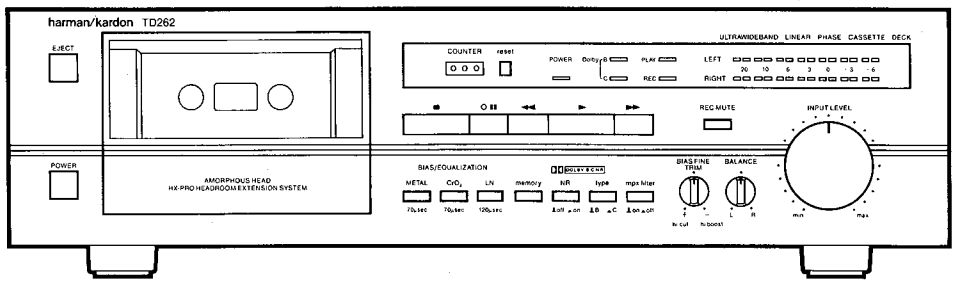
The Harman Kardon
Model TD262

Manual 125A

ULTRAWIDEBAND LINEAR PHASE CASSETTE DECK

Technical Manual



The following mark found in the parts list of this manual identify the model as follows.

GB : General model Black version

TD262

harman/kardon

240 Crossways Park West, Woodbury, N.Y. 11797

1112-3152125A9 P-078801 1500 Printed in Japan

SPECIFICATIONS

	Nominal	Limit
Track Configuration	4-track 2 Channel Stereo Cassette Deck	
● MECHANICAL SECTION		
Record/Playback Tape Speed		
Deviation 4.75cm/sec.	0.05%	± 1.5%
Drift 4.75cm/sec.	0.2%	± 2.0%
Wow and Flutter	0.045% (NAB)	≤ 0.1%
	0.07% (CCIR)	
Take Up Torque	50gr.cm	35 ~ 70gr.cm
Back Tension	4gr.cm	2 ~ 6gr.cm
F. FWD Torque	100gr.cm	70 ~ 150gr.cm
REW Torque	100gr.cm	70 ~ 150gr.cm
F. FWD/REW Time (C-60 Tape)	85 sec.	≤ 100 sec.
Motor	Direct Drive Motor	
● AMPLIFIER SECTION		
Bias Frequency	105 kHz	± 5 kHz
Playback Output	480mV	± 1.5dB
Signal-to-Noise Ratio at Line Input (Input 1 kKz, 100 mV) IHF-A WTD at Dolby Level		
Dolby NR off		
LN	51 dB	
CrO_2	54 dB	
Metal	54 dB	
Dolby B NR		
LN	61 dB	
CrO_2	64 dB	≥ 60 dB
Metal	64 dB	≥ 60 dB
Dolby C NR		
LN	66 dB	
CrO_2	70 dB	≥ 66 dB
Metal	70 dB	≥ 66 dB

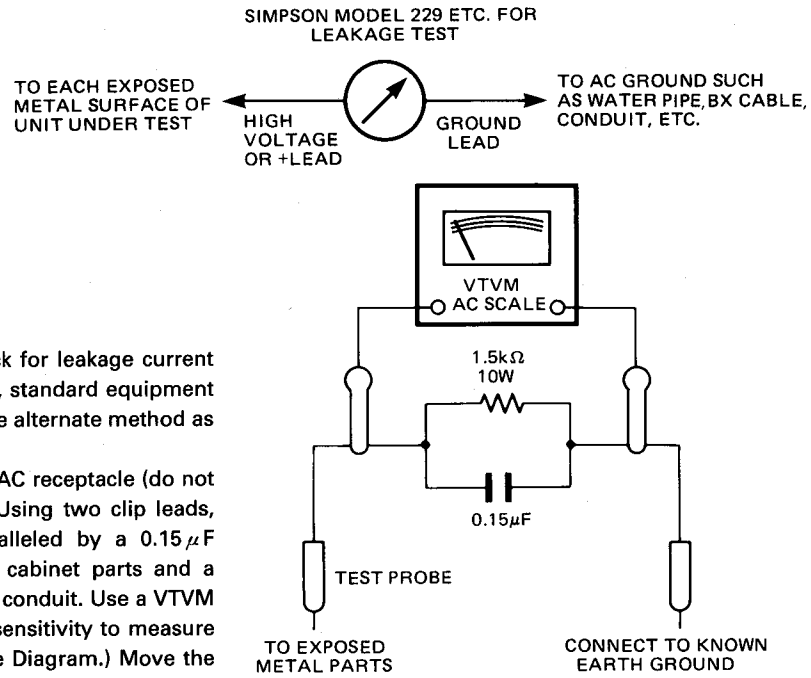
	Nominal	Limit
Channel Separation	45 dB	≥ 35 dB
Crosstalk	70 dB	≥ 60 dB
Record/Playback Distortion (Input 1 kHz)		
LN	0.9%	≤ 2.0%
CrO_2	1.5%	≤ 3.0%
Metal	1.3%	≤ 2.0%
MPX Filter Attenuation		
at 15 kHz	0.3 dB	≤ 1 dB
at 19 kHz	35 dB	≥ 30 dB
Erase Ratio (Input 80 Hz)		
LN	70 dB	≥ 60 dB
Metal	61 dB	≥ 56 dB
Input Sensitivity (Input 1 kHz) at Line Input	52 mV 40(min) ~ 100(max) mV	
Input Impedance (Input 1 kHz) at Line Input	23 kΩ 19(min) ~ 30(max) kΩ	
● DIMENSIONS (W x H x D)	17-3/8" x 4-13/16" x 10-1/16" (443 x 122 x 260 mm)	
● WEIGHT	10lbs (4.5kg)	
● POWER SUPPLY		
U.S.A. & Canada models	AC120V, 60Hz	
General model	AC220V/240V 50/60Hz	
● POWER CONSUMPTION		
U.S.A. & Canada models	18W	
General model	20W	

These specifications are service target specs.
Specifications and components are subject to change without notice.
Overall performance will be maintained or improved.

LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A.)

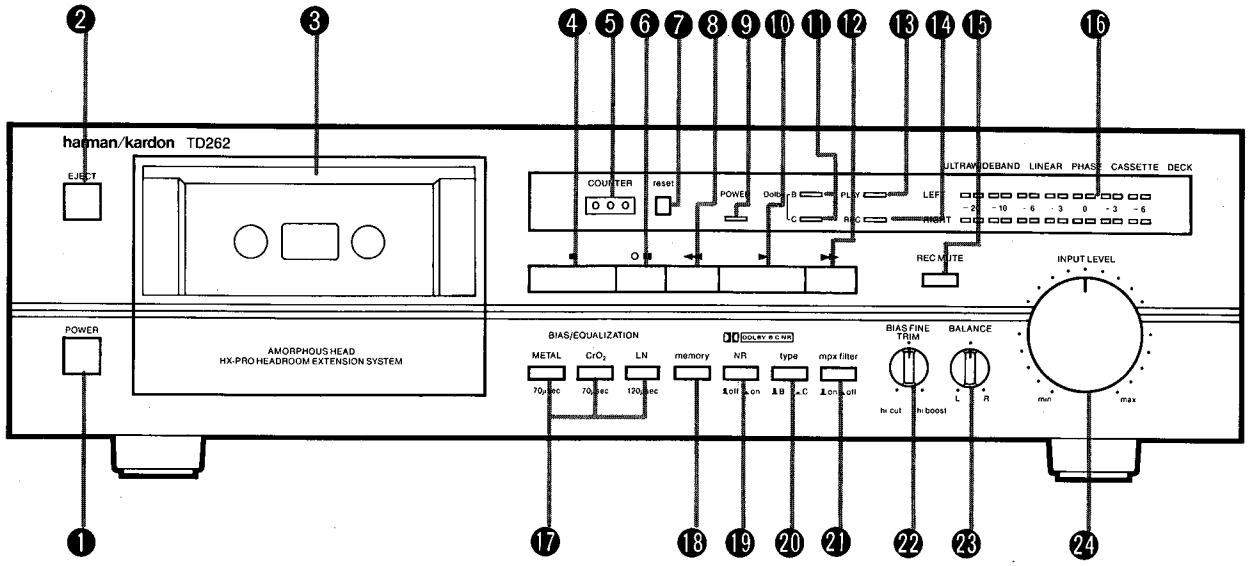
Before returning the unit to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Replace all protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows:



Plug the AC line cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 ohm, 10-watt resistor paralleled by a 0.15 μF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.) A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.

CONTROLS AND FUNCTIONS



❶ POWER SWITCH (POWER)
Pressing this switch will turn on the power and the power indicator will light up. Press the switch again to turn the power off.

❷ EJECT BUTTON (EJECT)
The soft eject mechanism opens the door slowly when this button is pressed.

CAUTION: This button cannot be depressed while the tape is running. Be sure to press the "STOP" button before pressing the "EJECT" button.

❸ CASSETTE COMPARTMENT

❹ STOP BUTTON (STOP)
Press this button to stop each operation. Pressing this button stops the playback, recording, fast forward and rewind modes. It also cancels the record standby mode activated by the "REC/PAUSE" button.

❺ TAPE COUNTER
For a digital indication of the position on a cassette tape. The figure changes as the tape runs. Cueing for the start of a selection is facilitated by making a note of the counter reading.

❻ RECORD/PAUSE BUTTON (REC/PAUSE)
Press this button to provide the record standby mode. The "REC" indicator will illuminate and the "PLAY" indicator will blink. Recording starts when the "PLAY" button is pressed. The "PLAY" indicator will then stop blinking and remain illuminated. Also, press this button to temporarily stop recording.

❼ COUNTER RESET BUTTON (COUNTER reset)
Press this button to reset the "TAPE COUNTER" indication when starting to record.

❽ REWIND BUTTON (REW)
Press this button to rewind a tape at high speed.

❾ POWER INDICATOR

❿ PLAY BUTTON (PLAY)
Press this button to start playback.

⓫ DOLBY NR INDICATOR
For indication that Dolby B or C noise reduction circuitry is activated.

⓬ FAST FORWARD BUTTON (F. FWD)
Press this button to quickly advance the tape in the same direction as it is played.

⓭ PLAY INDICATOR
For indication that the tape is playing.

⓮ RECORD INDICATOR
For indication that the tape is being recorded.

⓯ RECORD MUTE BUTTON (REC MUTE)
This button allows you to create a silent of tape at any time while recording. The button is a momentary contact type and will not lock in the depressed position. The record mute feature will only operate while the button is held in the depressed position.

⓰ PEAK LEVEL METER
The level of the signal being recorded or played is displayed clearly on this meter.

⓱ TAPE SELECTORS (BIAS/EQUALIZATION)
For selection of the record and playback circuitry that provides the lowest distortion and flattest frequency response for metal, chromium dioxide (CrO_2) or low noise (LN) tape.

⓲ MEMORY
If you wish to return to a particular point on the tape, mark it by setting the tape counter to 000 at that point.
To return to the same point, depress the MEMORY button and then press the "REWIND" button.

⑲ DOLBY* NR SWITCH (NR)
Depress this switch for recording or playback using the Dolby NR system. The "Dolby NR" indicator will light up. Press the switch again to turn off the Dolby NR system.

⑳ DOLBY NR TYPE SWITCH (type)
For selection of the Dolby B- or C-type NR system. Depress this switch to select the Dolby C-type NR system. Press it again to select the Dolby B-type system. The green "Dolby NR" indicator (for B-type) or the amber one (for C-type) illuminates according to the "type" switch position.

㉑ MPX FILTER SWITCH (mpx filter)
The MPX filter is a high frequency filter that has very little effect below 16kHz, but has 30dB attenuation at 19kHz, the frequency of the FM stereo pilot signal. Set this switch to the "on" position when recording from an FM stereo tuner or receiver. However, to appreciate the ultra-wideband frequency response of your cassette deck, depress this switch to the "off" position when recording all other sources, such as a turntable, tape deck, etc.

㉒ BIAS FINE TRIM KNOB (BIAS FINE TRIM)
For precise adjustment of the bias used during recording.

㉓ INPUT BALANCE CONTROL KNOB (BALANCE)
This knob is used to restore the input level balance when the levels of the right and left channels are extremely different or to deliberately upset the input level balance as you like. Usually, it is set at the center. Turn it to the clockwise, the recording level of left channel is decreased. Turn it to the counterclockwise, the recording level of right channel is decreased.

㉔ INPUT LEVEL CONTROL KNOB (INPUT LEVEL)
This knob adjusts the record level of the input signal.

*Dolby noise reduction and HX PRO headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX PRO originated by Bang and Olufsen. "Dolby", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

DISASSEMBLY PROCEDURES (REFER TO PAGES 11, 12 AND 13)

[1] CABINET TOP (126) REMOVAL
Remove 6 screws (A) and then remove the Cabinet Top (126).

[2] FRONT PANEL ASSEMBLY (AC) REMOVAL
1. Remove the Cabinet Top (126). (Refer to step [1].)
2. Remove the Belt of the Tape Counter.
3. Disconnect LCN101, LCN104, LCN105 and JL101 connected to the Main P.C. Board (PCB-1).
4. Remove the Rotary Knob (145) and Nut. Remove 7 screws (B) and 4 screws (C), then remove the Front Panel Assembly (AC).

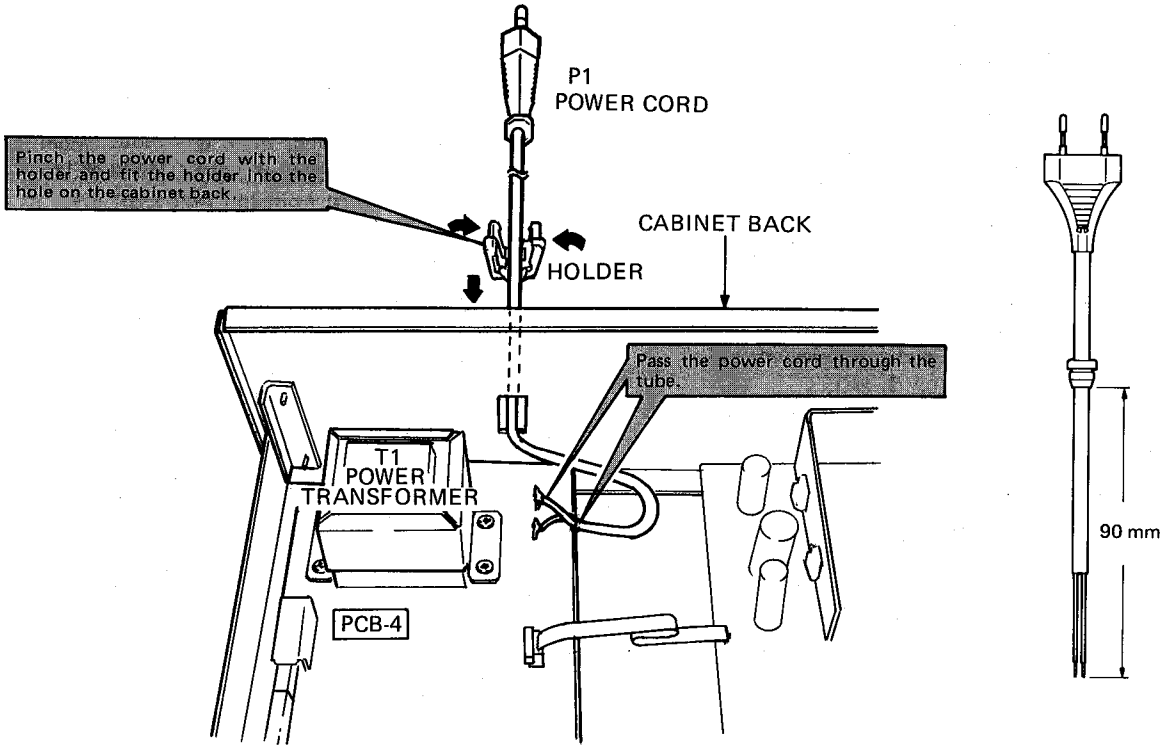
[3] CASSETTE TAPE RECORDER MECHANISM ASSEMBLY (103) REMOVAL
1. Remove the Front Panel Assembly (AC). (Refer to step [2].)
2. Disconnect LCN102 and LCN103 connected to the Cassette Tape Recorder Mechanism Assembly (103).
3. Disconnect CN106 and CN107 connected to the Main P.C. Board (PCB-1).
4. Remove 2 screws (D) and then remove the Cassette Tape Recorder Mechanism Assembly (103).

[4] MAIN P.C. BOARD (PCB-1) REMOVAL
1. Remove the Cabinet Top (126). (Refer to step [1].)
2. Disconnect CN106 and CN107 connected to the Cassette Tape Recorder Mechanism Assembly (103).
3. Disconnect CN101, CN102 and CN105 connected to the Display P.C. Board (PCB-2).
4. Disconnect LCN101 connected to the tape counter.
5. Disconnect the JL102 connected to the Power P.C. Board (PCB-4).
6. Remove 3 screws (E) and 2 screws (F), then remove the Main P.C. Board (PCB-1).

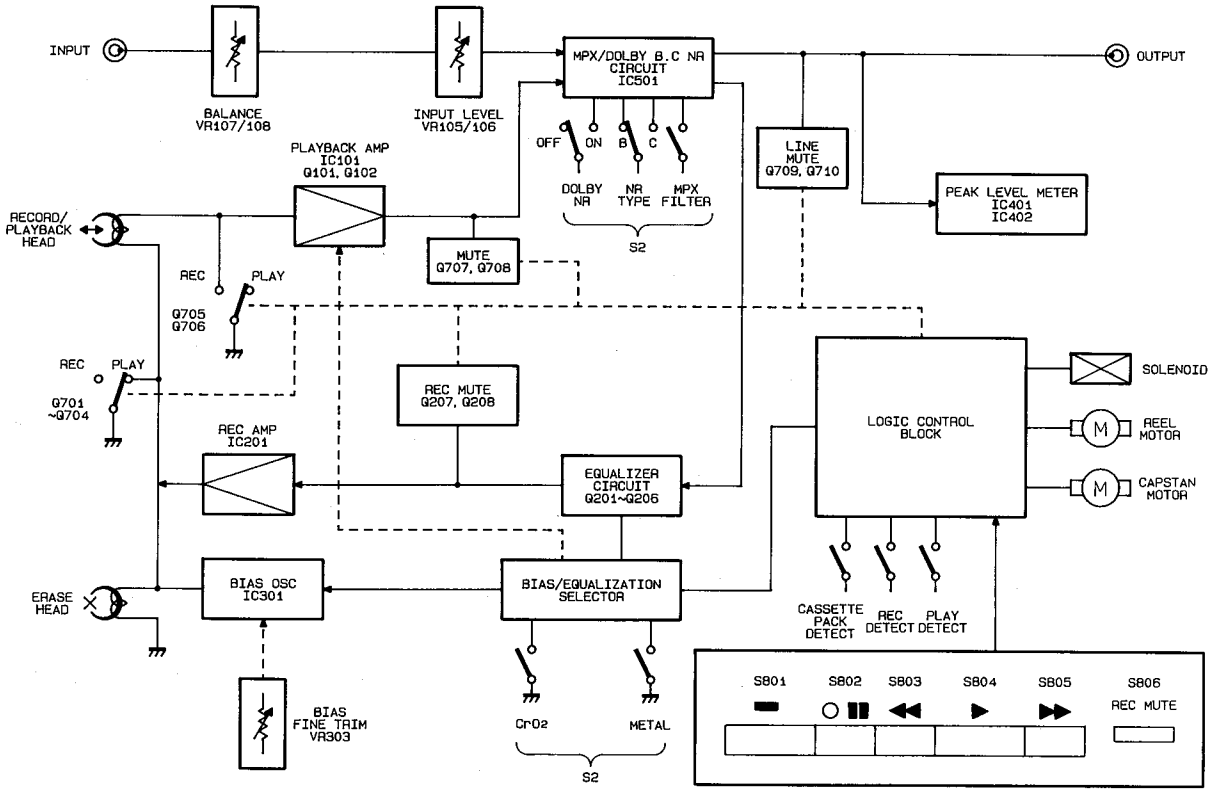
[5] OTHER P.C. BOARDS REMOVAL
1. Remove the Front Panel Assembly (AC). (Refer to step [2].)
2. Remove 2 screws (G) and then remove the Display P.C. Board (PCB-2).
3. Remove 4 screws (H) and then remove the Power P.C. Board (PCB-4). If necessary, disconnect the connector.

POWER CORD REPLACEMENT (FOR SERVICE ENGINEERS OTHER THAN NORTH AMERICA)

In order to prevent fire or shock hazard when replacing the power cord, follow the Procedure below to replace the part with the standard supply parts.



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

PLAYBACK SIGNAL

The signal from the playback head is amplified by the playback amplifier IC101, and is applied to the pins ㊳ (L ch.) and ⑤ (R ch.) of the Dolby NR IC501 (B/C type). Switching of the playback signal from the record mode (external input signal) to the playback mode is performed inside IC501.

IC501 is usually switched to the playback mode. However, the control signal transmitted to the pin ㊷ of IC501 from IC801 through Q505 switches IC501 from the record mode to the playback mode. The input signal to IC501 is output from the pins ㉞ (L ch.) and ⑨ (R ch.) and applied to the OUTPUT jack and the PEAK LEVEL METER circuit. The characteristics of the playback equalizer are defined by the BIAS/EQUALIZATION switch and are selected and specified in Q101 (L ch.) and Q102 (R ch.)

RECORD SIGNAL

The signal from the INPUT jack is controlled by the INPUT LEVEL control and BALANCE control and are applied to pins ㊵ (L ch.) and ③ (R ch.) of the Dolby NR IC501 (B/C type). Switching of the record signal from the playback mode to the record mode is performed inside IC501.

The control signal transmitted to the pin ㊷ of IC501 from IC801 through Q505 switches IC501 from the playback mode to the record mode.

The input signal to the Dolby NR IC is output from pins ㊱ (L ch.) and ⑦ (R ch.) of IC501 and passes through the MPX filter. Then it is input to the pins ㊲ (L ch.) and ⑥ (R ch.) and is output from the pins ㉒ (L ch.) and ㉑ (R ch.)

The signal output from IC501 passes through the record equalizer circuit and is amplified by the record amplifier of IC201. The amplified signal is then applied to the recording head after being synthesized by a bias signal.

MUTING OPERATION

The signal that mutes the sound produced at switching to recording or playback is applied from IC801 of the logic control block.

When the "STOP" button is pressed, the mute signal output from the pin ㉖ of IC801 turns ON Q707 (L ch.) and Q708 (R ch.) to short-circuit the output signals of the playback amplifiers for muting. Also, this mute signal turns ON Q714 as well as Q709 (L ch.) and Q710 (R ch.) to mute the output line signal from the Dolby NR ICs.

For the purpose of preventing generation of noise at power ON/OFF, the mute signal is output from Q51. The muting is done by short circuiting the output signal with Q709 (L ch.) and Q710 (R ch.) turned ON.

LOGIC IN RECORD MODE

When the "REC" button is pressed, the pin ㉔ of IC801 becomes high level and Q705 (L ch.) and Q706 (R ch.) turn ON. The input to the playback amplifiers is muted. Also Q807 and Q808 turn ON and Q809 turns OFF. Therefore Q701, Q703 (L ch.) and Q702, Q704 (R ch.) turn OFF to release the muting of the outputs from the record amplifiers.

Also, Q505 turns ON to make the pin ㊷ of IC501 low level. Therefore the mode is switched to the record mode.

SWITCHING FROM RECORD MODE TO PLAYBACK MODE IN LOGIC

When the "STOP", "PAUSE" or "PLAY" button is pressed, the pin ㉔ of IC801 becomes low level. Q705 (L ch.) and Q706 (R ch.) turn OFF to release the muting of the inputs to the playback amplifiers. Also, Q807 and Q808 turn OFF and Q809 turns ON to turn ON Q701, Q703 (L ch.) and Q702, Q704 (R ch.). Therefore the outputs from the record amplifiers are muted.

Also, Q505 turns OFF to make the pin ㊷ of IC501 high level. Therefore the mode is switched to the playback mode.

ALIGNMENT PROCEDURES (REFER TO PAGES 14, 16 AND 17)

■ CASSETTE MECHANISM CONFIRMATION

Make sure to confirm conditions of the cassette mechanism as follows before adjustment.

1. Confirmation of erroneous erase preventive function

- The switch should turn ON when a tape with erroneous erase preventive pawl is inserted. (Use a tape which is 0.2mm smaller than the minimum size of 62.9mm or a MAZ-0184-C gauge one.)

2. Confirmation of cassette pack detection function

- The switch should turn ON when a tape is inserted. (Use a tape whose minimum size is 63.5mm or a MAZ-0184-C gauge one.)
- When the switch arm is moved back gradually from the ON position, the switch should turn OFF.

3. Confirmation of eject function

- The cassette compartment opens smoothly and no abnormal noise should be heard while opening and closing.
- The eject lock arm opens smoothly without contacting the chassis and damper.
- The eject button can not be pressed during playback.

4. Confirmation of playback, fast forward and rewind functions

- The torque used in each of the playback, fast forward and rewind modes should be within specification.
  - Playback ····· 35gr. cm ~ 70gr. cm
  - Fast Forward ····· 70gr. cm ~ 150gr. cm
  - Rewind ····· 70gr. cm ~ 150gr. cm
- No abnormal noise should be heard during operation in any mode. The solenoid switching sound should not be considered as a noise.

5. Confirmation of positions of record/playback head and erase head

- **Head height**
  a) Set the M-300 head gauge.
  b) Set the unit in the playback mode and place the adjustment chip on the head gauge as shown in the Fig. 1.
  c) The adjustment chip should not contact the tape guide of both record/playback head and erase head.

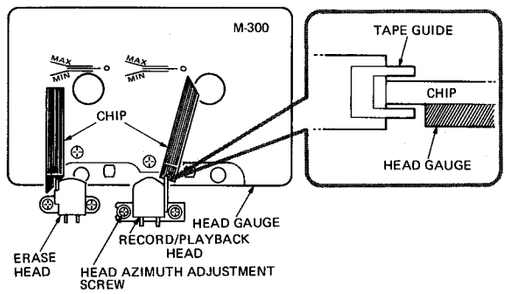


Fig. 1

- **Head position**
  a) Set the M-300 head gauge.
  b) Set the unit in the playback mode and place the adjustment chip on the head gauge as shown in the Fig. 2.
  c) With both record/playback head and erase head, the adjustment chip should be between MIN and MAX of the M-300 head gauge.

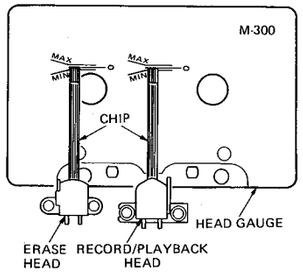


Fig. 2

■ ELECTRICAL ADJUSTMENT AND CONFIRMATION

1. Before adjustment

- Before electrical adjustment, make sure that confirmations of the cassette mechanism are all completed.
- After the power switch is pushed on, wait for 10 minutes before measuring to be sure of the most stable operation.
- Since head magnetization, dust accumulations, etc. are likely to introduce errors in the various characteristics, it is very important that the heads are properly demagnetized and cleaned before commencing any adjustment, particularly frequency response and head azimuth adjustment.

2. Instruments required

- Low frequency oscillator
- AC VTVM or dual channel AC VTVM
- Oscilloscope
- Wow/flutter meter
- Frequency counter

3. Test tapes

- Azimuth adjustment ····· MTT-114 or TCC-153
- Tape speed adjustment ····· MTT-111, MTT-111DN or TCC-110
- Playback output level adjustment ····· TCC-130
- Playback frequency characteristic confirmation ····· TCC-1216 or TCC-162C and TCC-262C
- Reference tapes
  - LN ····· SCC-502
  - CrO_2 ····· SCC-1360
  - METAL ····· SCC-565

Note:
C-90 differes with C-60 in the thickness and bias is of unequal, so adjust with the tape whose bias in of specified value.

4. General conditions (unless otherwise noted)

Controls and Switches	Settings
Dolby NR	Off
Input Level	Maximum
MPX Filter	Off
Bias Fine Trim	Center
Balance	Center

Azimuth Adjustment

When the maximum level point of R channel does not equal that L channel, connect the oscilloscope as shown in Fig. 3 and proceed with azimuth adjustment so that L and R channels are in phase.

a) Connect L channel tape out to "X (or V)" and R channel to "Y (or H)". Observe the lissajouss waveform.
b) Set L and R channels to monaural. Adjust vertical and horizontal gain so that the waveform becomes 45 degree.
c) Adjust azimuth so that the measurement of "a" becomes maximum and the measurement of "b" becomes minimum against the 45 degree line.

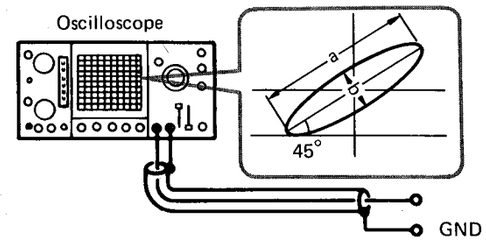
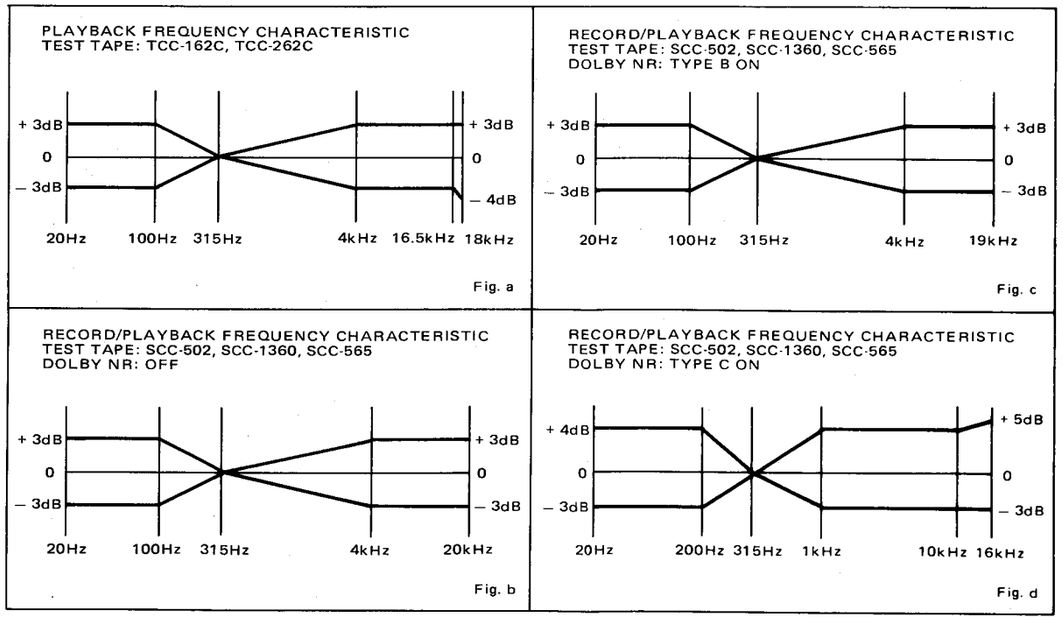


Fig. 3



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- The cassette compartment opens smoothly and no abnormal noise should be heard while opening and closing.
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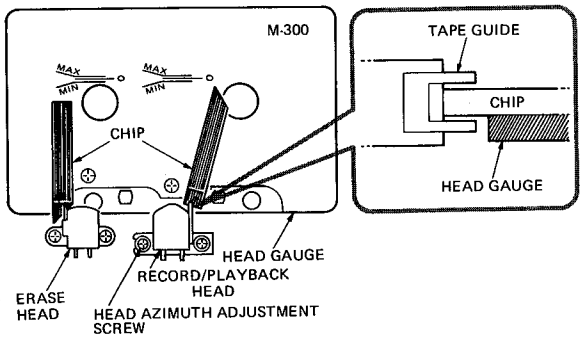

Fig. 1

- **Head position**
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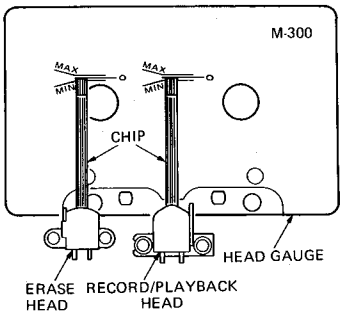

Fig. 2

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- Frequency counter

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  ····· MTT-111, MTT-111DN or TCC-110
- Playback output level adjustment ····· TCC-130
- Playback frequency characteristic confirmation
  ····· TCC-1216 or TCC-162C and TCC-262C
- Reference tapes
  LN ····· SCC-502
  CrO_2 ····· SCC-1360
  METAL ····· SCC-565

Note:
C-90 differes with C-60 in the thickness and bias is of unequal, so adjust with the tape whose bias in of specified value.

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Bias Fine Trim	Center
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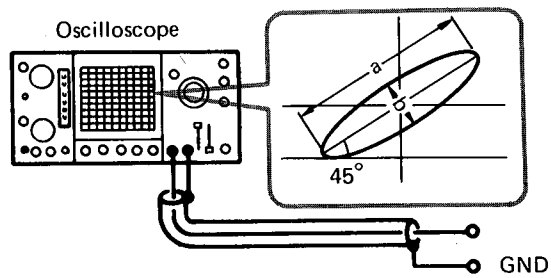


Fig. 3

PLAYBACK FREQUENCY CHARACTERISTIC
TEST TAPE: TCC-162C, TCC-262C

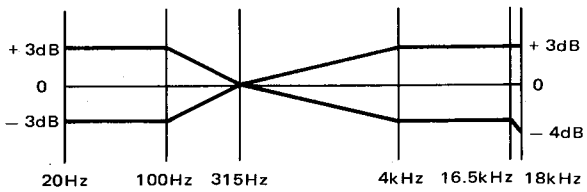


Fig. a

RECORD/PLAYBACK FREQUENCY CHARACTERISTIC
TEST TAPE: SCC-502, SCC-1360, SCC-565
DOLBY NR: TYPE B ON

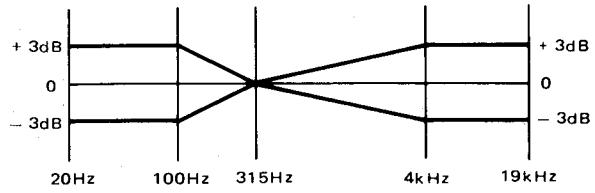


Fig. c

RECORD/PLAYBACK FREQUENCY CHARACTERISTIC
TEST TAPE: SCC-502, SCC-1360, SCC-565
DOLBY NR: OFF

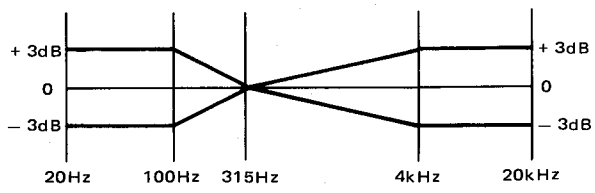


Fig. b

RECORD/PLAYBACK FREQUENCY CHARACTERISTIC
TEST TAPE: SCC-502, SCC-1360, SCC-565
DOLBY NR: TYPE C ON

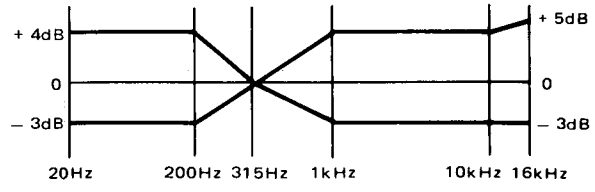


Fig. d

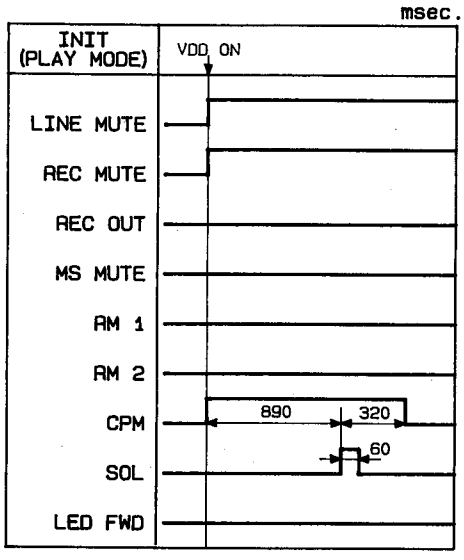
Step	Alignment	Instrument Required	Input Signal	Mode	Test Point	Adjustment	For
1	Azimuth	VTVM Oscilloscope Test tape (MTT-114 or TCC-153)		PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	Azimuth screw	Maximum output Refer to "Azimuth Adjustment" on page 7.
2	Tape speed	Frequency counter Test tape (MTT-111, MTT-111DN or TCC-110)		PB	TP501 (Lch), GND TP502 (Rch), GND	VR (built in motor)	3000Hz ± 10Hz Adjust at the center of test tape.
3	Playback output level	VTVM Test tape (TCC-130)		PB	TP501 (Lch), GND TP502 (Rch), GND	VR101 (Lch) VR102 (Rch)	600mV Tape selector is LN position.
4	Playback frequency characteristic confirmation	VTVM Test tape (TCC-1216 or TCC-162C and TCC-262C)		PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	R117, R118 R127, R128 R129, R130	Unsolder resistors of R117 and R118, R127 and R128, or R129 and R130 so that the frequency response is within the range as shown in Fig. a.
5	Bias frequency confirmation	Frequency counter		REC-PAUSE	TP101 (Lch), GND TP102 (Rch), GND	IF necessary, replace OSC block	105kHz ±3kHz Tape selector is METAL position.
6	Dolby HX PRO	VTVM		REC-PAUSE Bias Trim High Cut VR301, 302 Bias MAX	TP301 (Lch), GND TP302 (Rch), GND	L301 L302	Maximum output Tape selector is METAL position. After adjustment for L301 and L302, set bias fine trim (VR303), VR301 and VR302 to the center position.
7	Bias trap	VTVM		REC-PAUSE	TP201 (Lch), GND TP202 (Rch), GND	LC201 LC202	Minimum output Tape selector is METAL position.
8-1	Bias level (pre-adjustment)	VTVM		REC-PAUSE	TP101 (Lch), GND TP102 (Rch), GND	VR301 VR302	72.5mV Tape selector is METAL position
8-2						VR304	40mV Tape selector is CrO_2 position.
8-3						VR305	23mV Tape selector is LN position
9	Record level (pre-adjustment)	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 600mV in REC-PAUSE mode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR201 VR202 VR301 VR302	600mV Tape selector is METAL position. Adjust VR301 and VR302 so that the distortion becomes 1.2% ~ 1.4%.
						VR305 VR304	600mV Adjust VR305 so that the distortion becomes 1.8% (CrO_2) Adjust VR304 so that the distortion becomes 1.0% (LN) This confirmation should be at each tape selector position.
10-1	Record/playback equalizer frequency characteristic	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 25dB below 600mV in REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.	REC/PB	OUTPUT jack	VR304 L201 L202 VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is CrO_2 position.
10-2						VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is METAL position.
10-3						VR305 L201 L202 VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is LN position.
10-4						L201 L202	So that the record/playback frequency is balanced at each position of metal and CrO_2.
11	Record level	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 600mV in REC-PAUSE mode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR201 VR202	600mV Perform adjustment using CrO_2. Perform checking only for LN and METAL tapes.
12	Meter level	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 600mV.	REC-PAUSE	PEAK LEVEL METER		Confirm peak level meter reads: 0 dB ±1 dB.
13	MPX filter characteristic confirmation	VTVM	Apply 19kHz, 15kHz and 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 600mV.	REC-PAUSE MPX filter ON	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	LC501 LC502	Adjust for −0.3 dB at 15kHz and > 30 dB at 19kHz.
14	Anti-Skewing level confirmation	VTVM	Apply 400Hz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 600mV.	REC-PAUSE Dolby C ON	IC501, pin22, pin21, GND	LC503 LC504	Confirm that attenuation of 20kHz ±300Hz is maximum. Dolby C NR is on.

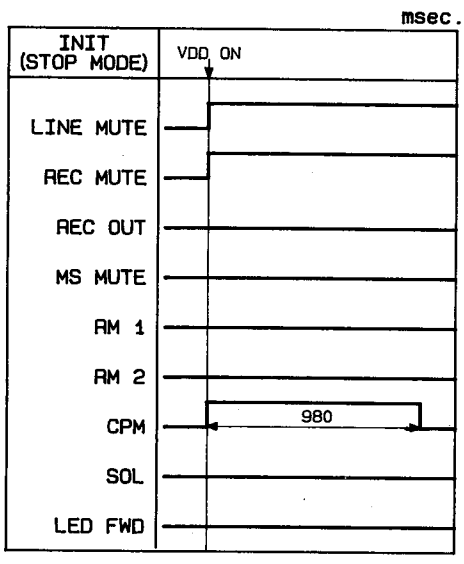
Step	Alignment	Instrument Required	Input Signal
1	Azimuth	VTVM Oscilloscope Test tape (MTT-114 or TCC-153)	
2	Tape speed	Frequency counter Test tape (MTT-111, MTT-111DN or TCC-110)	
3	Playback output level	VTVM Test tape (TCC-130)	
4	Playback frequency characteristic confirmation	VTVM Test tape (TCC-1216 or TCC-162C and TCC-262C)	
5	Bias frequency confirmation	Frequency counter	
6	Dolby HX PRO	VTVM	
7	Bias trap	VTVM	
8 1 8 2 8 3	Bias level (pre-adjustment)	VTVM	
9	Record level (pre-adjustment)	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so TP501 and TP502 to GND voltage is 600mV in REC-PAUSE m
10 1 10 2 10 3 10 4	Record/playback equalizer frequency characteristic	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so TP501 and TP502 to GND voltage is 25dB below 600m REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.
11	Record level	VTVM Blank tapes (CrO_2 SCC-1360 METAL SCC-565 LN SCC-502)	Set INPUT LEVEL knob so that TP501 and TP502 to GND volta 600mV in REC-PAUSE mode.
12	Meter level	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so TP501 and TP502 to GND voltage is 600mV.
13	MPX filter characteristic confirmation	VTVM	Apply 19kHz, 15kHz and 1kHz signal to INPUT jack. Set I LEVEL knob so that TP501 and TP502 to GND voltage is 60
14	Anti-Skewing level confirmation	VTVM	Apply 400Hz signal to INPUT jack. Set INPUT LEVEL knob so TP501 and TP502 to GND voltage is 600mV.

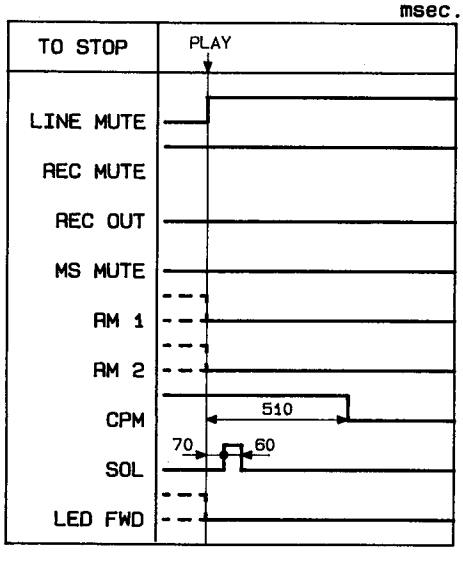
	Mode	Test Point	Adjustment	For
	PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	Azimuth screw	Maximum output Refer to "Azimuth Adjustment" on page 7.
	PB	TP501 (Lch), GND TP502 (Rch), GND	VR (built in motor)	3000Hz ± 10Hz Adjust at the center of test tape.
	PB	TP501 (Lch), GND TP502 (Rch), GND	VR101 (Lch) VR102 (Rch)	600mV Tape selector is LN position.
	PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	R117, R118 R127, R128 R129, R130	Unsolder resistors of R117 and R118, R127 and R128, or R129 and R130 so that the frequency response is within the range as shown in Fig. a.
	REC-PAUSE	TP101 (Lch), GND TP102 (Rch), GND	IF necessary, replace OSC block	105kHz ±3kHz Tape selector is METAL position.
	REC-PAUSE Bias Trim High Cut VR301, 302 Bias MAX	TP301 (Lch), GND TP302 (Rch), GND	L301 L302	Maximum output Tape selector is METAL position. After adjustment for L301 and L302, set bias fine trim (VR303), VR301 and VR302 to the center position.
	REC-PAUSE	TP201 (Lch), GND TP202 (Rch), GND	LC201 LC202	Minimum output Tape selector is METAL position.
	REC-PAUSE	TP101 (Lch), GND TP102 (Rch), GND	VR301 VR302	72.5mV Tape selector is METAL position
			VR304	40mV Tape selector is CrO_2 position.
			VR305	23mV Tape selector is LN position
knob so that AUSE mode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR201 VR202 VR301 VR302	600mV Tape selector is METAL position. Adjust VR301 and VR302 so that the distortion becomes 1.2% ~ 1.4%.
			VR305 VR304	600mV Adjust VR305 so that the distortion becomes 1.8% (CrO_2) Adjust VR304 so that the distortion becomes 1.0% (LN) This confirmation should be at each tape selector position.
knob so that w 600mV in	REC/PB	OUTPUT jack	VR304 L201 L202 VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is CrO_2 position.
			VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is METAL position.
			VR305 L201 L202 VR301 VR302	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is LN position.
			L201 L202	So that the record/playback frequency is balanced at each position of metal and CrO_2.
ND voltage is	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR201 VR202	600mV Perform adjustment using CrO_2. Perform checking only for LN and METAL tapes.
knob so that	REC-PAUSE	PEAK LEVEL METER		Confirm peak level meter reads: 0 dB ±1 dB.
. Set INPUT ge is 600mV.	REC-PAUSE MPX filter ON	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	LC501 LC502	Adjust for −0.3 dB at 15kHz and > 30 dB at 19kHz.
knob so that	REC-PAUSE Dolby C ON	IC501, pin22, pin21, GND	LC503 LC504	Confirm that attenuation of 20kHz ±300Hz is maximum. Dolby C NR is on.

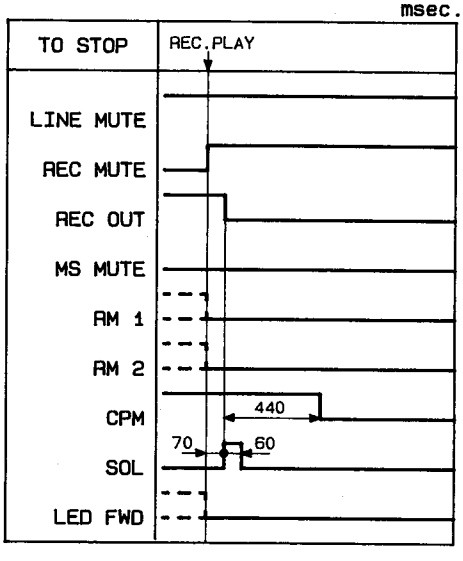
TIMING CHART

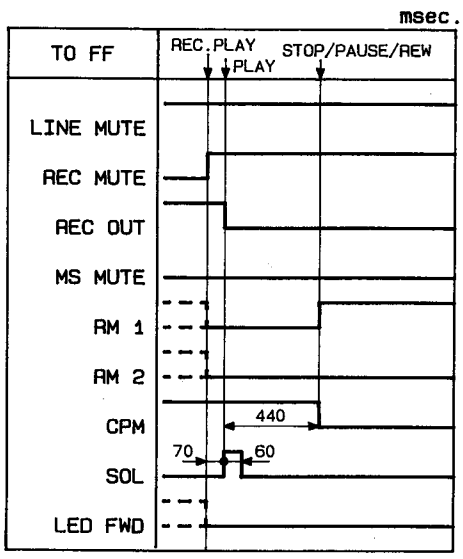
IC801 : TC9312N-038

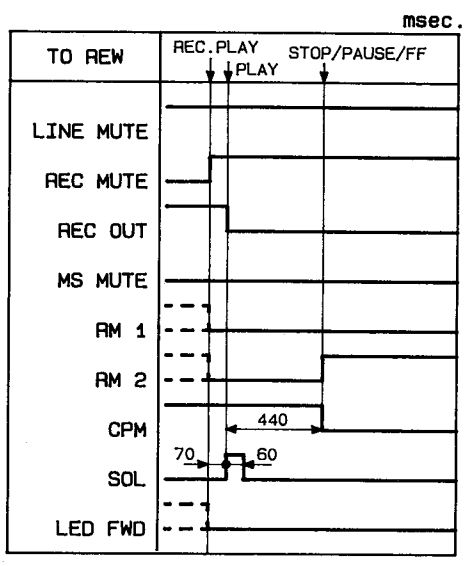












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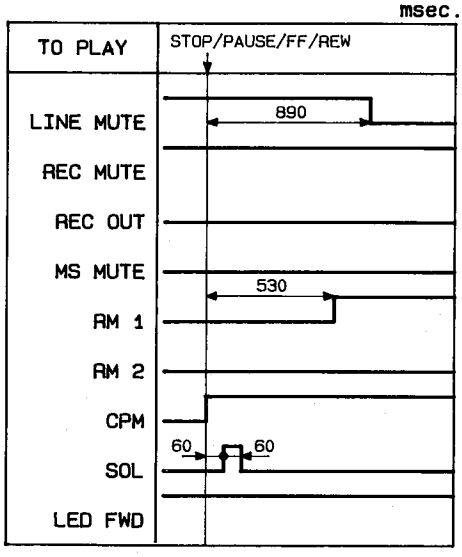

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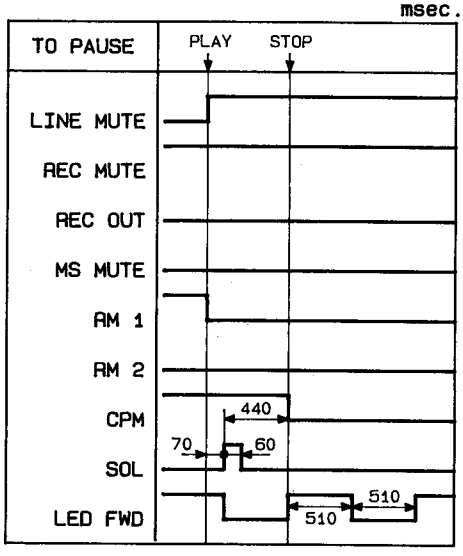

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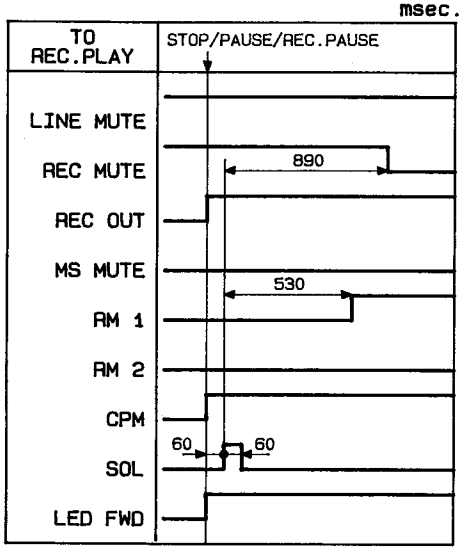

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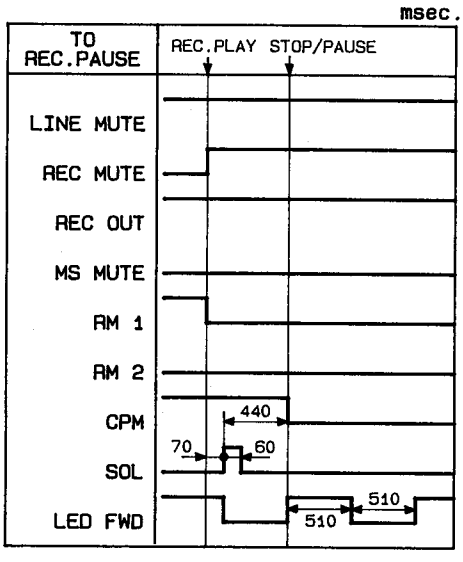
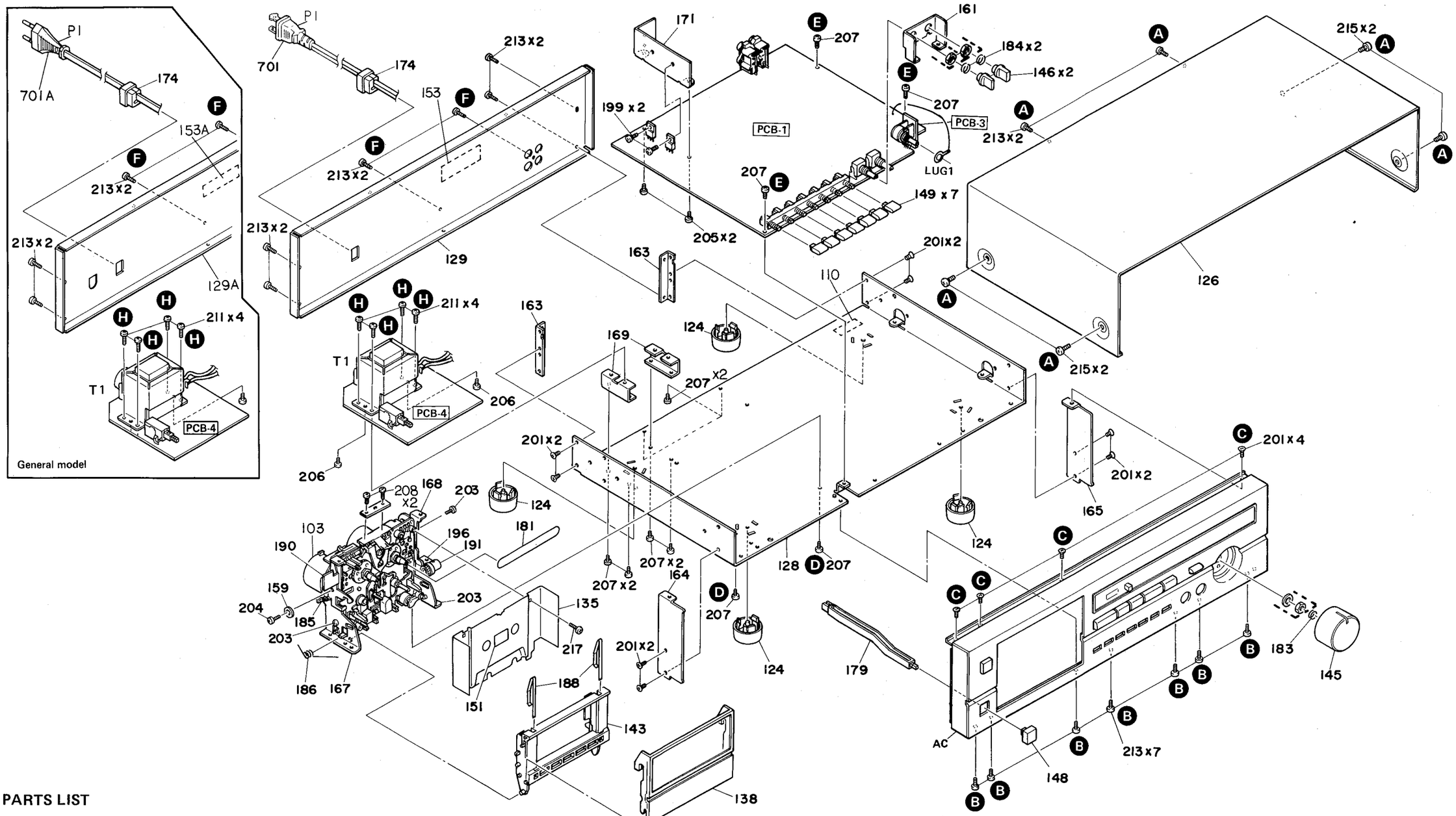


GENERAL UNIT
EXPLODED VIEW



PARTS LIST

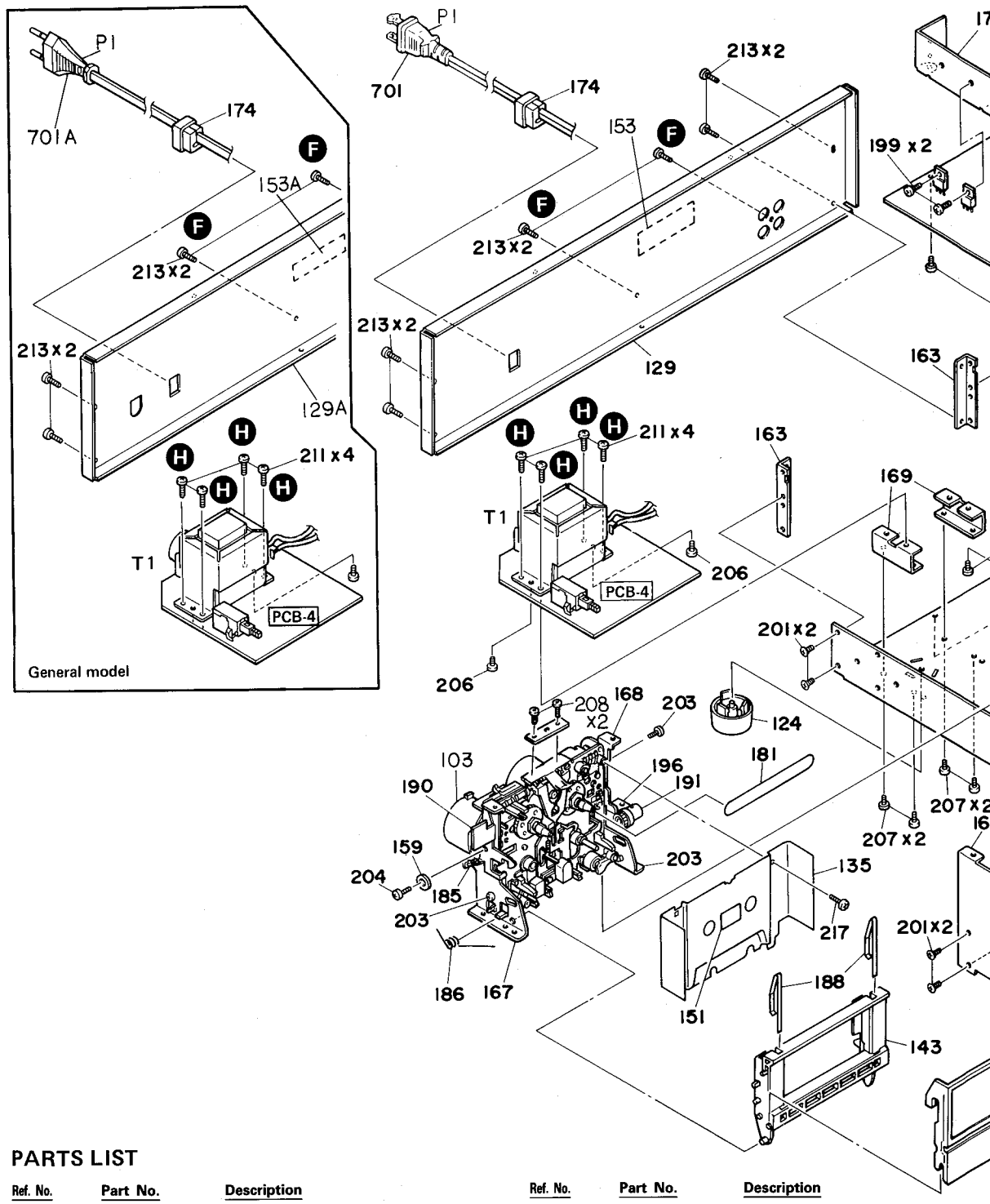
Ref. No.	Part No.	Description
AC	A443-TD262A	FRONT PANEL ASS'Y
103	3112-13705	CASSETTE TAPE RECORDER MECHANISM ASS'Y
110	1117-78	SERIAL LABEL
124	1319-0139	LEG
126	1414-06701	CABINET, TOP COVER
128	1424-23701	CABI BACK, BOTTOM
129	1424-18407	CABI BACK, REAR
129A	1424-18408	CABI BACK, REAR (GB)
135	1514-22401	PLATE
138	1532-15202	WINDOW
143	1612-06201	CASSETTE LID
145	1630-02903	ROTARY KNOB
146	1632-17201	ROTARY KNOB
148	1662-25402	PUSH BUTTON

Ref. No.	Part No.	Description
149	1662-35301	PUSH BUTTON
151	1741-01601	ORNAMENT
153	1756-CSA	LABEL
159	2132-7155	SPACER
161	2213-7019	BRACKET
163	2219-8183	METAL FITTG, BOTTOM REAR
164	2219-8184	METAL FITTG, BOTTOM FRONT L
165	2219-8185	METAL FITTG, BOTTOM FRONT R
167	2219-8190	METAL FITTG
168	2219-8191	METAL FITTG
169	2219-8100	METAL FITTG, TRANS
171	2222-7238	HEAT SINK
174	2240-364	HOLDER, AC CORD

Ref. No.	Part No.	Description
179	2601-7172	SHAFT, POWER
181	2642-01439	BELT
183	2651-110518	SPRING
184	2651-110541	SPRING
185	2651-0000221	SPRING
186	2651-11212	SPRING
188	2652-105	LEAF SPRING
190	2672-7040	LEVER
191	2692-12	DAMPER
196	2459-3005511	PLASTC RIVET
199	2327-R0130082	SCREW
201	2343-300627	SCREW
203	2347-300427	SCREW

Ref. No.	Part No.	Description
204	2347-300627	SCREW
205	2343-300812	SCREW
206	2347-R0130062	SCREW
207	2347-R0130062	SCREW
208	2347-300627	SCREW
211	2347-R0130082	SCREW
213	2347-R0130084	SCREW
215	2347-R0140064	SCREW
217	2347-R0130084	SCREW
⚠P1	4161-71151	CORD W/PLUG
⚠P1	4161-7256	CORD W/PLUG (GB)
⚠T1	5584-S1801	XFORMER, POWER
⚠T1	5584-S1802	XFORMER, POWER (GB)

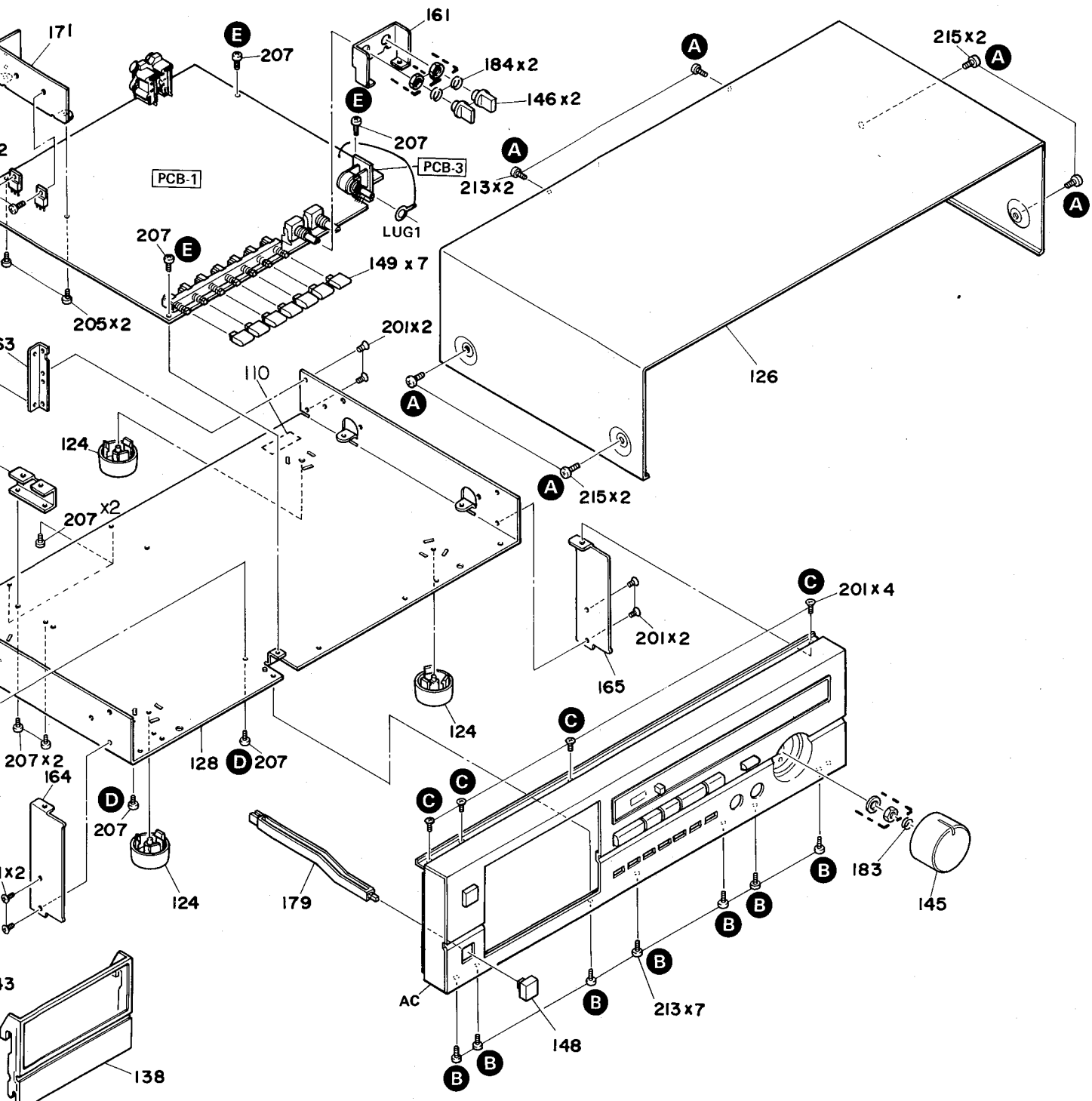
GENERAL UNIT
EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description
AC	A443-TD262A	FRONT PANEL ASS'Y
103	3112-13705	CASSETTE TAPE RECORDER MECHANISM ASS'Y
110	1117-78	SERIAL LABEL
124	1319-0139	LEG
126	1414-06701	CABINET, TOP COVER
128	1424-23701	CABI BACK, BOTTOM
129	1424-18407	CABI BACK, REAR
129A	1424-18408	CABI BACK, REAR (GB)
135	1514-22401	PLATE
138	1532-15202	WINDOW
143	1612-06201	CASSETTE LID
145	1630-02903	ROTARY KNOB
146	1632-17201	ROTARY KNOB
148	1662-25402	PUSH BUTTON
149	1662-35301	PUSH BUTTON
151	1741-01601	ORNAMENT
153	1756-CSA	LABEL
159	2132-7155	SPACER
161	2213-7019	BRACKET
163	2219-8183	METAL FITTG, BOTTOM REAR
164	2219-8184	METAL FITTG, BOTTOM FRONT L
165	2219-8185	METAL FITTG, BOTTOM FRONT R
167	2219-8190	METAL FITTG
168	2219-8191	METAL FITTG
169	2219-8100	METAL FITTG, TRANS
171	2222-7238	HEAT SINK
174	2240-364	HOLDER, AC CORD

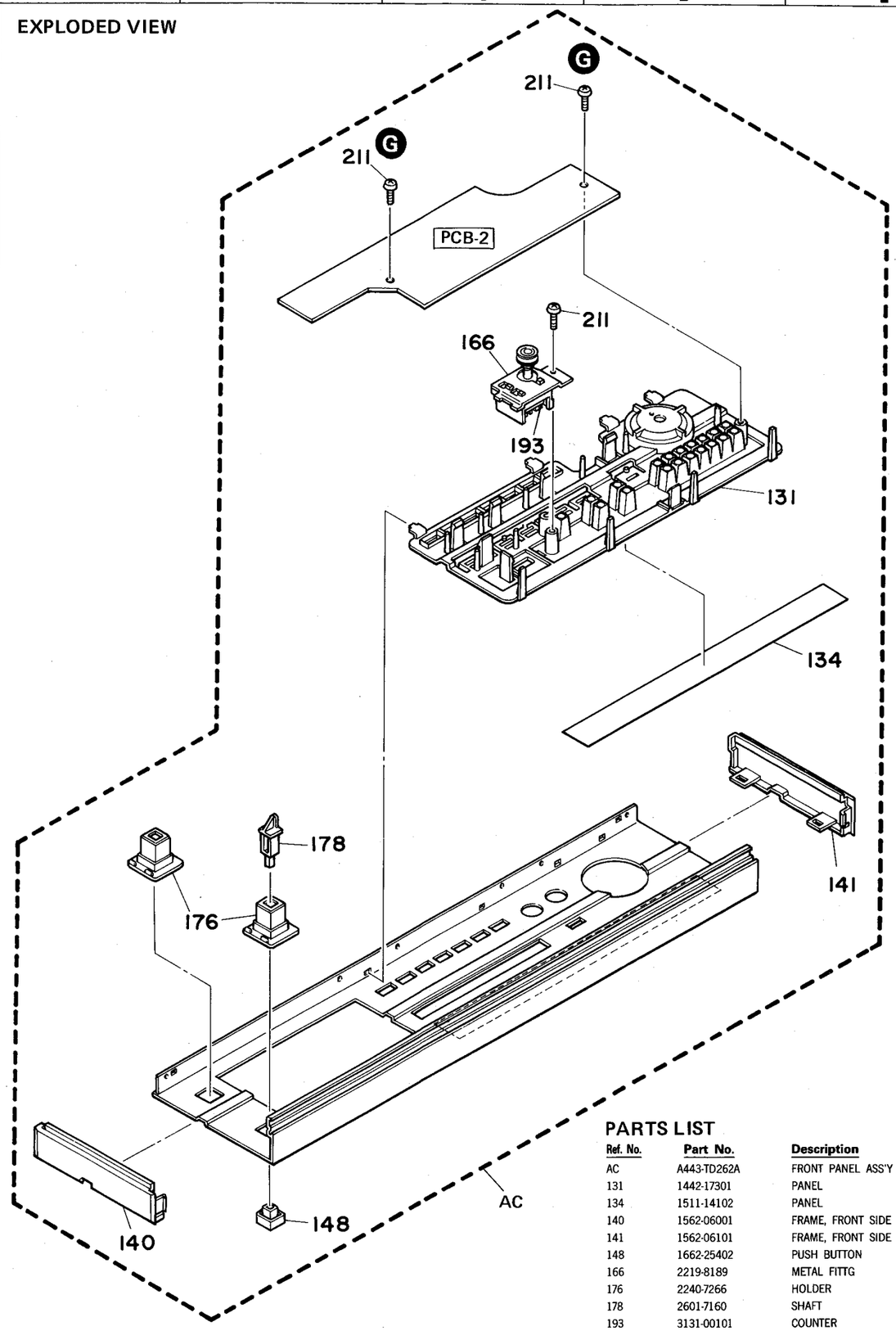
F G H I J



Ref. No.	Part No.	Description
179	2601-7172	SHAFT, POWER
181	2642-01439	BELT
183	2651-110518	SPRING
184	2651-110541	SPRING
185	2651-0000221	SPRING
186	2651-11212	SPRING
188	2652-105	LEAF SPRING
190	2672-7040	LEVER
191	2692-12	DAMPER
196	2459-3005511	PLASTC RIVET
199	2327-R0130082	SCREW
201	2343-300627	SCREW
203	2347-300427	SCREW

Ref. No.	Part No.	Description
204	2347-300627	SCREW
205	2343-300812	SCREW
206	2347-R0130062	SCREW
207	2347-R0130062	SCREW
208	2347-300627	SCREW
211	2347-R0130082	SCREW
213	2347-R0130084	SCREW
215	2347-R0140064	SCREW
217	2347-R0130084	SCREW
⚠P1	4161-71151	CORD W/PLUG
⚠P1	4161-7256	CORD W/PLUG GB
⚠T1	5584-S1801	XFORMER, POWER
⚠T1	5584-S1802	XFORMER, POWER GB

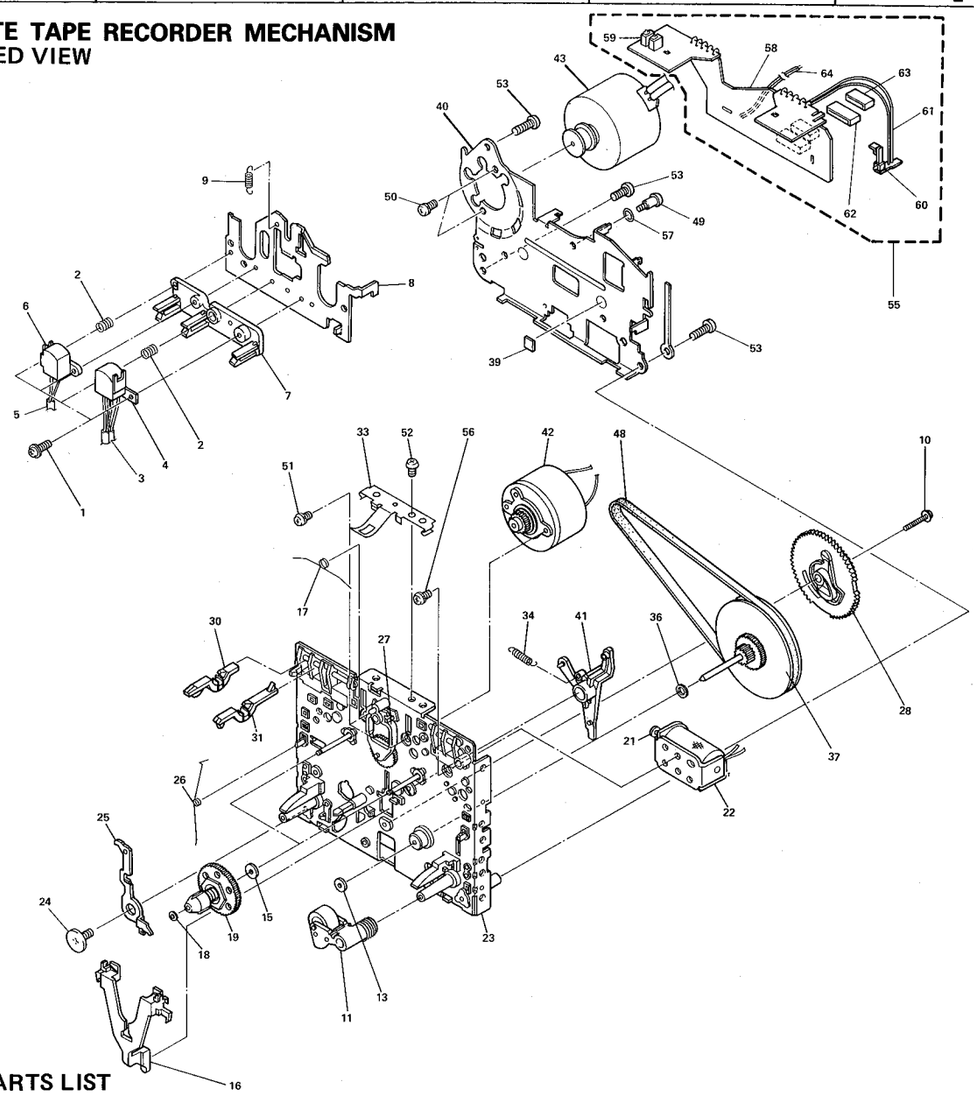
EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description
AC	A443-TD262A	FRONT PANEL ASS'Y
131	1442-17301	PANEL
134	1511-14102	PANEL
140	1562-06001	FRAME, FRONT SIDE L
141	1562-06101	FRAME, FRONT SIDE R
148	1662-25402	PUSH BUTTON
166	2219-8189	METAL FITTG
176	2240-7266	HOLDER
178	2601-7160	SHAFT
193	3131-00101	COUNTER
211	2347-R0130082	SCREW

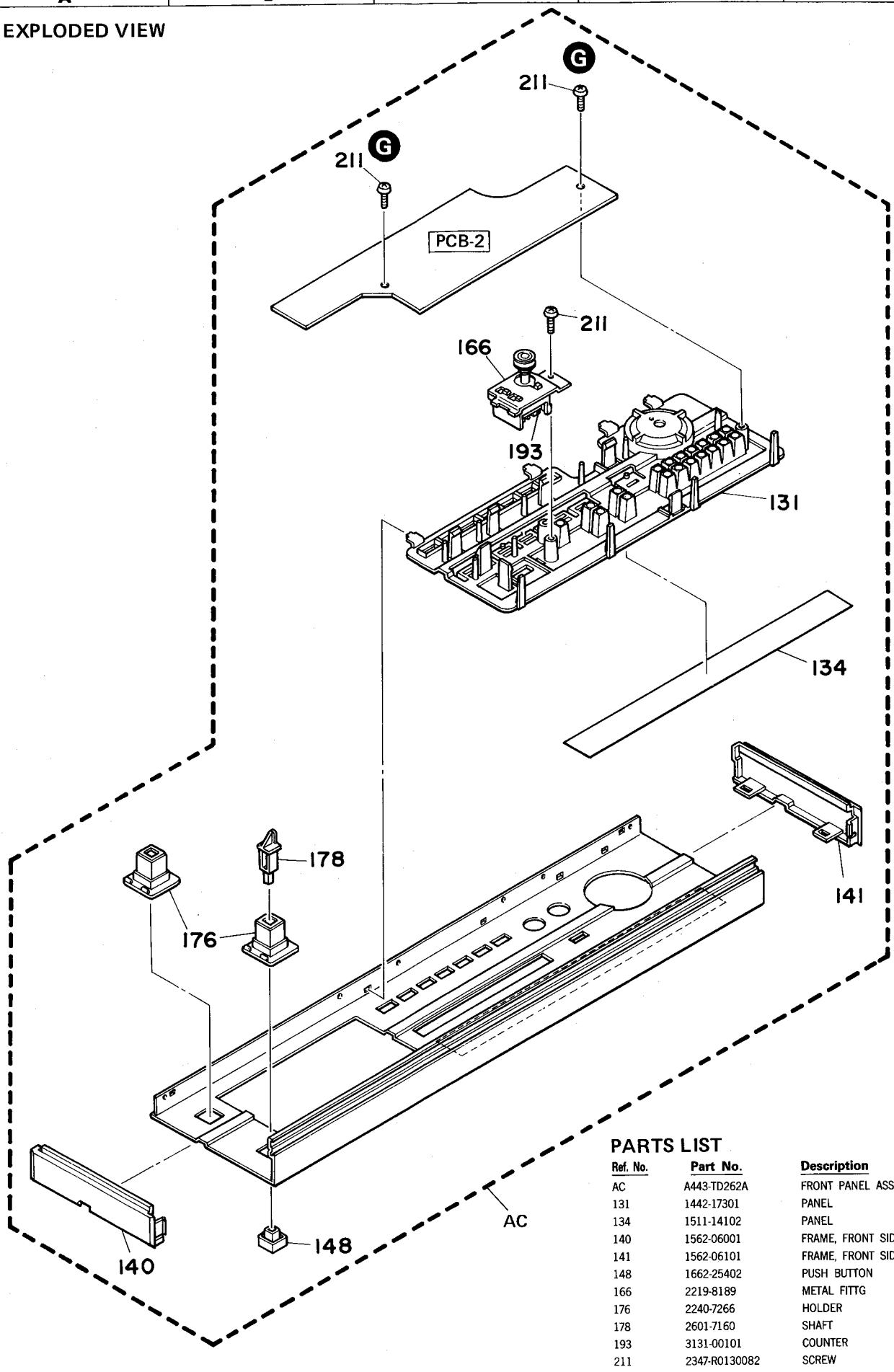
CASSETTE TAPE RECORDER MECHANISM
EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	FG137-18	SCREW	31	FD38S-12	SWITCH ARM, REC
2	FK21U-11	SPRING, AZIMUTH	33	FC40N-32	SPRING, CASSETTE
3	WH39E-00	WIRE CONNECTOR	34	FK22G-14	PLAY ARM SPRING
4	FU18K-11	REC/PB HEAD	36	FJ111-30	NON-METAL WASHER
5	WH42P-02	WIRE CONNECTOR	37	FR19V-22	FLYWHEEL ASS'Y
6	FU192-11	ERASE HEAD	39	UJ13L-11	SPACER
7	FD33C-11	HEAD SPACER	40	FC47D-13	FLYWHEEL BRACKET
8	FC38N-81	HEAD BASE	41	FD38M-13	PLAY ARM ASS'Y
9	FK22L-11	HEAD BASE SPRING	42	F064-245	REEL MOTOR
10	UG15U-11	SCREW (2 x 13 mm)	43	F064-157	CAPSTAN MOTOR
11	FR20L-11	PINCH ROLLER	48	FF16K-11	BELT
13	FJ141-11	OIL SEAL	49	UG15V-12	SCREW
15	UJ12V-11	NON-METAL WASHER	50	UG11S-14	SCREW
16	FD35T-11	HOLD LEVER	51	FG114-20	SCREW (2.6 x 6 mm)
17	FK22E-11	HOLD SPRING	52	KG194-11	SCREW (3 x 5 mm)
18	FJ111-17	NON-METAL WASHER	53	UG12H-14	SCREW (2.6 x 8 mm)
19	F105-027	REEL ASS'Y	55	F067-185	RELAY P.C. BOARD ASS'Y
21	PL366-11	PLUNGER	56	FG114-15	SCREW (2.6 x 4 mm)
22	F265-252	SOLENOID	57	MJ114-15	WASHER
23	F112-109	CHASSIS	58	FP16R-13	RELAY P.C. BOARD
24	UG15S-11	SCREW	59	UE16E-11	PUSH SWITCH
25	FC39S-13	EJECT PREVENTION ARM	60	UE16D-12	LEAF SWITCH
26	FK22P-16	EJECT PREVENTION SPRING	61	WG47P-03	LEAD WIRE
27	F017-047	IDLER ASS'Y	62	UY15B-14	CONNECTOR
28	FD38C-14	GUM GEAR	63	UY15B-13	CONNECTOR
30	FD38T-12	SWITCH ARM, PACK	64	WG13K-05	LEAD WIRE

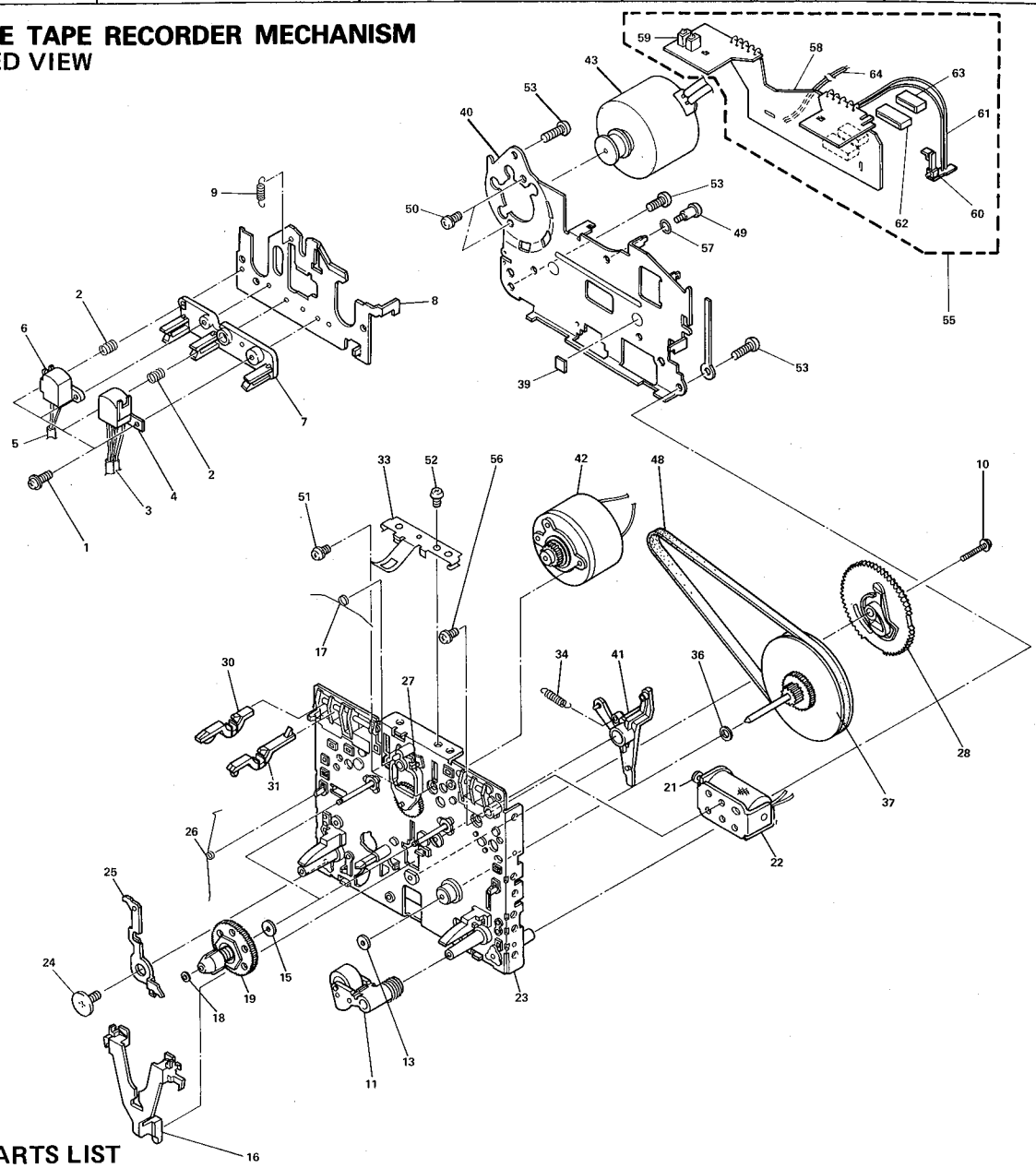
EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description
AC	A443-TD262A	FRONT PANEL ASS'Y
131	1442-17301	PANEL
134	1511-14102	PANEL
140	1562-06001	FRAME, FRONT SIDE L
141	1562-06101	FRAME, FRONT SIDE R
148	1662-25402	PUSH BUTTON
166	2219-8189	METAL FITTG
176	2240-7266	HOLDER
178	2601-7160	SHAFT
193	3131-00101	COUNTER
211	2347-R0130082	SCREW

CASSETTE TAPE RECORDER MECHANISM
EXPLODED VIEW

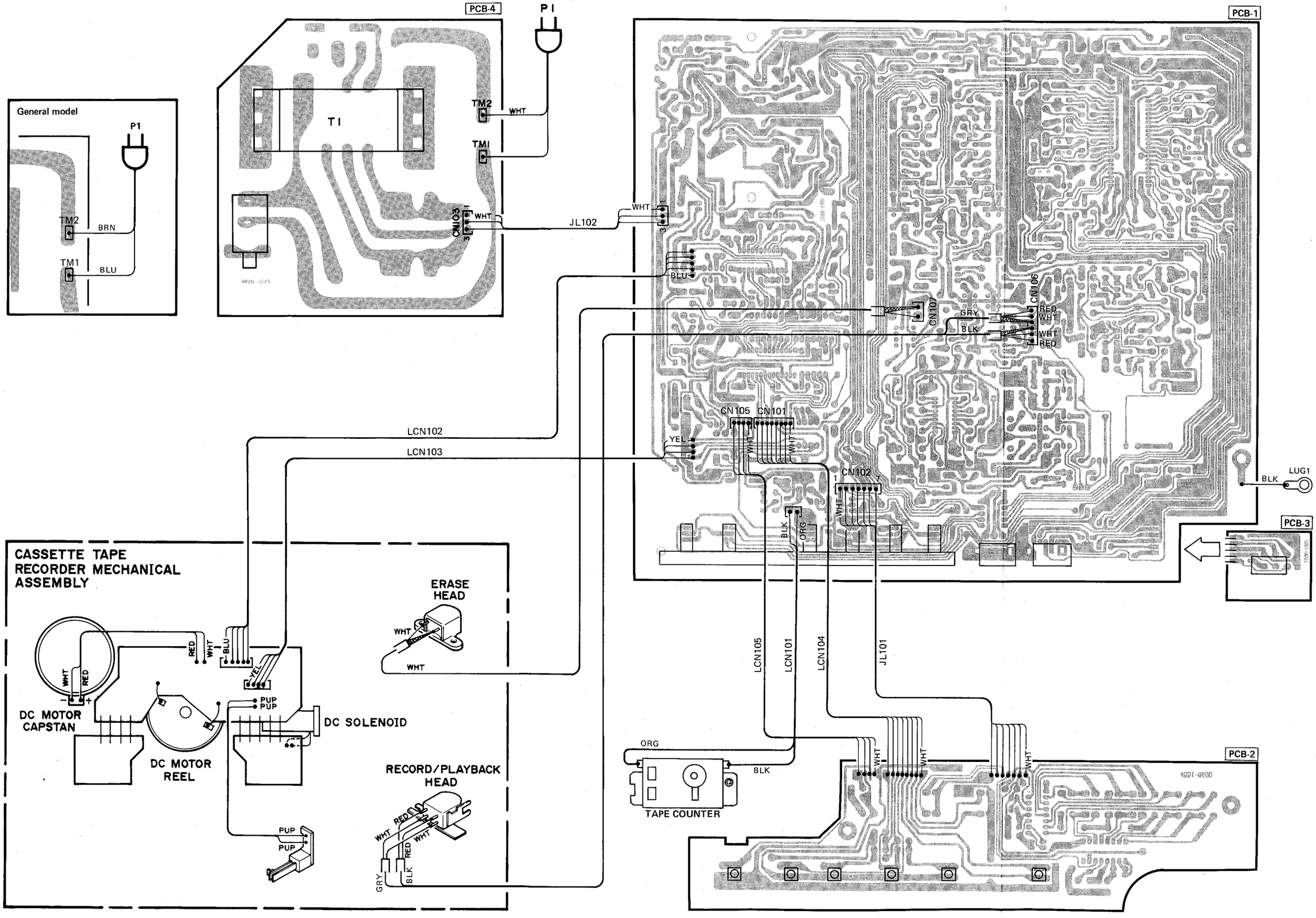


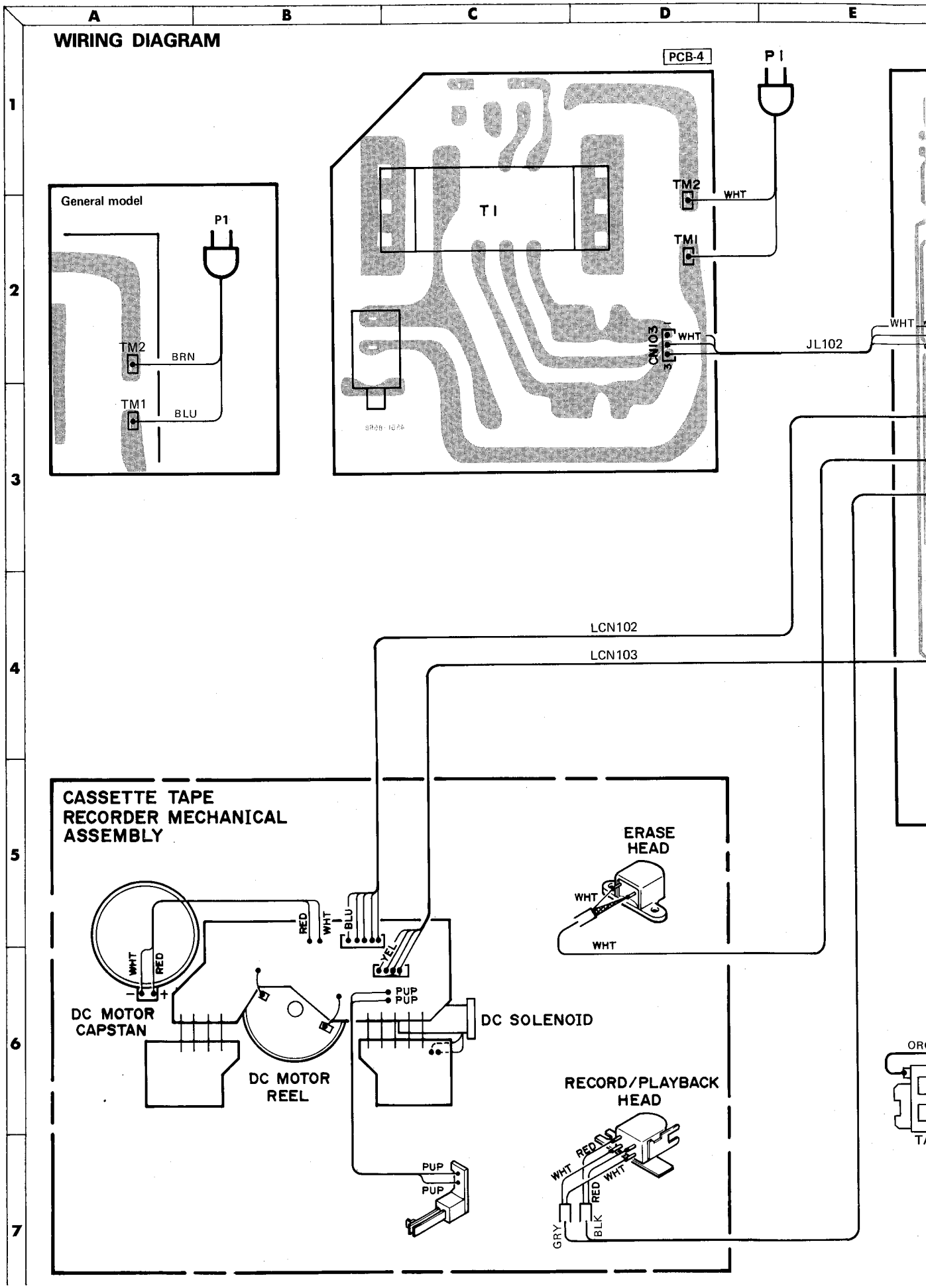
PARTS LIST

Ref. No.	Part No.	Description
1	FG137-18	SCREW
2	FK21U-11	SPRING, AZIMUTH
3	WH39E-00	WIRE CONNECTOR
4	FU18K-11	REC/PB HEAD
5	WH42P-02	WIRE CONNECTOR
6	FU192-11	ERASE HEAD
7	FD33C-11	HEAD SPACER
8	FC38N-81	HEAD BASE
9	FK22L-11	HEAD BASE SPRING
10	UG15U-11	SCREW (2 x 13 mm)
11	FR20L-11	PINCH ROLLER
13	FJ141-11	OIL SEAL
15	UJ12V-11	NON-METAL WASHER
16	FD35T-11	HOLD LEVER
17	FK22E-11	HOLD SPRING
18	FJ111-17	NON-METAL WASHER
19	F105-027	REEL ASS'Y
21	PL366-11	PLUNGER
22	F265-252	SOLENOID
23	F112-109	CHASSIS
24	UG15S-11	SCREW
25	FC39S-13	EJECT PREVENTION ARM
26	FK22P-16	EJECT PREVENTION SPRING
27	F017-047	IDLER ASS'Y
28	FD38C-14	GUM GEAR
30	FD38T-12	SWITCH ARM, PACK

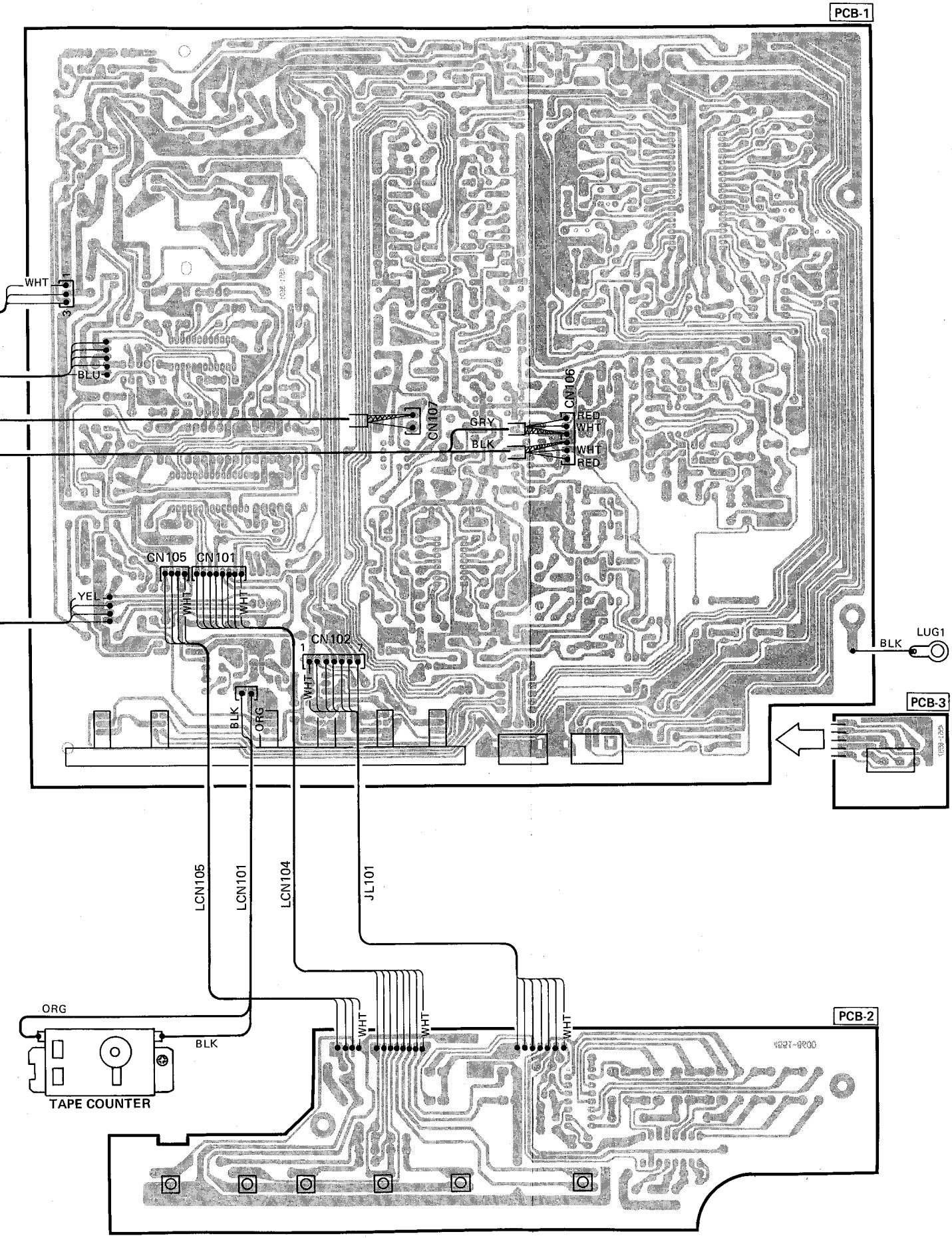
Ref. No.	Part No.	Description
31	FD38S-12	SWITCH ARM, REC
33	FC40N-32	SPRING, CASSETTE
34	FK22G-14	PLAY ARM SPRING
36	FJ111-30	NON-METAL WASHER
37	FR19V-22	FLYWHEEL ASS'Y
39	UJ13L-11	SPACER
40	FC47D-13	FLYWHEEL BRACKET
41	FD38M-13	PLAY ARM ASS'Y
42	F064-245	REEL MOTOR
43	F064-157	CAPSTAN MOTOR
48	FF16K-11	BELT
49	UG15V-12	SCREW
50	UG11S-14	SCREW
51	FG114-20	SCREW (2.6 x 6 mm)
52	KG194-11	SCREW (3 x 5 mm)
53	UG12H-14	SCREW (2.6 x 8 mm)
55	F067-185	RELAY P.C. BOARD ASS'Y
56	FG114-15	SCREW (2.6 x 4 mm)
57	MJ114-15	WASHER
58	FP16R-13	RELAY P.C. BOARD
59	UE16E-11	PUSH SWITCH
60	UE16D-12	LEAF SWITCH
61	WG47P-03	LEAD WIRE
62	UY15B-14	CONNECTOR
63	UY15B-13	CONNECTOR
64	WG13K-05	LEAD WIRE

WIRING DIAGRAM



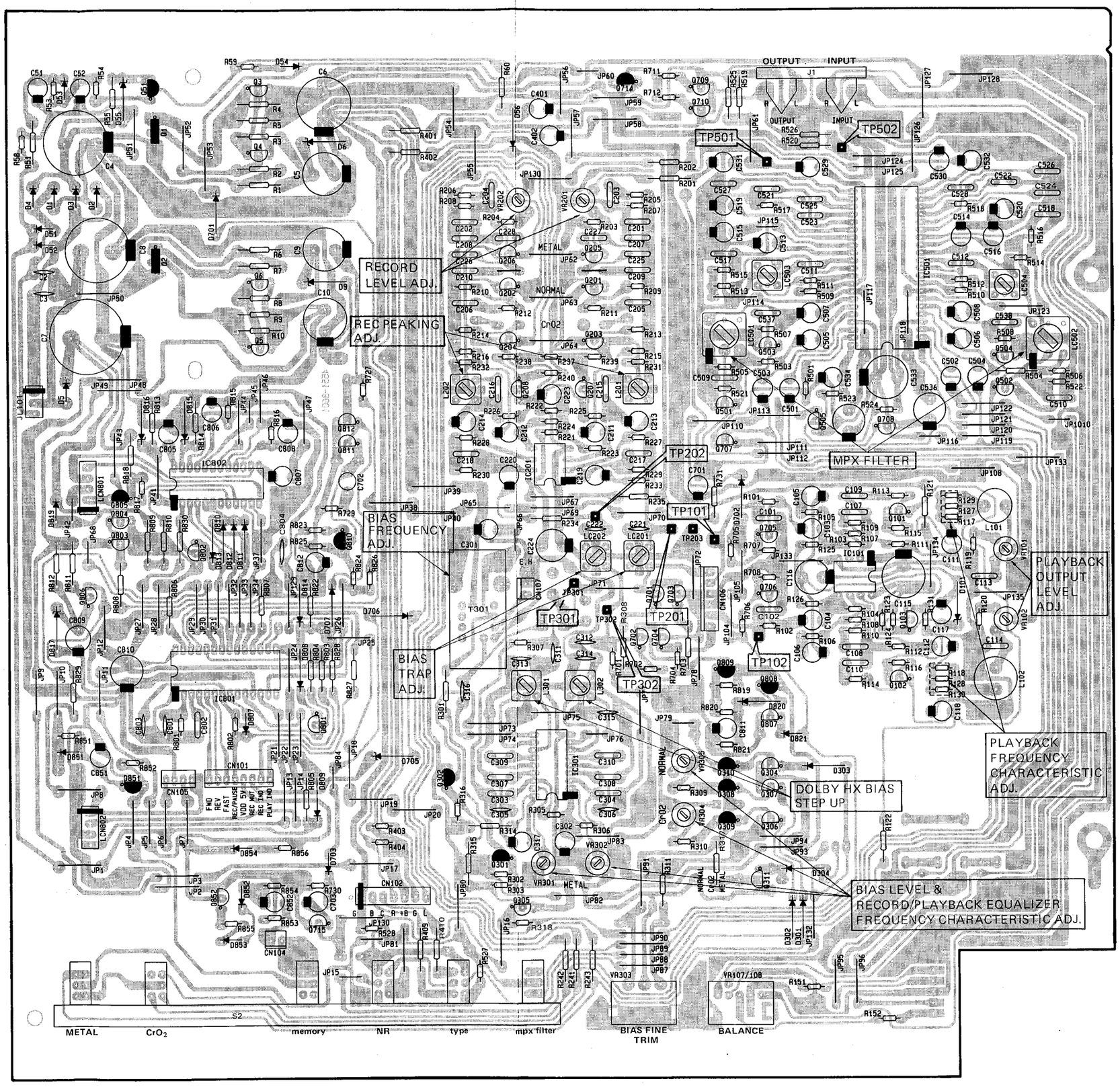

A
B
C
D
E
1
2
3
4
5
6
7
WIRING DIAGRAM
PCB-4
P1
T1
TM2
WHT
TM1
CN103
WHT
JL102
WHT
General model
P1
TM2
BRN
TM1
BLU
LCN102
LCN103
CASSETTE TAPE
RECORDER MECHANICAL
ASSEMBLY
ERASE
HEAD
WHT
WHT
RED
WHT
BLU
YEL
WHT
RED
DC MOTOR
CAPSTAN
PUP
PUP
DC SOLENOID
DC MOTOR
REEL
RECORD/PLAYBACK
HEAD
PUP
PUP
WHT
RED
WHT
RED
GRY
BLK

F G H I J


PCB-1
WHT
BLU
CN107
CN106
GRY
BLK
RED
WHT
WHT
RED
CN105
CN101
YEL
WHT
WHT
CN102
1
7
WHT
BLK
ORG
LUG1
BLK
PCB-3
LCN105
LCN101
LCN104
JL101
ORG
BLK
TAPE COUNTER
WHT
WHT
WHT
PCB-2

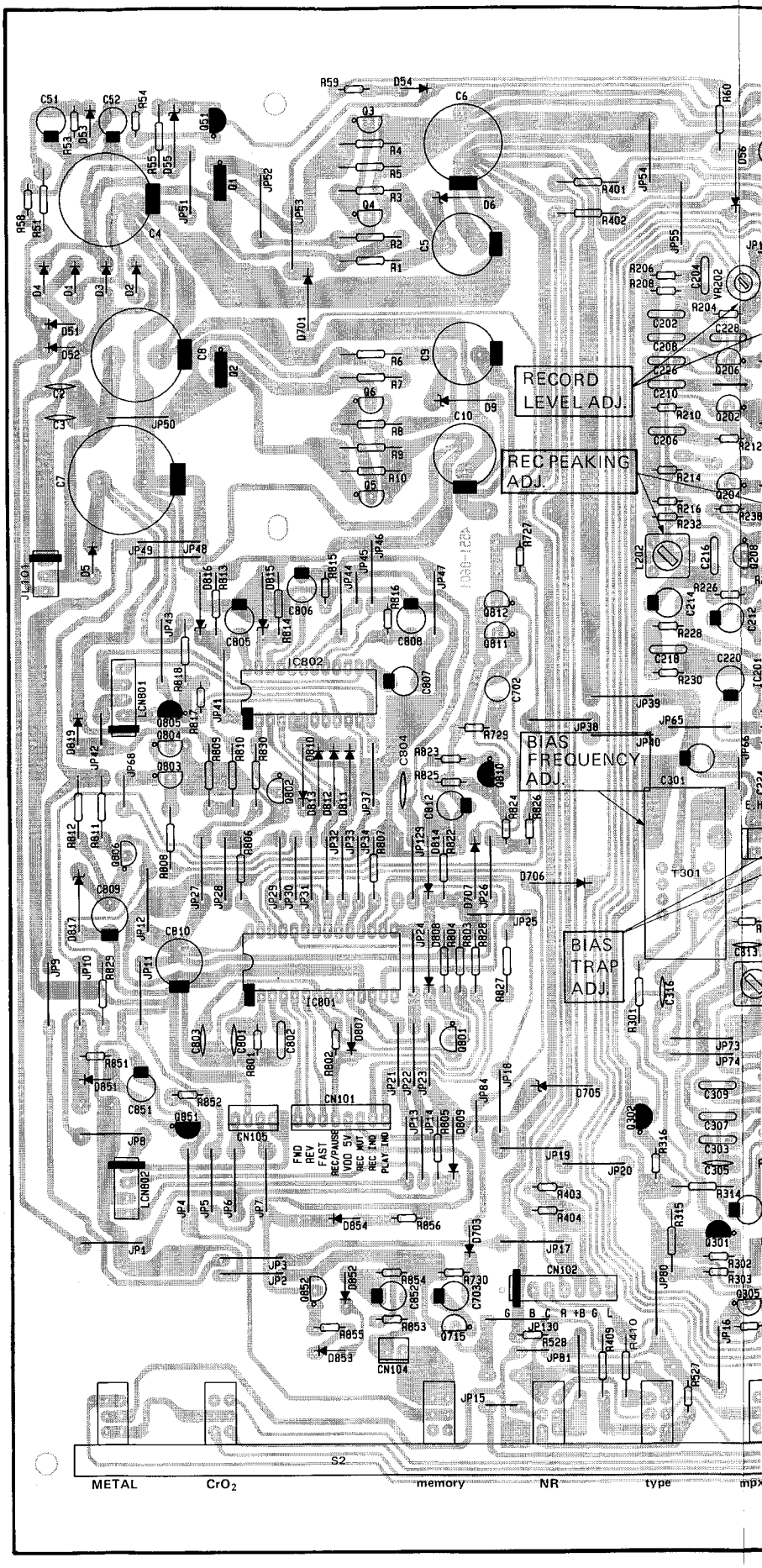
P.C. BOARDS (1)

PCB-1 Main P.C. Board

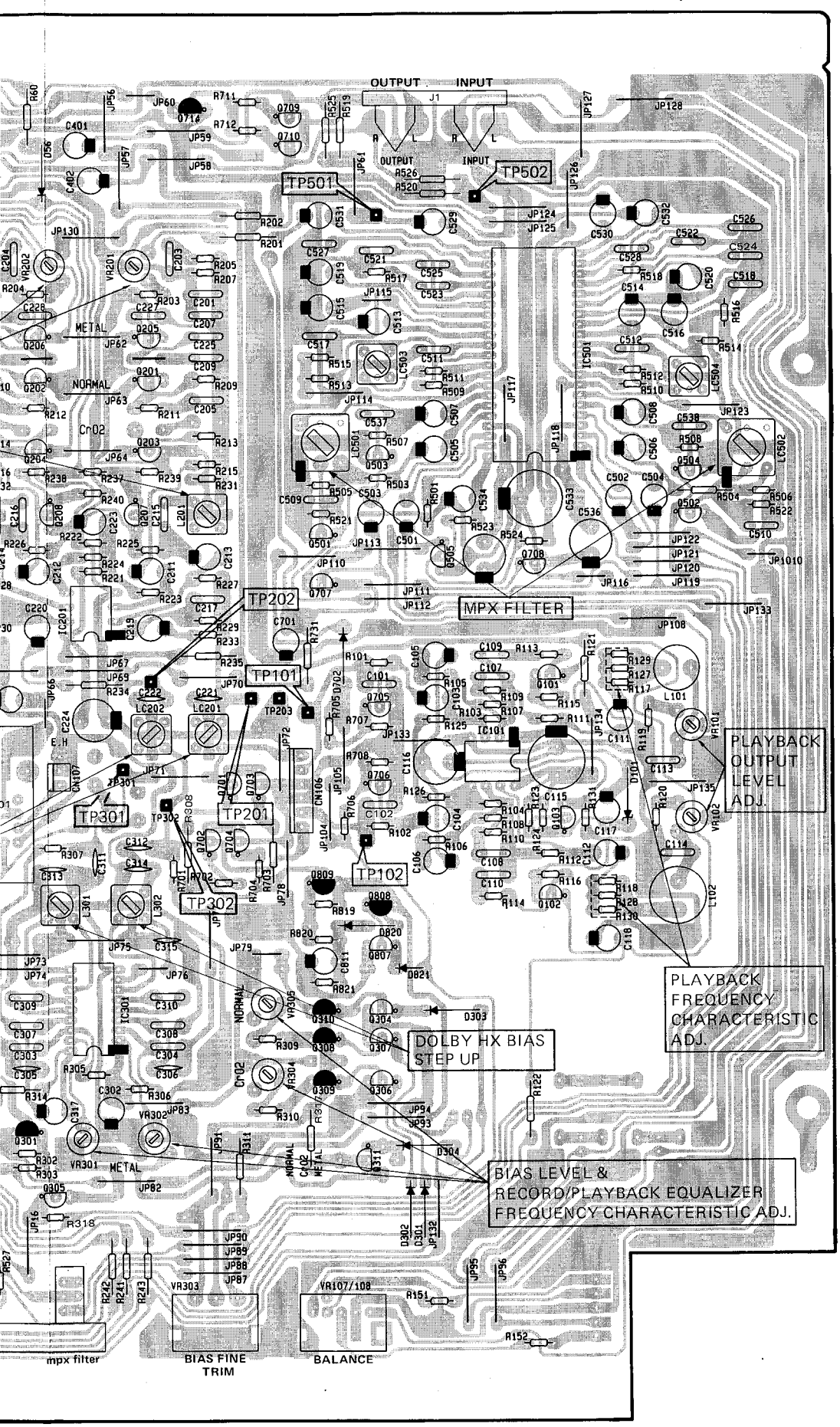


P.C. BOARDS (1)

PCB-1 Main P.C. Board

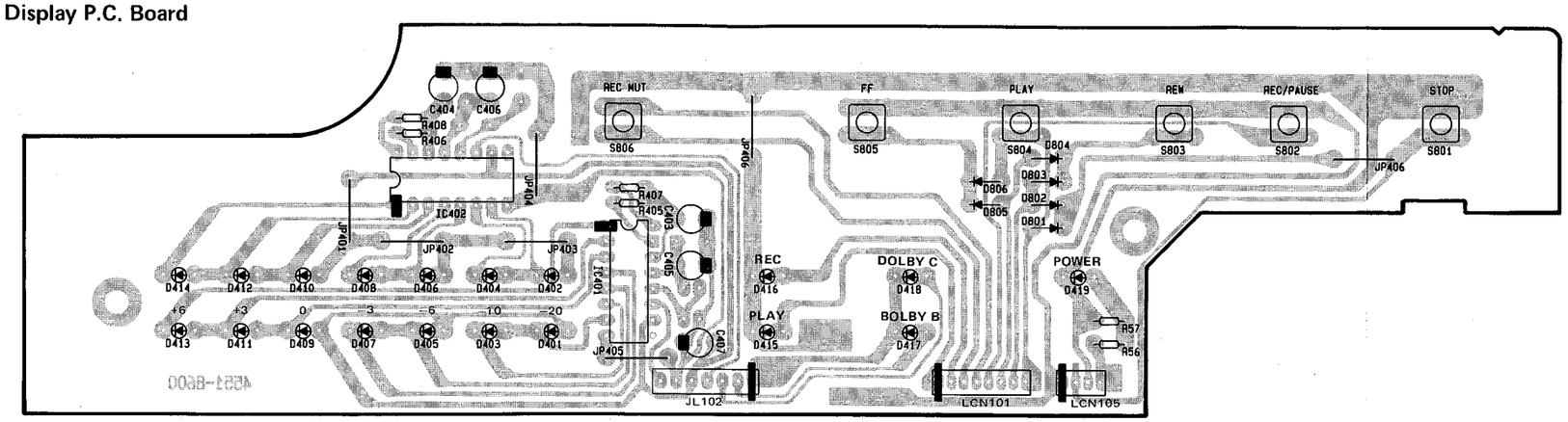


F G H I J

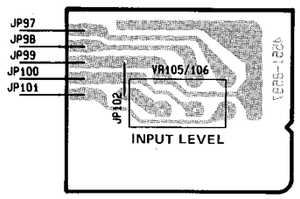

OUTPUT
INPUT
J1
TP501
TP502
TP202
TP101
TP203
TP301
TP201
TP302
TP102
MPX FILTER
PLAYBACK OUTPUT LEVEL ADJ.
PLAYBACK FREQUENCY CHARACTERISTIC ADJ.
DOLBY HX BIAS STEP UP
BIAS LEVEL & RECORD/PLAYBACK EQUALIZER FREQUENCY CHARACTERISTIC ADJ.
METAL
NORMAL
mpx filter
BIAS FINE TRIM
BALANCE

P.C. BOARDS (2)

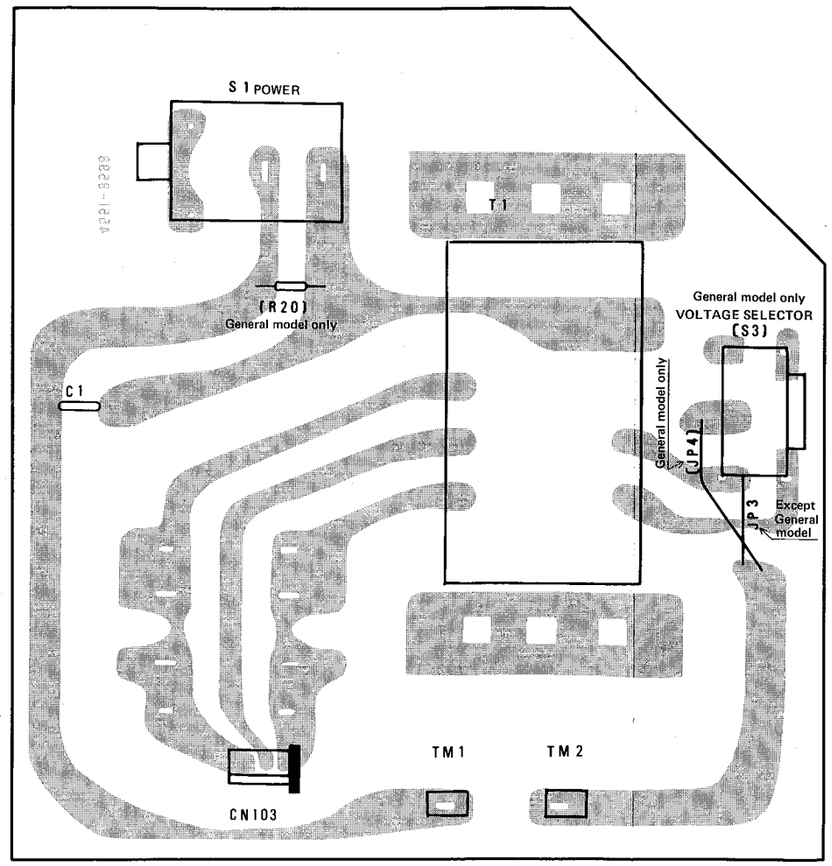
PCB-2 Display P.C. Board



PCB-3 Input VR P.C. Board

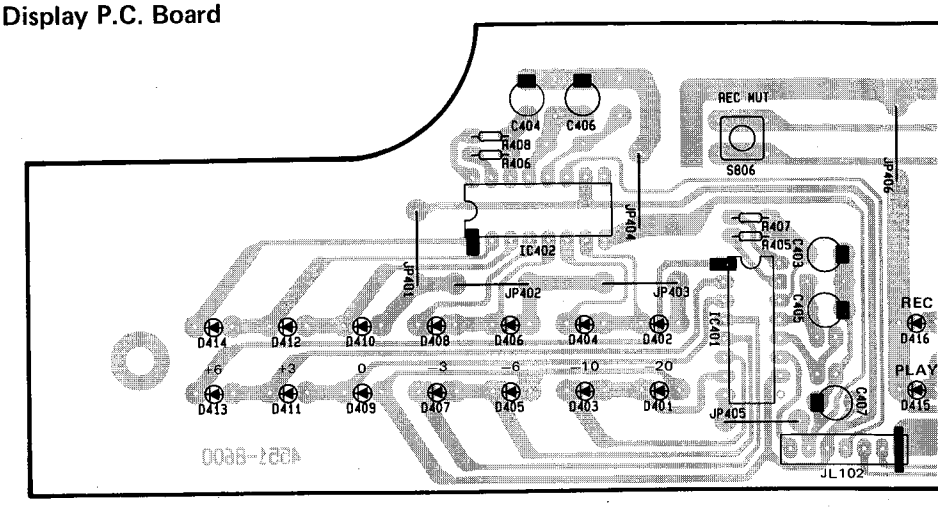


PCB-4 Power P.C. Board



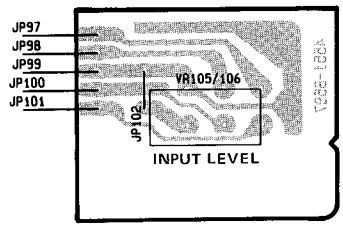
P.C. BOARDS (2)

PCB-2 Display P.C. Board

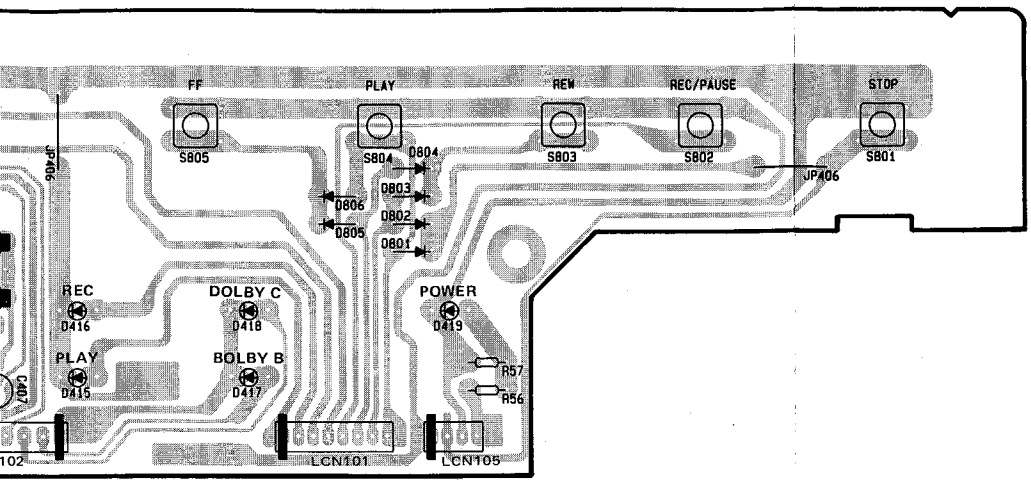


PC

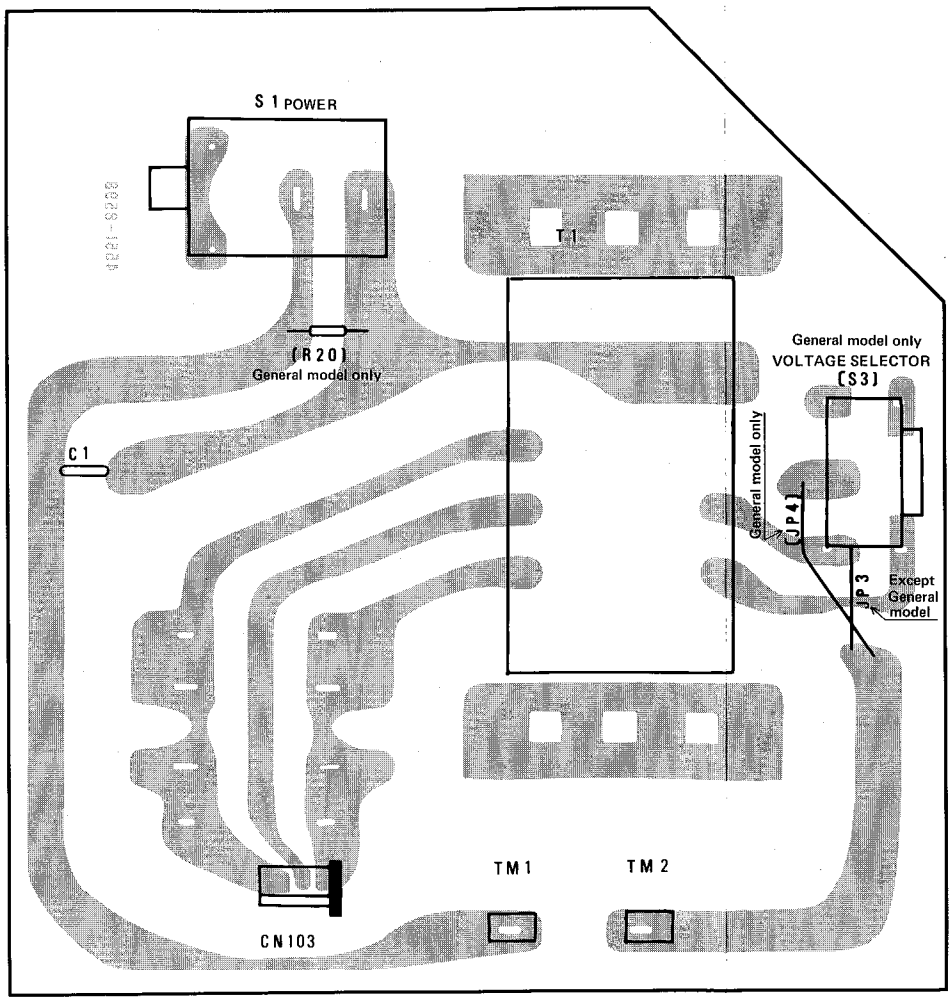
PCB-3 Input VR P.C. Board



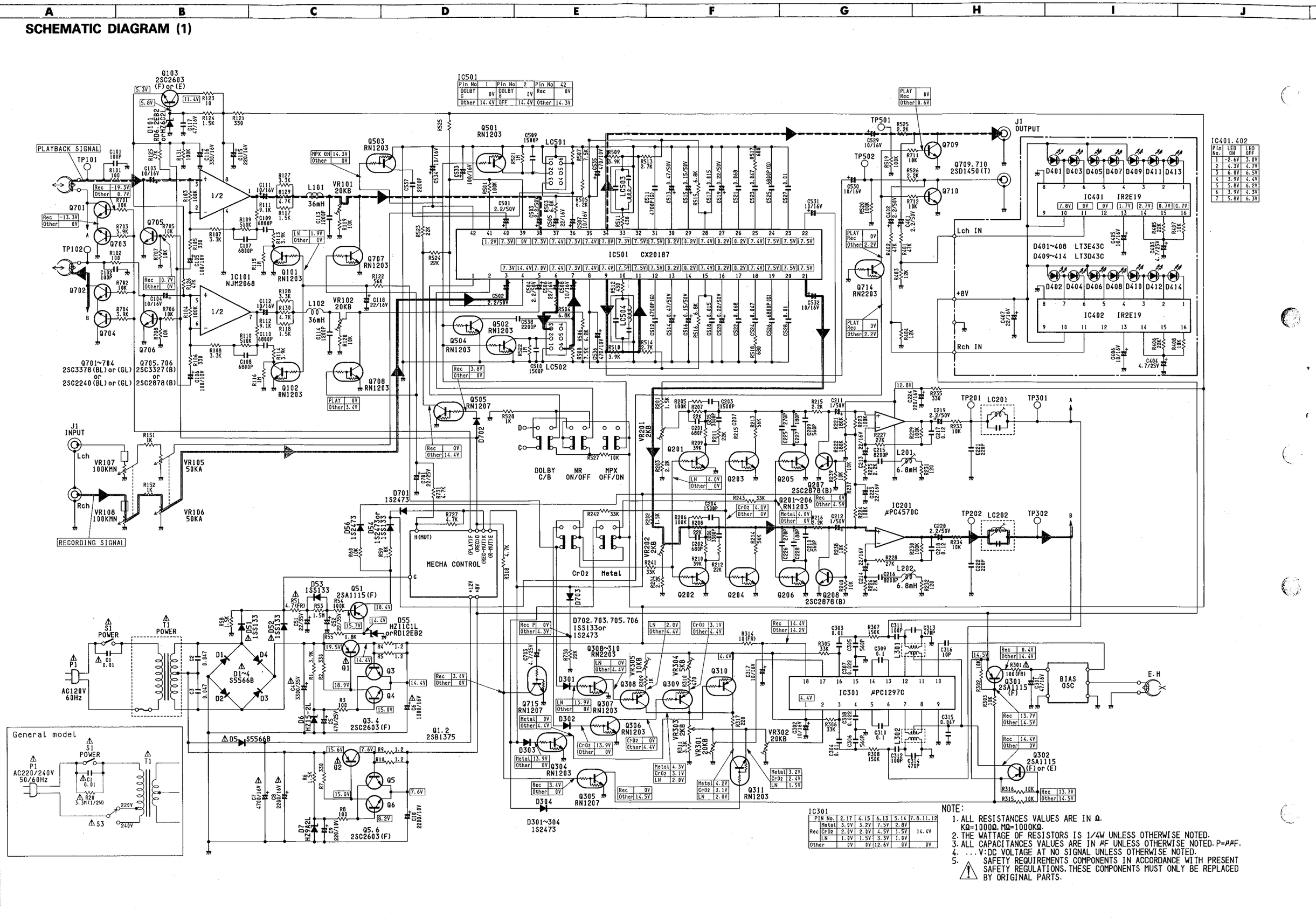
	F	G	H	I	J



PCB-4 Power P.C. Board



SCHEMATIC DIAGRAM (1)



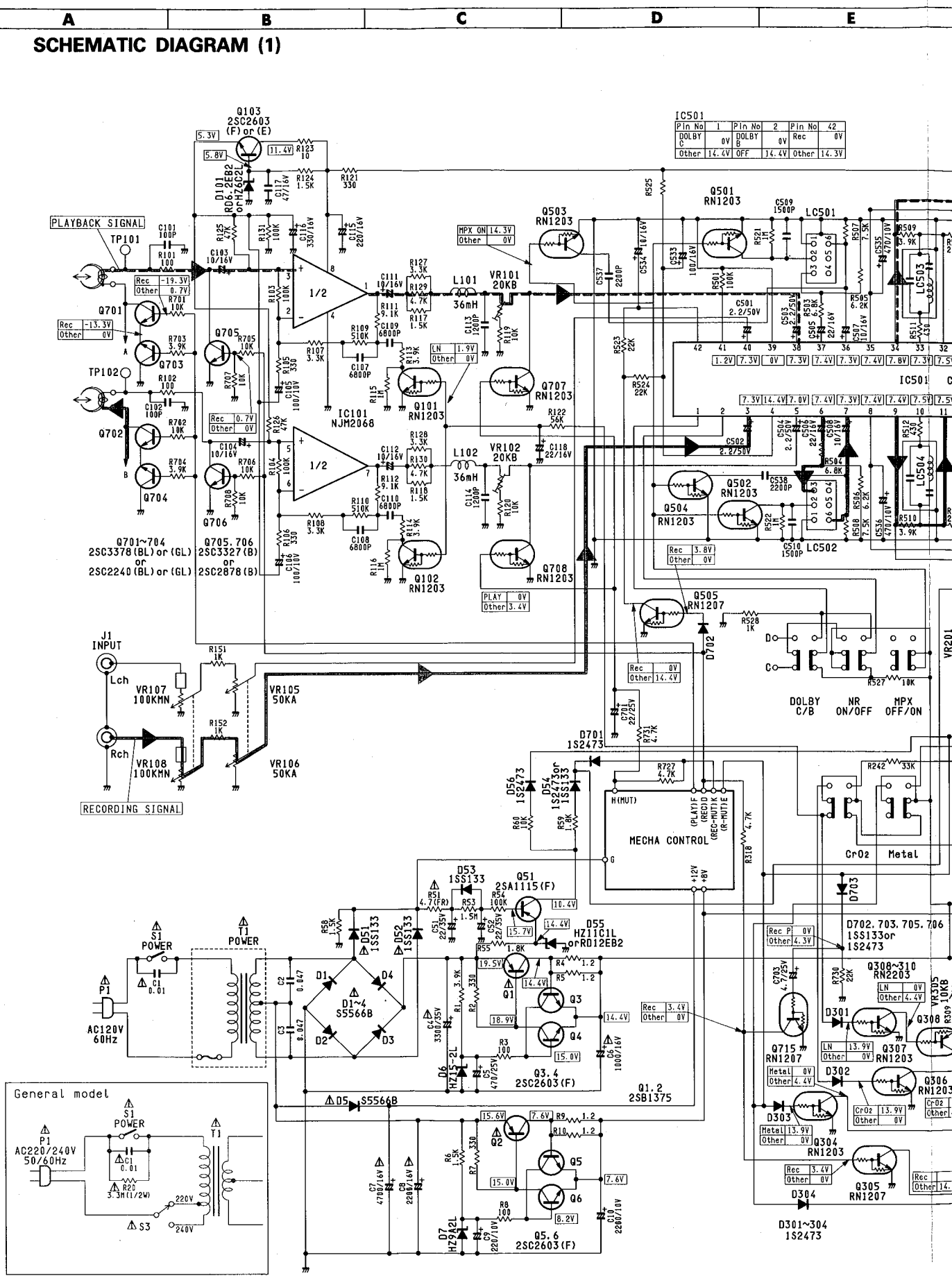
IC501							
Pin No	1	Pin No	2	Pin No	42		
DOLBY C	0V	DOLBY B	0V	Rec	0V		
Other	14.4V	OFF	14.4V	Other	14.3V		

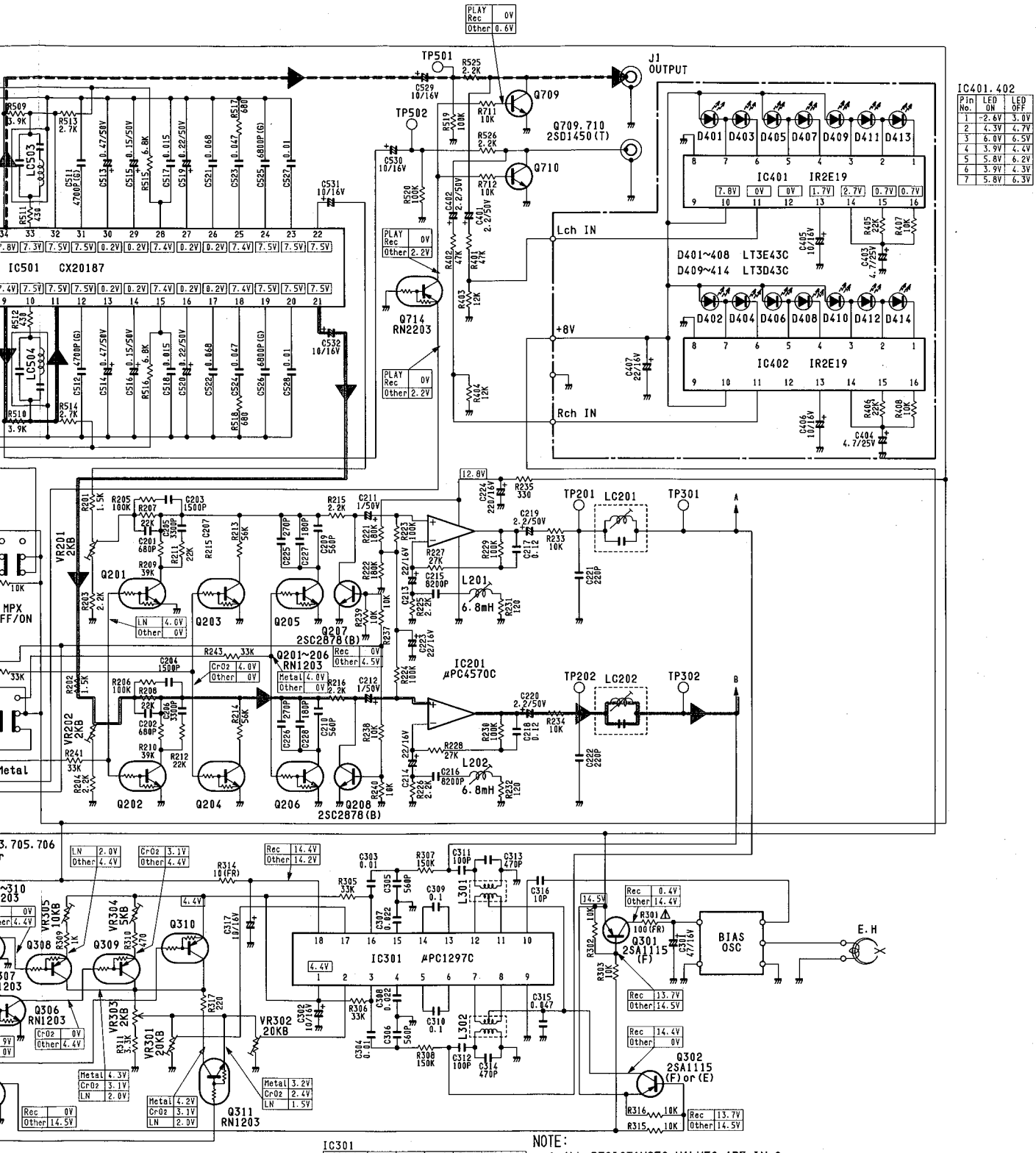
IC401. 402		
Pin No.	LED ON	LED OFF
1	-2.6V	3.0V
2	4.3V	4.7V
3	6.0V	6.5V
4	3.9V	4.4V
5	5.8V	6.2V
6	3.9V	4.3V
7	5.8V	6.3V

IC301						
PIN No.	2.17	4.15	6.13	5.14	7.8.11.12	
Rec Metal	3.9V	3.2V	7.5V	2.8V	14.4V	
Rec CrO2	2.0V	2.9V	4.5V	1.5V		
Rec LN	1.0V	1.5V	3.3V	1.0V		
Other	0V	0V	12.6V	6V	0V	

NOTE:
1. ALL RESISTANCES VALUES ARE IN Ω. KΩ=1000Ω, MΩ=1000KΩ.
2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. P=μμF.
4. ...V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. ⚠ SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

SCHEMATIC DIAGRAM (1)





IC401.402

Pin No.	LED ON	LED OFF
1	-2.6V	3.0V
2	4.3V	4.7V
3	6.0V	6.5V
4	3.9V	4.4V
5	5.8V	6.2V
6	3.9V	4.3V
7	5.8V	6.3V

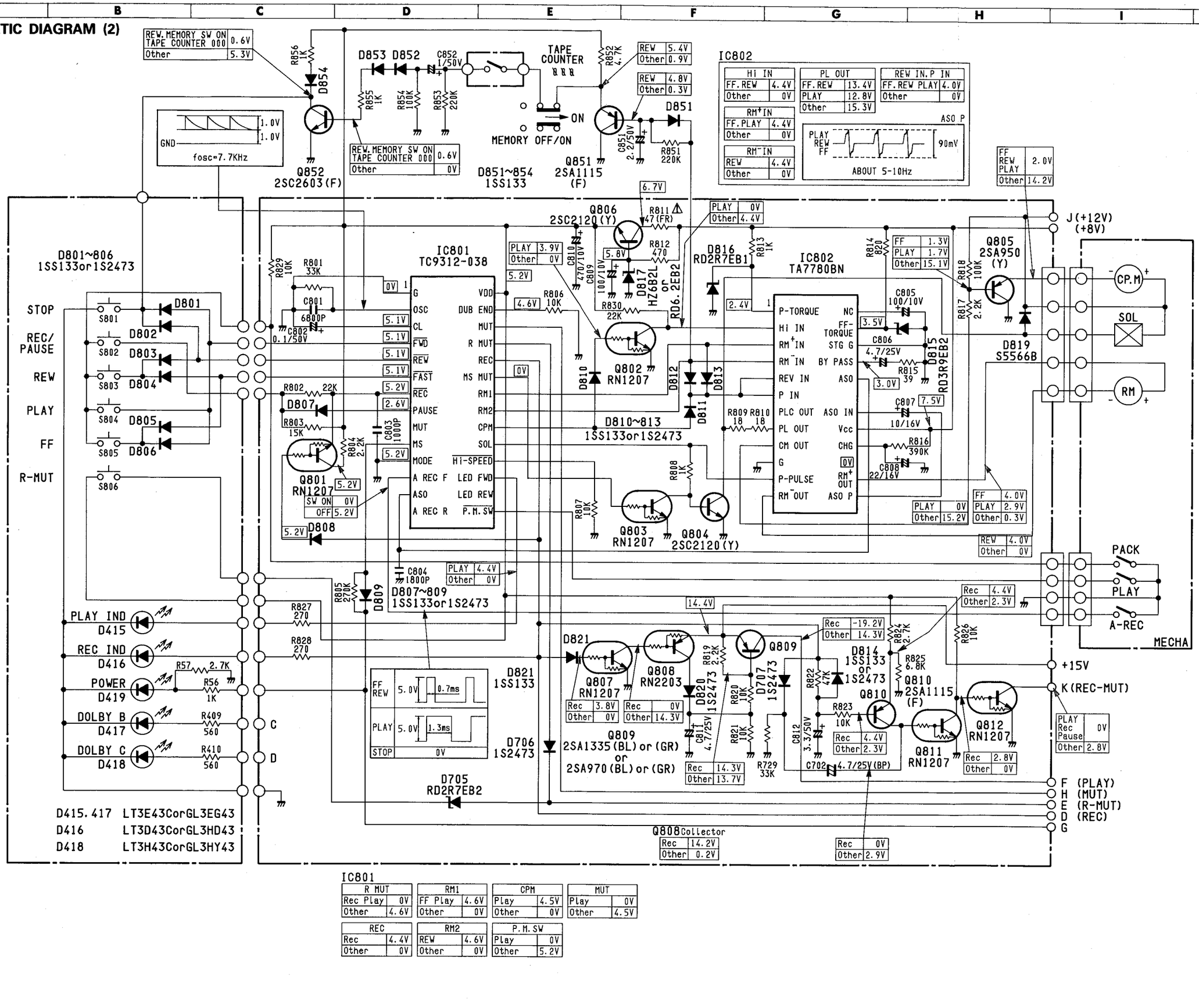
IC301

PIN No.	2.17	4.15	6.13	5.14	7.8.11.12
Rec Metal	3.0V	3.2V	7.5V	2.8V	14.4V
Rec CrO2	2.0V	2.0V	4.5V	1.5V	
Rec LN	1.0V	1.5V	3.3V	1.0V	
Other	0V	0V	12.6V	0V	0V

NOTE:

1. ALL RESISTANCES VALUES ARE IN Ω.
   KΩ=1000Ω, MΩ=1000KΩ.
2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. P=μμF.
4. ...V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
5. ⚠ SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

SCHEMATIC DIAGRAM (2)



IC801

R MUT	
Rec Play	0V
Other	4.6V

RM1	
FF Play	4.6V
Other	0V

CPM	
Play	4.5V
Other	0V

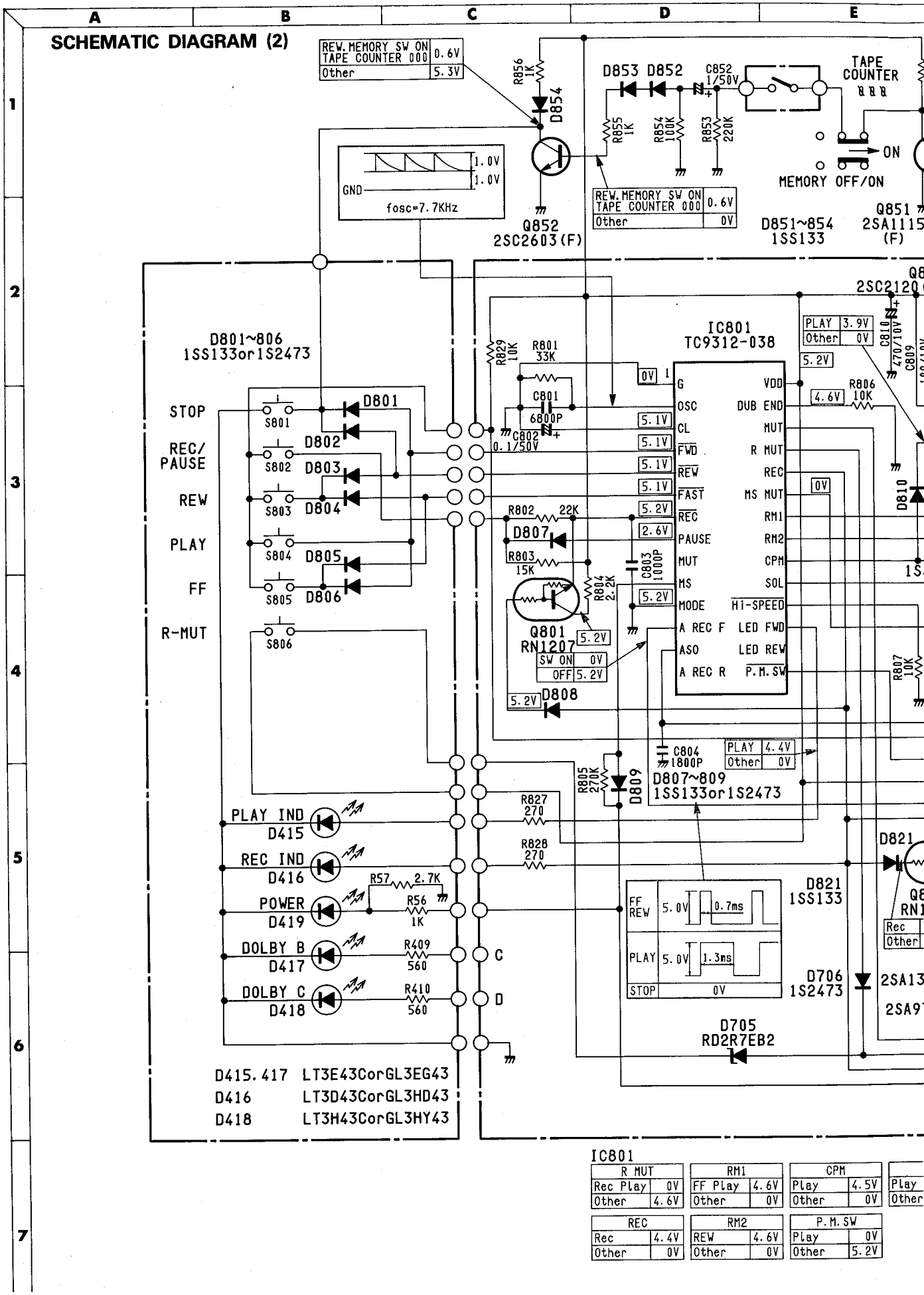
MUT	
Play	0V
Other	4.5V

REC	
Rec	4.4V
Other	0V

RM2	
REW	4.6V
Other	0V

P.M.SW	
Play	0V
Other	5.2V

SCHEMATIC DIAGRAM (2)



IC801

R MUT	
Rec Play	0V
Other	4.6V

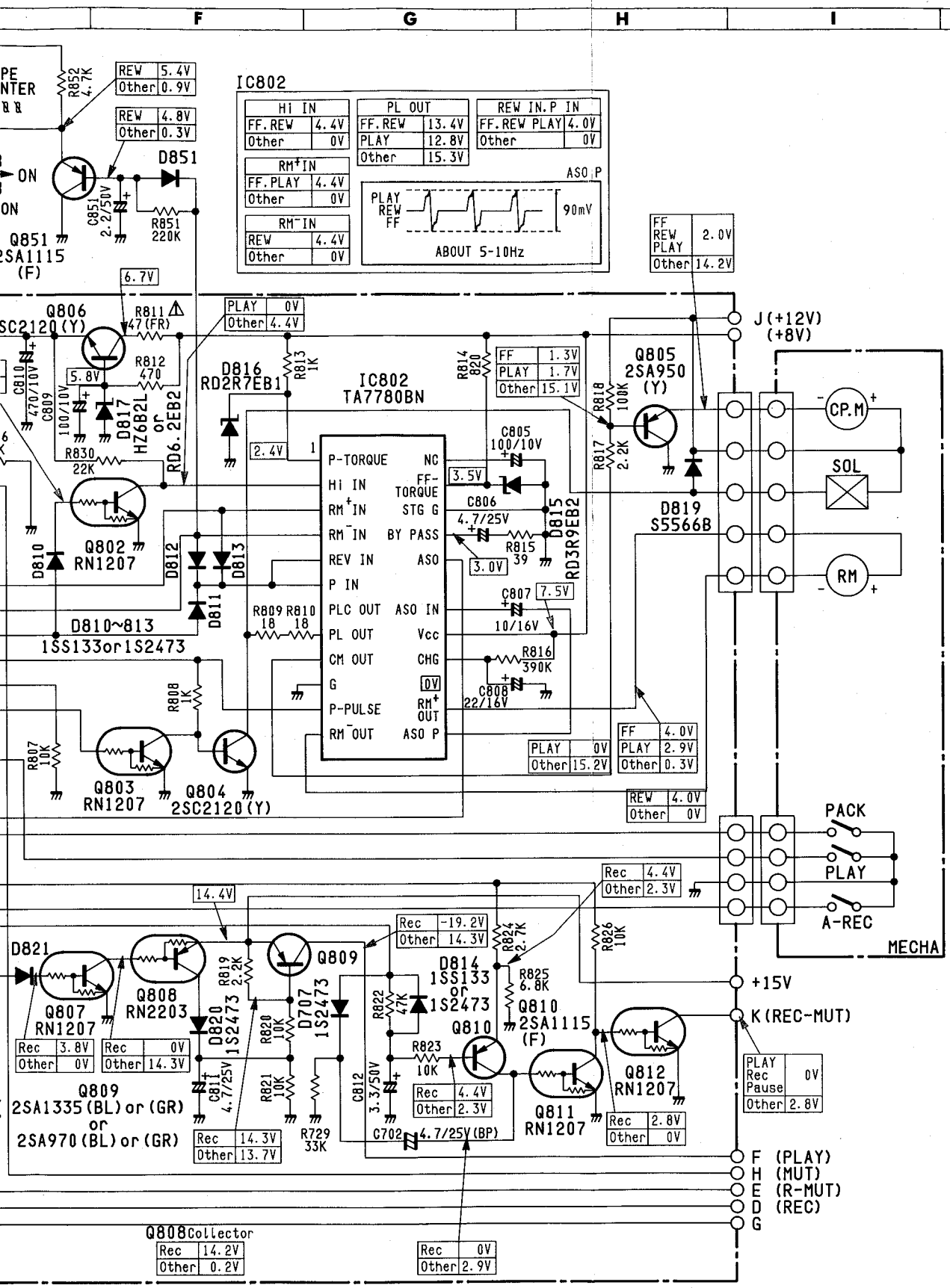
RM1	
FF Play	4.6V
Other	0V

CPM	
Play	4.5V
Other	0V

REC	
Rec	4.4V
Other	0V

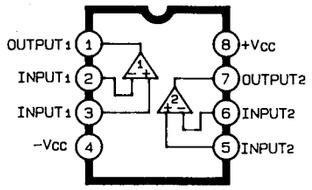
RM2	
REW	4.6V
Other	0V

P.M.SW	
Play	0V
Other	5.2V

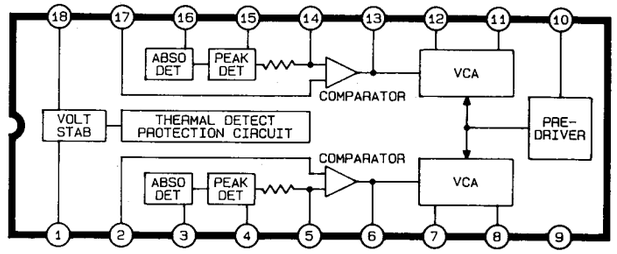

F
G
H
I
J
IC802
Hi IN
FF.REW 4.4V
Other 0V
RM+IN
FF.PLAY 4.4V
Other 0V
RM-IN
REW 4.4V
Other 0V
PL OUT
FF.REW 13.4V
PLAY 12.8V
Other 15.3V
REW IN.P IN
FF.REW PLAY 4.0V
Other 0V
ASO P
PLAY REW FF
90mV
ABOUT 5-10Hz
IC802
TA7780BN
P-TORQUE
Hi IN
RM+IN
RM-IN
REV IN
P IN
PLC OUT
PL OUT
CM OUT
G
P-PULSE
RM-OUT
NC
FF-TORQUE
STG G
BY PASS
ASO
ASO IN
Vcc
CHG
0V
RM+OUT
ASO P
Q851 2SA1115 (F)
D851
R852 4.7K
C851 2.2/50V
R851 220K
REW 5.4V
Other 0.9V
REW 4.8V
Other 0.3V
ON
Q806 2SC2120 (Y)
R811 47 (FR)
R812 470
C810 470/10V
C809 100/10V
D817 HZ6B2L or RD6.2EB2
R830 22K
D816 RD2R7EB1
R813 1K
PLAY 0V
Other 4.4V
6.7V
5.8V
2.4V
Q802 RN1207
D810
D811
D812
D813
D810~813 1SS133or1S2473
R809 18
R810 18
R808 1K
R807 10K
Q803 RN1207
Q804 2SC2120 (Y)
C805 100/10V
C806 4.7/25V
R815 39
D815 RD3R9EB2
3.5V
3.0V
C807 10/16V
7.5V
R816 390K
C808 22/16V
R814 820
FF 1.3V
PLAY 1.7V
Other 15.1V
R818 100K
R817 2.2K
Q805 2SA950 (Y)
D819 S5566B
J (+12V)
(+8V)
CP.M
SOL
RM
PACK
PLAY
A-REC
MECHA
PLAY 0V
Other 15.2V
FF 4.0V
PLAY 2.9V
Other 0.3V
REW 4.0V
Other 0V
FF REW PLAY 2.0V
Other 14.2V
Rec 4.4V
Other 2.3V
14.4V
D821
Q807 RN1207
Q808 RN2203
R819 2.2K
D820 1S2473
R820 10K
R821 10K
C811 4.7/25V
Q809
D707 1S2473
C812 3.3/50V
C702 4.7/25V (BP)
R729 33K
Rec 3.8V
Other 0V
Rec 0V
Other 14.3V
Rec 14.3V
Other 13.7V
Q809 2SA1335 (BL) or (GR) or 2SA970 (BL) or (GR)
Rec -19.2V
Other 14.3V
R824 2.7K
R826 10K
D814 1SS133 or 1S2473
R825 6.8K
R822 47K
R823 10K
Q810
Q810 2SA1115 (F)
Q811 RN1207
Q812 RN1207
Rec 4.4V
Other 2.3V
Rec 2.8V
Other 0V
PLAY Rec Pause 0V
Other 2.8V
+15V
K (REC-MUT)
F (PLAY)
H (MUT)
E (R-MUT)
D (REC)
G
Q808 Collector
Rec 14.2V
Other 0.2V
Rec 0V
Other 2.9V
MUT
Play 0V
Other 4.5V

IC BLOCK DIAGRAM

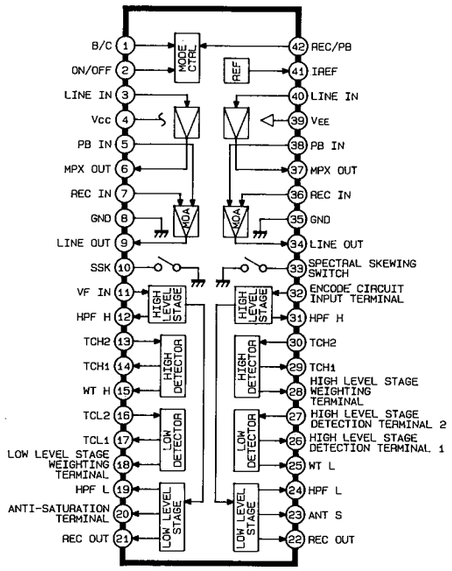
IC101 : NJM2068
IC201 : μPC4570C
Dual Operational Amplifier



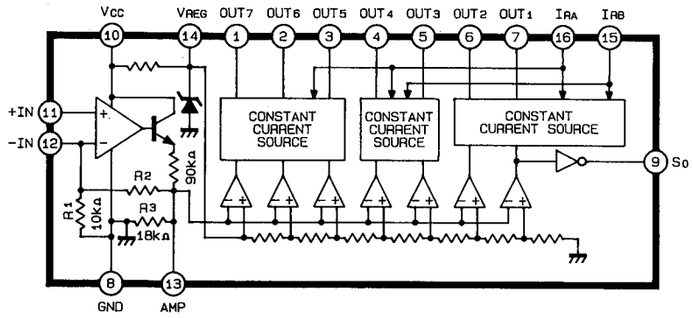
IC301 : μPC1297C
Dolby HX Pro



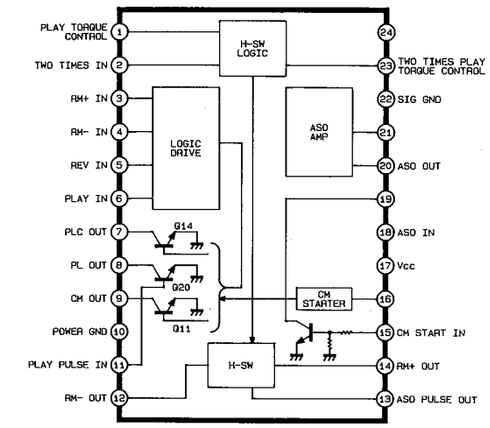
IC501 : CX20187
Dolby NR



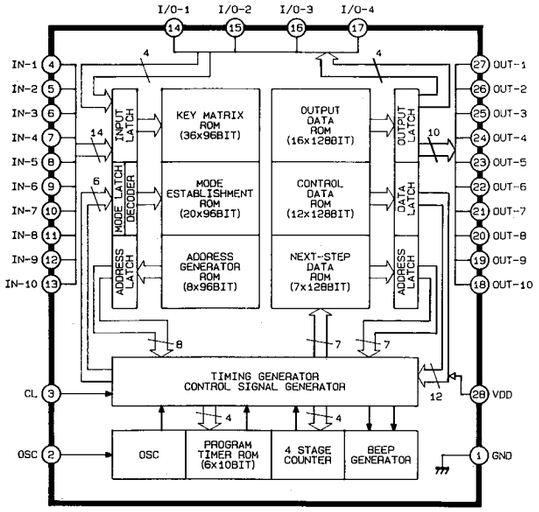
IC401, 402 : IR2E19
7-Dot LED Driver



IC802 : TA7780BN
Motor Driver



IC801 : TC9312N-038
Logic Controller

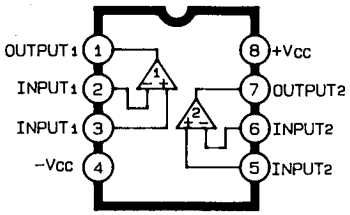


ELECTRICAL PARTS LIST

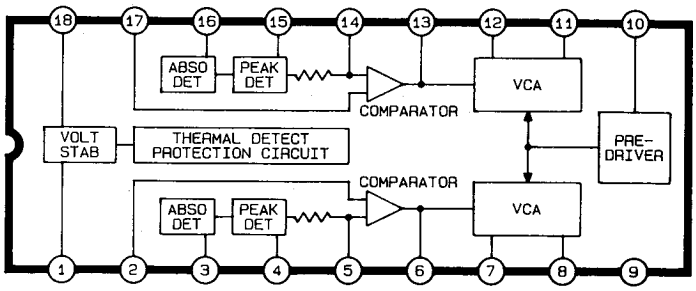
Ser. No.	Ref. No.	Part No.	Description
		PCB-1 MAIN P.C. BOARD	
		CAPACITORS	
572	C2	5359-S050K473	CAP, PPP .047μ
572	C3	5359-S050K473	CAP, PPP .047μ
563	⚠C4	5345-338E0962	CAP, MINI ELE 3300μ/35V
564	C5	5345-477D041	CAP, MINI ELE 470μ/25V
565	⚠C6	5345-108C041	CAP, MINI ELE 1000μ/16V
566	⚠C7	5345-478C045	CAP, MINI ELE 4700μ/16V
569	⚠C8	5345-228C041	CAP, MINI ELE 2200μ/16V
567	C9	5345-227C041	CAP, MINI ELE 220μ/16V
568	C10	5345-228B045	CAP, MINI ELE 2200μ/10V
682	C51	5345-226E041	CAP, MINI ELE 22μ/35V
685	C52	5345-226D041	CAP, MINI ELE 22μ/25V
427	C101	5359-1015851	CAP, PPP 100p
427	C102	5359-1015851	CAP, PPP 100p
415	C103	5345-106C0951	CAP, MINI ELE 10μ/16V
415	C104	5345-106C0951	CAP, MINI ELE 10μ/16V
416	C105	5345-107B041	CAP, MINI ELE 100μ/10V
416	C106	5345-107B041	CAP, MINI ELE 100μ/10V
424	C107	5359-S010J682	CAP, PPP 6800p
424	C108	5359-S010J682	CAP, PPP 6800p
424	C109	5359-S010J682	CAP, PPP 6800p
424	C110	5359-S010J682	CAP, PPP 6800p
415	C111	5345-106C0951	CAP, MINI ELE 10μ/16V
415	C112	5345-106C0951	CAP, MINI ELE 10μ/16V
423	C113	5359-S010J122	CAP, PPP 1200p
423	C114	5359-S010J122	CAP, PPP 1200p
417	C115	5345-227C041	CAP, MINI ELE 220μ/16V
418	C116	5345-337B041	CAP, MINI ELE 330μ/10V
420	C117	5345-476C041	CAP, MINI ELE 47μ/16V
419	C118	5345-226C041	CAP, MINI ELE 22μ/16V
493	C201	5359-S010J681	CAP, PPP 680p
493	C202	5359-S010J681	CAP, PPP 680p
494	C203	5359-S010J152	CAP, PPP 1500p
494	C204	5359-S010J152	CAP, PPP 1500p
492	C205	5359-S010J332	CAP, PPP 3300p
492	C206	5359-S010J332	CAP, PPP 3300p
488	C209	5359-5615851	CAP, PPP 560p
488	C210	5359-5615851	CAP, PPP 560p
478	C211	5345-105F0951	CAP, MINI ELE 1μ/50V
478	C212	5345-105F0951	CAP, MINI ELE 1μ/50V
480	C213	5345-226C041	CAP, MINI ELE 22μ/16V
480	C214	5345-226C041	CAP, MINI ELE 22μ/16V
487	C215	5359-S010J822	CAP, PPP 8200p
487	C216	5359-S010J822	CAP, PPP 8200p
495	C217	5354-124593	CAP, MYL .12μ
495	C218	5354-124593	CAP, MYL .12μ
479	C219	5345-225F0951	CAP, MINI ELE 2.2μ/50V
479	C220	5345-225F0951	CAP, MINI ELE 2.2μ/50V
485	C221	5361-221KB	CAP, CER 220p
485	C222	5361-221KB	CAP, CER 220p
481	C223	5345-226C041	CAP, MINI ELE 22μ/16V
482	C224	5345-227C041	CAP, MINI ELE 220μ/16V
486	C225	5359-2715851	CAP, PPP 270p
486	C226	5359-2715851	CAP, PPP 270p
489	C227	5359-1815851	CAP, PPP 180p
489	C228	5359-1815851	CAP, PPP 180p
542	C301	5345-476C041	CAP, MINI ELE 47μ/16V
543	C302	5345-106C041	CAP, MINI ELE 10μ/16V
537	C303	5359-S010J103	CAP, PPP .01μ
537	C304	5359-S010J103	CAP, PPP .01μ
536	C305	5361-561KB	CAP, CER 560p
536	C306	5361-561KB	CAP, CER 560p
538	C307	5359-S010J223	CAP, PPP .022μ
538	C308	5359-S010J223	CAP, PPP .022μ
539	C309	5354-104593	CAP, MYL .1μ
539	C310	5354-104593	CAP, MYL .1μ
534	C311	5361-1010423	CAP, CER 100p
534	C312	5361-1010423	CAP, CER 100p
533	C313	5361-4710423	CAP, CER 470p
533	C314	5361-4710423	CAP, CER 470p
540	C315	5361-473ZF	CAP, CER .047μ
541	C316	5361-100J434	CAP, CER 10p
543	C317	5345-106C041	CAP, MINI ELE 10μ/16V
590	C401	5345-225-50	CAP, MINI ELE 2.2μ/50V
590	C402	5345-225-50	CAP, MINI ELE 2.2μ/50V
618	C501	5345-225F0951	CAP, MINI ELE 2.2μ/50V
618	C502	5345-225F0951	CAP, MINI ELE 2.2μ/50V
618	C503	5345-225F0951	CAP, MINI ELE 2.2μ/50V
618	C504	5345-225F0951	CAP, MINI ELE 2.2μ/50V
619	C505	5345-226C041	CAP, MINI ELE 22μ/16V
619	C506	5345-226C041	CAP, MINI ELE 22μ/16V
621	C507	5345-106C041	CAP, MINI ELE 10μ/16V
621	C508	5345-106C041	CAP, MINI ELE 10μ/16V
630	C509	5359-S010J152	CAP, PPP 1500p
630	C510	5359-S010J152	CAP, PPP 1500p
626	C511	5359-S010J472	CAP, PPP 4700p
626	C512	5359-S010J472	CAP, PPP 4700p
622	C513	5345-L474M50	CAP, MINI ELE .47μ/50V
622	C514	5345-L474M50	CAP, MINI ELE .47μ/50V
623	C515	5345-L154M50	CAP, MINI ELE .15μ/50V
623	C516	5345-L154M50	CAP, MINI ELE .15μ/50V
629	C517	5359-S010J153	CAP, PPP .015μ
629	C518	5359-S010J153	CAP, PPP .015μ
624	C519	5345-L224M50	CAP, MINI ELE .22μ/50V
624	C520	5345-L224M50	CAP, MINI ELE .22μ/50V
634	C521	5354-683J1HM	CAP, MYL .068μ
634	C522	5354-683J1HM	CAP, MYL .068μ
633	C523	5354-473J1HM	CAP, MYL .047μ
633	C524	5354-473J1HM	CAP, MYL .047μ
627	C525	5359-S010J682	CAP, PPP 6800p
627	C526	5359-S010J682	CAP, PPP 6800p
628	C527	5359-S010J103	CAP, PPP .01μ
628	C528	5359-S010J103	CAP, PPP .01μ
621	C529	5345-106C041	CAP, MINI ELE 10μ/16V
621	C530	5345-106C041	CAP, MINI ELE 10μ/16V
621	C531	5345-106C041	CAP, MINI ELE 10μ/16V
621	C532	5345-106C041	CAP, MINI ELE 10μ/16V
620	C533	5345-227C041	CAP, MINI ELE 220μ/16V
621	C534	5345-106C041	CAP, MINI ELE 10μ/16V
625	C535	5345-477B041	CAP, MINI ELE 470μ/10V
625	C536	5345-477B041	CAP, MINI ELE 470μ/10V
631	C537	5359-S010J222	CAP, PPP 2200p
631	C538	5359-S010J222	CAP, PPP 2200p
685	C701	5345-226D041	CAP, MINI ELE 22μ/25V
686	C702	5342-475D041	CAP, ELE BP 4.7μ/25V
684	C703	5345-475D041	CAP, MINI ELE 4.7μ/25V
821	C801	5361-682KB	CAP, CER 6800p
825	C802	5354-104593	CAP, MYL .1μ
822	C803	5361-102KB	CAP, CER 1000p
823	C804	5361-182KB	CAP, CER 1800p
819	C805	5345-107B041	CAP, MINI ELE 100μ/10V
814	C806	5345-475D041	CAP, MINI ELE 4.7μ/25V
815	C807	5345-106C041	CAP, MINI ELE 10μ/16V
816	C808	5345-226C041	CAP, MINI ELE 22μ/16V
819	C809	5345-107B041	CAP, MINI ELE 100μ/10V
811	C810	5345-477B041	CAP, MINI ELE 470μ/10V
814	C811	5345-475D041	CAP, MINI ELE 4.7μ/25V
817	C812	5345-335F041	CAP, MINI ELE 3.3μ/50V
867	C851	5345-225F041	CAP, MINI ELE 2.2μ/50V
868	C852	5345-105F041	CAP, MINI ELE 1μ/50V
		RESISTORS	
574	R1	5135-392522	RES, CBN 1/2P 3.9K
575	R2	5135-331522	RES, CBN 1/2P 330
576	R3	5135-101522	RES, CBN 1/2P 100
577	R4	5135-1R2522	RES, CBN 1/2P 1.2
577	R5	5135-1R2522	RES, CBN 1/2P 1.2
578	R6	5135-152522	RES, CBN 1/2P 1.5K
575	R7	5135-331522	RES, CBN 1/2P 330
576	R8	5135-101522	RES, CBN 1/2P 100
577	R9	5135-1R2522	RES, CBN 1/2P 1.2
577	R10	5135-1R2522	RES, CBN 1/2P 1.2
687	⚠R51	5102-4R75116	RES, FUSE 4.7
696	R53	5232-155J16P	RES, CBN 1/6P 1.5M
695	R54	5232-104J16P	RES, CBN 1/6P 100K
700	R55	5135-182522	RES, CBN 1/2P 1.8K
697	R58	5232-152J16P	RES, CBN 1/6P 1.5K
698	R59	5232-182J16P	RES, CBN 1/6P 1.8K

IC BLOCK DIAGRAM

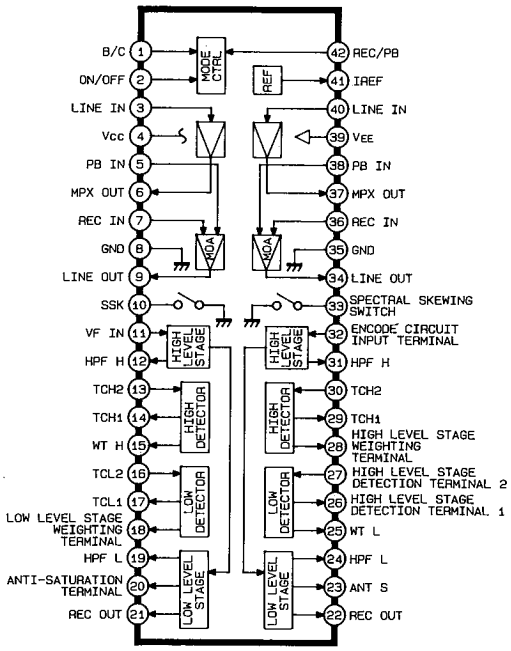
IC101 : NJM2068
IC201 : μPC4570C
Dual Operational Amplifier



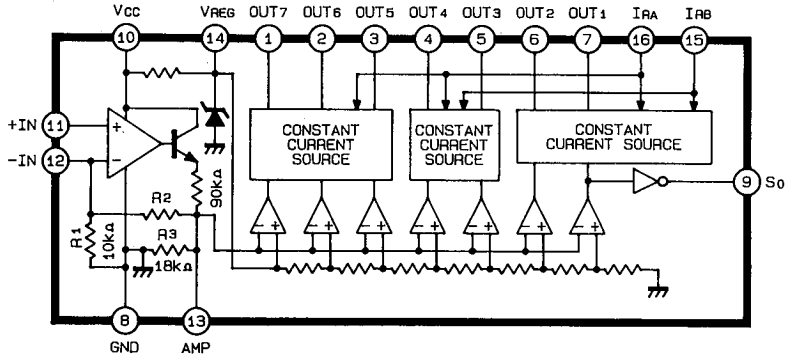
IC301 : μPC1297C
Dolby HX Pro



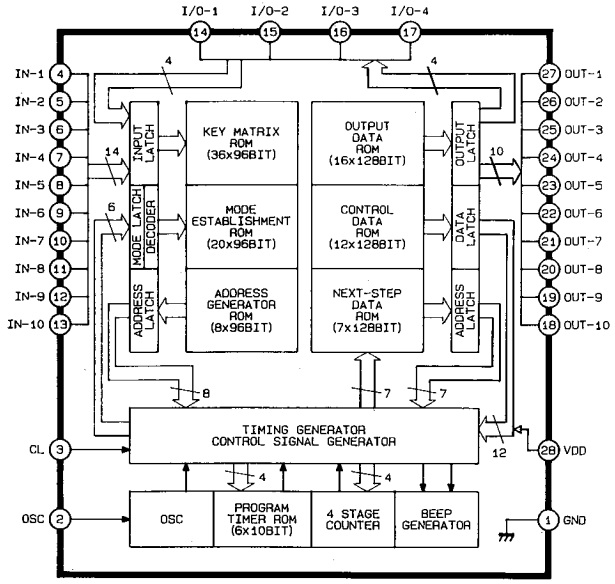
IC501 : CX20187
Dolby NR



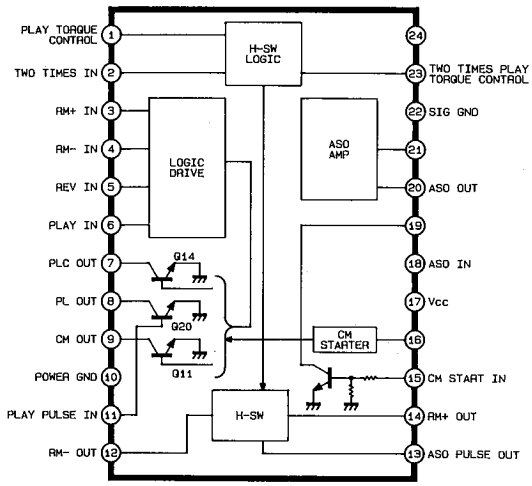
IC401, 402 : IR2E19
7-Dot LED Driver



IC801 : TC9312N-038
Logic Controller



IC802 : TA7780BN
Motor Driver



ELECTRICAL PARTS LIST

PCB-1 MAIN P.C. BOARD

CAPACITORS

Ser. No.	Ref. No.	Part No.	Description
572	C2	5359-S050K473	CAP, PPP .047 μ
572	C3	5359-S050K473	CAP, PPP .047 μ
563	⚠C4	5345-338E0962	CAP, MINI ELE 3300 μ/35V
564	C5	5345-477D041	CAP, MINI ELE 470 μ/25V
565	⚠C6	5345-108C041	CAP, MINI ELE 1000 μ/16V
566	⚠C7	5345-478C045	CAP, MINI ELE 4700 μ/16V
569	⚠C8	5345-228C041	CAP, MINI ELE 2200 μ/16V
567	C9	5345-227C041	CAP, MINI ELE 220 μ/16V
568	C10	5345-228B045	CAP, MINI ELE 2200 μ/10V
682	C51	5345-226E041	CAP, MINI ELE 22 μ/35V
685	C52	5345-226D041	CAP, MINI ELE 22 μ/25V
427	C101	5359-1015851	CAP, PPP 100p
427	C102	5359-1015851	CAP, PPP 100p
415	C103	5345-106C0951	CAP, MINI ELE 10 μ/16V
415	C104	5345-106C0951	CAP, MINI ELE 10 μ/16V
416	C105	5345-107B041	CAP, MINI ELE 100 μ/10V
416	C106	5345-107B041	CAP, MINI ELE 100 μ/10V
424	C107	5359-S010J682	CAP, PPP 6800p
424	C108	5359-S010J682	CAP, PPP 6800p
424	C109	5359-S010J682	CAP, PPP 6800p
424	C110	5359-S010J682	CAP, PPP 6800p
415	C111	5345-106C0951	CAP, MINI ELE 10 μ/16V
415	C112	5345-106C0951	CAP, MINI ELE 10 μ/16V
423	C113	5359-S010J122	CAP, PPP 1200p
423	C114	5359-S010J122	CAP, PPP 1200p
417	C115	5345-227C041	CAP, MINI ELE 220 μ/16V
418	C116	5345-337B041	CAP, MINI ELE 330 μ/10V
420	C117	5345-476C041	CAP, MINI ELE 47 μ/16V
419	C118	5345-226C041	CAP, MINI ELE 22 μ/16V
493	C201	5359-S010J681	CAP, PPP 680p
493	C202	5359-S010J681	CAP, PPP 680p
494	C203	5359-S010J152	CAP, PPP 1500p
494	C204	5359-S010J152	CAP, PPP 1500p
492	C205	5359-S010J332	CAP, PPP 3300p
492	C206	5359-S010J332	CAP, PPP 3300p
488	C209	5359-5615851	CAP, PPP 560p
488	C210	5359-5615851	CAP, PPP 560p
478	C211	5345-105F0951	CAP, MINI ELE 1 μ/50V
478	C212	5345-105F0951	CAP, MINI ELE 1 μ/50V
480	C213	5345-226C041	CAP, MINI ELE 22 μ/16V
480	C214	5345-226C041	CAP, MINI ELE 22 μ/16V
487	C215	5359-S010J822	CAP, PPP 8200p
487	C216	5359-S010J822	CAP, PPP 8200p
495	C217	5354-124593	CAP, MYL .12 μ
495	C218	5354-124593	CAP, MYL .12 μ
479	C219	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
479	C220	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
485	C221	5361-221KB	CAP, CER 220p
485	C222	5361-221KB	CAP, CER 220p
481	C223	5345-226C041	CAP, MINI ELE 22 μ/16V
482	C224	5345-227C041	CAP, MINI ELE 220 μ/16V
486	C225	5359-2715851	CAP, PPP 270p
486	C226	5359-2715851	CAP, PPP 270p
489	C227	5359-1815851	CAP, PPP 180p
489	C228	5359-1815851	CAP, PPP 180p
542	C301	5345-476C041	CAP, MINI ELE 47 μ/16V
543	C302	5345-106C041	CAP, MINI ELE 10 μ/16V
537	C303	5359-S010J103	CAP, PPP .01 μ
537	C304	5359-S010J103	CAP, PPP .01 μ
536	C305	5361-561KB	CAP, CER 560p
536	C306	5361-561KB	CAP, CER 560p
538	C307	5359-S010J223	CAP, PPP .022 μ
538	C308	5359-S010J223	CAP, PPP .022 μ
539	C309	5354-104593	CAP, MYL .1 μ
539	C310	5354-104593	CAP, MYL .1 μ
534	C311	5361-1010423	CAP, CER 100p
534	C312	5361-1010423	CAP, CER 100p
533	C313	5361-4710423	CAP, CER 470p
533	C314	5361-4710423	CAP, CER 470p
540	C315	5361-473ZF	CAP, CER .047 μ
541	C316	5361-100J434	CAP, CER 10p
543	C317	5345-106C041	CAP, MINI ELE 10 μ/16V
590	C401	5345-225-50	CAP, MINI ELE 2.2 μ/50V
590	C402	5345-225-50	CAP, MINI ELE 2.2 μ/50V
618	C501	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
618	C502	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
618	C503	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
618	C504	5345-225F0951	CAP, MINI ELE 2.2 μ/50V
619	C505	5345-226C041	CAP, MINI ELE 22 μ/16V
619	C506	5345-226C041	CAP, MINI ELE 22 μ/16V
621	C507	5345-106C041	CAP, MINI ELE 10 μ/16V
621	C508	5345-106C041	CAP, MINI ELE 10 μ/16V
630	C509	5359-S010J152	CAP, PPP 1500p
630	C510	5359-S010J152	CAP, PPP 1500p
626	C511	5359-S010J472	CAP, PPP 4700p
626	C512	5359-S010J472	CAP, PPP 4700p
622	C513	5345-L474M50	CAP, MINI ELE .47 μ/50V
622	C514	5345-L474M50	CAP, MINI ELE .47 μ/50V
623	C515	5345-L154M50	CAP, MINI ELE .15 μ/50V
623	C516	5345-L154M50	CAP, MINI ELE .15 μ/50V
629	C517	5359-S010J153	CAP, PPP .015 μ
629	C518	5359-S010J153	CAP, PPP .015 μ
624	C519	5345-L224M50	CAP, MINI ELE .22 μ/50V
624	C520	5345-L224M50	CAP, MINI ELE .22 μ/50V
634	C521	5354-683J1HM	CAP, MYL .068 μ
634	C522	5354-683J1HM	CAP, MYL .068 μ
633	C523	5354-473J1HM	CAP, MYL .047 μ
633	C524	5354-473J1HM	CAP, MYL .047 μ
627	C525	5359-S010J682	CAP, PPP 6800p
627	C526	5359-S010J682	CAP, PPP 6800p
628	C527	5359-S010J103	CAP, PPP .01 μ
628	C528	5359-S010J103	CAP, PPP .01 μ
621	C529	5345-106C041	CAP, MINI ELE 10 μ/16V
621	C530	5345-106C041	CAP, MINI ELE 10 μ/16V
621	C531	5345-106C041	CAP, MINI ELE 10 μ/16V
621	C532	5345-106C041	CAP, MINI ELE 10 μ/16V
620	C533	5345-227C041	CAP, MINI ELE 220 μ/16V
621	C534	5345-106C041	CAP, MINI ELE 10 μ/16V
625	C535	5345-477B041	CAP, MINI ELE 470 μ/10V
625	C536	5345-477B041	CAP, MINI ELE 470 μ/10V
631	C537	5359-S010J222	CAP, PPP 2200p
631	C538	5359-S010J222	CAP, PPP 2200p
685	C701	5345-226D041	CAP, MINI ELE 22 μ/25V
686	C702	5342-475D041	CAP, ELE BP 4.7 μ/25V
684	C703	5345-475D041	CAP, MINI ELE 4.7 μ/25V
821	C801	5361-682KB	CAP, CER 6800p
825	C802	5354-104593	CAP, MYL .1 μ
822	C803	5361-102KB	CAP, CER 1000p
823	C804	5361-182KB	CAP, CER 1800p
819	C805	5345-107B041	CAP, MINI ELE 100 μ/10V
814	C806	5345-475D041	CAP, MINI ELE 4.7 μ/25V
815	C807	5345-106C041	CAP, MINI ELE 10 μ/16V
816	C808	5345-226C041	CAP, MINI ELE 22 μ/16V
819	C809	5345-107B041	CAP, MINI ELE 100 μ/10V
811	C810	5345-477B041	CAP, MINI ELE 470 μ/10V
814	C811	5345-475D041	CAP, MINI ELE 4.7 μ/25V
817	C812	5345-335F041	CAP, MINI ELE 3.3 μ/50V
867	C851	5345-225F041	CAP, MINI ELE 2.2 μ/50V
868	C852	5345-105F041	CAP, MINI ELE 1 μ/50V

RESISTORS

Ser. No.	Ref. No.	Part No.	Description
574	R1	5135-392522	RES, CBN 1/2P 3.9K
575	R2	5135-331522	RES, CBN 1/2P 330
576	R3	5135-101522	RES, CBN 1/2P 100
577	R4	5135-1R2522	RES, CBN 1/2P 1.2
577	R5	5135-1R2522	RES, CBN 1/2P 1.2
578	R6	5135-152522	RES, CBN 1/2P 1.5K
575	R7	5135-331522	RES, CBN 1/2P 330
576	R8	5135-101522	RES, CBN 1/2P 100
577	R9	5135-1R2522	RES, CBN 1/2P 1.2
577	R10	5135-1R2522	RES, CBN 1/2P 1.2
687	⚠R51	5102-4R75116	RES, FUSE 4.7
696	R53	5232-155J16P	RES, CBN 1/6P 1.5M
695	R54	5232-104J16P	RES, CBN 1/6P 100K
700	R55	5135-182522	RES, CBN 1/2P 1.8K
697	R58	5232-152J16P	RES, CBN 1/6P 1.5K
698	R59	5232-182J16P	RES, CBN 1/6P 1.8K

Ser. No.	Ref. No.	Part No.	Description
692	R60	5135-103522	RES, CBN 1/2P 10K
431	R101	5232-101J16P	RES, CBN 1/6P 100
431	R102	5232-101J16P	RES, CBN 1/6P 100
432	R103	5232-104J16P	RES, CBN 1/6P 100K
432	R104	5232-104J16P	RES, CBN 1/6P 100K
433	R105	5232-331J16P	RES, CBN 1/6P 330
433	R106	5232-331J16P	RES, CBN 1/6P 330
434	R107	5232-332J16P	RES, CBN 1/6P 3.3K
434	R108	5232-332J16P	RES, CBN 1/6P 3.3K
435	R109	5232-514J16P	RES, CBN 1/6P 510K
435	R110	5232-514J16P	RES, CBN 1/6P 510K
436	R111	5232-822J16P	RES, CBN 1/6P 8.2K
436	R112	5232-822J16P	RES, CBN 1/6P 8.2K
437	R113	5232-392J16P	RES, CBN 1/6P 3.9K
437	R114	5232-392J16P	RES, CBN 1/6P 3.9K
438	R115	5232-105J16P	RES, CBN 1/6P 1M
438	R116	5232-105J16P	RES, CBN 1/6P 1M
442	R117	5232-152J16P	RES, CBN 1/6P 1.5K
442	R118	5232-152J16P	RES, CBN 1/6P 1.5K
440	R119	5232-103J16P	RES, CBN 1/6P 10K
440	R120	5232-103J16P	RES, CBN 1/6P 10K
443	R121	5135-331522	RES, CBN 1/2P 330
444	R122	5135-563522	RES, CBN 1/2P 56K
448	R123	5232-100J16P	RES, CBN 1/6P 10
442	R124	5232-152J16P	RES, CBN 1/6P 1.5K
441	R125	5232-473J16P	RES, CBN 1/6P 47K
441	R126	5232-473J16P	RES, CBN 1/6P 47K
449	R127	5232-332J16P	RES, CBN 1/6P 3.3K
449	R128	5232-332J16P	RES, CBN 1/6P 3.3K
450	R129	5232-472J16P	RES, CBN 1/6P 4.7K
450	R130	5232-472J16P	RES, CBN 1/6P 4.7K
432	R131	5232-104J16P	RES, CBN 1/6P 100K
447	R151	5232-102J16P	RES, CBN 1/6P 1K
447	R152	5232-102J16P	RES, CBN 1/6P 1K
501	R201	5135-152522	RES, CBN 1/2P 1.5K
501	R202	5135-152522	RES, CBN 1/2P 1.5K
504	R203	5232-222J16P	RES, CBN 1/6P 2.2K
504	R204	5232-222J16P	RES, CBN 1/6P 2.2K
514	R205	5232-104J16P	RES, CBN 1/6P 100K
514	R206	5232-104J16P	RES, CBN 1/6P 100K
506	R207	5232-223J16P	RES, CBN 1/6P 22K
506	R208	5232-223J16P	RES, CBN 1/6P 22K
505	R209	5232-393J16P	RES, CBN 1/6P 39K
505	R210	5232-393J16P	RES, CBN 1/6P 39K
506	R211	5232-223J16P	RES, CBN 1/6P 22K
506	R212	5232-223J16P	RES, CBN 1/6P 22K
509	R213	5232-154J16P	RES, CBN 1/6P 150K
509	R214	5232-154J16P	RES, CBN 1/6P 150K
510	R215	5232-222J16P	RES, CBN 1/6P 2.2K
510	R216	5232-222J16P	RES, CBN 1/6P 2.2K
513	R221	5232-184J16P	RES, CBN 1/6P 180K
513	R222	5232-184J16P	RES, CBN 1/6P 180K
514	R223	5232-104J16P	RES, CBN 1/6P 100K
514	R224	5232-104J16P	RES, CBN 1/6P 100K
504	R225	5232-222J16P	RES, CBN 1/6P 2.2K
504	R226	5232-222J16P	RES, CBN 1/6P 2.2K
515	R227	5232-273J16P	RES, CBN 1/6P 27K
515	R228	5232-273J16P	RES, CBN 1/6P 27K
514	R229	5232-104J16P	RES, CBN 1/6P 100K
514	R230	5232-104J16P	RES, CBN 1/6P 100K
516	R231	5232-121J16P	RES, CBN 1/6P 120
516	R232	5232-121J16P	RES, CBN 1/6P 120
511	R233	5232-103J16P	RES, CBN 1/6P 10K
500	R234	5135-103522	RES, CBN 1/2P 10K
499	R235	5135-331522	RES, CBN 1/2P 330
503	R237	5232-103J16P	RES, CBN 1/6P 10K
503	R238	5232-103J16P	RES, CBN 1/6P 10K
503	R239	5232-103J16P	RES, CBN 1/6P 10K
503	R240	5232-103J16P	RES, CBN 1/6P 10K
502	R241	5135-333522	RES, CBN 1/2P 33K
502	R242	5135-333522	RES, CBN 1/2P 33K
502	R243	5135-333522	RES, CBN 1/2P 33K
531	⚠R301	5102-1015116	RES, FUSE 100
550	R302	5232-103J16P	RES, CBN 1/6P 10K
550	R303	5232-103J16P	RES, CBN 1/6P 10K
545	R305	5232-333J16P	RES, CBN 1/6P 33K
545	R306	5232-333J16P	RES, CBN 1/6P 33K
544	R307	5232-154J16P	RES, CBN 1/6P 150K
518	R308	5135-154522	RES, CBN 1/2P 150K
546	R309	5232-102J16P	RES, CBN 1/6P 1K
520	R310	5232-471J16P	RES, CBN 1/6P 470
548	R311	5135-332522	RES, CBN 1/2P 3.3K
546	R313	5232-102J16P	RES, CBN 1/6P 1K
532	⚠R314	5102-1005116	RES, FUSE 10
547	R315	5135-103522	RES, CBN 1/2P 10K
550	R316	5232-103J16P	RES, CBN 1/6P 10K
549	R317	5135-221522	RES, CBN 1/2P 220
519	R318	5232-472J16P	RES, CBN 1/6P 4.7K
593	R401	5135-473522	RES, CBN 1/2P 47K
593	R402	5135-473522	RES, CBN 1/2P 47K
594	R403	5232-123J16P	RES, CBN 1/6P 12K
594	R404	5232-123J16P	RES, CBN 1/6P 12K
607	R409	5135-561522	RES, CBN 1/2P 560
607	R410	5135-561522	RES, CBN 1/2P 560
645	R501	5232-104J16P	RES, CBN 1/6P 100K
648	R503	5232-682J16P	RES, CBN 1/6P 6.8K
654	R504	5135-682522	RES, CBN 1/2P 6.8K
646	R505	5232-622J16P	RES, CBN 1/6P 6.2K
646	R506	5232-622J16P	RES, CBN 1/6P 6.2K
643	R507	5232-752J16P	RES, CBN 1/6P 7.5K
643	R508	5232-752J16P	RES, CBN 1/6P 7.5K
641	R509	5232-392J16P	RES, CBN 1/6P 3.9K
641	R510	5232-392J16P	RES, CBN 1/6P 3.9K
644	R511	5232-431J16P	RES, CBN 1/6P 430
644	R512	5232-431J16P	RES, CBN 1/6P 430
642	R513	5232-272J16P	RES, CBN 1/6P 2.7K
642	R514	5232-272J16P	RES, CBN 1/6P 2.7K
648	R515	5232-682J16P	RES, CBN 1/6P 6.8K
648	R516	5232-682J16P	RES, CBN 1/6P 6.8K
649	R517	5232-681J16P	RES, CBN 1/6P 680
649	R518	5232-681J16P	RES, CBN 1/6P 680
655	R519	5135-104522	RES, CBN 1/2P 100K
655	R520	5135-104522	RES, CBN 1/2P 100K
652	R521	5232-105J16P	RES, CBN 1/6P 1M
652	R522	5232-105J16P	RES, CBN 1/6P 1M
651	R523	5232 223J16P	RES, CBN 1/6P 22K
651	R524	5232-223J16P	RES, CBN 1/6P 22K
656	R525	5135-222522	RES, CBN 1/2P 2.2K
656	R526	5135-222522	RES, CBN 1/2P 2.2K
647	R527	5232-103J16P	RES, CBN 1/6P 10K
650	R528	5232-103J16P	RES, CBN 1/6P 10K
693	R701	5232-103J16P	RES, CBN 1/6P 10K
693	R702	5232-103J16P	RES, CBN 1/6P 10K
688	R703	5135-392522	RES, CBN 1/2P 3.9K
689	R704	5232-392J16P	RES, CBN 1/6P 3.9K
693	R705	5232-103J16P	RES, CBN 1/6P 10K
693	R706	5232-103J16P	RES, CBN 1/6P 10K
693	R707	5232-103J16P	RES, CBN 1/6P 10K
693	R708	5232-103J16P	RES, CBN 1/6P 10K
693	R711	5232-103J16P	RES, CBN 1/6P 10K
693	R712	5232-103J16P	RES, CBN 1/6P 10K
690	R727	5232-472J16P	RES, CBN 1/6P 4.7K
699	R729	5232-333J16P	RES, CBN 1/6P 33K
694	R730	5232-223J16P	RES, CBN 1/6P 22K
683	R731	5135-472522	RES, CBN 1/2P 4.7K
831	R801	5232-333J16P	RES, CBN 1/6P 33K
832	R802	5232-223J16P	RES, CBN 1/6P 22K
841	R803	5135-153522	RES, CBN 1/2P 15K
842	R804	5135-222522	RES, CBN 1/2P 2.2K
843	R805	5135-274522	RES, CBN 1/2P 270K
844	R806	5135-103522	RES, CBN 1/2P 10K
844	R807	5135-103522	RES, CBN 1/2P 10K
845	R808	5135-102522	RES, CBN 1/2P 1K
846	R809	5135-180522	RES, CBN 1/2P 18
846	R810	5135-180522	RES, CBN 1/2P 18
829	⚠R811	5102-4705116	RES, FUSE 47
847	R812	5135-471522	RES, CBN 1/2P 470
848	R813	5135-102522	RES, CBN 1/2P 1K
849	R814	5135-821522	RES, CBN 1/2P 820
834	R815	5232-390J16P	RES, CBN 1/6P 39

Ser. No.	Ref. No.	Part No.	Description
835	R816	5232-394J16P	RES, CBN 1/6P 390K
833	R817	5232-222J16P	RES, CBN 1/6P 2.2K
850	R818	5135-104522	RES, CBN 1/2P 100K
833	R819	5232-222J16P	RES, CBN 1/6P 2.2K
836	R820	5232-103J16P	RES, CBN 1/6P 10K
836	R821	5232-103J16P	RES, CBN 1/6P 10K
851	R822	5135-473522	RES, CBN 1/2P 47K
836	R823	5232-103J16P	RES, CBN 1/6P 10K
837	R824	5232-272J16P	RES, CBN 1/6P 2.7K
838	R825	5232-682J16P	RES, CBN 1/6P 6.8K
836	R826	5232-103J16P	RES, CBN 1/6P 10K
852	R827	5135-271522	RES, CBN 1/2P 270
853	R828	5135-271522	RES, CBN 1/2P 270
844	R829	5135-103522	RES, CBN 1/2P 10K
840	R830	5135-223522	RES, CBN 1/2P 22K
871	R851	5232-224J16P	RES, CBN 1/6P 220K
872	R852	5232-472J16P	RES, CBN 1/6P 4.7K
871	R853	5232-224J16P	RES, CBN 1/6P 220K
873	R854	5232-104J16P	RES, CBN 1/6P 100K
874	R855	5232-102J16P	RES, CBN 1/6P 1K
874	R856	5232-102J16P	RES, CBN 1/6P 1K
		INTEGRATED CIRCUITS	
401	IC101	5653-NJ2068DD	IC, LINEAR
461	IC201	5653-UPC4570C	IC, LINEAR
521	IC301	5653-U1297CA	IC, LINEAR
611	IC501	5653-CX20187	IC, LINEAR
791	IC801	5654-9312-038	IC, DIGITAL
792	IC802	5654-TA7780BN	IC, DIGITAL
		TRANSISTORS	
551	⚠Q1	5612-1375	XISTOR, PNP A
551	⚠Q2	5612-1375	XISTOR, PNP A
552	Q3	5613-2603 (F) or (E)	XISTOR, NPN R
552	Q4	5613-2603 (F) or (E)	XISTOR, NPN R
552	Q5	5613-2603 (F) or (E)	XISTOR, NPN R
552	Q6	5613-2603 (F) or (E)	XISTOR, NPN R
674	Q51	5611-1115 (F)	XISTOR, PNP R
404	Q101	5613-RN1203	XISTOR, NPN R
404	Q102	5613-RN1203	XISTOR, NPN R
405	Q103	5613-2603 (F) or (E)	XISTOR, NPN R
463	Q201	5613-RN1203	XISTOR, NPN R
463	Q202	5613-RN1203	XISTOR, NPN R
463	Q203	5613-RN1203	XISTOR, NPN R
463	Q204	5613-RN1203	XISTOR, NPN R
463	Q205	5613-RN1203	XISTOR, NPN R
463	Q206	5613-RN1203	XISTOR, NPN R
464	Q207	5613-2878 (B)	XISTOR, NPN R
464	Q208	5613-2878 (B)	XISTOR, NPN R
525	Q301	5611-1115 (F)	XISTOR, PNP R
525	Q302	5611-1115 (F)	XISTOR, PNP R
523	Q304	5613-RN1203	XISTOR, NPN R
524	Q305	5613-RN1207	XISTOR, NPN R
523	Q306	5613-RN1203	XISTOR, NPN R
523	Q307	5613-RN1203	XISTOR, NPN R
522	Q308	5611-RN2203	XISTOR, PNP R
522	Q309	5611-RN2203	XISTOR, PNP R
522	Q310	5611-RN2203	XISTOR, PNP R
523	Q311	5613-RN1203	XISTOR, NPN R
613	Q501	5613-RN1203	XISTOR, NPN R
613	Q502	5613-RN1203	XISTOR, NPN R
613	Q503	5613-RN1203	XISTOR, NPN R
613	Q504	5613-RN1203	XISTOR, NPN R
614	Q505	5613-RN1207	XISTOR, NPN R
671	Q701	5613-2240 (BL)	XISTOR, NPN R
671	Q702	5613-2240 (BL)	XISTOR, NPN R
671	Q703	5613-2240 (BL)	XISTOR, NPN R
671	Q704	5613-2240 (BL)	XISTOR, NPN R
673	Q705	5613-2878 (B)	XISTOR, NPN R
673	Q706	5613-2878 (B)	XISTOR, NPN R
677	Q707	5613-RN1203	XISTOR, NPN R
677	Q708	5613-RN1203	XISTOR, NPN R
672	Q709	5614-1450 (T)	XISTOR, NPN A
672	Q710	5614-1450 (T)	XISTOR, NPN A
676	Q714	5611-RN2203	XISTOR, PNP R
681	Q715	5613-RN1207	XISTOR, NPN R

Ser. No.	Ref. No.	Part No.	Description
799	Q801	5613-RN1207	XISTOR, NPN R
799	Q802	5613-RN1207	XISTOR, NPN R
799	Q803	5613-RN1207	XISTOR, NPN R
796	Q804	5613-2120 (Y)	XISTOR, NPN R
795	Q805	5611-950 (Y)	XISTOR, PNP R
796	Q806	5613-2120 (Y)	XISTOR, NPN R
799	Q807	5613-RN1207	XISTOR, NPN R
797	Q808	5611-RN2203	XISTOR, PNP R
794	Q809	5611-970 (BL) or (GR)	XISTOR, PNP R
793	Q810	5611-1115 (F) or (E)	XISTOR, PNP R
799	Q811	5613-RN1207	XISTOR, NPN R
799	Q812	5613-RN1207	XISTOR, NPN R
861	Q851	5611-1115 (F) or (E)	XISTOR, PNP R
862	Q852	5613-2603 (F) or (E)	XISTOR, NPN R
		DIODES	
555	⚠D1	5632-S5566B	DIODE, RECT
555	⚠D2	5632-S5566B	DIODE, RECT
555	⚠D3	5632-S5566B	DIODE, RECT
555	⚠D4	5632-S5566B	DIODE, RECT
555	⚠D5	5632-S5566B	DIODE, RECT
557	D6	5635-HZ15-2L	DIODE, ZENER
558	D9	5635-HZ9B1L	DIODE, ZENER
679	⚠D51	5631-1SS133	DIODE, DET
679	⚠D52	5631-1SS133	DIODE, DET
679	D53	5631-1SS133	DIODE, DET
679	D54	5631-1SS133	DIODE, DET
680	D55	5635-HZ11C1L	DIODE, ZENER
675	D56	5631-1S2473	DIODE, DET
407	D101	5635-RD6R2EB2	DIODE, ZENER
526	D301	5631-1S2473	DIODE, DET
526	D302	5631-1S2473	DIODE, DET
526	D303	5631-1S2473	DIODE, DET
526	D304	5631-1S2473	DIODE, DET
675	D701	5631-1S2473	DIODE, DET
675	D702	5631-1S2473	DIODE, DET
679	D703	5631-1SS133	DIODE, DET
675	D706	5631-1S2473	DIODE, DET
675	D707	5631-1S2473	DIODE, DET
802	D807	5631-1SS133	DIODE, DET
801	D808	5631-1S2473	DIODE, DET
801	D809	5631-1S2473	DIODE, DET
801	D810	5631-1S2473	DIODE, DET
801	D811	5631-1S2473	DIODE, DET
801	D812	5631-1S2473	DIODE, DET
801	D813	5631-1S2473	DIODE, DET
801	D814	5631-1S2473	DIODE, DET
805	D815	5635-RD3R9EB2	DIODE, ZENER
804	D816	5635-RD2R7EB1	DIODE, ZENER
806	D817	5635-RD6R2EB2	DIODE, ZENER
808	D819	5632-S5566B	DIODE, RECT
801	D820	5631-1S2473	DIODE, DET
802	D821	5631-1SS133	DIODE, DET
865	D851	5631-1SS133	DIODE, DET
865	D852	5631-1SS133	DIODE, DET
865	D853	5631-1SS133	DIODE, DET
865	D854	5631-1SS133	DIODE, DET
		COILS	
409	L101	5995-363261	COIL W/CORE
409	L102	5995-363261	COIL W/CORE
467	L201	5932-70523	COIL CASE, 7
467	L202	5932-70523	COIL CASE, 7
528	L301	5932-10101	COIL CASE, 7
528	L302	5932-10101	COIL CASE, 7
		CONTROLS	
411	VR101	5101-20301927	RES, SEMI FIX 20K
411	VR102	5101-20301927	RES, SEMI FIX 20K
772	VR107	5112-1040221	RES, V CBN 12 100K
772	VR108	5112-1040221	RES, V CBN 12 100K
470	VR201	5101-20201927	RES, SEMI FIX 2K
470	VR202	5101-20201927	RES, SEMI FIX 2K
529	VR301	5101-20301927	RES, SEMI FIX 20K
529	VR302	5101-20301927	RES, SEMI FIX 20K
776	VR303	5112-2020322	RES, V CBN 12 2K
535	VR304	5101-50201927	RES, SEMI FIX 5K

Ser. No.	Ref. No.	Part No.	Description
530	VR305	5101-10301927	RES, SEMI FIX 10K
		MISCELLANEOUS	
703	J1	4484-46	PIN JACK, 4P
732	JL101	4242-R0203800	JUMPER LEAD
468	LC201	5214-11601	LC COMPOSITE
468	LC202	5214-11601	LC COMPOSITE
616	LC501	5214-11301	LC COMPOSITE
616	LC502	5214-11301	LC COMPOSITE
615	LC503	5214-95	LC COMPOSITE
615	LC504	5214-95	LC COMPOSITE
738	LCN104	4163-01501002	CONNECTR W/W
736	LCN801	4163-01301005	CONNECTR W/W
737	LCN802	4163-01302004	CONNECTR W/W
765	S2	4431-S0503712	PUSH SWITCH
527	T301	6171-01801	OS BLOCK
721	TM101	4214-132	TERMINAL
721	TM102	4214-132	TERMINAL
721	TM201	4214-132	TERMINAL
721	TM202	4214-132	TERMINAL
721	TM301	4214-132	TERMINAL
721	TM302	4214-132	TERMINAL
721	TM501	4214-132	TERMINAL
721	TM502	4214-132	TERMINAL
745	CN101	4443-0801140	CONNECTOR
743	CN102	4443-070185	CONNECTOR
746	CN104	4443-0201140	CONNECTOR
747	CN105	4443-0401140	CONNECTOR
748	CN106	4443-0601102	CONNECTOR
749	CN107	4443-0201102	CONNECTOR

PCB-2 DISPLAY P.C. BOARD

		CAPACITORS	
587	C403	5345-475D0356	CAP, MINI ELE 4.7 μ/25V
587	C404	5345-475D0356	CAP, MINI ELE 4.7 μ/25V
589	C405	5345-106C0356	CAP, MINI ELE 10 μ/16V
589	C406	5345-106C0356	CAP, MINI ELE 10 μ/16V
588	C407	5345-226C0356	CAP, MINI ELE 22 μ/16V
		RESISTORS	
579	R56	5232-102J16P	RES, CBN 1/6P 1K
580	R57	5232-272J16P	RES, CBN 1/6P 2.7K
596	R405	5232-223J16P	RES, CBN 1/6P 22K
596	R406	5232-223J16P	RES, CBN 1/6P 22K
598	R407	5232-103J16P	RES, CBN 1/6P 10K
598	R408	5232-103J16P	RES, CBN 1/6P 10K
		INTEGRATED CIRCUITS	
581	IC401	5652-IR2E19	IC, MONO
581	IC402	5652-IR2E19	IC, MONO
		DIODES	
601	D401	5637-LT3E43C	LED
601	D402	5637-LT3E43C	LED
601	D403	5637-LT3E43C	LED
601	D404	5637-LT3E43C	LED
601	D405	5637-LT3E43C	LED
601	D406	5637-LT3E43C	LED
601	D407	5637-LT3E43C	LED
601	D408	5637-LT3E43C	LED
602	D409	5637-LT3D43C	LED
602	D410	5637-LT3D43C	LED
602	D411	5637-LT3D43C	LED
602	D412	5637-LT3D43C	LED
602	D413	5637-LT3D43C	LED
602	D414	5637-LT3D43C	LED
601	D415	5637-LT3E43C	LED
602	D416	5637-LT3D43C	LED
601	D417	5637-LT3E43C	LED
603	D418	5637-LT3H43C	LED
602	D419	5637-LT3D43C	LED
800	D801	5631-1SS133	DIODE, DET
800	D802	5631-1SS133	DIODE, DET
800	D803	5631-1SS133	DIODE, DET
800	D804	5631-1SS133	DIODE, DET
800	D805	5631-1SS133	DIODE, DET
800	D806	5631-1SS133	DIODE, DET
		MISCELLANEOUS	
731	JL102	4242-R0207201	JUMPER LEAD
735	LCN101	4163-01402008	CONNECTR W/W
739	LCN105	4163-01401004	CONNECTR W/W
767	S801	4437-00401	PUSH SWITCH
767	S802	4437-00401	PUSH SWITCH
767	S803	4437-00401	PUSH SWITCH
767	S804	4437-00401	PUSH SWITCH
767	S805	4437-00401	PUSH SWITCH
767	S806	4437-00401	PUSH SWITCH

PCB-3 INPUT VR P.C. BOARD

		CONTROLS	
780	VR105	5113-50373158	RES, V CBN 16 50K
780	VR106	5113-50373158	RES, V CBN 16 50K

PCB-4 POWER P.C. BOARD

		CAPACITOR	
571	⚠C1	5352-S010M103	CAP, MTL .01 μ
		TRANSISTOR	
042A	⚠R20	5135-335522	RES, CBN 1/2P 3.3M GB
		DIODE	
678	D705	5635-RD2R7EB2	DIODE, ZENER
		TRANSFORMERS	
561	⚠T1	5584-S1801	XFORMER, POWER
561A	⚠T1	5584-S1802	XFORMER, POWER GB
		MISCELLANEOUS	
761	⚠S1	4433-00701	PUSH SWITCH, POWER
041A	⚠S3	4411-1047111	ROTRY SWITCH, VOLT SELECT GB
744	CN103	4443-030185	CONNECTOR
724	TM1	4214-122	TERMINAL
724	TM2	4214-122	TERMINAL

ABBREVIATIONS IN PARTS LIST

CAPACITORS

CAP, MINI ELE	: Electrolytic
CAP, CER	: Ceramic
CAP, PPP	: Polypropylene
CAP, MYL	: Mylar
CAP, MCA	: Mica
CAP, MINI BP	: Bipolar
CAP, ELE BP	: Electrolytic Bipolar
CAP, STY	: Polystyrene Film
CAP, SPE	: Special
CAP, TAN	: Tantalum
470 μ	: 470 μF
6800p	: 6800pF
.047 μ	: 0.047 μF

RESISTORS

RES, CBN 1/6P	: Carbon 1/6W
RES, FUSE	: Fuse
RES, CEM 5P	: Cement 5W
RES, MTL 1P	: Metal 1W
2.2K	: 2.2kΩ
220	: 220Ω

TRANSISTORS

XISTOR	: Transistor
FET	: Field Effect Transistor

CONTROLS

RES, V CBN	: Variable Carbon Resistor
RES, SEMI FIX	: Semi-fixed Resistor

CHASSIS MISCELLANEOUS

701	⚠P1	4161-71151	CORD W/PLUG
701A	⚠P1	4161-7256	CORD W/PLUG GB

PACKAGE PARTS LIST

021A	1756-06303	LABEL GB
022A	1756-03124	LABEL GB
106	1111-J30287	OWNER GUIDE
106A	1111-J30288	OWNER GUIDE GB
107	1111-J90195	OWNER GUIDE
108	1113-717004	OWNER CARD
110	1117-78	SERIAL LABEL
112	1119-047	ATTACH SHEET
113	1119-0137	ATTACH SHEET
114	1221-21001	CARTON BOX
115	1222-7289	CUSHION

Ser. No.	Ref. No.	Part No.	Description
117		1223-R0220055	SOFT SHEET
118		1223-009	SOFT SHEET
120		1241-R0160500	POLYETHY BAG
121		1241-R0123350	POLYETHY BAG
153		1756-CSA	LABEL
702		4161-71184	CORD W/PLUG

NOTE

⚠ SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.