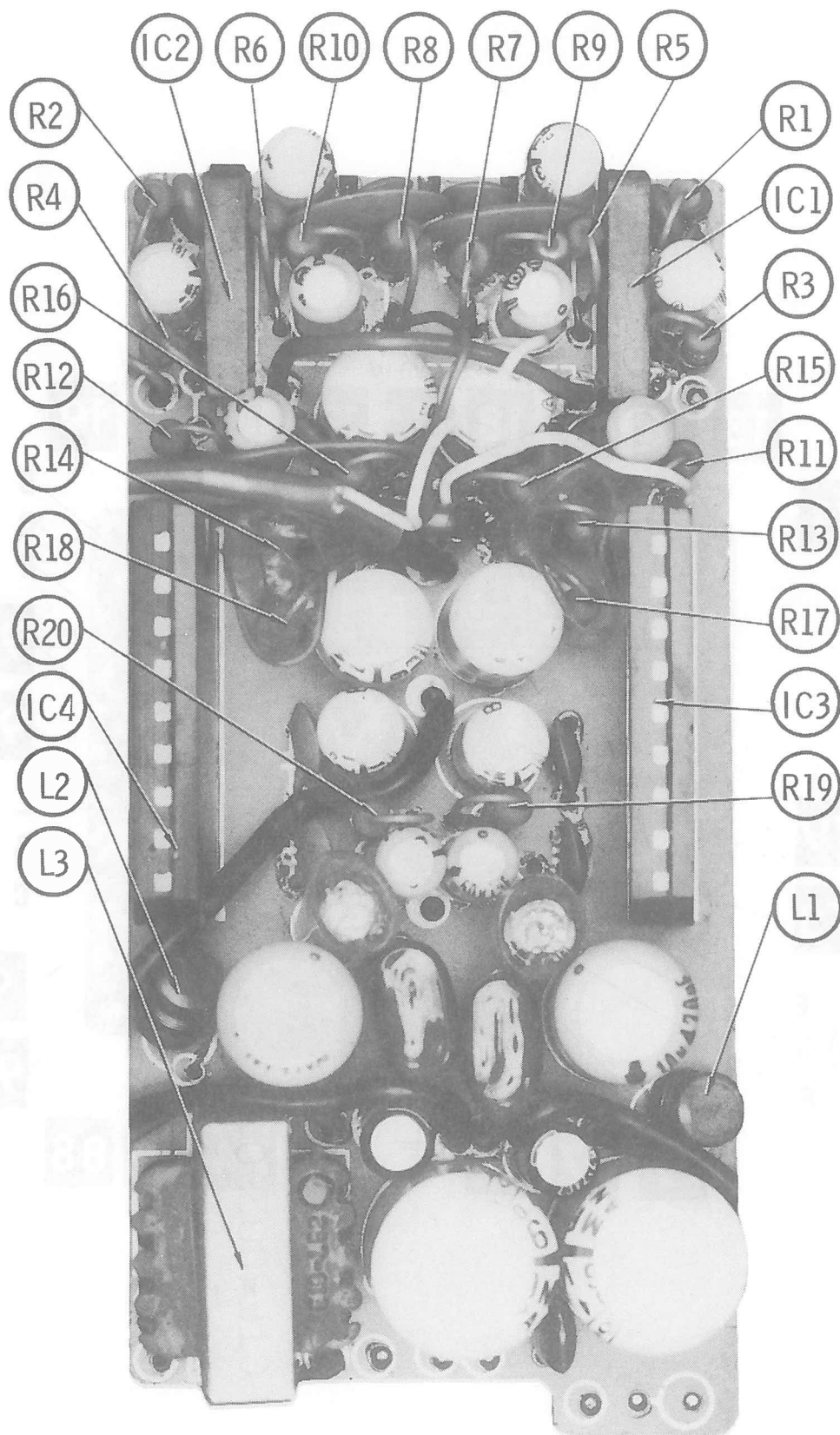


SWITCH BOARD

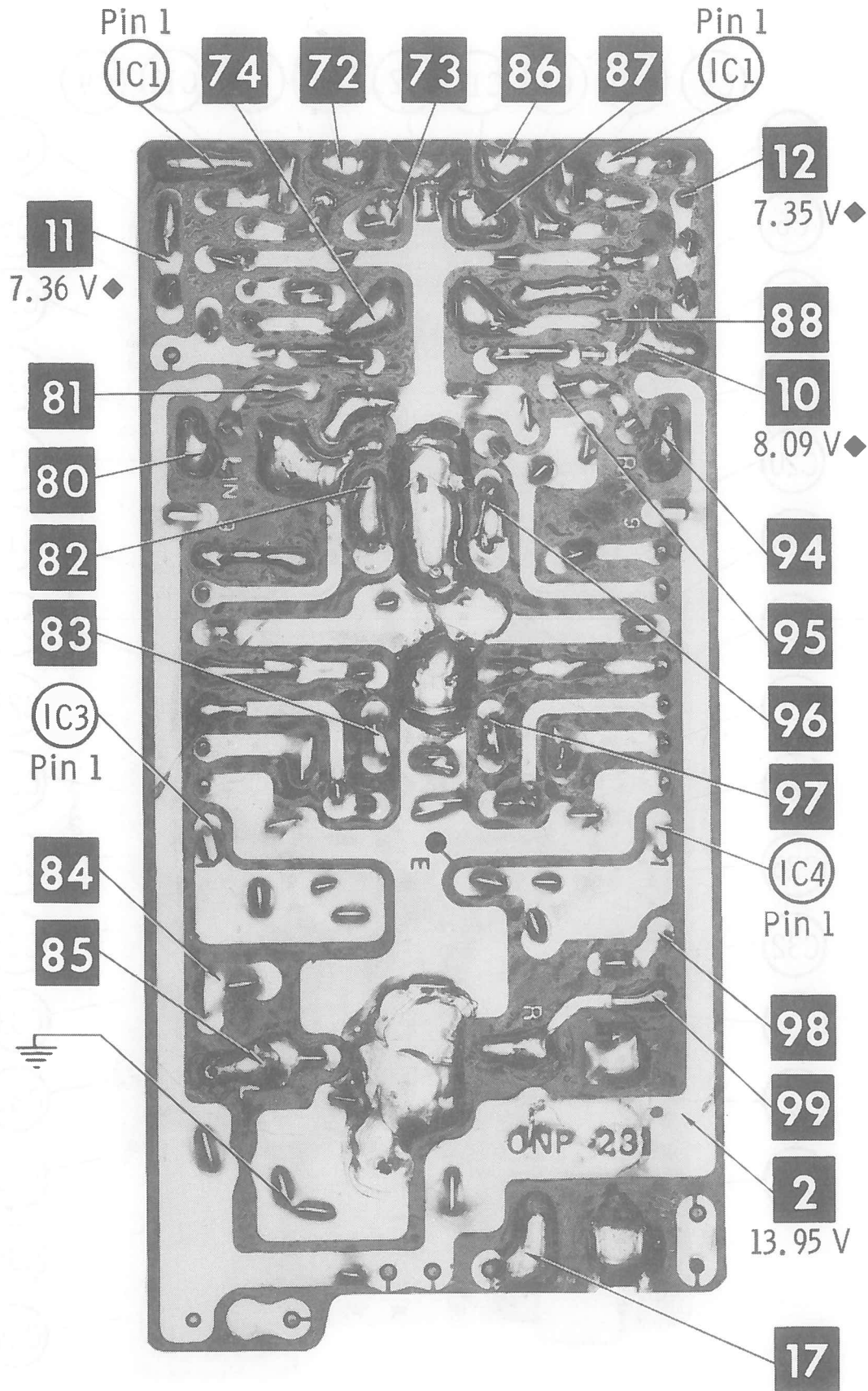


PIONEER MODELS KP-4000G/ZF

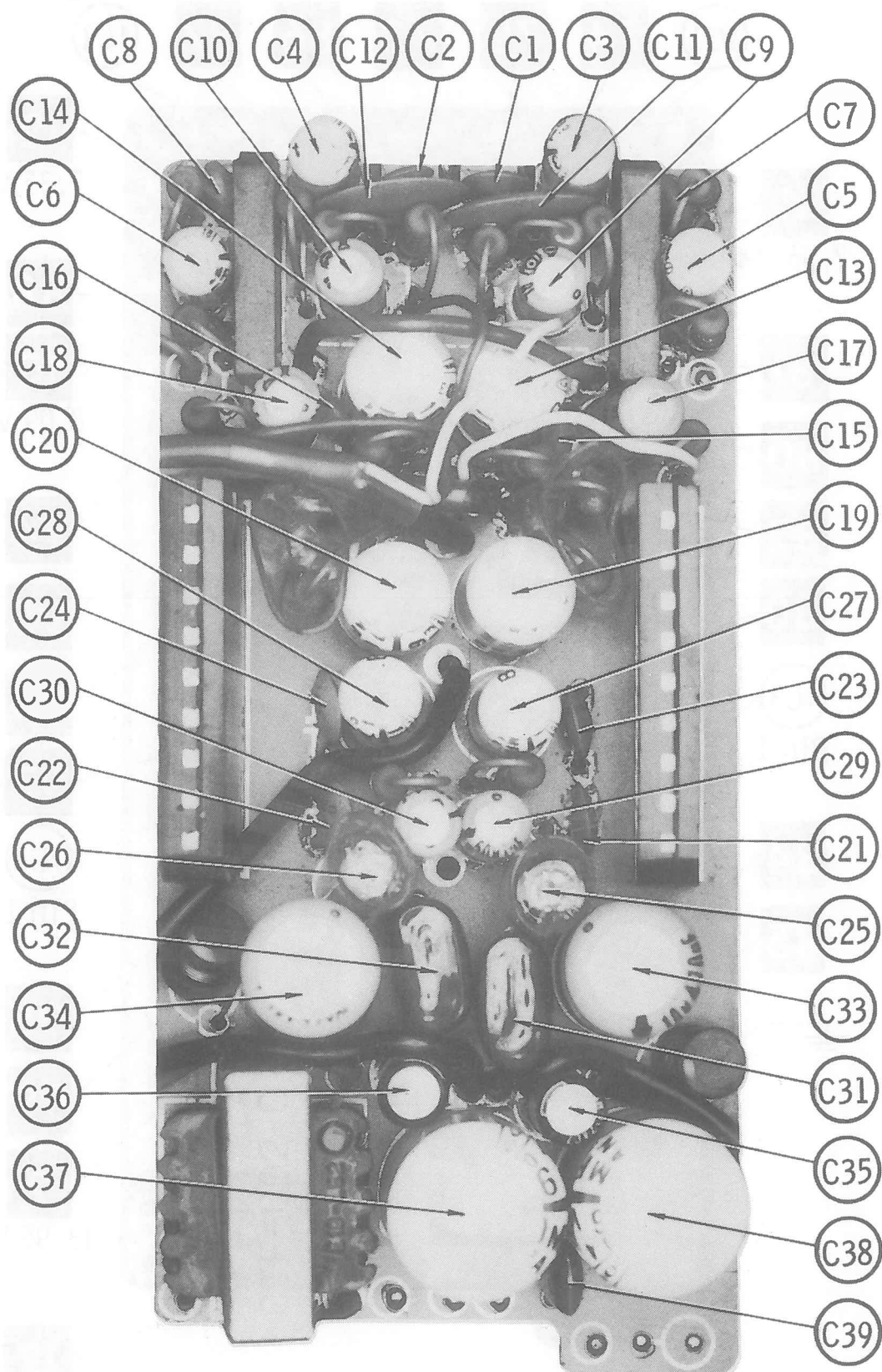
SWITCH BOARD



AUDIO BOARD

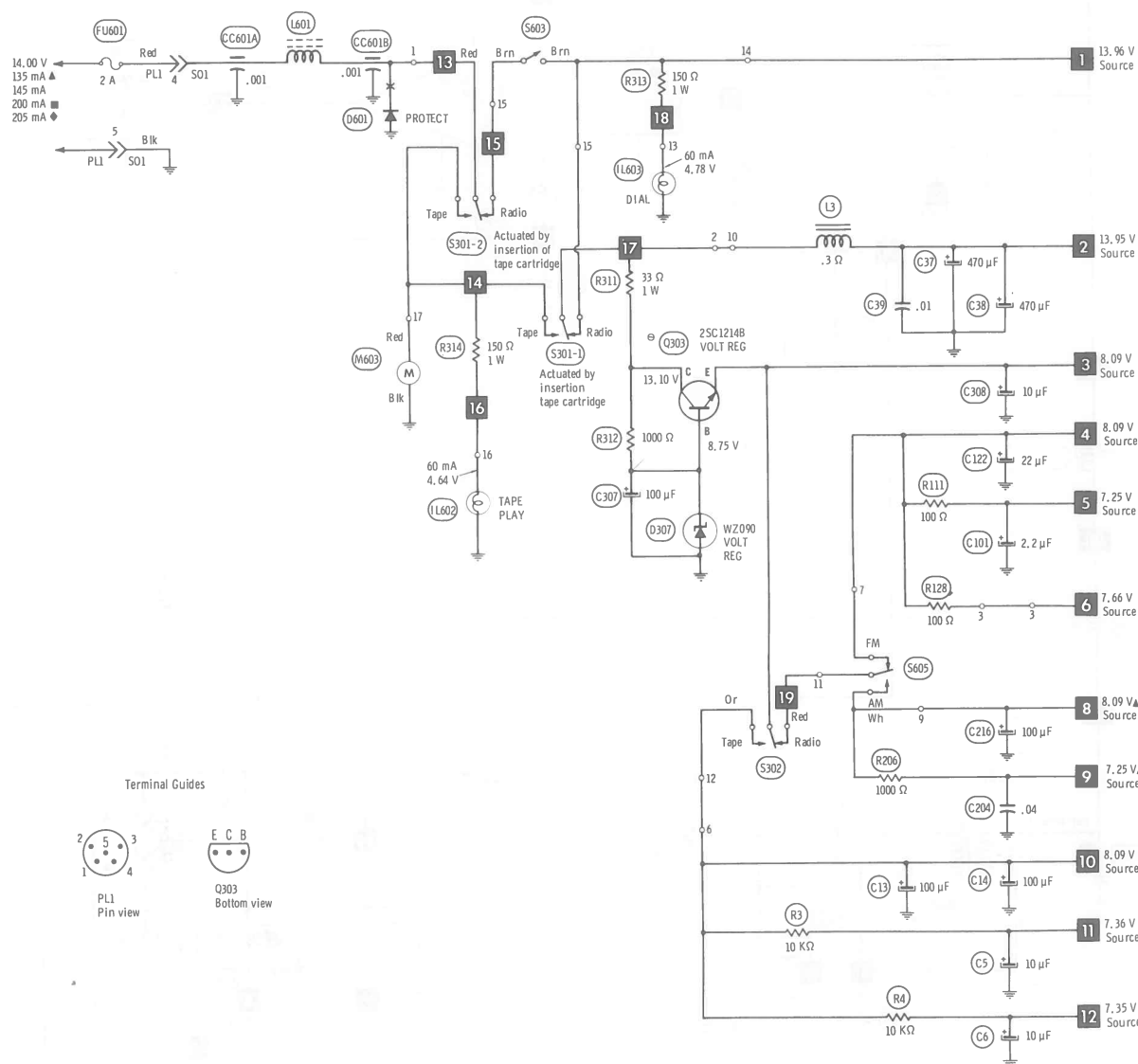


PIONEER MODELS KP-4000G, ZE



AUDIO BOARD

NOTE: DEMAGNETIZE HEADS AFTER SERVICING



—X— Circuitry not used in some versions

--- Circuitry used in some versions

⊕ See parts list

✱ Nominal value

⊥ Ground

⏏ Chassis

▽ Common tie point

Measurements with switching as shown unless noted:

■ FM Stereo signal

◆ Tape play ● Record

Supply voltage maintained as shown at input.
 Voltages measured with digital meter, no signal.
 Controls adjusted for normal operation.
 Arrow at control indicates direction of advance.
 Terminal identification may not be found on unit.
 Resistors are 1/2W or less, 5% unless noted.
 Value in () used in some versions.

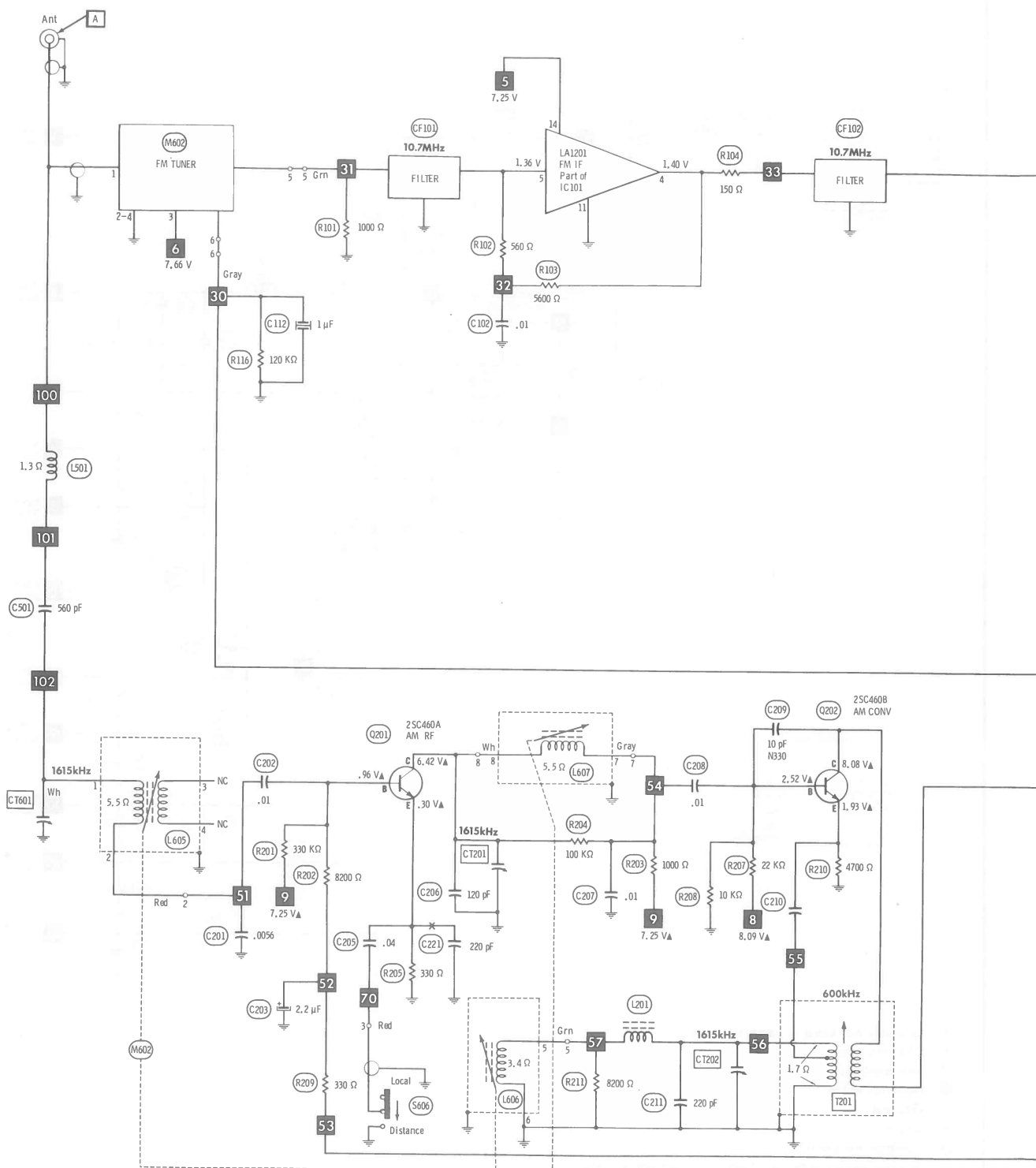
A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH CIRCUITTRACE[®]

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PIONEER MODELS KP-4000G, ZE

NOTE: DEMAGNETIZE HEADS AFTER SERVICING



- ✖ Circuitry not used in some versions
- Circuitry used in some versions
- ⊖ See parts list
- ✱ Nominal value
- ⊥ Ground
- chassis symbol Chassis
- ▽ Common tie point

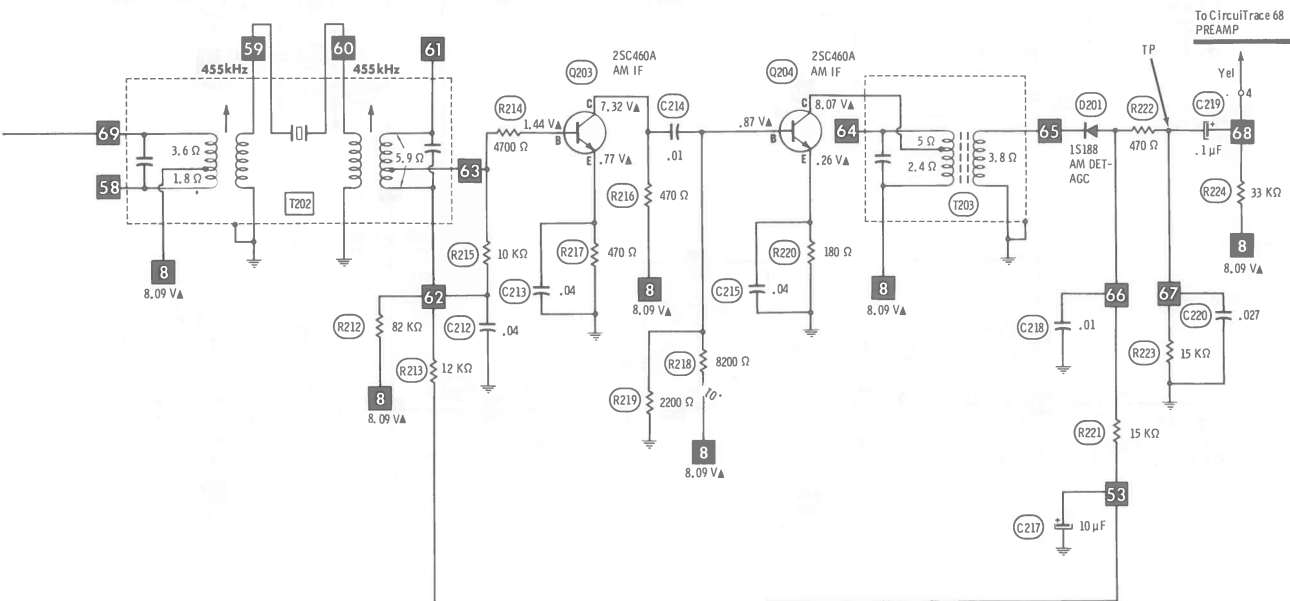
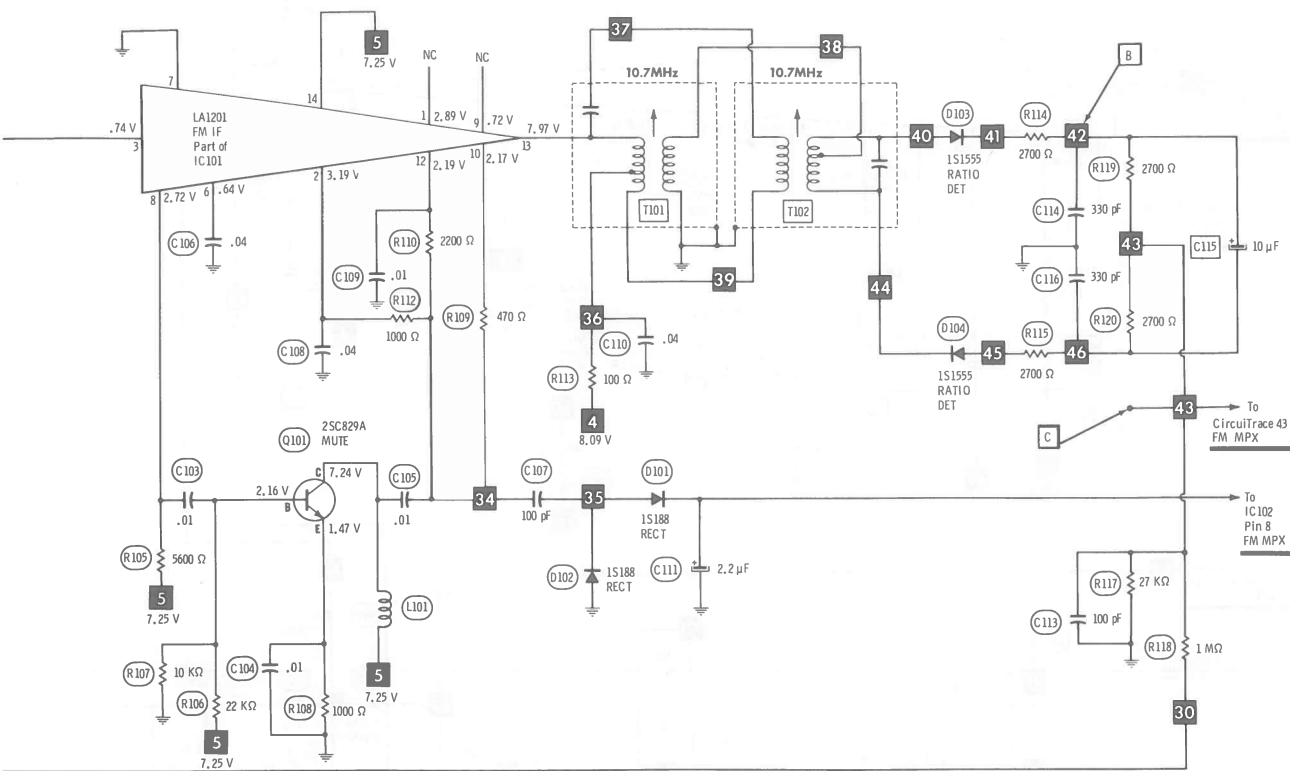
Measurements with switching as shown unless noted:

- FM Stereo signal
- ◆ Tape play
- Record

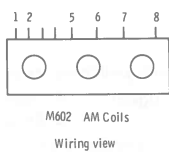
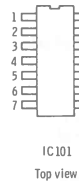
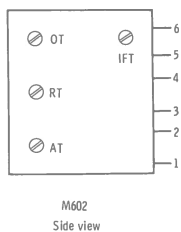
Supply voltage maintained as shown at input.
 Voltages measured with digital meter, no signal.
 Controls adjusted for normal operation.
 Arrow at control indicates direction of advance.
 Terminal identification may not be found on unit.
 Resistors are 1/2W or less, 5% unless noted.
 Value in () used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE[®]

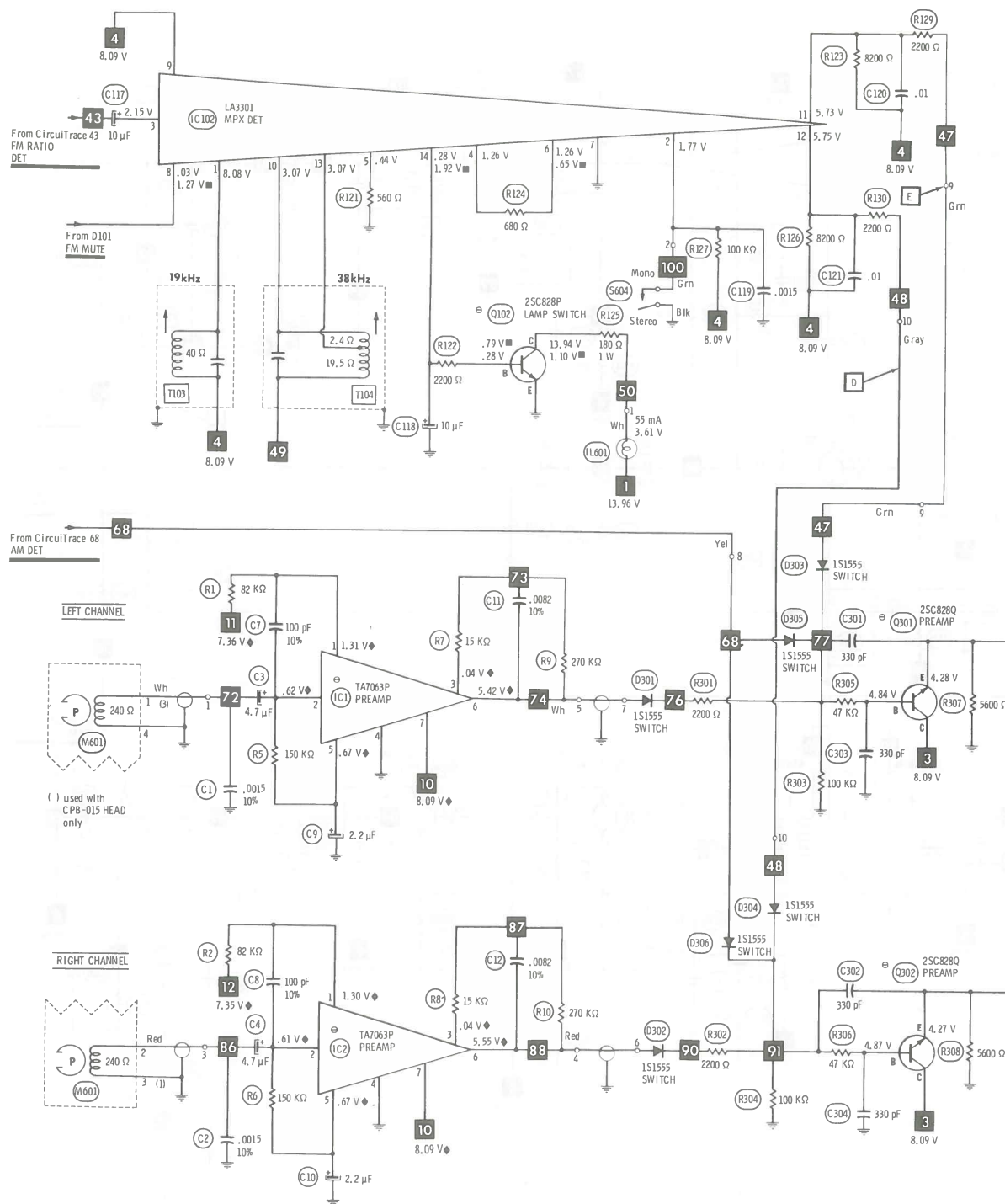
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Terminal Guides



NOTE: DEMAGNETIZE HEADS AFTER SERVICING



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

Measurements with switching as shown unless noted:

- FM Stereo signal ◆ Tape play
● Record

Supply voltage maintained as shown at input.
 Voltages measured with digital meter, no signal.
 Controls adjusted for normal operation.
 Arrow at control indicates direction of advance.
 Terminal identification may not be found on unit.
 Resistors are 1/2W or less, 5% unless noted.
 Value in () used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE[®]**

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PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.

Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D101	1S188	G00-004-A	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
D102	1S188	G00-004-A	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
D103	1S1555	G01-803-A	GE-300(7)	D200MP(6)	PTC214H(6)	HEPR0602(7)	RE 52(7)	SK3100(7)	RT-218(7)	ECG178MP(6)
D104	1S1555	G01-803-A								
D201	1S188	G00-004-A								
D301	1S1555	G01-803-A								
D302	1S1555	G01-803-A	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
D303	1S1555	G01-803-A	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D304	1S1555	G01-803-A	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D305	1S1555	G01-803-A	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D306	1S1555	G01-803-A	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D307	1WZ090	G01-036-G	GEZD-9.1		PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D601			GE-504A	5A4D	ZB9.1B				RT-240	ECG139
IC1	TA-7063P, B,C,D	G09-007-B,C,D	GEIC-94		PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
IC2	TA-7063P, B,C,D	G09-007-B,C,D	GEIC-94				RE 329-IC			ECG1103
IC3	AN214Q	G09-013-A	GEIC-49		PTC757					ECG1058
IC4	AN214Q	G09-013-A	GEIC-49		PTC757					ECG1058
IC101	LA1201,B	G09-015-B	GEIC-43				RE 329-IC			ECG1003
IC102	LA3301	G09-009-A	GEIC-38		PTC721	HEPC6094P	RE 326-IC		TVMC-6	ECG1006
Q101	2SC829A	G05-037-A	GE-20	(IR)2SC829B	PTC136	HEPS0011	RE 9	SK3018	RT-105	ECG229
Q102	2SC828P, Q,R	G05-036-B, C,D	GE-61	(IR)2SC828A	PTC132	HEPS0015	RE 192	SK3122	RT-172	ECG199
Q201	2SC460A	G05-003-A	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3124	RT-187	ECG233
Q202	2SC460B	G05-003-B	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3124	RT-187	ECG233
Q203	2SC460A	G05-003-A	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3124	RT-187	ECG233
Q204	2SC460A	G05-003-A	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3124	RT-187	ECG233
Q301	2SC828Q, R,S	G05-036-C, D,E	GE-61	(IR)2SC828A	PTC132	HEPS0015	RE 192	SK3122	RT-172	ECG199
Q302	2SC828Q, R,S	G05-036-C, D,E	GE-61	(IR)2SC828A	PTC132	HEPS0015	RE 192	SK3122	RT-172	ECG199
Q303	2SC1214B	G05-413-B	GE-47	TR-21	PTC125	HEPS0015	RE 17	SK3020	RT-102	ECG128

(6) Matched pair.

(7) Two required - select matched pair.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	4.7 35V	C00-813-P	PC5-50	VTT4R7A50	EV-1519
C4	4.7 35V	C00-813-P	PC5-50	VTT4R7A50	EV-1519
C5	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C6	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C9	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C10	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C13	100 10V	C00-242-P	PC100-10	VTT100E10	EV-1130
C14	100 10V	C00-242-P	PC100-10	VTT100E10	EV-1130
C17	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C18	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C19	47 16V	C00-533-P	PC50-16	VTT47D16	EV-1226
C20	47 16V	C00-533-P	PC50-16	VTT47D16	EV-1226
C25	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C26	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C27	47 10V	C00-233-P	PC50-16	VTT47D16	EV-1226
C28	47 10V	C00-233-P	PC50-16	VTT47D16	EV-1226
C29	1 50V	C00-902-P	PC1-50	VTT1B63	EV-1615
C30	1 50V	C00-902-P	PC1-50	VTT1B63	EV-1615
C33	470 10V	CCH-002-0	PC500-16	VTT470J16	EV-1150
C34	470 10V	CCH-002-0	PC500-16	VTT470J16	EV-1150
C35	2.2 25VNP	C30-515-M	WNP2-50	TCN502A	TVAN-1301.1
C36	2.2 25VNP	C30-515-M	WNP2-50	TCN502A	TVAN-1301.1
C37	470 16V	C00-553-P	PC500-16	VTT470J16	EV-1250
C38	470 16V	C00-553-P	PC500-16	VTT470J16	EV-1250
C101	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C111	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C112	1 50VNP	C30-709-M	WNP1-50	TCN501A	TVAN-1560
C115	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C117	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C118	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C122	22 10V	C00-227-P	PC25-25	VTT22A16	EV-1224
C203	2.2 50V	C00-907-P	PC2-100	VTT2R2A50	EV-1517
C216	100 10V	C00-242-P	PC100-10	VTT100E10	EV-1130
C217	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C219	.1 16V	C02-301-M	PC10-25	TDC104M050EL	SD50-R109
C305	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C306	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C307	100 10V	C00-242-P	PC100-10	VTT100E10	EV-1130
C308	10 16V	C00-522-P	PC10-25	VTT10A25	EV-1222
C401	.1 10V	C02-201-M	PC10-25	TDC104M050EL	SD50-R109
C402	.1 10V	C02-201-M	PC10-25	TDC104M050EL	SD50-R109

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	.0015 10%		DD-152		GP215	10TS-D15
C2	.0015 10%		DD-152		GP215	10TS-D15
C7	100 10%		DD-101	GP100	GP310	10TS-T10

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS* for the most up-to-date replacement.

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C8	100 10%		DD-101	GP100	GP310	10TS-T10
C11	.0082 10%			WMF1D82	EWFA282	1PB-D82
C12	.0082 10%			WMF1D82	EWFA282	1PB-D82
C15	220 10%		DD-201	GP200	GP320	10TS-T20
C16	220 10%		DD-201	GP200	GP320	10TS-T20
C21	680 10%		DD-681	GP680	GP368	10TS-T68
C22	680 10%		DD-681	GP680	GP368	10TS-T68
C23	56 10%		DD-680	GP68	GP468	10TS-Q68
C24	56 10%		DD-680	GP68	GP468	10TS-Q68
C31	.1 10%			WMF05P1	EWFO5010	431P1049R5
C32	.1 10%			WMF05P1	EWFO5010	431P1049R5
C39	.01 10%			WMF1S1	EWFA1110	1PB-S10
C102	.01 25V		DC-103	MGP01	TA110	TG-S10
C103	.01 25V		DC-103	MGP01	TA110	TG-S10
C104	.01 25V		DC-103	MGP01	TA110	TG-S10
C105	.01 25V		DC-103	MGP01	TA110	TG-S10
C106	.04				M192P3939R8	192P3939R8
C107	100 10%		DD-101	GP100	GP310	10TS-T10
C108	.04 25V				GP140	5GA-S40
C109	.01 25V		DC-103	MGP01	TA110	TG-S10
C110	.04 25V				GP140	5GA-S40
C113	100 10%		DD-101	GP100	GP310	10TS-T10
C114	330 10%		DD-331	GP330	GP333	10TS-T33
C116	330 10%		DD-331	GP330	GP333	10TS-T33
C119	.0015 5%		DD-152		GP215	10TS-D15
C120	.01 10%			WMF1S1	EWFA1110	1PB-S10
C121	.01 10%			WMF1S1	EWFA1110	1PB-S10
C201	.0056 10%			WMF1D56	EWFA256	1PB-D56
C202	.01 10%		DC-103	MGP01	TA110	TG-S10
C204	.04 25V				GP140	5GA-S40
C205	.04 25V				GP140	5GA-S40
C206	120 N330 10%				*	10TCS-T12
C207	.01 10%		DC-103	MGP01	TA110	TG-S10
C208	.01 10%		DC-103	MGP01	TA110	TG-S10
C209	10 +1% N330				*	10TCS-Q10
C210	.01 10%		DC-103	MGP01	TA110	TG-S10
C211	220 N330 10%				*	10TCS-T22
C212	.04 25V				GP140	5GA-S40
C213	.04 25V				GP140	5GA-S40
C214	.01 25V		DC-103	MGP01	TA110	TG-S10
C215	.04 25V				GP140	5GA-S40
C218	.01 10%		DC-103	MGP01	TA110	TG-S10
C220	.027				M192P2739R8	192P2739R8
C221	220 10%		DD-201	GP200	GP320	10TS-T20
C301	330 10%		DD-331	GP330	GP333	10TS-T33
C302	330 10%		DD-331	GP330	GP333	10TS-T33
C303	330 10%		DD-331	GP330	GP333	10TS-T33
C304	330 10%		DD-331	GP330	GP333	10TS-T33
C501	560 ±5%			CD19FD561J03	SX356	MWC-561
CC601A	.001	CCL-005-0				
B	.001					
C	.001					
D	.001					
CT201		C43-610-A				
CT202		C43-610-A				
CT601		CCL-003-B				

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR401A	Tone-Left	20K	CWX-122-0 (18)				
VR401B	Tone-Right	20K					
VR402	Balance	20K Tap 10K					
VR403A	Volume-Left	20K					
VR403B	Volume-Right	20K					

(18) Includes VR402, VR401A, VR401B, VR403A, VR403B.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke (15uH)	T63-618-0			
L2	RF Choke (15uH)	T63-618-0			
L101	RF Choke	CTF-016-0			
L201	Image Trap (5uH)	CTF-001-0			
L501	RF Choke (5.5uH)	T63-648-A			
L601	RF Choke (15uH)	CTF-003-0			
L605	AM Antenna	(1)			
L606	AM Osc. Tuning	(1)			
L607	AM RF	(1)			
T101	Ratio Det (Pri.)	CTC-015-0			
T102	Ratio Det (Sec.)	CTC-012-0			
T103	19kHz	CTM-001-0			
T104	38kHz	CTM-002-0			
T201	FM Osc	CTE-002-0			
T202	IF (455kHz)	CTE-003-0			
T203	IF (455kHz)	CTE-001-0			

(1) Part of M2.

PIONEER MODELS KP-4000G, ZE

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS* for the most up-to-date replacement.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L3	200mA	.3	.5mH	CTF-002-0			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
FU601	2A	E21-005-0		AG2	HDJ	312002	150145	FG2-2

MISCELLANEOUS

ITEM No.	PART. NAME	PART No.	NOTES
CF101	Ceramic Filter	CTF-027-0 (1)	10.7MHz
CF102	Ceramic Filter	CTF-027-0 (1)	10.7MHz
M601	Head	CPB-014-0	Playback
M602	Head	CPB-015-0	Used in some versions.
M603	Tuner Assembly	CWB-032-0	
	Motor	CXM-026-0	Tape Transport (2400 rpm @ 13.99V)
		CXM-021-0	Used in some versions.
S301	Switch	CSL-001-B	Tape/Radio
S302	Switch	CSL-008-0	Tape/Radio
S603	Switch	CSN-007-A	Radio Power
S604	Switch	CSN-007-A	Stereo/Mono
S605	Switch	CSL-007-0	AM/FM Selector
S606	Switch	S31-610-0	Local/DX

(1) When replacing, (CF101 and CF102) should also be replaced.

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

ITEM	PART No.	ITEM	PART No.
Trim Plate, KP-4000G	CEA-094-0	Knob, Selector, KP-4000ZE	CEA-092-0
Trim Plate, KP-4000ZE	CEA-095-0	Knob, Eject	CAC-078-A
Knob, Volume, KP-4000G	CEA-081-0	Knob, Tape Direction	CAC-077-A
Knob, Volume, KP-4000ZE	CEA-091-0	Knob, Local-DX	CAC-068-A
Knob, Tuning, KP-4000G	CEA-090-0	Dial Glass	CAG-038-0
Knob, Tuning, KP-4000ZE	CEA-069-0	Dial Pointer	CAF-015-0
Knob, Tone, KP-4000G	CEA-089-0	Escutcheon	CNS-146-0
Knob, Tone, KP-4000ZE	CEA-093-0	Tape Door	CAT-015-0
Knob, Selector, KP-4000G	CEA-080-0	Tape Door Spring	CBH-207-0

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets

DIAL CORD STRINGING

