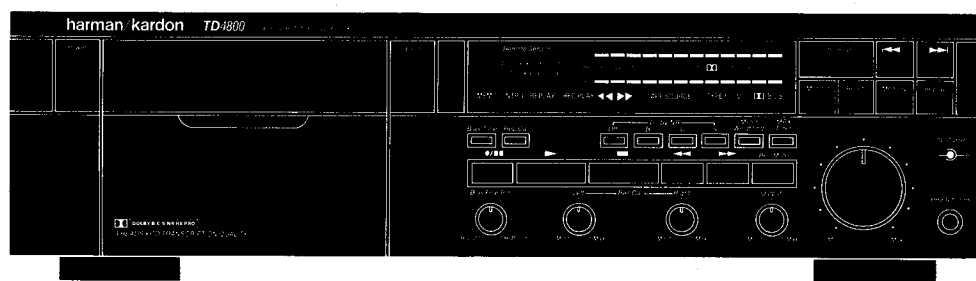


# The Harman Kardon Model TD4800

Manual 165A

## 3 HEADS CD TRANSCRIPTION QUALITY CASSETTE DECK

# Technical Manual



The following marks found in the parts list of this manual identify the models as follows.

- UA** : North America area model
- BK** : North America area model Black version
- I** : International model
- IB** : International model Black version

**harman/kardon**

240 Crossways Park West, Woodbury, N. Y. 11797  
1112-3152165A8 P-119012 2000 Printed in Japan

TD4800

**SPECIFICATIONS**

	Nominal	Limit		Nominal	Limit
Track Configuration	4-track 2 Channel Stereo Cassette Deck		Channel Separation	45dB	≧ 35dB
			Crosstalk	70dB	≧ 60dB
			Record/Playback Distortion (Input 1kHz)		
			LN	0.6%	≧ 1.2%
			CrO <sub>2</sub>	1.3%	≧ 2.0%
			Metal	1.1%	≧ 2.0%
			MPX Filter Attenuation		
			at 15kHz	0.3dB	≧ 1dB
			at 19kHz	35dB	≧ 30dB
			Erase Ratio (Input 80Hz)		
			LN	70dB	≧ 60dB
			Metal	61dB	≧ 56dB
			Input Sensitivity (Input 1kHz) at Line Input	45mV 30(min) ~ 80(max) mV	
			Input Impedance (Input 1kHz) at Line Input	22kΩ 19(min) ~ 30(max) kΩ	
			<b>• DIMENSIONS (W x H x D)</b>	17-3/8" x 5" x 12-5/8" (443 x 126 x 320 mm)	
			<b>• WEIGHT</b>	15.2lbs (6.9kg)	
			<b>• POWER SUPPLY</b>		
			U.S.A. and Canada models	AC120V, 60Hz	
			International model	AC220V/240V, 50/60Hz	
			<b>• POWER CONSUMPTION</b>		
			U.S.A. and Canada models	29W	
			International model	31W	

**• MECHANICAL SECTION**

Record/Playback Tape Speed		
Drift 4.75cm/sec.	0.2%	≧ 1.0%
Wow and Flutter (WTD)	0.035% (NAB) ≧ 0.07%	
	0.06% (CCIR) ≧ 0.12	
Take Up Torque	50gr.cm	35 ~ 70gr.cm
Back Tension	4gr.cm	2 ~ 6gr.cm
F.FWD Torque	140gr.cm	70 ~ 160gr.cm
REW Torque	140gr.cm	70 ~ 160gr.cm
F.FWD/REW Time (C-60 Tape)	70sec.	≧ 100sec.

**• AMPLIFIER SECTION**

Bias Frequency	210kHz	± 5kHz
Playback Output (Output VR Max.)	1150mV	± 1.5dB
Signal-to-Noise Ratio at Line Input (Input 1kHz, 100mV)		
IHF-A WTD at Dolby Level (WTD)		
Dolby NR off	LN	51dB
	CrO <sub>2</sub>	54dB
	Metal	54dB
Dolby B/C NR	LN	69dB
	CrO <sub>2</sub>	72dB ≧ 66dB
	Metal	72dB ≧ 66dB
Dolby S NR	LN	72dB
	CrO <sub>2</sub>	75dB ≧ 68dB
	Metal	75dB ≧ 68dB

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

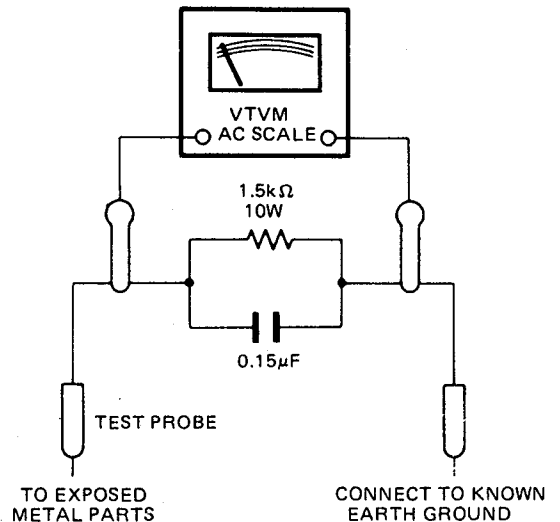
**LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A.)**

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

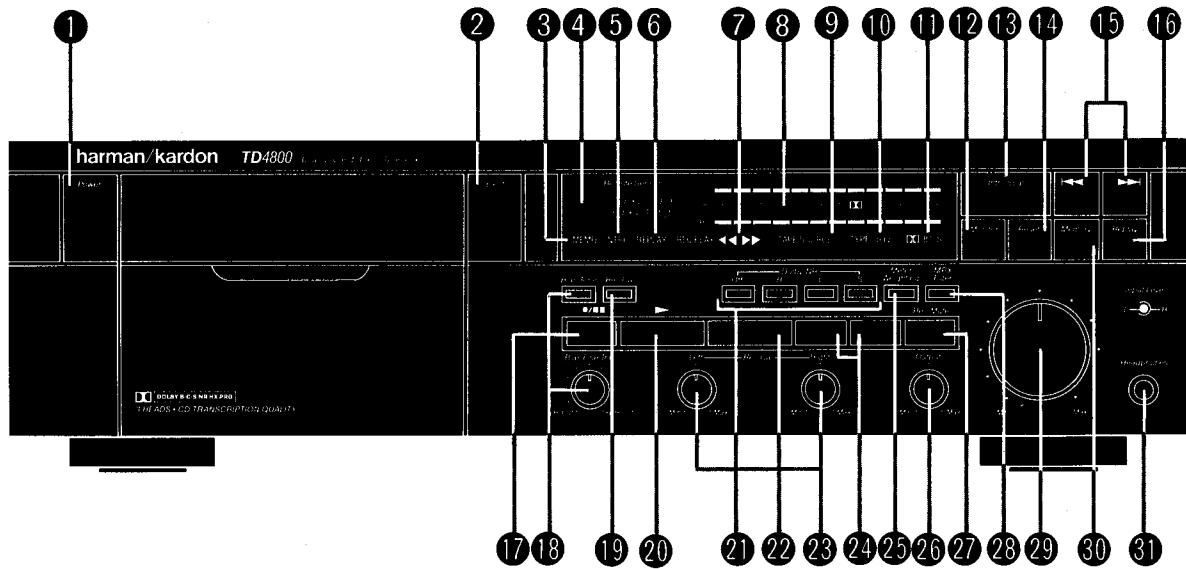
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Replace all protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, or shields, isolation resistor-capacitor 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 0.15μF 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.

SIMPSON MODEL 229 ETC. FOR LEAKAGE TEST




## CONTROLS AND FUNCTIONS



- 1 POWER SWITCH**  
Press to turn unit on/off.
- 2 EJECT**  
Press to load/remove tape cassette.
- 3 MEMORY**  
Indicates Memory is engaged.
- 4 COUNTER**  
Indicates tape position in minutes and seconds.
- 5 INTRO**  
Indicates Intro Scan is engaged.
- 6 REPLAY**  
Indicates Replay is engaged.
- 7 REC PLAY ◀▶**  
Displays operating mode: Record, Play, Rewind or Fast Forward.
- 8 LEVEL**  
Shows signal level.
- 9 TAPE SOURCE**  
Shows whether deck output is tape playback or source signal.
- 10 TYPE I II IV**  
Automatically indicates type of tape in use.
- 11 DOLBY B C S**  
Shows if Dolby B, or C or S circuits are on.
- 12 MONITOR**  
Press to override Automatic Tape Monitor Switching.
- 13 INTRO SCAN**  
Previews each segment on a pre-recorded tape.
- 14 RESET**  
Resets Counter to 00:00.
- 15 SKIP REVERSE/SKIP FORWARD**  
Locates the start of any desired segment on a pre-recorded tape.
- 16 REPLAY**  
Press on: when tape reaches end, deck automatically rewinds to start and begins Play.
- 17 RECORD/PAUSE**  
Puts cassette deck in Record ready or pause mode.
- 18 BIAS TONE/BIAS FINE TRIM**  
Adjusts bias used when recording.
- 19 REC CAL**  
Press and hold when adjusting Rec Cal setting.
- 20 PLAY**  
Begins playback or recording.
- 21 DOLBY\* NR**  
Activates Dolby Noise Reduction circuitry for playing or recording tapes.
- 22 STOP**  
Stops tape transport in any mode.
- 23 REC CAL**  
Adjust when recording using Dolby Noise Reduction.
- 24 REWIND/FAST FORWARD**  
Rapidly rewinds or advances tape.
- 25 METER WEIGHTING**  
Allows for easy setting of optimum record levels.
- 26 OUTPUT**  
Adjusts output level to headphones and receiver/pre-amp/integrated amplifier.
- 27 RECORD MUTE**  
Inserts blank space when recording.
- 28 MPX FILTER**  
Press when recording FM stereo broadcasts using Dolby noise reduction.
- 29 INPUT LEVEL**  
Adjusts recording level and balance.
- 30 MEMORY**  
Press on: when ◀ is pressed, tape rewinds to approximately 00:00 on Counter.
- 31 HEADPHONES**  
Insert headphone plug.

**\* NOTE**

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

**DISASSEMBLY PROCEDURES (REFER TO PAGES 13, 18 AND 19)****[ 1 ] CABINET TOP (133) REMOVAL**

Remove 4 screws (A) and 2 screws (B), then remove the Cabinet Top (133).

**[ 2 ] FRONT PANEL ASSEMBLY (AA) REMOVAL**

1. Remove the Cabinet Top (133). (Refer to step 1.)
2. Disconnect connectors (LCN502, LCN503 and LCN505) connected to the Dolby NR (REC) P. C. Board (PCB-5).
3. Remove 6 screws (C) and then remove the Dolby NR (REC) P. C. Board (PCB-5).
4. Disconnect connectors (LCN501, LCN502 and LCN506) connected to the Dolby NR (PLAY) P. C. Board (PCB-6).
5. Remove 4 screws (D) and 2 plastic rivets (E), then remove the Dolby NR (PLAY) P. C. Board (PCB-6) with Metal Fittings (184 and 185) and Shield Plate (186).
6. Disconnect the jumper lead wire from connector (CN803) on the Main P. C. Board (PCB-1).
7. Pull out the Input Level knob and remove the hexagon nut (F).
8. Remove 7 screws (G) and then remove the Front Panel Assembly (AA) with Front P. C. Board (PCB-2).

**[ 3 ] CASSETTE TAPE RECORDER MECHANISM ASSEMBLY (105) REMOVAL**

1. Remove the Front Panel Assembly (AA). (Refer to step 2.)

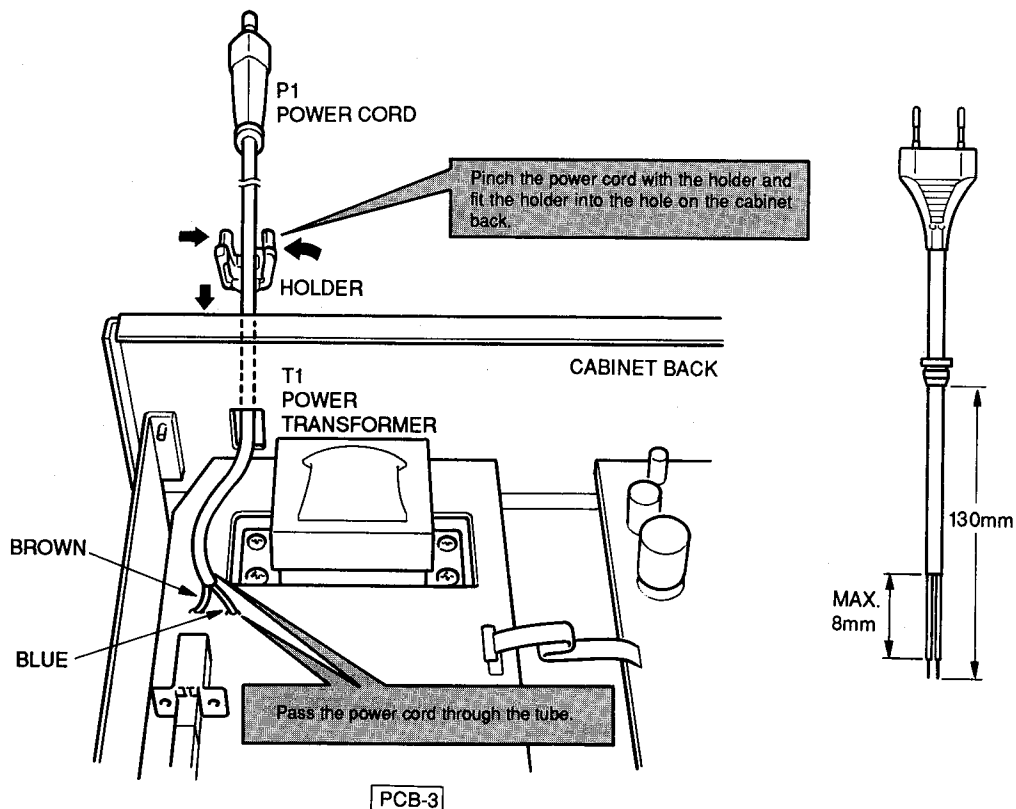
2. Disconnect connector (CN105, CN106, CN301 and CN805) on the Main P. C. Board (PCB-1).
3. Disconnect connector (LCN801 and LCN801) on the P. C. Board of the Cassette Tape Recorder Mechanism Assembly (105).
4. Remove the spring (179) and 2 screws (H), then remove the Cassette Holder (144).
5. Remove the cassette lid open lever (187).
6. Remove 4 screws (I) and then remove the Cassette Tape Recorder Mechanism Assembly (105).

**[ 4 ] MAIN P. C. BOARD (PCB-1) REMOVAL**

1. Remove the Front Panel Assembly (AA). (Refer to step 2.)
2. Disconnect the connectors and unsolder the lead wires connected to the Main P. C. Board (PCB-1).
3. Remove 6 screws (J) and then remove the Cabinet Back (134).
4. Remove 8 screws (K) and then remove the Main P. C. Board (PCB-1) backward.

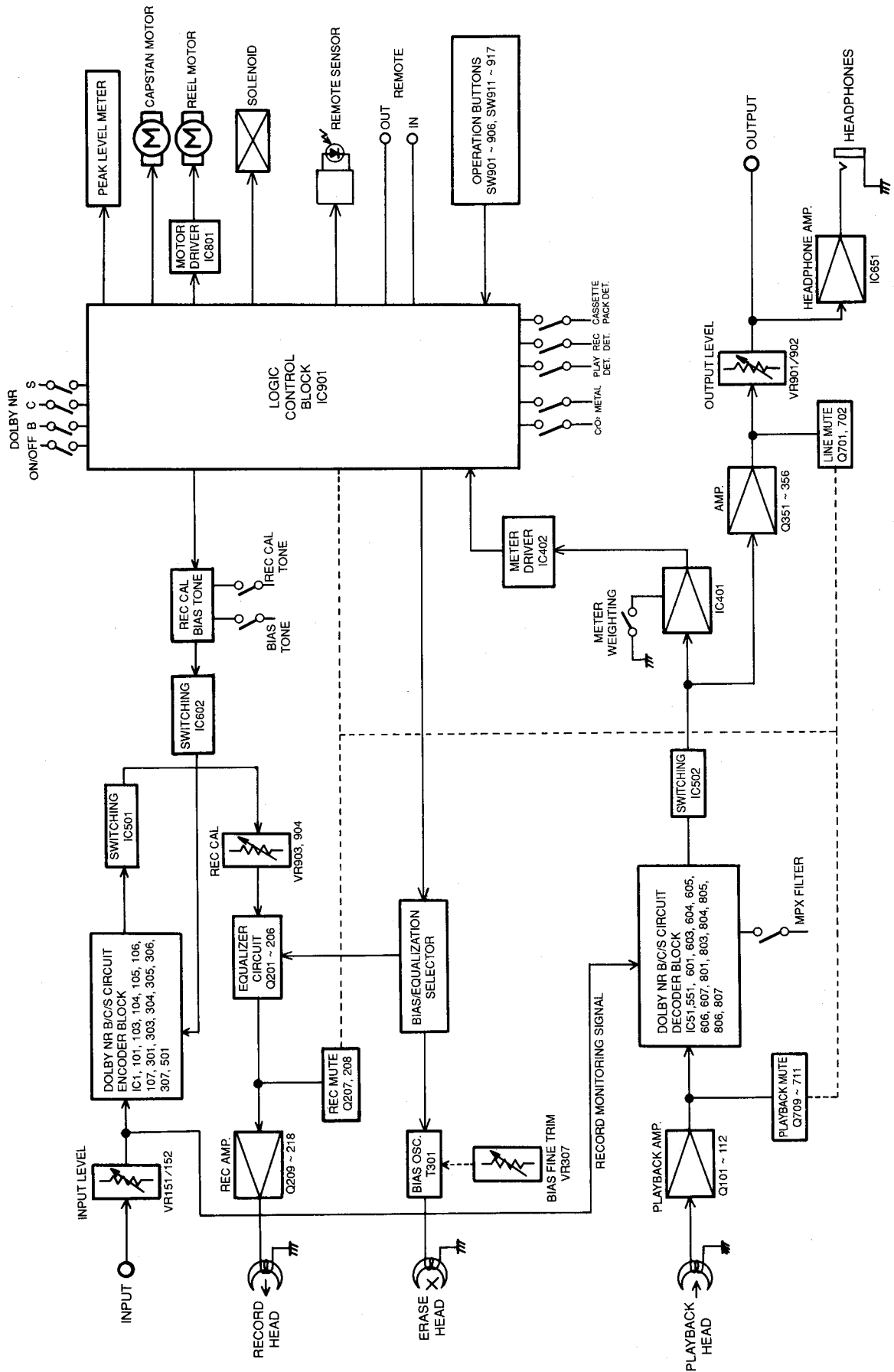
**POWER CORD REPLACEMENT (FOR SERVICE ENGINEERS OTHER THAN NORTH AMERICA)**

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

Signals that are retrieved by the playback head are amplified by playback amplifiers Q101, Q103, Q105, Q107, Q109, and Q111 (L ch) and Q102, Q104, Q106, Q108, Q110, and Q112 (R ch). Then, they are divided into Dolby NR B/C and Dolby NR S types, and sent to the Dolby NR circuit where they are decoded. Signals are sent to the peak level meter circuit via the switching IC502, and their levels are controlled by the output level controller from which they are sent to the output jack. The level controlled signals are simultaneously sent to the headphone amplifier IC651 where they are amplified before being sent to the headphone jack.

### RECORD SIGNAL

Signals that reach the input jack are level controlled by the input level controller. Then, they are divided into recording and record monitoring signals and sent to the Dolby NR circuit. After being encoded in the Dolby NR circuit, the recording signals are switched by the switching IC501 and sent to the equalizer circuit via the Rec Cal controller. The record monitoring signals are decoded by the Dolby NR circuit and then processed in the same manner as the playing signals. After the equalizer circuit, the recording signals are amplified by a recording amplifier consisting of Q209, Q211, Q213, Q215, and Q217 (L ch) and Q210, Q212, Q214, Q216, and Q218 (R ch) before being sent to the recording head.

### DOLBY NR CIRCUIT

The Dolby NR circuit has two blocks, one for processing the playing signals and another for processing the recording signals. The block for the playing signals also decodes the record monitoring signals.

#### Playing signals processing block

##### • Dolby NR B/C type

The playing signals are supplied to pin 29 (L ch) and pin 2 (R ch) of IC551. After decoding, they are sent to pin 25 (L ch) and pin 6 (R ch).

The record monitoring signals are supplied to pin 30 (L ch) and pin 1 (R ch) of the IC551 for decoding.

##### • Dolby NR S type

The playing signals are supplied to pin 41 of the IC603 (L ch) and IC803 (R ch). They are supplied from pin 37 to pin 2 for low frequency (LF) processing, and sent out from pin 43. At the same time, they are supplied to pin 2 of the IC607 (L ch) and IC807 (R ch) via the IC606 (L ch) and IC806 (R ch) for high frequency (HF) processing. The processed signals are sent out from pin 43 of these ICs. Signals after LF and HF processing are supplied to pin 2 of the IC605 (L ch) and IC805 (R ch) via the IC601 and IC604 (L ch) and IC801 and IC804 (R ch) for low level (LL) processing. The processed signals are sent out from pin 43 to pin 35 of the IC603 (L ch) and IC803 (R ch). Then, they are supplied from pin 34 to pin 39. Finally, they are supplied from pin 37 as playing signals.

#### Recording signals processing block

##### • Dolby NR B/C type

The recording signals are supplied to pin 30 (L ch) and pin 1 (R ch) of the IC501 in the Dolby NR circuit. After encoding, they are sent out from pin 18 (L ch) and pin 13 (R ch).

##### • Dolby NR S type

The recording signals are supplied to pin 40 of the IC103 (L ch) and IC303 (R ch). They are sent out from pin 37 to pin 2 for low frequency (LF) processing. At the same time, they are supplied to

pin 2 of the IC107 (L ch) and IC307 (R ch) via the IC106 (L ch) and IC306 (R ch) for high frequency (HF) processing. After LF and HF processing, the signals are supplied from pin 43 to pin 2 of the IC105 (L ch) and IC305 (R ch) via the IC101 and IC104 (L ch) and IC301 and IC304 (R ch) for low level (LL) processing. Then, they are supplied from pin 43 to pin 35 of the IC103 (L ch) and IC303 (R ch). Finally, they are supplied from pin 34 as recording signals.

### MUTING OPERATION

The signal that mutes the sound produced at switching to recording or playback is applied from IC901 of the logic control block.

When the "STOP" button is pressed, the mute signal output from the pin 28 of IC901 turns ON Q701 (L ch.) and Q702 (R ch.) to short-circuit the output signals of the playback amplifiers for muting. 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 Q701 (L ch.) and Q702 (R ch.) turned ON.

### LOGIC FOR RECORD MODE

Pressing the "REC" button puts pin 27 of the IC901 in the "high" level. This causes the Q709 and Q711 (L ch) and Q710 and Q712 (R ch) to go on muting signals reaching the Dolby NR circuit. Since the Q219 goes off at the same time, the Q207 (L ch) and Q208 (R ch) are turned off. This cancels muting of the signals going to the recording amplifier so that the recording signals are allowed to reach the recording head.

### SWITCHING FROM RECORD MODE TO PLAYBACK MODE IN LOGIC

When the "STOP", "PAUSE" or "PLAY" button is pressed, the pin 26 of IC901 becomes high level. Q219 turns ON and Q207 (L ch.), Q208 (R ch.) turn ON to mute the inputs to the record amplifiers.

## DOLBY NR S-TYPE TECHNICAL DESCRIPTION

### Circuit Operation

Like all other Dolby noise reduction systems, S-type is complementary, that is, signals are encoded before being recorded, then decoded in a complementary manner during playback. The following discussion will describe the operation of an encoder, but it should be noted that an encoder can be switched to the decode mode in the same manner as an A-type, B-type, C-type, or SR processor.

As with C-type NR, an S-type encoder has two staggered-action compressors, each having a passive main path which is summed with an active side chain, and each of which operates over a different signal level range. The high level stage has three compressors in its sidechain, which are known as the high frequency fixed band (HF/FB), the high frequency sliding band (HF/SB), and the low frequency fixed band (LF/FB). The low level stage has a high frequency fixed band and a high frequency sliding band. Fixed bands are band limited to provide more compression at frequencies below dominant signals above 6 kHz, which gives less signal modulation in the encoder and less overall noise modulation. The fixed and sliding bands operate together in a technique known as action substitution.

The encoder output is filtered and then fed back to the control paths of each compressor to control compressor action using a technique known as modulation control.

Spectral skewing is provided to reduce sensitivity to very low and high frequency signals. The low frequency spectral skewing network is located at the encoder input, while high frequency attenuation is provided by two high frequency spectral skewing circuits which are distributed between the low and high level stages to reduce compression ratios at high frequencies. Two stages of antisaturation provide high frequency attenuation at high levels to reduce tape overload.

An S-type encoder adapts its characteristics to the input signal in such a way as to provide the maximum amount of boost at all times, especially at frequencies which are lower or higher than the dominant signal. The overshoot suppression (O/S) circuits used are also designed to allow maximum boost from the compressor. Thus, the least treatment is given to the signal at all times, resulting in a very stable output with little dynamic action. When the signal is decoded, the maximum amount of noise reduction is obtained in the presence of signals, ensuring low noise modulation and a high degree of tolerance to error in the transmission chain. Up to 24 dB of noise reduction at high frequencies and 10 dB at low frequencies is provided.

### High Level Stage

The high level stage is active for signal levels in the range from -25 dB to Dolby level, and provides up to 12 dB of boost at frequencies above 400 Hz and 10 dB of boost at frequencies below 200 Hz.

The LF/LB is basically a passive low pass filter followed by a variable attenuator, with the amount of attenuation increasing with signal level. The HF/FB is similar, although the variable attenuator follows a high pass filter. The HF/SB is a variable frequency high pass filter whose corner frequency rises with increasing signal level or frequency (as in B and C-type processors). The input of the sliding band is connected in such a way as to provide an output which is the sum of the fixed band output and a signal which is the difference of the HF/FB output and the input signal (action substitution).

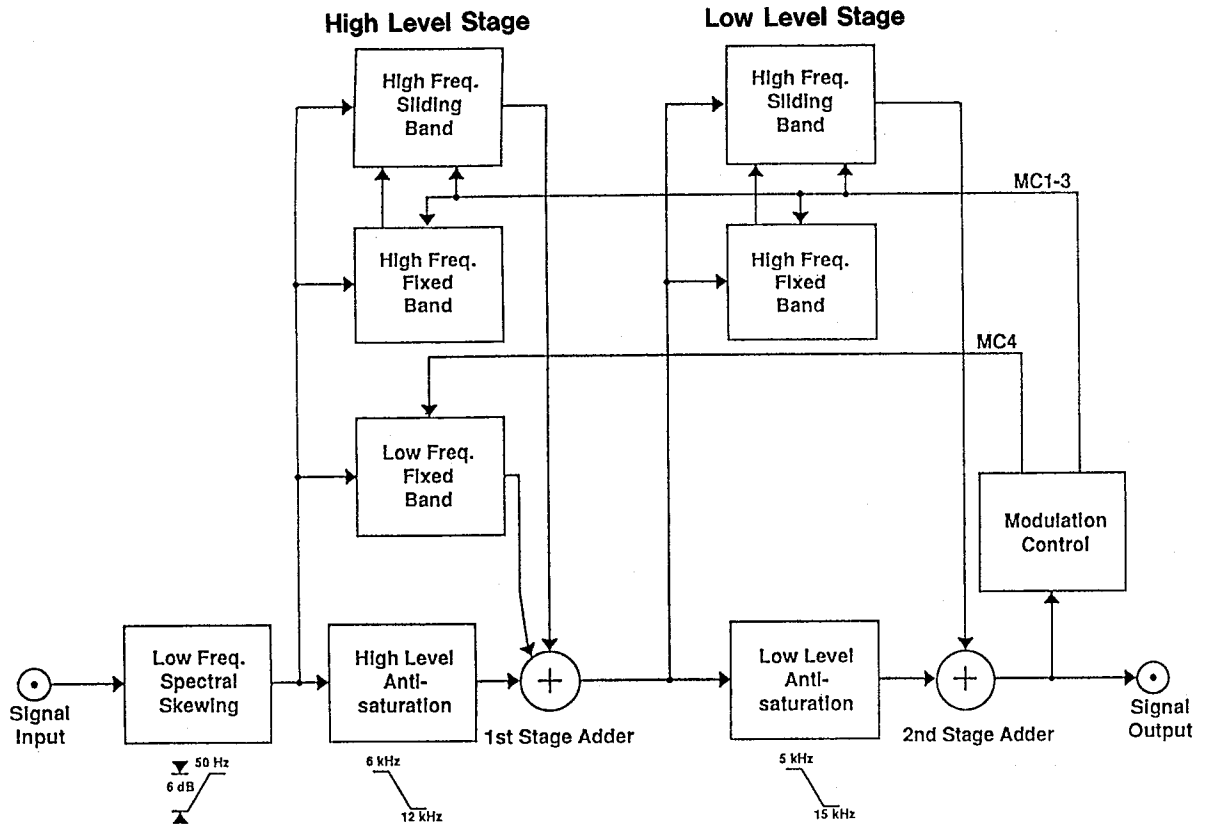
The control signals are derived from the compressor output, which is filtered, and averaged to produce a smooth control signal. An alternate path is provided to quickly charge the control path under high level transient conditions to suppress overshoots. Modulation controls signals are subtracted from the control path to reduce the control signal and the resultant attenuation under conditions where extra attenuation is not necessary. The final signal is then fed to a nonlinear control law stage which provides the required attenuation versus control voltage characteristics.

### Low Level Stage

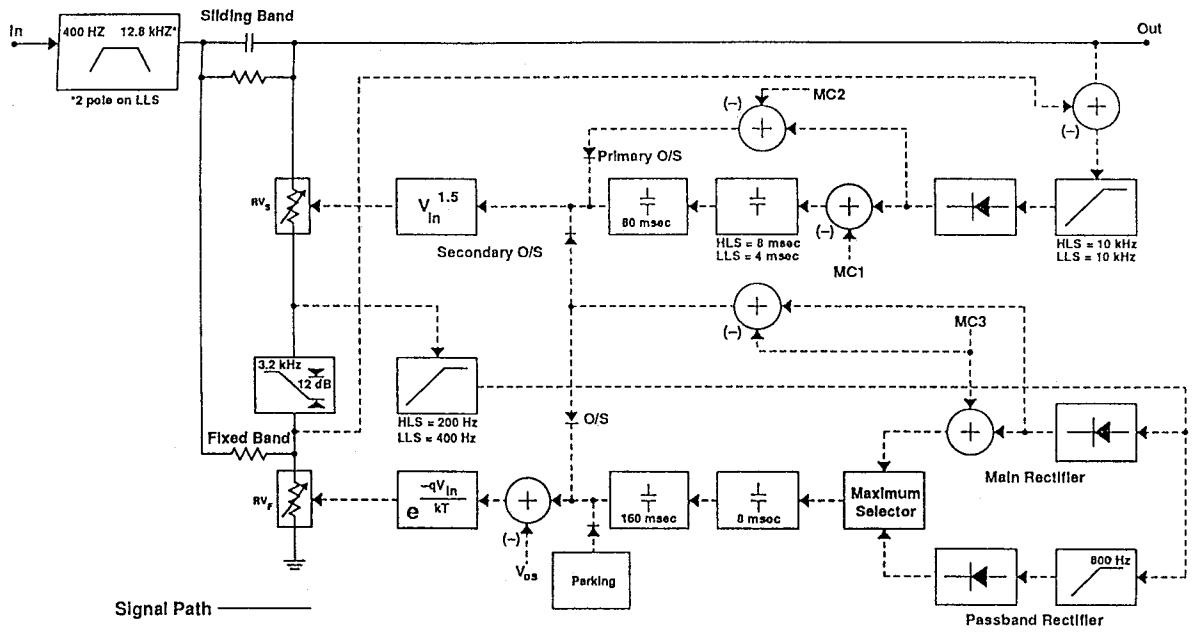
The low level stage is active for signal levels from -50 to -25 dB. No low frequency signal processing is provided, but in all other respects it is quite similar to the high level stage.

### Modulation Control

Modulation control is used to prevent unnecessary modulation of the compressors in the presence of high level signals. It is inactive at low levels. The encoder output is fed to the input of the modulation control circuit, where it is split into three frequency bands. The MC1 signal goes through a 3 kHz high pass filter to a full wave rectifier, and is then fed in opposition to the HF/SB control signals. MC2 is created by smoothing the MC1 signal using a 2 msec time constant. This signal is then applied in opposition to the HF/SB overshoot suppression signal. MC3 is low pass filtered at 200 and 400 Hz, full wave rectified, and then fed in opposition to the HF/SB control signals. The LF/FB is controlled by MC4, which first passes through 200 and 400 Hz high pass filters and a full wave rectifier.

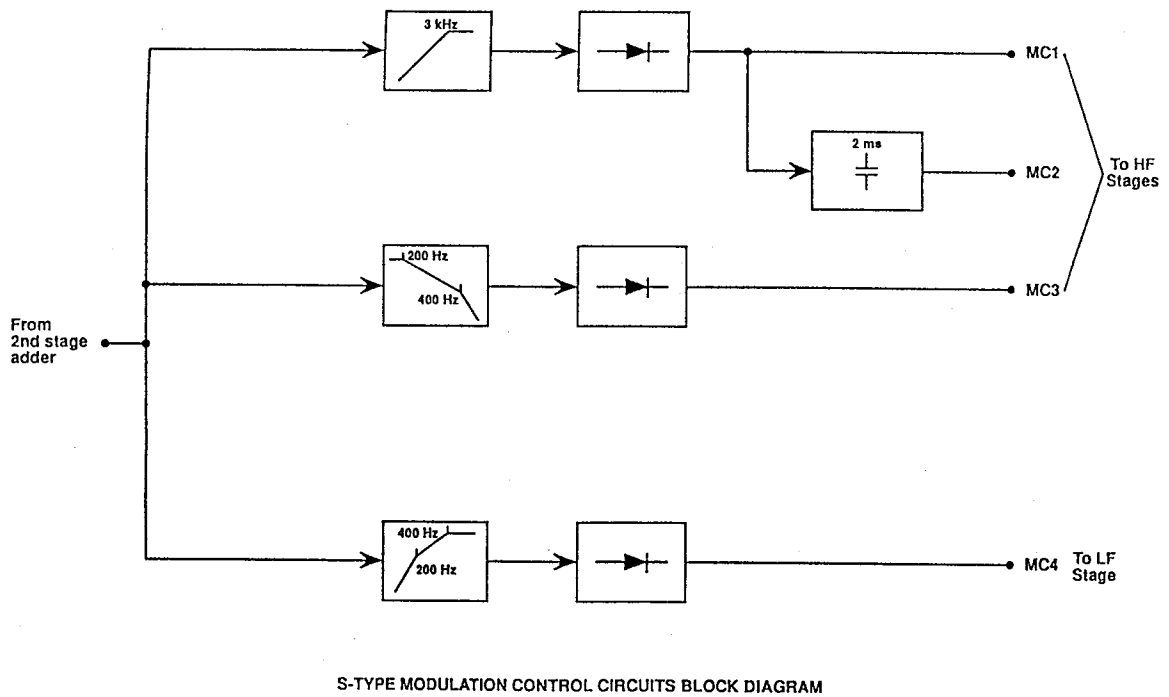
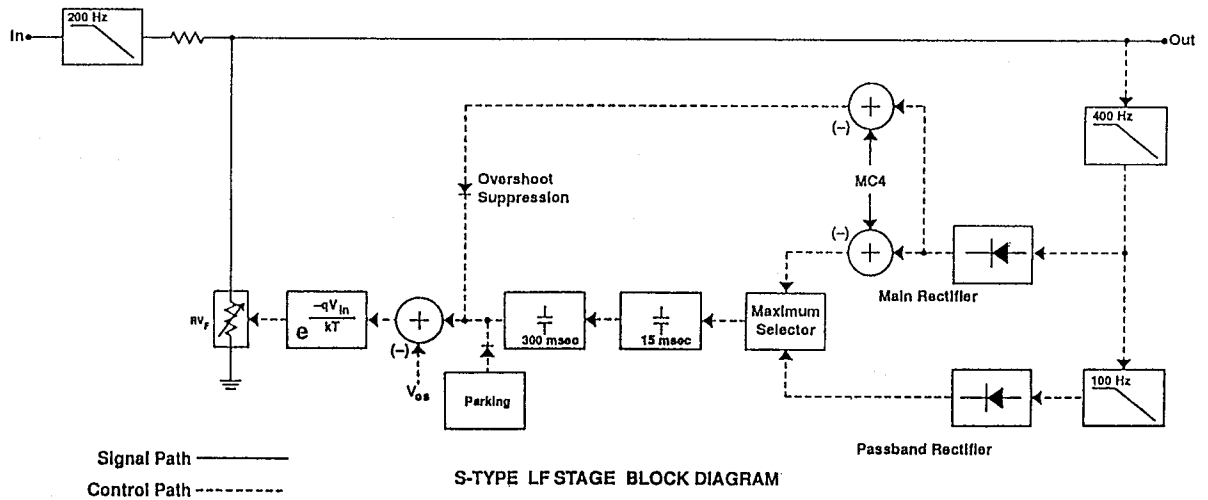


S-TYPE ENCODER BLOCK DIAGRAM

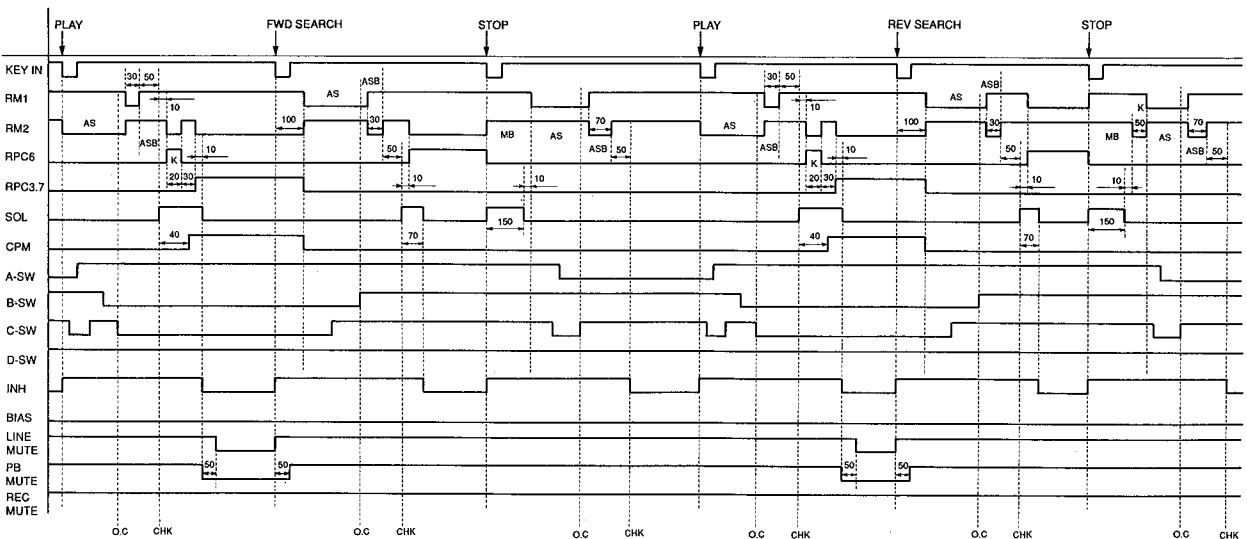
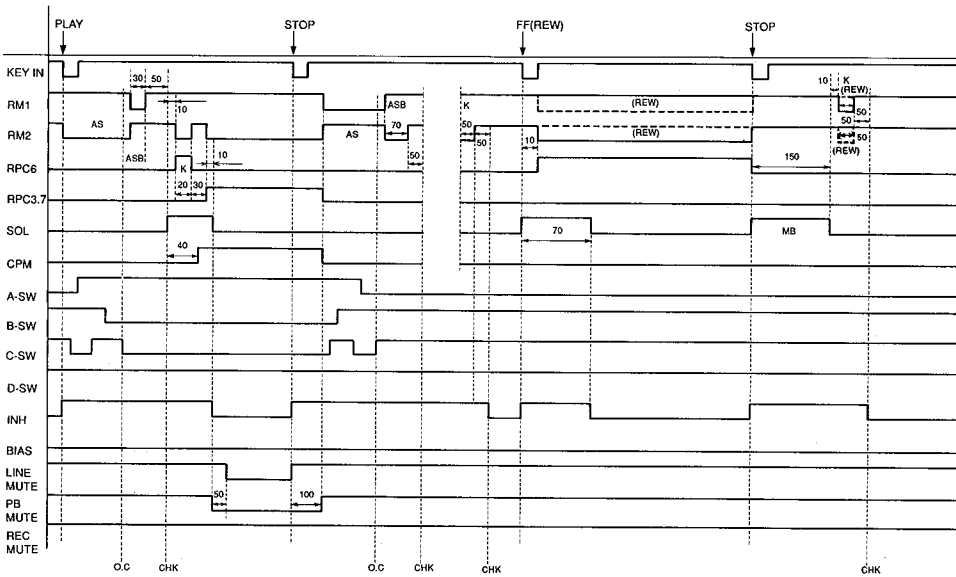
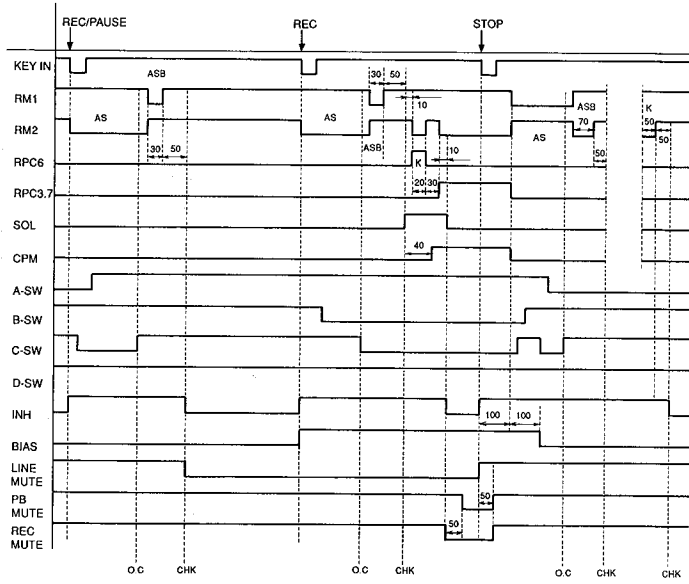


S-TYPE HF STAGE BLOCK DIAGRAM

Signal Path —————  
 Control Path - - - - -  
 O/S = Overshoot Suppression



# TIMING CHART



**ALIGNMENT PROCEDURES (REFER TO PAGES 14, 15, 16, 17, 35, 36, 37, 38 AND 39)**

**■ CASSETTE MECHANISM CONFIRMATION**

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

**1. Confirmation of erase prevention 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.)
- When the switch arm is moved back gradually from the ON position, the switch should turn OFF.

**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
  - FastForward ..... 70gr.cm~160gr.cm
  - Rewind ..... 70gr.cm~160gr.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.

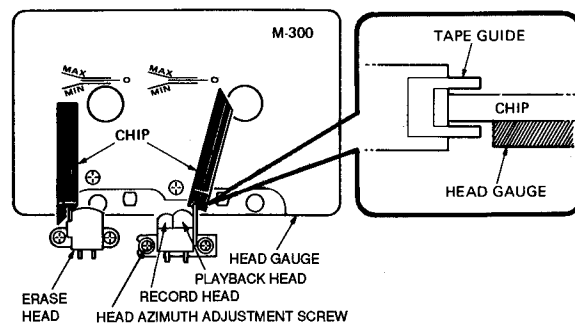


Fig. 1

- 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.

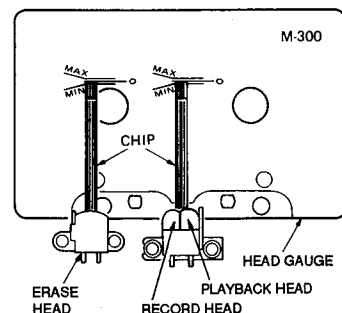


Fig. 2

**■ 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
- Distortion meter

**3. Test tapes**

- Azimuth adjustment ..... MTT-114 or TCC-153
- Tape speed adjustment ..... MTT-111DN or TCC-112
- Playback output level adjustment ..... TCC-130 or MTT-150
- Playback frequency characteristic confirmation ..... TCC-1216 or TCC-162C and TCC-262C
- Music search adjustment ..... SCC-1425
- Reference tapes
  - LN ..... SCC-502
  - CrO<sub>2</sub> ..... SCC-1360
  - METAL ..... SCC-565

**Note:**  
C-90 differs 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
Rec Cal	Center
Output Level	Maximum

**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 lissajous 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.

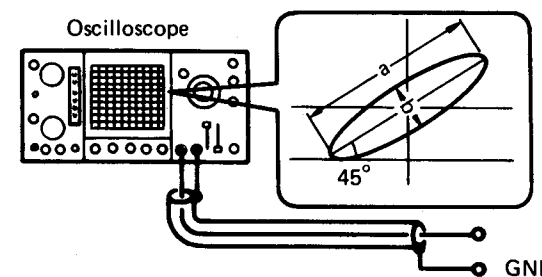
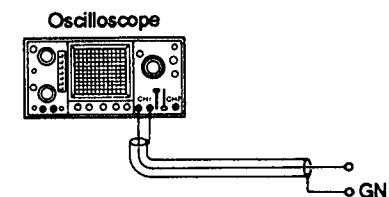


Fig. 3

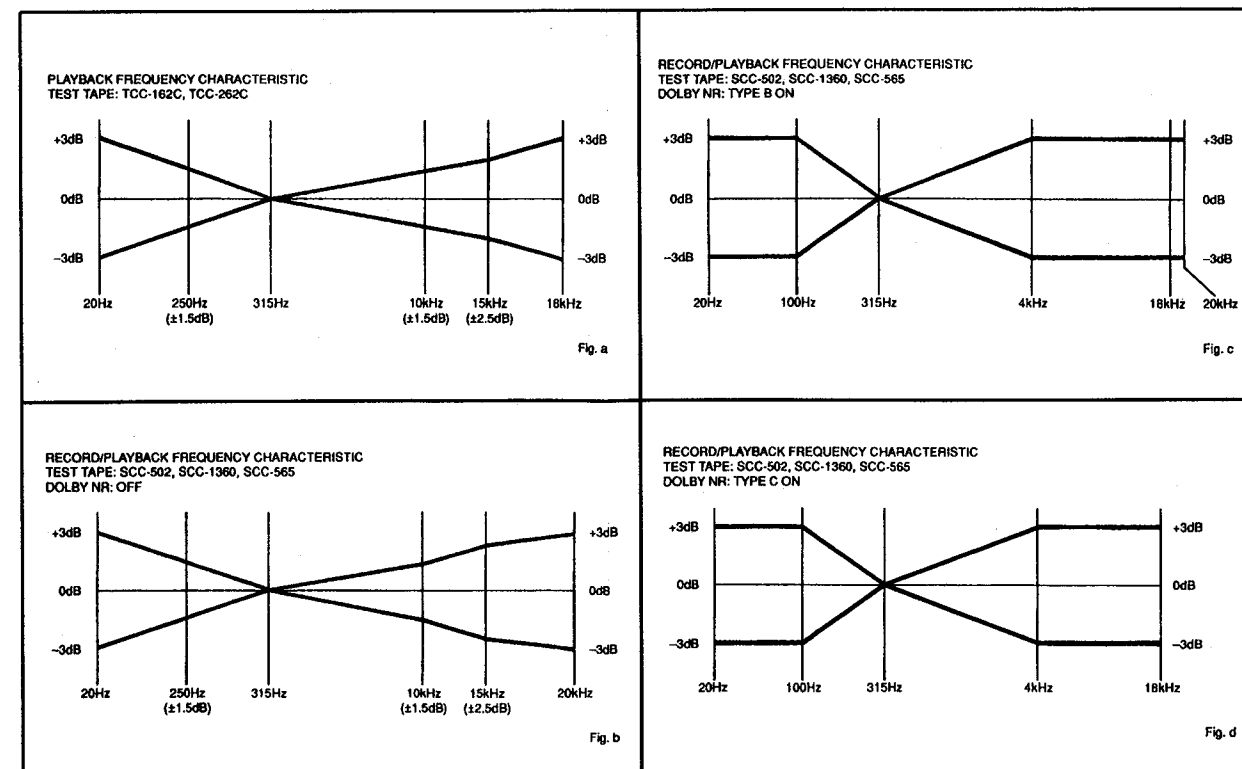
**Dolby S Type NR DC Adjustment**

- Apply -30dB below 43.5mV signal to INPUT jack with 100mS On and 1S Off continuously.
- Connect the oscilloscope to TP1 and GND. Solder an appropriate resistor (1MΩ ~ 6.6MΩ) between TM17 and TM18, so that the fluctuation of DC level becomes below 3mV.
- Connect the oscilloscope to TP2 and GND. Solder an appropriate resistor between TM5 and TM6 with the same procedure as above.
- Apply -40dB below 43.5mV signal to INPUT jack with 100mS On and 1S Off continuously.
- Connect the oscilloscope to TP3 and GND. Solder an appropriate resistor (1MΩ ~ 6.6MΩ) between TM25 and TM26, so that the fluctuation of DC level becomes below 3mV.
- Connect the oscilloscope to TP4 and GND. Solder an appropriate resistor between TM11 and TM13 with the same procedure as above.



**Note:**  
In case the Dolby NR (REC) P. C. Board can not be adjusted as above, it needs additional resistors between these terminals.

- TM15 and TM17
- TM3 and TM5
- TM24 and TM25
- TM11 and TM12



# ALIGNMENT PROCEDURES (REFER TO PAGES 14, 15, 16, 17, 35, 36, 37, 38 AND 39)

## ■ CASSETTE MECHANISM CONFIRMATION

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

### 1. Confirmation of erase prevention 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.)
- When the switch arm is moved back gradually from the ON position, the switch should turn OFF.

### 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
  - FastForward ..... 70gr.cm~160gr.cm
  - Rewind ..... 70gr.cm~160gr.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.

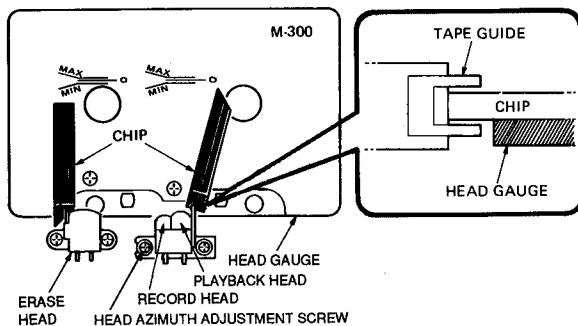


Fig. 1

- 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.

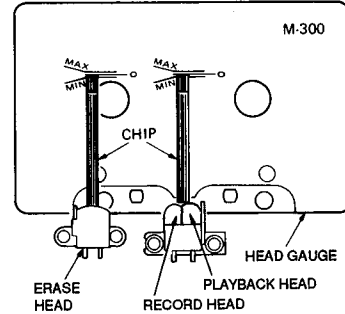


Fig. 2

## ■ 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
- Distortion meter

### 3. Test tapes

- Azimuth adjustment ..... MTT-114 or TCC-153
- Tape speed adjustment ..... MTT-111DN or TCC-112
- Playback output level adjustment ..... TCC-130 or MTT-150
- Playback frequency characteristic confirmation ..... TCC-1216 or TCC-162C and TCC-262C
- Music search adjustment ..... SCC-1425
- Reference tapes
  - LN ..... SCC-502
  - CrO<sub>2</sub> ..... SCC-1360
  - METAL ..... SCC-565

### Note:

C-90 differs 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
Rec Cal	Center
Output Level	Maximum

**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.

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

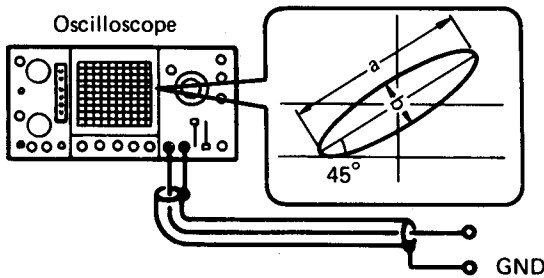
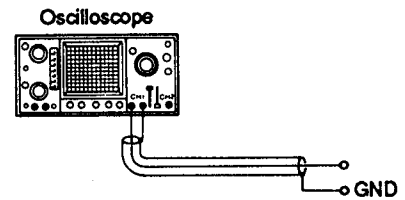


Fig. 3

**Dolby S Type NR DC Adjustment**

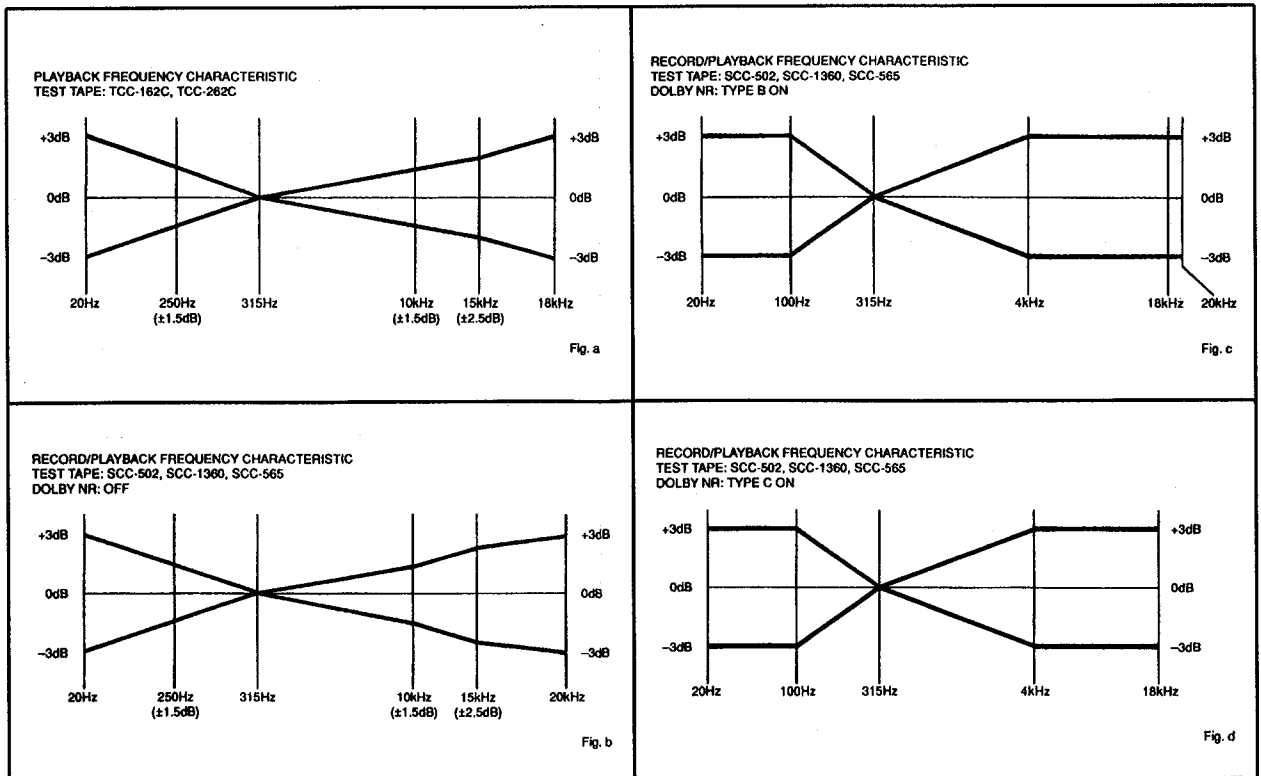
- Apply -30dB below 43.5mV signal to INPUT jack with 100mS On and 1S Off continuously.
- Connect the oscilloscope to TP1 and GND. Solder an appropriate resistor (1MΩ ~ 6.6MΩ) between TM17 and TM18, so that the fluctuation of DC level becomes below 3mV.
- Connect the oscilloscope to TP2 and GND. Solder an appropriate resistor between TM5 and TM6 with the same procedure as above.
- Apply -40dB below 43.5mV signal to INPUT jack with 100mS On and 1S Off continuously.
- Connect the oscilloscope to TP3 and GND. Solder an appropriate resistor (1MΩ ~ 6.6MΩ) between TM25 and TM26, so that the fluctuation of DC level becomes below 3mV.
- Connect the oscilloscope to TP4 and GND. Solder an appropriate resistor between TM11 and TM13 with the same procedure as above.



**Note:**

In case the Dolby NR (REC) P. C. Board can not be adjusted as above, it needs additional resistors between these terminals.

- TM15 and TM17
- TM3 and TM5
- TM24 and TM25
- TM11 and TM12

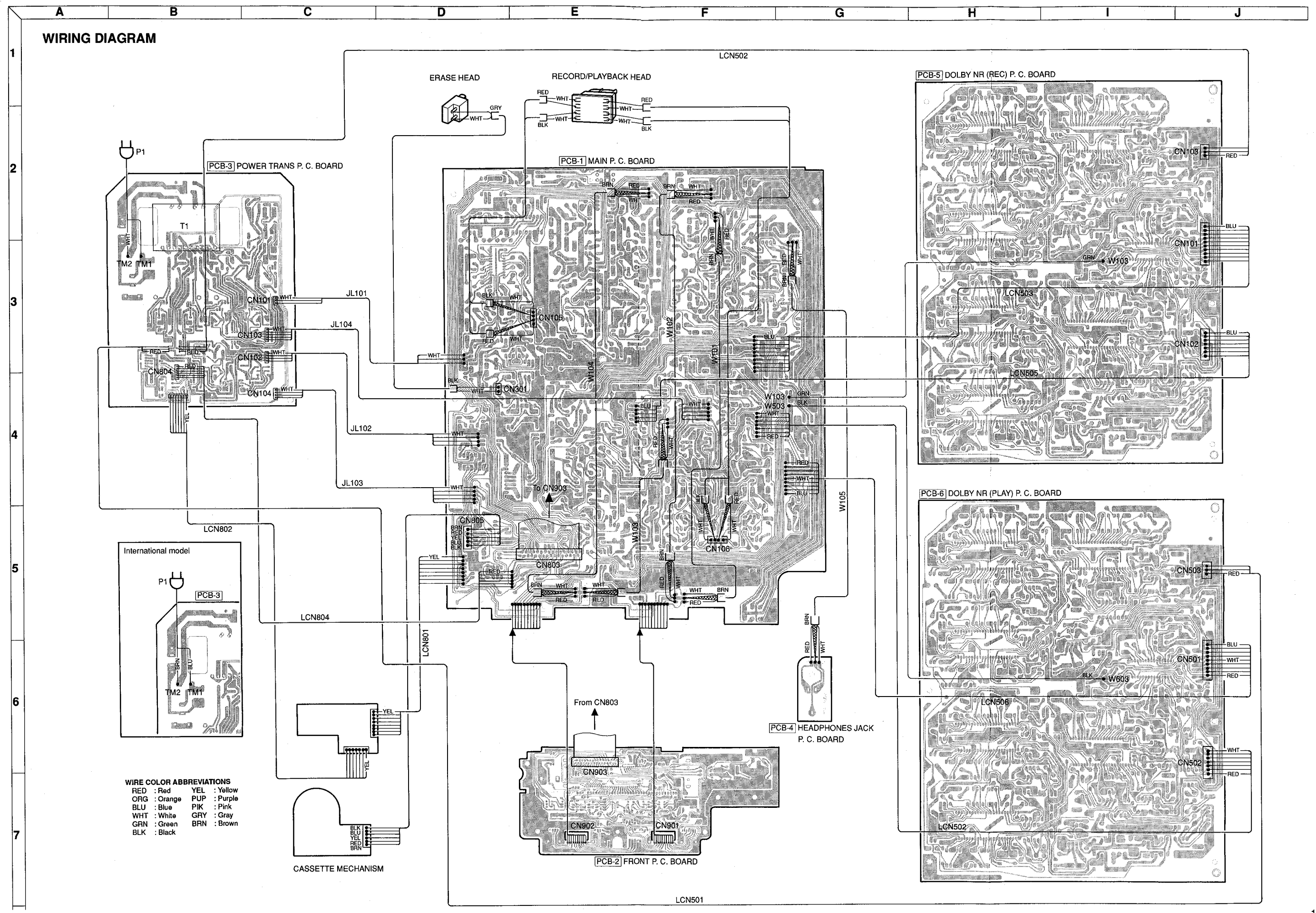


Step	Alignment	Instrument Required	Input Signal	Mode	Test Point	Adjustment	For
1	Azimuth	VTVM Oscilloscope Test tape (MTT-114 or TCC-153)		PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack	Azimuth screw	Maximum output Refer to "Azimuth Adjustment" on page 11.
2	Tape speed	Frequency counter Test tape (MTT-111DN or TCC-112)		PB	TP501 (Lch), GND TP502 (Rch), GND	VR (built in motor)	3000Hz $\pm$ 10Hz Adjust at the center of test tape.
3	Playback output level	VTVM Test tape (TCC-130 or MTT-150)		PB	TP501 (Lch), GND TP502 (Rch), GND	VR101 (Lch) VR102 (Rch)	388mV Tape selector is LN position.
4	Playback output level	VTVM Test tape (TCC-130 or MTT-150)		PB	TP501 (Lch), GND TP502 (Rch), GND	VR103 (Lch) VR104 (Rch)	388mV This adjustment should be at Dolby S type NR ON position.
5	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		So that the frequency response is within the range as shown in Fig. a.
6	Music search	Oscilloscope Test tape (SCC-1425)		Forward Search	TP751, GND	VR751	Perform checkong with Forward Search mode at the front of the test tape. Adjust VR751 so that the DC level becomes $1.6 \pm 0.05V$ .
7	Bias frequency confirmation	Frequency counter		REC	TP101 (Lch), GND TP102 (Rch), GND	T301 T302	210kHz $\pm$ 3kHz Tape selector is METAL position.
8	Dolby HX PRO	VTVM		REC	TP101 (Lch), GND TP102 (Rch), GND	L301 L302	Tape selector is METAL position. So that the bias level is maximum.
9	Bias trap	VTVM		REC	TP201 (Lch), GND TP202 (Rch), GND	LC201, LC203 LC202, LC204	Minimum output Tape selector is METAL position. Input Level control is minimum.
10	Bias level (pre-adjustment)	VTVM		REC	TP101 (Lch), GND TP102 (Rch), GND	VR301 VR302	3.3mV Tape selector is METAL position.
						VR305 VR306	1.8mV Tape selector is CrO <sub>2</sub> position.
						VR303 VR304	1.2mV Tape selector is LN position.
11	Record level (pre-adjustment)	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR203, VR204 VR301, VR302	388mV Tape selector is METAL position. Adjust VR301 and VR302 so that the distortioon becomes 0.8%~1.2%
						VR303, VR304 (CrO <sub>2</sub> ) VR305, VR306 (LN)	388mV Adjust VR303 and VR304 so that the distortion becomes 1.3% (CrO <sub>2</sub> ). Adjust VR305 and VR306 so that the distortion becomes 0.7% (LN). This confirmation should be at each tape selector position.
12	Record/playback equalizer frequency characteristic	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.	REC/PB	OUTPUT jack	VR301, VR302 L201, L202	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is METAL position.
						VR303, VR304	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is CrO <sub>2</sub> position.
						VR305, VR306	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is LN position.
13	Record level	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR203 VR204	388mV Perform adjustment using CrO <sub>2</sub> . Perform checking only for LN and METAL tapes.
14	Record/playback equalizer frequency characteristic confirmation	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.	REC/PB	OUTPUT jack		Perform checking with Dolby B, C and S NR ON at each tape selector position. Confirm the record/playback frequency characteristic is within $\pm 3$ dB at 20 to 20 kHz.
15	Meter level	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 1.5dB below 388mV.	REC-PAUSE	PEAK LEVEL METER	VR401 VR402	Adjust VR401 and VR402 so that the peak level meter reads: -1 dB.
16	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 388mV.	REC-PAUSE	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack		MPX filter is ON position. Confirm the attenuation level at 15kHz and 19kHz within specification.
17	Rec cal tone	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 388mV in REC-PAUSE mode.	REC-PAUSE	TP501 TP502	VR602	When press and hold the REC CAL, adjust VR602 so that the output level of TP501 and TP502 is 388mV.
18	Bias tone	VTVM	Apply 400Hz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 to GND voltage is 388mV -20dB in REC-PAUSE mode.	REC-PAUSE	TP501	VR603	When press and hold the BIAS, adjust VR603 so that the output level of TP501 is 90mV.
			Apply 12.5kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP502 to GND voltage is 388mV -20dB in REC-PAUSE mode.		TP502	VR601	When press and hold the BIAS, adjust VR601 so that the output level of TP502 is 90mV.

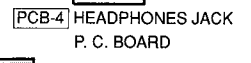
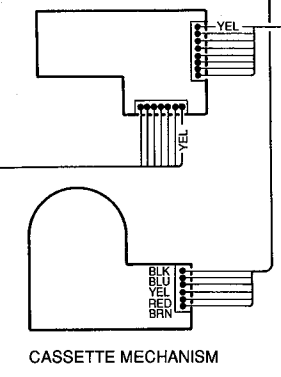
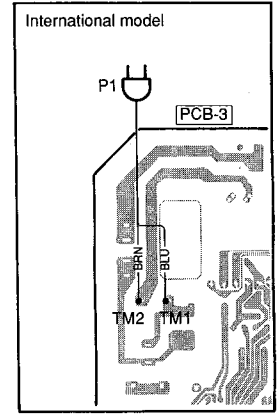
Step	Alignment	Instrument Required	Input Signal	
1	Azimuth	VTVM Oscilloscope Test tape (MTT-114 or TCC-153)		
2	Tape speed	Frequency counter Test tape (MTT-111DN or TCC-112)		
3	Playback output level	VTVM Test tape (TCC-130 or MTT-150)		
4	Playback output level	VTVM Test tape (TCC-130 or MTT-150)		
5	Playback frequency characteristic confirmation	VTVM Test tape (TCC-1216 or TCC-162C and TCC-262C)		
6	Music search	Oscilloscope Test tape (SCC-1425)		
7	Bias frequency confirmation	Frequency counter		
8	Dolby HX PRO	VTVM		
9	Bias trap	VTVM		
10	Bias level (pre-adjustment)	VTVM		
				1
				2
11	Record level (pre-adjustment)	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode.	
				1
				2
12	Record/playback equalizer frequency characteristic	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.	
				1
				2
13	Record level	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode.	
				1
				2
14	Record/playback equalizer frequency characteristic confirmation	VTVM Blank tapes CrO <sub>2</sub> 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 388mV in REC-PAUSE mode. Then adjust with a 20Hz to 30kHz sweep signal.	
				1
				2
15	Meter level	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 1.5dB below 388mV.	
16	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 388mV.	
17	Rec cal tone	VTVM	Apply 1kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 and TP502 to GND voltage is 388mV in REC-PAUSE mode.	
18	Bias tone	VTVM	Apply 400Hz signal to INPUT jack. Set INPUT LEVEL knob so that TP501 to GND voltage is 388mV -20dB in REC-PAUSE mode.	
			Apply 12.5kHz signal to INPUT jack. Set INPUT LEVEL knob so that TP502 to GND voltage is 388mV -20dB in REC-PAUSE mode.	

	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 11.
	PB	TP501 (Lch), GND TP502 (Rch), GND	VR (built in motor)	3000Hz $\pm$ 10Hz Adjust at the center of test tape.
	PB	TP501 (Lch), GND TP502 (Rch), GND	VR101 (Lch) VR102 (Rch)	388mV Tape selector is LN position.
	PB	TP501 (Lch), GND TP502 (Rch), GND	VR103 (Lch) VR104 (Rch)	388mV This adjustment should be at Dolby S type NR ON position.
	PB	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack		So that the frequency response is within the range as shown in Fig. a.
	Forward Search	TP751, GND	VR751	Perform checking with Forward Search mode at the front of the test tape. Adjust VR751 so that the DC level becomes $1.6 \pm 0.05V$ .
	REC	TP101 (Lch), GND TP102 (Rch), GND	T301 T302	210kHz $\pm$ 3kHz Tape selector is METAL position.
	REC	TP101 (Lch), GND TP102 (Rch), GND	L301 L302	Tape selector is METAL position. So that the bias level is maximum.
	REC	TP201 (Lch), GND TP202 (Rch), GND	LC201, LC203 LC202, LC204	Minimum output Tape selector is METAL position. Input Level control is minimum.
	REC	TP101 (Lch), GND TP102 (Rch), GND	VR301 VR302	3.3mV Tape selector is METAL position.
VR305 VR306			1.8mV Tape selector is CrO <sub>2</sub> position.	
VR303 VR304			1.2mV Tape selector is LN position.	
so that ode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR203, VR204 VR301, VR302	388mV Tape selector is METAL position. Adjust VR301 and VR302 so that the distortion becomes 0.8%~1.2%.
			VR303, VR304 (CrO <sub>2</sub> ) VR305, VR306 (LN)	388mV Adjust VR303 and VR304 so that the distortion becomes 1.3% (CrO <sub>2</sub> ). Adjust VR305 and VR306 so that the distortion becomes 0.7% (LN). This confirmation should be at each tape selector position.
so that n REC-	REC/PB	OUTPUT jack	VR301, VR302 L201, L202	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is METAL position.
			VR303, VR304	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is CrO <sub>2</sub> position.
			VR305, VR306	So that the record/playback frequency response is flat (at least within the range in Fig. b). Tape selector is LN position.
so that ode.	REC/PB	TP501 (Lch), GND TP502 (Rch), GND	VR203 VR204	388mV Perform adjustment using CrO <sub>2</sub> . Perform checking only for LN and METAL tapes.
so that n REC-	REC/PB	OUTPUT jack		Perform checking with Dolby B, C and S NR ON at each tape selector position. Confirm the record/playback frequency characteristic is within $\pm 3$ dB at 20 to 20 kHz.
so that	REC-PAUSE	PEAK LEVEL METER	VR401 VR402	Adjust VR401 and VR402 so that the peak level meter reads: -1 dB.
LEVEL	REC-PAUSE	TP501 (Lch), GND TP502 (Rch), GND or OUTPUT jack		MPX filter is ON position. Confirm the attenuation level at 15kHz and 19kHz within specification.
so that ode.	REC-PAUSE	TP501 TP502	VR602	When press and hold the REC CAL, adjust VR602 so that the output level of TP501 and TP502 is 388mV.
so that	REC-PAUSE	TP501	VR603	When press and hold the BIAS, adjust VR603 so that the output level of TP501 is 90mV.
so that		TP502	VR601	When press and hold the BIAS, adjust VR601 so that the output level of TP502 is 90mV.

# WIRING DIAGRAM



- WIRE COLOR ABBREVIATIONS**
- RED : Red
  - ORG : Orange
  - BLU : Blue
  - WHT : White
  - GRN : Green
  - BLK : Black
  - YEL : Yellow
  - PUP : Purple
  - PIK : Pink
  - GRY : Gray
  - BRN : Brown

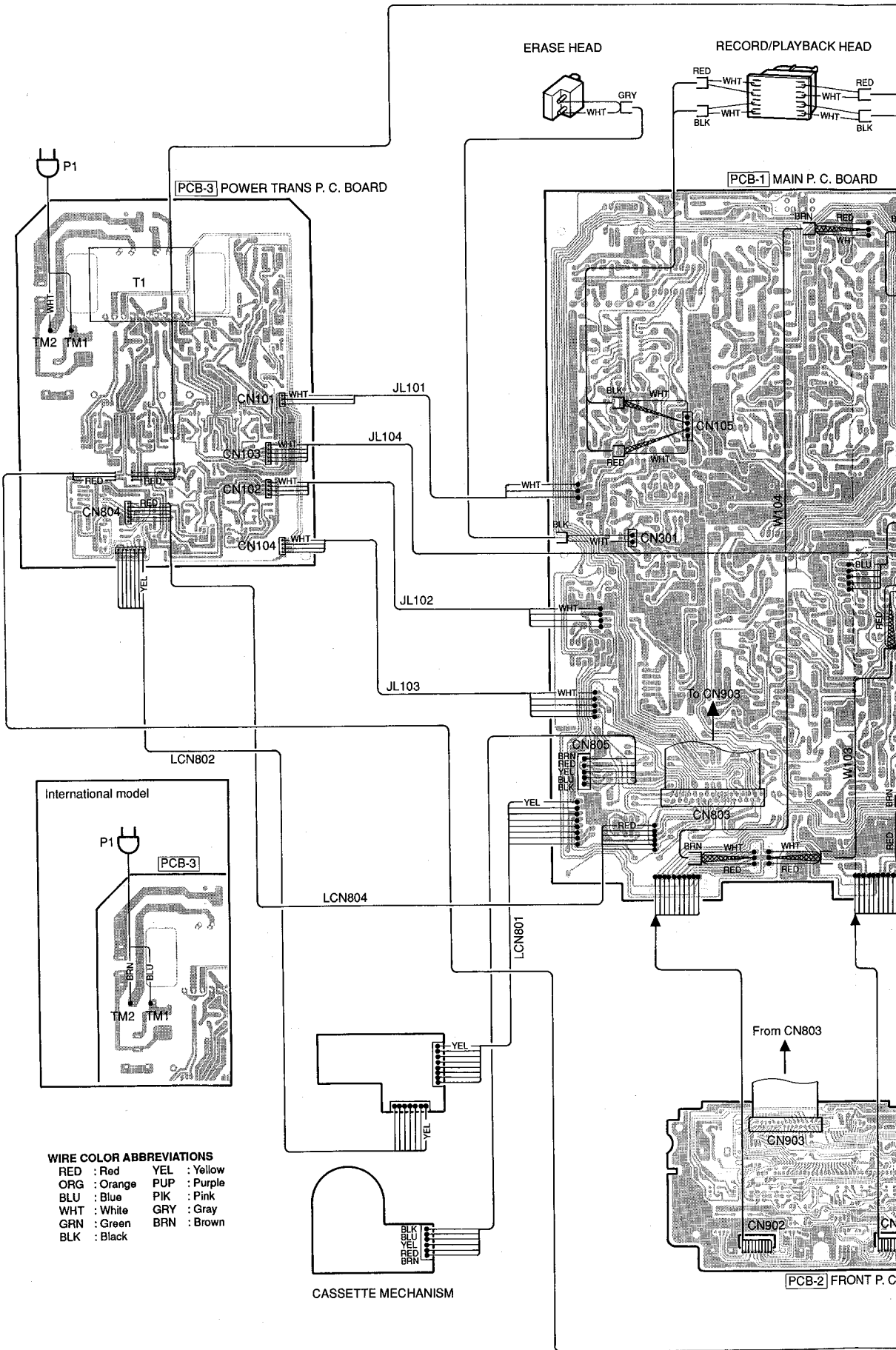




# WIRING DIAGRAM

1  
2  
3  
4  
5  
6  
7

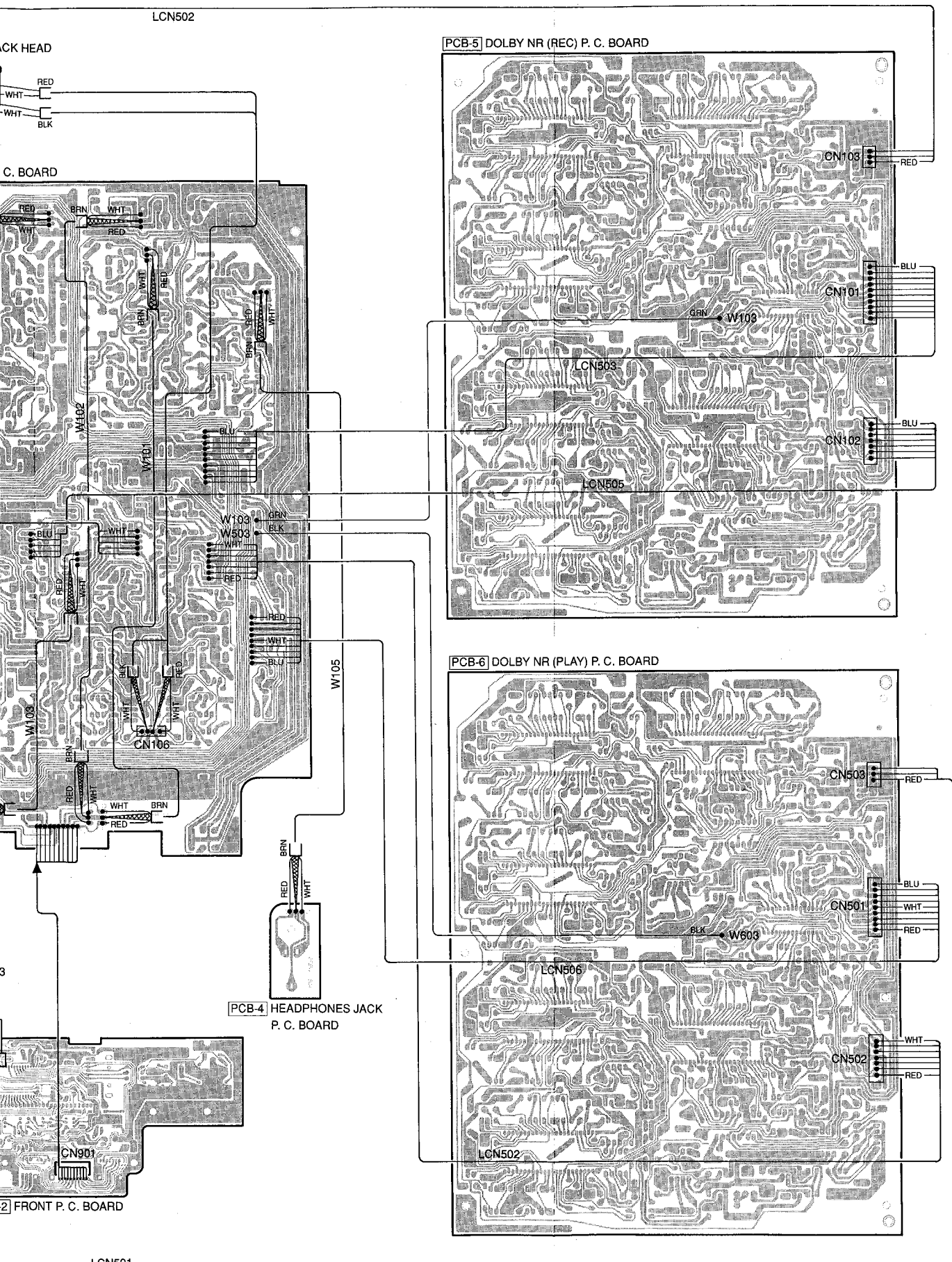
A B C D E



**WIRE COLOR ABBREVIATIONS**

RED : Red	YEL : Yellow
ORG : Orange	PUP : Purple
BLU : Blue	PIK : Pink
WHT : White	GRY : Gray
GRN : Green	BRN : Brown
BLK : Black	

F G H I J

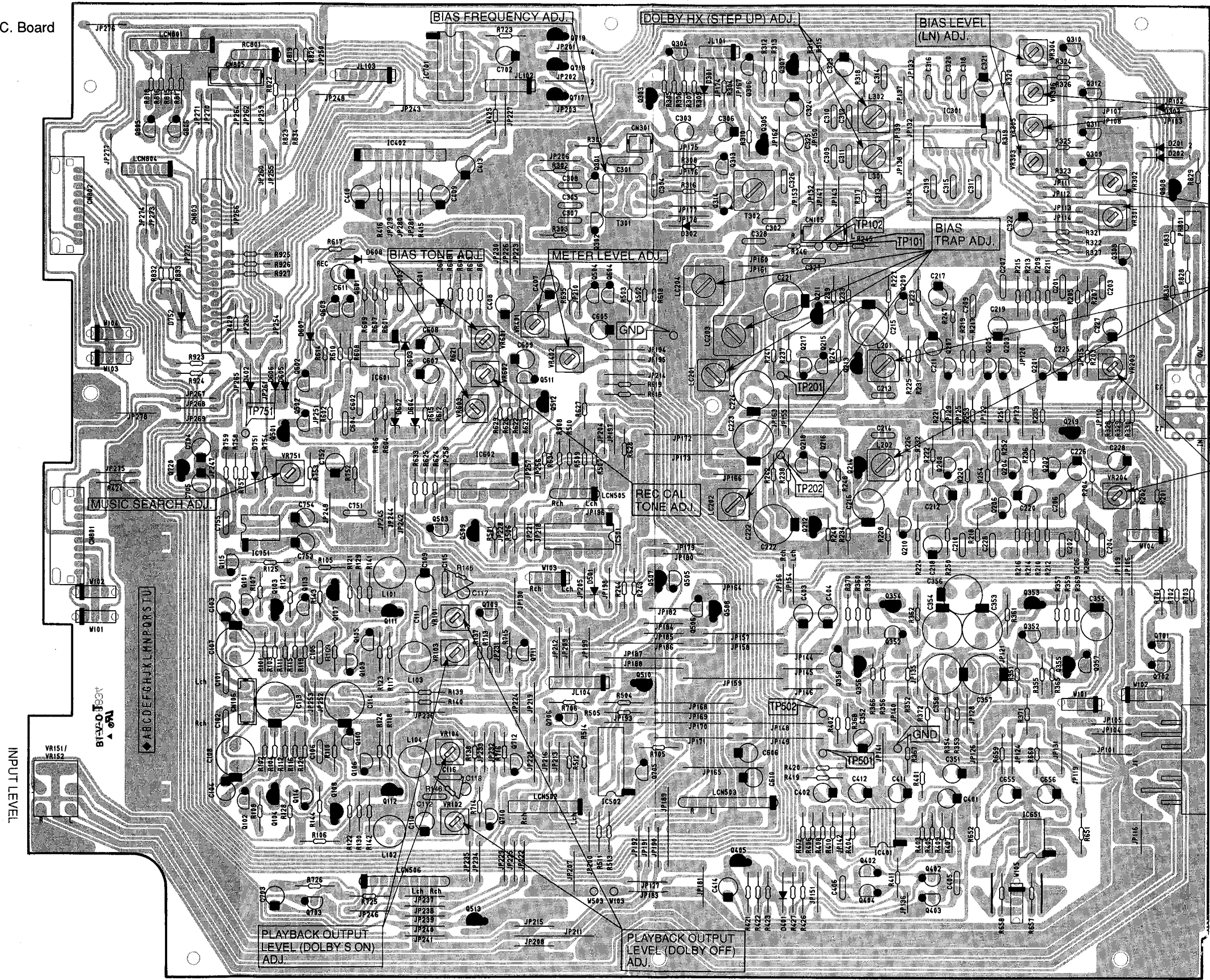


LCN501



P. C. BOARDS (1)

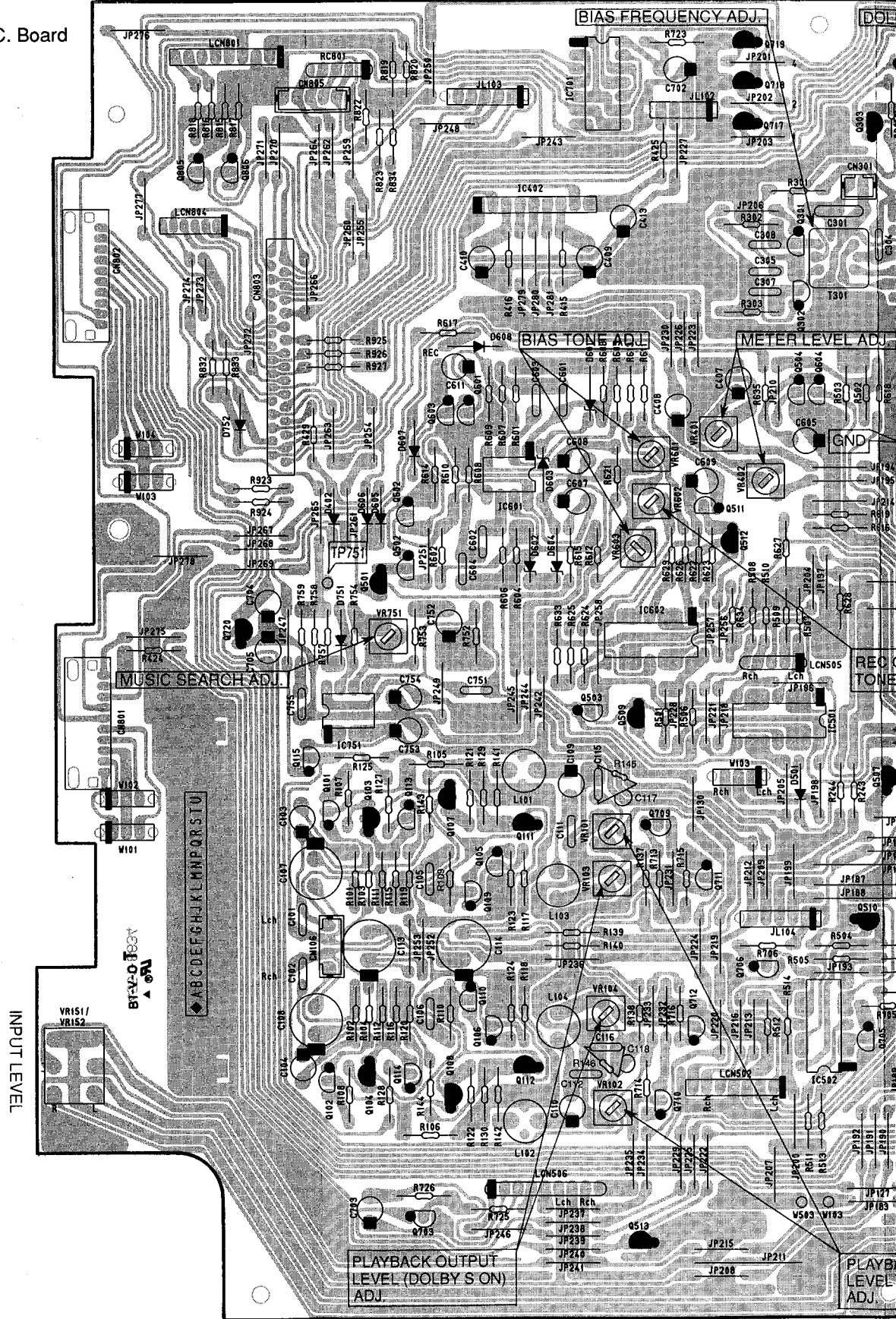
PCB-1 Main P. C. Board

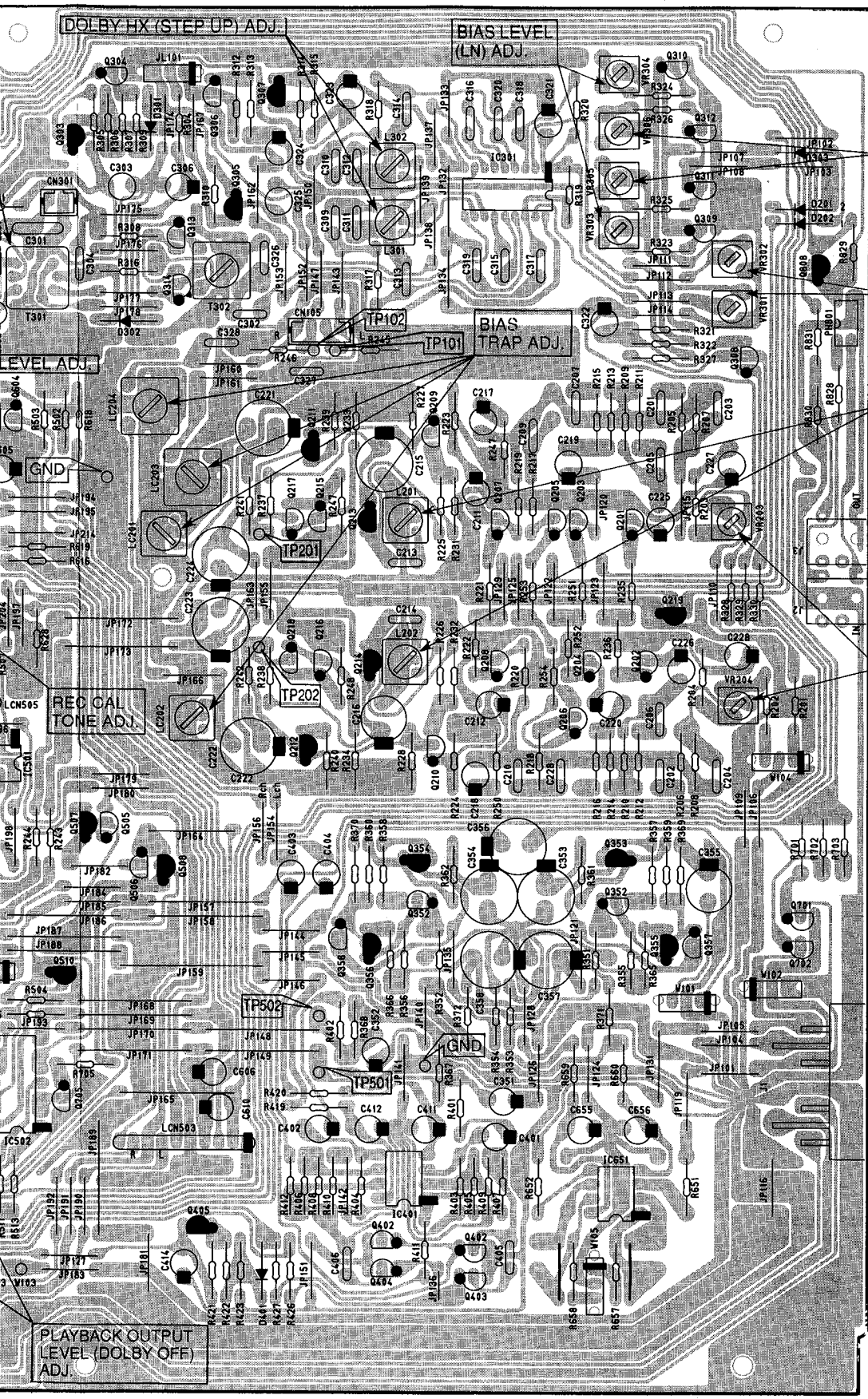




P. C. BOARDS (1)

PCB-1 Main P. C. Board





BIAS LEVEL  
(CrO<sub>2</sub>) ADJ.

BIAS LEVEL  
(METAL) ADJ.

RECORD/PLAYBACK  
EQUALIZER FREQUENCY  
CHARACTERISTIC ADJ.

RECORD  
LEVEL ADJ.

DOLBY HX (STEP UP) ADJ.

BIAS LEVEL  
(LN) ADJ.

BIAS TRAP ADJ.

LEVEL ADJ.

GND

REC CAL  
TONE ADJ.

PLAYBACK OUTPUT  
LEVEL (DOLBY OFF)  
ADJ.

TP101

TP201

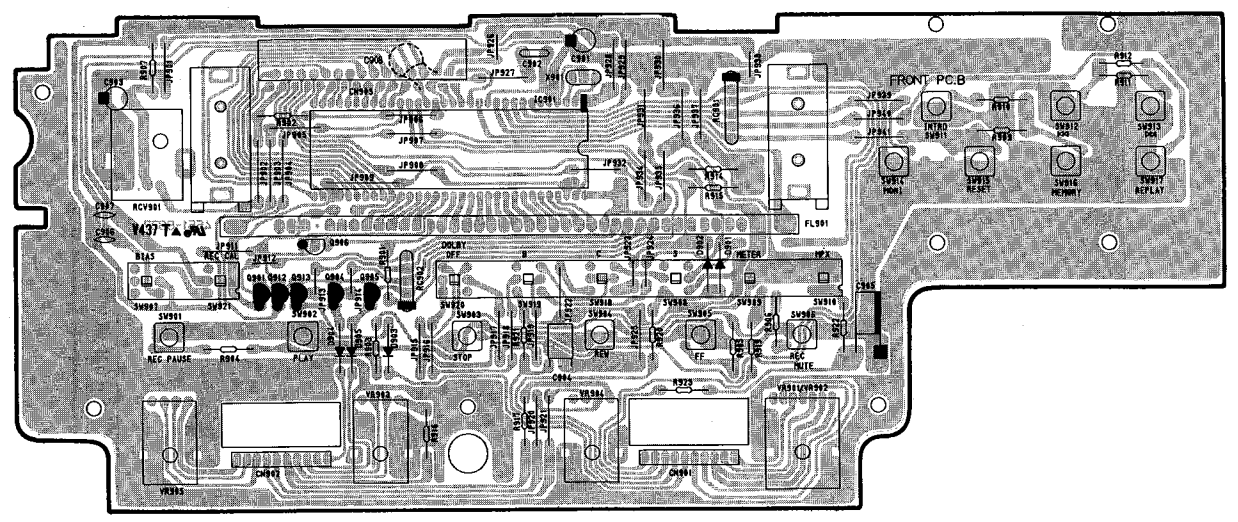
TP202

TP501

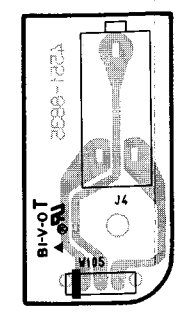
TP502

P. C. BOARDS (2)

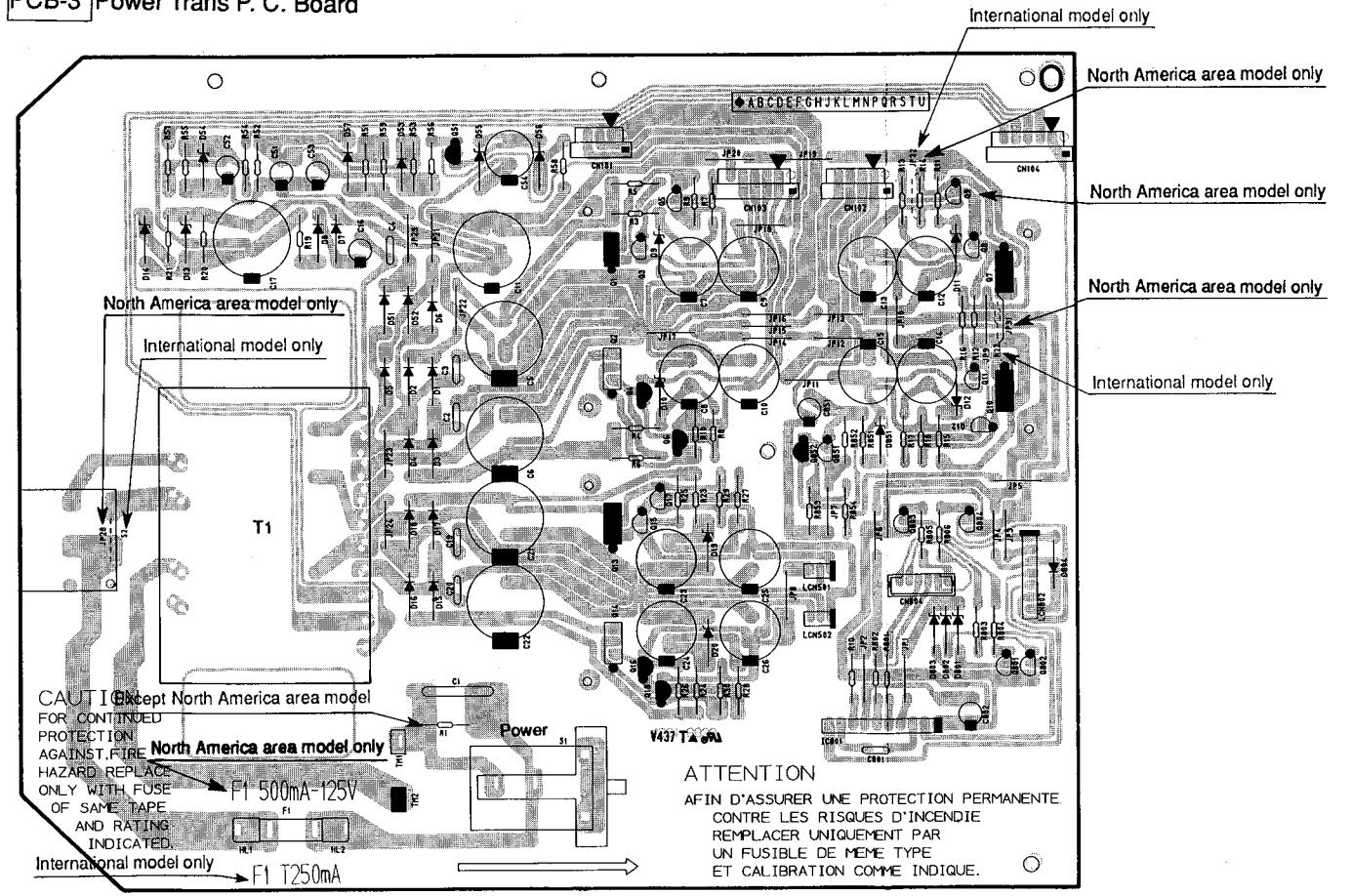
PCB-2 Front P. C. Board



PCB-4 Headphones Jack P. C. Board



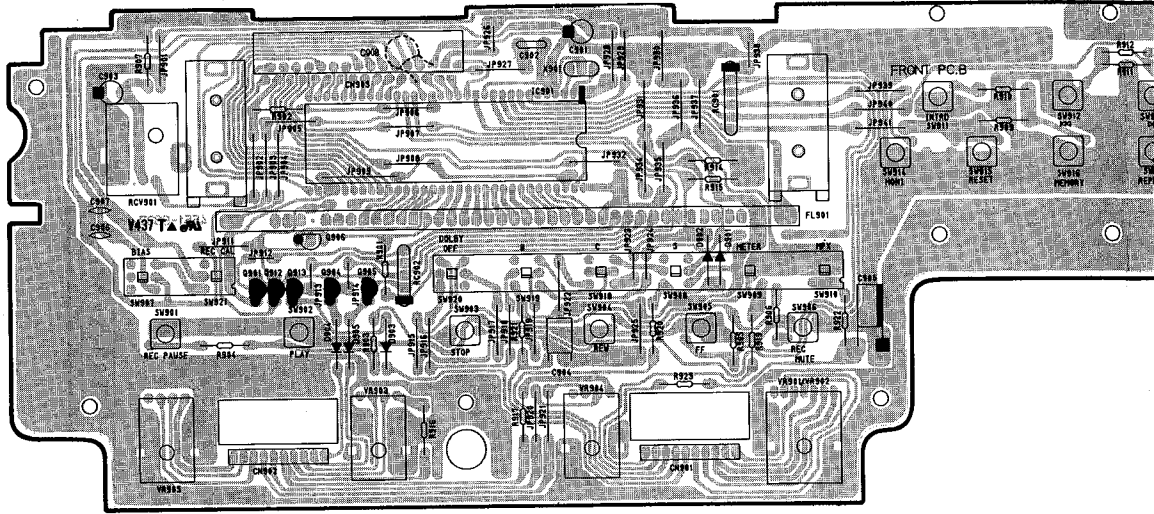
PCB-3 Power Trans P. C. Board



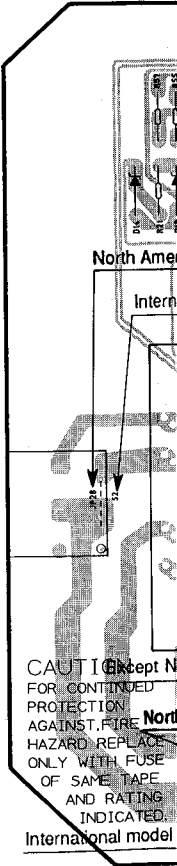


P. C. BOARDS (2)

PCB-2 Front P. C. Board



PCB-3 Power Tr



F

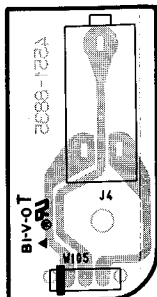
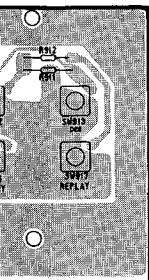
G

H

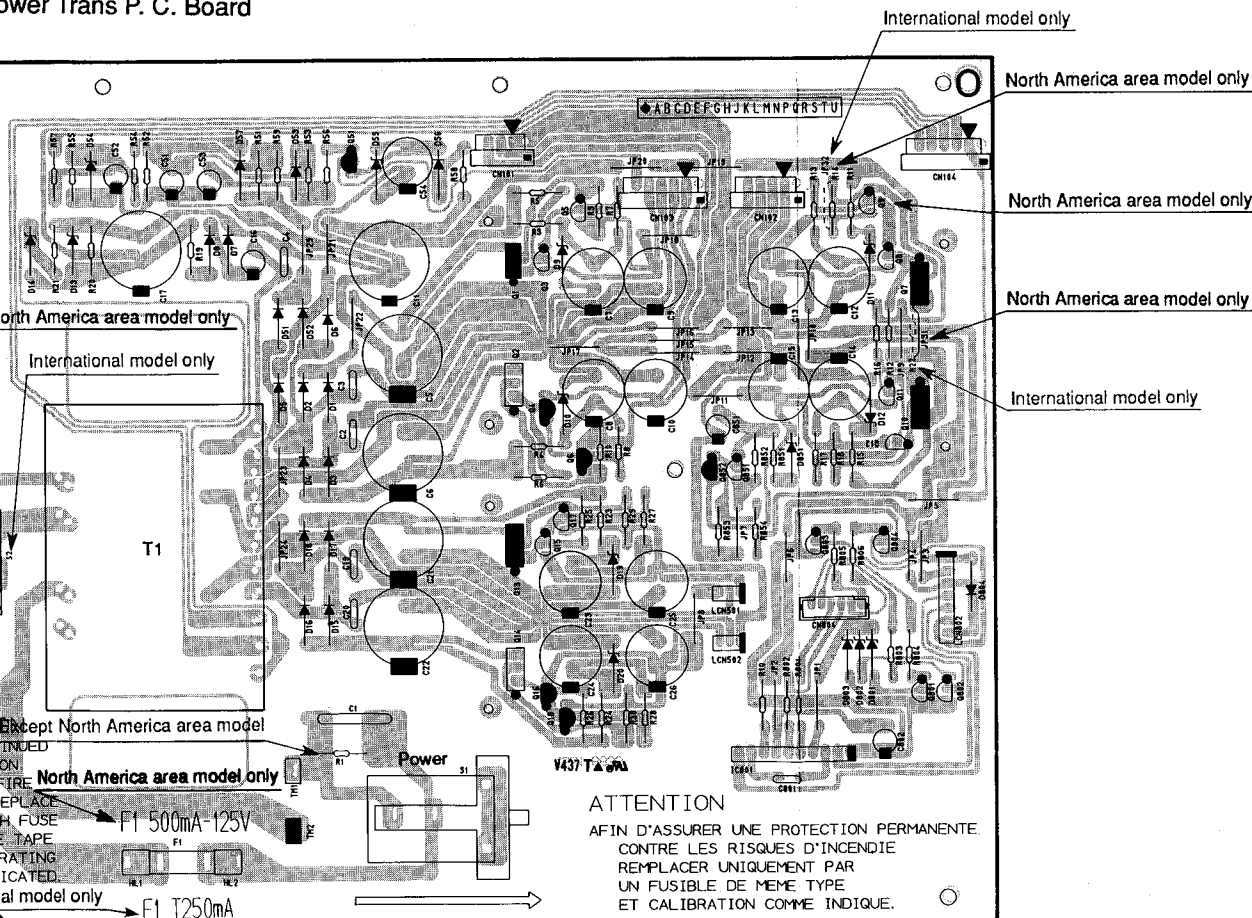
I

J

### PCB-4 Headphones Jack P. C. Board



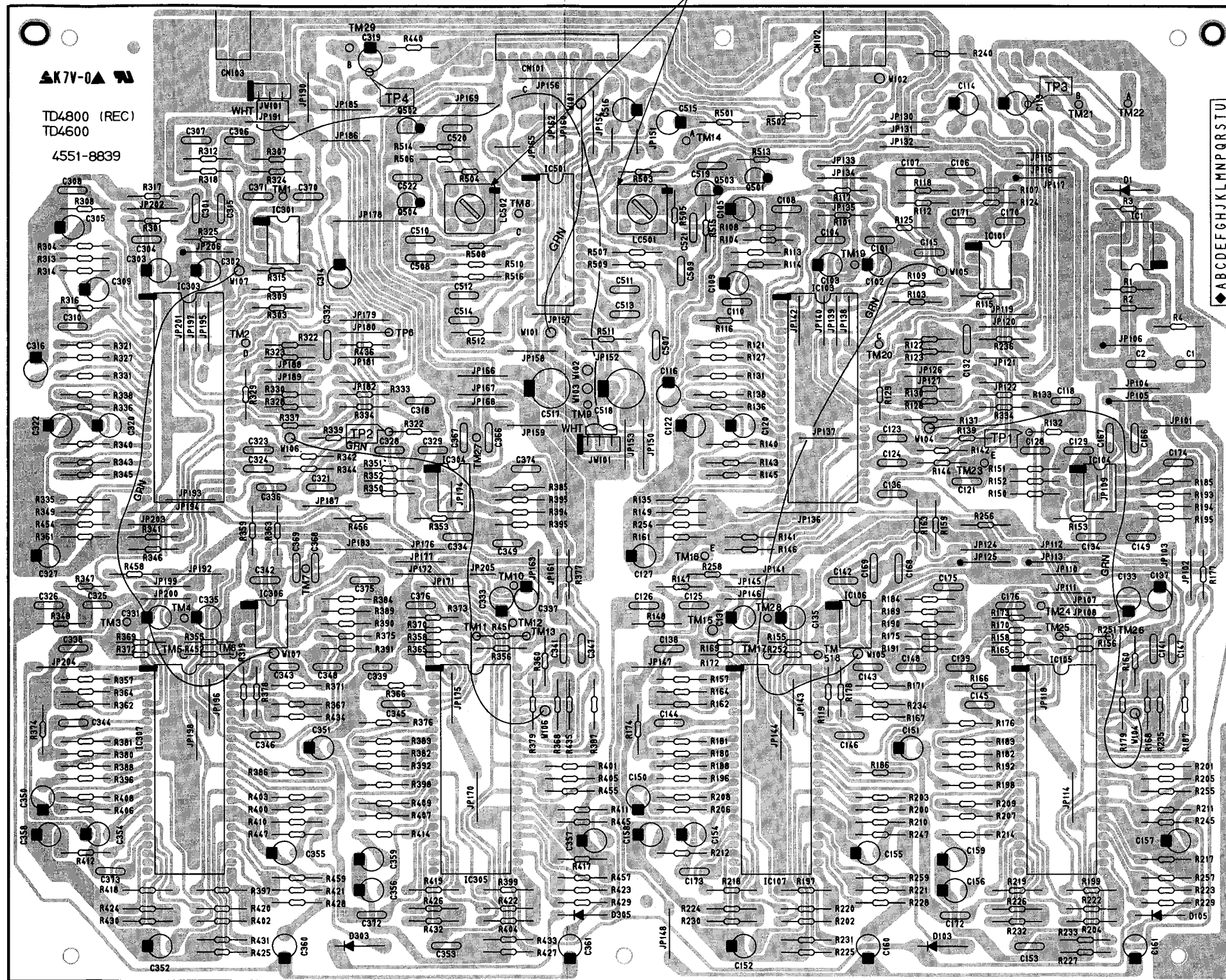
### Power Trans P. C. Board



P. C. BOARDS (3)

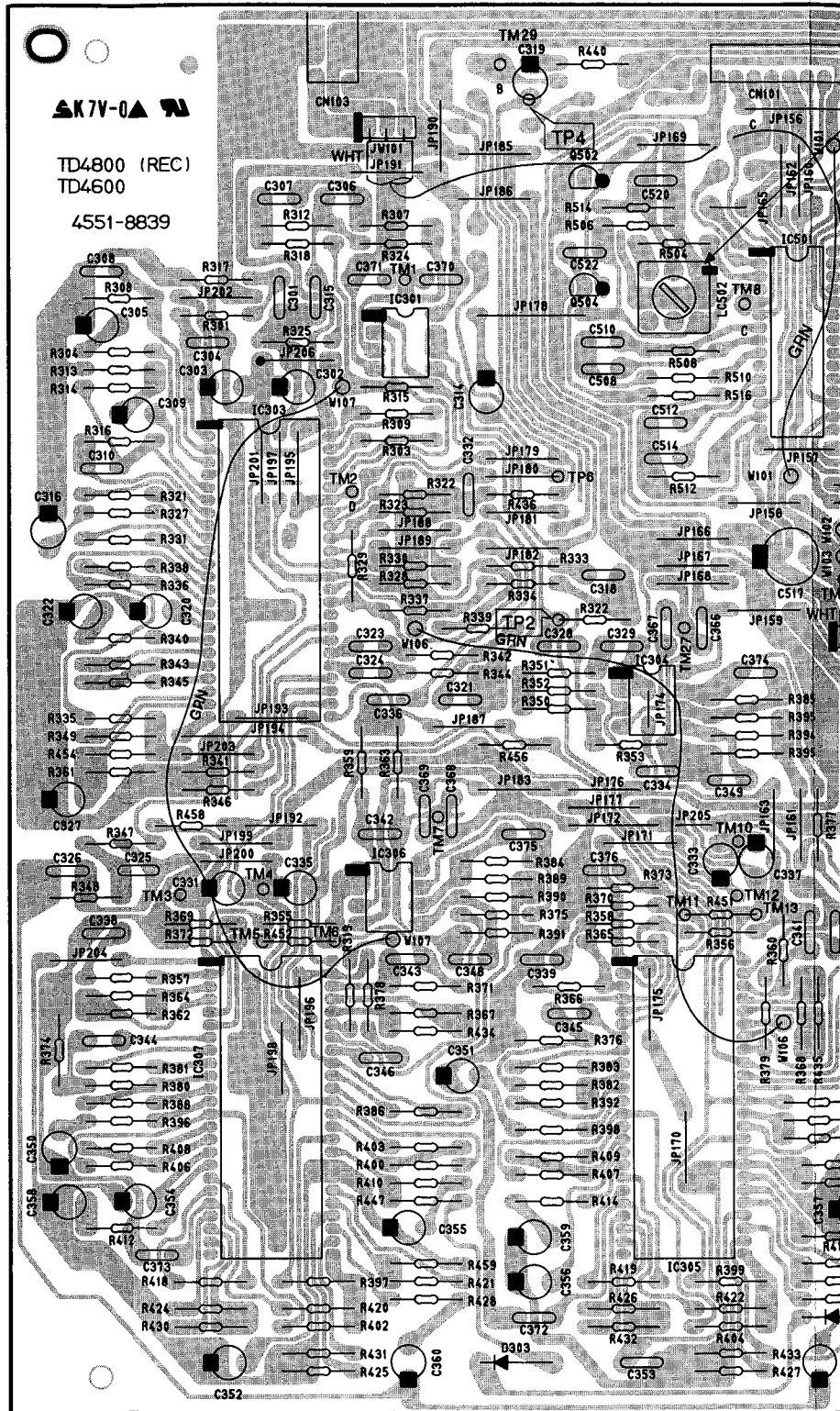
PCB-5 Dolby NR (Rec) P. C. Board

MPX FILTER CHARACTERISTIC ADJ.



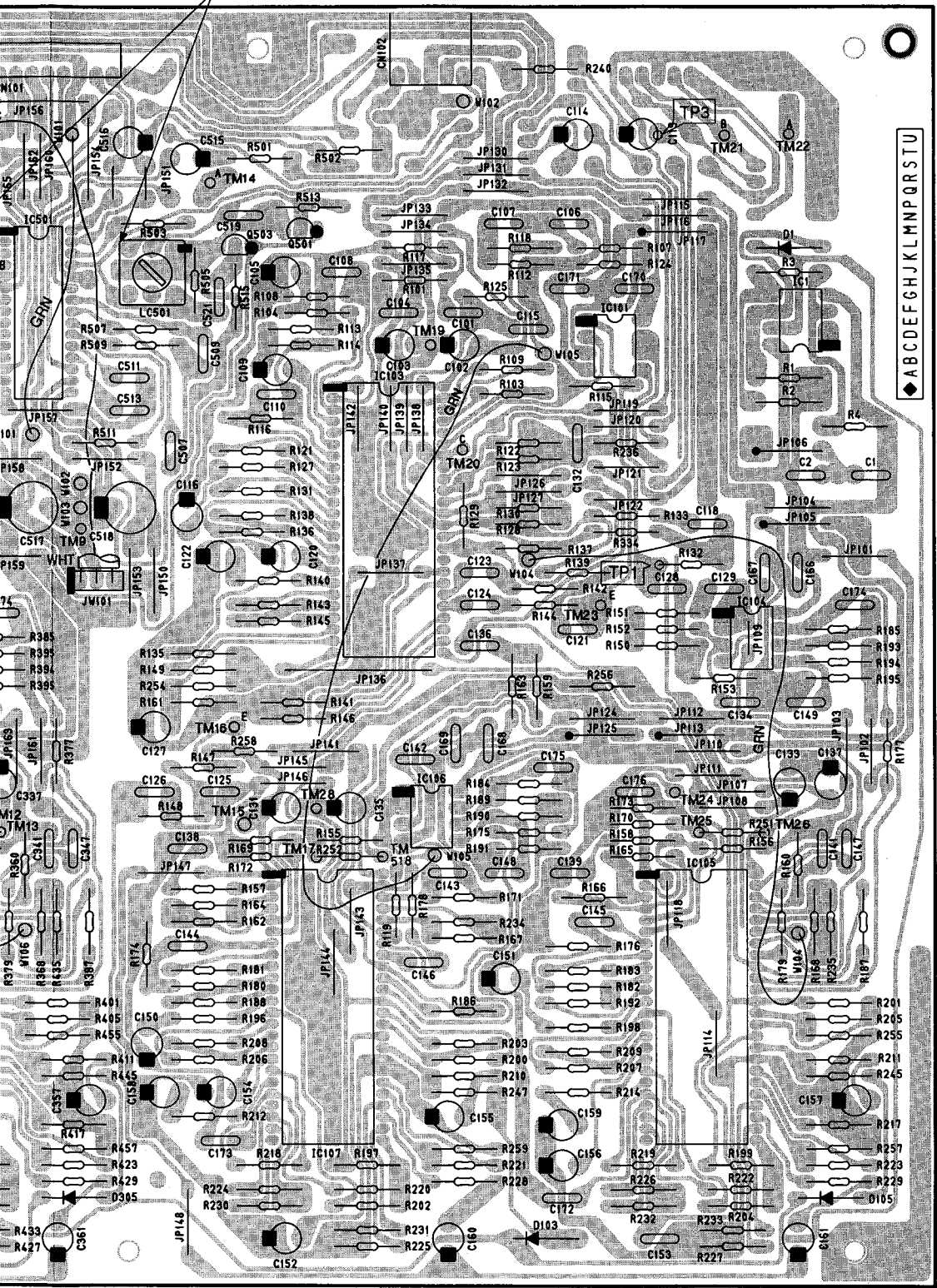
P. C. BOARDS (3)

PCB-5 Dolby NR (Rec) P. C. Board





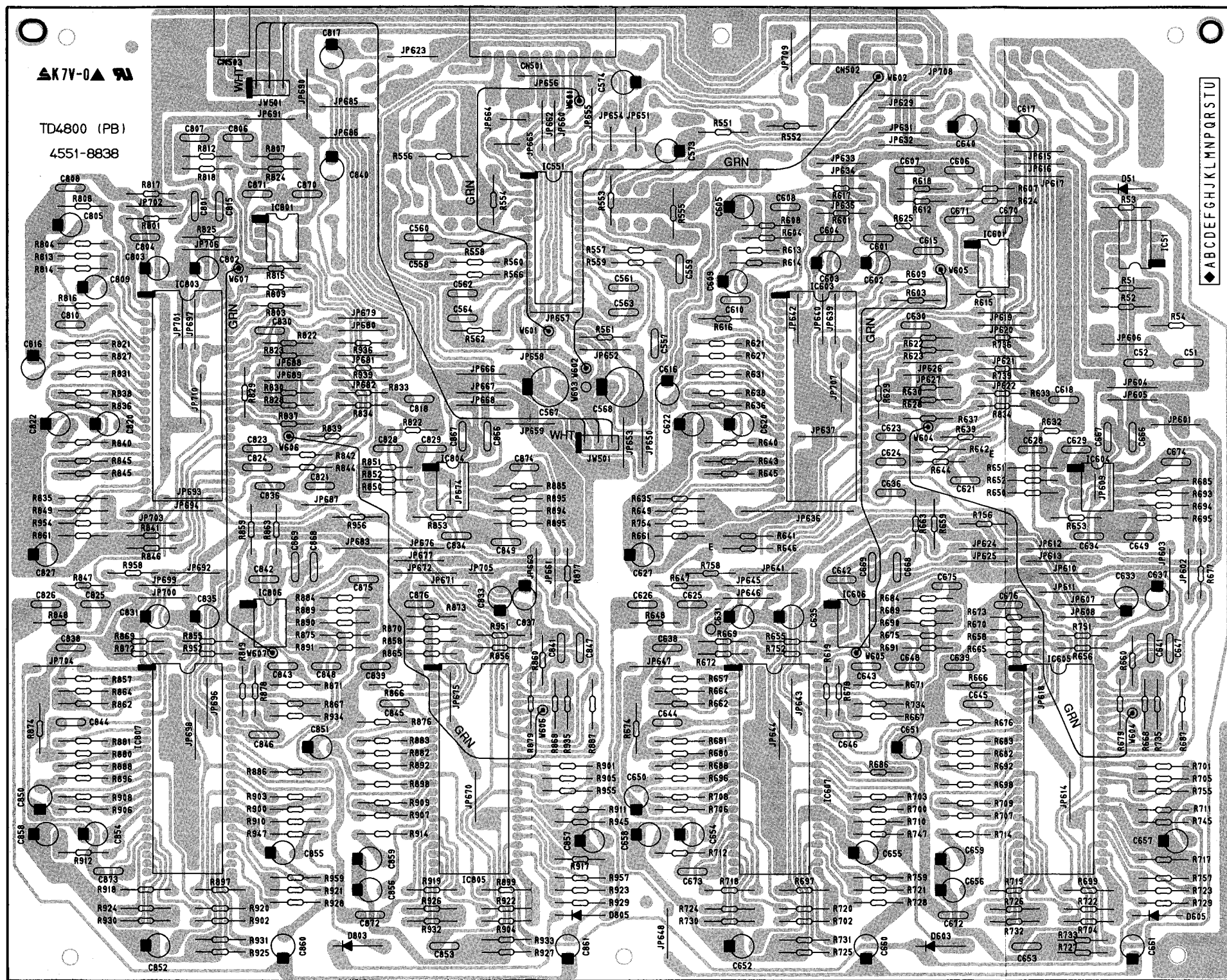
MPX FILTER  
CHARACTERISTIC ADJ.





P. C. BOARDS (4)

PCB-6 Dolby NR (Play) P. C. Board







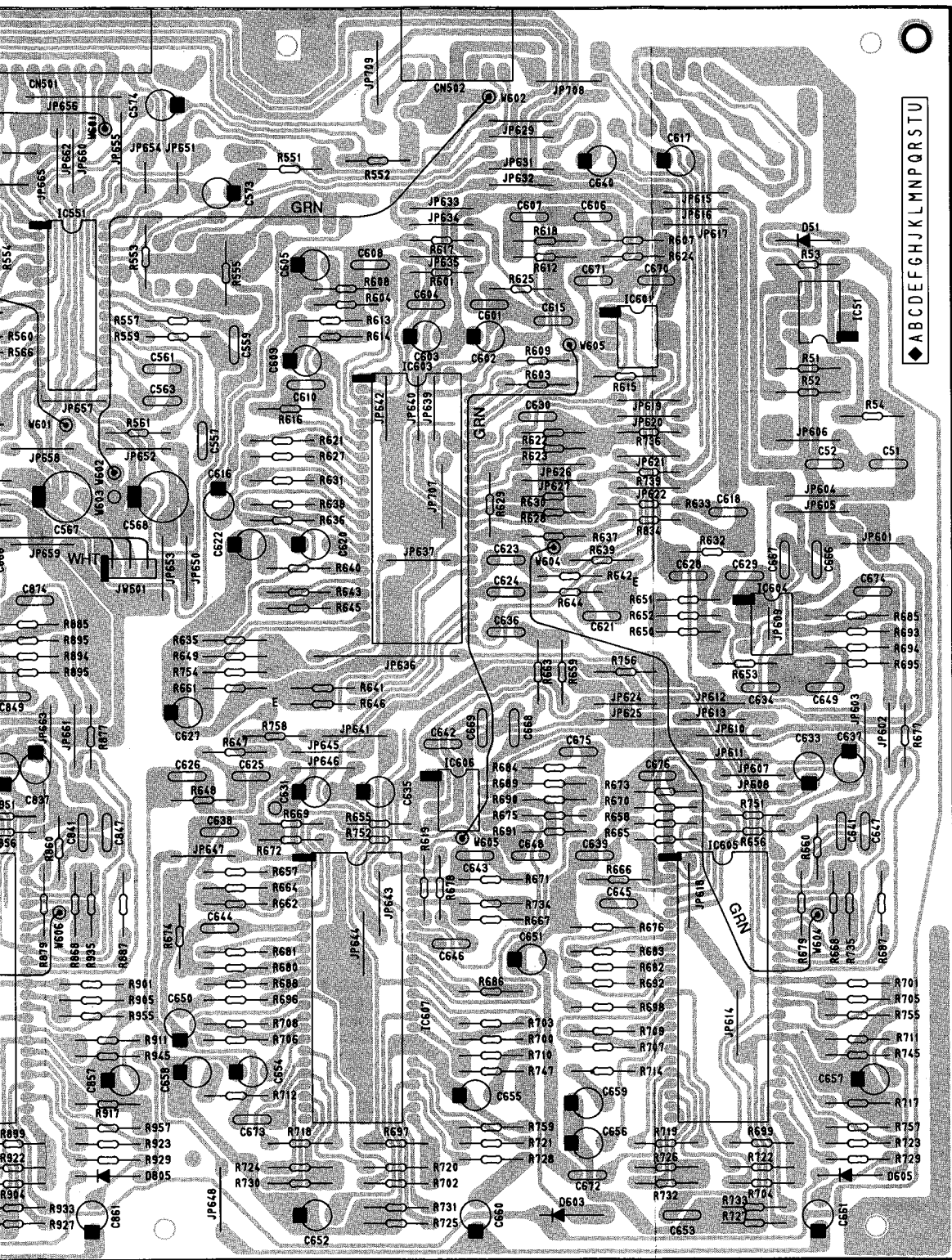
F

G

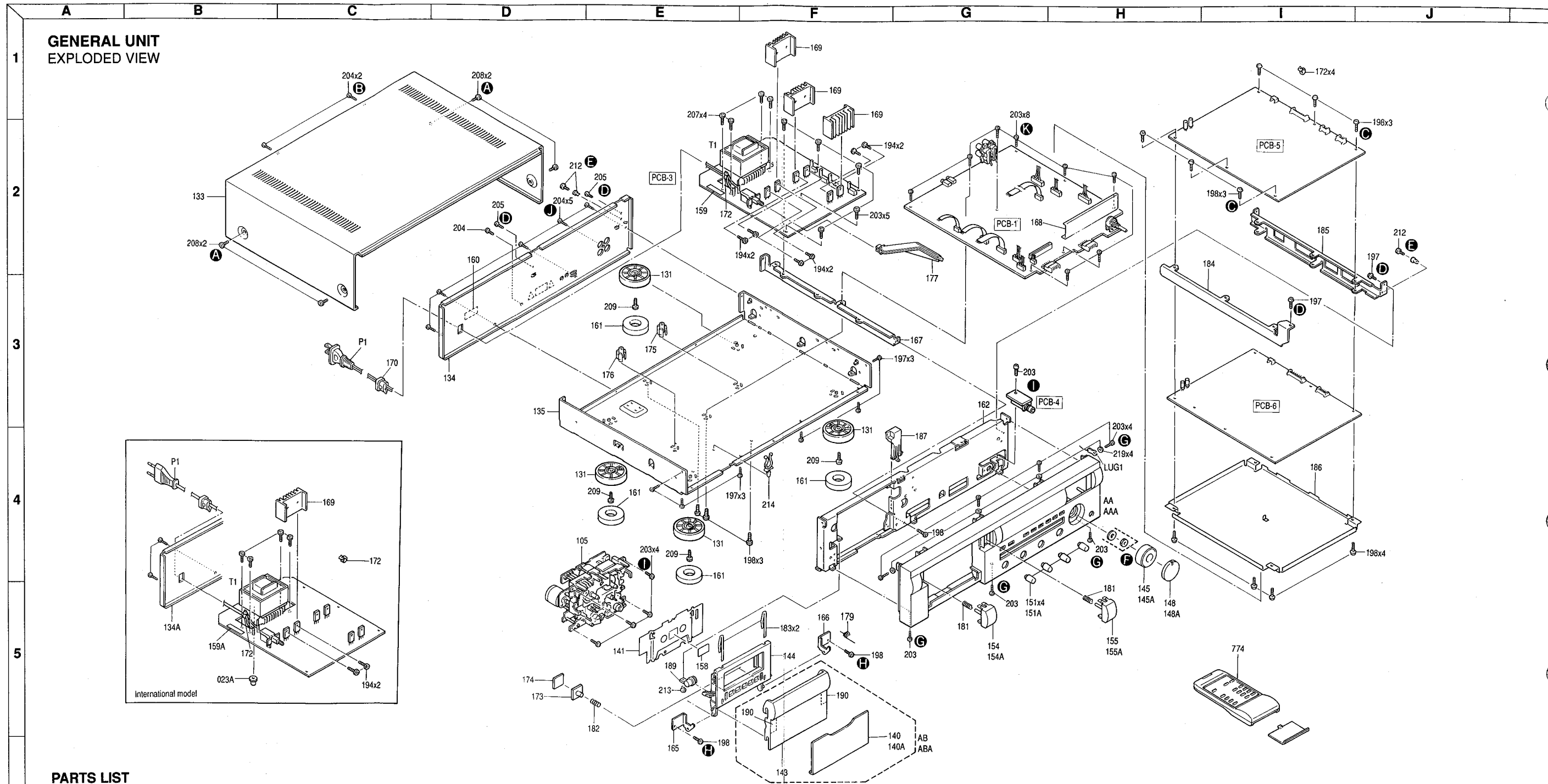
H

I

J



◆ ABCDEFGHJKLMNPQRSTU

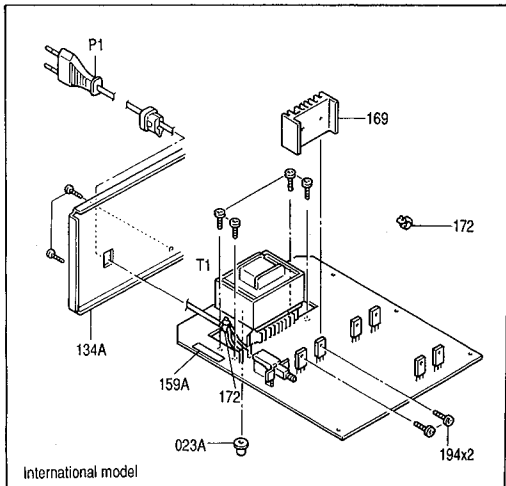
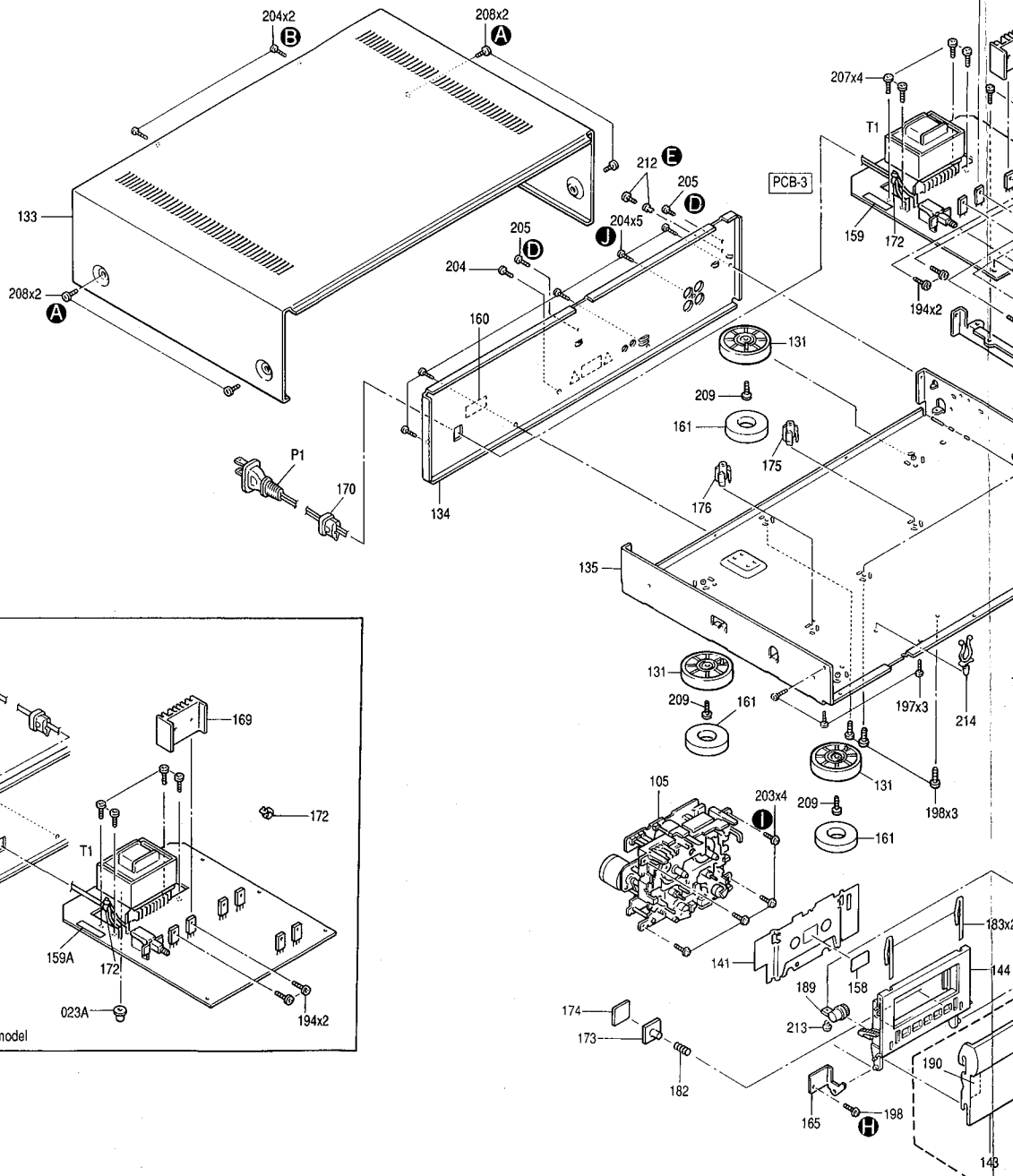


**PARTS LIST**

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
AA	A442-TD4800A	FRONT PANEL ASS'Y <b>UA</b> <b>IB</b>	145A	1630-04401	ROTARY KNOB <b>IB</b> <b>SK</b>	549	2240-R0101	HOLDER	203	2347-R0130082	SCREW,BND T+
AAA	A442-TD4800B	FRONT PANEL ASS'Y <b>UA</b> <b>IB</b> <b>SK</b>	148	1630-04502	ROTARY KNOB <b>UA</b> <b>IB</b>	173	2240-7371	HOLDER	204	2347-R0130084	SCREW,BND T+
AB	A532-TD4800A	CASSETTE LID ASS'Y <b>UA</b> <b>IB</b>	148A	1630-04501	ROTARY KNOB <b>IB</b> <b>SK</b>	174	2114-87143	BUSHING	207	2347-R0140062	SCREW,BND T+
ABA	A532-TD4800B	CASSETTE LID ASS'Y <b>IB</b> <b>SK</b>	151	1632-20402	ROTARY KNOB <b>UA</b> <b>IB</b>	175	2360-7022	BOSS,SPE	208	2347-R0140064	SCREW,BND T+
021A	1756-06303	LABEL <b>IB</b> <b>IB</b>	151A	1632-20401	ROTARY KNOB <b>IB</b> <b>SK</b>	176	2360-7063	BOSS,SPE	209	2347-R0140082	SCREW,BND T+
022A	1756-03108	LABEL <b>IB</b> <b>IB</b>	154	1662-58403	PUSH BUTTON <b>UA</b> <b>IB</b>	177	2601-7192	SHAFT	212	2459-3003511	RIVET,PLSTC
105	3112-16001	REC BLOCK	154A	1662-58401	PUSH BUTTON <b>IB</b> <b>SK</b>	179	2651-047	SPRING	213	2459-3005511	RIVET,PLSTC
131	1319-02301	LEG	155	1662-58404	PUSH BUTTON <b>UA</b> <b>IB</b>	180	2651-11212	SPRING	214	2240-7049	HOLDER
133	1414-15902	CABINET	155A	1662-58402	PUSH BUTTON <b>IB</b> <b>SK</b>	181	2651-2101732	SPRING	219	2411-30Z1	WASHER,PLAIN
134	1424-31604	CABI BACK <b>UA</b> <b>SK</b>	158	1741-01601	ORNAMENT	182	2651-2101735	SPRING	774	6142-02703	REMOTE CONTROL
134A	1424-31608	CABI BACK <b>IB</b> <b>IB</b>	160	1756-CSA	LABEL <b>UA</b> <b>SK</b>	183	2652-105	LEAF SPRING	LUG1	4211-5005	LUG TERMINAL
135	1424-31702	CABI BACK	162	2211-7311	CHASSIS	184	2219-8294	METAL FITTG	Δ P1	4161-71151	CORD W/PLUG <b>UA</b> <b>SK</b>
140	1512-06808	PLATE <b>UA</b> <b>IB</b>	165	2219-8296	METAL FITTG	185	2219-8295	METAL FITTG	Δ P1	4161-7256	CORD W/PLUG <b>IB</b> <b>IB</b>
140A	1512-06804	PLATE <b>IB</b> <b>SK</b>	166	2219-8297	METAL FITTG	186	2216-7190	SHIELD PLATE			
141	1514-23301	PLATE	167	2219-8293	METAL FITTG	187	2672-7045	LEVER			
143	1532-19501	WINDOW	168	2216-7191	SHIELD PLATE	189	2692-016	DAMPER			
144	1612-07401	CASS LID	169	2222-7281	HEAT SINK	190	2111-11401	FELT			
145	1630-04402	ROTARY KNOB <b>UA</b> <b>IB</b>	170	2240-364	HOLDER	194	2327-R0130082	SCREW,BND T+			
						197	2347-R0130062	SCREW,BND T+			

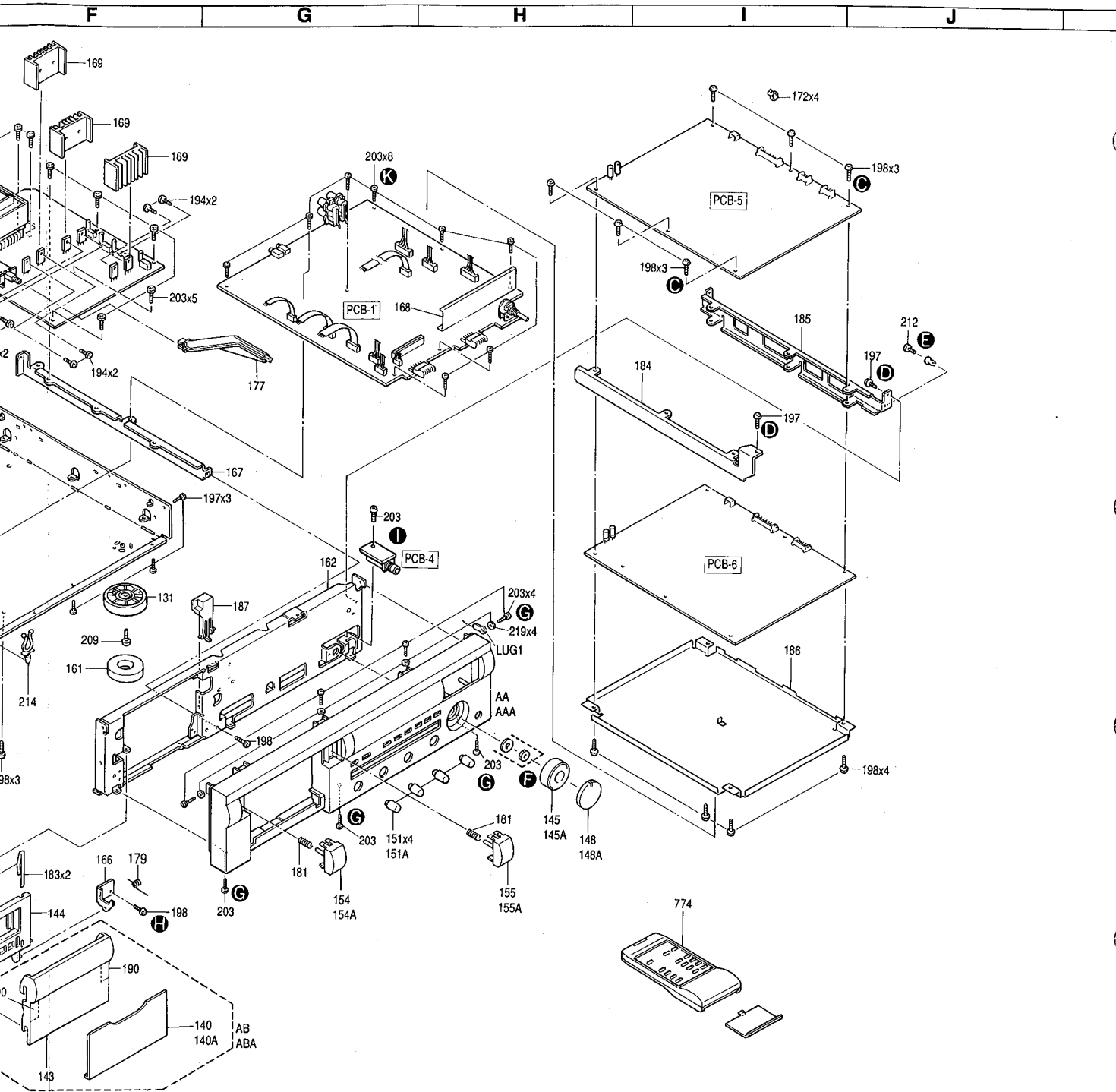
**NOTE**  
 SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

**GENERAL UNIT  
EXPLODED VIEW**



**PARTS LIST**

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
AA	A442-TD4800A	FRONT PANEL ASS'Y (UA) (I)	145A	1630-04401	ROTARY KNOB (IB) (SK)
AAA	A442-TD4800B	FRONT PANEL ASS'Y (IB) (SK)	148	1630-04502	ROTARY KNOB (UA) (I)
AB	A532-TD4800A	CASSETTE LID ASS'Y (UA) (I)	148A	1630-04501	ROTARY KNOB (IB) (SK)
ABA	A532-TD4800B	CASSETTE LID ASS'Y (IB) (SK)	151	1632-20402	ROTARY KNOB (UA) (I)
021A	1756-06303	LABEL (IB) (I)	151A	1632-20401	ROTARY KNOB (IB) (SK)
022A	1756-03108	LABEL (IB) (I)	154	1662-58403	PUSH BUTTON (UA) (I)
105	3112-16001	REC BLOCK	154A	1662-58401	PUSH BUTTON (IB) (SK)
131	1319-02301	LEG	155	1662-58404	PUSH BUTTON (UA) (I)
133	1414-15902	CABINET	155A	1662-58402	PUSH BUTTON (IB) (SK)
134	1424-31604	CABI BACK (UA) (SK)	158	1741-01601	ORNAMENT
134A	1424-31608	CABI BACK (IB) (I)	160	1756-CSA	LABEL (UA) (SK)
135	1424-31702	CABI BACK	162	2211-7311	CHASSIS
140	1512-06808	PLATE (UA) (I)	165	2219-8296	METAL FITTG
140A	1512-06804	PLATE (IB) (SK)	166	2219-8297	METAL FITTG
141	1514-23301	PLATE	167	2219-8293	METAL FITTG
143	1532-19501	WINDOW	168	2216-7191	SHIELD PLATE
144	1612-07401	CASS LID	169	2222-7281	HEAT SINK
145	1630-04402	ROTARY KNOB (UA) (I)	170	2240-364	HOLDER

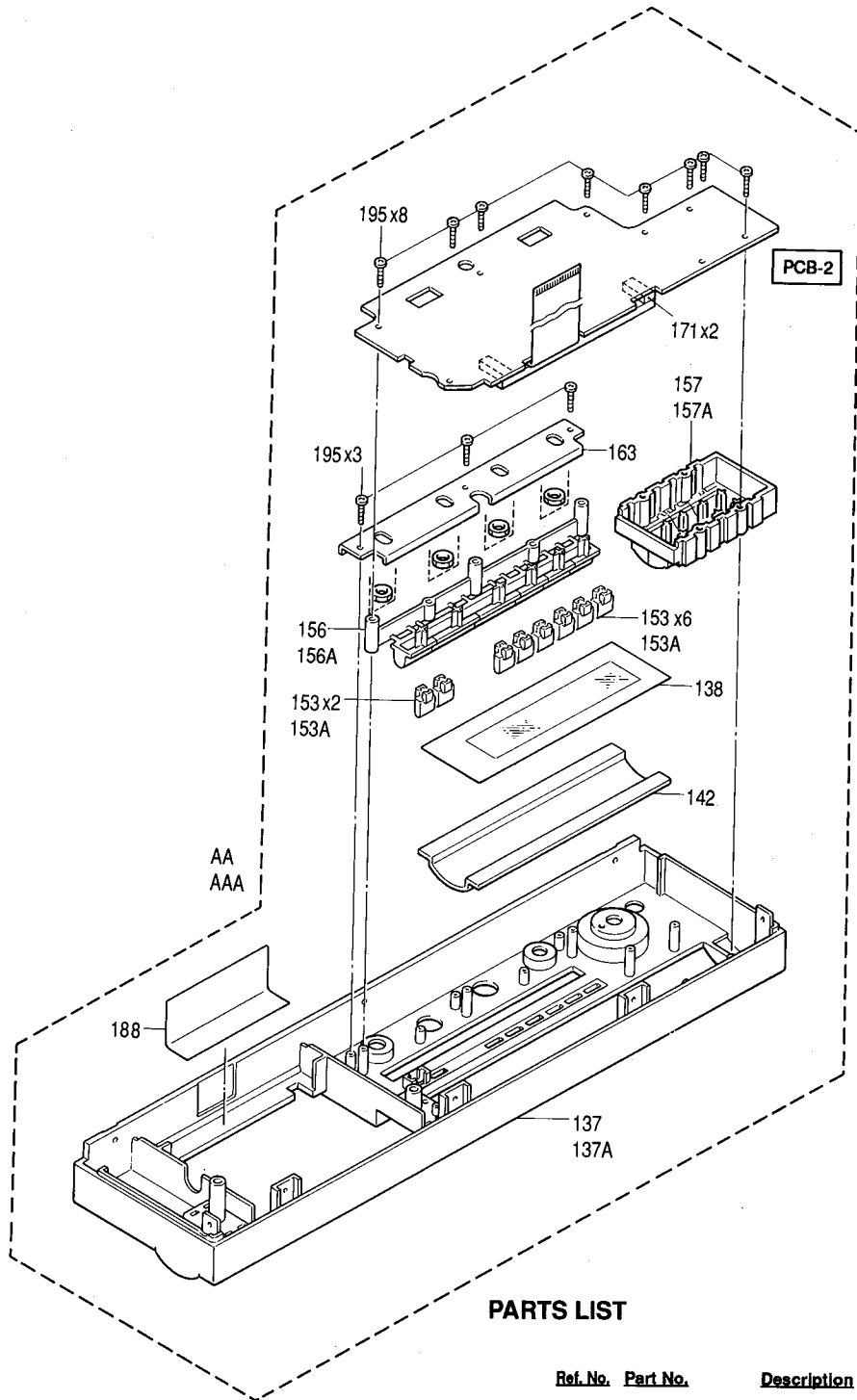


Ref. No.	Part No.	Description
172	2240-R0101	HOLDER
173	2240-7371	HOLDER
174	2114-87143	BUSHING
175	2360-7022	BOSS,SPE
176	2360-7063	BOSS,SPE
177	2601-7192	SHAFT
179	2651-047	SPRING
180	2651-11212	SPRING
181	2651-2101732	SPRING
182	2651-2101735	SPRING
183	2652-105	LEAF SPRING
184	2219-8294	METAL FITTG
185	2219-8295	METAL FITTG
186	2216-7190	SHIELD PLATE
187	2672-7045	LEVER
189	2692-016	DAMPER
190	2111-11401	FELT
194	2327-R0130082	SCREW,BND T+
197	2347-R0130062	SCREW,BND T+

Ref. No.	Part No.	Description
203	2347-R0130082	SCREW,BND T+
204	2347-R0130084	SCREW,BND T+
207	2347-R0140062	SCREW,BND T+
208	2347-R0140064	SCREW,BND T+
209	2347-R0140082	SCREW,BND T+
212	2459-3003511	RIVET,PLSTC
213	2459-3005511	RIVET,PLSTC
214	2240-7049	HOLDER
219	2411-30Z1	WASHER,PLAIN
774	6142-02703	REMOTE CONTROL
LUG1	4211-5005	LUG TERMINAL
Δ P1	4161-71151	CORD W/PLUG
Δ P1	4161-7256	CORD W/PLUG

**NOTE**  
 SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

**FRONT PANEL  
EXPLODED VIEW**



**PARTS LIST**

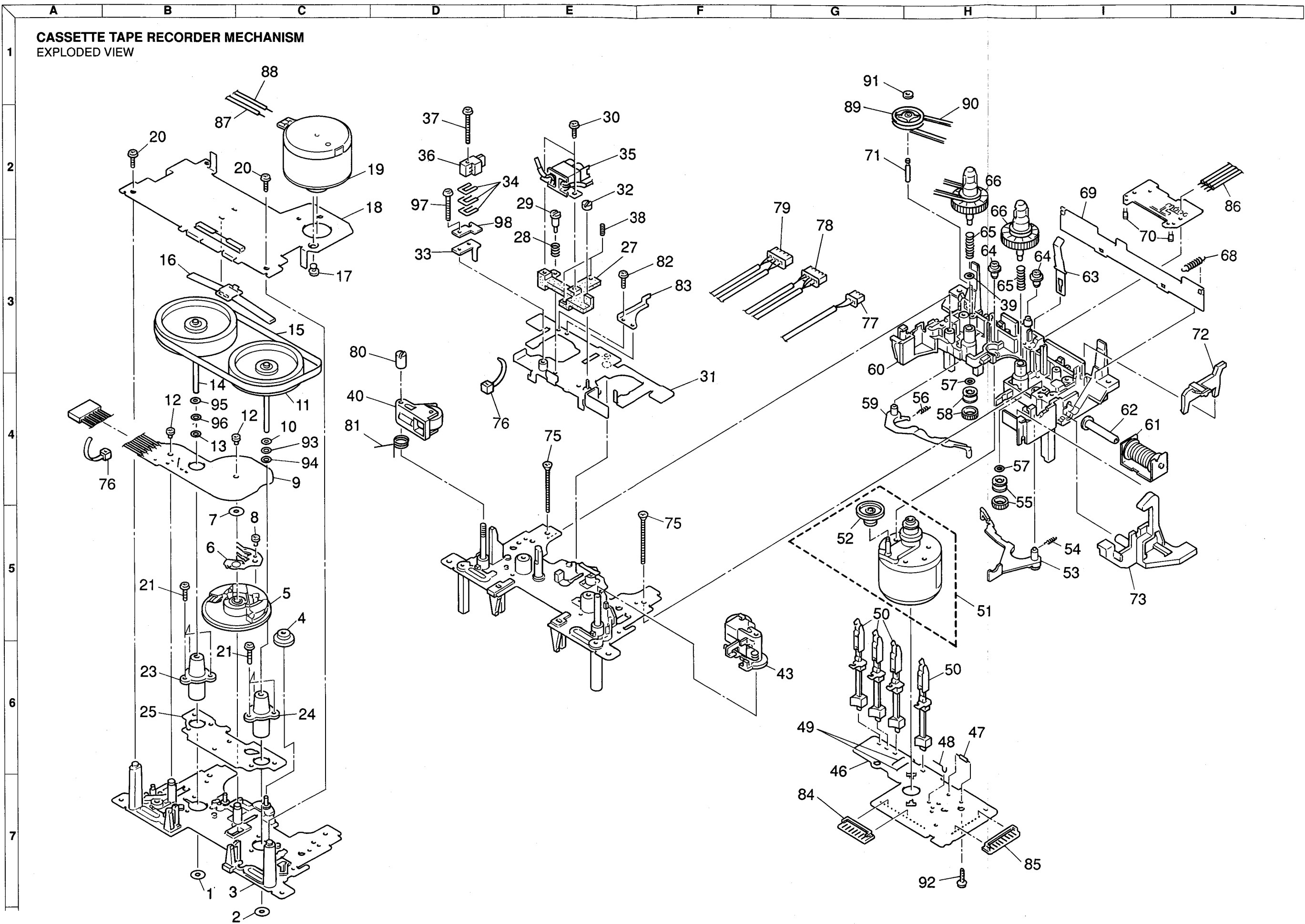
Ref. No.	Part No.	Description
AA	A442-TD4800A	FRONT PANEL ASS'Y <b>UA I</b>
AAA	A442-TD4800B	FRONT PANEL ASS'Y <b>IB BK</b>
137	1442-24410	PANEL <b>UA I</b>
137A	1442-24404	PANEL <b>IB BK</b>
138	1511-19807	PLATE
142	1532-17505	WINDOW
153	1662-52303	PUSH BUTTON <b>UA I</b>
153A	1662-52301	PUSH BUTTON <b>IB BK</b>
156	1662-58502	PUSH BUTTON <b>UA I</b>
156A	1662-58501	PUSH BUTTON <b>IB BK</b>
157	1662-61002	PUSH BUTTON <b>UA I</b>
157A	1662-61001	PUSH BUTTON <b>IB BK</b>
163	2219-8284	METAL FITTG
171	2240-7370	HOLDER
188	2216-7195	SHIELD PLATE
195	2347-R0126082	SCREW,BND T+ (2.6 x 8 mm)

## CASSETTE TAPE RECORDER MECHANISM

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	SEE10230-01	WASHER ( $\phi 2.5 \times \phi 7 \times 10.8$ )	68	SGE24008-01	COIL SPRING
2	KGE103473-A	WASHER ( $\phi 2.2 \times \phi 7 \times 10.8$ )	69	KGD104046-B	CASSETTE HOLD PLATE
3	SGD01001-32	MECHA CHASSIS	70	KGE104147-A	PHOTO REFLECTOR
4	KGE103928-A	ASSIST GEAR	71	KGE103267-A	SPINDLE
5	KGD104231-A	CAM	72	KGE104053-A	LEVER (RIGHT)
6	KGE104233-A	ROTARY	73	SGD20001-01	EJECT LEVER (RIGHT)
7	KGE104234-A	WASHER ( $\phi 3 \times \phi 8 \times 10.5$ )	75	SEE30514-03	SCREW (M2.6 x 30)
8	SEE30522-01	SCREW (M2 x 3)	76	SGE33008-01	BAND
9	SGE0800122	CONTROL P. C. BOARD (w/CONNECTOR)	77	SEE27179-54	CONNECTOR WITH LEAD WIRE
10	SGE36008-02	WASHER ( $\phi 2.2 \times \phi 7 \times 10.2$ )	78	SEE27179-81	CONNECTOR WITH LEAD WIRE
11	SGD32005-03	FLYWHEEL	79	SEE27179-82	CONNECTOR WITH LEAD WIRE
12	KGE103483-A	SCREW (M2 x 3)	80	KGE103738-B	P/R ARM ADJUST SCREW
13	SEE10228-38	WASHER ( $\phi 2.6 \times \phi 7 \times 10.13$ )	81	SGE24018-01	S PINCH ROLLER SPRING
14	SGD32004-01	FLYWHEEL	82	SEE30525-13	SCREW (M2 x 2.5)
15	SGE18003-01	BELT	83	SGE19006-01	STOPPER
16	KGE103929-C	FLYWHEEL SPINDLE CATCHER	84	SEE5523-07	CONNECTOR
17	14536	SCREW (M2.6 x 3)	85	SEE5523-08	CONNECTOR
18	KGD103953-B	MOTOR BASE	86	KGE104145-A	LEAD WIRE
19	SGE05004-22	CAPSTAN MOTOR	87	SGE64005-06	LEAD WIRE
20	SEE30544-03	SCREW (M2.6 x 8)	88	SGE64004-02	LEAD WIRE
21	SEE30578-07	SCREW (2 x 8)	89	KGE015113-B	PULLEY
23	SGE09008-01	CAPSTAN STAND	90	SGE18006-02	BELT
24	SGE09008-02	CAPSTAN STAND	91	SEE10228-18	WASHER
25	SGE19007-01	PLATE	92	SEE30544-03	SCREW (M2.6 x 8)
27	SGD11001-02	HEAD BLOCK	93	SGE36007-02	WASHER ( $\phi 2.3 \times \phi 4.7 \times 10.2$ )
28	SIE24029-02	COIL SPRING	94	SEE10228-39	WASHER ( $\phi 2.3 \times \phi 7 \times 10.13$ )
29	SIE22059-01	SPINDLE	95	SGE36008-03	WASHER ( $\phi 2.5 \times \phi 6 \times 10.2$ )
30	SEE30578-07	SCREW (2 x 4)	96	SGE36007-01	WASHER ( $\phi 2.6 \times \phi 4.7 \times 10.2$ )
31	SGE02004-51	HEAD BASE	97	SEE30545-02	SCREW (M2 x 5)
32	SIE23008-01	ADJUST NUT	98	SGE19019-01	ERASE HEAD BASE
33	KGE103206A	ERASE HEAD BASE			
34	SIE34011-01~03	SPACER			
35	SGE65009-01	REC/PB HEAD			
36	HJWB3701A	ERASE HEAD			
37	KGE103216A	SCREW (M2 x 10)			
38	SEE30539-03	SCREW (M2 x 4)			
39	SGE33005-01	WASHER			
40	SGE03003-01	S PINCH ARM ASS'Y			
43	SGE03001-03	PINCH ARM ASS'Y			
46	KGD104113-A	P. C. BOARD			
47	SEE50212-32	RESISTOR (2.2k )			
48	KGE104135-A	GND WIRE			
49	KGE104136-A	LEAD WIRE			
50	KGD103952-A	LEAF SWITCH			
51	SGE05001-03	REEL MOTOR			
52	KGE103931-B	AIDLER GEAR			
53	KGD103948-A	ASSIST LEVER A			
54	SGE24022-02	COIL SPRING			
55	SGE09004-01	BRAKE PULLEY T			
56	KGE103982-A	COIL SPRING			
57	SEE10228-20	WASHER ( $\phi 2.6 \times \phi 5.5 \times 10.13$ )			
58	SGE09003-01	BRAKE PULLEY S			
59	KGD103949-B	ASSIST LEVER B			
60	KGC103950-C	SUB CHASSIS			
61	SGE05002-01	SOLENOID			
62	KGE103960-A	PLUNGER			
63	SGE24020-01	CASSETTE HOLD SPRING			
64	SEE30622-01	SCREW (M2.6 x 1.6)			
65	KGE103983-A	COIL SPRING			
66	SGE04001-03	REEL (w/REFLECTION PLATE)			

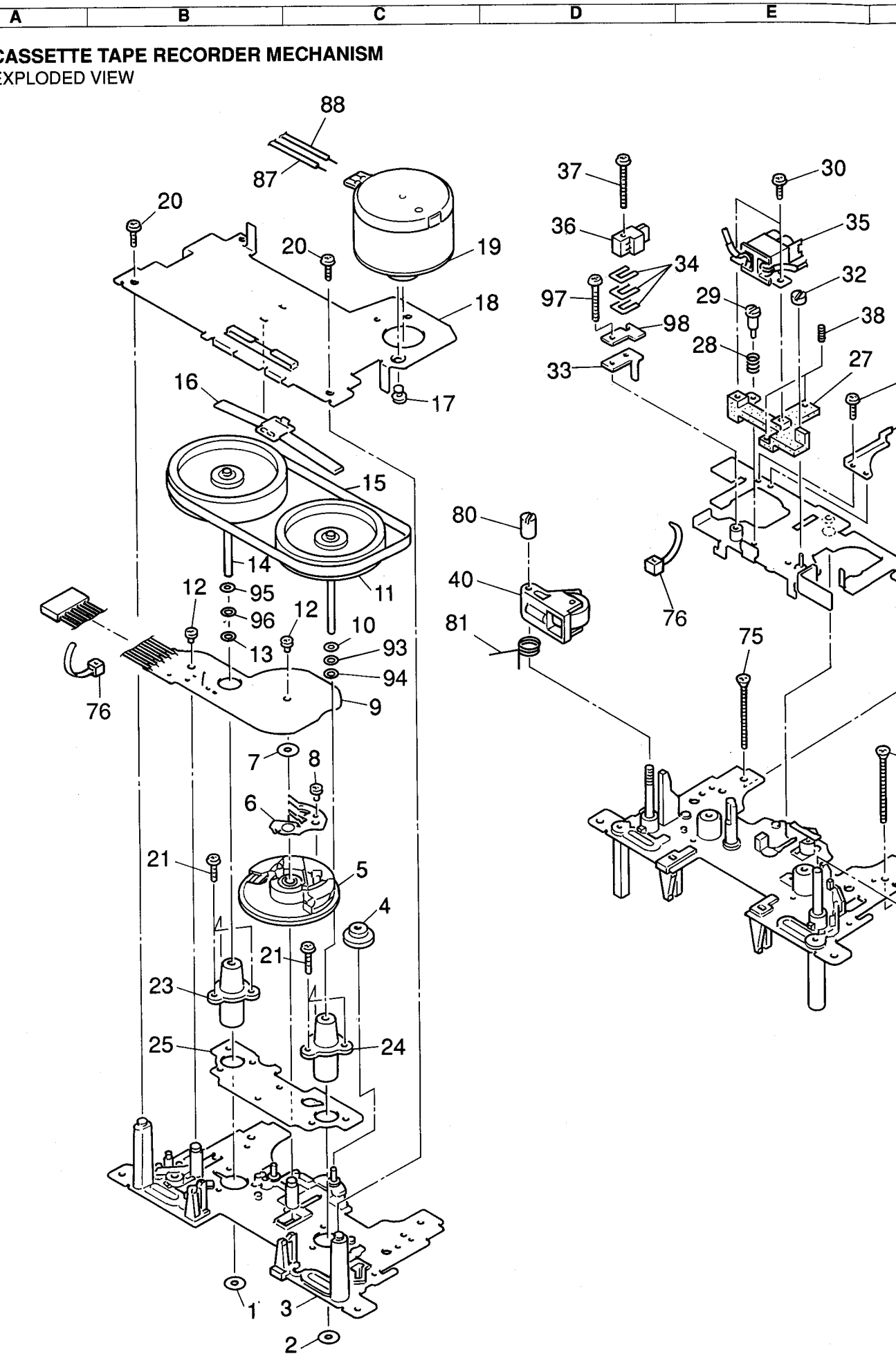


**CASSETTE TAPE RECORDER MECHANISM**  
EXPLODED VIEW



**CASSETTE TAPE RECORDER MECHANISM**  
EXPLODED VIEW

1  
2  
3  
4  
5  
6  
7



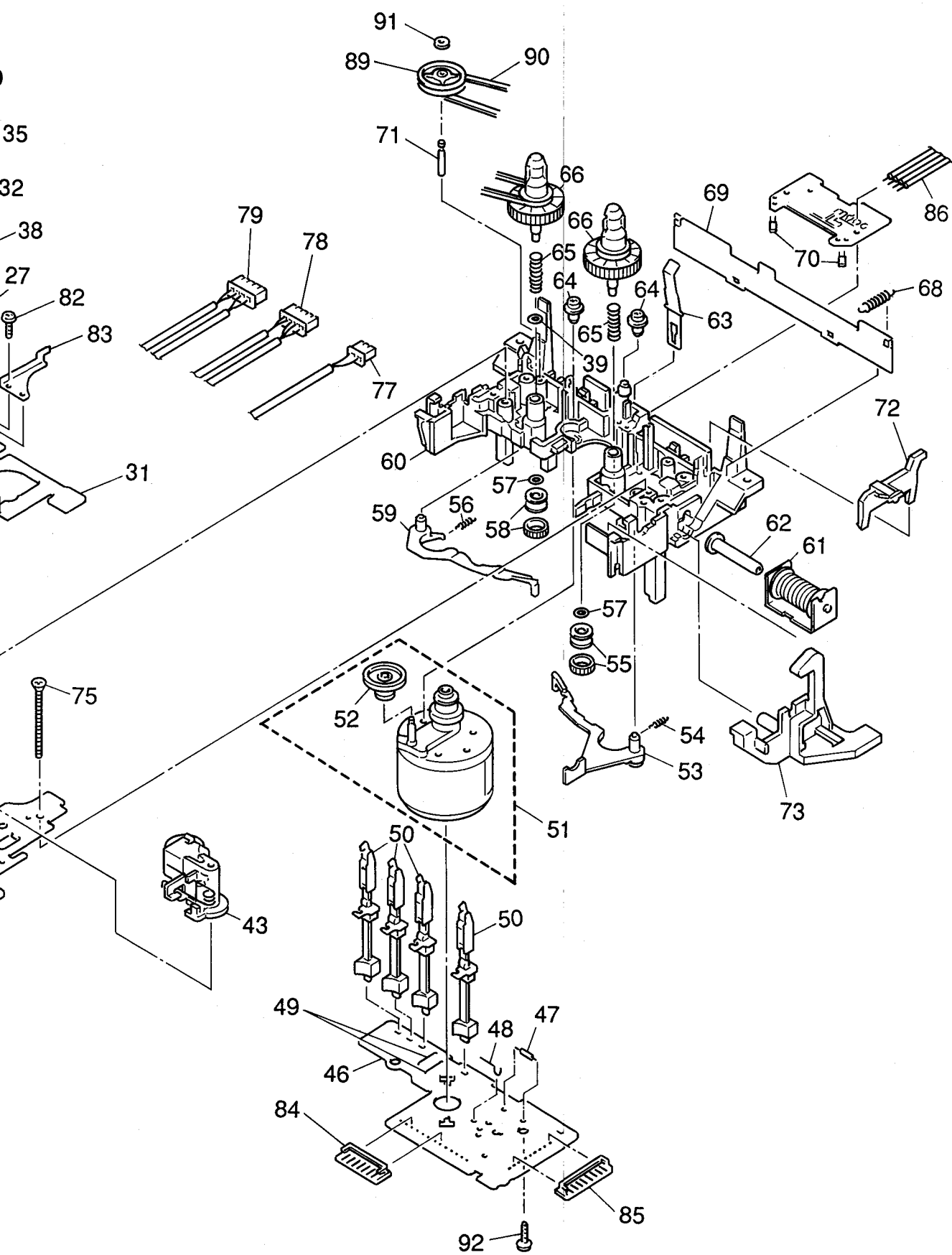
F

G

H

I

J



**ELECTRICAL PARTS LIST**

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
<b>PCB-1 MAIN P. C. BOARD</b>															
<b>CAPACITORS</b>															
427	C101	5353-470534	CAP,MCA 47P	712	C403	5345-475F041	CAP,MINI ELE 4.7µ/50V	501	R212	5135-392522	RES,CBN 1/2P 3.9K	922	R366	5135-101522	RES,CBN 1/2P 100
427	C102	5353-470534	CAP,MCA 47P	712	C404	5345-475F041	CAP,MINI ELE 4.7µ/50V	502	R213	5135-104522	RES,CBN 1/2P 100K	925	R367	5135-104522	RES,CBN 1/2P 100K
415	C103	5345-226C0951	CAP,MINI ELE 22µ/16V	716	C405	5359-S010J222	CAP,PPP 2200P	502	R214	5135-104522	RES,CBN 1/2P 100K	925	R368	5135-104522	RES,CBN 1/2P 100K
415	C104	5345-226C0951	CAP,MINI ELE 22µ/16V	716	C406	5359-S010J222	CAP,PPP 2200P	503	R215	5135-183522	RES,CBN 1/2P 18K	926	R369	5135-331522	RES,CBN 1/2P 330
423	C105	5359-8225851	CAP,PPP 8200P	712	C407	5345-475F041	CAP,MINI ELE 4.7µ/50V	503	R216	5135-183522	RES,CBN 1/2P 18K	926	R370	5135-331522	RES,CBN 1/2P 330
423	C106	5359-8225851	CAP,PPP 8200P	712	C408	5345-475F041	CAP,MINI ELE 4.7µ/50V	504	R217	5135-471522	RES,CBN 1/2P 470	927	R371	5135-220522	RES,CBN 1/2P 22
416	C107	5345-337A0952	CAP,MINI ELE 330µ/6.3V	712	C409	5345-475F041	CAP,MINI ELE 4.7µ/50V	504	R218	5135-471522	RES,CBN 1/2P 470	927	R372	5135-220522	RES,CBN 1/2P 22
416	C108	5345-337A0952	CAP,MINI ELE 330µ/6.3V	712	C410	5345-475F041	CAP,MINI ELE 4.7µ/50V	505	R219	5135-222522	RES,CBN 1/2P 2.2K	719	R401	5135-472522	RES,CBN 1/2P 4.7K
415	C109	5345-226C0951	CAP,MINI ELE 22µ/16V	715	C411	5345-226F041	CAP,MINI ELE 22µ/50V	505	R220	5135-222522	RES,CBN 1/2P 2.2K	719	R402	5135-472522	RES,CBN 1/2P 4.7K
415	C110	5345-226C0951	CAP,MINI ELE 22µ/16V	715	C412	5345-226F041	CAP,MINI ELE 22µ/50V	506	R221	5135-103522	RES,CBN 1/2P 10K	720	R403	5135-104522	RES,CBN 1/2P 100K
424	C111	5359-2225851	CAP,PPP 2200P	713	C413	5345-476D041	CAP,MINI ELE 47µ/25V	506	R222	5135-103522	RES,CBN 1/2P 10K	720	R404	5135-104522	RES,CBN 1/2P 100K
424	C112	5359-2225851	CAP,PPP 2200P	714	C414	5345-105F041	CAP,MINI ELE 1µ/50V	507	R223	5135-104522	RES,CBN 1/2P 100K	720	R405	5135-104522	RES,CBN 1/2P 100K
420	C113	5345-477C041	CAP,MINI ELE 470µ/16V	952	C601	5354-393J1HM	CAP,MYL .039µ	507	R224	5135-104522	RES,CBN 1/2P 100K	720	R406	5135-104522	RES,CBN 1/2P 100K
420	C114	5345-477C041	CAP,MINI ELE 470µ/16V	953	C602	5359-S010J122	CAP,PPP 1200P	508	R225	5135-121522	RES,CBN 1/2P 120	723	R407	5135-222522	RES,CBN 1/2P 2.2K
425	C115	5359-1025851	CAP,PPP 1000P	952	C603	5354-393J1HM	CAP,MYL .039µ	508	R226	5135-121522	RES,CBN 1/2P 120	723	R408	5135-222522	RES,CBN 1/2P 2.2K
425	C116	5359-1025851	CAP,PPP 1000P	953	C604	5359-S010J122	CAP,PPP 1200P	510	R227	5135-122522	RES,CBN 1/2P 1.2K	724	R409	5135-303522	RES,CBN 1/2P 30K
485	C201	5359-S010J332	CAP,PPP 3300P	957	C605	5345-475F041	CAP,MINI ELE 4.7µ/50V	510	R228	5135-122522	RES,CBN 1/2P 1.2K	724	R410	5135-303522	RES,CBN 1/2P 30K
485	C202	5359-S010J332	CAP,PPP 3300P	956	C606	5345-476D041	CAP,MINI ELE 47µ/25V	511	R229	5135-221522	RES,CBN 1/2P 220	725	R411	5135-102522	RES,CBN 1/2P 1K
484	C203	5359-S010J821	CAP,PPP 820P	956	C607	5345-476D041	CAP,MINI ELE 47µ/25V	511	R230	5135-221522	RES,CBN 1/2P 220	725	R412	5135-102522	RES,CBN 1/2P 1K
484	C204	5359-S010J821	CAP,PPP 820P	956	C608	5345-476D041	CAP,MINI ELE 47µ/25V	509	R231	5135-122522	RES,CBN 1/2P 1.2K	726	R415	5135-334522	RES,CBN 1/2P 330K
486	C205	5359-S010J183	CAP,PPP .018µ	955	C609	5345-106F041	CAP,MINI ELE 10µ/50V	509	R232	5135-122522	RES,CBN 1/2P 1.2K	726	R416	5135-334522	RES,CBN 1/2P 330K
486	C206	5359-S010J183	CAP,PPP .018µ	956	C610	5345-476D041	CAP,MINI ELE 47µ/25V	514	R233	5135-473522	RES,CBN 1/2P 47K	727	R419	5135-331522	RES,CBN 1/2P 330
487	C207	5359-S010J222	CAP,PPP 2200P	954	C611	5345-336D041	CAP,MINI ELE 33µ/25V	514	R234	5135-473522	RES,CBN 1/2P 47K	727	R420	5135-331522	RES,CBN 1/2P 330
487	C208	5359-S010J222	CAP,PPP 2200P	935	C653	5353-220534	CAP,MCA 22P	512	R237	5135-104522	RES,CBN 1/2P 100K	723	R421	5135-222522	RES,CBN 1/2P 2.2K
488	C209	5359-S010J152	CAP,PPP 1500P	935	C654	5353-220534	CAP,MCA 22P	512	R238	5135-104522	RES,CBN 1/2P 100K	721	R422	5135-103522	RES,CBN 1/2P 10K
488	C210	5359-S010J152	CAP,PPP 1500P	934	C655	5345-476D041	CAP,MINI ELE 47µ/25V	515	R239	5135-680522	RES,CBN 1/2P 68	721	R423	5135-103522	RES,CBN 1/2P 10K
476	C211	5345-105F0951	CAP,MINI ELE 1µ/50V	934	C656	5345-476D041	CAP,MINI ELE 47µ/25V	515	R240	5135-680522	RES,CBN 1/2P 68	728	R424	5135-472522	RES,CBN 1/2P 4.7K
476	C212	5345-105F0951	CAP,MINI ELE 1µ/50V	683	C702	5345-106F041	CAP,MINI ELE 10µ/50V	516	R241	5135-331522	RES,CBN 1/2P 330	729	R425	5135-100522	RES,CBN 1/2P 10
491	C213	5359-S010J153	CAP,PPP .015µ	892	C703	5345-107C041	CAP,MINI ELE 100µ/16V	516	R242	5135-331522	RES,CBN 1/2P 330	721	R426	5135-103522	RES,CBN 1/2P 10K
491	C214	5359-S010J153	CAP,PPP .015µ	675	C704	5345-107C041	CAP,MINI ELE 100µ/16V	513	R243	5135-220522	RES,CBN 1/2P 22	721	R427	5135-103522	RES,CBN 1/2P 10K
477	C215	5345-107B0951	CAP,MINI ELE 100µ/10V	683	C705	5345-106F041	CAP,MINI ELE 10µ/50V	513	R244	5135-220522	RES,CBN 1/2P 22	725	R429	5135-102522	RES,CBN 1/2P 1K
477	C216	5345-107B0951	CAP,MINI ELE 100µ/10V	893	C751	5354-473J1HM	CAP,MYL .047µ	518	R245	5135-1R0522	RES,CBN 1/2P 1	647	R501	5135-473522	RES,CBN 1/2P 47K
475	C217	5345-684F0951	CAP,MINI ELE .68µ/50V	891	C752	5345-476D041	CAP,MINI ELE 47µ/25V	518	R246	5135-1R0522	RES,CBN 1/2P 1	650	R502	5135-102522	RES,CBN 1/2P 1K
475	C218	5345-684F0951	CAP,MINI ELE .68µ/50V	891	C754	5345-476D041	CAP,MINI ELE 47µ/25V	517	R247	5135-680522	RES,CBN 1/2P 68	648	R503	5135-103522	RES,CBN 1/2P 10K
478	C219	5345-224F0951	CAP,MINI ELE .22µ/50V	891	C755	5345-476D041	CAP,MINI ELE 47µ/25V	517	R248	5135-680522	RES,CBN 1/2P 68	647	R504	5135-473522	RES,CBN 1/2P 47K
478	C220	5345-224F0951	CAP,MINI ELE .22µ/50V	894	C755	5359-S010J822	CAP,PPP 8200P	519	R249	5135-472522	RES,CBN 1/2P 4.7K	647	R505	5135-473522	RES,CBN 1/2P 47K
480	C221	5345-227B0952	CAP,MINI ELE 220µ/10V	<b>RESISTORS</b>				519	R250	5135-472522	RES,CBN 1/2P 4.7K	647	R506	5135-473522	RES,CBN 1/2P 47K
480	C222	5345-227B0952	CAP,MINI ELE 220µ/10V	434	R101	5135-470522	RES,CBN 1/2P 47	506	R251	5135-103522	RES,CBN 1/2P 10K	649	R507	5135-104522	RES,CBN 1/2P 100K
481	C223	5345-227C041	CAP,MINI ELE 220µ/16V	434	R102	5135-470522	RES,CBN 1/2P 47	506	R252	5135-103522	RES,CBN 1/2P 10K	649	R508	5135-104522	RES,CBN 1/2P 100K
481	C224	5345-227C041	CAP,MINI ELE 220µ/16V	435	R103	5135-473522	RES,CBN 1/2P 47K	506	R253	5135-103522	RES,CBN 1/2P 10K	649	R509	5135-104522	RES,CBN 1/2P 100K
479	C225	5345-474F0951	CAP,MINI ELE .47µ/50V	435	R104	5135-473522	RES,CBN 1/2P 47K	506	R254	5135-103522	RES,CBN 1/2P 10K	649	R510	5135-104522	RES,CBN 1/2P 100K
479	C226	5345-474F0951	CAP,MINI ELE .47µ/50V	436	R105	5135-272522	RES,CBN 1/2P 2.7K	560	R301	5135-330522	RES,CBN 1/2P 33	649	R511	5135-104522	RES,CBN 1/2P 100K
482	C227	5345-335F0951	CAP,MINI ELE 3.3µ/50V	436	R106	5135-272522	RES,CBN 1/2P 2.7K	562	R302	5135-104522	RES,CBN 1/2P 100K	649	R512	5135-104522	RES,CBN 1/2P 100K
482	C228	5345-335F0951	CAP,MINI ELE 3.3µ/50V	437	R107	5135-470522	RES,CBN 1/2P 47	562	R303	5135-104522	RES,CBN 1/2P 100K	649	R513	5135-104522	RES,CBN 1/2P 100K
547	C301	5354-S060K103	CAP,MYL .01µ	437	R108	5135-470522	RES,CBN 1/2P 47	538	R304	5135-100522	RES,CBN 1/2P 10	649	R514	5135-104522	RES,CBN 1/2P 100K
556	C302	5361-220523	CAP,CER 22P	438	R109	5135-394522	RES,CBN 1/2P 390K	538	R305	5135-100522	RES,CBN 1/2P 10	958	R601	5135-393522	RES,CBN 1/2P 39K
542	C303	5342-106D041	CAP,ELE BP 10µ/25V	438	R110	5135-394522	RES,CBN 1/2P 390K	563	R306	5135-103522	RES,CBN 1/2P 10K	958	R602	5135-393522	RES,CBN 1/2P 39K
550	C304	5359-S010J332	CAP,PPP 3300P	439	R111	5135-151522	RES,CBN 1/2P 150	563	R307	5135-103522	RES,CBN 1/2P 10K	959	R603	5135-472522	RES,CBN 1/2P 4.7K
551	C305	5359-S010J153	CAP,PPP .015µ	439	R112	5135-151522	RES,CBN 1/2P 150	561	R308	5135-220522	RES,CBN 1/2P 22	959	R604	5135-472522	RES,CBN 1/2P 4.7K
543	C306	5345-106F041	CAP,MINI ELE 10µ/50V	442	R115	5135-153522	RES,CBN 1/2P 15K	564	R309	5135-103522	RES,CBN 1/2P 10K	960	R605	5135-104522	RES,CBN 1/2P 100K
552	C307	5359-S010J222	CAP,PPP 2200P	442	R116	5135-153522	RES,CBN 1/2P 15K	565	R310	5135-473522	RES,CBN 1/2P 47K	960	R606	5135-104522	RES,CBN 1/2P 100K
552	C308	5359-S010J222	CAP,PPP 2200P	443	R117	5135-473522	RES,CBN 1/2P 47K	539	R311	5135-220522	RES,CBN 1/2P 22	961	R607	5135-102522	RES,CBN 1/2P 1K
557	C309	5361-1010423	CAP,CER 100P	443	R118	5135-473522	RES,CBN 1/2P 47K	566	R312	5135-472522	RES,CBN 1/2P 4.7K	961	R608	5135-102522	RES,CBN 1/2P 1K
557	C310	5361-1010423	CAP,CER 100P	443	R118	5135-473522	RES,CBN 1/2P 47K	567	R313	5135-822522	RES,CBN 1/2P 8.2K	962	R609	5135-122522	RES,CBN 1/2P 1.2K
557	C311	5361-1010423	CAP,CER 100P	444	R119	5135-203522	RES,CBN 1/2P 20K	566	R314	5135-472522	RES,CBN 1/2P 4.7K	962	R610	5135-122522	

## ELECTRICAL PARTS LIST

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
<b>PCB-1 MAIN P. C. BOARD</b>							
<b>CAPACITORS</b>							
427	C101	5353-470534	CAP,MCA 47P	712	C403	5345-475F041	CAP,MINI ELE 4.7μ/50V
427	C102	5353-470534	CAP,MCA 47P	712	C404	5345-475F041	CAP,MINI ELE 4.7μ/50V
415	C103	5345-226C0951	CAP,MINI ELE 22μ/16V	716	C405	5359-S010J222	CAP,PPP 2200P
415	C104	5345-226C0951	CAP,MINI ELE 22μ/16V	716	C406	5359-S010J222	CAP,PPP 2200P
423	C105	5359-8225851	CAP,PPP 8200P	712	C407	5345-475F041	CAP,MINI ELE 4.7μ/50V
423	C106	5359-8225851	CAP,PPP 8200P	712	C408	5345-475F041	CAP,MINI ELE 4.7μ/50V
416	C107	5345-337A0952	CAP,MINI ELE 330μ/6.3V	712	C409	5345-475F041	CAP,MINI ELE 4.7μ/50V
416	C108	5345-337A0952	CAP,MINI ELE 330μ/6.3V	712	C410	5345-475F041	CAP,MINI ELE 4.7μ/50V
415	C109	5345-226C0951	CAP,MINI ELE 22μ/16V	715	C411	5345-226F041	CAP,MINI ELE 22μ/50V
415	C110	5345-226C0951	CAP,MINI ELE 22μ/16V	715	C412	5345-226F041	CAP,MINI ELE 22μ/50V
424	C111	5359-2225851	CAP,PPP 2200P	713	C413	5345-476D041	CAP,MINI ELE 4.7μ/25V
424	C112	5359-2225851	CAP,PPP 2200P	714	C414	5345-105F041	CAP,MINI ELE 1μ/50V
420	C113	5345-477C041	CAP,MINI ELE 470μ/16V	952	C601	5354-393J1HM	CAP,MYL .039μ
420	C114	5345-477C041	CAP,MINI ELE 470μ/16V	953	C602	5359-S010J122	CAP,PPP 1200P
425	C115	5359-1025851	CAP,PPP 1000P	952	C603	5354-393J1HM	CAP,MYL .039μ
425	C116	5359-1025851	CAP,PPP 1000P	953	C604	5359-S010J122	CAP,PPP 1200P
485	C201	5359-S010J332	CAP,PPP 3300P	957	C605	5345-475F041	CAP,MINI ELE 4.7μ/50V
485	C202	5359-S010J332	CAP,PPP 3300P	956	C606	5345-476D041	CAP,MINI ELE 47μ/25V
484	C203	5359-S010J821	CAP,PPP 820P	956	C607	5345-476D041	CAP,MINI ELE 47μ/25V
484	C204	5359-S010J821	CAP,PPP 820P	956	C608	5345-476D041	CAP,MINI ELE 47μ/25V
486	C205	5359-S010J183	CAP,PPP .018μ	955	C609	5345-106F041	CAP,MINI ELE 10μ/50V
486	C206	5359-S010J183	CAP,PPP .018μ	956	C610	5345-476D041	CAP,MINI ELE 47μ/25V
487	C207	5359-S010J222	CAP,PPP 2200P	954	C611	5345-336D041	CAP,MINI ELE 33μ/25V
487	C208	5359-S010J222	CAP,PPP 2200P	935	C653	5353-220534	CAP,MCA 22P
488	C209	5359-S010J152	CAP,PPP 1500P	935	C654	5353-220534	CAP,MCA 22P
488	C210	5359-S010J152	CAP,PPP 1500P	934	C655	5345-476D041	CAP,MINI ELE 47μ/25V
476	C211	5345-105F0951	CAP,MINI ELE 1μ/50V	934	C656	5345-476D041	CAP,MINI ELE 47μ/25V
476	C212	5345-105F0951	CAP,MINI ELE 1μ/50V	683	C702	5345-106F041	CAP,MINI ELE 10μ/50V
491	C213	5359-S010J153	CAP,PPP .015μ	892	C703	5345-107C041	CAP,MINI ELE 100μ/16V
491	C214	5359-S010J153	CAP,PPP .015μ	675	C704	5345-107C041	CAP,MINI ELE 100μ/16V
477	C215	5345-107B0951	CAP,MINI ELE 100μ/10V	683	C705	5345-106F041	CAP,MINI ELE 10μ/50V
477	C216	5345-107B0951	CAP,MINI ELE 100μ/10V	893	C751	5354-473J1HM	CAP,MYL .047μ
475	C217	5345-684F0951	CAP,MINI ELE .68μ/50V	891	C752	5345-476D041	CAP,MINI ELE 47μ/25V
475	C218	5345-684F0951	CAP,MINI ELE .68μ/50V	891	C754	5345-476D041	CAP,MINI ELE 47μ/25V
478	C219	5345-224F0951	CAP,MINI ELE .22μ/50V	891	C755	5345-476D041	CAP,MINI ELE 47μ/25V
478	C220	5345-224F0951	CAP,MINI ELE .22μ/50V	894	C755	5359-S010J822	CAP,PPP 8200P
480	C221	5345-227B0952	CAP,MINI ELE 220μ/10V	<b>RESISTORS</b>			
480	C222	5345-227B0952	CAP,MINI ELE 220μ/10V	434	R101	5135-470522	RES,CBN 1/2P 47
481	C223	5345-227C041	CAP,MINI ELE 220μ/16V	434	R102	5135-470522	RES,CBN 1/2P 47
481	C224	5345-227C041	CAP,MINI ELE 220μ/16V	435	R103	5135-473522	RES,CBN 1/2P 47K
479	C225	5345-474F0951	CAP,MINI ELE .47μ/50V	435	R104	5135-473522	RES,CBN 1/2P 47K
479	C226	5345-474F0951	CAP,MINI ELE .47μ/50V	436	R105	5135-272522	RES,CBN 1/2P 2.7K
482	C227	5345-335F0951	CAP,MINI ELE 3.3μ/50V	436	R106	5135-272522	RES,CBN 1/2P 2.7K
482	C228	5345-335F0951	CAP,MINI ELE 3.3μ/50V	437	R107	5135-470522	RES,CBN 1/2P 47
547	C301	5354-S060K103	CAP,MYL .01μ	437	R108	5135-470522	RES,CBN 1/2P 47
556	C302	5361-220523	CAP,CER 22P	438	R109	5135-394522	RES,CBN 1/2P 390K
542	C303	5342-106D041	CAP,ELE BP 10μ/25V	438	R110	5135-394522	RES,CBN 1/2P 390K
550	C304	5359-S010J332	CAP,PPP 3300P	439	R111	5135-151522	RES,CBN 1/2P 150
551	C305	5359-S010J153	CAP,PPP .015μ	439	R112	5135-151522	RES,CBN 1/2P 150
543	C306	5345-106F041	CAP,MINI ELE 10μ/50V	442	R115	5135-153522	RES,CBN 1/2P 15K
552	C307	5359-S010J222	CAP,PPP 2200P	442	R116	5135-153522	RES,CBN 1/2P 15K
552	C308	5359-S010J222	CAP,PPP 2200P	443	R117	5135-473522	RES,CBN 1/2P 47K
557	C309	5361-1010423	CAP,CER 100P	443	R118	5135-473522	RES,CBN 1/2P 47K
557	C310	5361-1010423	CAP,CER 100P	444	R119	5135-203522	RES,CBN 1/2P 20K
557	C311	5361-1010423	CAP,CER 100P	444	R120	5135-203522	RES,CBN 1/2P 20K
557	C312	5361-1010423	CAP,CER 100P	445	R121	5135-331522	RES,CBN 1/2P 330
559	C313	5359-S010J561	CAP,PPP 560P	445	R122	5135-331522	RES,CBN 1/2P 330
559	C314	5359-S010J561	CAP,PPP 560P	446	R123	5135-101522	RES,CBN 1/2P 100
548	C315	5354-104593	CAP,MYL .1μ	446	R124	5135-101522	RES,CBN 1/2P 100
548	C316	5354-104593	CAP,MYL .1μ	447	R125	5135-473522	RES,CBN 1/2P 47K
553	C317	5359-S010J103	CAP,PPP .01μ	448	R127	5135-105522	RES,CBN 1/2P 1M
553	C318	5359-S010J103	CAP,PPP .01μ	448	R128	5135-105522	RES,CBN 1/2P 1M
554	C319	5359-S010J223	CAP,PPP .022μ	449	R129	5135-332522	RES,CBN 1/2P 3.3K
554	C320	5359-S010J223	CAP,PPP .022μ	449	R130	5135-332522	RES,CBN 1/2P 3.3K
543	C321	5345-106F041	CAP,MINI ELE 10μ/50V	453	R137	5135-104522	RES,CBN 1/2P 100K
543	C322	5345-106F041	CAP,MINI ELE 10μ/50V	453	R138	5135-104522	RES,CBN 1/2P 100K
543	C323	5345-106F041	CAP,MINI ELE 10μ/50V	431	R139	5135-220522	RES,CBN 1/2P 22
543	C324	5345-106F041	CAP,MINI ELE 10μ/50V	431	R140	5135-220522	RES,CBN 1/2P 22
542	C325	5342-106D041	CAP,ELE BP 10μ/25V	449	R141	5135-332522	RES,CBN 1/2P 3.3K
549	C326	5354-S040K152	CAP,MYL 1500P	449	R142	5135-332522	RES,CBN 1/2P 3.3K
557	C327	5361-101523	CAP,CER 100P	450	R143	5135-124522	RES,CBN 1/2P 120K
557	C328	5361-101523	CAP,CER 100P	450	R144	5135-124522	RES,CBN 1/2P 120K
914	C351	5345-225F0951	CAP,MINI ELE 2.2μ/50V	440	R145	5135-272522	RES,CBN 1/2P 2.7K
914	C352	5345-225F0951	CAP,MINI ELE 2.2μ/50V	440	R146	5135-272522	RES,CBN 1/2P 2.7K
915	C353	5345-107B0951	CAP,MINI ELE 100μ/10V	496	R201	5135-151522	RES,CBN 1/2P 150
915	C354	5345-107B0951	CAP,MINI ELE 100μ/10V	496	R202	5135-151522	RES,CBN 1/2P 150
915	C355	5345-107B0951	CAP,MINI ELE 100μ/10V	497	R203	5135-222522	RES,CBN 1/2P 2.2K
915	C356	5345-107B0951	CAP,MINI ELE 100μ/10V	497	R204	5135-222522	RES,CBN 1/2P 2.2K
917	C357	5345-227C041	CAP,MINI ELE 220μ/16V	498	R205	5135-683522	RES,CBN 1/2P 68K
917	C358	5345-227C041	CAP,MINI ELE 220μ/16V	498	R206	5135-683522	RES,CBN 1/2P 68K
714	C401	5345-105F041	CAP,MINI ELE 1μ/50V	499	R207	5135-223522	RES,CBN 1/2P 22K
714	C402	5345-105F041	CAP,MINI ELE 1μ/50V	499	R208	5135-223522	RES,CBN 1/2P 22K
				500	R209	5135-752522	RES,CBN 1/2P 7.5K
				500	R210	5135-752522	RES,CBN 1/2P 7.5K
				501	R211	5135-392522	RES,CBN 1/2P 3.9K



Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
501	R212	5135-392522	RES,CBN 1/2P 3.9K	922	R366	5135-101522	RES,CBN 1/2P 100
502	R213	5135-104522	RES,CBN 1/2P 100K	925	R367	5135-104522	RES,CBN 1/2P 100K
502	R214	5135-104522	RES,CBN 1/2P 100K	925	R368	5135-104522	RES,CBN 1/2P 100K
503	R215	5135-183522	RES,CBN 1/2P 18K	926	R369	5135-331522	RES,CBN 1/2P 330
503	R216	5135-183522	RES,CBN 1/2P 18K	926	R370	5135-331522	RES,CBN 1/2P 330
504	R217	5135-471522	RES,CBN 1/2P 470	927	R371	5135-220522	RES,CBN 1/2P 22
504	R218	5135-471522	RES,CBN 1/2P 470	927	R372	5135-220522	RES,CBN 1/2P 22
505	R219	5135-222522	RES,CBN 1/2P 2.2K	719	R401	5135-472522	RES,CBN 1/2P 4.7K
505	R220	5135-222522	RES,CBN 1/2P 2.2K	719	R402	5135-472522	RES,CBN 1/2P 4.7K
506	R221	5135-103522	RES,CBN 1/2P 10K	720	R403	5135-104522	RES,CBN 1/2P 100K
506	R222	5135-103522	RES,CBN 1/2P 10K	720	R404	5135-104522	RES,CBN 1/2P 100K
507	R223	5135-104522	RES,CBN 1/2P 100K	720	R405	5135-104522	RES,CBN 1/2P 100K
507	R224	5135-104522	RES,CBN 1/2P 100K	720	R406	5135-104522	RES,CBN 1/2P 100K
508	R225	5135-121522	RES,CBN 1/2P 120	723	R407	5135-222522	RES,CBN 1/2P 2.2K
508	R226	5135-121522	RES,CBN 1/2P 120	723	R408	5135-222522	RES,CBN 1/2P 2.2K
510	R227	5135-122522	RES,CBN 1/2P 1.2K	724	R409	5135-303522	RES,CBN 1/2P 30K
510	R228	5135-122522	RES,CBN 1/2P 1.2K	724	R410	5135-303522	RES,CBN 1/2P 30K
511	R229	5135-221522	RES,CBN 1/2P 220	725	R411	5135-102522	RES,CBN 1/2P 1K
511	R230	5135-221522	RES,CBN 1/2P 220	725	R412	5135-102522	RES,CBN 1/2P 1K
509	R231	5135-122522	RES,CBN 1/2P 1.2K	726	R415	5135-334522	RES,CBN 1/2P 330K
509	R232	5135-122522	RES,CBN 1/2P 1.2K	726	R416	5135-334522	RES,CBN 1/2P 330K
514	R233	5135-473522	RES,CBN 1/2P 47K	727	R419	5135-331522	RES,CBN 1/2P 330
514	R234	5135-473522	RES,CBN 1/2P 47K	727	R420	5135-331522	RES,CBN 1/2P 330
512	R237	5135-104522	RES,CBN 1/2P 100K	723	R421	5135-222522	RES,CBN 1/2P 2.2K
512	R238	5135-104522	RES,CBN 1/2P 100K	721	R422	5135-103522	RES,CBN 1/2P 10K
515	R239	5135-680522	RES,CBN 1/2P 68	721	R423	5135-103522	RES,CBN 1/2P 10K
515	R240	5135-680522	RES,CBN 1/2P 68	728	R424	5135-472522	RES,CBN 1/2P 4.7K
516	R241	5135-331522	RES,CBN 1/2P 330	729	R425	5135-100522	RES,CBN 1/2P 10
516	R242	5135-331522	RES,CBN 1/2P 330	721	R426	5135-103522	RES,CBN 1/2P 10K
513	R243	5135-220522	RES,CBN 1/2P 22	721	R427	5135-103522	RES,CBN 1/2P 10K
513	R244	5135-220522	RES,CBN 1/2P 22	725	R429	5135-102522	RES,CBN 1/2P 1K
518	R245	5135-1R0522	RES,CBN 1/2P 1	647	R501	5135-473522	RES,CBN 1/2P 47K
518	R246	5135-1R0522	RES,CBN 1/2P 1	650	R502	5135-102522	RES,CBN 1/2P 1K
517	R247	5135-680522	RES,CBN 1/2P 68	648	R503	5135-103522	RES,CBN 1/2P 10K
517	R248	5135-680522	RES,CBN 1/2P 68	647	R504	5135-473522	RES,CBN 1/2P 47K
519	R249	5135-472522	RES,CBN 1/2P 4.7K	647	R505	5135-473522	RES,CBN 1/2P 47K
519	R250	5135-472522	RES,CBN 1/2P 4.7K	647	R506	5135-473522	RES,CBN 1/2P 47K
506	R251	5135-103522	RES,CBN 1/2P 10K	649	R507	5135-104522	RES,CBN 1/2P 100K
506	R252	5135-103522	RES,CBN 1/2P 10K	649	R508	5135-104522	RES,CBN 1/2P 100K
506	R253	5135-103522	RES,CBN 1/2P 10K	649	R509	5135-104522	RES,CBN 1/2P 100K
506	R254	5135-103522	RES,CBN 1/2P 10K	649	R510	5135-104522	RES,CBN 1/2P 100K
560	R301	5135-330522	RES,CBN 1/2P 33	649	R511	5135-104522	RES,CBN 1/2P 100K
562	R302	5135-104522	RES,CBN 1/2P 100K	649	R512	5135-104522	RES,CBN 1/2P 100K
562	R303	5135-104522	RES,CBN 1/2P 100K	649	R513	5135-104522	RES,CBN 1/2P 100K
538	R304	5135-100522	RES,CBN 1/2P 10	649	R514	5135-104522	RES,CBN 1/2P 100K
538	R305	5135-100522	RES,CBN 1/2P 10	958	R601	5135-393522	RES,CBN 1/2P 39K
563	R306	5135-103522	RES,CBN 1/2P 10K	958	R602	5135-393522	RES,CBN 1/2P 39K
563	R307	5135-103522	RES,CBN 1/2P 10K	959	R603	5135-472522	RES,CBN 1/2P 4.7K
561	R308	5135-220522	RES,CBN 1/2P 22	959	R604	5135-472522	RES,CBN 1/2P 4.7K
564	R309	5135-103522	RES,CBN 1/2P 10K	960	R605	5135-104522	RES,CBN 1/2P 100K
565	R310	5135-473522	RES,CBN 1/2P 47K	960	R606	5135-104522	RES,CBN 1/2P 100K
539	R311	5135-220522	RES,CBN 1/2P 22	961	R607	5135-102522	RES,CBN 1/2P 1K
566	R312	5135-472522	RES,CBN 1/2P 4.7K	961	R608	5135-102522	RES,CBN 1/2P 1K
567	R313	5135-822522	RES,CBN 1/2P 8.2K	962	R609	5135-122522	RES,CBN 1/2P 1.2K
566	R314	5135-472522	RES,CBN 1/2P 4.7K	962	R610	5135-122522	RES,CBN 1/2P 1.2K
567	R315	5135-822522	RES,CBN 1/2P 8.2K	960	R611	5135-104522	RES,CBN 1/2P 100K
573	R316	5135-564522	RES,CBN 1/2P 560K	960	R612	5135-104522	RES,CBN 1/2P 100K
568	R317	5135-154522	RES,CBN 1/2P 150K	960	R613	5135-104522	RES,CBN 1/2P 100K
568	R318	5135-154522	RES,CBN 1/2P 150K	965	R614	5135-103522	RES,CBN 1/2P 10K
571	R319	5135-333522	RES,CBN 1/2P 33K	966	R615	5135-220522	RES,CBN 1/2P 22
571	R320	5135-333522	RES,CBN 1/2P 33K	968	R616	5135-272522	RES,CBN 1/2P 2.7K
572	R321	5135-102522	RES,CBN 1/2P 1K	959	R617	5135-472522	RES,CBN 1/2P 4.7K
572	R322	5135-102522	RES,CBN 1/2P 1K	959	R618	5135-472522	RES,CBN 1/2P 4.7K
575	R323	5135-471522	RES,CBN 1/2P 470	959	R619	5135-472522	RES,CBN 1/2P 4.7K
575	R324	5135-471522	RES,CBN 1/2P 470	966	R621	5135-220522	RES,CBN 1/2P 22
572	R325	5135-102522	RES,CBN 1/2P 1K	967	R622	5135-473522	RES,CBN 1/2P 47K
572	R326	5135-102522	RES,CBN 1/2P 1K	967	R623	5135-473522	RES,CBN 1/2P 47K
572	R327	5135-102522	RES,CBN 1/2P 1K	963	R624	5135-153522	RES,CBN 1/2P 15K
575	R328	5135-471522	RES,CBN 1/2P 470	964	R625	5135-683522	RES,CBN 1/2P 68K
575	R329	5135-471522	RES,CBN 1/2P 470	964	R626	5135-683522	RES,CBN 1/2P 68K
576	R330	5135-822522	RES,CBN 1/2P 8.2K	959	R627	5135-472522	RES,CBN 1/2P 4.7K
569	R331	5135-100522	RES,CBN 1/2P 10	959	R628	5135-472522	RES,CBN 1/2P 4.7K
569	R332	5135-100522	RES,CBN 1/2P 10	963	R629	5135-153522	RES,CBN 1/2P 15K
919	R351	5135-102522	RES,CBN 1/2P 1K	959	R633	5135-472522	RES,CBN 1/2P 4.7K
919	R352	5135-102522	RES,CBN 1/2P 1K	959	R634	5135-472522	RES,CBN 1/2P 4.7K
920	R353	5135-473522	RES,CBN 1/2P 47K	969	R635	5135-223522	RES,CBN 1/2P 22K
920	R354	5135-473522	RES,CBN 1/2P 47K	937	R651	5135-103522	RES,CBN 1/2P 10K
921	R355	5135-182522	RES,CBN 1/2P 1.8K	937	R652	5135-103522	RES,CBN 1/2P 10K
921	R356	5135-182522	RES,CBN 1/2P 1.8K	938	R653	5135-333522	RES,CBN 1/2P 33K
922	R357	5135-101522	RES,CBN 1/2P 100	938	R654	5135-333522	RES,CBN 1/2P 33K
922	R358	5135-101522	RES,CBN 1/2P 100	939	R655	5135-153522	RES,CBN 1/2P 15K
923	R359	5135-622522	RES,CBN 1/2P 6.2K	939	R656	5135-153522	RES,CBN 1/2P 15K
923	R360	5135-622522	RES,CBN 1/2P 6.2K	940	R657	5135-101522	RES,CBN 1/2P 100
924	R361	5135-272522	RES,CBN 1/2P 2.7K	940	R658	5135-101522	RES,CBN 1/2P 100
924	R362	5135-272522	RES,CBN 1/2P 2.7K	936	R659	5135-100522	RES,CBN 1/2P 10
922	R365	5135-101522	RES,CBN 1/2P 100	936	R660	5135-100522	RES,CBN 1/2P 10



Ser. No.	Ref. No.	Part No.	Description
409	L104	5995-S200J273	COIL W/CORE
469	L201	5932-70223	COIL CASE,7
469	L202	5932-70223	COIL CASE,7
532	L301	5932-11402	COIL CASE,7
532	L302	5932-11402	COIL CASE,7
533	T301	5923-10501	OSC COIL,10
534	T302	5923-10401	OSC COIL,10

**CONTROLS**

411	VR101	5101-20301934	RES,SEMI FIX 20K
411	VR102	5101-20301934	RES,SEMI FIX 20K
411	VR103	5101-20301934	RES,SEMI FIX 20K
411	VR104	5101-20301934	RES,SEMI FIX 20K
738	VR151/ VR152	5113-S1101503	RES,V CBN 16 50K
473	VR203	5101-20201934	RES,SEMI FIX 2K
473	VR204	5101-20201934	RES,SEMI FIX 2K
535	VR301	5101-20301934	RES,SEMI FIX 20K
535	VR302	5101-20301934	RES,SEMI FIX 20K
536	VR303	5101-20201934	RES,SEMI FIX 2K
536	VR304	5101-20201934	RES,SEMI FIX 2K
537	VR305	5101-50201934	RES,SEMI FIX 5K
537	VR306	5101-50201934	RES,SEMI FIX 5K
709	VR401	5101-20301934	RES,SEMI FIX 20K
709	VR402	5101-20301934	RES,SEMI FIX 20K
949	VR601	5101-50301934	RES,SEMI FIX 50K
949	VR602	5101-50301934	RES,SEMI FIX 50K
949	VR603	5101-50301934	RES,SEMI FIX 50K
885	VR751	5101-10401934	RES,SEMI FIX 100K

**MISCELLANEOUS**

782	△ J1	4484-46	PIN JACK,4P
808	CN105	4443-03201004	CONNECTOR
808	CN106	4443-03201004	CONNECTOR
809	CN301	4443-03201002	CONNECTOR
814	CN801	4443-00501010	CONNECTOR
814	CN802	4443-00501010	CONNECTOR
812	CN803	4443-05501032	CONNECTOR
800	CN805	4443-03201005	CONNECTOR
792	JL101	4242-R0503800	JUMPER LEAD
793	JL102	4242-R0504800	JUMPER LEAD
794	JL103	4242-R0505800	JUMPER LEAD
795	JL104	4242-R0505251	JUMPER LEAD
471	LC201	5214-13804	LC COMPOSITE
471	LC202	5214-13804	LC COMPOSITE
470	LC203	5214-13805	LC COMPOSITE
470	LC204	5214-13805	LC COMPOSITE
857	PH801	5624-ON3161	PHOTO COUPLR
868	RC801	5212-S0304473	R COMPOSITE
776	TP101	4214-132	TERMINAL
776	TP102	4214-132	TERMINAL
776	TP103	4214-132	TERMINAL
776	TP201	4214-132	TERMINAL
776	TP202	4214-132	TERMINAL
776	TP501	4214-132	TERMINAL
776	TP502	4214-132	TERMINAL
776	TP503	4214-132	TERMINAL
817	LCN502	4163-01319007	CONNECTOR W/W
818	LCN503	4163-01327010	CONNECTOR W/W
816	LCN505	4163-01326005	CONNECTOR W/W
819	LCN506	4163-01320009	CONNECTOR W/W
797	LCN801	4163-01324008	CONNECTOR W/W
820	LCN804	4163-S0206241	CONNECTOR W/W

**PCB-2 FRONT P. C. BOARD****CAPACITORS**

833	C901	5345-106D041	CAP,MINI ELE 10μ/25V
834	C902	5359-S010J103	CAP,PPP .01μ
832	C903	5345-476D041	CAP,MINI ELE 47μ/25V
831	C904	5342-106C041	CAP,ELE BP 10μ/16V
835	C905	5345-106F041	CAP,MINI ELE 10μ/50V
830	C906	5359-S010J102	CAP,PPP 1000P
830	C907	5359-S010J102	CAP,PPP 1000P
843	C908	5359-S010J103	CAP,PPP .01μ

**RESISTORS**

841	R901	5135-104522	RES,CBN 1/2P 100K
837	R902	5135-102522	RES,CBN 1/2P 1K
838	R903	5135-183522	RES,CBN 1/2P 18K
839	R904	5135-273522	RES,CBN 1/2P 27K
838	R905	5135-183522	RES,CBN 1/2P 18K
839	R906	5135-273522	RES,CBN 1/2P 27K
842	R907	5135-101522	RES,CBN 1/2P 100

Ser. No.	Ref. No.	Part No.	Description
838	R909	5135-183522	RES,CBN 1/2P 18K
839	R910	5135-273522	RES,CBN 1/2P 27K
838	R911	5135-183522	RES,CBN 1/2P 18K
839	R912	5135-273522	RES,CBN 1/2P 27K
836	R914	5135-473522	RES,CBN 1/2P 47K
836	R915	5135-473522	RES,CBN 1/2P 47K
749	R916	5135-822522	RES,CBN 1/2P 8.2K
749	R917	5135-822522	RES,CBN 1/2P 8.2K
837	R919	5135-102522	RES,CBN 1/2P 1K
837	R920	5135-102522	RES,CBN 1/2P 1K
837	R921	5135-102522	RES,CBN 1/2P 1K
837	R922	5135-102522	RES,CBN 1/2P 1K
837	R923	5135-102522	RES,CBN 1/2P 1K

**INTEGRATED CIRCUITS**

821	IC901	5654-MN18787K	IC,DIGITAL
-----	-------	---------------	------------

**TRANSISTORS**

823	Q901	5611-UN4114	XISTOR,PNP R
823	Q902	5611-UN4114	XISTOR,PNP R
823	Q903	5611-UN4114	XISTOR,PNP R
823	Q904	5611-UN4114	XISTOR,PNP R
823	Q905	5611-UN4114	XISTOR,PNP R
824	Q906	5613-2320(F)	XISTOR,NPN R

**DIODES**

829	D901	5631-1S2473	DIODE,DET
829	D902	5631-1S2473	DIODE,DET
829	D903	5631-1S2473	DIODE,DET
829	D904	5631-1S2473	DIODE,DET
829	D905	5631-1S2473	DIODE,DET
829	D906	5631-1S2473	DIODE,DET



**CONTROLS**

742	VR901/ VR902	5109-S0305502	RES,V CBN 5K
746	VR903	5109-S0402502	RES,V CBN 5K
746	VR904	5109-S0402502	RES,V CBN 5K
746	VR905	5109-S0402502	RES,V CBN 5K

**MISCELLANEOUS**

827	X901	5693-FC4004A4	OSC,CER
813	CN901	4443-00401010	CONNECTOR
813	CN902	4443-00401010	CONNECTOR
810	CN903	4443-05401032	CONNECTOR
758	FL801	5722-050	TUBE DISPLAY
825	RC901	6143-00802	RECEIV BLOCK
845	RC908	5212-S0305273	R COMPOSITE
846	RC913	5212-S0304104	R COMPOSITE
735	SW901	4437-00604	SWITCH,PU-TC
735	SW902	4437-00604	SWITCH,PU-TC
735	SW903	4437-00604	SWITCH,PU-TC
735	SW904	4437-00604	SWITCH,PU-TC
735	SW905	4437-00604	SWITCH,PU-TC
735	SW906	4437-00604	SWITCH,PU-TC
733	SW907	4431-S0114204	SWITCH,PUSH
734	SW908	4431-S0113612	SWITCH,PUSH
734	SW909	4431-S0113612	SWITCH,PUSH
734	SW910	4431-S0113612	SWITCH,PUSH
735	SW911	4437-00604	SWITCH,PU-TC
735	SW912	4437-00604	SWITCH,PU-TC
735	SW913	4437-00604	SWITCH,PU-TC
735	SW914	4437-00604	SWITCH,PU-TC
735	SW915	4437-00604	SWITCH,PU-TC
735	SW916	4437-00604	SWITCH,PU-TC
735	SW917	4437-00604	SWITCH,PU-TC
734	SW918	4431-S0113612	SWITCH,PUSH
734	SW919	4431-S0113612	SWITCH,PUSH
734	SW920	4431-S0113612	SWITCH,PUSH
733	SW921	4431-S0114204	SWITCH,PUSH
785		4211-5005	LUG

**PCB-3 POWER TRANS P. C. BOARD****CAPACITORS**

615	C1	5352-S010M103	CAP,MTL .01μ 
615A	C1	5352-1030961	CAP,MTL .01μ 
616	C2	5352-S060K104	CAP,MTL .1μ
616	C3	5352-S060K104	CAP,MTL .1μ
616	C4	5352-S060K104	CAP,MTL .1μ
603	C5	5345-228D041	CAP,MINI ELE 2200μ/25V
603	C6	5345-228D041	CAP,MINI ELE 2200μ/25V
604	C7	5345-227C041	CAP,MINI ELE 220μ/16V
604	C8	5345-227C041	CAP,MINI ELE 220μ/16V

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
605	C9	5345-108C041	CAP,MINI ELE 1000 $\mu$ /16V	586	Q5	5613-2320(F)	XISTOR,NPN R
605	C10	5345-108C041	CAP,MINI ELE 1000 $\mu$ /16V	585	Q6	5611-999(F)	XISTOR,PNP R
607	C11	5341-109D0958	CAP,ELE 10000 $\mu$	581	Q7	5612-941(P)	XISTOR,PNP A
604	C12	5345-227C041	CAP,MINI ELE 220 $\mu$ /16V	586	Q8	5613-2320(F)	XISTOR,NPN R
605	C13	5345-108C041	CAP,MINI ELE 1000 $\mu$ /16V	586	Q9	5613-2320(F)	XISTOR,NPN R
604	C14	5345-227C041	CAP,MINI ELE 220 $\mu$ /16V	581	Q10	5612-941(P)	XISTOR,PNP A
610	C15	5345-108B041	CAP,MINI ELE 1000 $\mu$ /10V	586	Q11	5613-2320(F)	XISTOR,NPN R
606	C16	5345-226F041	CAP,MINI ELE 22 $\mu$ /50V	586	Q12	5613-2320(F)	XISTOR,NPN R
609	C17	5345-477E041	CAP,MINI ELE 470 $\mu$ /35V	581	Q13	5612-941(P)	XISTOR,PNP A
616	C19	5352-S060K104	CAP,MTL .1 $\mu$	582	Q14	5614-1266(P)	XISTOR,NPN A
616	C20	5352-S060K104	CAP,MTL .1 $\mu$	586	Q15	5613-2320(F)	XISTOR,NPN R
602	C21	5345-228C041	CAP,MINI ELE 2200 $\mu$ /16V	585	Q16	5611-999(F)	XISTOR,PNP R
602	C22	5345-228C041	CAP,MINI ELE 2200 $\mu$ /16V	586	Q17	5613-2320(F)	XISTOR,NPN R
604	C23	5345-227C041	CAP,MINI ELE 220 $\mu$ /16V	585	Q18	5611-999(F)	XISTOR,PNP R
604	C24	5345-227C041	CAP,MINI ELE 220 $\mu$ /16V	678	Q51	5611-999(F)	XISTOR,PNP R
608	C25	5345-108B041	CAP,MINI ELE 1000 $\mu$ /10V	854	Q801	5613-2320(F)	XISTOR,NPN R
608	C26	5345-108B041	CAP,MINI ELE 1000 $\mu$ /10V	854	Q802	5613-2320(F)	XISTOR,NPN R
684	C51	5345-226F041	CAP,MINI ELE 22 $\mu$ /50V	855	Q803	5613-2925(T)	XISTOR,NPN R
685	C52	5345-106F041	CAP,MINI ELE 10 $\mu$ /50V	855	Q804	5613-2925(T)	XISTOR,NPN R
684	C53	5345-226F041	CAP,MINI ELE 22 $\mu$ /50V	854	Q851	5613-2320(F)	XISTOR,NPN R
686	C54	5345-107F041	CAP,MINI ELE 100 $\mu$ /50V	856	Q852	5611-UN4114	XISTOR,PNP R
866	C801	5359-S010J103	CAP,PPP .01 $\mu$				
865	C802	5345-476D041	CAP,MINI ELE 47 $\mu$ /25V				
864	C851	5345-107B041	CAP,MINI ELE 100 $\mu$ /10V				
<b>RESISTORS</b>				<b>DIODES</b>			
042A	R1	5135-335522	RES,CBN 1/2P 3.3M <b>(I) (B)</b>	589	D1	5632-S5566B	DIODE,RECT
619	R3	5135-152522	RES,CBN 1/2P 1.5K	589	D2	5632-S5566B	DIODE,RECT
619	R4	5135-152522	RES,CBN 1/2P 1.5K	589	D3	5632-S5566B	DIODE,RECT
620	R5	5135-471522	RES,CBN 1/2P 470	589	D4	5632-S5566B	DIODE,RECT
620	R6	5135-471522	RES,CBN 1/2P 470	589	D5	5632-S5566B	DIODE,RECT
621	R7	5135-101522	RES,CBN 1/2P 100	589	D6	5632-S5566B	DIODE,RECT
621	R8	5135-101522	RES,CBN 1/2P 100	589	D7	5632-S5566B	DIODE,RECT
622	R9	5135-2R7522	RES,CBN 1/2P 2.7	589	D8	5632-S5566B	DIODE,RECT
622	R10	5135-2R7522	RES,CBN 1/2P 2.7	590	D9	5635-HZ12B2L	DIODE,ZENER
619	R11	5135-152522	RES,CBN 1/2P 1.5K	590	D10	5635-HZ12B2L	DIODE,ZENER
620	R12	5135-471522	RES,CBN 1/2P 470	591	D11	5635-HZ12B2L	DIODE,ZENER
621	R13	5135-101522	RES,CBN 1/2P 100	592	D12	5635-HZ6B2L	DIODE,ZENER
623	R14	5135-0R5522	RES,CBN 1/2P .5 <b>(UA) (BK)</b>	593	D13	5635-HZ18-2L	DIODE,ZENER
619	R15	5135-152522	RES,CBN 1/2P 1.5K	594	D14	5635-RD5R1EB3	DIODE,ZENER
620	R16	5135-471522	RES,CBN 1/2P 470	588	D15	5632-S5566B	DIODE,RECT
627	R17	5135-101522	RES,CBN 1/2P 100 <b>(UA) (BK)</b>	588	D16	5632-S5566B	DIODE,RECT
627A	R17	5102-1014715	RES,FUSE 100 <b>(I) (B)</b>	588	D17	5632-S5566B	DIODE,RECT
624	R18	5135-6R8522	RES,CBN 1/2P 6.8	588	D18	5632-S5566B	DIODE,RECT
626	R19	5135-221522	RES,CBN 1/2P 220	595	D19	5635-HZ6C1L	DIODE,ZENER
625	R20	5135-223522	RES,CBN 1/2P 22K	595	D20	5635-HZ6C1L	DIODE,ZENER
625	R21	5135-223522	RES,CBN 1/2P 22K	670	D51	5632-S5566B	DIODE,RECT
043A	R22	5102-1R05116	RES,FUSE 1 <b>(I) (B)</b>	670	D52	5632-S5566B	DIODE,RECT
619	R23	5135-152522	RES,CBN 1/2P 1.5K	680	D53	5631-1S2473	DIODE,DET
619	R24	5135-152522	RES,CBN 1/2P 1.5K	682	D54	5635-RD5R1EB2	DIODE,ZENER
620	R25	5135-471522	RES,CBN 1/2P 470	681	D55	5635-RD11EB2	DIODE,ZENER
620	R26	5135-471522	RES,CBN 1/2P 470	670	D56	5632-S5566B	DIODE,RECT
621	R27	5135-101522	RES,CBN 1/2P 100	670	D57	5632-S5566B	DIODE,RECT
621	R28	5135-101522	RES,CBN 1/2P 100	859	D801	5635-RD5R1EB1	DIODE,ZENER
636	R29	5135-2R2522	RES,CBN 1/2P 2.2	858	D802	5635-RD8R2EB3	DIODE,ZENER
636	R30	5135-2R2522	RES,CBN 1/2P 2.2	861	D803	5635-HZ7B2L	DIODE,ZENER
699	R51	5135-331522	RES,CBN 1/2P 330	862	D804	5632-S5566B	DIODE,RECT
697	R52	5135-562522	RES,CBN 1/2P 5.6K	860	D851	5635-HZ3B2	DIODE,ZENER
696	R53	5135-154522	RES,CBN 1/2P 150K				
700	R54	5135-102522	RES,CBN 1/2P 1K	755 $\Delta$	F1	5732-801031	FUSE <b>(UA) (BK)</b>
700	R55	5135-102522	RES,CBN 1/2P 1K	755A $\Delta$	F1	5732-161030	FUSE <b>(I) (B)</b>
695	R56	5135-104522	RES,CBN 1/2P 100K	731 $\Delta$	S1	4433-00202	SWITCH,PU-PW
688	R57	5135-103522	RES,CBN 1/2P 10K	601 $\Delta$	T1	5584-S8301	XFORMER,POWER <b>(UA) (BK)</b>
698	R58	5135-182522	RES,CBN 1/2P 1.8K	601A $\Delta$	T1	5584-S8302	XFORMER,POWER <b>(I) (B)</b>
699	R59	5135-331522	RES,CBN 1/2P 330	805	CN101	4443-030185	CONNECTOR
875	R801	5135-102522	RES,CBN 1/2P 1K	806	CN102	4443-040185	CONNECTOR
875	R802	5135-102522	RES,CBN 1/2P 1K	807	CN103	4443-050185	CONNECTOR
872	R803	5135-103522	RES,CBN 1/2P 10K	807	CN104	4443-050185	CONNECTOR
872	R804	5135-103522	RES,CBN 1/2P 10K	811	CN804	4443-0601140	CONNECTOR
875	R805	5135-102522	RES,CBN 1/2P 1K	041A $\Delta$	S2	4411-1047111	SWITCH,ROTRY <b>(I) (B)</b>
875	R806	5135-102522	RES,CBN 1/2P 1K	777	TM1	4214-122	TERMINAL
871 $\Delta$	R810	5102-1005116	RES,FUSE 10	777	TM2	4214-122	TERMINAL
880	R828	5135-331522	RES,CBN 1/2P 330	815	LCN501	4163-S0203501	CONNECTOR W/W
877	R851	5135-102522	RES,CBN 1/2P 1K	815	LCN504	4163-S0203501	CONNECTOR W/W
878	R852	5135-471522	RES,CBN 1/2P 470	798	LCN802	4163-01325007	CONNECTOR W/W
879	R853	5135-103522	RES,CBN 1/2P 10K	753 $\Delta$		4472-04501	HOLDER,FUSE
877	R854	5135-102522	RES,CBN 1/2P 1K				
<b>INTEGRATED CIRCUITS</b>				<b>MISCELLANEOUS</b>			
851	IC801	5653-BA6229	IC,LINEAR	751	J4	4451-51501	JACK,1P
<b>TRANSISTORS</b>				<b>MISCELLANEOUS</b>			
581	Q1	5612-941(P)	XISTOR,PNP A				
582	Q2	5614-1266(P)	XISTOR,NPN A				
586	Q3	5613-2320(F)	XISTOR,NPN R				
585	Q4	5611-999(F)	XISTOR,PNP R				

## PCB-4 HEADPHONES JACK P. C. BOARD

751 J4 4451-51501 JACK,1P

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
<b>PCB-5 DOLBY NR (REC) P. C. BOARD</b>							
<b>CAPACITORS</b>							
445	C1	5354-104593	CAP,MYL .1μ	459	C319	5345-226C0951	CAP,MINI ELE 22μ/16V
445	C2	5354-104593	CAP,MYL .1μ	461	C320	5345-224F0951	CAP,MINI ELE .22μ/50V
447	C101	5354-104593	CAP,MYL .1μ	446	C321	5354-104593	CAP,MYL .1μ
455	C102	5345-106F041	CAP,MINI ELE 10μ/50V	462	C322	5345-105F0951	CAP,MINI ELE 1μ/50V
455	C103	5345-106F041	CAP,MINI ELE 10μ/50V	435	C323	5359-S010J153	CAP,PPP .015μ
431	C104	5359-S010J103	CAP,PPP .01μ	433	C324	5359-S010J332	CAP,PPP 3300P
458	C105	5345-106C0951	CAP,MINI ELE 10μ/16V	446	C325	5354-104593	CAP,MYL .1μ
432	C106	5359-S010J332	CAP,PPP 3300P	443	C326	5354-473J1HM	CAP,MYL .047μ
432	C107	5359-S010J332	CAP,PPP 3300P	463	C327	5345-474F0951	CAP,MINI ELE .47μ/50V
443	C108	5354-473J1HM	CAP,MYL .047μ	446	C328	5354-104593	CAP,MYL .1μ
458	C109	5345-106C0951	CAP,MINI ELE 10μ/16V	433	C329	5359-S010J332	CAP,PPP 3300P
435	C110	5359-S010J153	CAP,PPP .015μ	456	C331	5345-106F041	CAP,MINI ELE 10μ/50V
458	C114	5345-106C0951	CAP,MINI ELE 10μ/16V	436	C332	5359-1015851	CAP,PPP 100P
449	C115	5354-334593	CAP,MYL .33μ	456	C333	5345-106F041	CAP,MINI ELE 10μ/50V
458	C116	5345-106C0951	CAP,MINI ELE 10μ/16V	437	C334	5359-4715851	CAP,PPP 470P
434	C118	5359-S010J682	CAP,PPP 6800P	456	C335	5345-106F041	CAP,MINI ELE 10μ/50V
459	C119	5345-226C0951	CAP,MINI ELE 22μ/16V	446	C336	5354-104593	CAP,MYL .1μ
460	C120	5345-224F0951	CAP,MINI ELE .22μ/50V	456	C337	5345-106F041	CAP,MINI ELE 10μ/50V
446	C121	5354-104593	CAP,MYL .1μ	439	C338	5359-S010J472	CAP,PPP 4700P
462	C122	5345-105F0951	CAP,MINI ELE 1μ/50V	439	C339	5359-S010J472	CAP,PPP 4700P
435	C123	5359-S010J153	CAP,PPP .015μ	440	C341	5359-S010J681	CAP,PPP 680P
433	C124	5359-S010J332	CAP,PPP 3300P	437	C342	5359-4715851	CAP,PPP 470P
446	C125	5354-104593	CAP,MYL .1μ	441	C343	5359-S010J102	CAP,PPP 1000P
443	C126	5354-473J1HM	CAP,MYL .047μ	444	C344	5354-474593	CAP,MYL .47μ
463	C127	5345-474F0951	CAP,MINI ELE .47μ/50V	444	C345	5354-474593	CAP,MYL .47μ
446	C128	5354-104593	CAP,MYL .1μ	442	C346	5359-S010J223	CAP,PPP .022μ
433	C129	5359-S010J332	CAP,PPP 3300P	442	C347	5359-S010J223	CAP,PPP .022μ
455	C131	5345-106F041	CAP,MINI ELE 10μ/50V	438	C348	5359-4715851	CAP,PPP 470P
436	C132	5359-1015851	CAP,PPP 100P	438	C349	5359-4715851	CAP,PPP 470P
455	C133	5345-106F041	CAP,MINI ELE 10μ/50V	465	C350	5345-104F0951	CAP,MINI ELE .1μ/50V
437	C134	5359-4715851	CAP,PPP 470P	465	C351	5345-104F0951	CAP,MINI ELE .1μ/50V
455	C135	5345-106F041	CAP,MINI ELE 10μ/50V	465	C352	5345-104F0951	CAP,MINI ELE .1μ/50V
446	C136	5354-104593	CAP,MYL .1μ	443	C353	5354-473J1HM	CAP,MYL .047μ
455	C137	5345-106F041	CAP,MINI ELE 10μ/50V	465	C354	5345-104F0951	CAP,MINI ELE .1μ/50V
439	C138	5359-S010J472	CAP,PPP 4700P	461	C355	5345-224F0951	CAP,MINI ELE .22μ/50V
439	C139	5359-S010J472	CAP,PPP 4700P	465	C356	5345-104F0951	CAP,MINI ELE .1μ/50V
440	C141	5359-S010J681	CAP,PPP 680P	461	C357	5345-224F0951	CAP,MINI ELE .22μ/50V
437	C142	5359-4715851	CAP,PPP 470P	463	C358	5345-474F0951	CAP,MINI ELE .47μ/50V
441	C143	5359-S010J102	CAP,PPP 1000P	463	C359	5345-474F0951	CAP,MINI ELE .47μ/50V
444	C144	5354-474593	CAP,MYL .47μ	462	C360	5345-105F0951	CAP,MINI ELE 1μ/50V
444	C145	5354-474593	CAP,MYL .47μ	462	C361	5345-105F0951	CAP,MINI ELE 1μ/50V
442	C146	5359-S010J223	CAP,PPP .022μ	448	C366	5354-104593	CAP,MYL .1μ
442	C147	5359-S010J223	CAP,PPP .022μ	448	C367	5354-104593	CAP,MYL .1μ
438	C148	5359-4715851	CAP,PPP 470P	448	C368	5354-104593	CAP,MYL .1μ
438	C149	5359-4715851	CAP,PPP 470P	448	C369	5354-104593	CAP,MYL .1μ
464	C150	5345-104F0951	CAP,MINI ELE .1μ/50V	448	C370	5354-104593	CAP,MYL .1μ
464	C151	5345-104F0951	CAP,MINI ELE .1μ/50V	448	C371	5354-104593	CAP,MYL .1μ
464	C152	5345-104F0951	CAP,MINI ELE .1μ/50V	448	C372	5354-104593	CAP,MYL .1μ
443	C153	5354-473J1HM	CAP,MYL .047μ	448	C373	5354-104593	CAP,MYL .1μ
464	C154	5345-104F0951	CAP,MINI ELE .1μ/50V	452	C374	5353-220534	CAP,MCA 22P
460	C155	5345-224F0951	CAP,MINI ELE .22μ/50V	452	C375	5353-220534	CAP,MCA 22P
464	C156	5345-104F0951	CAP,MINI ELE .1μ/50V	452	C376	5353-220534	CAP,MCA 22P
460	C157	5345-224F0951	CAP,MINI ELE .22μ/50V	415	C507	5359-S010J222	CAP,PPP 2200P
463	C158	5345-474F0951	CAP,MINI ELE .47μ/50V	415	C508	5359-S010J222	CAP,PPP 2200P
463	O159	5345-474F0951	CAP,MINI ELE .47μ/50V	415	C509	5359-S010J222	CAP,PPP 2200P
462	C160	5345-105F0951	CAP,MINI ELE 1μ/50V	415	C510	5359-S010J222	CAP,PPP 2200P
462	C161	5345-105F0951	CAP,MINI ELE 1μ/50V	411	C511	5354-564593	CAP,MYL .56μ
447	C166	5354-104593	CAP,MYL .1μ	411	C512	5354-564593	CAP,MYL .56μ
447	C167	5354-104593	CAP,MYL .1μ	412	C513	5354-334593	CAP,MYL .33μ
447	C168	5354-104593	CAP,MYL .1μ	412	C514	5354-334593	CAP,MYL .33μ
447	C169	5354-104593	CAP,MYL .1μ	408	C515	5345-226C0951	CAP,MINI ELE 22μ/16V
447	C170	5354-104593	CAP,MYL .1μ	408	C516	5345-226C0951	CAP,MINI ELE 22μ/16V
447	C171	5354-104593	CAP,MYL .1μ	409	C517	5345-227C041	CAP,MINI ELE 220μ/16V
447	C172	5354-104593	CAP,MYL .1μ	409	C518	5345-227C041	CAP,MINI ELE 220μ/16V
447	C173	5354-104593	CAP,MYL .1μ	416	C519	5359-S010J122	CAP,PPP 1200P
452	C174	5353-220534	CAP,MCA 22P	416	C520	5359-S010J122	CAP,PPP 1200P
452	C175	5353-220534	CAP,MCA 22P	415	C521	5359-S010J222	CAP,PPP 2200P
452	C176	5353-220534	CAP,MCA 22P	415	C522	5359-S010J222	CAP,PPP 2200P
448	C301	5354-104593	CAP,MYL .1μ	<b>RESISTORS</b>			
456	C302	5345-106F041	CAP,MINI ELE 10μ/50V	493	R1	5135-104522	RES,CBN 1/2P 100K
456	C303	5345-106F041	CAP,MINI ELE 10μ/50V	548	R2	5174-S010F103	RES,MTL 1/4 10K
431	C304	5359-S010J103	CAP,PPP .01μ	547	R3	5174-S010F112	RES,MTL 1/4 1.1K
458	C305	5345-106C0951	CAP,MINI ELE 10μ/16V	562	R4	5174-S010F362	RES,MTL 1/4 3.6K
432	C306	5359-S010J332	CAP,PPP 3300P	551	R101	5174-S010F753	RES,MTL 1/4 75K
432	C307	5359-S010J332	CAP,PPP 3300P	552	R103	5174-S010F822	RES,MTL 1/4 8.2K
443	C308	5354-473J1HM	CAP,MYL .047μ	494	R104	5135-362522	RES,CBN 1/2P 3.6K
458	C309	5345-106C0951	CAP,MINI ELE 10μ/16V	547	R107	5174-S010F112	RES,MTL 1/4 1.1K
435	C310	5359-S010J153	CAP,PPP .015μ	495	R108	5135-822522	RES,CBN 1/2P 8.2K
458	C314	5345-106C0951	CAP,MINI ELE 10μ/16V	497	R109	5135-823522	RES,CBN 1/2P 82K
449	C315	5354-334593	CAP,MYL .33μ	550	R112	5174-S010F332	RES,MTL 1/4 3.3K
458	C316	5345-106C0951	CAP,MINI ELE 10μ/16V	498	R113	5135-392522	RES,CBN 1/2P 3.9K
458	C318	5359-S010J682	CAP,PPP 6800P	499	R114	5135-393522	RES,CBN 1/2P 39K
				553	R115	5174-S010F113	RES,MTL 1/4 11K
				492	R116	5135-104522	RES,CBN 1/2P 100K
				554	R117	5174-S010F433	RES,MTL 1/4 43K



Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
555	R118	5174-S010F752	RES,MTL 1/4 7.5K	510	R207	5135-204522	RES,CBN 1/2P 200K
501	R119	5135-222522	RES,CBN 1/2P 2.2K	522	R208	5135-133522	RES,CBN 1/2P 13K
502	R121	5135-473522	RES,CBN 1/2P 47K	538	R209	5135-203522	RES,CBN 1/2P 20K
503	R122	5135-223522	RES,CBN 1/2P 22K	539	R210	5135-470522	RES,CBN 1/2P 47
506	R123	5135-102522	RES,CBN 1/2P 1K	539	R211	5135-470522	RES,CBN 1/2P 47
548	R124	5174-S010F103	RES,MTL 1/4 10K	514	R212	5135-330522	RES,CBN 1/2P 33
552	R125	5174-S010F822	RES,MTL 1/4 8.2K	514	R214	5135-330522	RES,CBN 1/2P 33
508	R127	5135-912522	RES,CBN 1/2P 9.1K	522	R217	5135-133522	RES,CBN 1/2P 13K
579	R128	5174-Z4870F8	RES,MTL 1/4 487	499	R218	5135-393522	RES,CBN 1/2P 39K
509	R129	5135-153522	RES,CBN 1/2P 15K	493	R219	5135-104522	RES,CBN 1/2P 100K
498	R130	5135-392522	RES,CBN 1/2P 3.9K	499	R220	5135-393522	RES,CBN 1/2P 39K
502	R131	5135-473522	RES,CBN 1/2P 47K	520	R221	5135-752522	RES,CBN 1/2P 7.5K
556	R132	5174-S010F302	RES,MTL 1/4 3K	535	R222	5135-333522	RES,CBN 1/2P 33K
563	R133	5174-S010F132	RES,MTL 1/4 1.3K	520	R223	5135-752522	RES,CBN 1/2P 7.5K
557	R134	5174-S010F183	RES,MTL 1/4 18K	517	R224	5135-303522	RES,CBN 1/2P 30K
510	R135	5135-204522	RES,CBN 1/2P 200K	540	R225	5135-914522	RES,CBN 1/2P 910K
511	R136	5135-623522	RES,CBN 1/2P 62K	517	R226	5135-303522	RES,CBN 1/2P 30K
557	R137	5174-S010F183	RES,MTL 1/4 18K	540	R227	5135-914522	RES,CBN 1/2P 910K
512	R138	5135-432522	RES,CBN 1/2P 4.3K	515	R228	5135-243522	RES,CBN 1/2P 24K
513	R139	5135-512522	RES,CBN 1/2P 5.1K	541	R229	5135-363522	RES,CBN 1/2P 36K
514	R140	5135-330522	RES,CBN 1/2P 33	542	R230	5135-622522	RES,CBN 1/2P 6.2K
515	R141	5135-243522	RES,CBN 1/2P 24K	568	R231	5174-S010F243	RES,MTL 1/4 24K
516	R142	5135-433522	RES,CBN 1/2P 43K	495	R232	5135-822522	RES,CBN 1/2P 8.2K
517	R143	5135-303522	RES,CBN 1/2P 30K	568	R233	5174-S010F243	RES,MTL 1/4 24K
519	R144	5135-163522	RES,CBN 1/2P 16K	544	R234	5135-683522	RES,CBN 1/2P 68K
520	R145	5135-752522	RES,CBN 1/2P 7.5K	536	R235	5135-154522	RES,CBN 1/2P 150K
522	R146	5135-133522	RES,CBN 1/2P 13K	505	R236	5135-223522	RES,CBN 1/2P 22K
523	R147	5135-103522	RES,CBN 1/2P 10K	543	R240	5135-221522	RES,CBN 1/2P 22K
524	R148	5135-183522	RES,CBN 1/2P 18K	506	R245	5135-102522	RES,CBN 1/2P 1K
517	R149	5135-303522	RES,CBN 1/2P 30K	506	R247	5135-102522	RES,CBN 1/2P 1K
557	R150	5174-S010F183	RES,MTL 1/4 18K	572	R251	5135-105522	RES,CBN 1/2P 1M
549	R151	5174-S010F102	RES,MTL 1/4 1K	572	R252	5135-105522	RES,CBN 1/2P 1M
558	R152	5174-S010F392	RES,MTL 1/4 3.9K	520	R254	5135-752522	RES,CBN 1/2P 7.5K
558	R153	5174-S010F392	RES,MTL 1/4 3.9K	499	R255	5135-393522	RES,CBN 1/2P 39K
495	R155	5135-822522	RES,CBN 1/2P 8.2K	569	R256	5174-S010F274	RES,MTL 1/4 270K
495	R156	5135-822522	RES,CBN 1/2P 8.2K	559	R257	5174-S010F273	RES,MTL 1/4 27K
525	R157	5135-272522	RES,CBN 1/2P 2.7K	570	R258	5174-S010F184	RES,MTL 1/4 180K
525	R158	5135-272522	RES,CBN 1/2P 2.7K	571	R259	5174-S010F473	RES,MTL 1/4 47K
559	R159	5174-S010F273	RES,MTL 1/4 27K	551	R301	5174-S010F753	RES,MTL 1/4 75K
526	R160	5135-125522	RES,CBN 1/2P 1.2M	552	R303	5174-S010F822	RES,MTL 1/4 8.2K
503	R161	5135-223522	RES,CBN 1/2P 22K	494	R304	5135-362522	RES,CBN 1/2P 3.6K
564	R162	5174-S010F683	RES,MTL 1/4 68K	547	R307	5174-S010F112	RES,MTL 1/4 1.1K
558	R163	5174-S010F392	RES,MTL 1/4 3.9K	496	R308	5135-822522	RES,CBN 1/2P 8.2K
560	R164	5174-S010F622	RES,MTL 1/4 6.2K	497	R309	5135-823522	RES,CBN 1/2P 82K
561	R165	5174-S010F912	RES,MTL 1/4 9.1K	550	R312	5174-S010F332	RES,MTL 1/4 3.3K
565	R166	5174-S010F244	RES,MTL 1/4 240K	498	R313	5135-392522	RES,CBN 1/2P 3.9K
560	R167	5174-S010F622	RES,MTL 1/4 6.2K	500	R314	5135-393522	RES,CBN 1/2P 39K
561	R168	5174-S010F912	RES,MTL 1/4 9.1K	553	R315	5174-S010F113	RES,MTL 1/4 11K
562	R169	5174-S010F362	RES,MTL 1/4 3.6K	492	R316	5135-104522	RES,CBN 1/2P 100K
566	R170	5174-S010F512	RES,MTL 1/4 5.1K	554	R317	5174-S010F433	RES,MTL 1/4 43K
527	R171	5135-824522	RES,CBN 1/2P 820K	555	R318	5174-S010F752	RES,MTL 1/4 7.5K
528	R172	5135-563522	RES,CBN 1/2P 56K	501	R319	5135-222522	RES,CBN 1/2P 2.2K
497	R173	5135-823522	RES,CBN 1/2P 82K	502	R321	5135-473522	RES,CBN 1/2P 47K
529	R174	5135-911522	RES,CBN 1/2P 910	503	R322	5135-223522	RES,CBN 1/2P 22K
567	R175	5174-S010F562	RES,MTL 1/4 5.6K	507	R323	5135-102522	RES,CBN 1/2P 1K
529	R176	5135-911522	RES,CBN 1/2P 910	548	R324	5174-S010F103	RES,MTL 1/4 10K
548	R177	5174-S010F103	RES,MTL 1/4 10K	552	R325	5174-S010F822	RES,MTL 1/4 8.2K
529	R178	5135-911522	RES,CBN 1/2P 910	508	R327	5135-912522	RES,CBN 1/2P 9.1K
530	R179	5135-122522	RES,CBN 1/2P 1.2K	579	R328	5174-Z4870F8	RES,MTL 1/4 487
508	R180	5135-912522	RES,CBN 1/2P 9.1K	509	R329	5135-153522	RES,CBN 1/2P 15K
499	R181	5135-393522	RES,CBN 1/2P 39K	498	R330	5135-392522	RES,CBN 1/2P 3.9K
508	R182	5135-912522	RES,CBN 1/2P 9.1K	502	R331	5135-473522	RES,CBN 1/2P 47K
493	R183	5135-104522	RES,CBN 1/2P 100K	556	R332	5174-S010F302	RES,MTL 1/4 3K
511	R184	5135-623522	RES,CBN 1/2P 62K	563	R333	5174-S010F132	RES,MTL 1/4 1.3K
511	R185	5135-623522	RES,CBN 1/2P 62K	557	R334	5174-S010F183	RES,MTL 1/4 18K
517	R186	5135-303522	RES,CBN 1/2P 30K	510	R335	5135-204522	RES,CBN 1/2P 200K
531	R187	5135-753522	RES,CBN 1/2P 75K	511	R336	5135-623522	RES,CBN 1/2P 62K
503	R188	5135-223522	RES,CBN 1/2P 22K	557	R337	5174-S010F183	RES,MTL 1/4 18K
532	R189	5135-513522	RES,CBN 1/2P 51K	512	R338	5135-432522	RES,CBN 1/2P 4.3K
504	R190	5135-223522	RES,CBN 1/2P 22K	513	R339	5135-512522	RES,CBN 1/2P 5.1K
550	R191	5174-S010F332	RES,MTL 1/4 3.3K	514	R340	5135-330522	RES,CBN 1/2P 33
504	R192	5135-223522	RES,CBN 1/2P 22K	515	R341	5135-243522	RES,CBN 1/2P 24K
516	R193	5135-433522	RES,CBN 1/2P 43K	516	R342	5135-433522	RES,CBN 1/2P 43K
524	R194	5135-183522	RES,CBN 1/2P 18K	518	R343	5135-303522	RES,CBN 1/2P 30K
560	R195	5174-S010F622	RES,MTL 1/4 6.2K	519	R344	5135-163522	RES,CBN 1/2P 16K
533	R196	5135-202522	RES,CBN 1/2P 2K	521	R345	5135-752522	RES,CBN 1/2P 7.5K
546	R197	5135-274522	RES,CBN 1/2P 270K	522	R346	5135-133522	RES,CBN 1/2P 13K
533	R198	5135-202522	RES,CBN 1/2P 2K	523	R347	5135-103522	RES,CBN 1/2P 10K
545	R199	5135-754522	RES,CBN 1/2P 750K	524	R348	5135-183522	RES,CBN 1/2P 18K
499	R200	5135-393522	RES,CBN 1/2P 39K	518	R349	5135-303522	RES,CBN 1/2P 30K
534	R201	5135-913522	RES,CBN 1/2P 91K	557	R350	5174-S010F183	RES,MTL 1/4 18K
536	R202	5135-154522	RES,CBN 1/2P 150K	549	R351	5174-S010F102	RES,MTL 1/4 1K
523	R203	5135-103522	RES,CBN 1/2P 10K	558	R352	5174-S010F392	RES,MTL 1/4 3.9K
537	R204	5135-624522	RES,CBN 1/2P 620K	558	R353	5174-S010F392	RES,MTL 1/4 3.9K
504	R205	5135-223522	RES,CBN 1/2P 22K	496	R355	5135-822522	RES,CBN 1/2P 8.2K
502	R206	5135-473522	RES,CBN 1/2P 47K	496	R356	5135-822522	RES,CBN 1/2P 8.2K

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
525	R357	5135-272522	RES,CBN 1/2P 2.7K	570	R458	5174-S010F184	RES,MTL 1/4 180K
525	R358	5135-272522	RES,CBN 1/2P 2.7K	571	R459	5174-S010F473	RES,MTL 1/4 47K
559	R359	5174-S010F273	RES,MTL 1/4 27K	543	R501	5135-221522	RES,CBN 1/2P 220
526	R360	5135-125522	RES,CBN 1/2P 1.2M	543	R502	5135-221522	RES,CBN 1/2P 220
503	R361	5135-223522	RES,CBN 1/2P 22K	424	R503	5135-332522	RES,CBN 1/2P 3.3K
564	R362	5174-S010F683	RES,MTL 1/4 68K	424	R504	5135-332522	RES,CBN 1/2P 3.3K
558	R363	5174-S010F392	RES,MTL 1/4 3.9K	425	R505	5135-822522	RES,CBN 1/2P 8.2K
560	R364	5174-S010F622	RES,MTL 1/4 6.2K	425	R506	5135-822522	RES,CBN 1/2P 8.2K
561	R365	5174-S010F912	RES,MTL 1/4 9.1K	419	R507	5174-S010F243	RES,MTL 1/4 24K
565	R366	5174-S010F244	RES,MTL 1/4 240K	419	R508	5174-S010F243	RES,MTL 1/4 24K
560	R367	5174-S010F622	RES,MTL 1/4 6.2K	420	R509	5174-S010F561	RES,MTL 1/4 560
561	R368	5174-S010F912	RES,MTL 1/4 9.1K	420	R510	5174-S010F561	RES,MTL 1/4 560
562	R369	5174-S010F362	RES,MTL 1/4 3.6K	426	R511	5135-102522	RES,CBN 1/2P 1K
566	R370	5174-S010F512	RES,MTL 1/4 5.1K	421	R512	5174-S010F273	RES,MTL 1/4 27K
527	R371	5135-824522	RES,CBN 1/2P 820K	428	R513	5135-105522	RES,CBN 1/2P 1M
528	R372	5135-563522	RES,CBN 1/2P 56K	428	R514	5135-105522	RES,CBN 1/2P 1M
497	R373	5135-823522	RES,CBN 1/2P 82K	428	R515	5135-105522	RES,CBN 1/2P 1M
529	R374	5135-911522	RES,CBN 1/2P 910	428	R516	5135-105522	RES,CBN 1/2P 1M
567	R375	5174-S010F562	RES,MTL 1/4 5.6K				
529	R376	5135-911522	RES,CBN 1/2P 910			<b>INTEGRATED CIRCUITS</b>	
548	R377	5174-S010F103	RES,MTL 1/4 10K	472	IC1	5652-NJM4558D	IC, MONO
529	R378	5135-911522	RES,CBN 1/2P 910	473	IC101	5652-TA75072P	IC, MONO
530	R379	5135-122522	RES,CBN 1/2P 1.2K	477	IC103	5653-CXA1416	IC, LINEAR
508	R380	5135-912522	RES,CBN 1/2P 9.1K	473	IC104	5652-TA75072P	IC, MONO
500	R381	5135-393522	RES,CBN 1/2P 39K	476	IC105	5653-CXA1415	IC, LINEAR
508	R382	5135-912522	RES,CBN 1/2P 9.1K	473	IC106	5652-TA75072P	IC, MONO
493	R383	5135-104522	RES,CBN 1/2P 100K	476	IC107	5653-CXA1415	IC, LINEAR
511	R384	5135-623522	RES,CBN 1/2P 62K	474	IC301	5652-TA75072P	IC, MONO
511	R385	5135-623522	RES,CBN 1/2P 62K	477	IC303	5653-CXA1416	IC, LINEAR
518	R386	5135-303522	RES,CBN 1/2P 30K	474	IC304	5652-TA75072P	IC, MONO
531	R387	5135-753522	RES,CBN 1/2P 75K	476	IC305	5653-CXA1415	IC, LINEAR
503	R388	5135-223522	RES,CBN 1/2P 22K	474	IC306	5652-TA75072P	IC, MONO
532	R389	5135-513522	RES,CBN 1/2P 51K	476	IC307	5653-CXA1415	IC, LINEAR
504	R390	5135-223522	RES,CBN 1/2P 22K	403	IC501	5653-CXA1332S	IC, LINEAR
550	R391	5174-S010F332	RES,MTL 1/4 3.3K				
504	R392	5135-223522	RES,CBN 1/2P 22K			<b>TRANSISTORS</b>	
516	R393	5135-433522	RES,CBN 1/2P 43K	404	Q501	5613-UN4214	XISTOR,NPN R
524	R394	5135-183522	RES,CBN 1/2P 18K	404	Q502	5613-UN4214	XISTOR,NPN R
560	R395	5174-S010F622	RES,MTL 1/4 6.2K	404	Q503	5613-UN4214	XISTOR,NPN R
533	R396	5135-202522	RES,CBN 1/2P 2K	404	Q504	5613-UN4214	XISTOR,NPN R
546	R397	5135-274522	RES,CBN 1/2P 270K				
533	R398	5135-202522	RES,CBN 1/2P 2K			<b>DIODES</b>	
545	R399	5135-754522	RES,CBN 1/2P 750K	470	D1	5631-1S2473	DIODE,DET
500	R400	5135-393522	RES,CBN 1/2P 39K	470	D103	5631-1S2473	DIODE,DET
534	R401	5135-913522	RES,CBN 1/2P 91K	470	D105	5631-1S2473	DIODE,DET
536	R402	5135-154522	RES,CBN 1/2P 150K	470	D303	5631-1S2473	DIODE,DET
523	R403	5135-103522	RES,CBN 1/2P 10K	470	D305	5631-1S2473	DIODE,DET
537	R404	5135-624522	RES,CBN 1/2P 620K				
504	R405	5135-223522	RES,CBN 1/2P 22K			<b>MISCELLANEOUS</b>	
502	R406	5135-473522	RES,CBN 1/2P 47K	405	LC501	5214-13702	LC COMPOSITE
510	R407	5135-204522	RES,CBN 1/2P 200K	405	LC502	5214-13702	LC COMPOSITE
522	R408	5135-133522	RES,CBN 1/2P 13K	580	TM1	4214-132	TERMINAL
538	R409	5135-203522	RES,CBN 1/2P 20K	580	TM101	4214-132	TERMINAL
539	R410	5135-470522	RES,CBN 1/2P 47	580	TM102	4214-132	TERMINAL
539	R411	5135-470522	RES,CBN 1/2P 47	580	TM103	4214-132	TERMINAL
514	R412	5135-330522	RES,CBN 1/2P 33	580	TM104	4214-132	TERMINAL
514	R414	5135-330522	RES,CBN 1/2P 33	580	TM105	4214-132	TERMINAL
522	R417	5135-133522	RES,CBN 1/2P 13K	580	TM106	4214-132	TERMINAL
500	R418	5135-393522	RES,CBN 1/2P 39K	580	TM107	4214-132	TERMINAL
493	R419	5135-104522	RES,CBN 1/2P 100K	580	TM108	4214-132	TERMINAL
500	R420	5135-393522	RES,CBN 1/2P 39K	580	TM109	4214-132	TERMINAL
521	R421	5135-752522	RES,CBN 1/2P 7.5K	580	TM110	4214-132	TERMINAL
535	R422	5135-333522	RES,CBN 1/2P 33K	580	TM301	4214-132	TERMINAL
521	R423	5135-752522	RES,CBN 1/2P 7.5K	580	TM302	4214-132	TERMINAL
518	R424	5135-303522	RES,CBN 1/2P 30K	580	TM303	4214-132	TERMINAL
540	R425	5135-914522	RES,CBN 1/2P 910K	580	TM304	4214-132	TERMINAL
518	R426	5135-303522	RES,CBN 1/2P 30K	580	TM305	4214-132	TERMINAL
540	R427	5135-914522	RES,CBN 1/2P 910K	580	TM306	4214-132	TERMINAL
515	R428	5135-243522	RES,CBN 1/2P 24K	580	TM307	4214-132	TERMINAL
541	R429	5135-363522	RES,CBN 1/2P 36K	580	TM308	4214-132	TERMINAL
542	R430	5135-622522	RES,CBN 1/2P 6.2K	580	TM309	4214-132	TERMINAL
568	R431	5174-S010F243	RES,MTL 1/4 24K	580	TM310	4214-132	TERMINAL
496	R432	5135-822522	RES,CBN 1/2P 8.2K	480		4443-06101010	CONNECTOR
568	R433	5174-S010F243	RES,MTL 1/4 24K	481		4443-06101005	CONNECTOR
544	R434	5135-683522	RES,CBN 1/2P 68K	482		4443-0301141	CONNECTOR
536	R435	5135-154522	RES,CBN 1/2P 150K				
505	R436	5135-223522	RES,CBN 1/2P 22K				
543	R440	5135-221522	RES,CBN 1/2P 220				
507	R445	5135-102522	RES,CBN 1/2P 1K				
507	R447	5135-102522	RES,CBN 1/2P 1K				
572	R451	5135-105522	RES,CBN 1/2P 1M				
572	R452	5135-105522	RES,CBN 1/2P 1M				
521	R454	5135-752522	RES,CBN 1/2P 7.5K				
500	R455	5135-393522	RES,CBN 1/2P 39K				
569	R456	5174-S010F274	RES,MTL 1/4 270K				
559	R457	5174-S010F273	RES,MTL 1/4 27K				

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
<b>PCB-8 DOLBY NR (PLAY) P. C. BOARD</b>							
<b>CAPACITORS</b>							
625	C51	5354-104593	CAP,MYL .1μ	636	C803	5345-106F041	CAP,MINI ELE 10μ/50V
625	C52	5354-104593	CAP,MYL .1μ	611	C804	5359-S010J103	CAP,PPP .01μ
594	C557	5359-S010J222	CAP,PPP 2200P	638	C805	5345-106C0951	CAP,MINI ELE 10μ/16V
594	C558	5359-S010J222	CAP,PPP 2200P	612	C806	5359-S010J332	CAP,PPP 3300P
594	C559	5359-S010J222	CAP,PPP 2200P	612	C807	5359-S010J332	CAP,PPP 3300P
594	C560	5359-S010J222	CAP,PPP 2200P	623	C808	5354-473J1HM	CAP,MYL .047μ
591	C561	5354-564593	CAP,MYL .56μ	638	C809	5345-106C0951	CAP,MINI ELE 10μ/16V
591	C562	5354-564593	CAP,MYL .56μ	615	C810	5359-S010J153	CAP,PPP .015μ
592	C563	5354-334593	CAP,MYL .33μ	629	C815	5354-334593	CAP,MYL .33μ
592	C564	5354-334593	CAP,MYL .33μ	638	C816	5345-106C0951	CAP,MINI ELE 10μ/16V
589	C567	5345-227C041	CAP,MINI ELE 220μ/16V	639	C817	5345-106C0951	CAP,MINI ELE 10μ/16V
589	C568	5345-227C041	CAP,MINI ELE 220μ/16V	614	C818	5359-S010J682	CAP,PPP 6800P
588	C573	5345-106C0951	CAP,MINI ELE 10μ/16V	641	C820	5345-224F0951	CAP,MINI ELE .22μ/50V
588	C574	5345-106C0951	CAP,MINI ELE 10μ/16V	626	C821	5354-104593	CAP,MYL .1μ
627	C601	5354-104593	CAP,MYL .1μ	642	C822	5345-105F0951	CAP,MINI ELE 1μ/50V
635	C602	5345-106F041	CAP,MINI ELE 10μ/50V	615	C823	5359-S010J153	CAP,PPP .015μ
635	C603	5345-106F041	CAP,MINI ELE 10μ/50V	613	C824	5359-S010J332	CAP,PPP 3300P
611	C604	5359-S010J103	CAP,PPP .01μ	626	C825	5354-104593	CAP,MYL .1μ
638	C605	5345-106C0951	CAP,MINI ELE 10μ/16V	623	C826	5354-473J1HM	CAP,MYL .047μ
612	C606	5359-S010J332	CAP,PPP 3300P	643	C827	5345-474F0951	CAP,MINI ELE .47μ/50V
612	C607	5359-S010J332	CAP,PPP 3300P	626	C828	5354-104593	CAP,MYL .1μ
623	C608	5354-473J1HM	CAP,MYL .047μ	613	C829	5359-S010J332	CAP,PPP 3300P
638	C609	5345-106C0951	CAP,MINI ELE 10μ/16V	616	C830	5359-1015851	CAP,PPP 100P
615	C610	5359-S010J153	CAP,PPP .015μ	636	C831	5345-106F041	CAP,MINI ELE 10μ/50V
629	C615	5354-334593	CAP,MYL .33μ	636	C833	5345-106F041	CAP,MINI ELE 10μ/50V
638	C616	5345-106C0951	CAP,MINI ELE 10μ/16V	617	C834	5359-4715851	CAP,PPP 470P
639	C617	5345-106C0951	CAP,MINI ELE 10μ/16V	636	C835	5345-106F041	CAP,MINI ELE 10μ/50V
614	C618	5359-S010J682	CAP,PPP 6800P	626	C836	5354-104593	CAP,MYL .1μ
640	C620	5345-224F0951	CAP,MINI ELE .22μ/50V	636	C837	5345-106F041	CAP,MINI ELE 10μ/50V
626	C621	5354-104593	CAP,MYL .1μ	619	C838	5359-S010J472	CAP,PPP 4700P
642	C622	5345-105F0951	CAP,MINI ELE 1μ/50V	619	C839	5359-S010J472	CAP,PPP 4700P
615	C623	5359-S010J153	CAP,PPP .015μ	639	C840	5345-106C0951	CAP,MINI ELE 10μ/16V
613	C624	5359-S010J332	CAP,PPP 3300P	620	C841	5359-S010J681	CAP,PPP 680P
626	C625	5354-104593	CAP,MYL .1μ	617	C842	5359-4715851	CAP,PPP 470P
623	C626	5354-473J1HM	CAP,MYL .047μ	621	C843	5359-S010J102	CAP,PPP 1000P
643	C627	5345-474F0951	CAP,MINI ELE .47μ/50V	624	C844	5354-474593	CAP,MYL .47μ
626	C628	5354-104593	CAP,MYL .1μ	624	C845	5354-474593	CAP,MYL .47μ
613	C629	5359-S010J332	CAP,PPP 3300P	622	C846	5359-S010J223	CAP,PPP .022μ
616	C630	5359-1015851	CAP,PPP 100P	622	C847	5359-S010J223	CAP,PPP .022μ
635	C631	5345-106F041	CAP,MINI ELE 10μ/50V	618	C848	5359-4715851	CAP,PPP 470P
635	C633	5345-106F041	CAP,MINI ELE 10μ/50V	618	C849	5359-4715851	CAP,PPP 470P
617	C634	5359-4715851	CAP,PPP 470P	645	C850	5345-104F0951	CAP,MINI ELE .1μ/50V
635	C635	5345-106F041	CAP,MINI ELE 10μ/50V	645	C851	5345-104F0951	CAP,MINI ELE .1μ/50V
626	C636	5354-104593	CAP,MYL .1μ	645	C852	5345-104F0951	CAP,MINI ELE .1μ/50V
635	C637	5345-106F041	CAP,MINI ELE 10μ/50V	623	C853	5354-473J1HM	CAP,MYL .047μ
619	C638	5359-S010J472	CAP,PPP 4700P	645	C854	5345-104F0951	CAP,MINI ELE .1μ/50V
619	C639	5359-S010J472	CAP,PPP 4700P	641	C855	5345-224F0951	CAP,MINI ELE .22μ/50V
639	C640	5345-106C0951	CAP,MINI ELE 10μ/16V	645	C856	5345-104F0951	CAP,MINI ELE .1μ/50V
620	C641	5359-S010J681	CAP,PPP 680P	641	C857	5345-224F0951	CAP,MINI ELE .22μ/50V
617	C642	5359-4715851	CAP,PPP 470P	643	C858	5345-474F0951	CAP,MINI ELE .47μ/50V
621	C643	5359-S010J102	CAP,PPP 1000P	643	C859	5345-474F0951	CAP,MINI ELE .47μ/50V
624	C644	5354-474593	CAP,MYL .47μ	642	C860	5345-105F0951	CAP,MINI ELE 1μ/50V
624	C645	5354-474593	CAP,MYL .47μ	642	C861	5345-105F0951	CAP,MINI ELE 1μ/50V
622	C646	5359-S010J223	CAP,PPP .022μ	628	C866	5354-104593	CAP,MYL .1μ
622	C647	5359-S010J223	CAP,PPP .022μ	628	C867	5354-104593	CAP,MYL .1μ
618	C648	5359-4715851	CAP,PPP 470P	628	C868	5354-104593	CAP,MYL .1μ
618	C649	5359-4715851	CAP,PPP 470P	628	C869	5354-104593	CAP,MYL .1μ
644	C650	5345-104F0951	CAP,MINI ELE .1μ/50V	628	C870	5354-104593	CAP,MYL .1μ
644	C651	5345-104F0951	CAP,MINI ELE .1μ/50V	628	C871	5354-104593	CAP,MYL .1μ
644	C652	5345-104F0951	CAP,MINI ELE .1μ/50V	628	C872	5354-104593	CAP,MYL .1μ
623	C653	5354-473J1HM	CAP,MYL .047μ	628	C873	5354-104593	CAP,MYL .1μ
644	C654	5345-104F0951	CAP,MINI ELE .1μ/50V	632	C874	5353-220534	CAP,MCA 22P
640	C655	5345-224F0951	CAP,MINI ELE .22μ/50V	632	C875	5353-220534	CAP,MCA 22P
644	C656	5345-104F0951	CAP,MINI ELE .1μ/50V	632	C876	5353-220534	CAP,MCA 22P
640	C657	5345-224F0951	CAP,MINI ELE .22μ/50V	<b>RESISTORS</b>			
643	C658	5345-474F0951	CAP,MINI ELE .47μ/50V	673	R51	5135-104522	RES,CBN 1/2P 100K
643	C659	5345-474F0951	CAP,MINI ELE .47μ/50V	728	R52	5174-S010F103	RES,MTL 1/4 10K
642	C660	5345-105F0951	CAP,MINI ELE 1μ/50V	727	R53	5174-S010F112	RES,MTL 1/4 1.1K
642	C661	5345-105F0951	CAP,MINI ELE 1μ/50V	723	R551	5135-221522	RES,CBN 1/2P 220
627	C666	5354-104593	CAP,MYL .1μ	723	R552	5135-221522	RES,CBN 1/2P 220
627	C667	5354-104593	CAP,MYL .1μ	603	R553	5135-472522	RES,CBN 1/2P 4.7K
627	C668	5354-104593	CAP,MYL .1μ	603	R554	5135-472522	RES,CBN 1/2P 4.7K
627	C669	5354-104593	CAP,MYL .1μ	605	R555	5135-822522	RES,CBN 1/2P 8.2K
627	C670	5354-104593	CAP,MYL .1μ	605	R556	5135-822522	RES,CBN 1/2P 8.2K
627	C671	5354-104593	CAP,MYL .1μ	599	R557	5174-S010F243	RES,MTL 1/4 24K
627	C672	5354-104593	CAP,MYL .1μ	599	R558	5174-S010F243	RES,MTL 1/4 24K
627	C673	5354-104593	CAP,MYL .1μ	600	R559	5174-S010F561	RES,MTL 1/4 560
632	C674	5353-220534	CAP,MCA 22P	600	R560	5174-S010F561	RES,MTL 1/4 560
632	C675	5353-220534	CAP,MCA 22P	606	R561	5135-102522	RES,CBN 1/2P 1K
632	C676	5353-220534	CAP,MCA 22P	601	R562	5174-S010F273	RES,MTL 1/4 27K
628	C801	5354-104593	CAP,MYL .1μ	607	R567	5135-223522	RES,CBN 1/2P 22K
636	C802	5345-106F041	CAP,MINI ELE 10μ/50V	607	R568	5135-223522	RES,CBN 1/2P 22K
				607	R569	5135-223522	RES,CBN 1/2P 22K
				607	R570	5135-223522	RES,CBN 1/2P 22K
				731	R601	5174-S010F753	RES,MTL 1/4 75K

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
732	R603	5174-S010F822	RES,MTL 1/4 8.2K	713	R696	5135-202522	RES,CBN 1/2P 2K
674	R604	5135-362522	RES,CBN 1/2P 3.6K	726	R697	5135-274522	RES,CBN 1/2P 270K
727	R607	5174-S010F112	RES,MTL 1/4 1.1K	713	R698	5135-202522	RES,CBN 1/2P 2K
675	R608	5135-822522	RES,CBN 1/2P 8.2K	725	R699	5135-754522	RES,CBN 1/2P 750K
677	R609	5135-823522	RES,CBN 1/2P 82K	679	R700	5135-393522	RES,CBN 1/2P 39K
730	R612	5174-S010F332	RES,MTL 1/4 3.3K	714	R701	5135-913522	RES,CBN 1/2P 91K
678	R613	5135-392522	RES,CBN 1/2P 3.9K	716	R702	5135-154522	RES,CBN 1/2P 150K
679	R614	5135-393522	RES,CBN 1/2P 39K	703	R703	5135-103522	RES,CBN 1/2P 10K
733	R615	5174-S010F113	RES,MTL 1/4 11K	717	R704	5135-624522	RES,CBN 1/2P 620K
672	R616	5135-104522	RES,CBN 1/2P 100K	684	R705	5135-223522	RES,CBN 1/2P 22K
734	R617	5174-S010F433	RES,MTL 1/4 43K	682	R706	5135-473522	RES,CBN 1/2P 47K
735	R618	5174-S010F752	RES,MTL 1/4 7.5K	690	R707	5135-204522	RES,CBN 1/2P 200K
681	R619	5135-222522	RES,CBN 1/2P 2.2K	702	R708	5135-133522	RES,CBN 1/2P 13K
682	R621	5135-473522	RES,CBN 1/2P 47K	718	R709	5135-203522	RES,CBN 1/2P 20K
683	R622	5135-223522	RES,CBN 1/2P 22K	719	R710	5135-470522	RES,CBN 1/2P 47
686	R623	5135-102522	RES,CBN 1/2P 1K	719	R711	5135-470522	RES,CBN 1/2P 47
728	R624	5174-S010F103	RES,MTL 1/4 10K	694	R712	5135-330522	RES,CBN 1/2P 33
732	R625	5174-S010F822	RES,MTL 1/4 8.2K	694	R714	5135-330522	RES,CBN 1/2P 33
688	R627	5135-912522	RES,CBN 1/2P 9.1K	702	R717	5135-133522	RES,CBN 1/2P 13K
759	R628	5174-Z4870F8	RES,MTL 1/4 487	679	R718	5135-393522	RES,CBN 1/2P 39K
689	R629	5135-153522	RES,CBN 1/2P 15K	673	R719	5135-104522	RES,CBN 1/2P 100K
678	R630	5135-392522	RES,CBN 1/2P 3.9K	679	R720	5135-393522	RES,CBN 1/2P 39K
682	R631	5135-473522	RES,CBN 1/2P 47K	700	R721	5135-752522	RES,CBN 1/2P 7.5K
736	R632	5174-S010F302	RES,MTL 1/4 3K	715	R722	5135-333522	RES,CBN 1/2P 33K
743	R633	5174-S010F132	RES,MTL 1/4 1.3K	700	R723	5135-752522	RES,CBN 1/2P 7.5K
737	R634	5174-S010F183	RES,MTL 1/4 18K	697	R724	5135-303522	RES,CBN 1/2P 30K
690	R635	5135-204522	RES,CBN 1/2P 200K	720	R725	5135-914522	RES,CBN 1/2P 910K
691	R636	5135-623522	RES,CBN 1/2P 62K	697	R726	5135-303522	RES,CBN 1/2P 30K
737	R637	5174-S010F183	RES,MTL 1/4 18K	720	R727	5135-914522	RES,CBN 1/2P 910K
692	R638	5135-432522	RES,CBN 1/2P 4.3K	695	R728	5135-243522	RES,CBN 1/2P 24K
693	R639	5135-512522	RES,CBN 1/2P 5.1K	721	R729	5135-363522	RES,CBN 1/2P 36K
694	R640	5135-330522	RES,CBN 1/2P 33	722	R730	5135-622522	RES,CBN 1/2P 6.2K
695	R641	5135-243522	RES,CBN 1/2P 24K	748	R731	5174-S010F243	RES,MTL 1/4 24K
696	R642	5135-433522	RES,CBN 1/2P 43K	675	R732	5135-822522	RES,CBN 1/2P 8.2K
697	R643	5135-303522	RES,CBN 1/2P 30K	748	R733	5174-S010F243	RES,MTL 1/4 24K
699	R644	5135-163522	RES,CBN 1/2P 16K	724	R734	5135-683522	RES,CBN 1/2P 68K
700	R645	5135-752522	RES,CBN 1/2P 7.5K	716	R735	5135-154522	RES,CBN 1/2P 150K
702	R646	5135-133522	RES,CBN 1/2P 13K	685	R736	5135-223522	RES,CBN 1/2P 22K
703	R647	5135-103522	RES,CBN 1/2P 10K	723	R739	5135-221522	RES,CBN 1/2P 220
704	R648	5135-183522	RES,CBN 1/2P 18K	723	R740	5135-221522	RES,CBN 1/2P 220
697	R649	5135-303522	RES,CBN 1/2P 30K	686	R745	5135-102522	RES,CBN 1/2P 1K
737	R650	5174-S010F183	RES,MTL 1/4 18K	686	R747	5135-102522	RES,CBN 1/2P 1K
729	R651	5174-S010F102	RES,MTL 1/4 1K	752	R751	5135-105522	RES,CBN 1/2P 1M
738	R652	5174-S010F392	RES,MTL 1/4 3.9K	752	R752	5135-105522	RES,CBN 1/2P 1M
738	R653	5174-S010F392	RES,MTL 1/4 3.9K	700	R754	5135-752522	RES,CBN 1/2P 7.5K
675	R655	5135-822522	RES,CBN 1/2P 8.2K	679	R755	5135-393522	RES,CBN 1/2P 39K
675	R656	5135-822522	RES,CBN 1/2P 8.2K	749	R756	5174-S010F274	RES,MTL 1/4 270K
705	R657	5135-272522	RES,CBN 1/2P 2.7K	739	R757	5174-S010F273	RES,MTL 1/4 27K
705	R658	5135-272522	RES,CBN 1/2P 2.7K	750	R758	5174-S010F184	RES,MTL 1/4 180K
739	R659	5174-S010F273	RES,MTL 1/4 27K	751	R759	5174-S010F473	RES,MTL 1/4 47K
706	R660	5135-125522	RES,CBN 1/2P 1.2M	731	R801	5174-S010F753	RES,MTL 1/4 75K
683	R661	5135-223522	RES,CBN 1/2P 22K	732	R803	5174-S010F822	RES,MTL 1/4 8.2K
744	R662	5174-S010F683	RES,MTL 1/4 68K	674	R804	5135-362522	RES,CBN 1/2P 3.6K
738	R663	5174-S010F392	RES,MTL 1/4 3.9K	727	R807	5174-S010F112	RES,MTL 1/4 1.1K
740	R664	5174-S010F622	RES,MTL 1/4 6.2K	676	R808	5135-822522	RES,CBN 1/2P 8.2K
741	R665	5174-S010F912	RES,MTL 1/4 9.1K	677	R809	5135-823522	RES,CBN 1/2P 82K
745	R666	5174-S010F244	RES,MTL 1/4 24K	730	R812	5174-S010F332	RES,MTL 1/4 3.3K
740	R667	5174-S010F622	RES,MTL 1/4 6.2K	678	R813	5135-392522	RES,CBN 1/2P 3.9K
741	R668	5174-S010F912	RES,MTL 1/4 9.1K	680	R814	5135-393522	RES,CBN 1/2P 39K
742	R669	5174-S010F362	RES,MTL 1/4 3.6K	733	R815	5174-S010F113	RES,MTL 1/4 11K
746	R670	5174-S010F512	RES,MTL 1/4 5.1K	672	R816	5135-104522	RES,CBN 1/2P 100K
707	R671	5135-824522	RES,CBN 1/2P 820K	734	R817	5174-S010F433	RES,MTL 1/4 43K
708	R672	5135-563522	RES,CBN 1/2P 56K	735	R818	5174-S010F752	RES,MTL 1/4 7.5K
677	R673	5135-823522	RES,CBN 1/2P 82K	681	R819	5135-222522	RES,CBN 1/2P 2.2K
709	R674	5135-911522	RES,CBN 1/2P 910	682	R821	5135-473522	RES,CBN 1/2P 47K
747	R675	5174-S010F562	RES,MTL 1/4 5.6K	683	R822	5135-223522	RES,CBN 1/2P 22K
709	R676	5135-911522	RES,CBN 1/2P 910	687	R823	5135-102522	RES,CBN 1/2P 1K
728	R677	5174-S010F103	RES,MTL 1/4 10K	728	R824	5174-S010F103	RES,MTL 1/4 10K
709	R678	5135-911522	RES,CBN 1/2P 910	732	R825	5174-S010F822	RES,MTL 1/4 8.2K
710	R679	5135-122522	RES,CBN 1/2P 1.2K	688	R827	5135-912522	RES,CBN 1/2P 9.1K
688	R680	5135-912522	RES,CBN 1/2P 9.1K	759	R828	5174-Z4870F8	RES,MTL 1/4 487
679	R681	5135-393522	RES,CBN 1/2P 39K	689	R829	5135-153522	RES,CBN 1/2P 15K
688	R682	5135-912522	RES,CBN 1/2P 9.1K	678	R830	5135-392522	RES,CBN 1/2P 3.9K
673	R683	5135-104522	RES,CBN 1/2P 100K	682	R831	5135-473522	RES,CBN 1/2P 47K
691	R684	5135-623522	RES,CBN 1/2P 62K	736	R832	5174-S010F302	RES,MTL 1/4 3K
691	R685	5135-623522	RES,CBN 1/2P 62K	743	R833	5174-S010F132	RES,MTL 1/4 1.3K
697	R686	5135-303522	RES,CBN 1/2P 30K	737	R834	5174-S010F183	RES,MTL 1/4 18K
711	R687	5135-753522	RES,CBN 1/2P 75K	690	R835	5135-204522	RES,CBN 1/2P 200K
683	R688	5135-223522	RES,CBN 1/2P 22K	691	R836	5135-623522	RES,CBN 1/2P 62K
712	R689	5135-513522	RES,CBN 1/2P 51K	737	R837	5174-S010F183	RES,MTL 1/4 18K
684	R690	5135-223522	RES,CBN 1/2P 22K	692	R838	5135-432522	RES,CBN 1/2P 4.3K
730	R691	5174-S010F332	RES,MTL 1/4 3.3K	693	R839	5135-512522	RES,CBN 1/2P 5.1K
684	R692	5135-223522	RES,CBN 1/2P 22K	694	R840	5135-330522	RES,CBN 1/2P 33
696	R693	5135-433522	RES,CBN 1/2P 43K	695	R841	5135-243522	RES,CBN 1/2P 24K
704	R694	5135-183522	RES,CBN 1/2P 18K	696	R842	5135-433522	RES,CBN 1/2P 43K
740	R695	5174-S010F622	RES,MTL 1/4 6.2K	698	R843	5135-303522	RES,CBN 1/2P 30K

Ser. No.	Ref. No.	Part No.	Description
699	R844	5135-163522	RES,CBN 1/2P 16K
701	R845	5135-752522	RES,CBN 1/2P 7.5K
702	R846	5135-133522	RES,CBN 1/2P 13K
703	R847	5135-103522	RES,CBN 1/2P 10K
704	R848	5135-183522	RES,CBN 1/2P 18K
698	R849	5135-303522	RES,CBN 1/2P 30K
737	R850	5174-S010F183	RES,MTL 1/4 18K
729	R851	5174-S010F102	RES,MTL 1/4 1K
738	R852	5174-S010F392	RES,MTL 1/4 3.9K
738	R853	5174-S010F392	RES,MTL 1/4 3.9K
676	R855	5135-822522	RES,CBN 1/2P 8.2K
676	R856	5135-822522	RES,CBN 1/2P 8.2K
705	R857	5135-272522	RES,CBN 1/2P 2.7K
705	R858	5135-272522	RES,CBN 1/2P 2.7K
739	R859	5174-S010F273	RES,MTL 1/4 27K
706	R860	5135-125522	RES,CBN 1/2P 1.2M
683	R861	5135-223522	RES,MTL 1/4 68K
744	R862	5174-S010F683	RES,MTL 1/4 68K
738	R863	5174-S010F392	RES,MTL 1/4 3.9K
740	R864	5174-S010F622	RES,MTL 1/4 6.2K
741	R865	5174-S010F912	RES,MTL 1/4 9.1K
745	R866	5174-S010F244	RES,MTL 1/4 240K
740	R867	5174-S010F622	RES,MTL 1/4 6.2K
741	R868	5174-S010F912	RES,MTL 1/4 9.1K
742	R869	5174-S010F362	RES,MTL 1/4 3.6K
746	R870	5174-S010F512	RES,MTL 1/4 5.1K
707	R871	5135-824522	RES,CBN 1/2P 820K
708	R872	5135-563522	RES,CBN 1/2P 56K
677	R873	5135-823522	RES,CBN 1/2P 82K
709	R874	5135-911522	RES,CBN 1/2P 910
747	R875	5174-S010F562	RES,MTL 1/4 5.6K
709	R876	5135-911522	RES,CBN 1/2P 910
728	R877	5174-S010F103	RES,MTL 1/4 10K
709	R878	5135-911522	RES,CBN 1/2P 910
710	R879	5135-122522	RES,CBN 1/2P 1.2K
688	R880	5135-912522	RES,CBN 1/2P 9.1K
680	R881	5135-393522	RES,CBN 1/2P 39K
688	R882	5135-912522	RES,CBN 1/2P 9.1K
673	R883	5135-104522	RES,CBN 1/2P 100K
691	R884	5135-623522	RES,CBN 1/2P 62K
691	R885	5135-623522	RES,CBN 1/2P 62K
698	R886	5135-303522	RES,CBN 1/2P 30K
711	R887	5135-753522	RES,CBN 1/2P 75K
683	R888	5135-223522	RES,CBN 1/2P 22K
712	R889	5135-513522	RES,CBN 1/2P 51K
684	R890	5135-223522	RES,CBN 1/2P 22K
730	R891	5174-S010F332	RES,MTL 1/4 3.3K
684	R892	5135-223522	RES,CBN 1/2P 22K
696	R893	5135-433522	RES,CBN 1/2P 43K
704	R894	5135-183522	RES,CBN 1/2P 18K
740	R895	5174-S010F622	RES,MTL 1/4 6.2K
713	R896	5135-202522	RES,CBN 1/2P 2K
726	R897	5135-274522	RES,CBN 1/2P 270K
713	R898	5135-202522	RES,CBN 1/2P 2K
725	R899	5135-754522	RES,CBN 1/2P 750K
680	R900	5135-393522	RES,CBN 1/2P 39K
714	R901	5135-913522	RES,CBN 1/2P 91K
716	R902	5135-154522	RES,CBN 1/2P 150K
703	R903	5135-103522	RES,CBN 1/2P 10K
717	R904	5135-624522	RES,CBN 1/2P 620K
684	R905	5135-223522	RES,CBN 1/2P 22K
682	R906	5135-473522	RES,CBN 1/2P 47K
690	R907	5135-204522	RES,CBN 1/2P 200K
702	R908	5135-133522	RES,CBN 1/2P 13K
718	R909	5135-203522	RES,CBN 1/2P 20K
719	R910	5135-470522	RES,CBN 1/2P 47
719	R911	5135-470522	RES,CBN 1/2P 47
694	R912	5135-330522	RES,CBN 1/2P 33
694	R914	5135-330522	RES,CBN 1/2P 33
702	R917	5135-133522	RES,CBN 1/2P 13K
680	R918	5135-393522	RES,CBN 1/2P 39K
673	R919	5135-104522	RES,CBN 1/2P 100K
680	R920	5135-393522	RES,CBN 1/2P 39K
701	R921	5135-752522	RES,CBN 1/2P 7.5K
715	R922	5135-333522	RES,CBN 1/2P 33K
701	R923	5135-752522	RES,CBN 1/2P 7.5K
698	R924	5135-303522	RES,CBN 1/2P 30K
720	R925	5135-914522	RES,CBN 1/2P 910K
698	R926	5135-303522	RES,CBN 1/2P 30K
720	R927	5135-914522	RES,CBN 1/2P 910K
695	R928	5135-243522	RES,CBN 1/2P 24K
721	R929	5135-363522	RES,CBN 1/2P 36K
722	R930	5135-622522	RES,CBN 1/2P 6.2K
748	R931	5174-S010F243	RES,MTL 1/4 24K
676	R932	5135-822522	RES,CBN 1/2P 8.2K
748	R933	5174-S010F243	RES,MTL 1/4 24K

Ser. No.	Ref. No.	Part No.	Description
724	R934	5135-683522	RES,CBN 1/2P 68K
716	R935	5135-154522	RES,CBN 1/2P 150K
685	R936	5135-223522	RES,CBN 1/2P 22K
723	R939	5135-221522	RES,CBN 1/2P 220
687	R945	5135-102522	RES,CBN 1/2P 1K
687	R947	5135-102522	RES,CBN 1/2P 1K
752	R951	5135-105522	RES,CBN 1/2P 1M
752	R952	5135-105522	RES,CBN 1/2P 1M
701	R954	5135-752522	RES,CBN 1/2P 7.5K
680	R955	5135-393522	RES,CBN 1/2P 39K
749	R956	5174-S010F274	RES,MTL 1/4 270K
739	R957	5174-S010F273	RES,MTL 1/4 27K
750	R958	5174-S010F184	RES,MTL 1/4 180K
751	R959	5174-S010F473	RES,MTL 1/4 47K

**INTEGRATED CIRCUITS**

652	IC51	5652-NJM4558D	IC, MONO
581	IC551	5653-CXA1332S	IC, LINEAR
653	IC601	5652-TA75072P	IC, MONO
657	IC603	5653-CXA1416	IC, LINEAR
653	IC604	5652-TA75072P	IC, MONO
656	IC605	5653-CXA1415	IC, LINEAR
653	IC606	5652-TA75072P	IC, MONO
656	IC607	5653-CXA1415	IC, LINEAR
654	IC801	5652-TA75072P	IC, MONO
657	IC803	5653-CXA1416	IC, LINEAR
654	IC804	5652-TA75072P	IC, MONO
656	IC805	5653-CXA1415	IC, LINEAR
654	IC806	5652-TA75072P	IC, MONO
656	IC807	5653-CXA1415	IC, LINEAR

**DIODES**

650	D51	5631-1S2473	DIODE, DET
650	D603	5631-1S2473	DIODE, DET
650	D605	5631-1S2473	DIODE, DET
650	D803	5631-1S2473	DIODE, DET
650	D805	5631-1S2473	DIODE, DET

**MISCELLANEOUS**

760	TM51	4214-132	TERMINAL
760	TM601	4214-132	TERMINAL
760	TM602	4214-132	TERMINAL
760	TM603	4214-132	TERMINAL
760	TM604	4214-132	TERMINAL
760	TM605	4214-132	TERMINAL
760	TM606	4214-132	TERMINAL
760	TM607	4214-132	TERMINAL
760	TM608	4214-132	TERMINAL
760	TM609	4214-132	TERMINAL
760	TM610	4214-132	TERMINAL
760	TM801	4214-132	TERMINAL
760	TM802	4214-132	TERMINAL
760	TM803	4214-132	TERMINAL
760	TM804	4214-132	TERMINAL
760	TM805	4214-132	TERMINAL
760	TM806	4214-132	TERMINAL
760	TM807	4214-132	TERMINAL
760	TM808	4214-132	TERMINAL
760	TM809	4214-132	TERMINAL
760	TM810	4214-132	TERMINAL
660		4443-06101009	CONNECTOR
661		4443-06101007	CONNECTOR
662		4443-0301141	CONNECTOR

**ABBREVIATIONS IN PARTS LIST****CAPACITORS**

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

**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	:Field Effect Transistor
FET	:Field Effect Transistor

**CONTROLS**

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



**Ser. No. Ref. No. Part No. Description**

**CHASSIS MISCELLANEOUS**

**MISCELLANEOUS**

781	J2	4451-00184	JACK,1P
781	J3	4451-00184	JACK,1P
761	Δ P1	4161-71151	CORD W/PLUG (UA) (EK)
761A	Δ P1	4161-7256	CORD W/PLUG (I) (IB)
762		4161-71184	CORD W/PLUG
773		4191-0355	BATTERY, DRY
774		6142-02703	CONT BLOCK
791		4242-S0232131	JUMPER LEAD

**PACKAGE**

021A	1756-06303	LABEL (I) (IB)
022B	1756-03108	LABEL (I) (IB)
106	1111-J30335	OWNER GUIDE (UA) (EK)
106A	1111-J30336	OWNER GUIDE (I) (IB)
107	1113-717004	OWNER CARD (UA) (EK)
111	1119-047	ATTACH SHEET, WARRANTY (UA) (EK)
112	1119-0137	ATTACH SHEET, SERVICE AGENCIES (UA) (EK)
113	1119-01201	ATTACH SHEET, SAFETY (UA) (EK)
115	1221-28010	CARTON BOX (UA) (I)
115A	1221-28004	CARTON BOX (IB) (EK)
116	1222-7362	CUSHION
117	1222-7365	CUSHION
119	1223-R0220055	SOFT SHEET
120	1223-00403012	SOFT SHEET
123	1241-R0160600	POLYETHY BAG
124	1241-R0123350	POLYETHY BAG

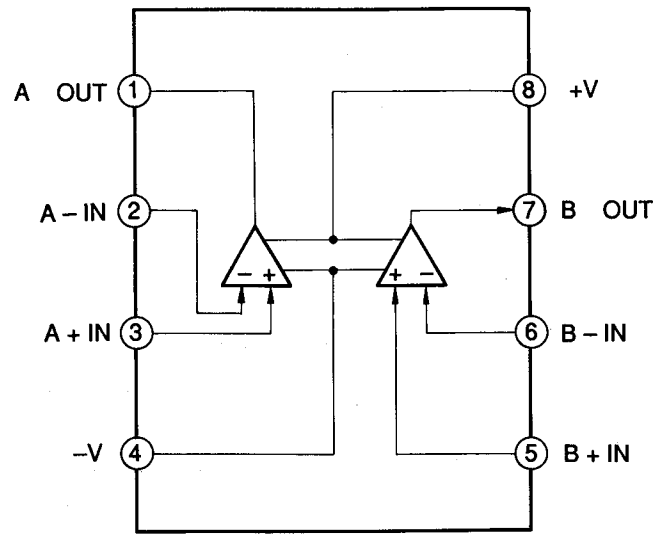
**NOTE**



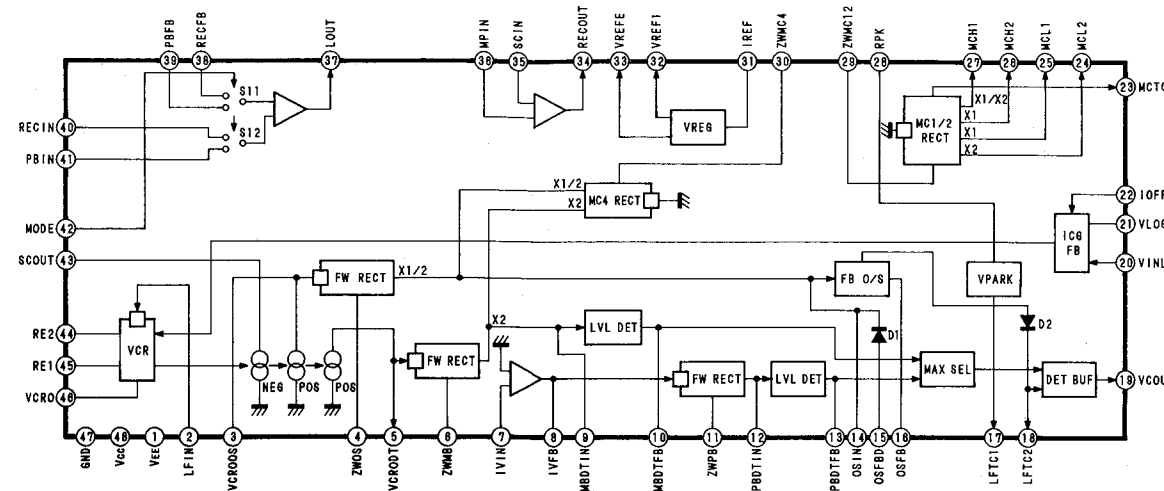
SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

IC BLOCK DIAGRAM

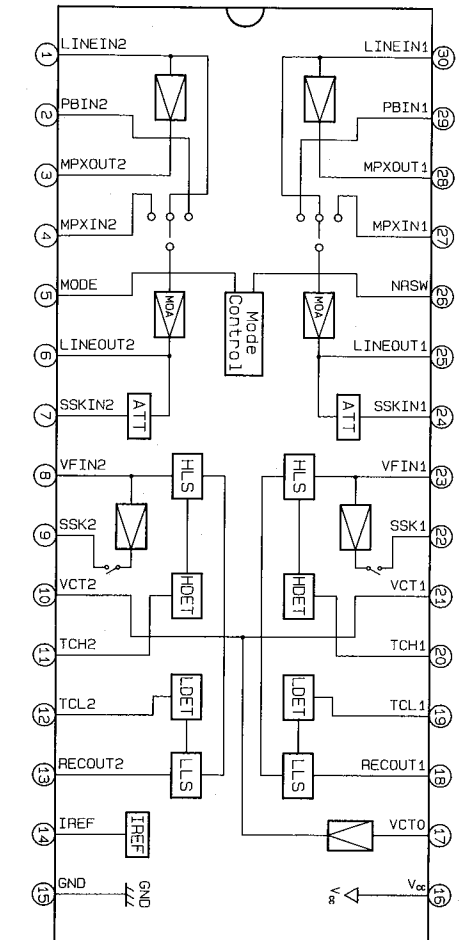
IC 1, 401, 601, 751: NJM4558D  
OP-Amp.



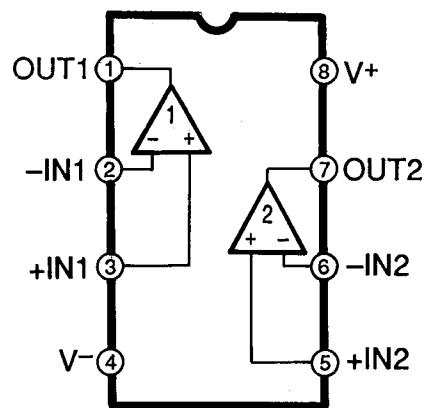
IC 103, 303, 603, 803: CXA1416  
Dolby S-Type NR



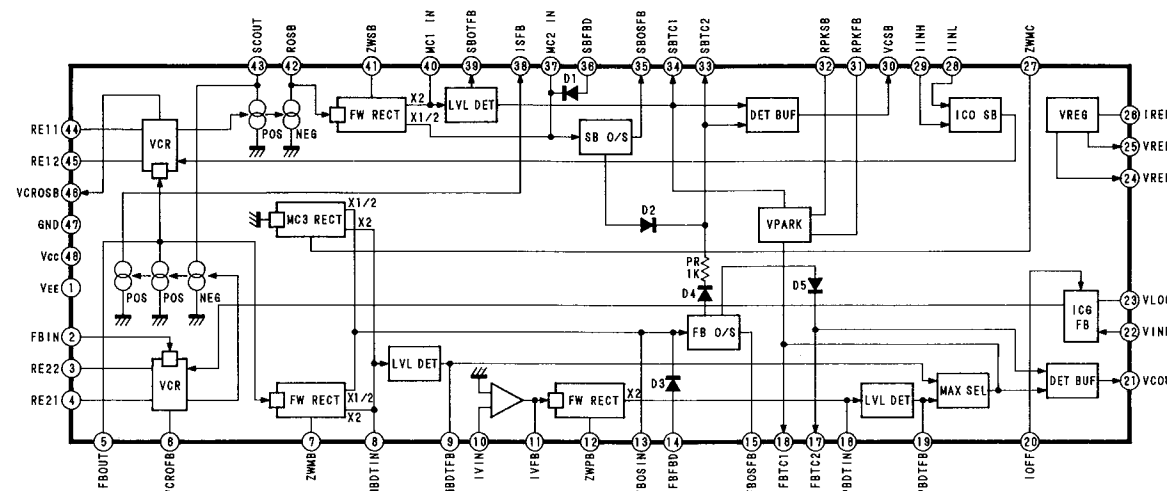
IC 501, 551: CXA1332S  
Dolby B/C NR



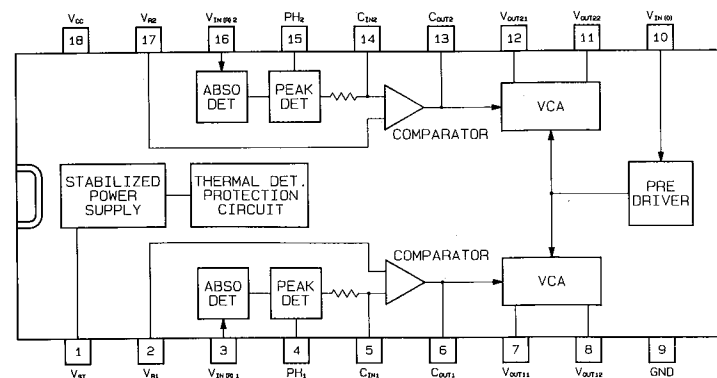
IC 51, 101, 104, 106,  
301, 304, 306, 601,  
604, 606, 651, 801,  
804, 806: NJM4565D  
OP-Amp.



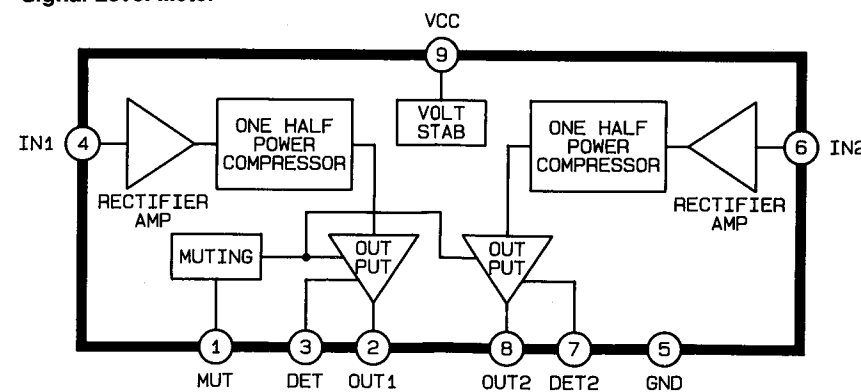
IC 105, 107, 305, 307,  
605, 607, 805, 807: CXA1415  
Dolby S-Type NR



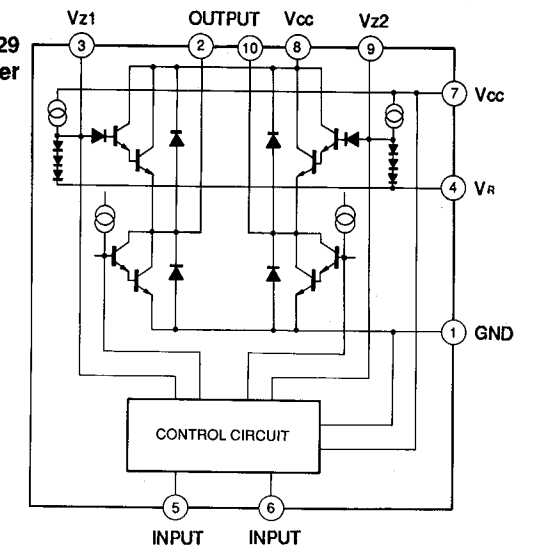
IC 301: μPC1297CA  
Dolby HX-Pro



IC 402: BA6138  
Signal Level Meter

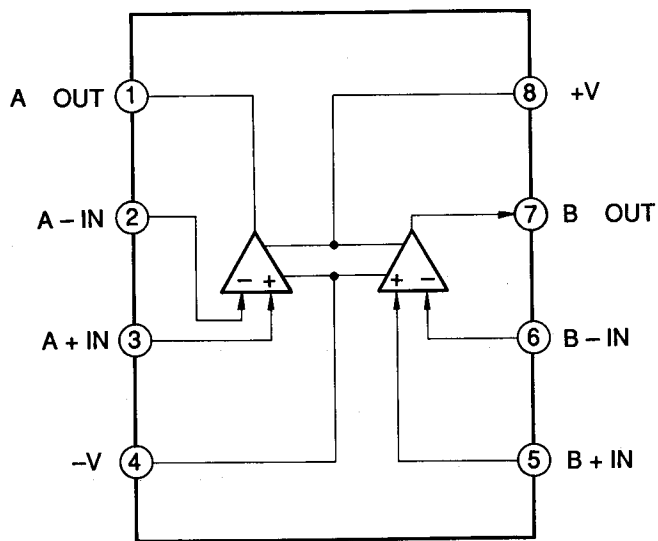


IC 801: BA6229  
Motor Driver

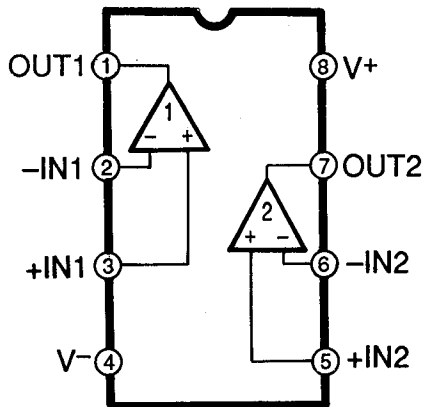


# IC BLOCK DIAGRAM

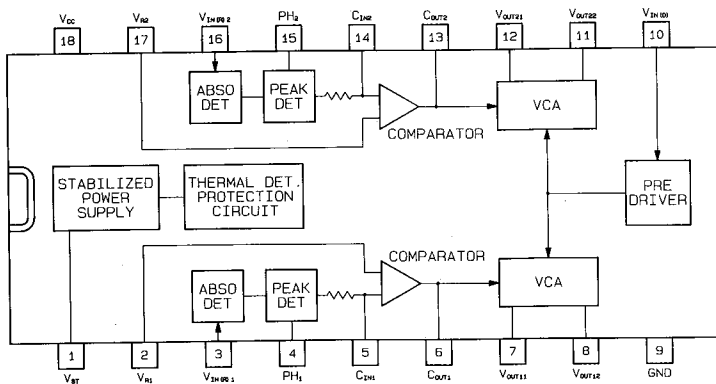
**IC 1, 401, 601, 751: NJM4558D**  
OP-Amp.



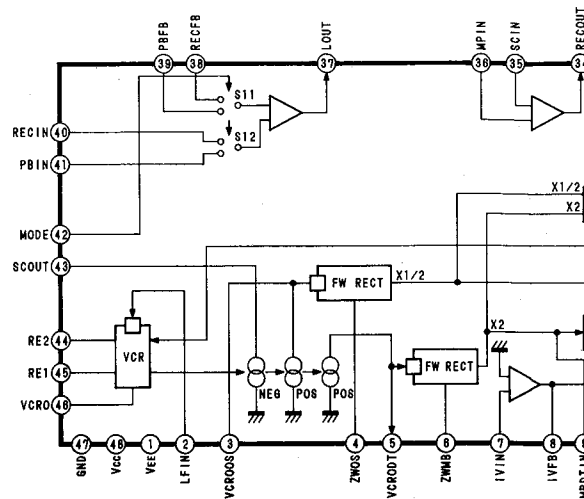
**IC 51, 101, 104, 106, 301, 304, 306, 601, 604, 606, 651, 801, 804, 806: NJM4565D**  
OP-Amp.



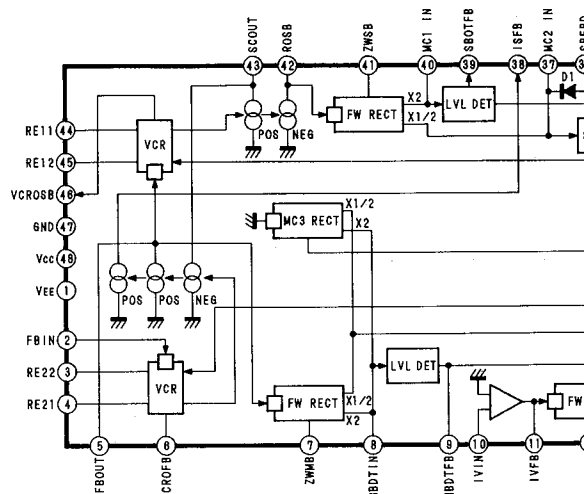
**IC 301: μPC1297CA**  
Dolby HX-Pro



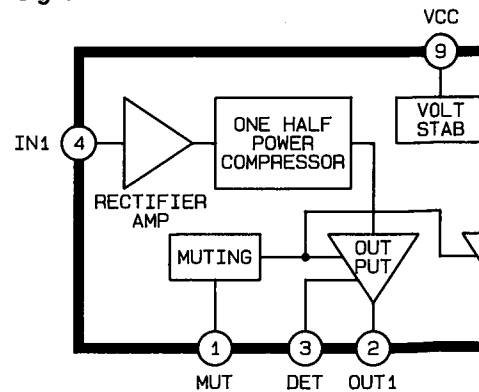
**IC 103, 303, 603, 803: CXA1416**  
Dolby S-Type NR



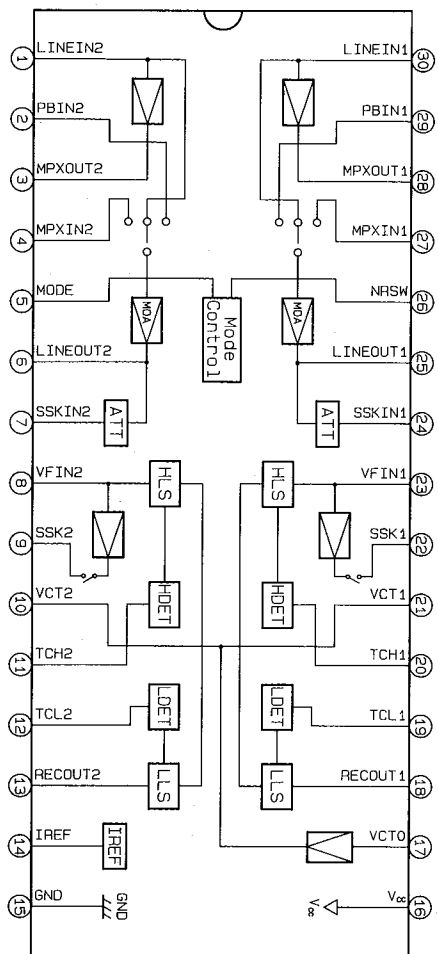
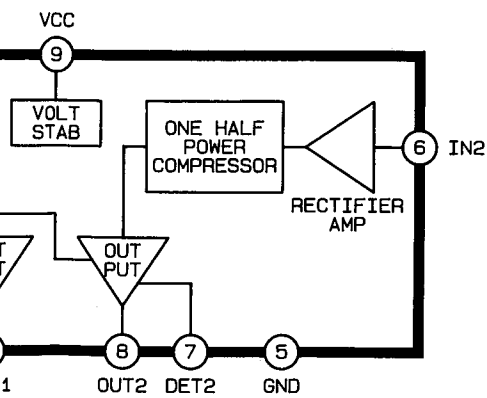
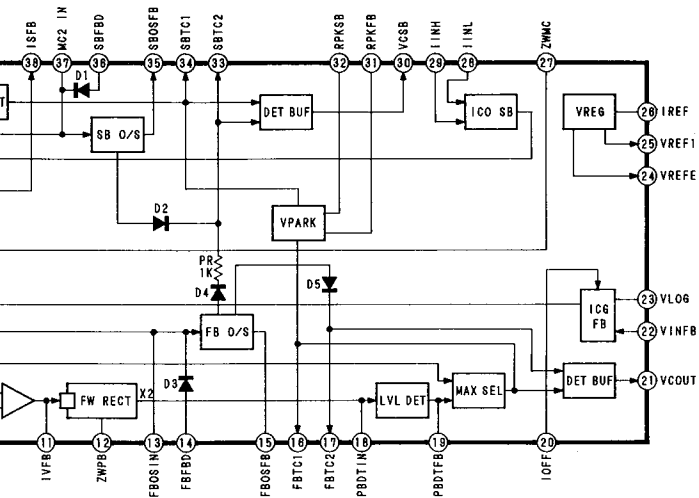
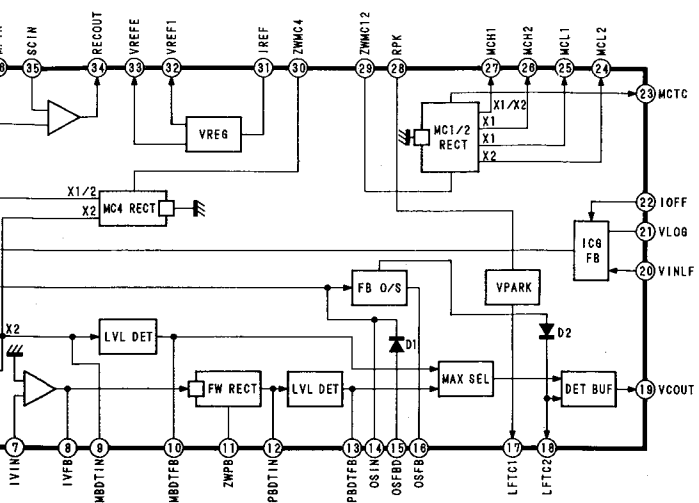
**IC 105, 107, 305, 307, 605, 607, 805, 807: CXA1415**  
Dolby S-Type NR



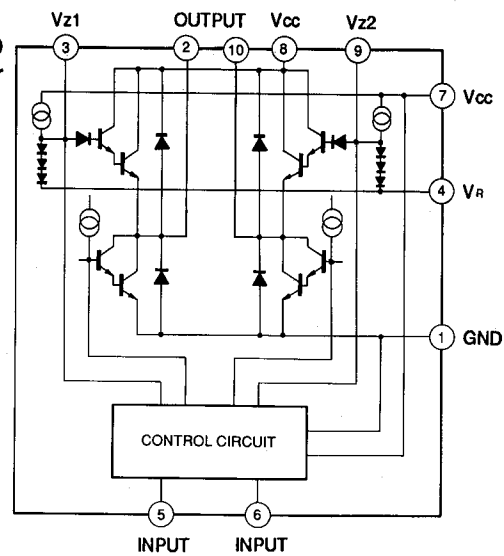
**IC 402: BA6138**  
Signal Level Meter



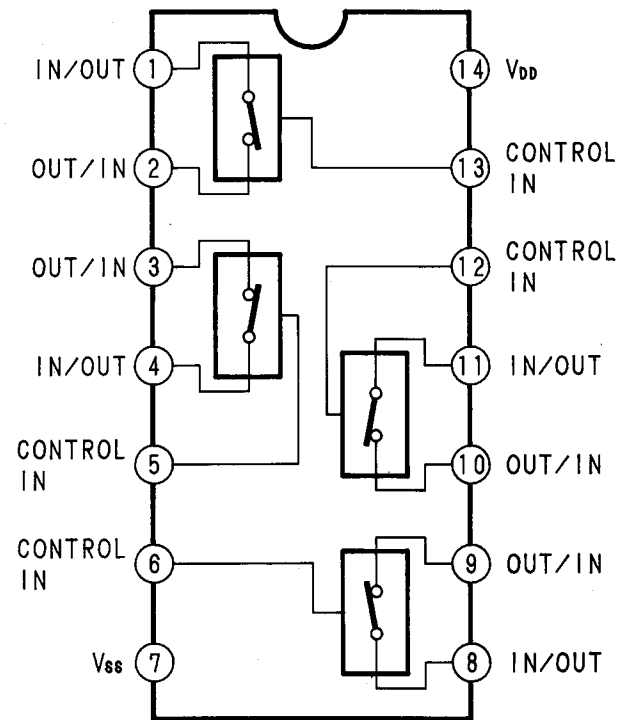
IC 501, 551: CXA1332S  
Dolby B/C NR



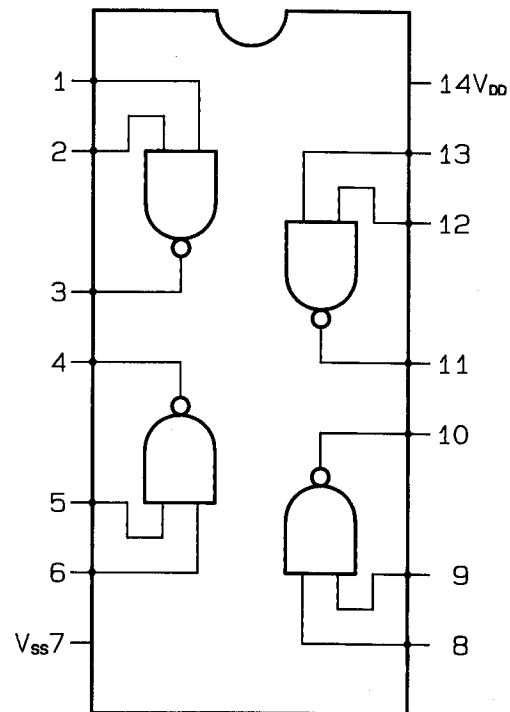
IC 801: BA6229  
Motor Driver



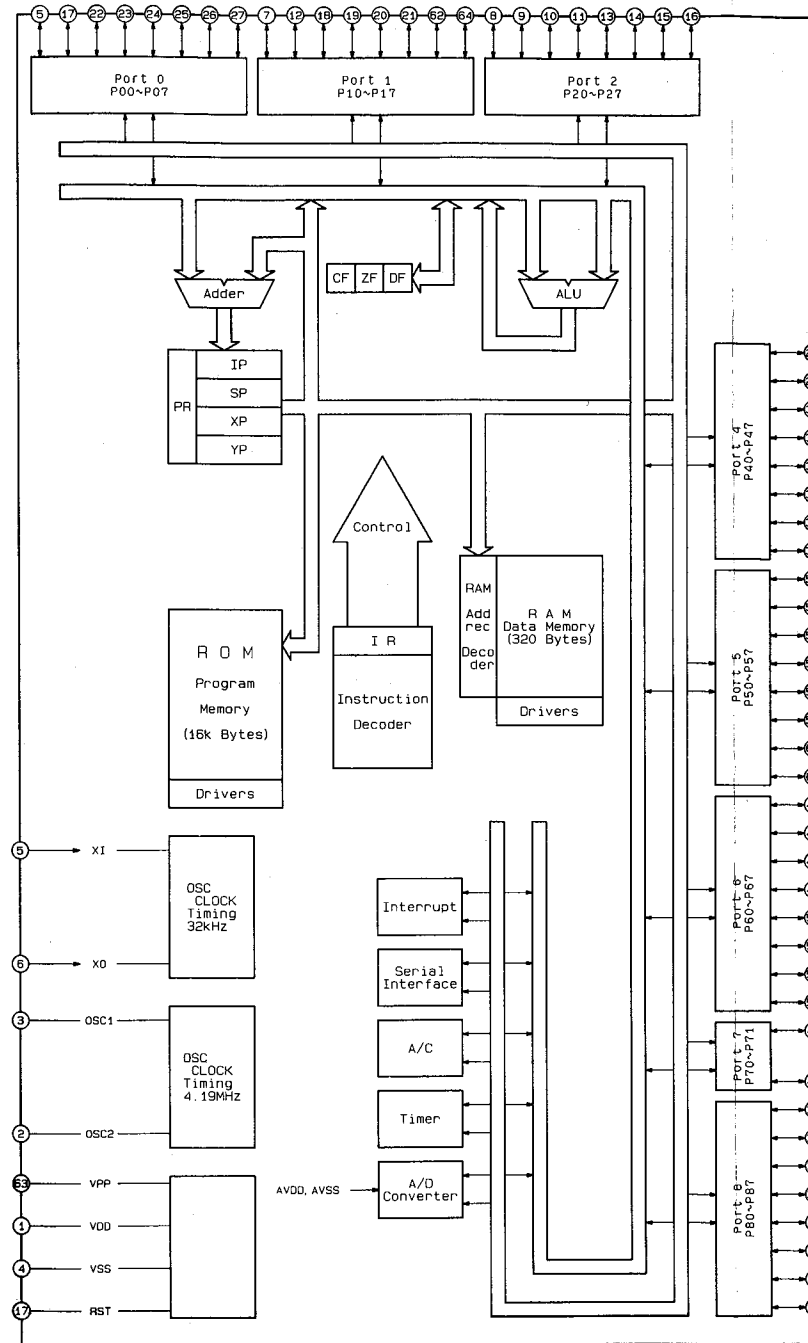
IC 501, 502, 602: TC4066BP  
Bilateral Switch



IC 701: TC4011BP  
2-inch NAND Gate



IC 901: MN18787K  
Logic Controller

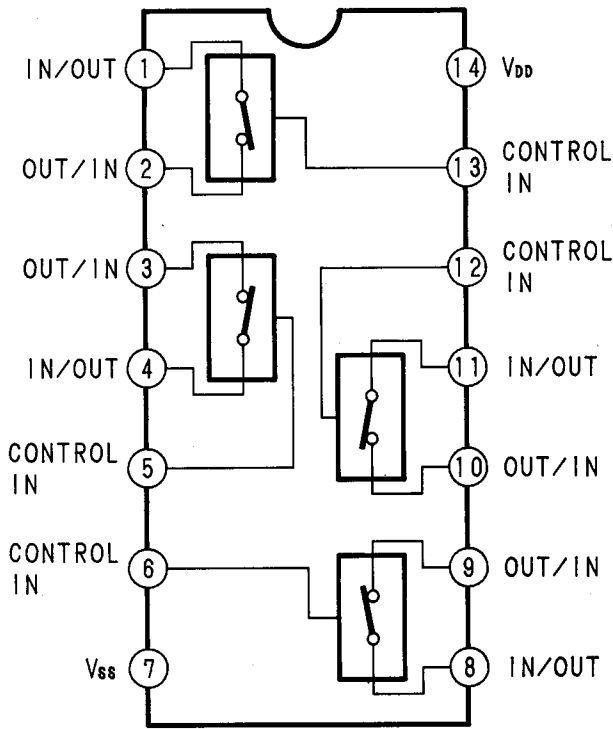


TERMINAL FUNCTIONS

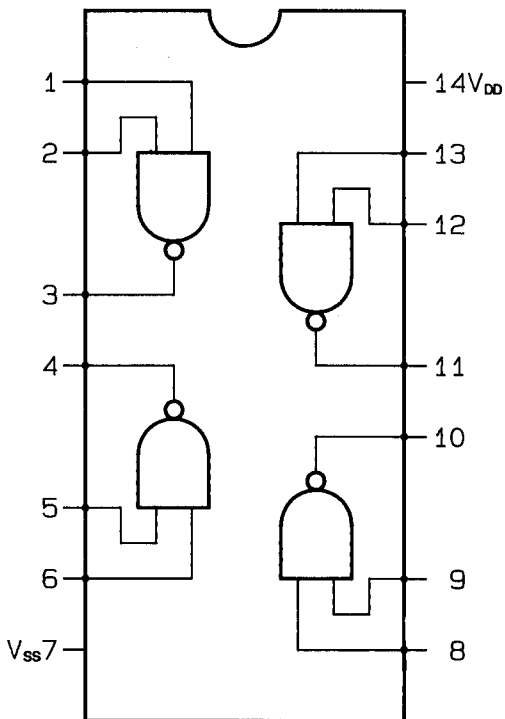
Pin No.	Port name	Function name	I/O	Outline of functions
5	P06	XI	I	Initial setting switch. High level=ON
6	XO	XO	O	
7	P17	AVdd	I	D/A converter standard voltage(DC 5V).
8	P27	AD7	I	Key input terminal.
9	P26	AD6	I	Key input terminal.
10	P25	AD5	I	Key input terminal.
11	P24	AD4	I	Key input terminal.
12	P16	AVss		GND terminal.
13	P23	AD3	I	Key input terminal.
14	P22	AD2	I	A/D input port for LEVEL METER indication.
15	P21	AD1	I	A/D input port for LEVEL METER indication.
16	P20	AD0	I	A/D input port for music search.
17	P07	RST	I	Reset input.
18	1RQ1	R-SI	I	Remote control input.
19	1RQφ	VOLT DN	I	Power on/off detection terminal. Low level=OFF
20	P13	DOLBY-B	I	Input port to switch DOLBY display.
21	P12	DOLBY-C	I	Input port to switch DOLBY display.
22	P05	IND.CONT	O	High level on stand-by or display off and after power off.
23	P04	MONITOR	O	High level on MONITOR mode. Low level on SOURCE mode.
24	P03	REC	O	REC/PLAY switching terminal. High level on REC.
25	P02	BIAS	O	BIAS control terminal. High level=BIAS ON
26	P01	REC MUTE	O	Recording amp. muting terminal. High level=MUTING ON
27	P00	PB MUTE	O	Playback amp. muting terminal. High level=MUTING ON
28	P47	LINE MUTE	O	Line muting terminal. High level=MUTING ON
29	P46	RM1	O	Reel motor control. High level=active
30	P45	RM2	O	Reel motor control. High level=active
31	P44	RPC	O	Reel motor power control. High level=power down
32	P43	CPM	O	Capstan motor control.

NOTE: Low level=0V  
High level=5.1V

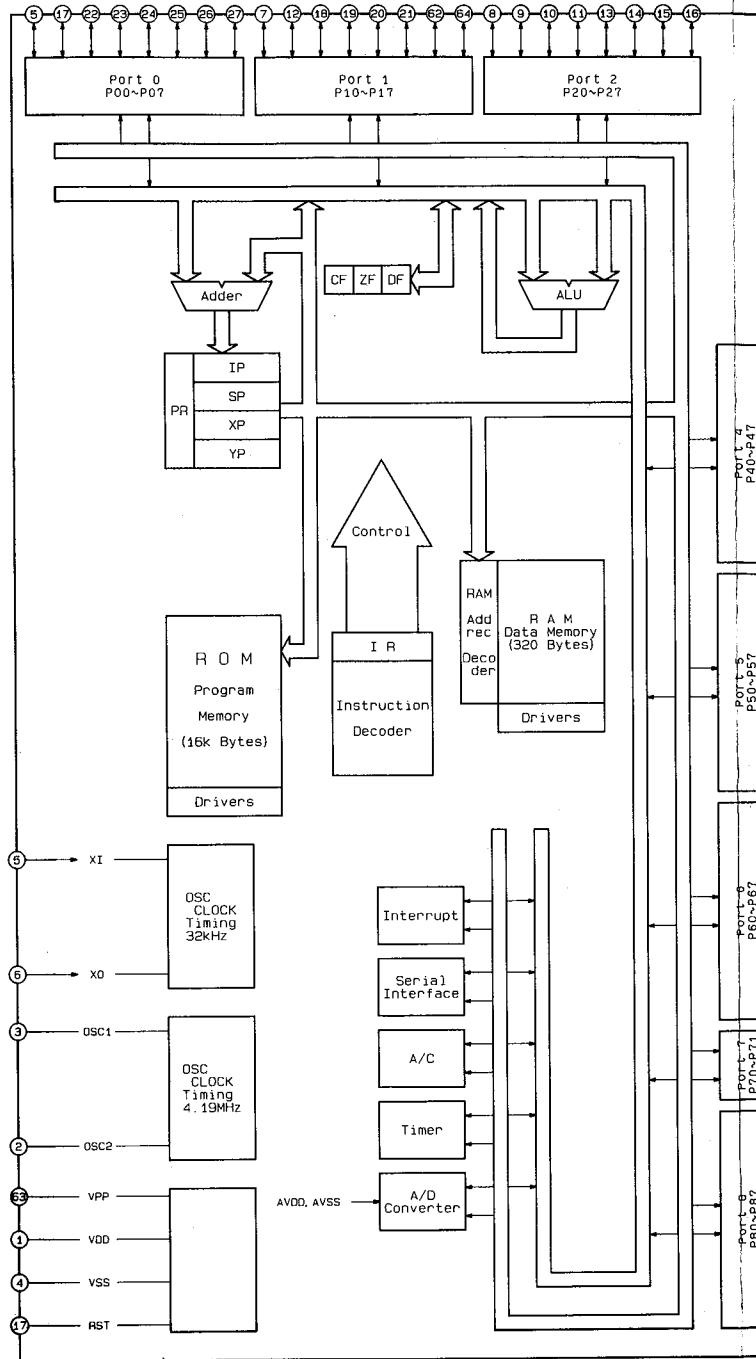
**IC 501, 502, 602: TC4066BP**  
Bilateral Switch



**IC 701: TC4011BP**  
2-inch NAND Gate



**IC 901: MN18787K**  
Logic Controller

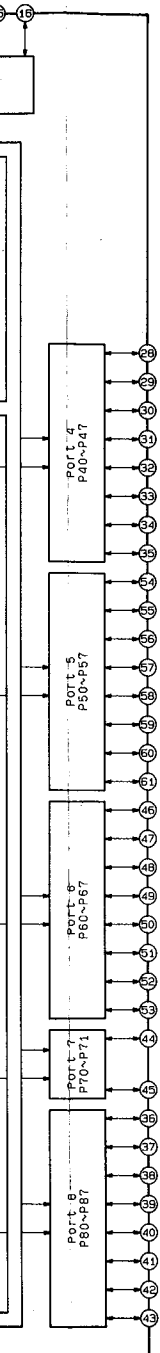




# TERMINAL FUNCTIONS

Pin No.	Port name	Function name	I/O	Outline of functions
5	P06	XI	I	Initial setting switch. High level=ON
6	XO	XO	O	
7	P17	AVdd	I	D/A converter standard voltage(DC 5V).
8	P27	AD7	I	Key input terminal.
9	P26	AD6	I	Key input terminal.
10	P25	AD5	I	Key input terminal.
11	P24	AD4	I	Key input terminal.
12	P16	AVss		GND terminal.
13	P23	AD3	I	Key input terminal.
14	P22	AD2	I	A/D input port for LEVEL METER indication.
15	P21	AD1	I	A/D input port for LEVEL METER indication.
16	P20	AD0	I	A/D input port for music search.
17	P07	RST	I	Reset input.
18	1RQ1	R-SI	I	Remote control input.
19	1RQ $\phi$	VOLT DN	I	Power on/off detection terminal. Low level=OFF
20	P13	DOLBY-B	I	Input port to switch DOLBY display.
21	P12	DOLBY-C	I	Input port to switch DOLBY display.
22	P05	IND.CONT	O	High level on stand-by or display off and after power off.
23	P04	MONITOR	O	High level on MONITOR mode. Low level on SOURCE mode.
24	P03	REC	O	REC/PLAY switching terminal. High level on REC.
25	P02	BIAS	O	BIAS control terminal. High level=BIAS ON
26	P01	REC MUTE	O	Recording amp. muting terminal. High level=MUTING ON
27	P00	PB MUTE	O	Playback amp. muting terminal. High level=MUTING ON
28	P47	LINE MUTE	O	Line muting terminal. High level=MUTING ON
29	P46	RM1	O	Reel motor control. High level=active
30	P45	RM2	O	Reel motor control. High level=active
31	P44	RPC	O	Reel motor power control. High level=power down
32	P43	CPM	O	Capstan motor control.

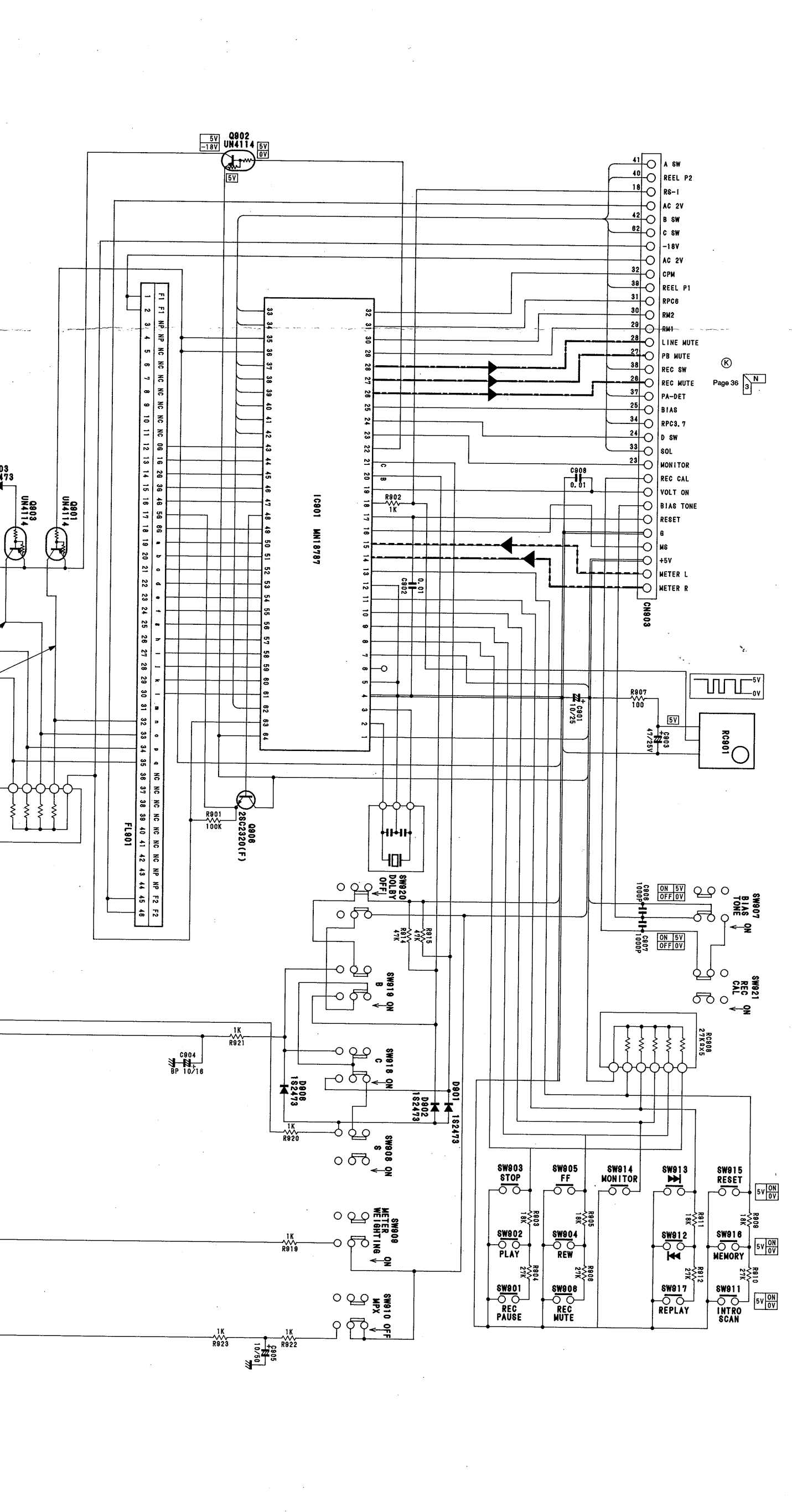
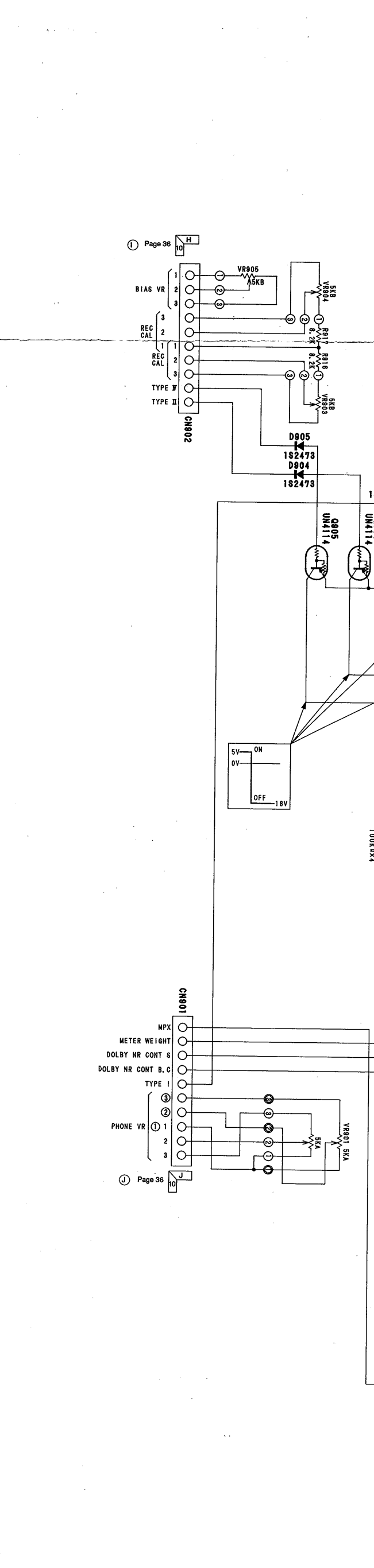
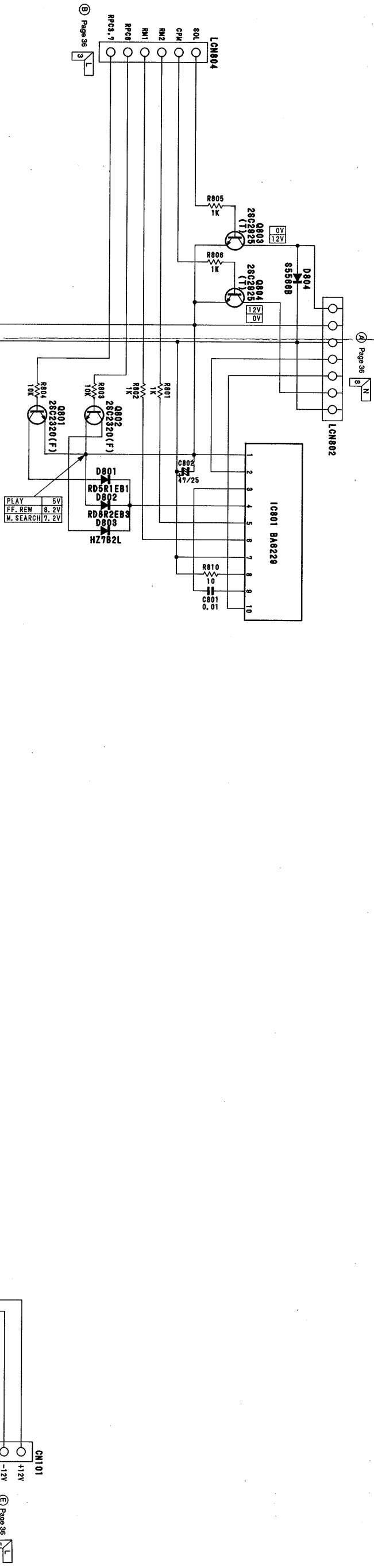
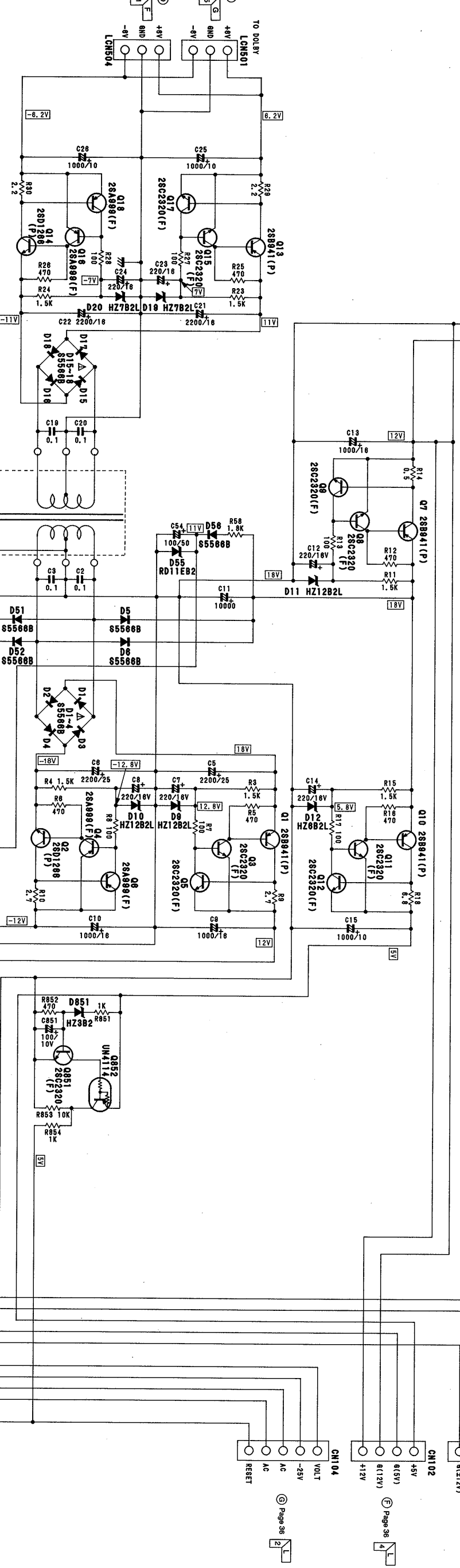
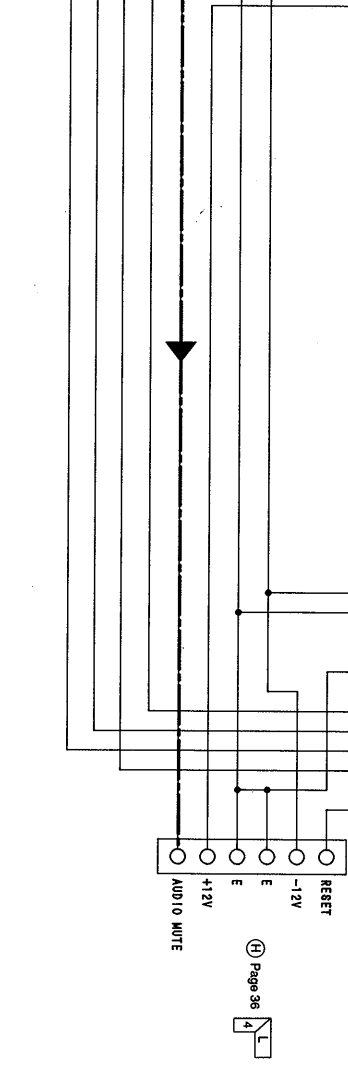
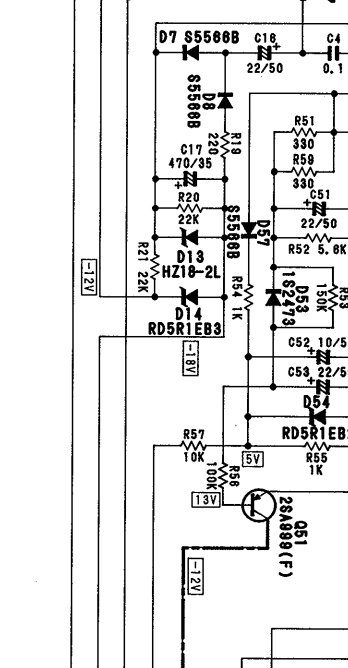
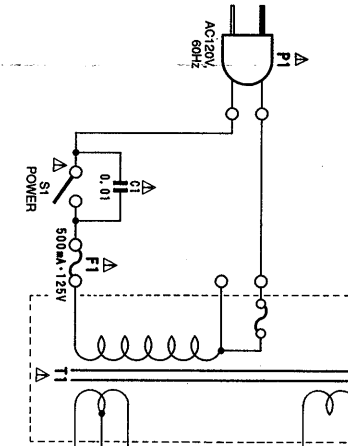
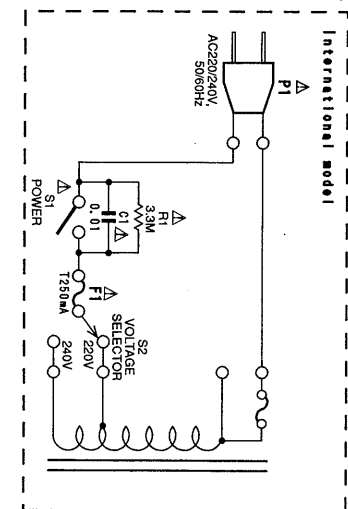
NOTE: Low level=0V  
High level=5.1V



SCHEMATIC DIAGRAM (1)

PCB-3 POWER TRANS P. C. BOARD

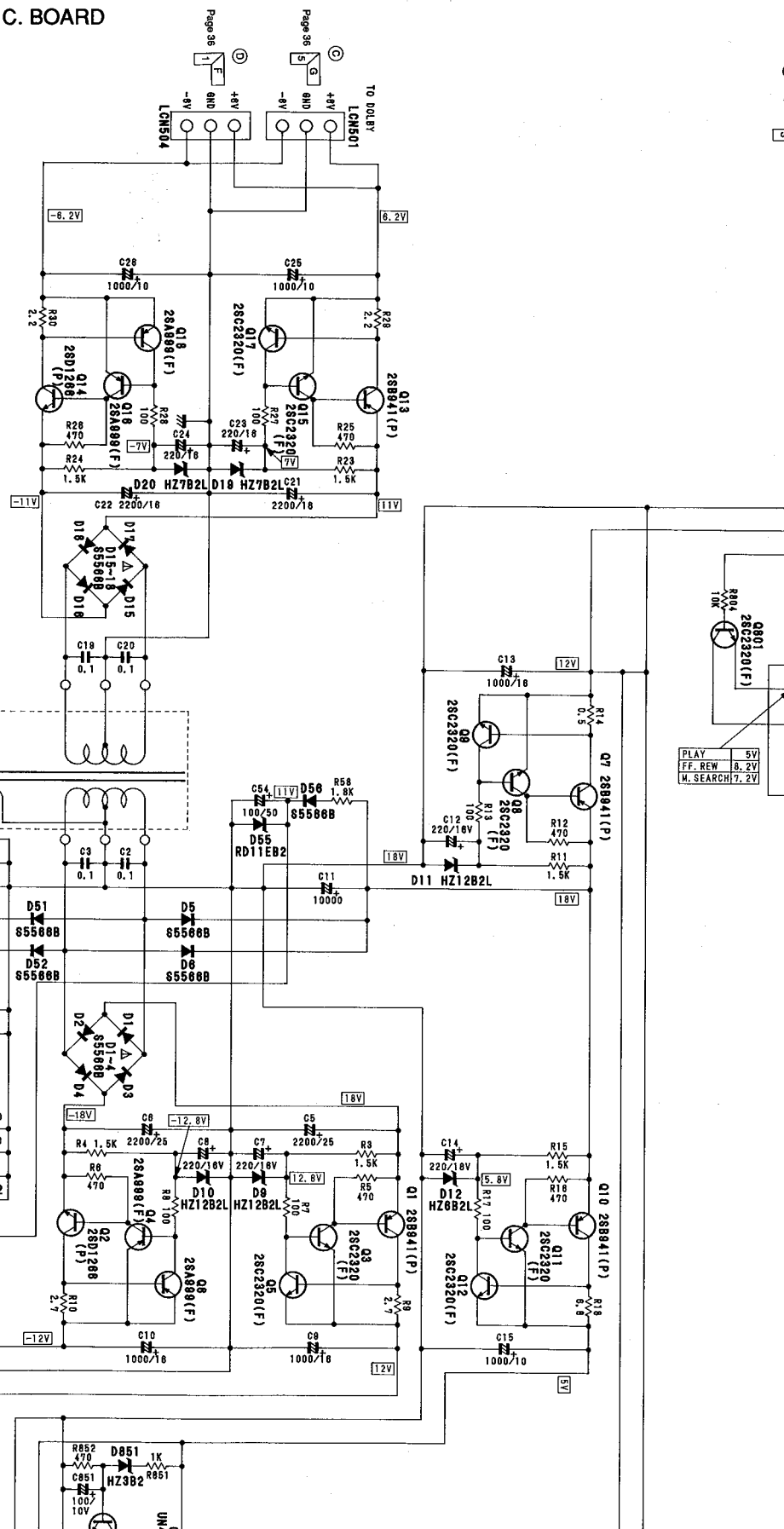
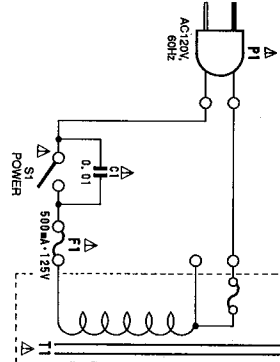
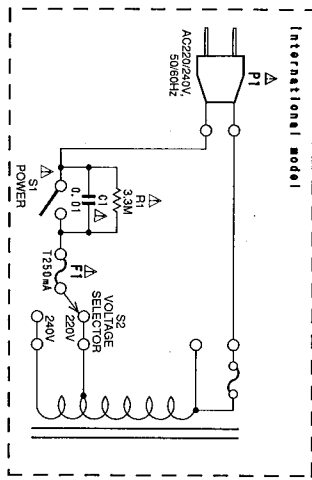
PCB-2 FRONT P. C. BOARD



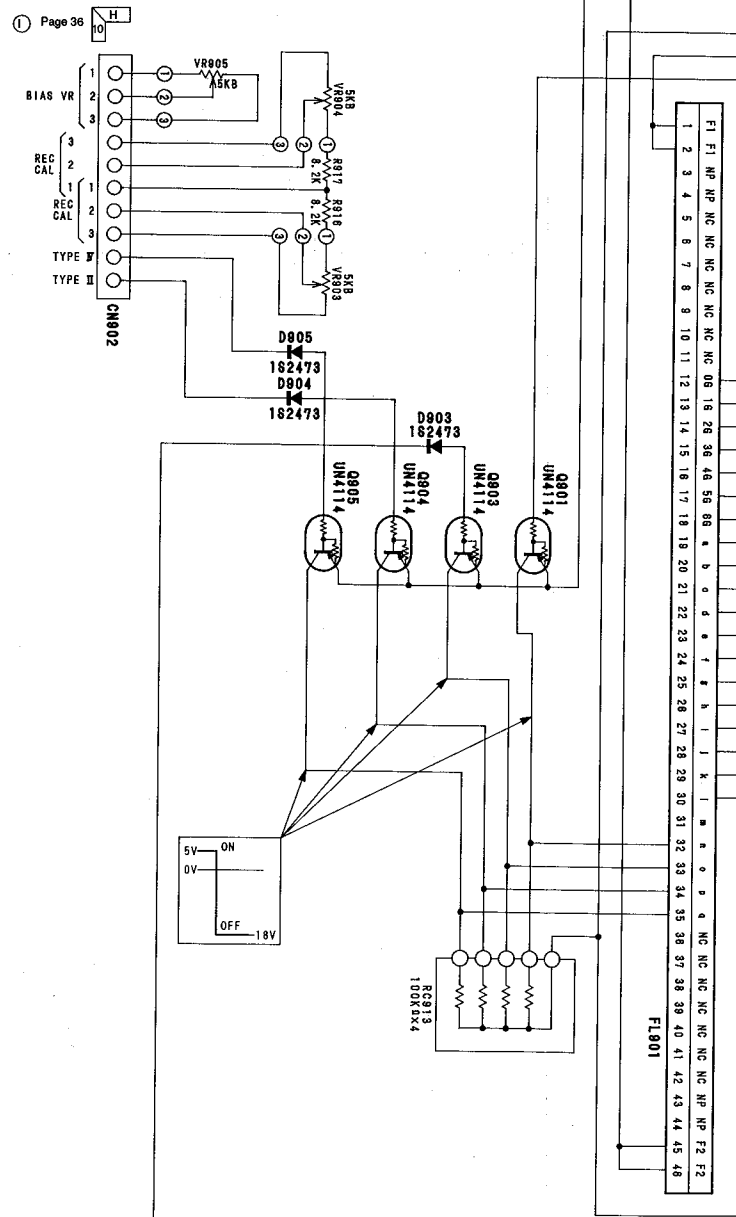
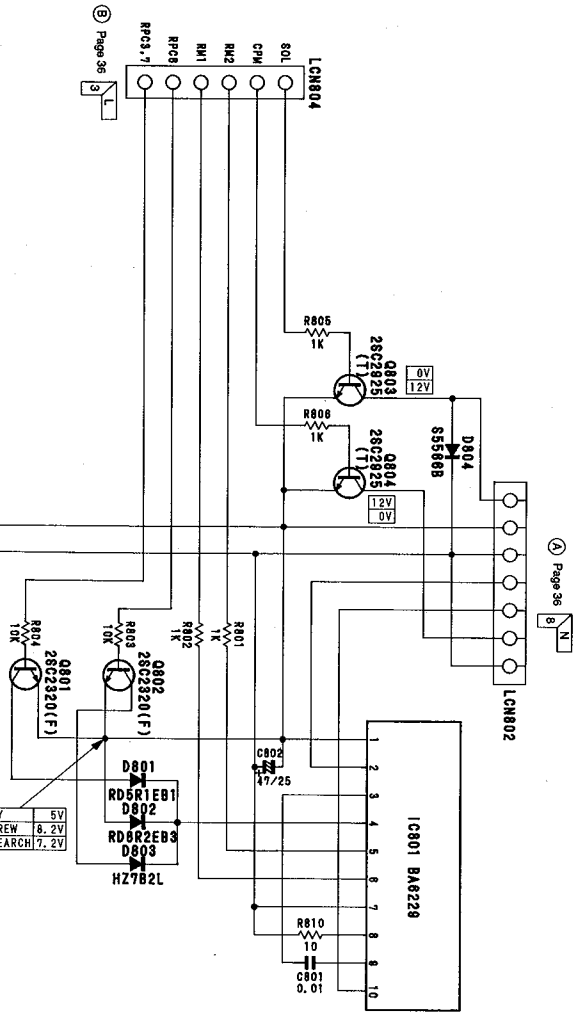
1  
2  
3  
4  
5  
6  
7  
8  
9  
10

# SCHEMATIC DIAGRAM (1)

## PCB-3 POWER TRANS P. C. BOARD

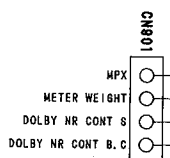


PCB-2 FRONT P. C. BOARD



5V
8.2V
7.2V

FL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
FL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46



J

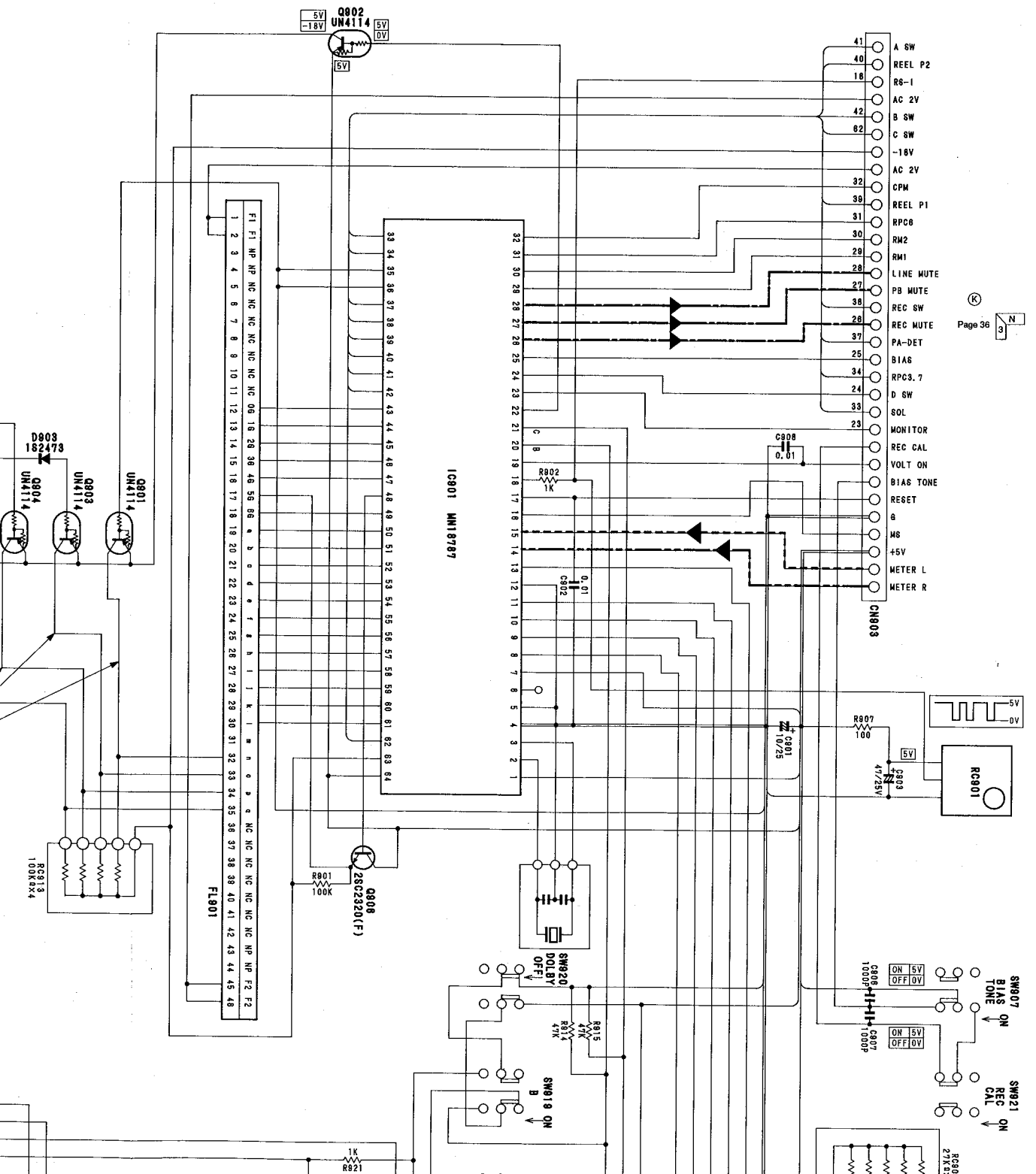
K

L

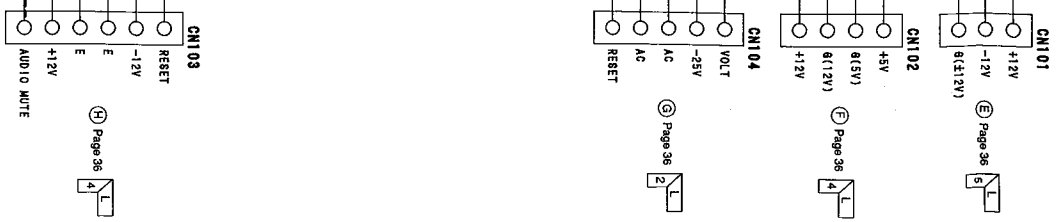
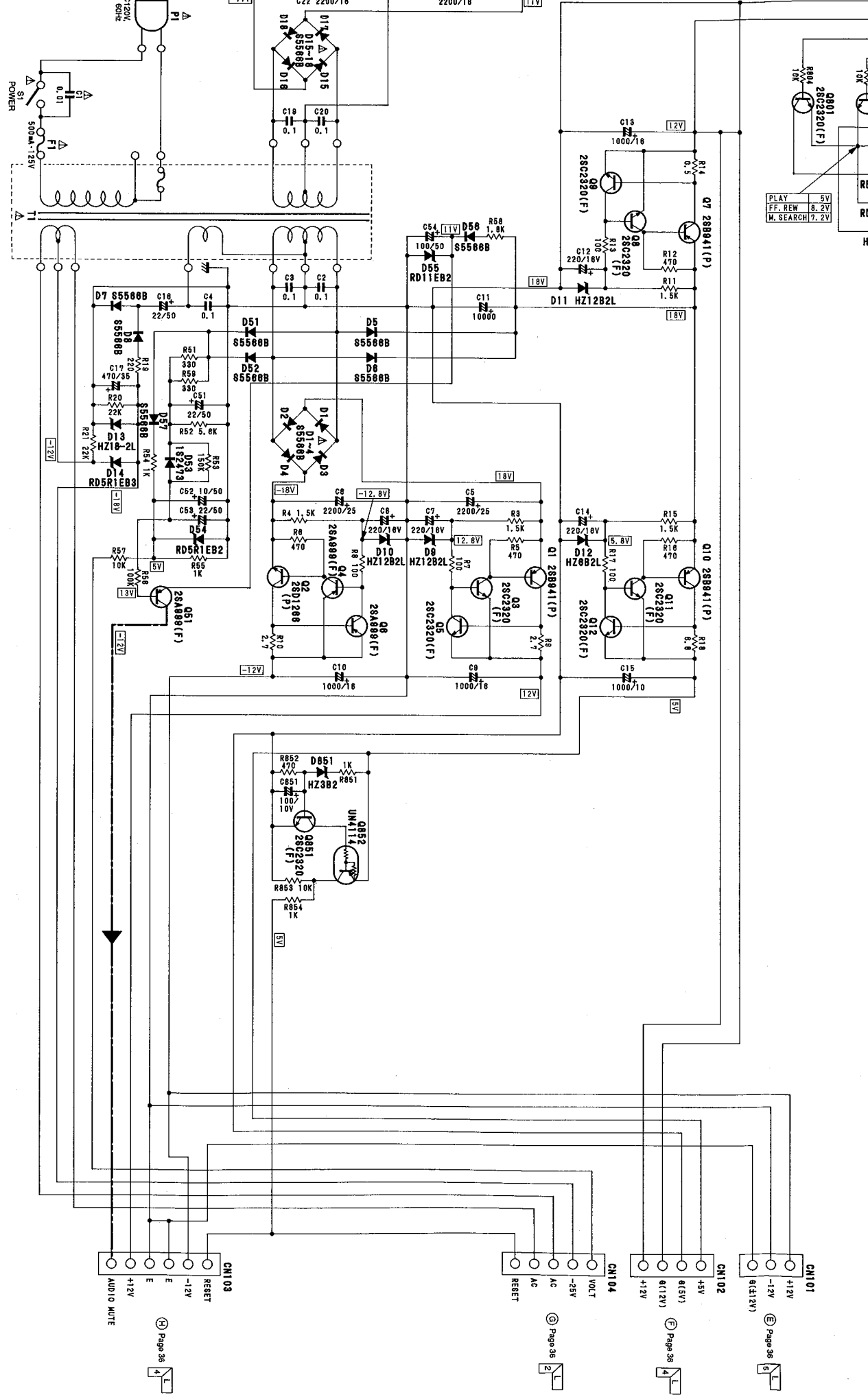
M

N

RD



4  
5  
6  
7  
8  
9  
10



PLAY 5V  
FF. REW 8.2V  
M. SEARCH 7.2V

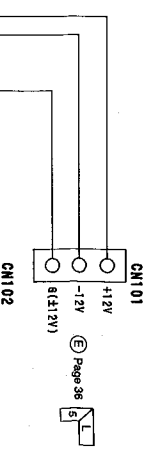
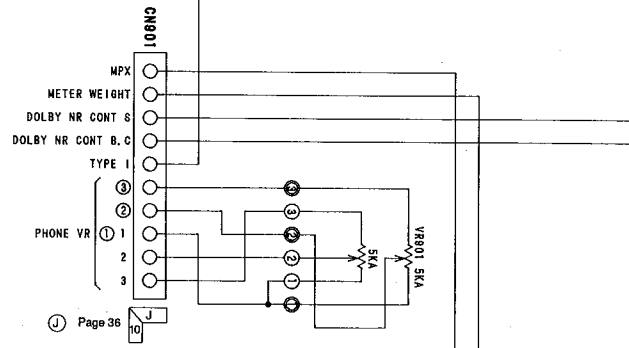
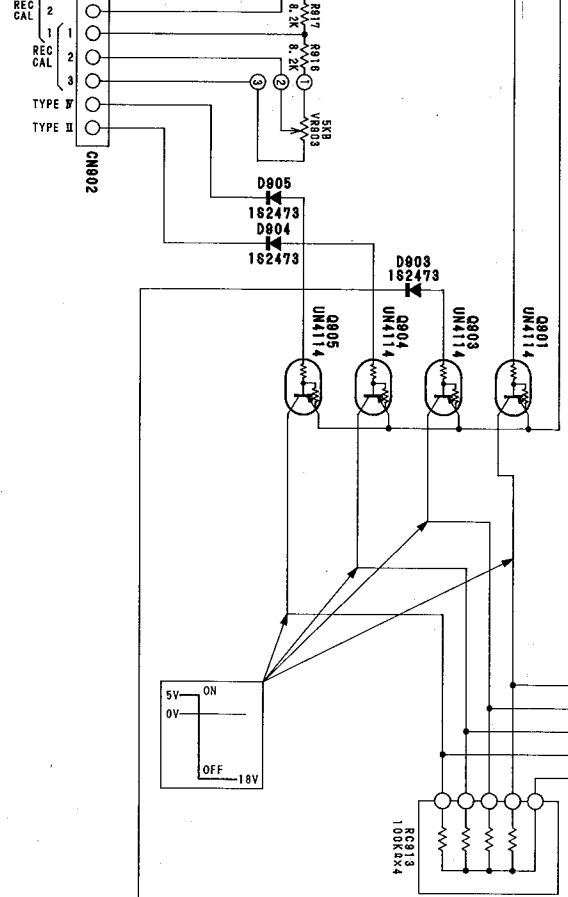
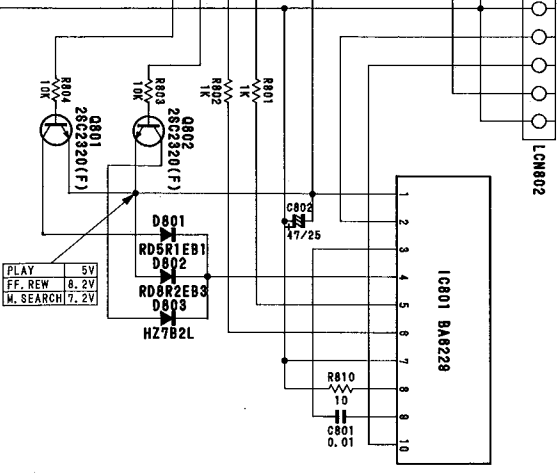
Page 36  
4

Page 36  
2

Page 36  
4

Page 36  
5

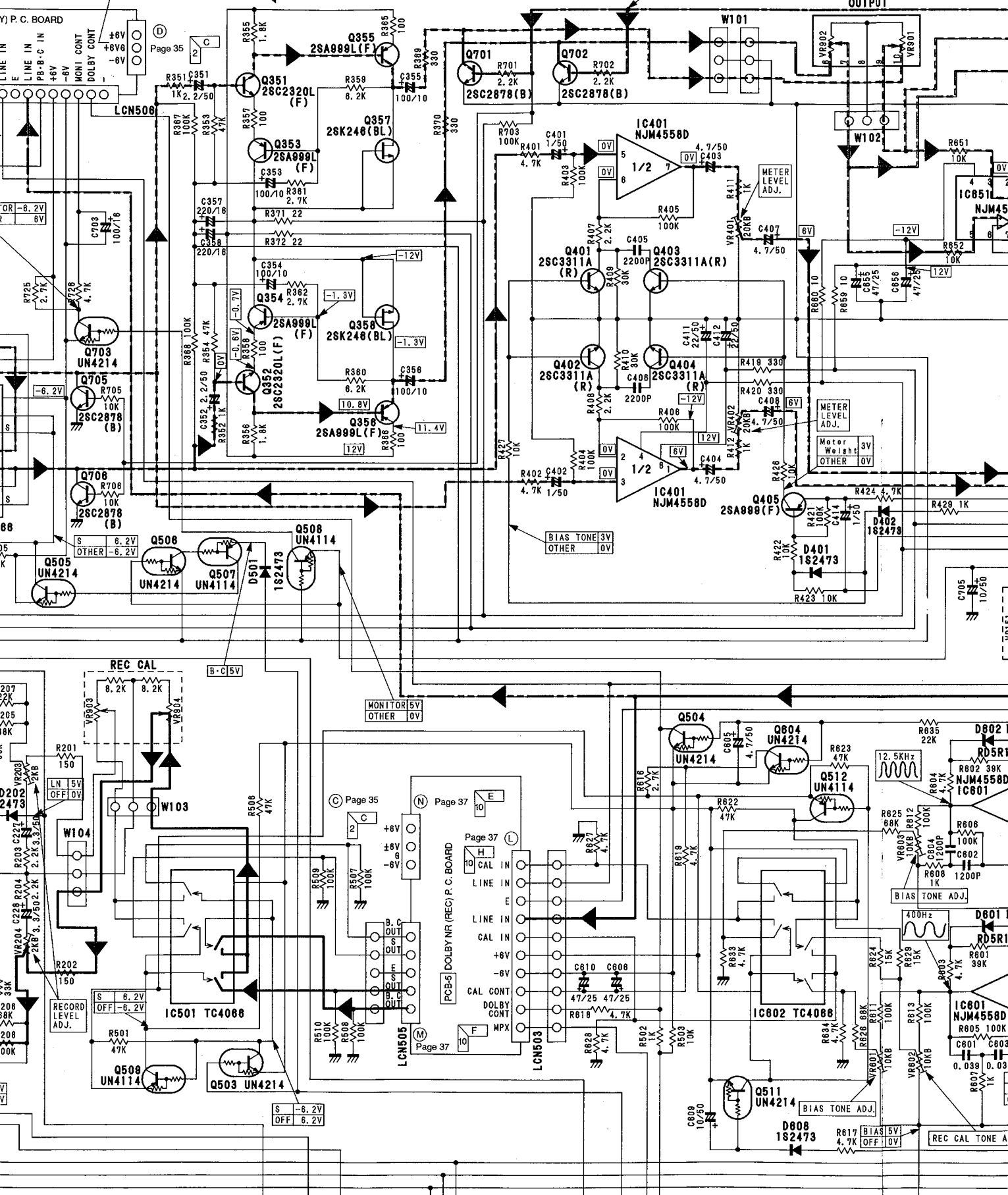












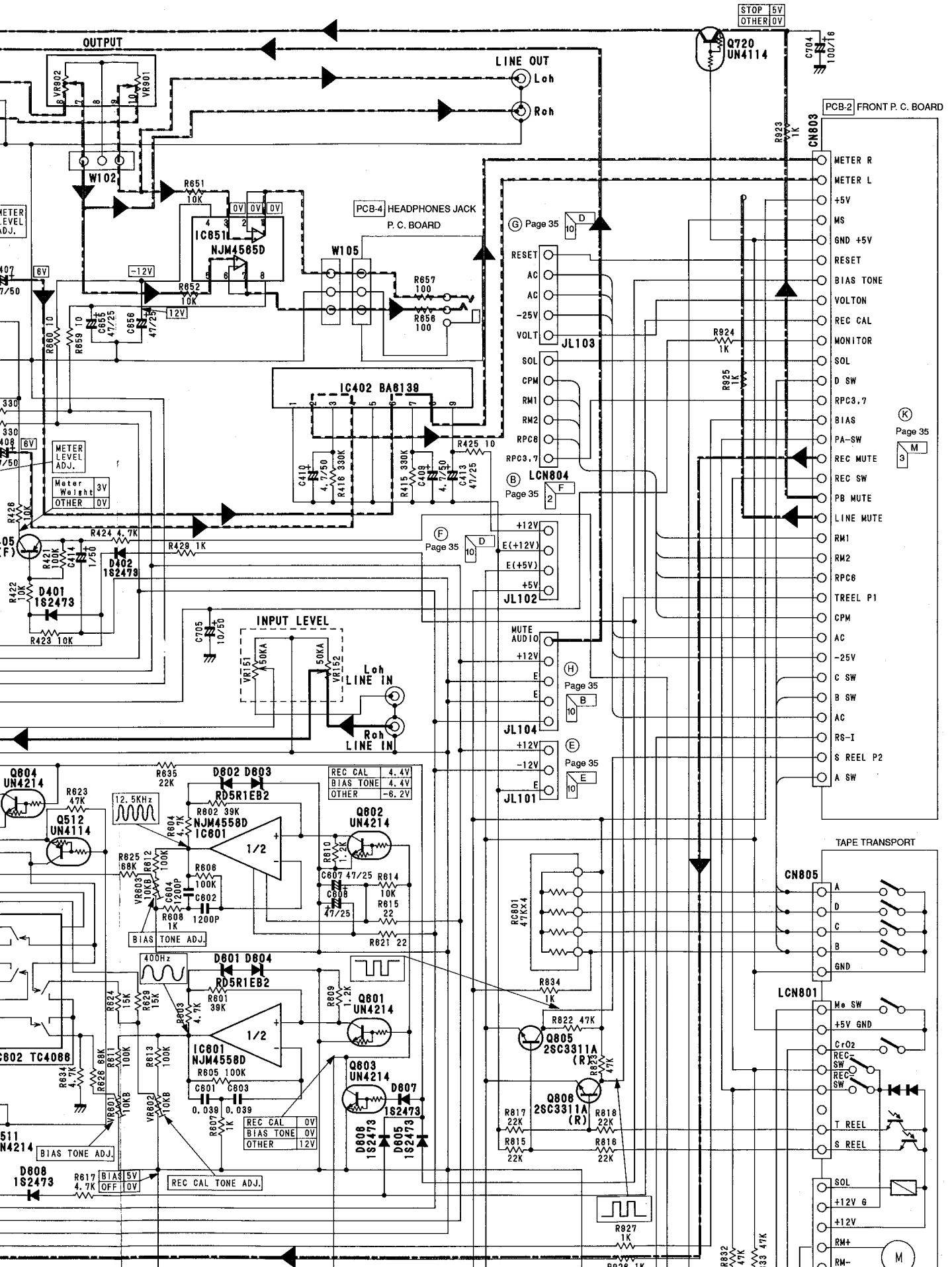
J

K

L

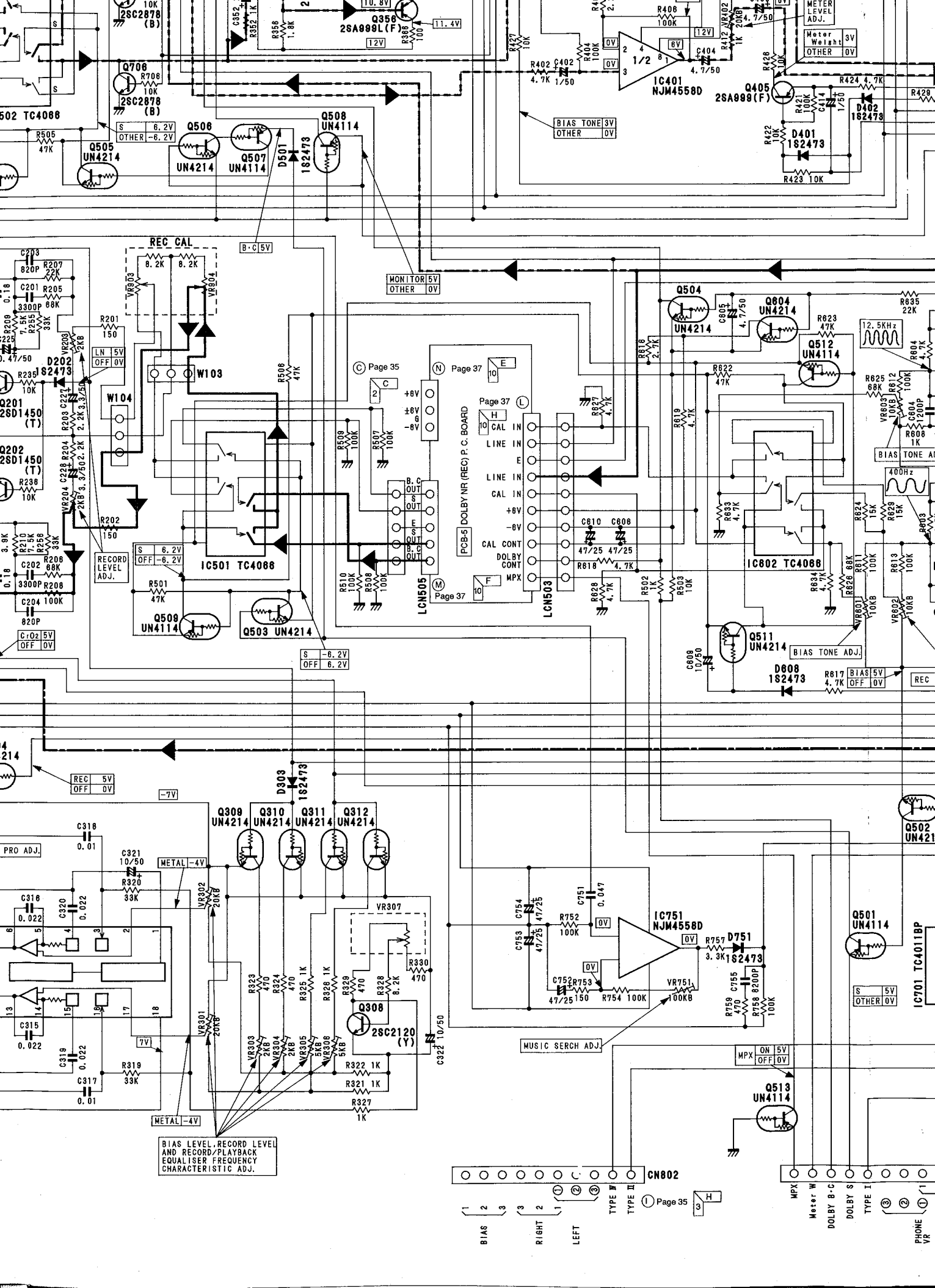
M

N



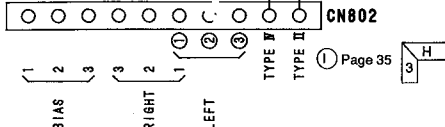






BIAS LEVEL, RECORD LEVEL AND RECORD/PLAYBACK EQUALIZER FREQUENCY CHARACTERISTIC ADJ.

MUSIC SEARCH ADJ.



Q501 UN4114

IC701 TC4011BP

D608 1S2473

REC

Q511 UN4214

Q512 UN4114

Q604 UN4214

Q504 UN4214

LCN503

LCN505

IC501 TC4088

Q509 UN4114

Q503 UN4214

Q508 UN4114

Q507 UN4114

Q506 UN4214

Q505 UN4214

Q708 26C2878 (B)

Q358 2SA999L (F)

Q358 2SA999L (F)

PHONE VR

TYPE II

TYPE I

DOLBY S

DOLBY B-C

Meter W

MPX

H

Page 35

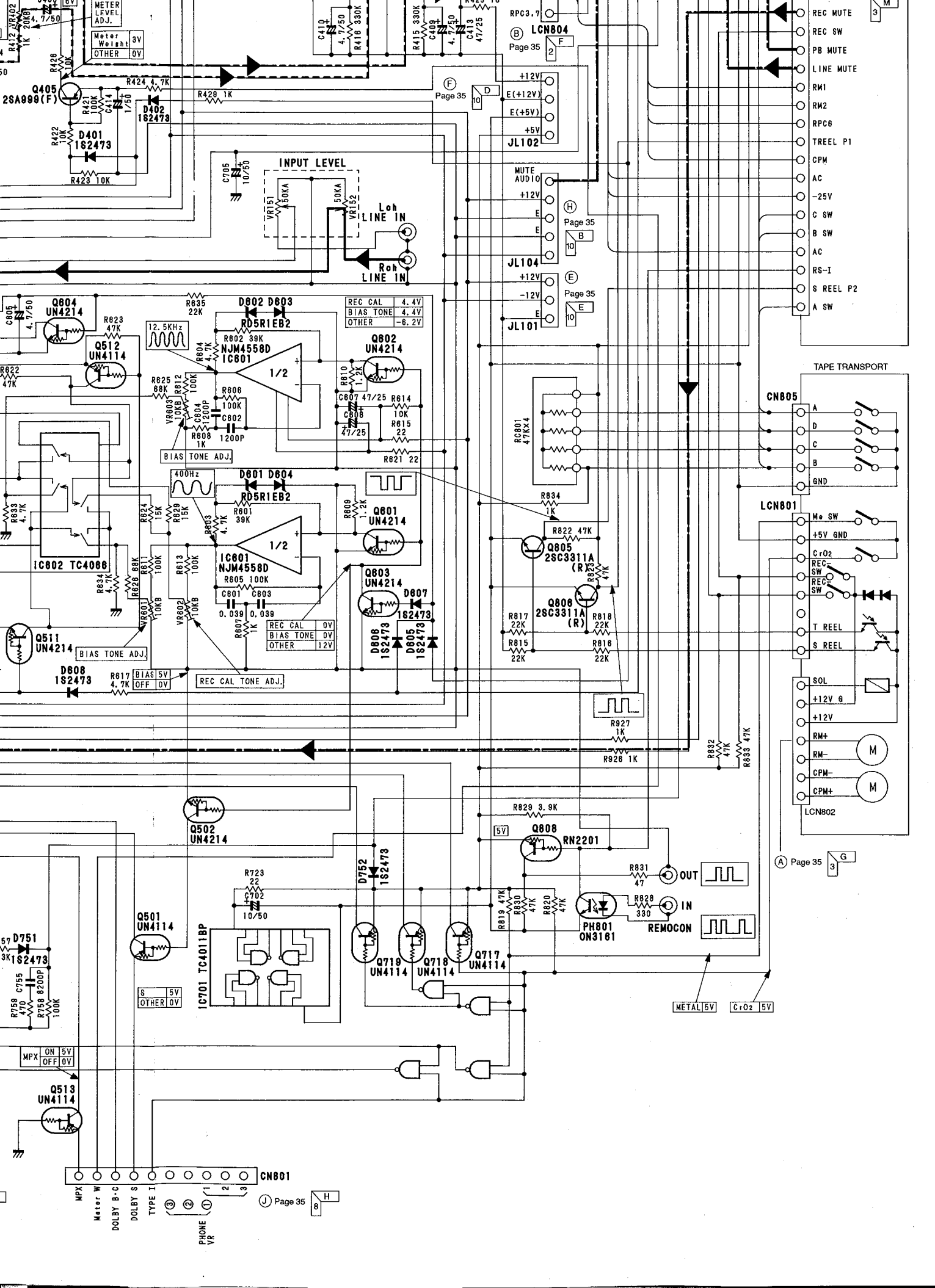
TYPE II

TYPE I

LEFT

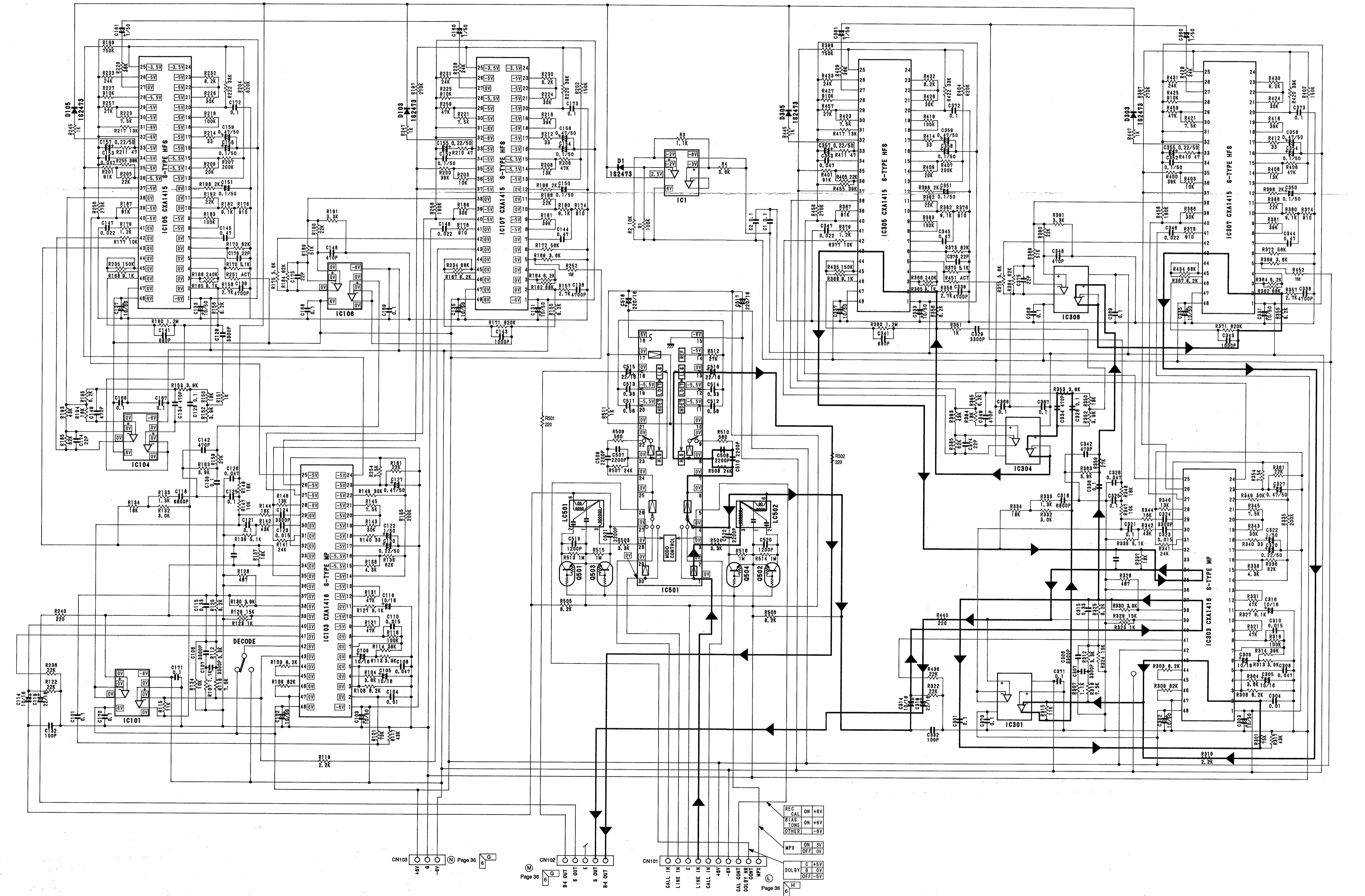
RIGHT

BIAS



SCHMATIC DIAGRAM (3)

[PCB-5] DOLBY NR (REC) P. C. BOARD



Page 36  
 48V  
 6V  
 -6V

Page 36  
 84 OUT  
 8 OUT  
 8 OUT  
 84 OUT

Page 36  
 CALL IN  
 LINE IN  
 E  
 LINE IN  
 CALL IN  
 48V  
 -6V  
 CALL CONT  
 DOLBY NR  
 CONT  
 MPX  
 OFF

REC CAL ON +6V  
 BIAS ON +6V  
 TONE ON +6V  
 OTHER -6V  
 MPX ON 5V  
 OFF 0V

Page 36  
 C +5V  
 B 0V  
 OFF -5V  
 H  
 L







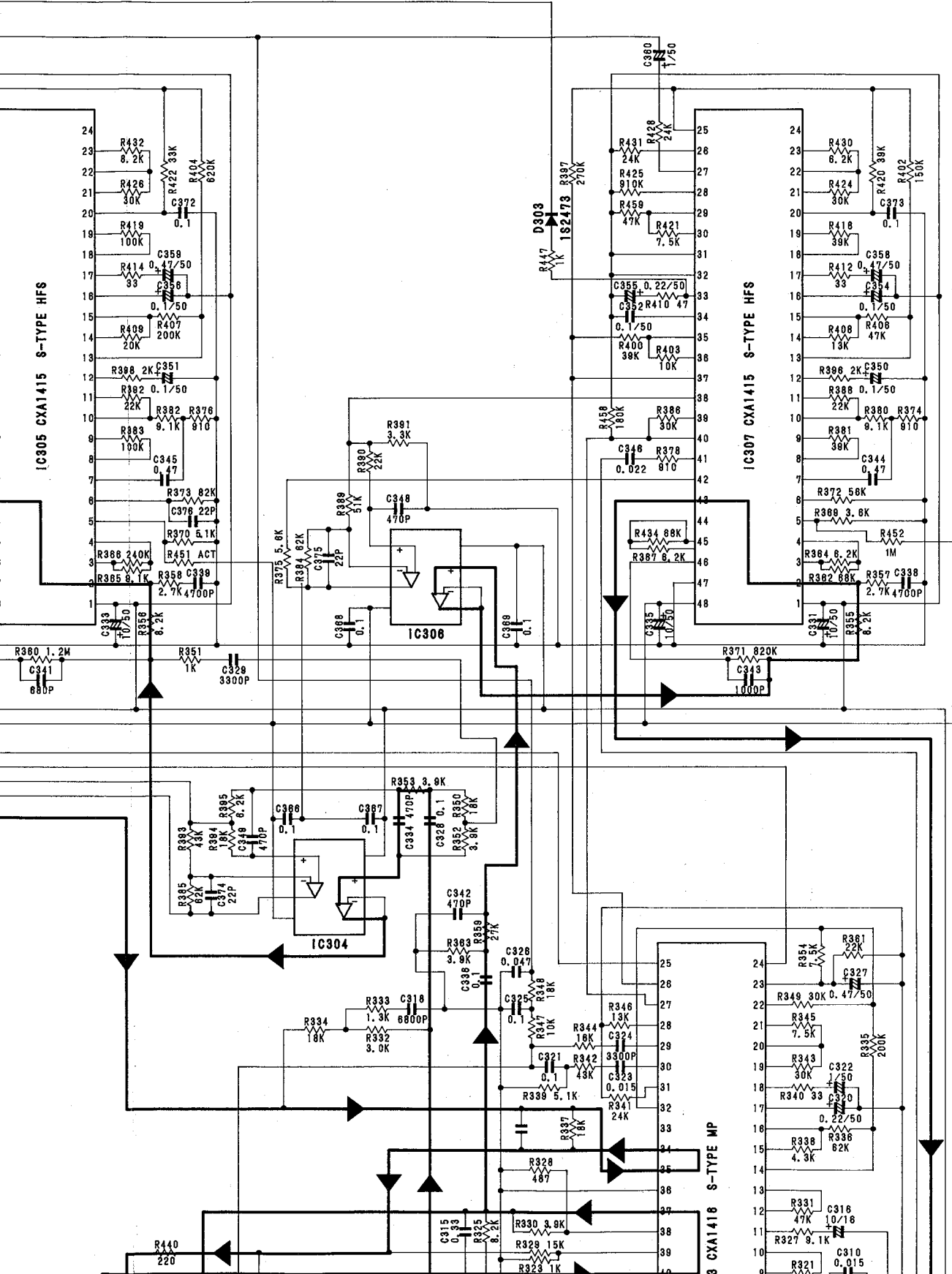
J

K

L

M

N



IC305 CXA1415 S-TYPE HFS

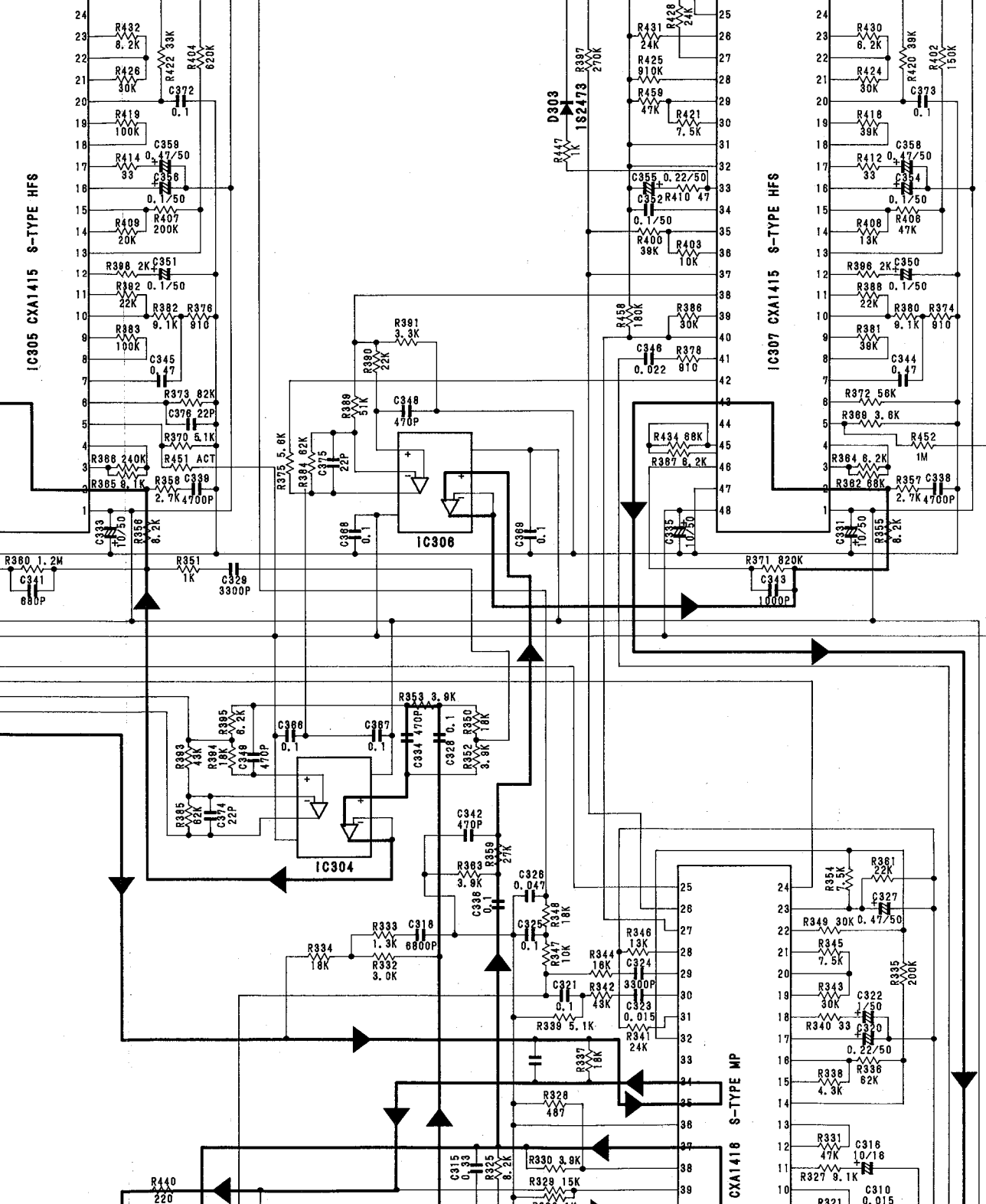
IC307 CXA1415 S-TYPE HFS

IC306

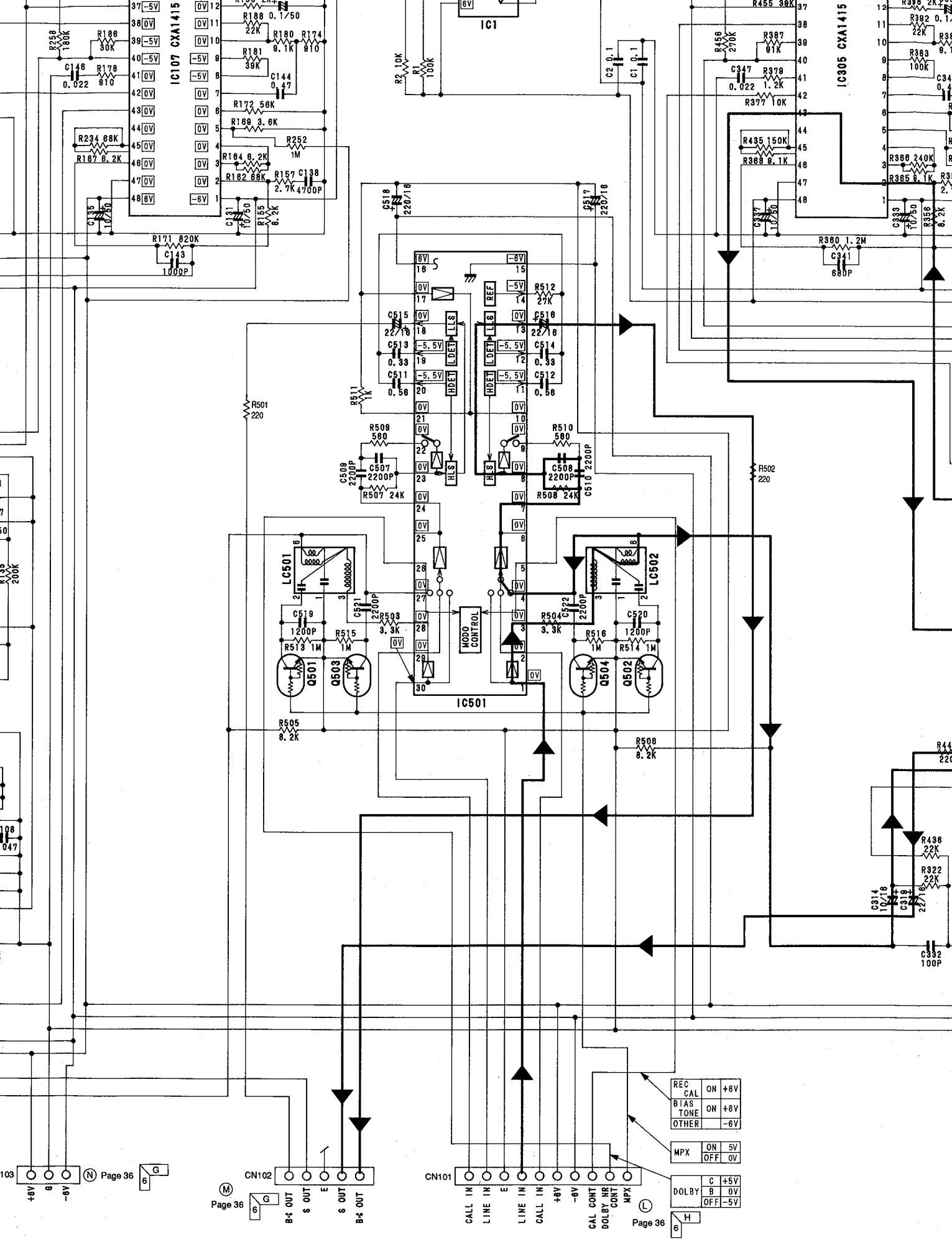
IC304

IC308 CXA1418 S-TYPE MP

D303  
IS2473







+8V 6 -6V (N) Page 36

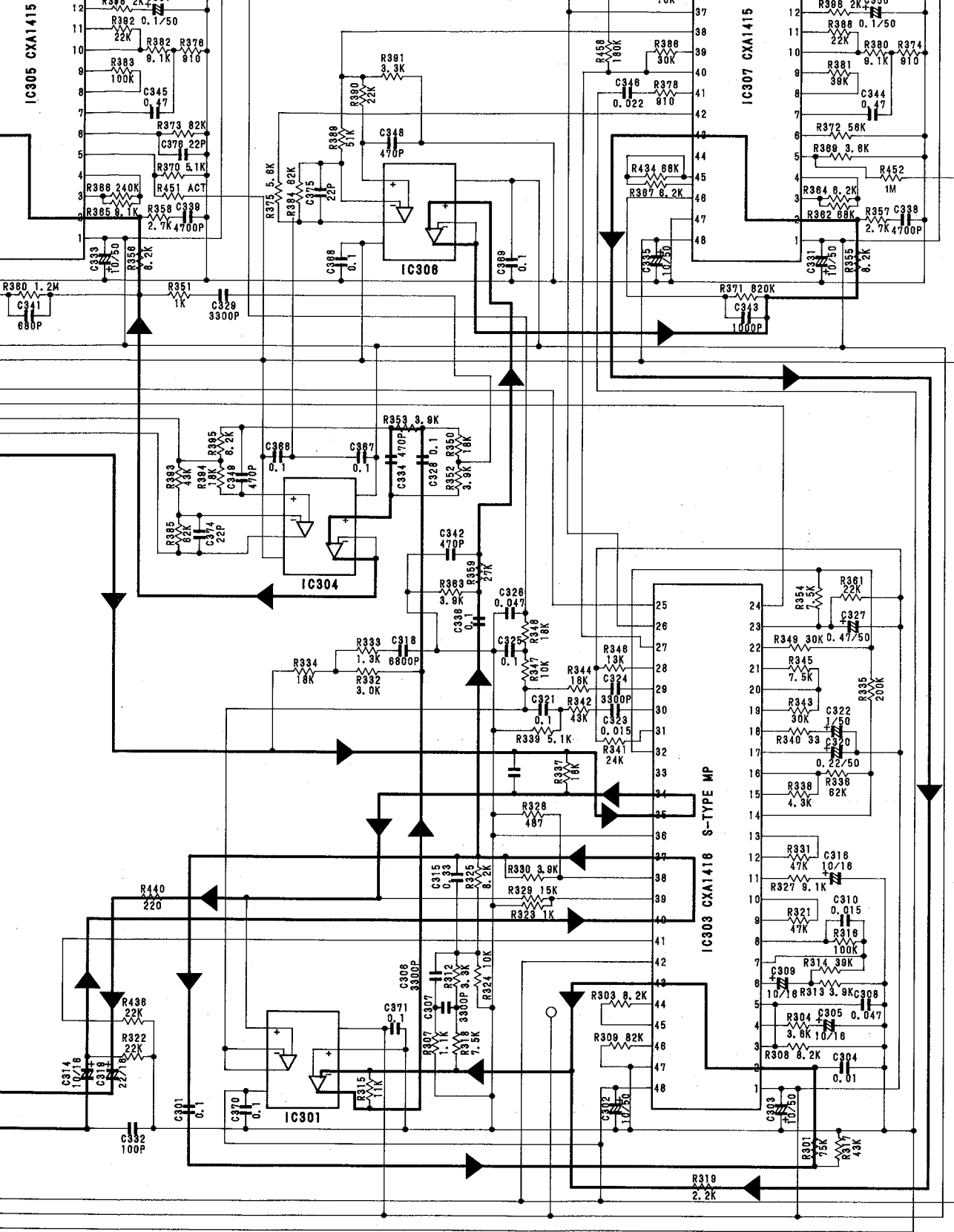
CN102 B+ OUT S OUT E S OUT B+ OUT

CN101 CALL IN LINE IN LINE IN CALL IN +8V -6V CAL CONT DOLBY NR CONT MPX

REC	CAL	ON	+8V
BIAS	TONE	ON	+8V
OTHER			-6V
MPX	ON	5V	
	OFF	0V	

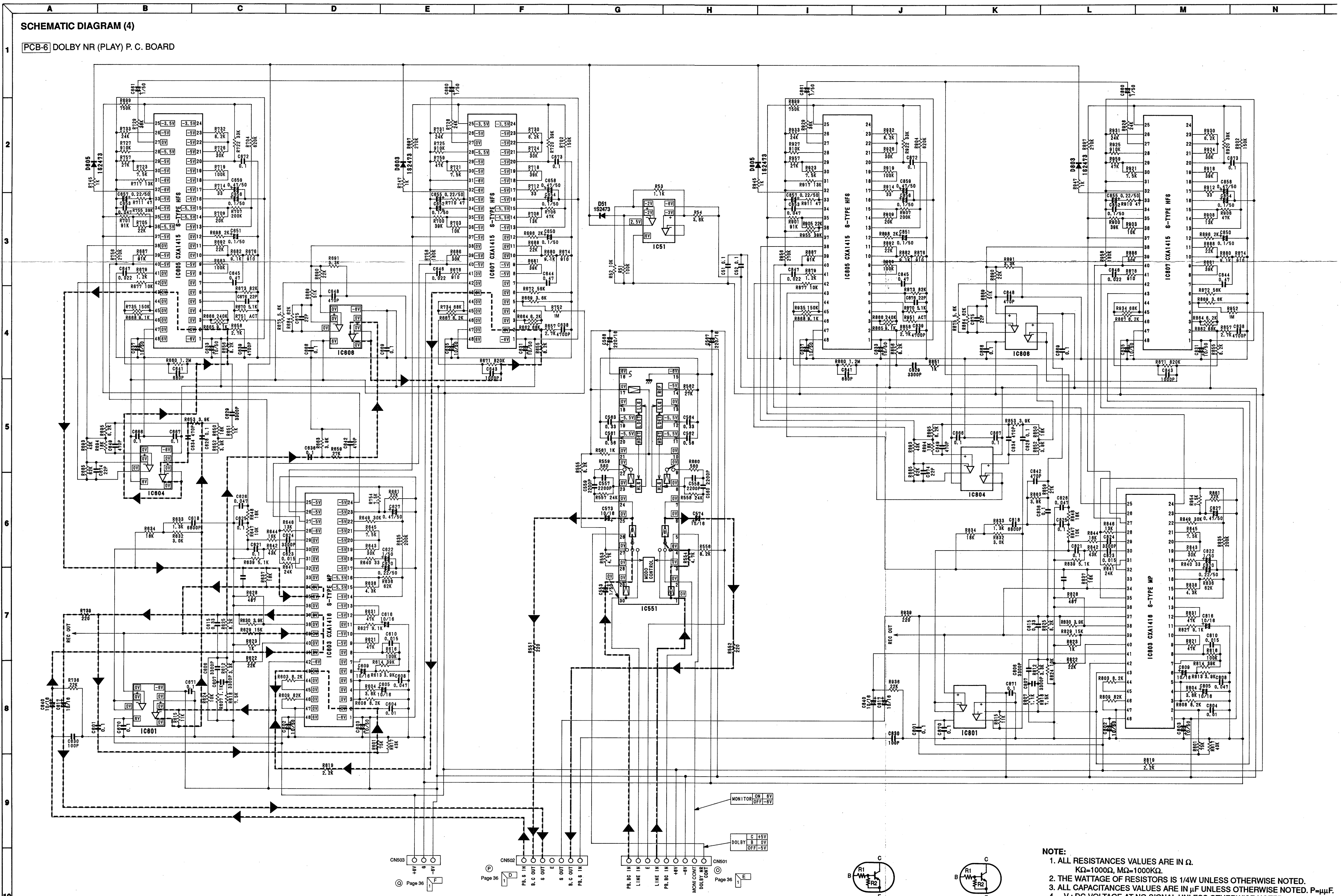
DOLBY	C	+5V
	B	0V
	OFF	-5V

Page 36



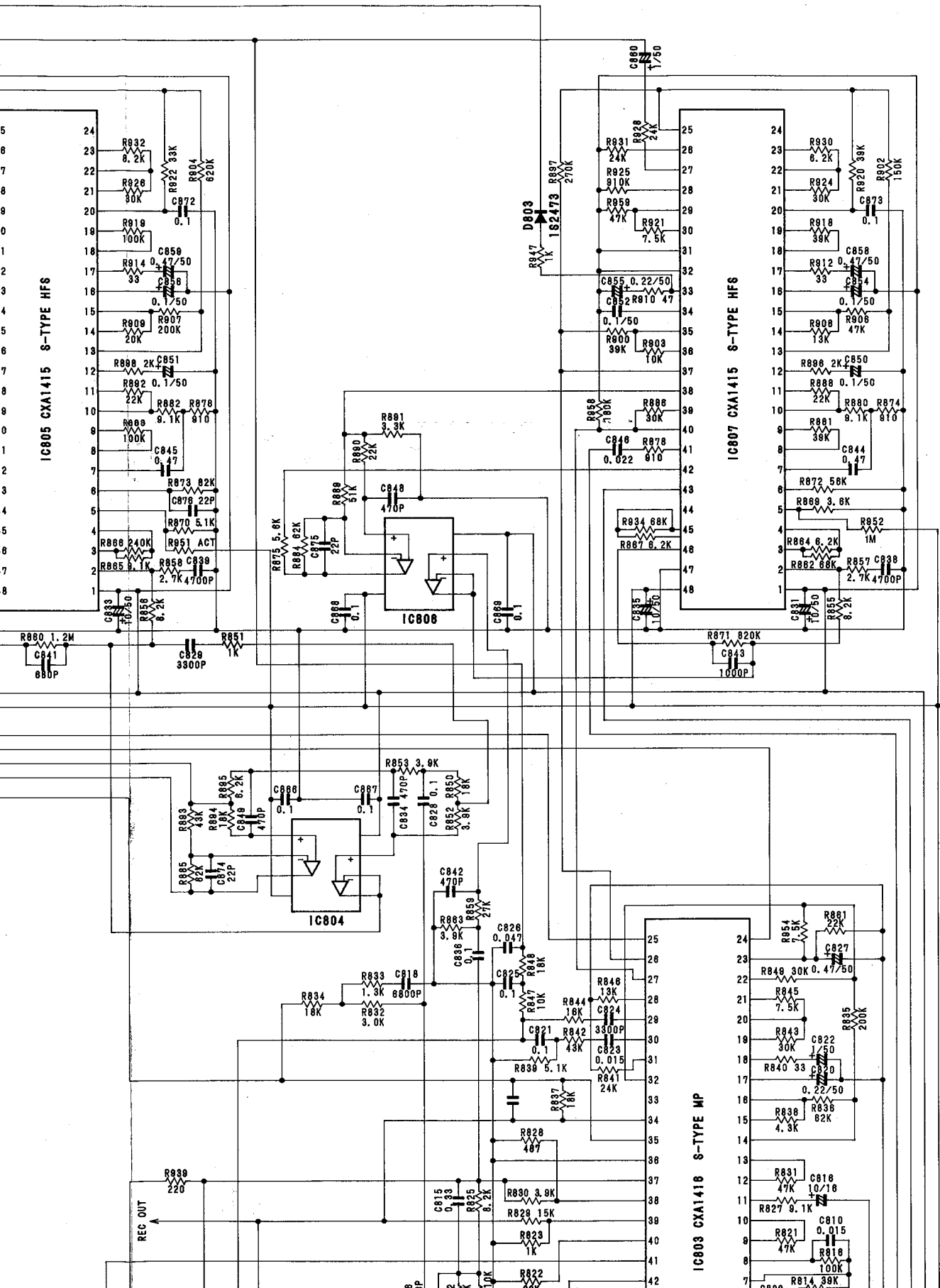
SCHEMATIC DIAGRAM (4)

PCB-6 DOLBY NR (PLAY) P. C. BOARD



- NOTE:**
1. ALL RESISTANCES VALUES ARE IN  $\Omega$ .  
 $K\Omega=1000\Omega$ ,  $M\Omega=1000K\Omega$ .
  2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
  3. ALL CAPACITANCES VALUES ARE IN  $\mu F$  UNLESS OTHERWISE NOTED. P= $\mu\mu F$ .
  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.

Type	R1(k $\Omega$ )	R2(k $\Omega$ )
UN4114	10	47
Type	R1(k $\Omega$ )	R2(k $\Omega$ )
UN4214	10	47







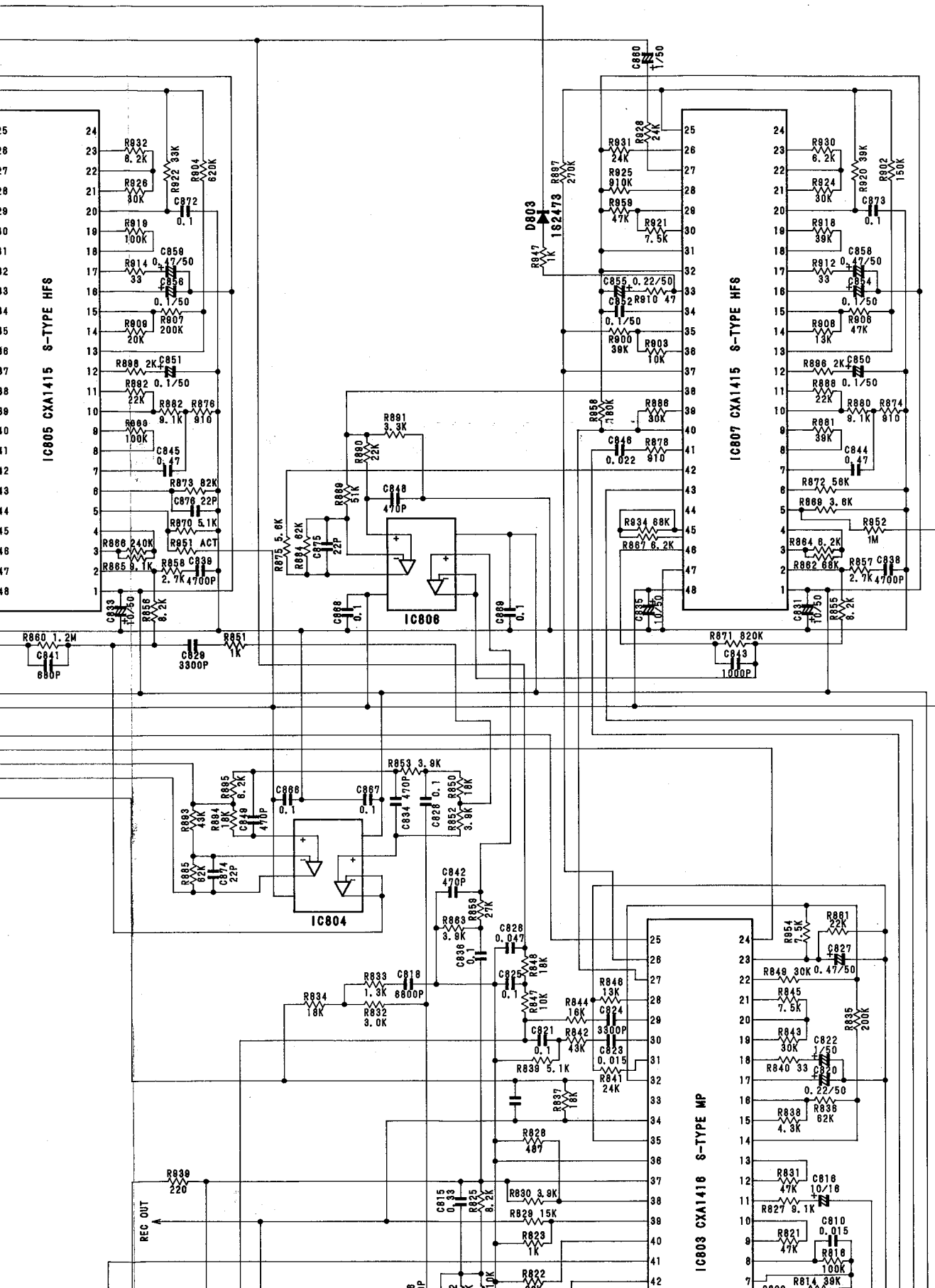
J

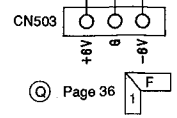
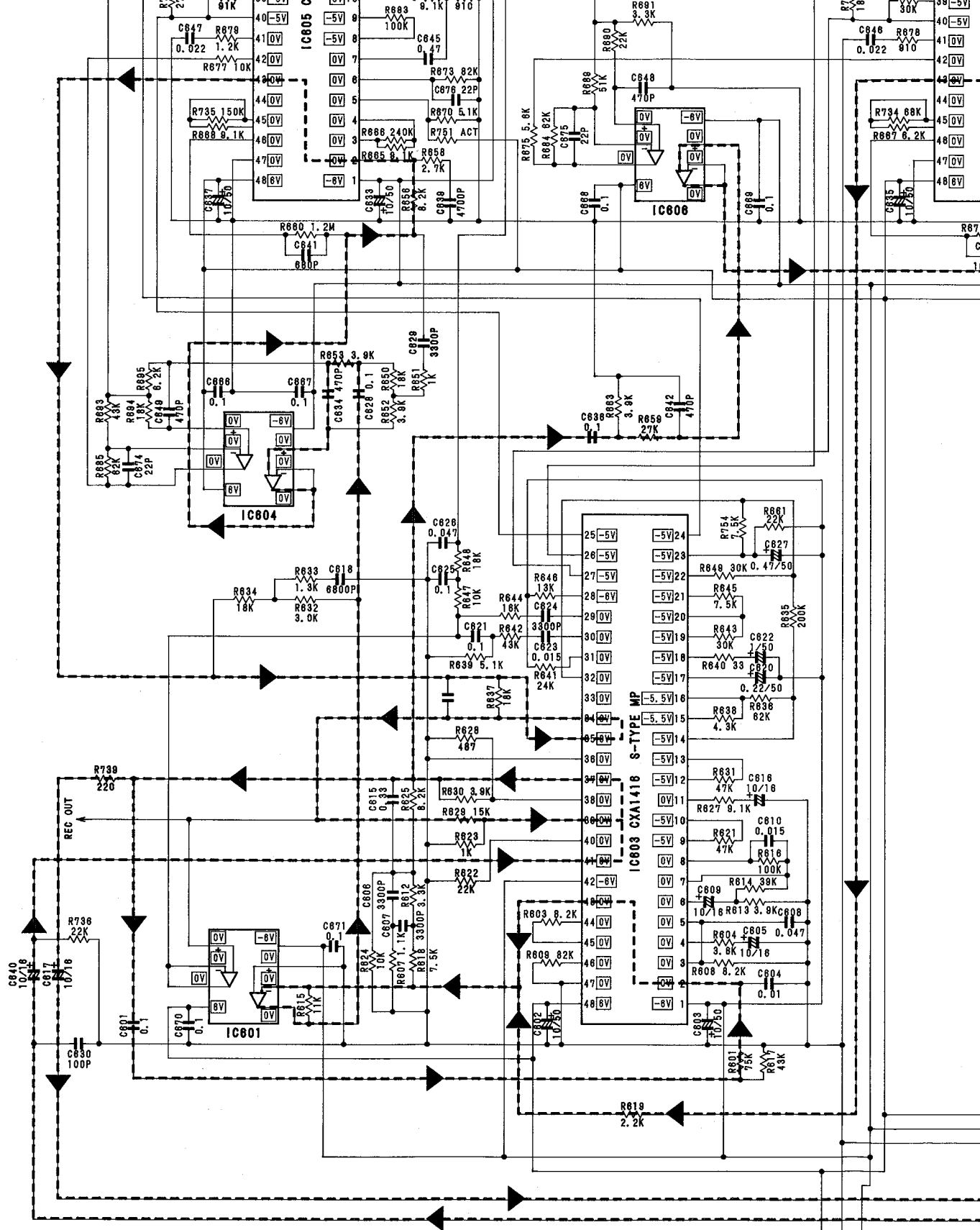
K

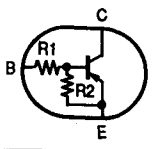
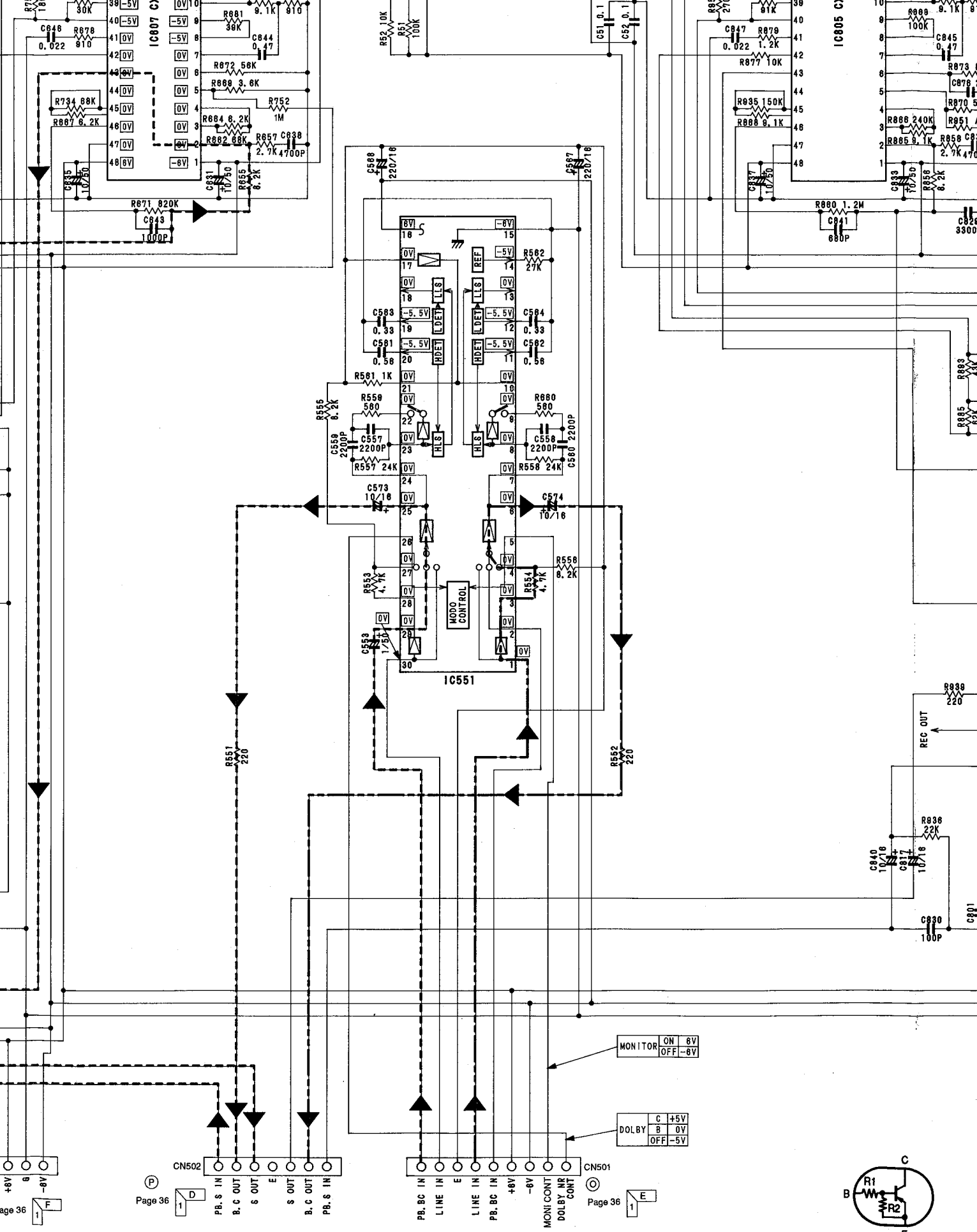
L

M

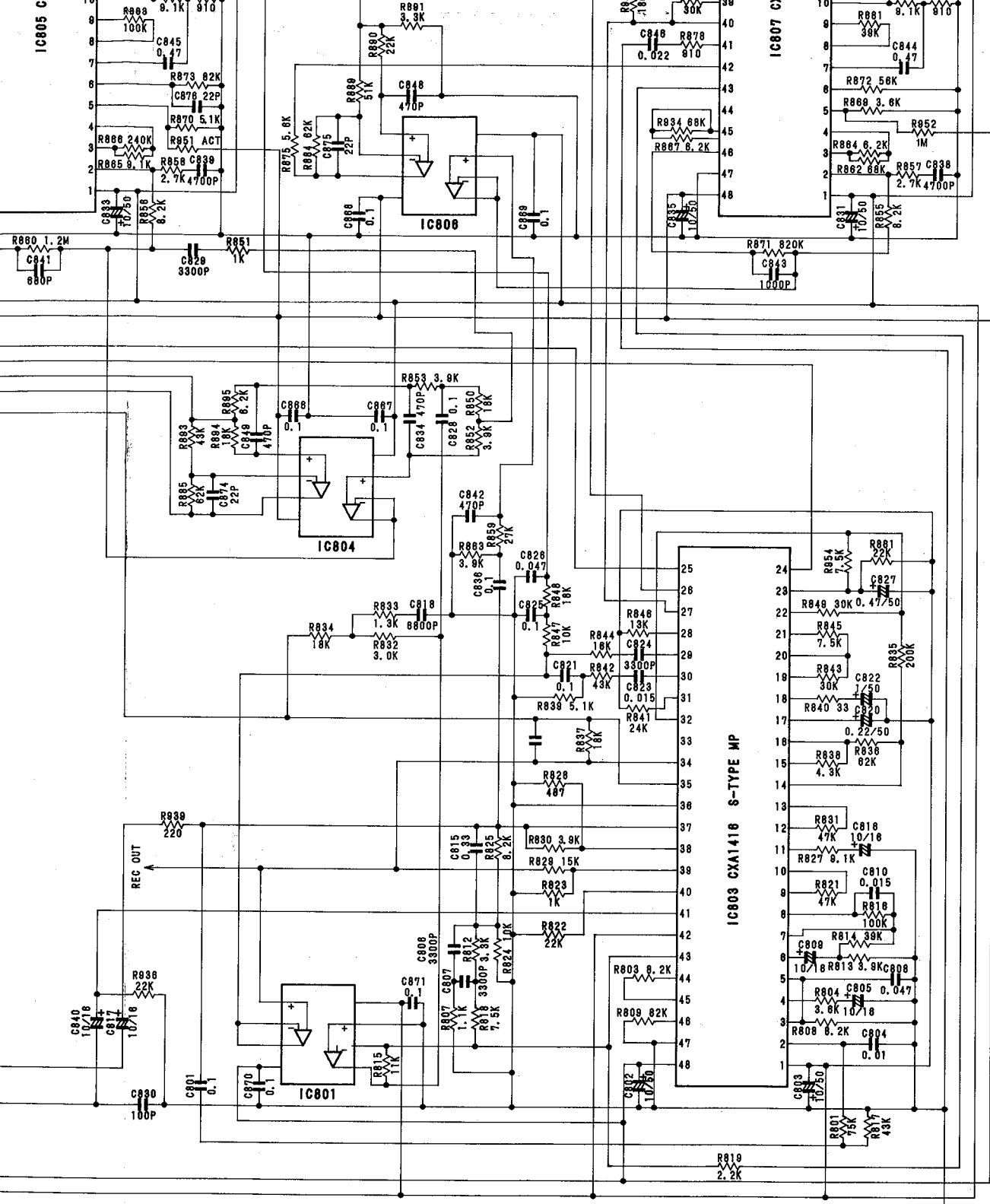
N






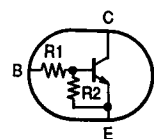
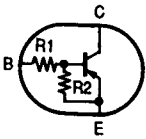


Type	R1(kΩ)	R2(kΩ)
UN4114	10	47



**NOTE:**

1. ALL RESISTANCES VALUES ARE IN  $\Omega$ .  
 $K\Omega=1000\Omega$ ,  $M\Omega=1000K\Omega$ .
2. THE WATTAGE OF RESISTORS IS 1/4W UNLESS OTHERWISE NOTED.
3. ALL CAPACITANCES VALUES ARE IN  $\mu F$  UNLESS OTHERWISE NOTED.  $P=\mu\mu F$ .
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.



Type	R1(k $\Omega$ )	R2(k $\Omega$ )
UN4114	10	47

Type	R1(k $\Omega$ )	R2(k $\Omega$ )
UN4214	10	47