The Harman Kardon Model hk 2500

Stereo Cassette Deck

Technical Manual

harman/kardon

EQUIPMENT REQUIRED

1. Audio Signal Generator
2. Frequency Counter
3. V. T. V. M.
4. Distortion Meter

NOTE: All adjustments should be made under the following conditions unless otherwise indicated.

1. Power Supply Voltage is 120 VAC (220 VAC for MV units).
2. Dolby NR Switch is at OFF position
3. Input Selector Switch is at LINE position.
4. Output Level is maximum.
5. Power Switch is at ON position.
6. Bias Selector Switch is at LOW NOISE position.
7. EQ. Selector Switch is at LOW NOISE position.

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTIONS
PLAYBACK LEVEL	400 Hz Dolby Test Tape (MTT-150)	V. T. V. M. to Line Output	PLAY	VR2, VR102	1. Adjust for 1.5V at Line Outputs 2. Confirm less than ±1dB on Cr position
PLAYBACK FREQUENCY CHARAC-TERISTIC FE	MTT 116U, MTT 216, or MTT 217C	V. T. V. M. to Line Output	PLAY	C1, 101	1. Adjust to meet specification (Fig. A)
Cr02	MTT 116K	V. T. V. M. to Line Output	PLAY EQ-Cr02		2. Confirm to meet specification (Fig. A)

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTION
Azimuth	Test Tape MTT 114 10 kHz	V. T. V. M. to Output	Play	Azimuth Screw	Adjust screw to obtain maximum reading on V. T. V. M.

ALIGNMENT PROCEDURE

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTIONS
METER LEVEL	1 KHz 100mV to Line Input L and R	V. T. V. M. ot Line Output	REC	Record Level Control	1. Adjust for 1.5V at Line Output
				VR501, VR601	2. Adjust for 0 VU (Dolby Level) on Meter
	1 KHz (0 VU +5dB) to Line Input L and R				3. Confirm 5 VU ±1 VU on Meter
PEAK INDICATOR	1 KHz 100mV to Line Input L & R	V. T. V. M. to Line Output	REC	Record Level Control	1. Adjust for 1.5V at line out
				VR502/602	2. Confirm to be able to adjust for L. E. D. ON or OFF
	1 KHz (0 VU +2dB) to Line Input L and R				3. Adjust for L. E. D. ON/OFF Threshold
	1 KHz at: (0 VU +2.5dB)				4. Confirm that L. E. D. is ON at 0 VU +2.5dB
	(0 VU +1.5dB)				5. Confirm that L. E. D. is OFF at 0 VU +1.5dB
BIAS FREQUENCY		Frequency Counter to pin 1 of connector CO-A and Ground	REC	T201	1. Adjust for 105 KHz 2. Confirm 105 KHz ±3 KHz when BIAS SW and BIAS TRIM SW. are at any position
BIAS TRAP		V. T. V. M. to TP3 TP4	REC	L4, L104	Adjust for minimum output
BIAS LEVEL Low Noise (Fe)					1. Set VR6 and VR106 to minimum and BIAS TRIM SW. to NORMAL
	6.3 KHz signal to Left Channel Line Input at OVU-20dB		REC	VR6	2. Record signal on Low Noise Tape (Maxell UDXLI) while turning VR-6 from minimum to maximum
	Recorded signal on Low Noise Tape	V. T. V. M. to left Channel line output	Play		3. Note the maximum output on V. T. V. M.

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTIONS
BIAS LEVEL Low Noise (Fe) (contd)				VR6	4. Repeat steps 2 and 3, and continue increasing Bias (VR6) until output drops off 4.5dB from maximum
		V. T. V. M. to pin 3 of connector CO-A	REC		5. Note the V. T. V. M. reading. (This is Left Channel optimum bias level).
	6.3 KHz signal to Right channel Line Input at OVU-20dB		REC	VR106	6. Record signal on Low Noise Tape (Maxell UDXLI) while turning VR106 from minimum to maximum
	Recorded signal on Low Noise Tape	V. T. V. M. to Right Channel Line Output	PLAY		7. Note the maximum output on V. T. V. M.
				VR106	8. Repeat steps 6 and 7, and continue increasing Bias (VR106) until output drops off 4.5 dB from maximum
		V. T. V. M. to pin 6 off connector CO-A	REC		9. Note the V. T. V. M. reading. (This is right channel optimum bias level)
FeCr		V. T. V. M. to pin 3 and pin 6 of connector CO-A	REC BIAS and EQ to FeCr	VR201	10. Adjust bias level for +2.5dB greater than bias level at Fe position
Cr02			REC BIAS and EQ to Cr02		11. Confirm that the bias level is +3.5 to +4.5dB greater than bias level at Fe position
BIAS TRIM		V. T. V. M. to pin 3 and pin 6 of connector CO-A	REC		1. Confirm bias level increase of 15 ±5% at INCREASE position 2. Confirm bias level decrease of 15 ±5% at DECREASE position 3. Repeat steps 1 and 2 at each tape position (Fe, FeCr, Cr02)

PINCH ROLLER TENSION ADJUSTMENT

Bend the adjustment point hooked by coil spring in the arrow directions so that the tension by pinch roller may be 380g ± 40g when keeping apart pinch roller from capstan (about 0.5mm) and returning it to rotate. (Fig. 1)

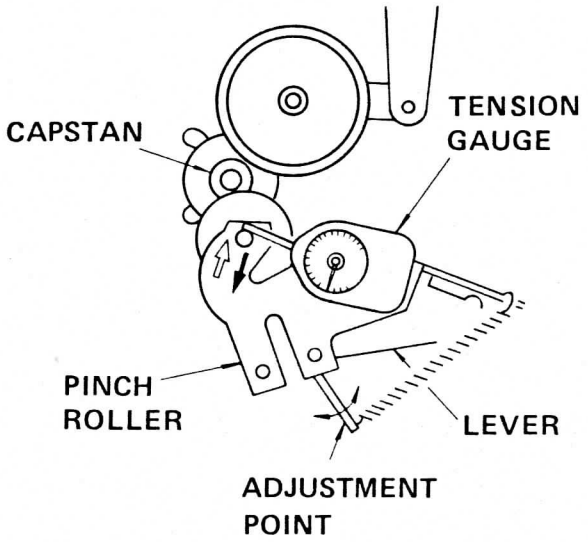


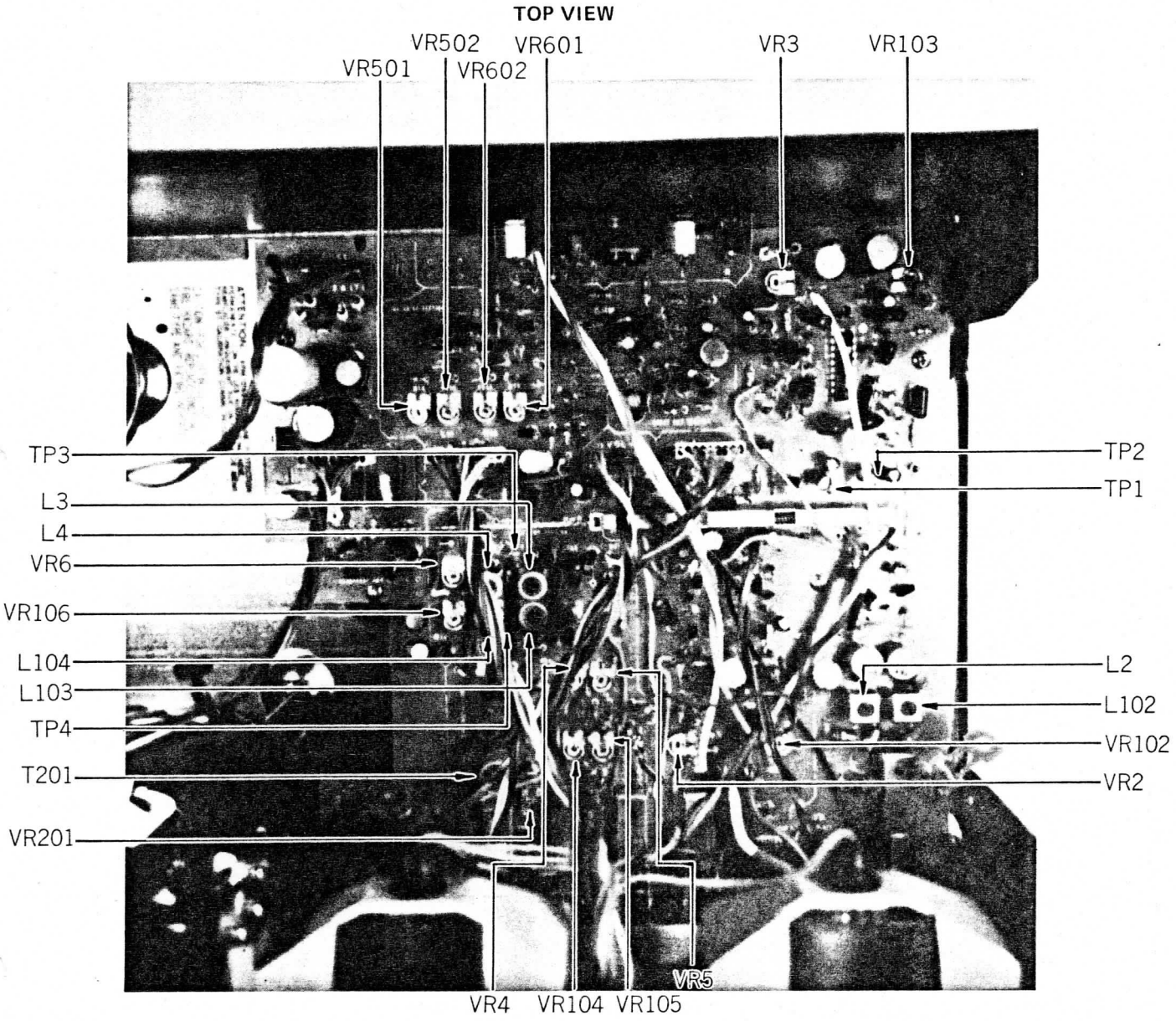
Fig. 1

ALIGNMENT PROCEDURE

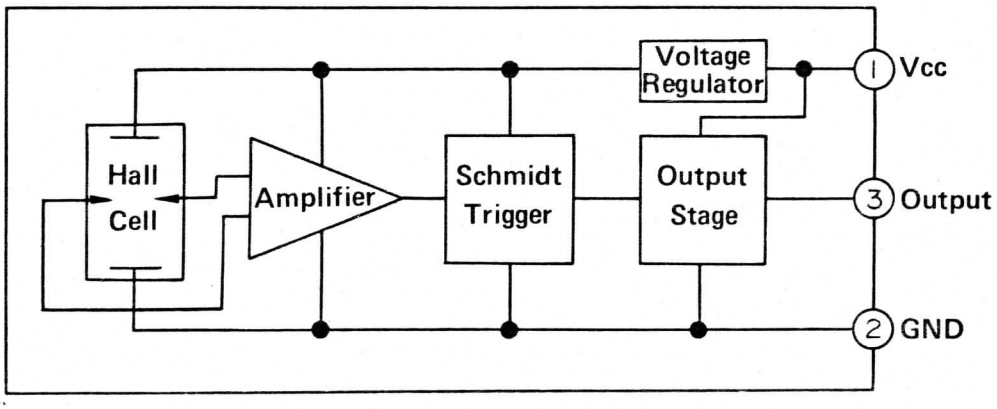
ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTIONS
BIAS FREQUENCY CONFIRM		Frequency Counter to pin 1 of connector CO-A	REC		Confirm 105 KHz ±3 KHz. (If adjustment is necessary, refer to Bias Frequency, Bias Trap and Bias Level adjustments)
REC LEVEL Low Noise (Fe) (MAXELL UD XLI)	1 KHz 100mV to INPUT	V. T. V. M. to Line	REC	Record Level Control	1. Adjust for 1.5V at Line Output
			PLAY	VR4, VR104	2. Adjust for 1.5V at Line Output
Cr02 (MAXELL UD XLII)			REC/PLAY BIAS and EQ to Cr02	VR5, VR105	3. Adjust for 1.5V at Line Output
FeCr			REC/PLAY BIAS and EQ to FeCr		4. Confirm 1.5V ±1dB at Line Output
REC/PLAY FREQUENCY CHARAC-TERISTIC			Set BIAS and EQ for Low Noise	Record Level Control	
Low Noise (Fe) MAXELL UDXLI	1 KHz 100mV to Line Inputs	V. T. V. M. to Line Outputs	REC/PLAY		1. Adjust for 1.5V at Line Outputs
	20 Hz to 20 KHz sweep at OVU −30dB to Line Inputs			C62, C162 L3, L103	2. Adjust to meet specification (Fig. B)
(Cr02) MAXELL UDXLII			Set BIAS and EQ for Cr02 REC/PLAY	C63, C163 R75, R175 R76, R176	3. Adjust to meet specification (Fig. C)

ITEM	SIGNAL SOURCE	MEASUREMENT CONNECTION	MODE	ADJUST	INSTRUCTIONS
REC/PLAY FREQUENCY CHARAC-TERISTIC (cont'd) (FeCr) BASF PRO III	20 Hz to 20 KHz sweep at OVU –30dB to Line Inputs	V. T. V. M. to Line Outputs	Set BIAS and EQ for FeCr REC/PLAY	C63, C163	4. Adjust to meet specification (Fig. D)
REC LEVEL	1 KHz 100mV to Line Inputs	V. T. V. M. to Line Outputs	REC/PLAY		Confirm REC LEVEL adjustment at each position (Fe, Cr02, FeCr)
DISTORTION	1 KHz 100mV	V. T. V. M. and Distortion meter to Line Outputs	REC/PLAY	Record Level Control	1. Adjust for 1.5V at Line Outputs
	1 KHz (OVU –3dB)				2. Confirm the distortion is within 1.5% at each position (Fe, Cr02, FeCr)
AC HUM		V. T. V. M. to Line Outputs	PLAY/ PAUSE EQ-Cr02 DOLBY ON	Angle of power Transformer	Adjust the location for minimum output
DOLBY	5 KHz to R31 and R131	V. T. V. M. to TP1 and TP2	REC	VR3, VR103	1. Open the pins shorted beside VR104 2. Adjust input for 23.5mV on V. T. V. M. reading 3. Adjust for +8dB at Dolby ON
			PLAY		4. Short above pins 5. Adjust input for 59mV on V. T. V. M. reading 6. Confirm –8dB at Dolby ON
MPX FILTER	1 KHz 100mV to INPUT	V. T. V. M. to Line Output	REC	Record Level Control L2, L102	1. Adjust for 1.5V at Line Outputs
	19 KHz 100mV to INPUT				2. Adjust output for minimum

ALIGNMENT POINTS



IC901 BLOCK DIAGRAM



ALIGNMENT PROCEDURE

FIG A – PLAY FREQUENCY CHARACTERISTICS

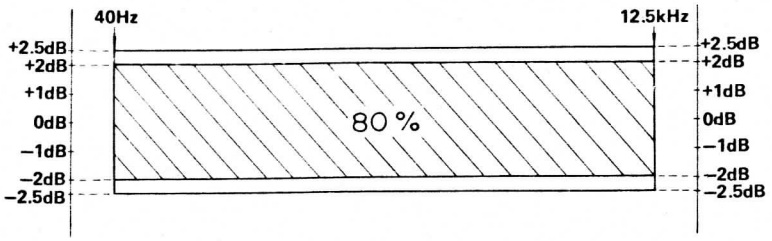


FIG B – PLAY/REC FREQUENCY CHARACTERISTICS

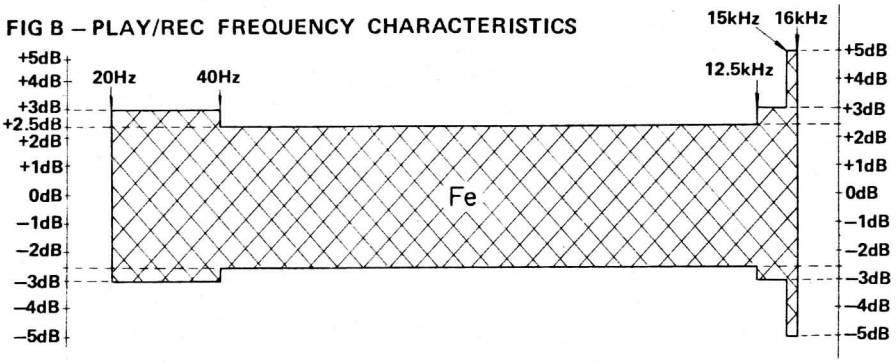


FIG C – PLAY/REC FREQUENCY CHARACTERISTICS

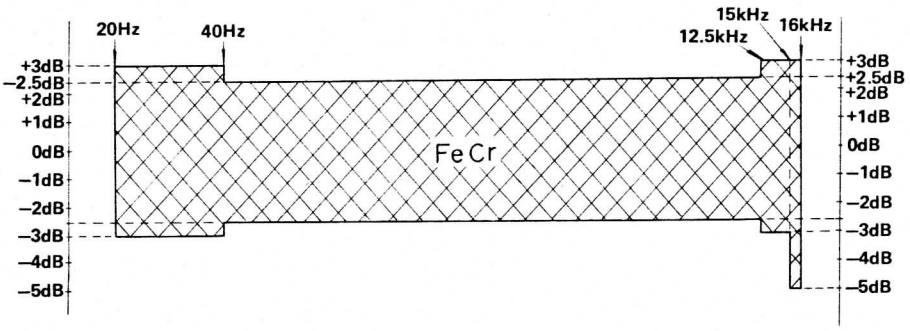
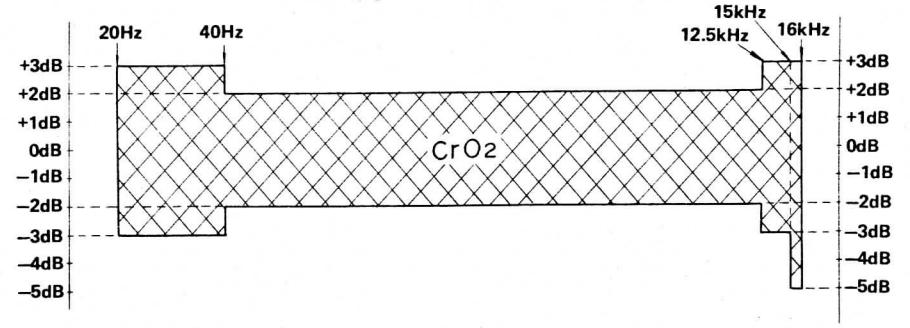


FIG D – PLAY/REC FREQUENCY CHARACTERISTICS



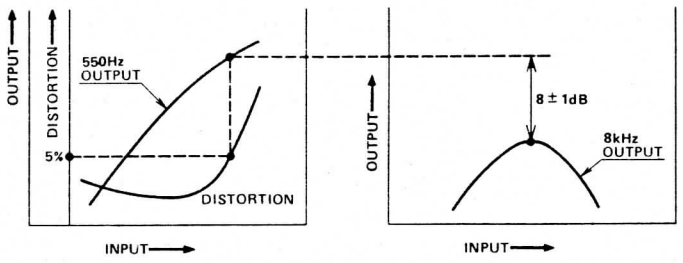
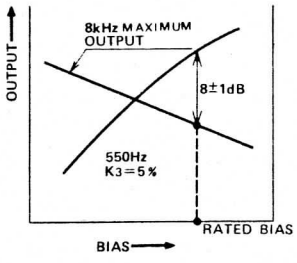


FIG 1

FIG 2



SCHEMATIC NOTES AND VOLTAGES

NOTES: Unless otherwise specified

1. Resistors are 1/4W watt. Values are in ohms, K = 1000, M = 1000K.
2. Capacitor values are in microfarads, MF, P = MMF.
3. Dolby NR switch is in OFF position.
4. Input selector switch is in REC position.
5. EQ switch is in LOW NOISE position.
6. Bias switch is in LOW NOISE position.
7. Play/Rec. switch is in PLAY position.
8. Bias Trim switch is in NORMAL position.

VOLTAGE CHART

AC120V — Volume Control at Minimum
No Signal — Tone Control at Mechanical Center
Chassis Ground

	PLAY	REC		CATHODE		ANODE		GATE	
				PLAY	REC	PLAY	REC	PLAY	REC
+B1	15.0V	15.0V							
+B2	11.5V	11.5V	SCR901	0V	0V	14.2V	13.7V	0V	0V

IC ELEMENTS VOLTAGE CHART

IC 1 PLAY/REC

1. 0.47V	6. 5.9V	11. 5.9V	16. 6.0V
2. 5.8V	7. 2.1V	12. 5.9V	17. 11.5V
3. 0.01V	8. 6.0V	13. –	18. 0V
4. –	9. 6.0V	14. 0.01V	
5. 5.9V	10. 2.1V	15. 5.8V	

IC901

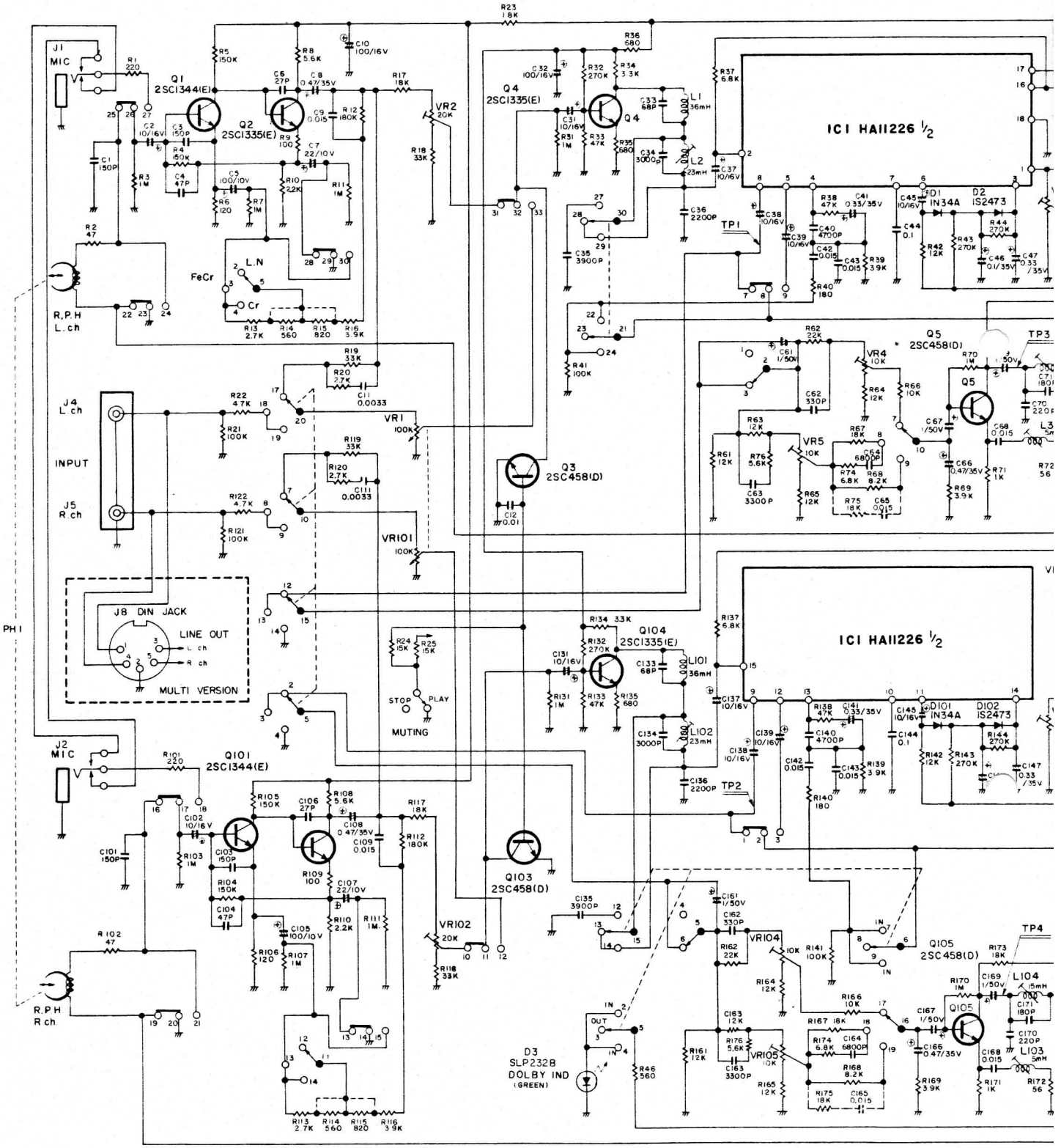
	1	2	3
PLAY	14.2V	0V	12.2V
REC	13.7V	0V	11.7V

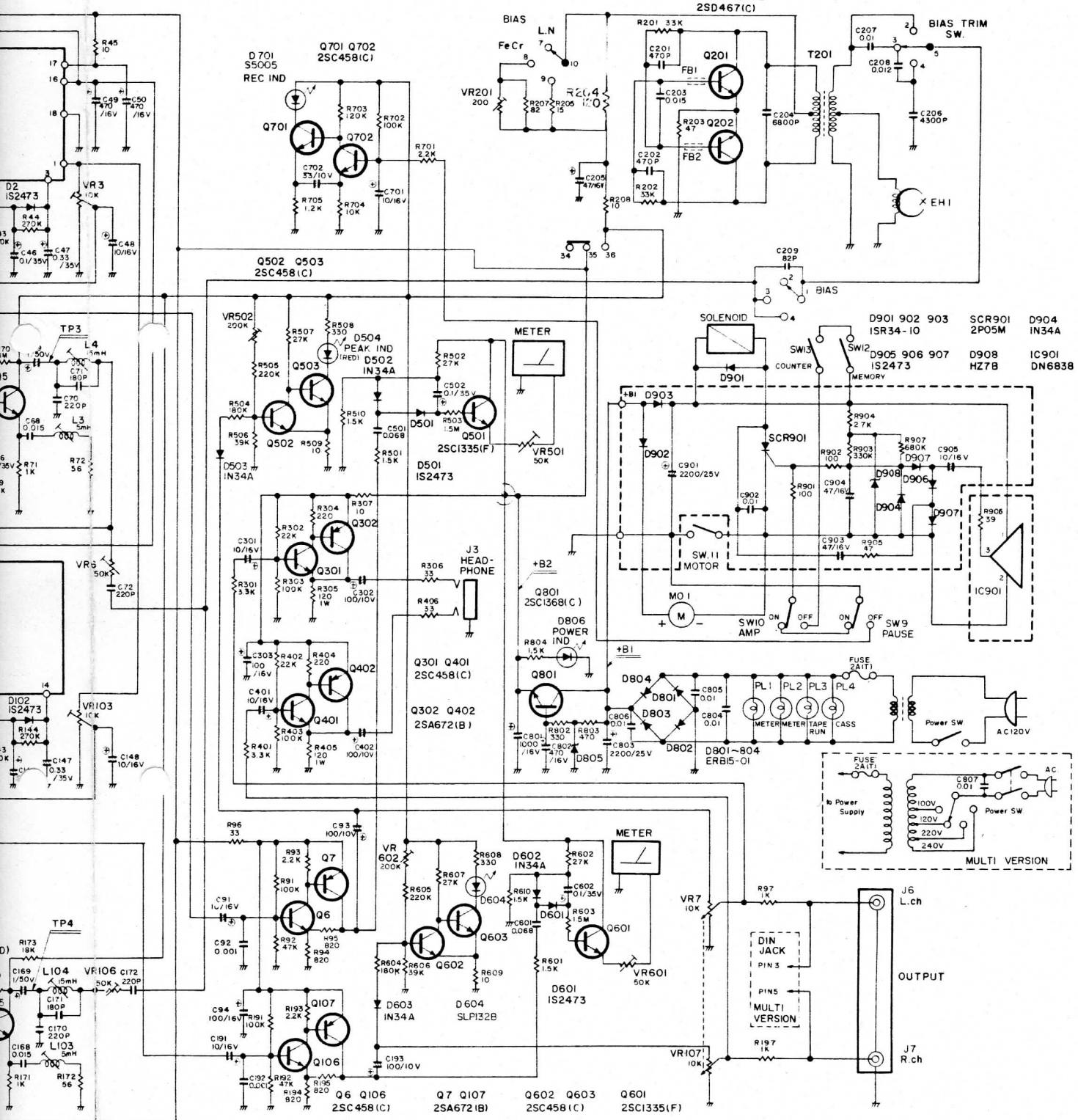
TRANSISTOR ELEMENTS VOLTAGE CHART

	BASE		EMITTER		COLLECTOR	
	PLAY	REC	PLAY	REC	PLAY	REC
Q1, 101	0.5V	0.5V	0.01V	0.01V	1.2V	1.2V
Q2, 102	1.2V	1.2V	0.6V	0.6V	9.4V	9.4V
Q4, 104	1.2V	1.2V	0.8V	0.8V	6.5V	6.5V
Q5, 105	0V	0.8V	0V	0.5V	0V	3.0V
Q6, 106	13.6V	13.6V	3.0V	3.0V	11.0V	3.0V
Q7, 107	11.0V	11.0V	11.5V	11.5V	10.5V	10.5V
Q201, 202	0V	3.1V	0V	2.5V	0V	9.0V
Q301, 401	8.1V	8.1V	7.9V	7.9V	10.1V	10.1V
Q302, 402	10.1V	10.1V	10.4V	10.4V	7.9V	7.9V
Q501, 601	0V	0V	0V	0V	11.5V	11.5V
Q502, 602	0V	1.2V	0V	0V	0V	0.75V
Q503, 603	0V	0.75V	0V	0V	0V	10.3V
Q701	0V	0.24V	0V	0V	0V	8.7V
Q702	0V	8.7V	0V	8.9V	0V	10.0V
Q801	12.5V	12.5V	11.5V	11.5V	15.0V	15.0V

	STOP	PLAY
Q3	0.6V	0V

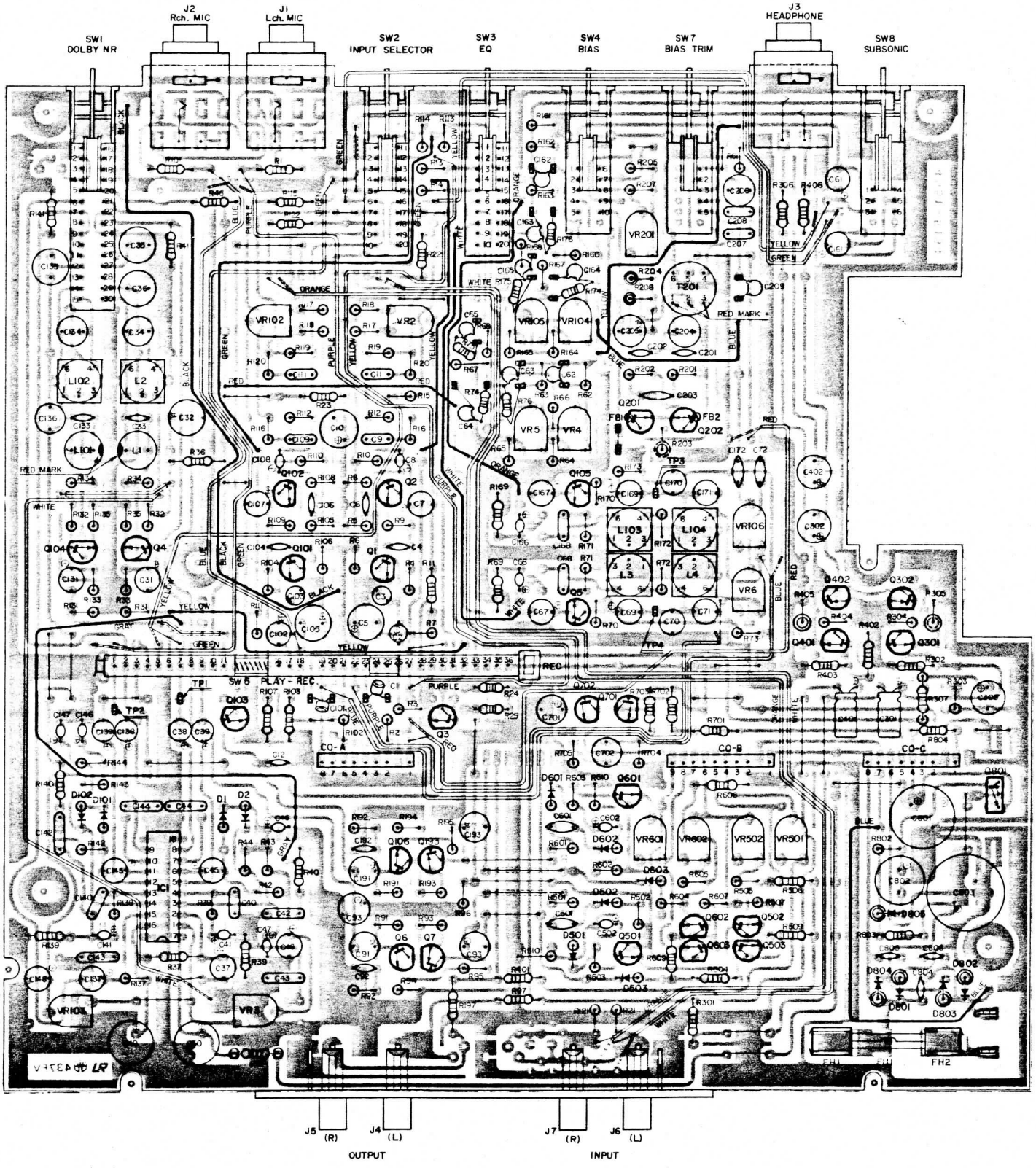
SCHEMATIC DIAGRAM




Q201 Q202
2SD467(C)
BIAS
L.N
FeCr
BIAS TRIM SW.
T201
Q201
Q202
FB1
FB2
VR201
200
R204
120
EH1
D701
S5005
REC IND
Q701 Q702
2SC458(C)
Q701
Q702
Q502 Q503
2SC458(C)
BIAS
SOLENOID
D901 902 903
ISR34-10
SCR901
2P05M
D904
IN34A
D905 906 907
IS2473
D908
HZ7B
IC901
DN6838
SW3
COUNTER
SW2
MEMORY
METER
D504
PEAK IND
(RED)
D502
IN34A
D503
IN34A
D501
IS2473
Q501
2SC1335(F)
VR501
50K
VR502
200K
VR3
10K
TP3
L4
15mH
L3
5mH
VR5
50K
J3
HEAD-
PHONE
+B2
Q801
2SC1368(C)
D806
POWER
IND
+B1
Q801
D804
D801
D803
D802
D805
D801~804
ERB15-01
FUSE
2A(T)
PL1
PL2
PL3
PL4
METER
METER
TAPE
RUN
CASS
Power SW
AC120V
SW.11
MOTOR
M0.1
SW10
AMP
SW9
PAUSE
IC901
Q301 Q401
2SC458(C)
Q302 Q402
2SA672(B)
Q302
Q301
Q402
Q401
D102
IS2473
VR103
10K
VR6
50K
TP4
L104
15mH
L103
5mH
VR106
50K
VR
602
200K
D602
IN34A
D604
SLP132B
Q603
Q602
Q601
D601
IS2473
D603
IN34A
METER
VR601
50K
VR7
10K
VR107
10K
DIN
JACK
PIN3
PIN5
MULTI
VERSION
J6
L.ch
OUTPUT
J7
R.ch
Q7 Q107
2SA672(B)
Q6 Q106
2SC458(C)
Q602 Q603
2SC458(C)
Q601
2SC1335(F)
FUSE
2A(T)
to Power
Supply
100V
120V
220V
240V
Power SW
AC
MULTI VERSION

SCH

MAIN PC BOARD

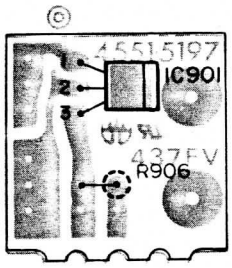


MAIN PC BOARD – PARTS LIST

CIRCUIT REF.	H/K PART NO.	DESCRIPTION
RESISTORS		
VR1, 101	23535710	Variable Resistor, 100 k ohm, Rec. Volume
VR2, 102	23535654	Variable Resistor, 20 k ohm, Playback Level
VR3, 4, 5, 103 104, 105	23535566	Variable Resistor, 10 k ohm, Dolby Level, Rec. Level (Fe), Rec. Level (Cr02, FeCr)
VR6, 106, 501 601	23535568	Variable Resistor, 50 k ohm, Record Bias Level, Meter
VR7, 107	21535911	Variable Resistor, 10 k ohm, Playback Volume
VR201	23535912	Variable Resistor, 200 ohm, Record Bias Level (FeCr, Cr02)
VR502, 602	23525716	Variable Resistor, 200 k ohm, Peak Indicator
CAPACITORS, ELECTROLYTIC		
C2, 37, 102, 137	31835584	10MF ±20% 16V
C5, 93, 105, 193, 302, 402	31835619	100MF +50% –10% 10V
C6, 106	31835913	27PF ±10% 50V
C7, 107	31835717	22MF +50% –10% 10V
C8, 66, 108, 166	30731309	0.47MF ±20% 35V Tantalum
C10, 32, 94, 303	31835718	100MF +50% –10% 16V
C31, 38, 39, 45, 48, 91, 131, 138, 139, 145, 148, 191, 301, 401, 701	31835573	10MF +50% –10% 16V
C41, 47, 141, 147	30735719	0.33MF ±20% 35V Tantalum
C46, 146	30731310	0.1MF ±20% 35V Tantalum
C49, 50, 802	31835720	470MF +50% –10% 16V
C61, 67, 69 161, 167, 169	31835574	1MF +75% –10% 50V
C205	31835582	47MF +50% –10% 16V
C501, 601	31835722	0.068MF ±20% 25V
C502, 602	30731310	0.1MF ±20% 35V Tantalum
C702	31835914	33MF ±20% 16V
C801	31835618	1000MF +50% –10% 16V
C803	31835723	2200MF +50% –10% 25V

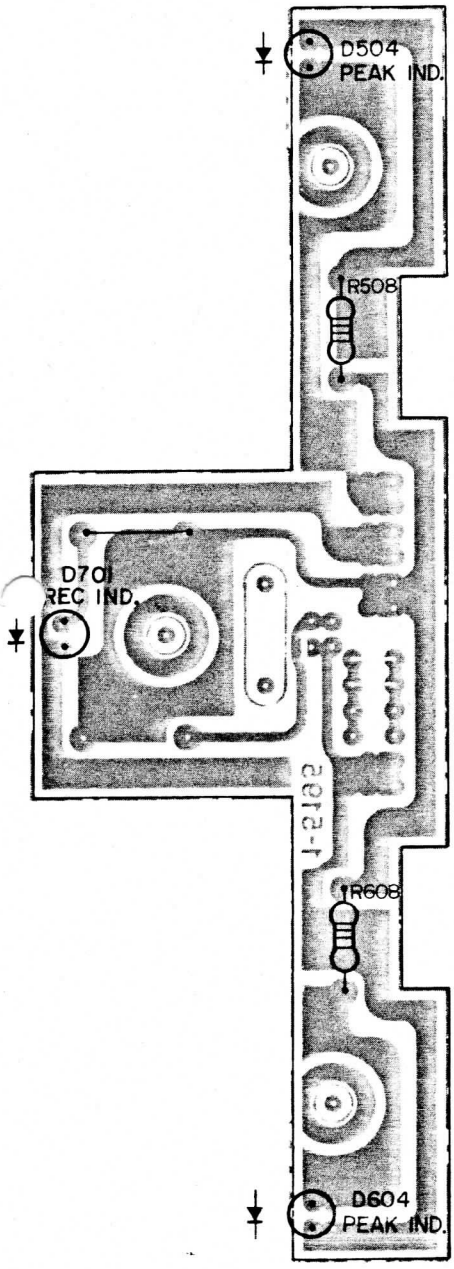
SEMICONDUCTORS		
IC1	43135724	Integrated Circuit, Dolby
Q1, 101	43028535	Transistor, 2SC1344(E) Play/Mic. Amp
Q2, 4, 102, 104	43028536	Transistor, 2SC1335(E) Play/Mic. Amp., Pre Amp
Q3, 5, 103, 105	43028510	Transistor, 2SC458(D) Muting, Rec. Amp.
Q6, 106, 301, 401 502, 503, 602, 603, 701, 702	43031872	Transistor, 2SC458(C) Boost Amp., Headphone Amp., Peak Indicator Drive, Rec. Indicator Drive
Q7, 107 302, 402	43020517	Transistor, 2SA672(B) Boost Amp., Headphone Amp.
Q201, 202	43025725	Transistor, 2SD467(C) Record Bias Osc.
Q501, 601	43025972	Transistor, 2SC1335(F) Meter Amp.
Q801	43035727	Transistor, 2SC13568(C) Voltage Regulator
D1, 101, 502 503, 602, 603	41528591	Diode, 1N34A Rectifier
D2, 102, 501, 601	41035728	Diode, 1S2473 Filter, Rectifier
D801, 802, 803, 804	41035729	Diode, ERB15-01 Rectifier
D805	42035730	Zener Diode, EQA0113R 13.2 ± 0.7V
COILS		
L1, 101	12035731	MPX Filter
L2, 102	12035732	MPX Filter
L3, 103	12035733	Peaking
L4, 104	12035734	Record Bias Trap
TRANSFORMER		
T201	12035735	Record Bias Osc.
MISCELLANEOUS		
SW1A-1F	26535915	Lever Switch, Dolby NR
SW2A-2D	26535916	Lever Switch, Input Selector
SW3A-3D	26535917	Lever Switch, EQ.
SW4, 7	26535918	Lever Switch, Bias, Bias Trim
SW5	24735738	Slide Switch, Play-Rec.
SW8	26535737	Lever Switch, Subsonic Filter
J1, 2	65431869	Jack, Mic.
J3	65433684	Jack, Headphone
J4, 5, 6, 7	65435739	4-Pin Jack, Input, Output
J8	65435740	5-Pin Din Jack (For Multi Version)
FU1	25035741	Fuse 2A
	25035742	Fuse, 2A (For Multi Version)
FH1, 2	66035035	Fuse Holder
	67435743	Fuse Holder (For Multi Version)

AUTO STOP SENSOR PC BOARD



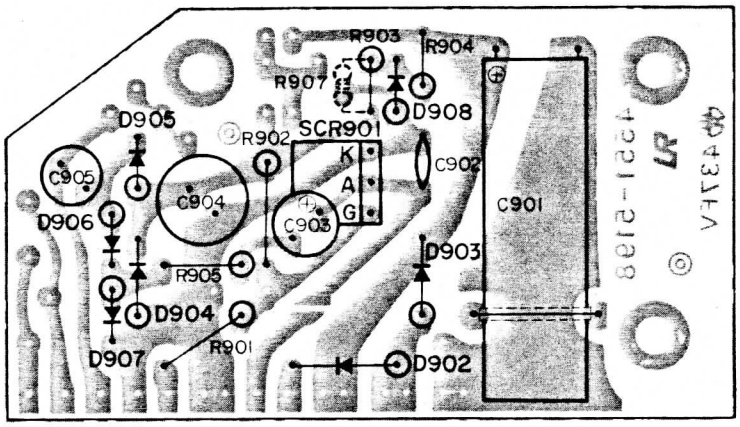
CIRCUIT REF.	H/K PART NO.	DESCRIPTION
IC901	43135750	Integrated Circuit, DN6838

INDICATOR PC BOARD



CIRCUIT REF.	H/K PART NO.	DESCRIPTION
D504, 604	46735566	L. E. D., SLP132B (Red) Peak Indicator
D701	46735748	L. E. D., S5005 Rec. Indicator

AUTO STOP PC BOARD



CIRCUIT REF.	H/K PART NO.	DESCRIPTION
CAPACITORS, ELECTROLYTIC		
C901	31835723	2200MF +50% –10% 25V
C903	31835582	47MF +50% –10% 16V
C904	31835744	47MF ±20% 16V
C905	31835919	10MF ±20% 16V
SEMICONDUCTORS		
SCR901	41035745	Silicon Controlled Rectifier, 2PO5M
D902, 903	41035705	Diode, 1SR34-10 Protector
D904	41528591	Diode, 1N34A Tape Stop Sensor Rectifier
D905, 906, 907	41035728	Diode, 1S2473 Tape Stop Sensor Rectifier, Switching
D908	42035747	Zener Diode, HZ7B 7.1 ±0.4V

POWER INDICATOR PC BOARD

D806	46735566	L. E. D., SLP132B (Red)

DOLBY INDICATOR PC BOARD

D3	46735749	L. E. D., SLP232B (Green)

AUTO STOP ADJUSTMENT PROCEDURE

EQUIPMENT REQUIRED

Power Supply: DC 8V
Oscilloscope

1. Connect an oscilloscope across the capacitor (C904).
2. Set a cassette tape near the tape end.
3. Run the cassette tape and adjust output wave (pulse) for Fig. A.
4. Replace R907 to higher value resistor (1M ohm, 1.5M ohm, 3.3M ohm) when auto stop mechanism operates without reaching tape end.
5. Replace R907 to lower value resistor (470 k ohm) when it takes more than 2.5 seconds to operate auto stop mechanism.
6. Replace R907 to higher value resistor (1M ohm, 1.5M ohm, 3.3M ohm) when the voltage difference is less than 0.1V.
7. Replace SCR901 to new one when auto stop mechanism doesn't operate completely.

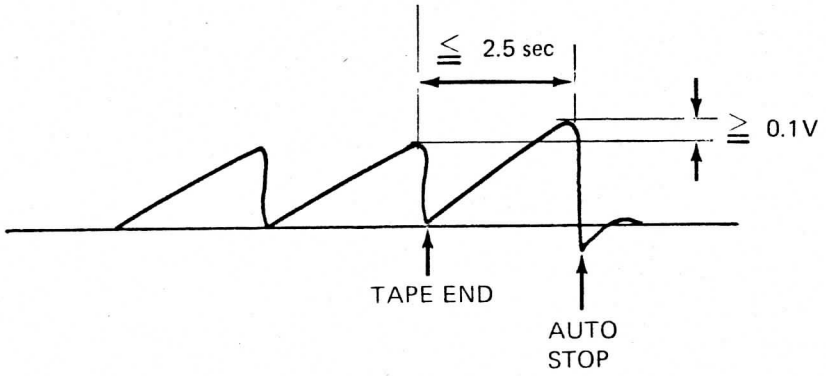
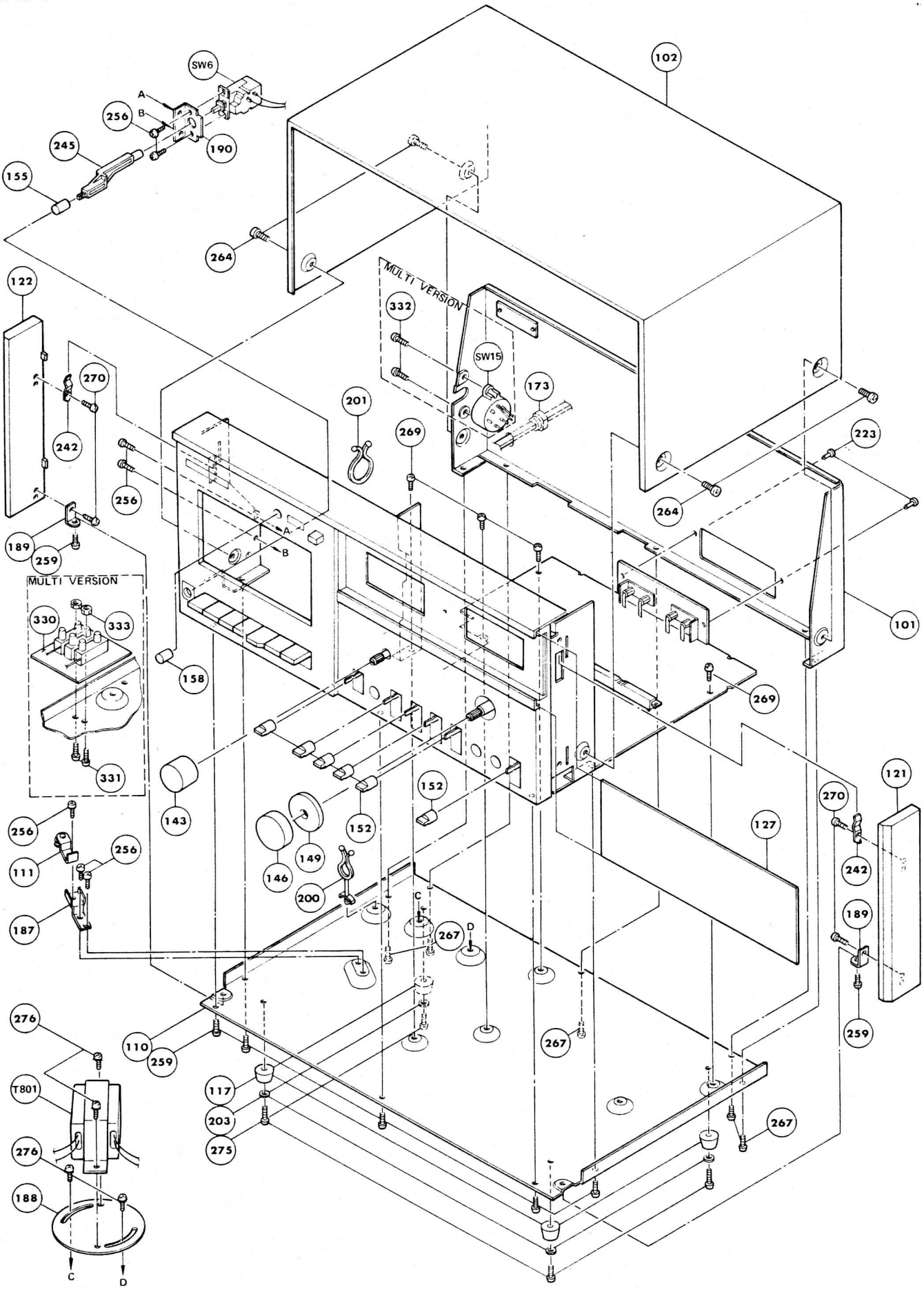
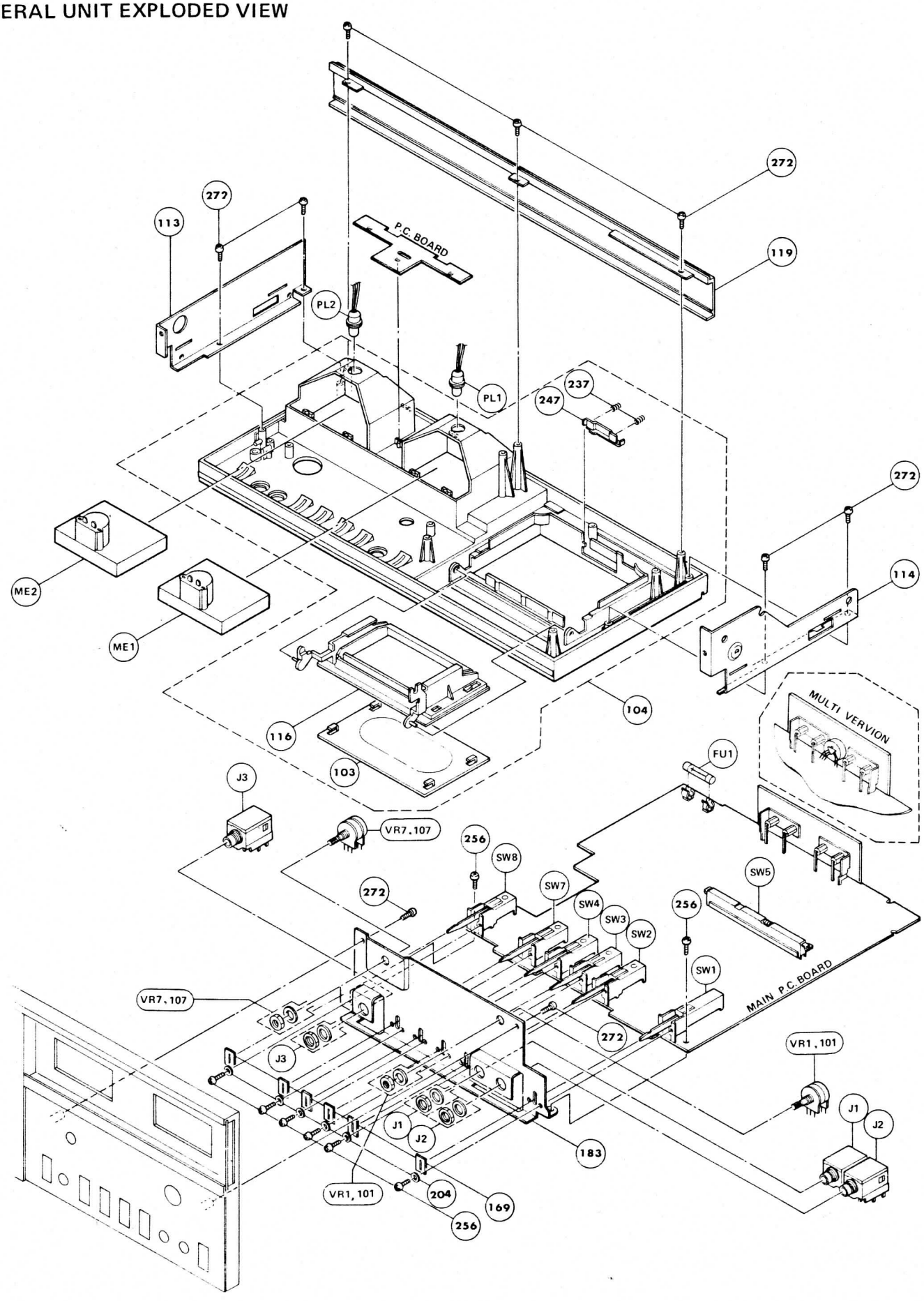


Fig. A

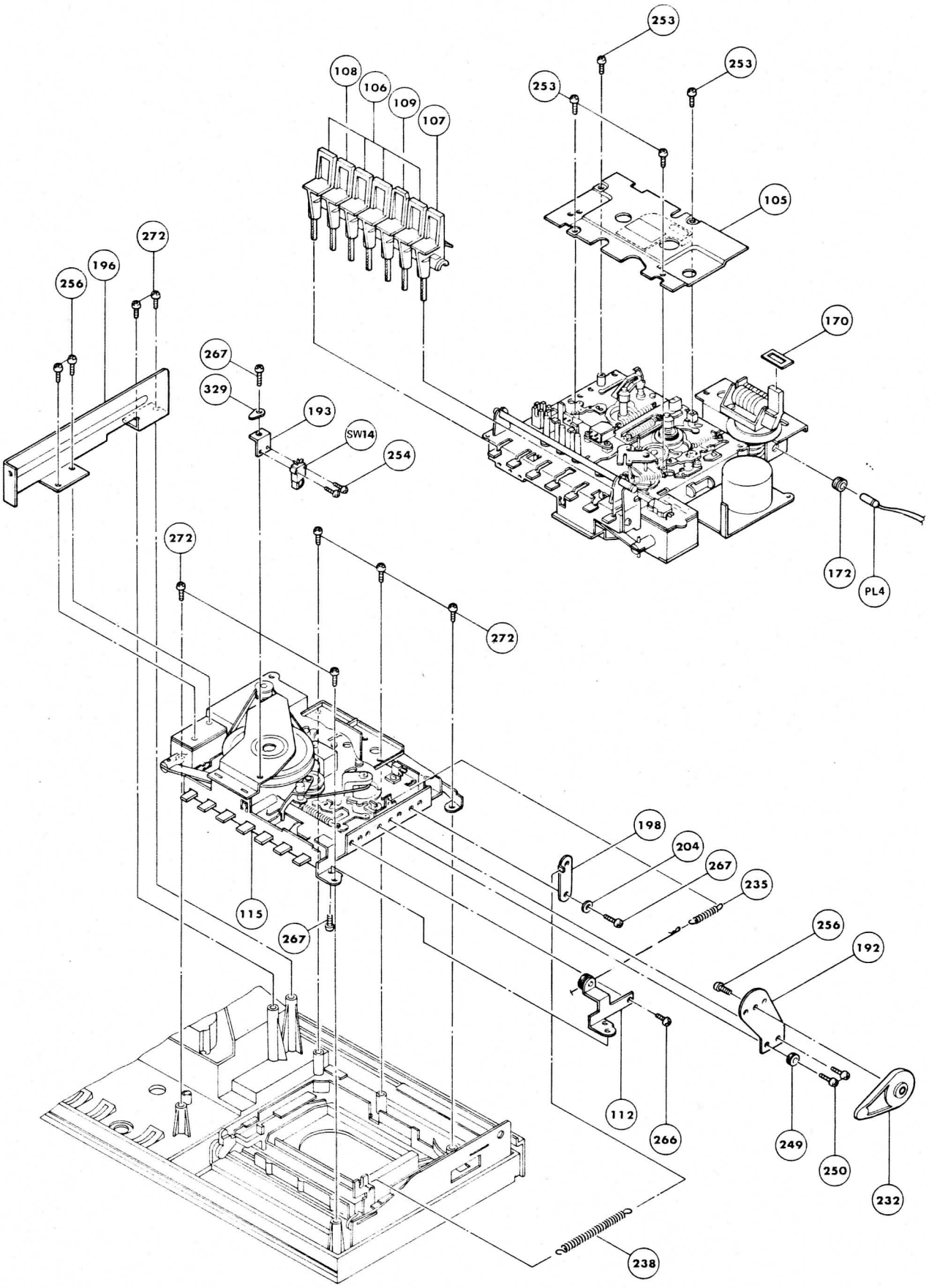
GENERAL UNIT EXPLODED VIEW



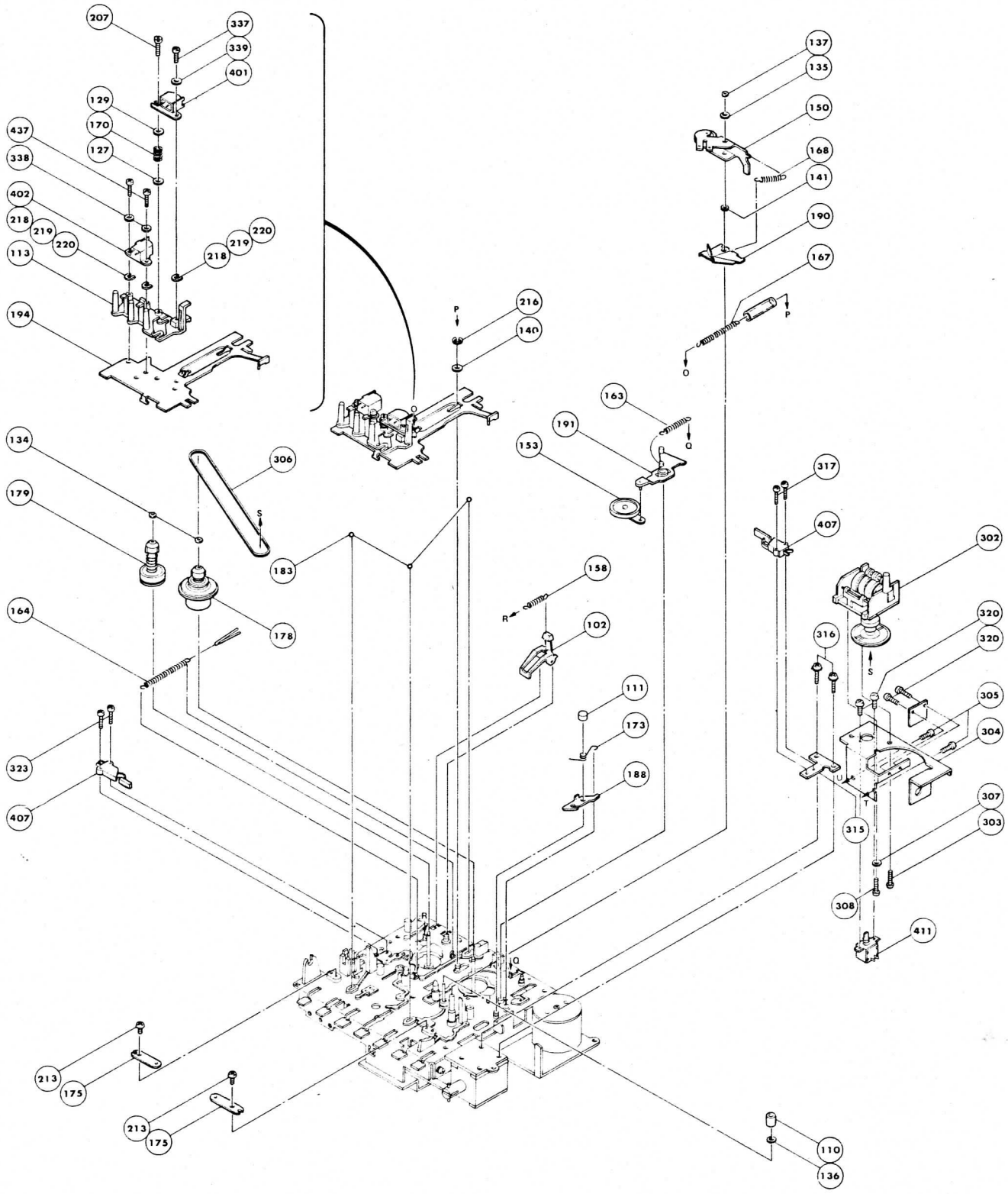
GENERAL UNIT EXPLODED VIEW



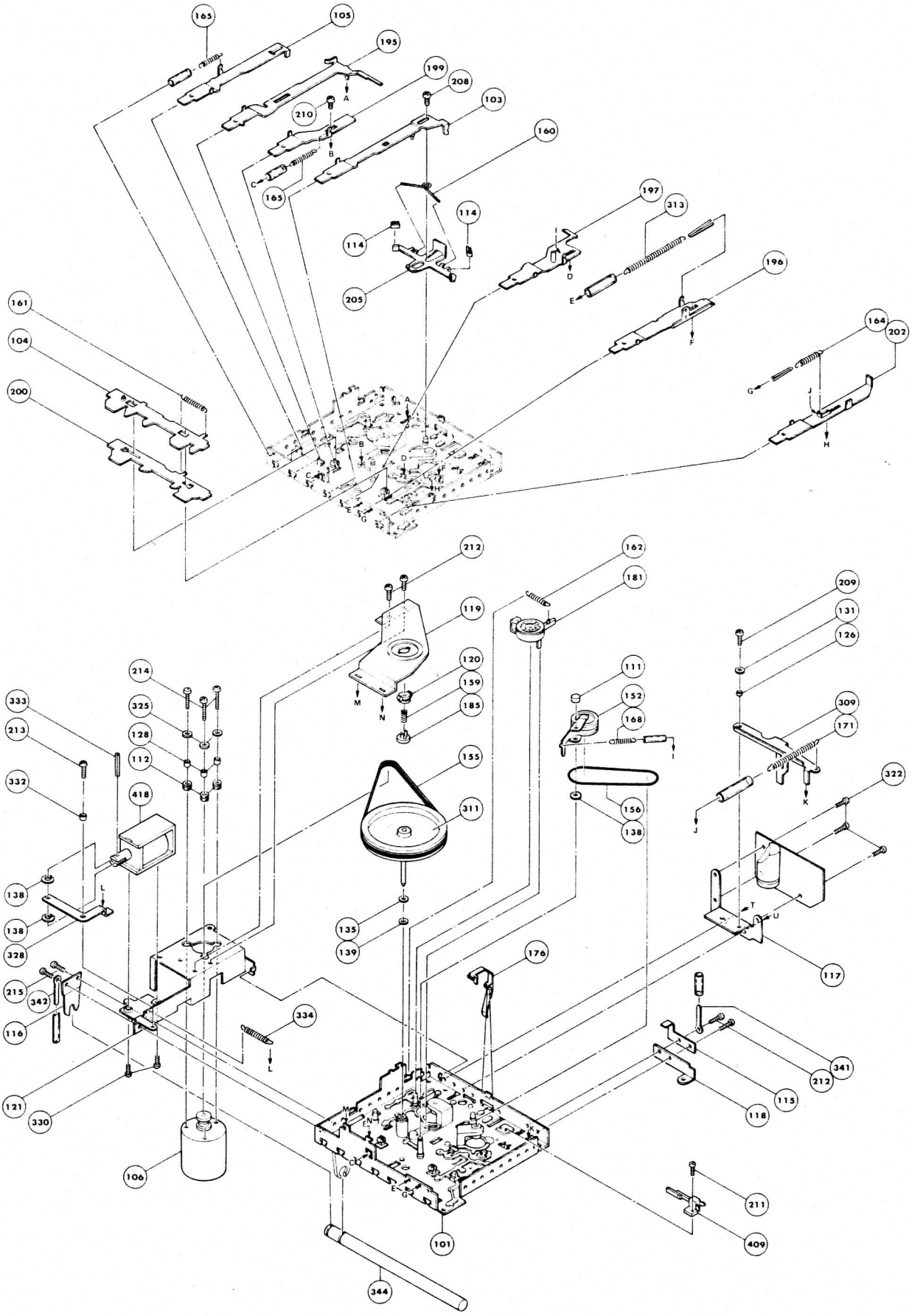
GENERAL UNIT EXPLODED VIEW

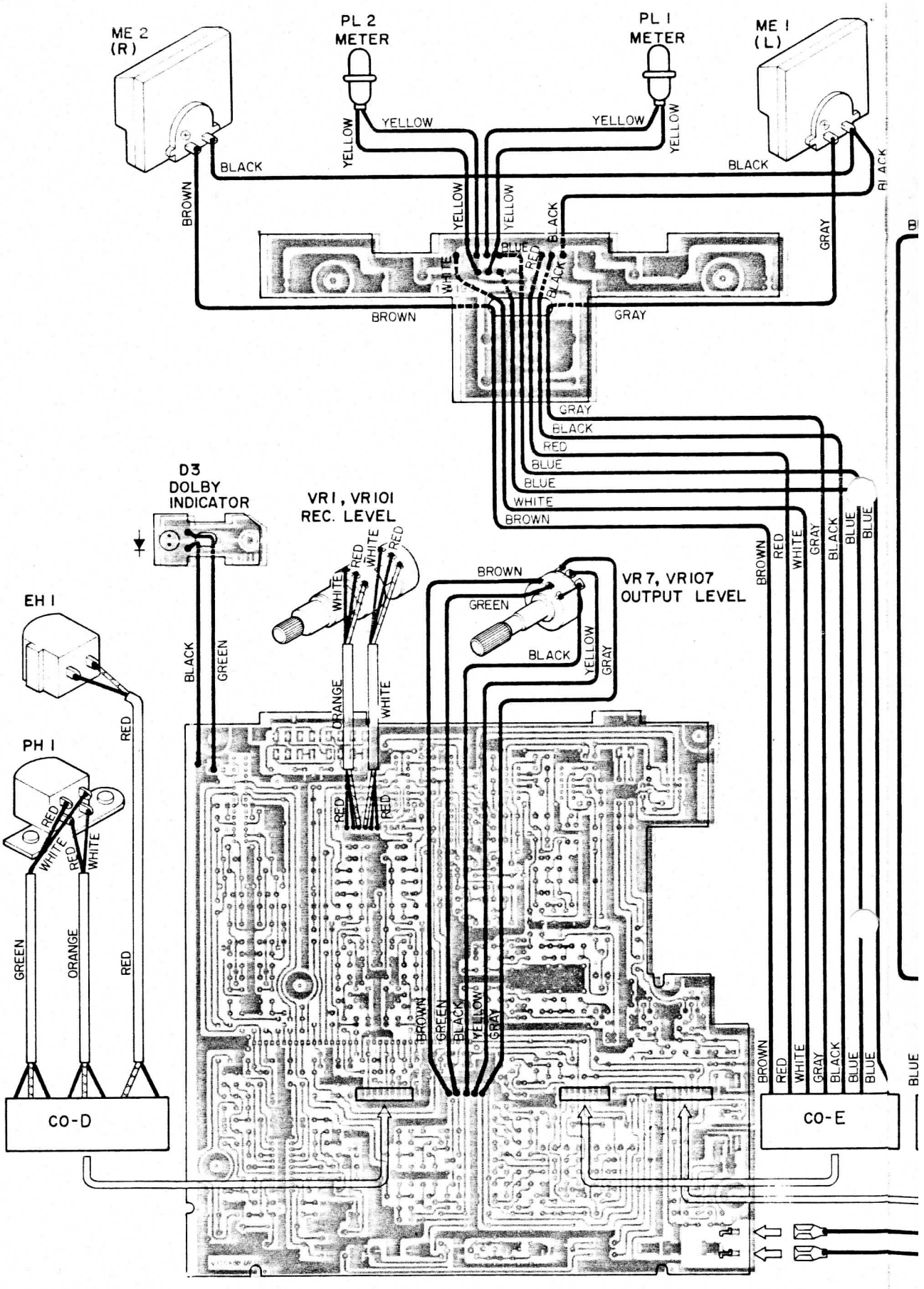


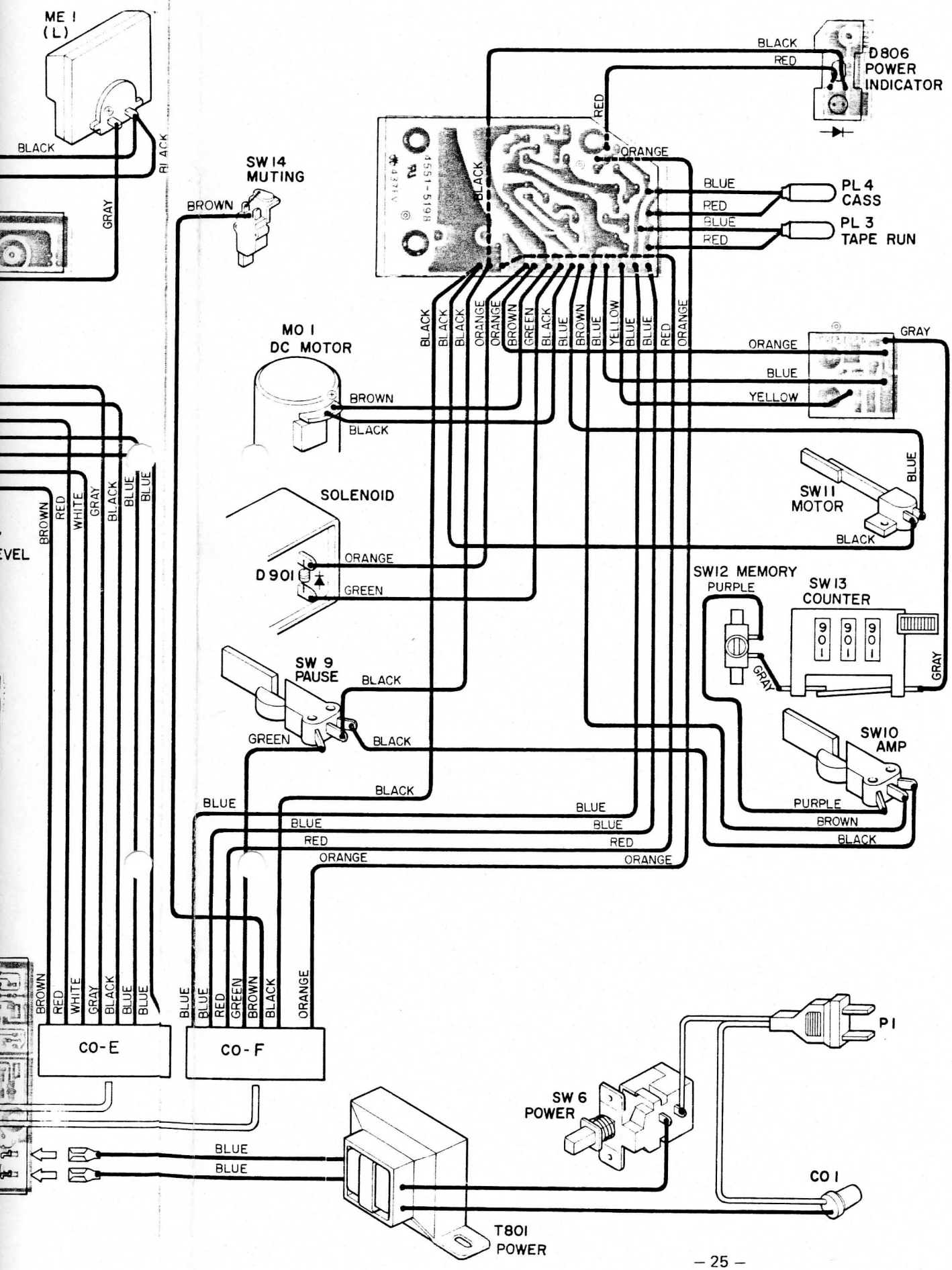
CASSETTE TAPE RECORDER EXPLODED VIEW



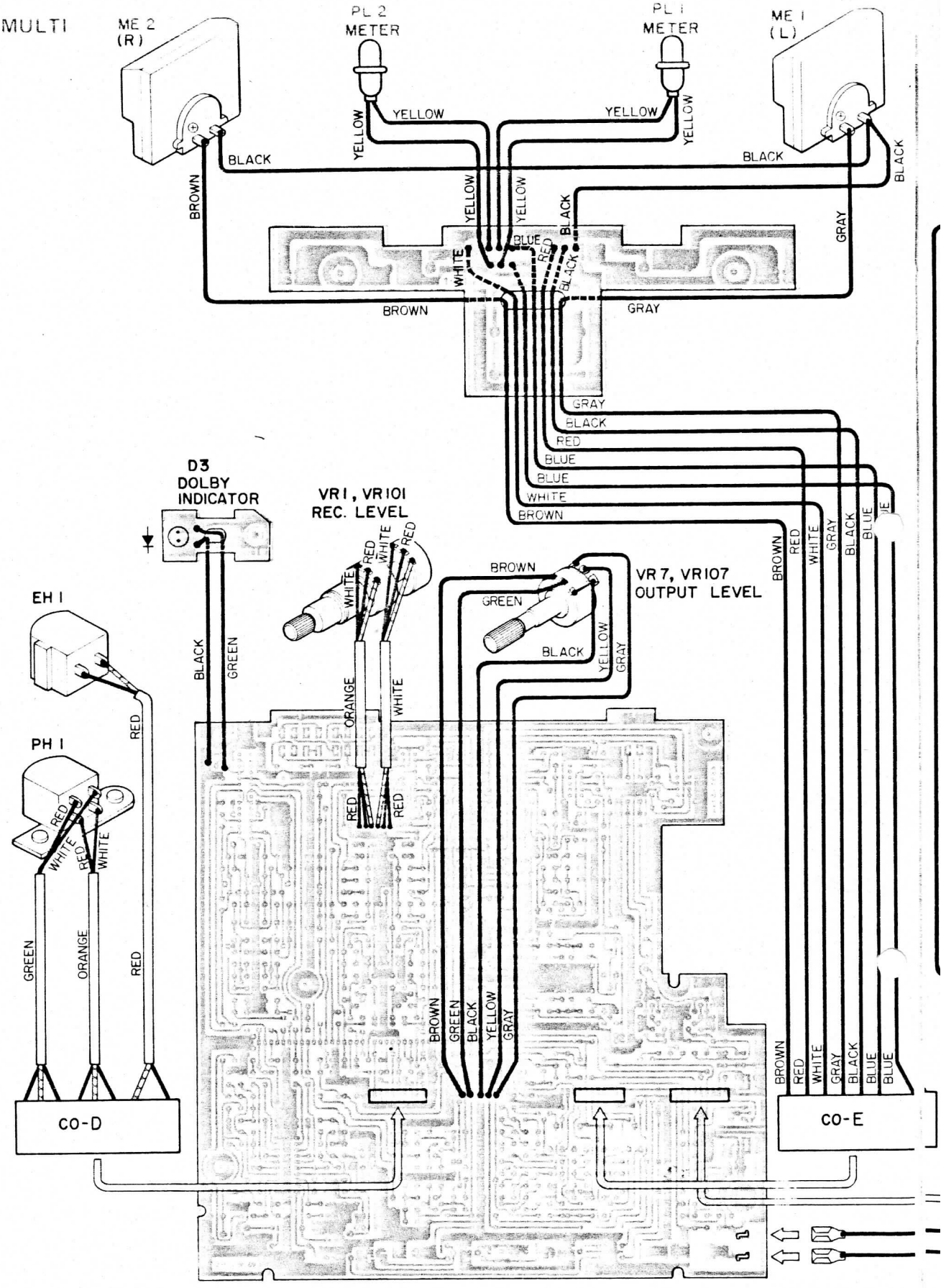
CASSETTE TAPE RECORDER EXPLODED VIEW

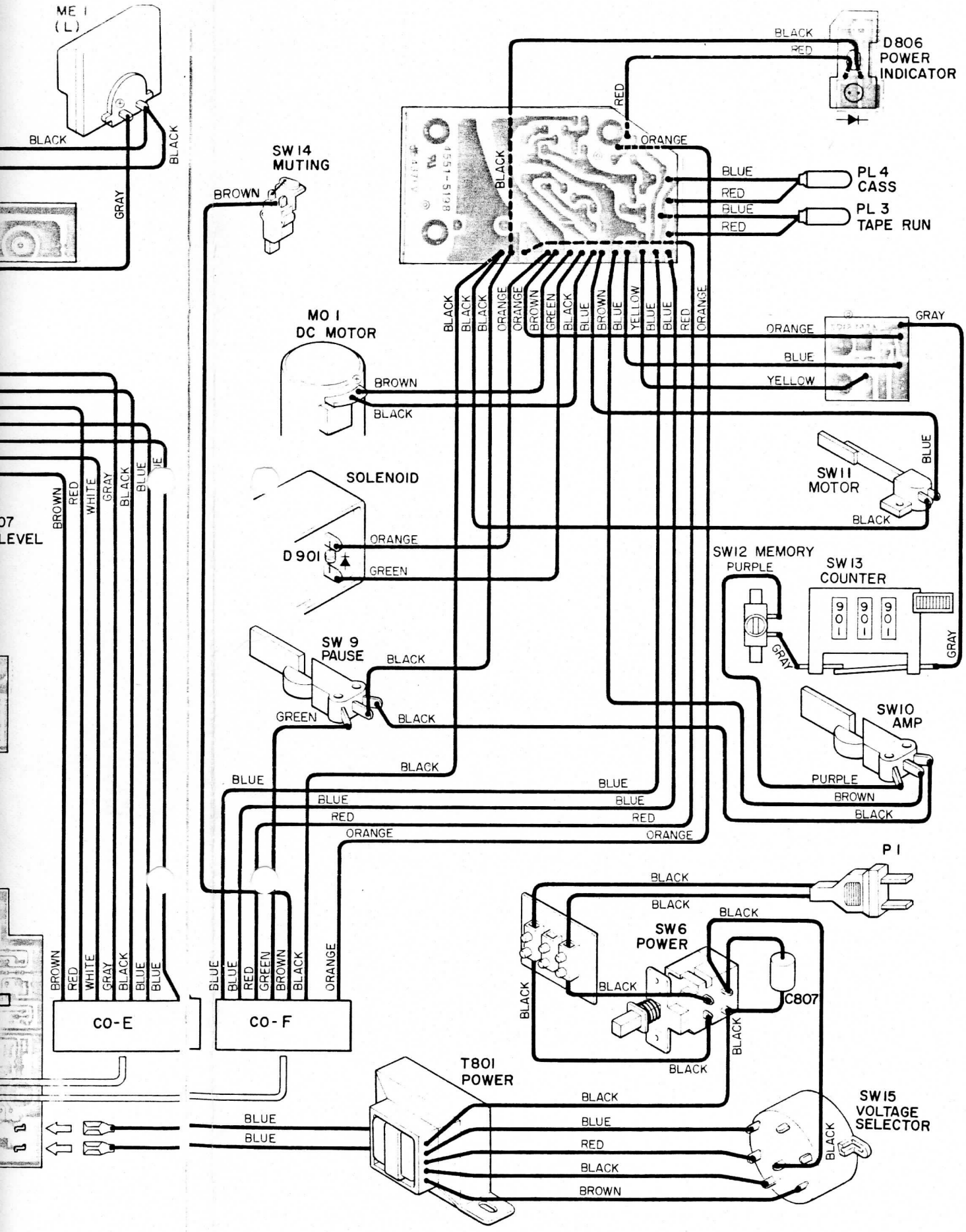



ME 2
(R)
PL 2
METER
PL 1
METER
ME 1
(L)
BLACK
BROWN
YELLOW
GRAY
BLUE
RED
WHITE
D3
DOLBY
INDICATOR
VR1, VR101
REC. LEVEL
VR 7, VR107
OUTPUT LEVEL
EH 1
PH 1
ORANGE
GREEN
CO-D
CO-E


ME 1
(L)
BLACK
GRAY
BLACK
SW 14
MUTING
BROWN
BLACK
RED
D806
POWER
INDICATOR
ORANGE
BLUE
RED
BLUE
RED
PL 4
CASS
PL 3
TAPE RUN
BLACK
BLACK
BLACK
ORANGE
ORANGE
BROWN
GREEN
BLACK
BLUE
BROWN
BLUE
YELLOW
BLUE
BLUE
RED
ORANGE
MO 1
DC MOTOR
BROWN
BLACK
ORANGE
BLUE
YELLOW
GRAY
SOLENOID
D901
ORANGE
GREEN
SW11
MOTOR
BLUE
BLACK
SW12 MEMORY
PURPLE
SW13
COUNTER
GRAY
SW 9
PAUSE
BLACK
GREEN
BLACK
SW10
AMP
PURPLE
BROWN
BLACK
BLUE
BLUE
BLACK
BLUE
BLUE
RED
RED
ORANGE
ORANGE
BROWN
RED
WHITE
GRAY
BLACK
BLUE
BLUE
CO-E
BLUE
BLUE
RED
GREEN
BROWN
BLACK
ORANGE
CO-F
P1
SW 6
POWER
BLUE
BLUE
CO 1
T801
POWER

RING DIAGRAM – MULTI




ME 1
(L)
BLACK
BLACK
GRAY
SW14
MUTING
BROWN
BLACK
RED
D806
POWER
INDICATOR
ORANGE
BLUE
RED
BLUE
RED
PL 4
CASS
PL 3
TAPE RUN
BLACK
BLACK
BLACK
ORANGE
ORANGE
BROWN
GREEN
BLACK
BLUE
BROWN
BLUE
YELLOW
BLUE
RED
ORANGE
MO 1
DC MOTOR
BROWN
BLACK
ORANGE
BLUE
YELLOW
GRAY
SW11
MOTOR
BLUE
BLACK
SOLENOID
D901
ORANGE
GREEN
SW12 MEMORY
PURPLE
SW13
COUNTER
GRAY
GRAY
SW 9
PAUSE
BLACK
GREEN
BLACK
SW10
AMP
PURPLE
BROWN
BLACK
BLACK
BLUE
BLUE
BLUE
BLUE
RED
RED
ORANGE
ORANGE
P1
BLACK
BLACK
BLACK
SW6
POWER
BLACK
BLACK
C807
BLACK
BLACK
T801
POWER
BLACK
BLUE
BLUE
RED
BLACK
BROWN
SW15
VOLTAGE
SELECTOR
BLACK
BLUE
BLUE
BROWN
RED
WHITE
GRAY
BLACK
BLUE
BLUE
CO-E
BLUE
BLUE
RED
GREEN
BROWN
BLACK
ORANGE
CO-F

CHASSIS PARTS LIST

CIRCUIT REF.	H/K PART NO.	DESCRIPTION
CASSETTE TAPE DECK		
106	01535895	D. C. Motor Assembly (W/Pulley)
150	01535691	Pinch Roller
152	01535692	Idler, Rew.
153	01535693	Idler, Play
155	01535694	Belt, Flywheel
156	01535695	Belt, Rew. Idler
178	01535696	Take-Up Reel Spindle
179	01535697	Supply Reel Spindle
181	01535698	Clutch, F. F.
302	01535896	Tape Counter
306	01535700	Belt, Tape Counter
311	01535897	Flywheel
401	01535702	Play/Rec. Head
402	01535703	Erase Head
418	01535704	Solenoid, Auto Stop
GENERAL		
101	00235898	Cabinet Back Assembly
	00235899	(For Multi Version)
102	00235900	Cabinet Top Cover Assembly
103	00235901	Cassette Front Panel Assembly
104	00235902	Cabinet Front Assembly (Includes: Cassette Compartment Cover and Cassette Front Panel Assembly)
105	00235903	Dressing Plate Assembly (Includes: Lamp PL3)
106	00535904	Push Button Assembly, Play, Eject, F. F., Rew.
107	00535905	Push Button Assembly, Pause
108	00535906	Push Button Assembly, Rec.
109	00535907	Push Button Assembly, Stop
115	01535908	Tape Deck Mechanical Assembly
116	00135683	Cassette Compartment Cover
117	62035544	Foot (X4)
119	60135684	Metal Strip, Front Top
121	60135685	Metal Strip, Front Right
122	60135686	Metal Strip, Front Left
127	60135687	Clear Panel, Meter Front
143	63235551	Knob, Output
146	63235688	Knob, Rec. (Left)
149	63235689	Knob, Rec (Right)
152	63235552	Knob, Dolby, Input Selector, EQ, Bias, Bias Trim Subsonic Filter
155	63233663	Push Button, Power
158	25035909	Push Button, Memory

CIRCUIT REF.	H/K PART NO.	DESCRIPTION
ELECTRICAL		
D901	41035705	Diode, Spark Killer
T801	10135706	Transormer, Power
	10135707	(For Multi Version)
ME1, 2	21235708	Meter, Peak Reading
PH1	01535702	Play/Rec Head
EH1	01535703	Erase Head
MO1	01535895	D. C. Motor Assembly
	01535704	Solenoid
SW6	25035709	Push Switch, Power
	25035635	(For Multi Version)
SW9, 10	01535711	Spring Switch, Pause, Amp.
SW11	01535713	Spring Switch, Motor
SW12	25035910	Push Switch, Memory
SW14	01531839	Spring Switch, Muting
SW15	24031338	Rotary Switch, Voltage Selector (For Multi Version)
PL1, 2	46535714	Small Lamp, Meter
PL3, 4	46535715	Small Lamp, Tape Run, Cass.

NOTE TO WARRANTY STATIONS: Printed circuit board assembly numbers are shown for reference only. Harman/Kardon does not normally supply assembled printed circuit boards.

NOTE: To speed handling of your order be sure to include both the model and serial numbers, in addition to the quantity, part number and part description of the items ordered. Orders from independent dealers, independent servicemen, and retail customers will be shipped on a cash in advance basis. Harman/Kardon reserves the right to substitute equivalent parts for those originally installed in this chassis. All parts should be ordered from Harman/Kardon, 55 Ames Court, Plainview, L. I., N. Y. 11803, Att: Parts Department.

CORD STRINGING