DTC-77ES/87ES

SERVICE MANUAL

106 doppelt

US Model
DTC-87ES
AEP Model
UK Model
DTC-77ES

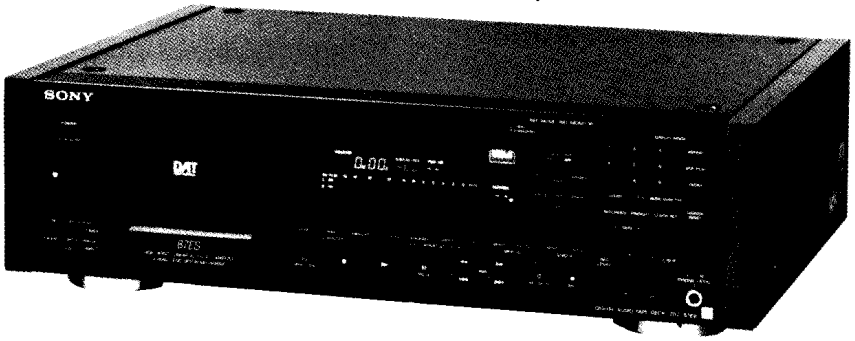


Photo: DTC-87ES

Model Name Using Similar Mechanism	New Mechanism
Tape Transport Mechanism Type	DATM-51

SPECIFICATIONS

Tape	Digital audio tape
Recording head	Rotary head
Recording time	Standard: 120 minutes. Long-play mode: 240 minutes (with DT-120)
Tape speed	Standard: 8.15 mm/s, Long play mode: 4.075 mm/s
Drum rotation	Standard: 2,000 rpm, Long-play mode: 1,000 rpm
Error correction	Double Read Solomon code

Tape

Track pitch	13.6 µm (20.4 µm)
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Modulation system	8–10 Modulation
Transfer rate	2.46 Mbit/sec.
Number of channel	2 channels, stereo
D/A conversion (Quantization)	
	Standard: 16-bit linear Long-play mode: 12-bit non-linear
Frequency response	Standard: 2–22,000 Hz (±0.5 dB) Long-play mode: 2–14,500 Hz (±0.5 dB)

		DTC-77ES	DTC-87ES
Signal to noise ratio	SP	more than 93 dB	more than 94 dB
	LP		more than 93 dB
Dynamic range	SP	more than 93 dB	more than 94 dB
	LP		more than 93 dB
Total harmonic distortion (1 kHz)	SP	less than 0.0045%	less than 0.004%
	LP	less than 0.08%	less than 0.08%

* SP: standard-play mode
LP: Long-play mode

Wow and flutter — Below measurable limit (±0.001% W. PEAK)

– Continued on next page –

DIGITAL AUDIO TAPE DECK

SONY®

Input

	Jack type	Impedance	Rated input level
LINE IN	phono jack	47 kohms	–4 dBs
DIGITAL IN	phono jack	75 ohms	0.5 Vp-p, 20%
DIGITAL IN	optical jack	—	—

Output

	Jack type	Impedance	Rated output	Load impedance
LINE OUT	phono jack	470 ohms	–4 dBs	More than 10 kohms
PHONES	stereo phone jack	220 ohms	2.0 mW	32 ohms

DIGITAL OUT (optical jack): wavelength 660 nm

General

Power requirements
US model: 120 V AC, 60 Hz
AEP model: 220/230 V AC, 50/60 Hz
UK model: 240 V AC, 50/60 Hz

Power consumption
37 W

Dimensions
US, AEP model:
Approx. 470 × 135 × 350 mm (w/h/d)
(18⅝ × 5⅜ × 13⅞ inches)
UK model:
Approx. 430 × 135 × 350 mm (w/h/d)
(17 × 5⅜ × 13⅞ inches)

Weight
US, AEP model:
Approx. 11 kg (24 lb 5 oz)
UK model:
Approx. 10.2 kg (22 lb 8 oz)

Remote commander (supplied)

Remote control system
Infrared control

Power requirements
3V DC, with two size AA (R6) batteries

Dimensions
Approx. 63x19x175 mm (w/h/d)
(2 ½ x ¾ x 7 inches)

Weight
Approx. 130 g (4 oz) incl. batteries.

Supplied accessories

Sony batteries SUM-3(NS) (2)
Audio connecting cords (2 phono plugs - 2 phono plugs, stereo for line inputs and outputs) (2)
Screws (4)

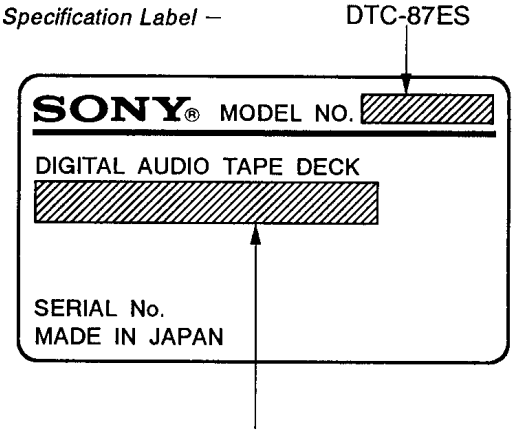
Design and specifications subject to change without notice.

TABLE OF CONTENTS

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION DTC-77ES
– Specification Label – DTC-87ES



US Model: AC: 120V 60Hz
AEP Model: AC: 220 – 230V~50/60 Hz
UK Model: AC: 240~50/60 Hz

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Lever det brugte batteri tilbage til leverandøren.

ADVARSEL

Lithiumbatteri – Eksplosjonsfare.
Ved utskifting benyttes kun batteri som
anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

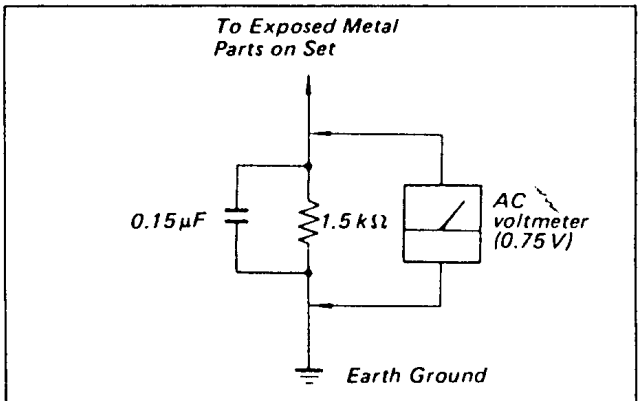


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Features

Serial copy management system

This unit utilizes the serial copy management system that permits digital-to-digital recording for one generation. You can record CD sound or other digital formats through a digital-to-digital connection.

4-Head, 4-DD Motor Mechanical Deck System

In addition to the standard two heads for recording and playback, this unit employs two additional heads for after-monitoring, forming a four-head system. This system allows after-monitoring of the recorded sound during recording in the same manner as with three-head cassette decks. In addition, the unit employs direct-drive motors for the drum, capstan, and reel drives, realizing silent and stable tape transport.

Date Function Automatically Records the Recording Date and Time

The year, month, day, day of the week, hour, minute and second are automatically recorded in the subcode area during recording, so that during playback you can display this data to check when the tape was recorded. This function is especially convenient when recording live performances, etc.

Three sampling frequencies

Recording/playback can be done with three sampling frequencies (48 kHz, 44.1 kHz and 32 kHz).
48 kHz: For analog and digital input signals in a standard mode.
44.1 kHz: For compact disc and pre-recorded DAT tape.
32 kHz: For analog input signals in a long-play mode.

Long Play mode

This unit can operate in a long-play mode. Analog input signals can be recorded or playback for up to four consecutive hours when the DT-120 DAT cassette tape is used. The sampling frequency will be 32 kHz in the long-play mode.

Visible cassette loading

You can view the tape operation through the lid of the cassette compartment.

Excellent sound quality

1-bit A/D converter
For the A/D converter section which converts analog input signals to digital signals, the unit employs a 1-bit A/D converter which theoretically generates no zero-cross distortion for a clear, elegant sound quality.
Pulse D/A converter
Superior playback performance is achieved through the combination of an 8X oversampling digital filter with a 1-bit D/A converter.
Independent Digital and Analog Power Sources
Since the design of the power source section is important for obtaining good sound quality, this unit incorporates two large-sized, large-capacity transformers for independently supplying power to the digital/mechanical deck sections and the analog section. This design eliminates from the source any interference introduced through the power supply.

Rich Variety of Subcode Information

This unit can record subcode information such as Start IDs, program numbers, Skip IDs, and absolute time data, enabling you to quickly locate tunes and display the playback time in the same manner as when playing compact discs.

High-Speed Search Function

Direct-drive reel motors and a software servo system enable you to locate tunes at high speeds up to 200-times the normal playback speed.

Digital fade-in/fade-out

Professional sounding fade-in/fade-out of either digital or analog signals can be accomplished by use of the FADER button.

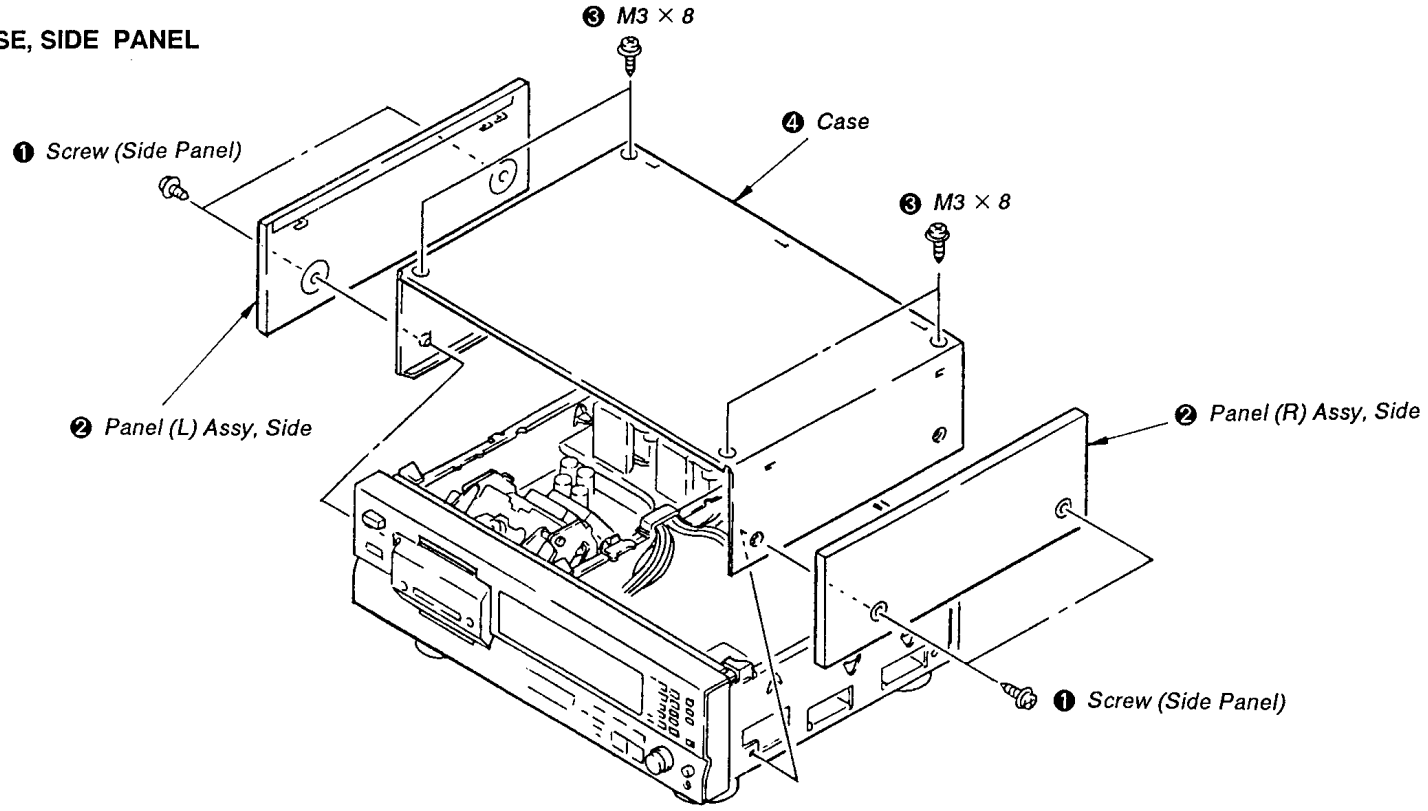
Post edit recording of sub codes

You can record or rewrite the following sub codes after the audio signal recording has been completed.
Start ID: Signifies the beginning of a selection.
Program number: Gives a number to the selection.
Skip ID: Signifies the beginning of a portion to be skipped.
End ID: Signifies the end position of recording/playback.
Since sub codes are written on the tape separately from audio signals, the audio signals are not affected.

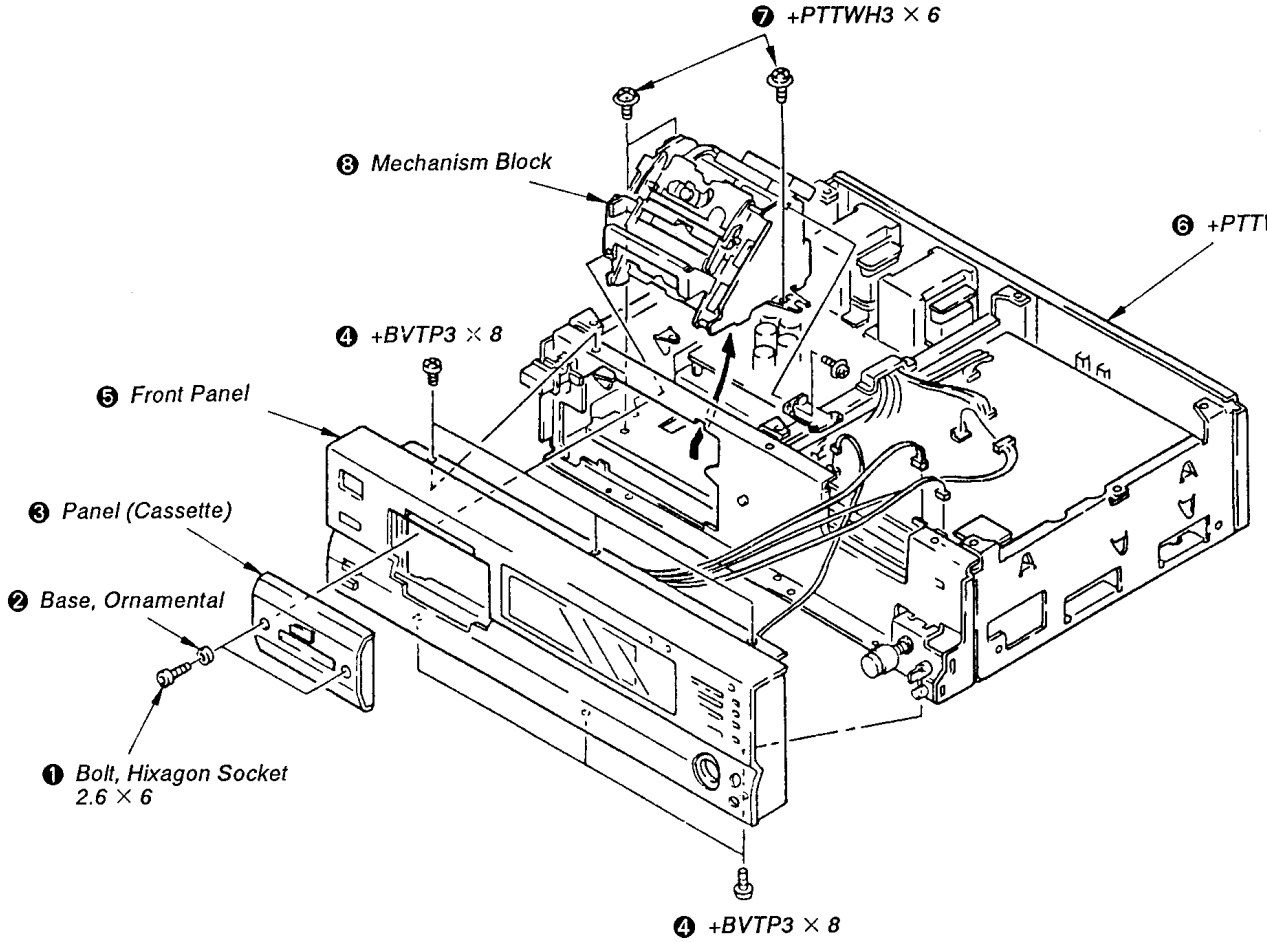
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

CASE, SIDE PANEL

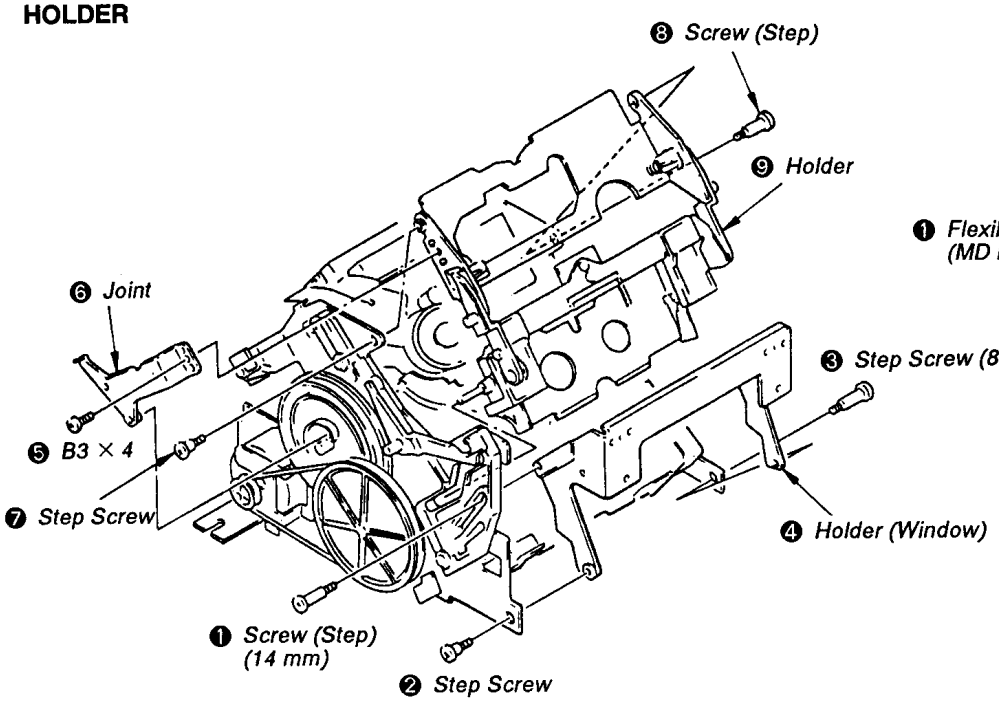


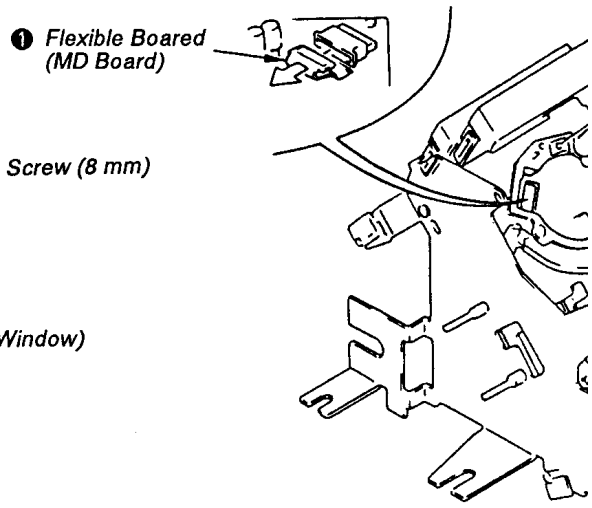
PANEL (CASSETTE), FRONT PANEL, MECHANISM BLOCK



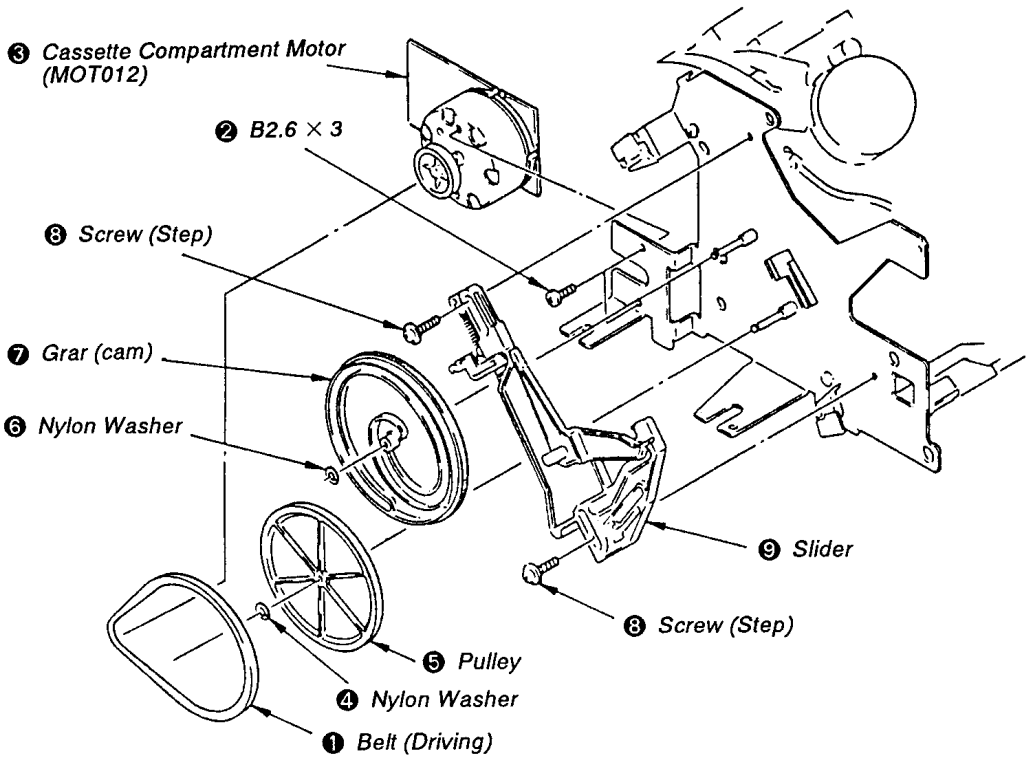
HOLDER

DRUM DOH-15A

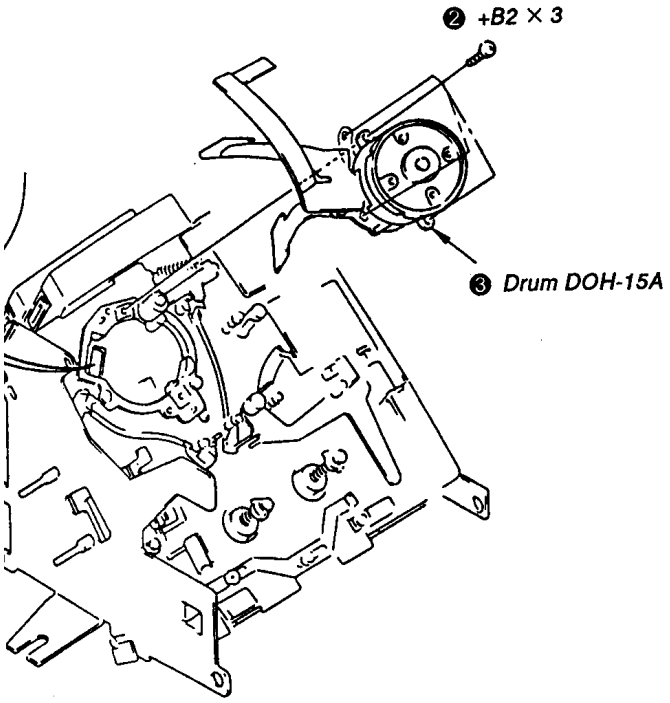


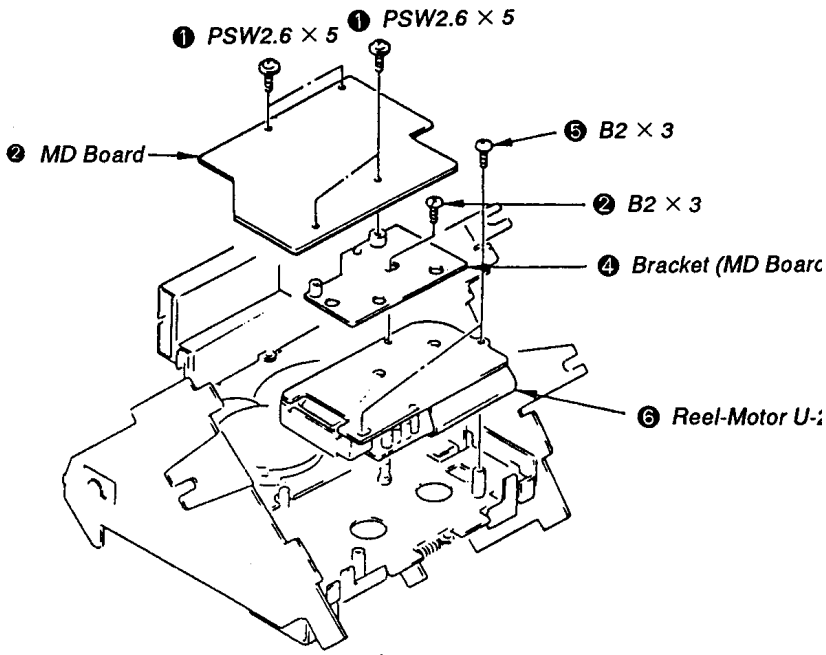


CASSETTE COMPARTMENT MOTOR (MOTO12), PULLEY, GEAR (CAM), SLIDER

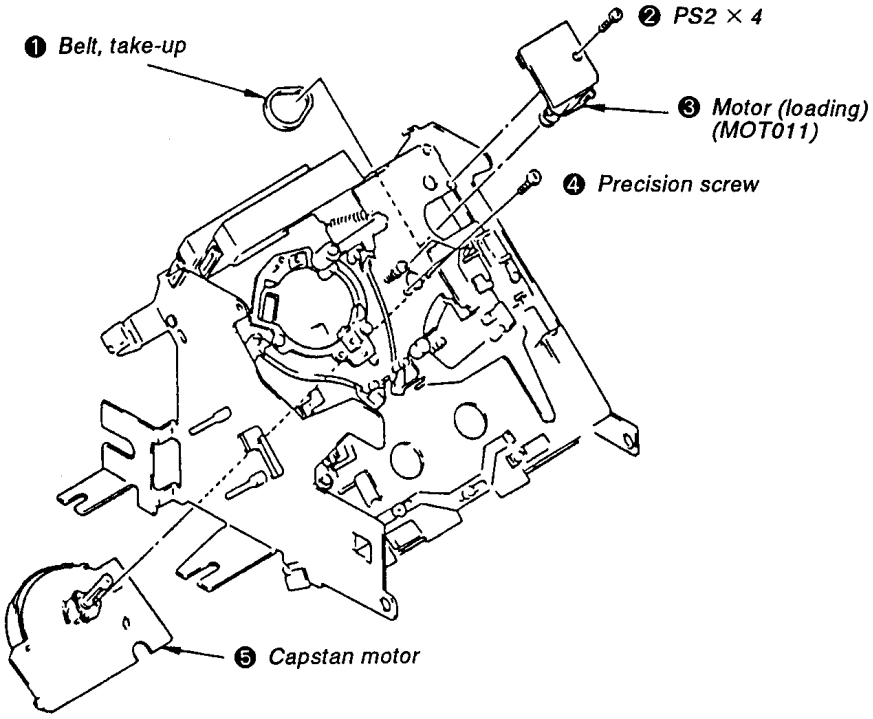


MD BOARD, REEL MOTOR U2-A (M905)





LOADING MOTOR (MOTO11), CAPSTAN MOTOR U-17A (M902)



SECTION 3
ADJUSTMENTS

Notes When Making Adjustments

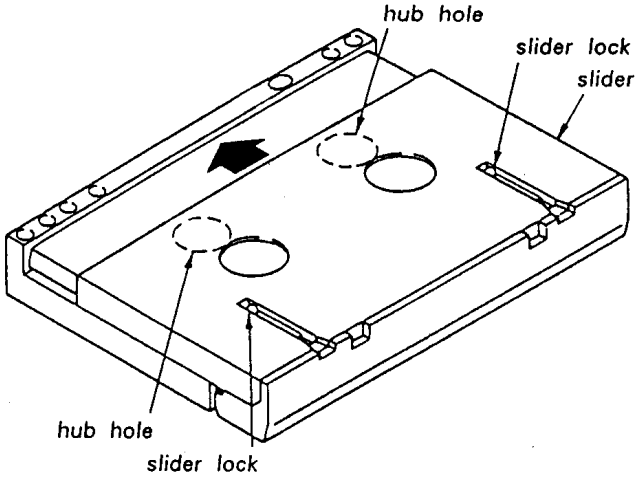
1. Adjustments should be performed in the order listed.

2. Use the following test tapes :
   TY-7111 (8-909-812-00) ····· Level
   TY-7252 (8-909-822-00) ····· Tracking
   TY-7551 (8-909-814-00) ····· Functions
   TY-30B (8-892-358-00) ····· Blank

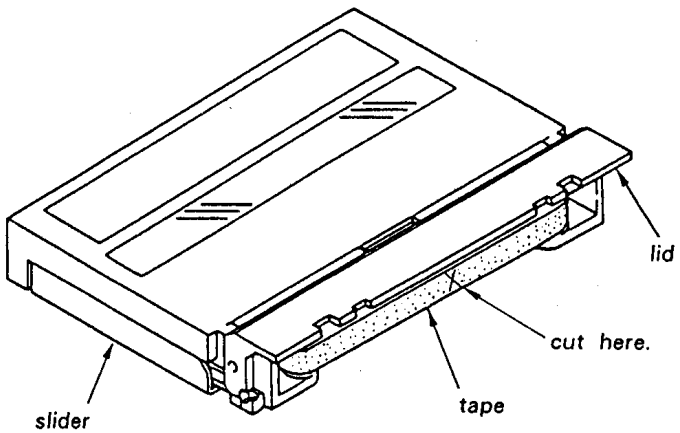
   Use the following torque meter :
   TW-7131 (8-909-708-71) ····· FWD

3. Switches and controls should be set as follows unless otherwise specified.
   TIMER switch : OFF
   REC MODE switch : LONG
   INPUT switch : COAXIAL
   REC LEVEL control : Min.
   PHONES LEVEL control : Min.

4. Creating an end sensor cassette
   (1) Press the tape slider lock and move the slider in the direction indicated by the arrow.



   (2) Open the lid and cut the tape.



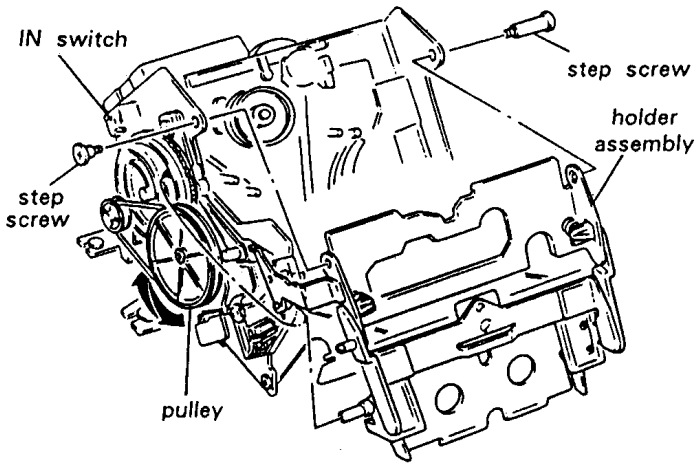
   (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).
   The end sensor cassette for end sensor adjustment is now ready for use.

5. Be careful not to move RV951 and RV952 on the RF AMP board in the mechanism assembly.

6. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-2000-002-A). This will make it easier to perform adjustments.

- First turning the pulley counterclockwise to put it in loading out status will make removal and reattachment of the holder assembly easier.

- To perform adjustments, turn the pulley clockwise to put it in loading in status, load the cassette tape and set the IN switch to the ON position.



7. Test mode
   To set to the test mode, short-circuit between Pin ⑦ (XTEST) and Pin ⑥ (GND) of CN553 on the digital board. At this time, "TEST" letters turn on red on the fluorescent display. And at the same time, turning on the date on the flouorescent display, it becomes to the torque measurement mode.
   Test mode (Short-circuit between XTEST and GND)
   ① Turn off the date on the fluorescent display.
   (Press COUNTER MODE key)
   - S2, T2, F guides Adjustment
   - End Sensor Adjustment
   - Tape Path Adjustment
   - DPG Adjustment
   - ATF Pilot Adjustment

   ② Turn on the date on the fluoresent display.
   (Press DATE-RECORD key)
   - FWD Torque Adjustment
   - FWD Back-Tension Adjustment

   } Torque Measurement Mode

   To release the test mode, release the short-circuit point between XTEST and GND,
   After the adjustments, be sure to release the test mode.

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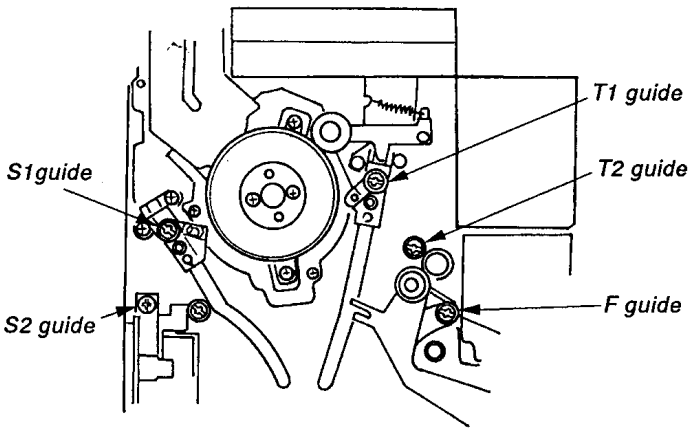
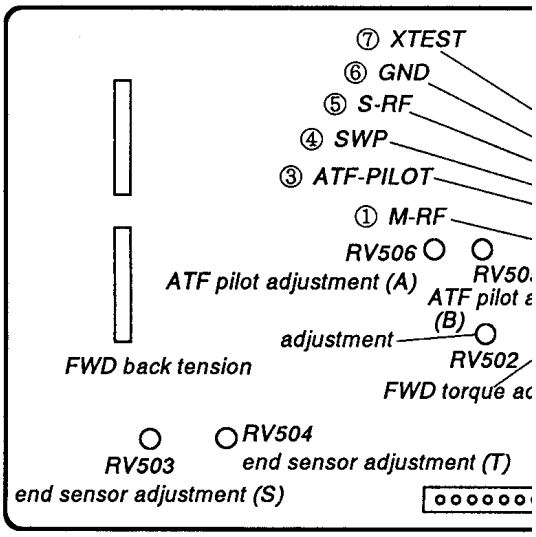
Adjust Parts Location

– Mechanism assembly –



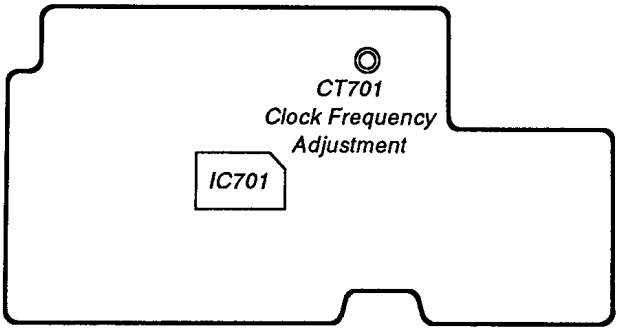
– Digital Board –

– SIDE B –



– Control Board –

– SIDE A –



3-1. MECHANICAL ADJUSTMENTS

After replacing the drum or related parts, adjust
and F guides and then perform the tape path (×
mode) fine adjustment of electrical adjustments.,

S2, T2 Guide/F Guide Adjustment

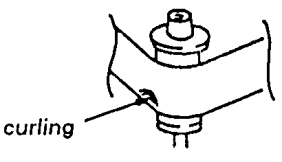
Adjustment Procedure :

1. Put the set into the test mode and l
   TY-7252 (8-909-822-00).

2. Set the REC MODE switch to STANDARI
   and press the AMS ⏭ key.

Confirm there is no curling at the upper or
flange of S2, T2, or F guides.
When there is curling, return higher S2, T2, F g
and adjust by screwing in.

* Curling :



"Curling" refers
the tape during
It can be identifi
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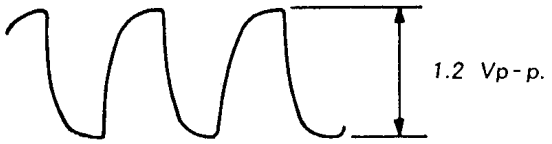
3-2. ELECTRICAL ADJUSTMENTS

End Sensor Adjustment

Perform the following adjustment when the holder has been removed or part of the mechanism deck section replaced.

Adjustment Procedure:

1. Connect an oscilloscope to CN554 pin ⑤ (SEND) (supply side) and CN554 pin ⑥ (TEND) (take-up side) on the digital board.
2. Load an end sensor cassette and put the set into the STOP (■) mode.
3. Adjust RV503 (supply side) and RV504 (take-up side) on the main board so that the oscilloscope waveform p-p value is 1.2 Vp-p.



Adjustment Point: digital board

FWD Torque Adjustment

Adjustment Procedure :

1. Put the set into the test mode and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Adjsust RV501 so that the FWD torque value (take-up side rewinding torque) is between 10 – 15 g•cm (0.14 – 0.21 oz•inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

Adjustment Point: digital board

FWD Back Tension Check

Check Procedure :

1. Put the set into the test mode and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Adjust RV502 so that the back tension (supply side) is between 8 – 9 g-cm (0.11 – 0.13 oz•inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

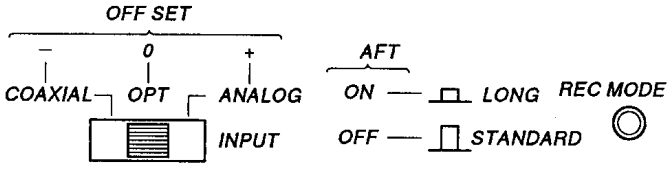
Tape Path Fine Adjustment (× 1.5 FWD Mode)

Perform the following adjustment when the drum has been replaced.

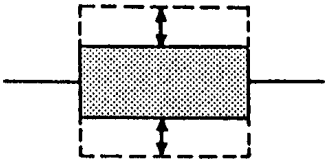
Adjustment Procedure:

1. Connect an oscilloscope CH-1 to CN553 pin ① (M-PF) and CH-2 to CN553 pin ④ (SWP) on the digital board.
2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).
3. Press the AMS (▶▶|) key.

Each part of switches on Test Mode.

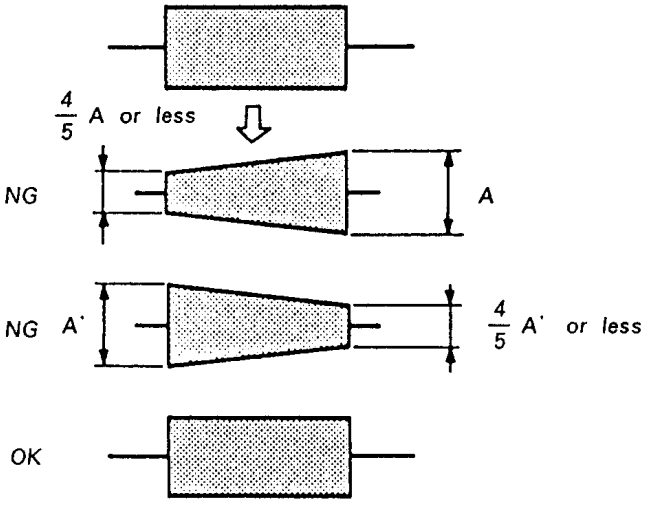


4. With the REC MODE switch set to STANDARD (ATF: OFF) and the INPUT switch set to ANALOG or COAXIAL (OFFSET: + or –), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.

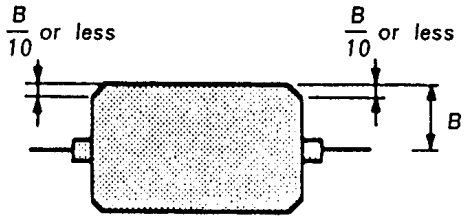


* Finish the adjustment by screwing in, and when there is curling at the upper or lower flange of S2, T2, or F guides, perform the guide adjustment.

5. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the INPUT switch set to ANALOG or COAXIAL (OFFSET: + or –).



6. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the INPUT switch set to OPTICAL (OFFSET: 0)
   (1) Confirm that the RF signal waveform peak value is 60 mV or more.
   (2) Confirm that the undershoot level of the RF signal waveform's flat portion is within 10%.



7. When the measured values are not within the above tolerances, repeat items 3 - 6 above.

Adjustment Point : mechanism assembly

DPG Adjustment

Perform the following adjustment without fail when the drum has been replaced.

Adjustment Procedure :

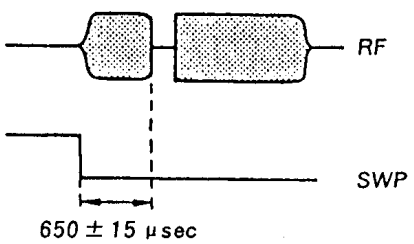
1. Connect oscilloscope CH-1 to TP (RF) and CH-2 to TP (SWP) on the main board.(Use CH-2 as the trigger. When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)

2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).

3. Set the REC MODE switch to LONG (ATF : ON) and the TIMER switch to OFF (OFFSET : 0).

4. Press the AMS (⏭) key.

5. Press the ◀◀ and ▶▶ keys as appropriate so that the gap between the oscilloscope SWP and RF signals becomes 650 ± 15 μsec.(Hold the ◀◀ and ▶▶ keys down for more than 1 second to perform rough adjustment. Hold them down for approximately 0.2 seconds for fine adjustment.)



ATF Pilot Adjustment

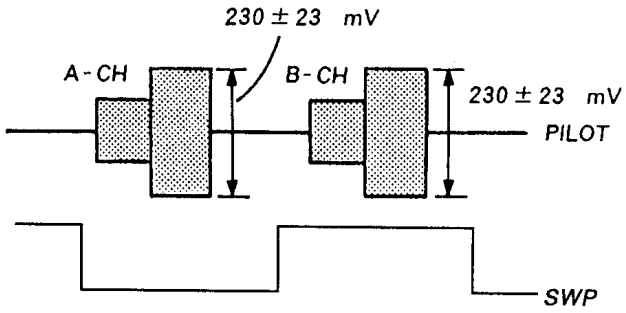
Perform this adjustment after cleaning the heads with a cleaning cassette.

Adjust Procedure:

1. Connect oscilloscope CH-1 to CN553 pin ① (ATF-PILOT) and CH-2 to CN553 pin ④ (SWP) on the digital board. (Use CH-2 as the trigger.) When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)

2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).

3. Put the set into the PLAY (▶) mode and adjust RV505 (B-CH) and RV506 (A-CH) on the main board so that the oscilloscope PILOT waveform P-P value is 230 ± 23 mV.



Adjustment Point: digital board

3-3. CHECKS AND ADJUSTMENTS FOR DATE FUNCTION

Clock IC Back-up Check

- When there is the short-circuit position on the pattern around the lithium battery (BAT501) or the clock IC (IC712) or disconnecting CN573 on removing the front panel assembly the clock is reset.

(In spite of pressing PRESET button, the date indication becomes "_ _Y _ _M _ _D " " _ _H _ _M _ _S")

At this time, check the back-up function by the procedures given below.

(1) Connect DC voltmeter to CN554 pin ① (BATT+) and pin ② (BATT −) on the digital board.

(2) When the power is off, the voltage value of the item (1) should be less than +30 mV.

(When the voltage value becomes +30 mV or more, Check around IC712 or replace IC712.)

(3) When the power is on, the voltage value of the item (1) should be less than 0 mV (− (minus) indication).

(When the voltage value becomes + (plus) indication, Check around D718 or replace D718.)

(4) When the above voltage values are normal, set the preset date and time (year, month, day, day of the week, hour, minute, second) according to the instruction manual.

(5) After setting the time on the item (4), turn power off and turn power on several seconds later, and check the clock works normally.

Back-up Battery Replacement

The life of the back-up battery under normal use (normal temperature, normal humidity) is approximately ten years or more. (On the instruction manual, described "approximately five years".)

Be carefull about the following points on the battery replacement.

- Repair the cause of the battery wastage by performing mentioned above "Clock IC Back-up Check".
- The open-circuit voltage of the replaced battery is 3.0 V or more as the new one, and when it is 2.0 V or less, it is completely consumed, replace it with new one.
- After the battery replacement, perform "Clock IC Back-up Check" again and set the time*.

* Time setting procedure described on page 9.

Clock Frequency Adjustment

Note:

- On normal repair, this adjustment is not neccesory. Don't turn the trimmer capacitor CT701.
- Only when needing this adjustment (X702 replacement or so on), perform in the order given.
- Use the frequency counter with six digits or more.

Adjustment Procedure:

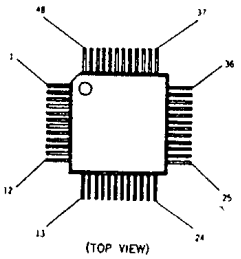
1. Connect a frequency counter to the test land "OSC FREQ" on the display board.
2. Turn power on and adjust with CT701 so that the reading on the frequency counter becomes 2048.00 ± 0.01 Hz .(in normal temparature)
3. Perform "Clock IC Back-up Check" described above.

SECTION 4
DIAGRAMS

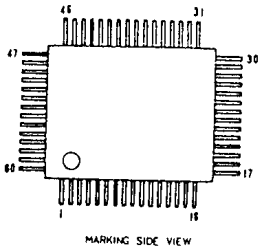
• SEMICONDUCTOR LEAD LAYOUTS

A1QH3020S

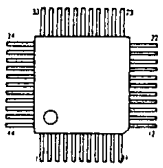
CXA1045Q-Z
CXA1364R



CXD1136Q



CXD2552Q-1



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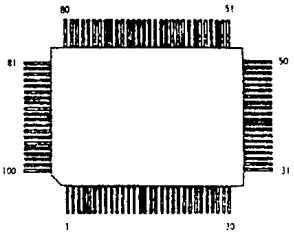
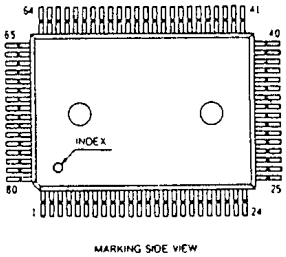
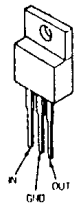


CXP80524-020Q
MSC62408-020GS-K



M5F7805L-720
M5F7808
TA7805S
μPC2405HF
μPC2406HF



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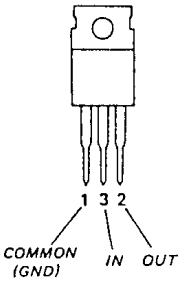

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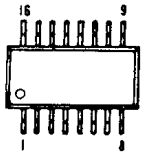
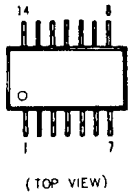
MSM6338MS-K



MC14069UBF



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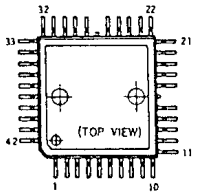

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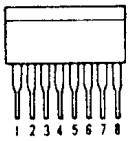

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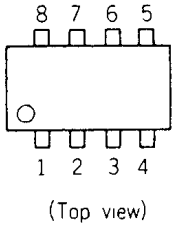
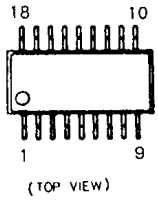
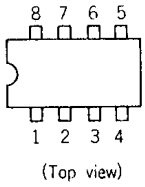


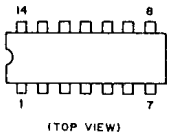
RF5C62



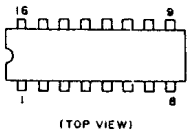
LM393P
M5239P
NE5532P
μPC358C



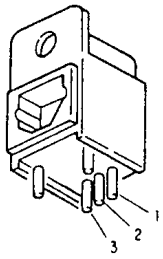
SN74HC393N
LC74HC08
SN74HCU04AN
SN74HC00AN
SN74HC04AN
SN74HC14AN
SN74HC74N
SN74LS624N
TC74HCU04AF
MC74AC74N



SN74HC157AN
SN74HC175AN
TC74HC123AP



GP1F32R
GP1F32T



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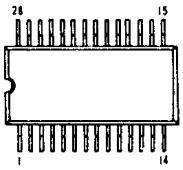
CXK58257M-12L



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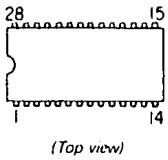
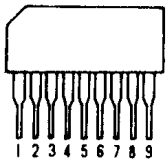
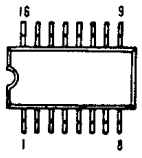


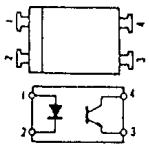
TC5081AP



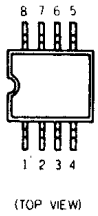
CX20115A



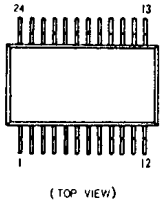
PC817-C



CXK1011M
LM358M
LM393M



CXK5816M-12L



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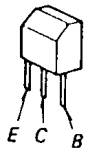

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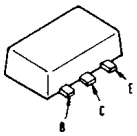
2SD1621-R



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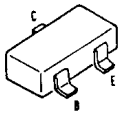
DTC114EK
DTC124EK
DTC143TK
DTC144EK
2SC1623-L6



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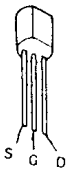
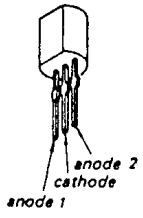
2SK246-GR
2SK30A-O



KV1320



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DTC114ES

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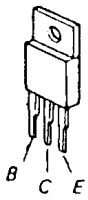
2SB1370-EF
2SC2275-P
2SD2061-EF



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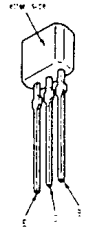

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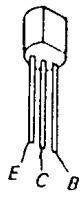
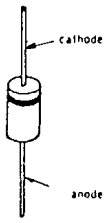
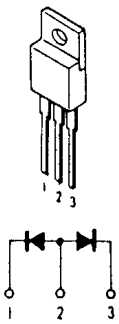
2SC3468-E
2SD1387-3



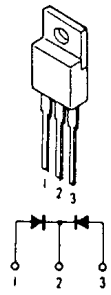
EQB01-08Q
HZ4BLL
10E2N
30DF2



F10P20F



F10P20FR



HZS6A1L
HZS33-1L
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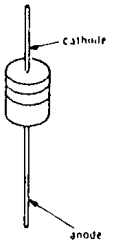
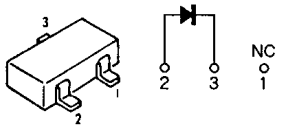
RD3.9ES-B2
RD5.1JS-B2
1SS168
1SS202-1
11ES2



SB05-05CP



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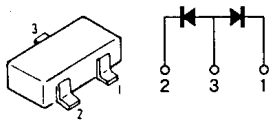

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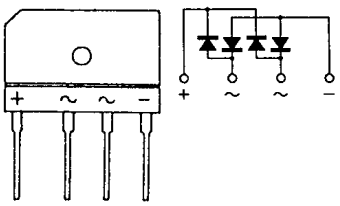

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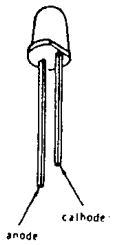
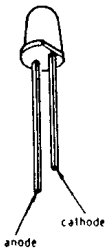


SLR-34MC3
SLR-34VC3



SEL2510W-D
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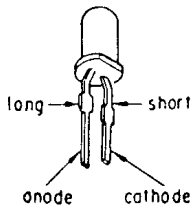


4-1. PIN FUNCTION

IC501 MASTER microcomputer (CXP80524)

While exchanging data with the display microcomputer (IC701) by the serial communication, this IC controls the mechanism check servo and selects inputs DSP (IC502, 503) and the attenuator (IC504).

PIN	SIGNAL NAME	I/O	LOGIC		FUNCTION
			O	I	
1	ATTEX	O	Outside (ATTCK)	Inside (1/8 LECK)	Attenuator (IC504) clock select output
2	ATTCK	O	–	–	Attenuator (IC504) level set clock output
3	FPON	O	OFF	ON	FWD plunger (PM002) ON/OFF output
4	FPKI	O	OFF	ON	FWD plunger (PM002) KICK output
5	TLOCK	O	ON	OFF	REEL T side LOCK output
6	CPDIR	O	FWD	RVS	CAPSTAN DIRECTION select output
7	BPON	O	OFF	ON	REEL BRAKE plunger (PM001) ON/OFF output
8	BPKI	O	OFF	ON	REEL BRAKE plunger (PM001) KICK output
9	DRON	O	OFF	ON	DRUM motor ON/OFF output
10	DRDIR	O	NORM	RVS	DRUM DIRECTION select input
11	OPT/COA	O	OPTICAL	COAXIAL	DIGITAL IN, OPTICAL/COAXIAL select output
12	DIG/ANA	O	DIGITAL	ANALOG	INPUT/DIGITAL/ANALOG select output
13	REC/PB	O	REC	PB	Mode REC/PB select input
14	MST/SLV	O	SLAVE	MASTER	MONITOR MASTER/SLAVE (SOURCE/TAPE) select
15	SLVMUT	O	OFF	MUTE	MUTE output so SLAVE DSP (IC503)
16	MSTMUT	O	OFF	MUTE	MUTE output to MASTER DSP (IC502)
17	FS1	O	–	–	fs select: FS1 = 0 / 0 / 1 / 1 (STOP / 44.1K / 32K / 48K)
18	FS0	O	–	–	fs select: FS0 = 0 / 1 / 0 / 1 (STOP / 44.1K / 32K / 48K)
19	DFMUT	O	OFF	MUTE	MUTE output to DIG-FIL (IC312)
20	DOCNT	O	OFF	ON	DIGITAL OUT (ON/OFF) CONTROL output
21	LMEJ	O	OFF	ON	LOADING motor EJECT direction } BRAKE MODE at ON-ON
22	LMLD	O	OFF	ON	LOADING motor LOAD direction } BRAKE MODE at ON-ON
23	LINMUT	O	OFF	MUTE	Line mute (relay) output
24	DISPSL	O	ON	OFF	DISPLAY microcomputer communication SELECT output
25	TEND	I	–	–	T side END SENSOR TLED ON } DC (⎓): Magnetic part, AC (⎍⎍⎍): Leader tape
26	SEND	I	–	–	S side END SENSOR SLED ON } DC (⎓): Magnetic part, AC (⎍⎍⎍): Leader tape
27	CMCL	O	OFF	ON	CAS-CON. motor CLOSE direction } BRAKE MODE at ON-ON
28	CMOP	O	OFF	ON	CAS-CON. motor OPEN direction } BRAKE MODE at ON-ON
29	TLED	O	OFF	ON	T side LED drive output } DUTY 50% DRIVE on T/S antiphase
30	SLED	O	OFF	ON	S side LED drive output } DUTY 50% DRIVE on T/S antiphase
31	MP	I	Inside ROM	Outside ROM	MICRO PROCESSOR MODE input (fixed to "0")
32	XRST	I	RESET	⎍ RELEASE	RESET
33	Vss	–	–	–	GND
34	XTAL	–	–	–	NC
35	EXTAL	–	–	–	Microcomputer external clock (=MCLK=9.408 MHz)
36	DISPLSY	I	ON	OFF	DISPLAY microcomputer communication sync input
37	DISPDI	I	–	–	DISPLAY microcomputer communication serial data input
38	DISPDO	O	–	–	DISPLAY microcomputer communication serial data output

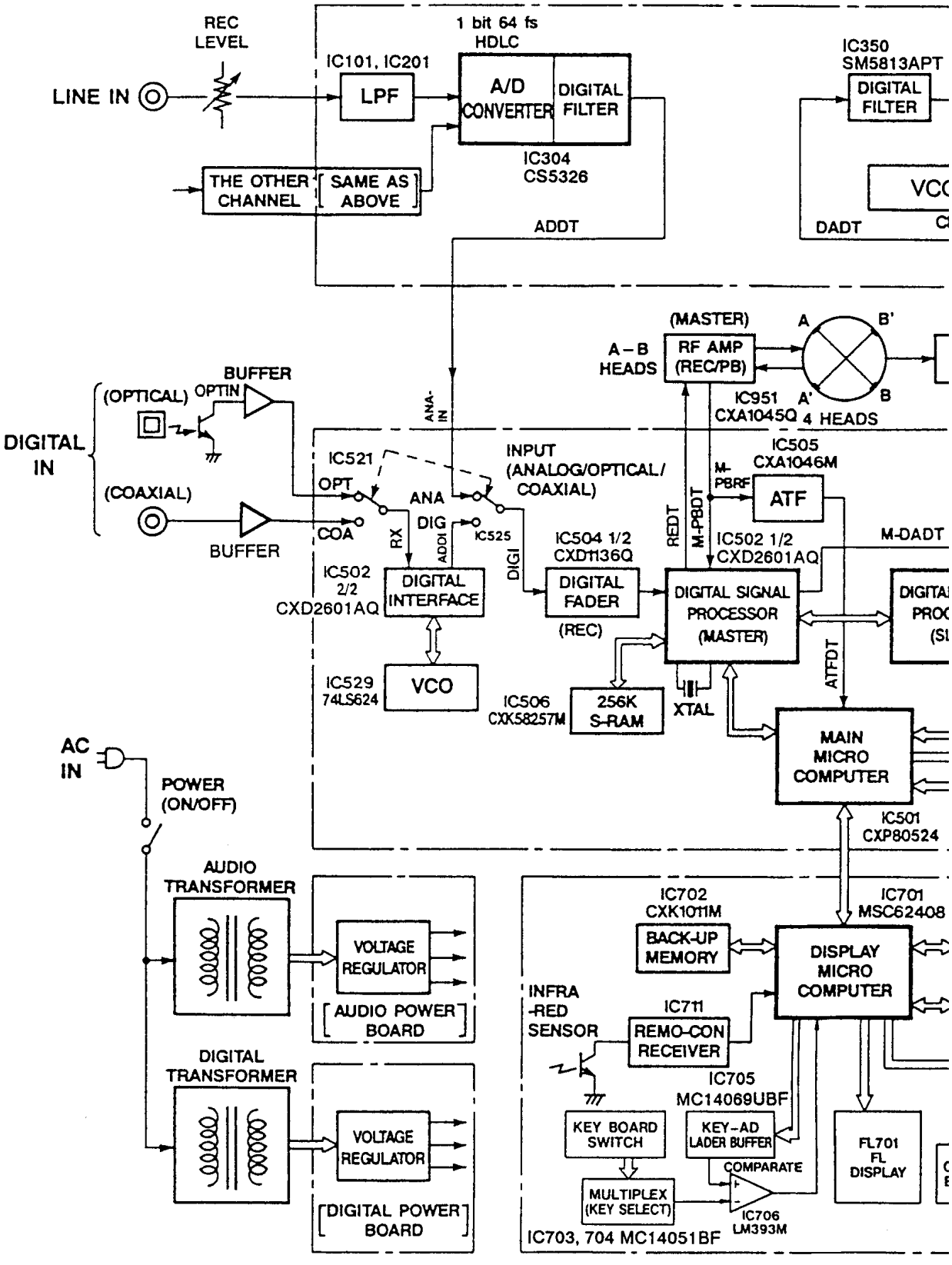
PIN	SIGNAL NAME	I/O	LOGIC		FUNCTION
			O	I	
39	DISPCK	I	–	–	DISPLAY microcomputer communication serial clock input
40	SBSY	I	ON (communicatable)	OFF (not communicatable)	Signal processing communication SUB DATA SYNC. input
41	SBDI	I	–	–	Signal Processing communication SUB DATA IN. input
42	SBDO	O	–	–	Signal Processing communication SUB DATA OUT. input
43	SDCK	O	–	–	Signal Processing communication SUB DATA CLOCK. input
44	AVss	–	–	–	Analogue input GND
45	AVref	–	–	–	Analogue input REFERENCE (+5 V)
46	AVdd	–	–	–	Analogue input +5 V
47		I			Not used (Pull-up)
48	SWAD3	I	–	–	SWITCH A/D input (CAS-CON system)
49	SWAD2	I	–	–	SWITCH A/D input (LOADING system)
50	SWAD1	I	–	–	SWITCH A/D input (RECGN system)
51	SWAD0	I	–	–	SWITCH A/D input (RECGN system)
52	LEVSYN	I	NONE	MUSIC	LEVEL SYNC input (Write START-ID by the audio input)
53	MUTM	I	OFF	MUTE	MUTE monitor input from MASTER DSP (IC502)
54	ATFIN	I	–	–	ATF PILOT signal input
55	TFG	I	–	–	T-REEL FG input
56	SFG	I	–	–	S-REEL FG input
57	CFG	I	–	–	CAPSTAN FG input
58	DFG	I	–	–	DRUM FG input
59	DPG	I	–	–	DRUM PG input
60	DREF	I	–	–	DRUM REFERENCE $\overset{SP}{100/3}$, $\overset{LP}{50/3}$, $\overset{SEARCH}{1.6k}$ (Hz $\pm$ α) input
61	MCLK	I	–	–	MASTER CLOCK (F_{CH}=9.408 MHz) input
62	PBDT	I	–	–	PB (playback) DATA input
63	SWP	O	Ach	Bch	SWITCHING PULSE
64	DPWM	O	–	–	DRUM PWM output
65	CPWM	O	–	–	CAPSTAN PWM output
66	TPWM	O	–	–	T-REEL PWM output
67	SPWM	O	–	–	S-REEL PWM output
68	ADRES	O	RESET	ACTIVE	Reset output for AD converter
69	ERMN	I	RF is none and REC	RF exists	ERROR MONITOR (PBRF exists or not) input
70	XTEST	I	ON	OFF	TEST MODE input
71	POWDN	I	ON	OFF	POWER DOWN detect input (AC POWER OFF input)
72	V_{DD}	–	–	–	+5 V
73	Vss	–	–	–	GND
74	NC	–	–	–	Not connected
75	ATFS2	O	–	–	ATF Sync signal output to MASTER DSP (IC502)
76	DIVCO	O	OSC ON	OSC STOPS	Osc. ON/OFF select output to DIG-IN VCO (IC529)
77	ATFS3	O	–	–	SYNC3/RF AMP MODE for ATF (IC505)
78	LP/SP	O	LP	SP	LONG PLAY/STANDARD PLAY select output
79	XDTR	O	ON	OFF	DATA RECORDER MODE (ON during LP after-recording or searching)
80	ATTMUT	O	OFF	MUTE	Attenuator (IC504) MUTE, (ON during fading)

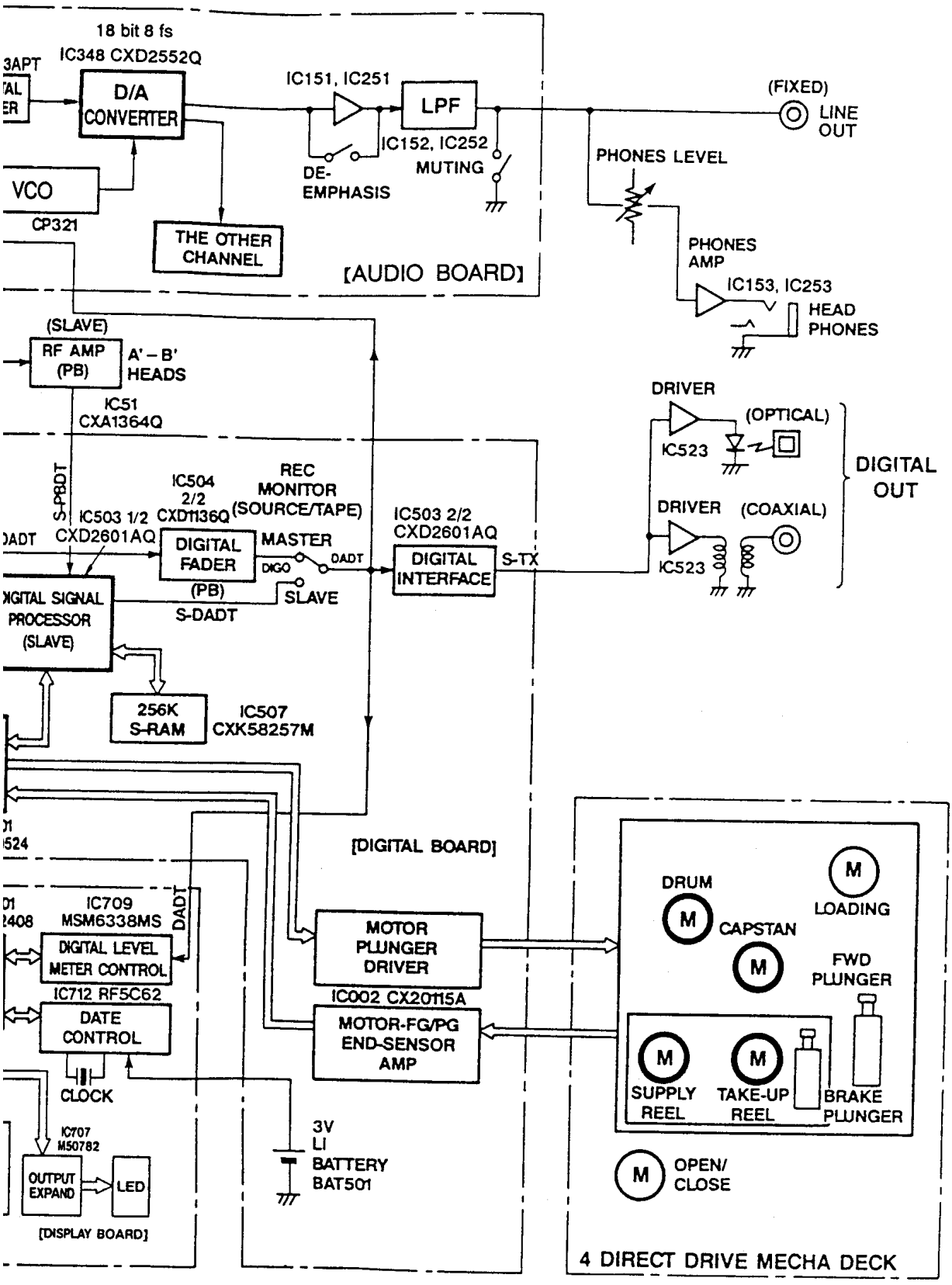
IC701 DISPLAY MICROCOMPUTER (MSC62408)

While serial communicating, this IC controls the fluorescent display tube, the level meter (IC709), the clock (IC712), the remote control signal, LED indication by the expansion port (IC707), key input scan, address set for SRAM (IC718).

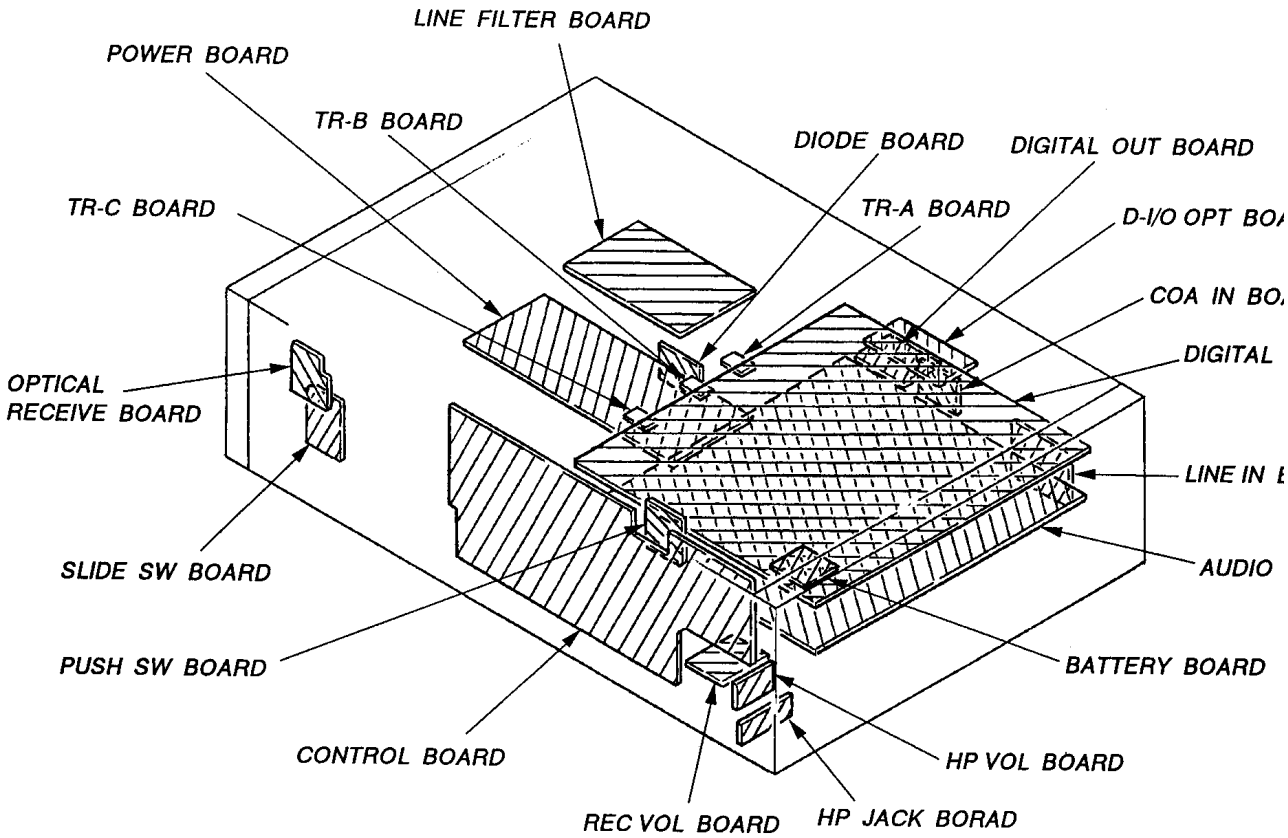
PIN	SIGNAL NAME	I/O	LOGIC		FUNCTION
			O	I	
1 – 2	D6 – D7	I/O	–	–	Data bus
3	PMODE0	I			PORT MODE 0 } Mode setting input (normally open) for each processing
4	PMODE1	I			PORT MODE 1
5	PMODE2	I			PORT MODE 2
6	MMUTE	I	OFF	MUTE	Level meter muting input
7	ROMSI	I	–	–	Serial data input from E²PROM (IC702)
8	ROMBY	I	ON	OFF	BUSY signal input from E²PROM (IC702)
9	CMPIN	I	Vref < Vkey	Vref > Vkey	Comparator out input for KEY A/D
10	MSTAK	O	ON	OFF	Acknowledge output to the master microcomputer (IC501)
11	CPUSC	O	–	–	On the microcomputer communication, serial clock output
12	CPUSO	O	–	–	On the microcomputer communication, serial data output
13	CPUSI	I	–	–	On the microcomputer communication, serial data input
14	MOTUP	O	OFF	ON	UP output for the volume with motor
15	MOTDN	O	OFF	ON	DOWN output for the volume with motor
16	CLKCE	O	ON	OFF	Chip enable output to the real time clock (IC712)
17	RMC	I	–	–	Received remote control signal input
18	MSTSY	I	ON	OFF	Sync input from the master microcomputer (IC501)
19	TIMIN	I	ON	OFF	The real time clock (IC712) timing signal input
20	XRST	I	RESET	RELEASE	Microcomputer reset signal input
21	TEST	I	–	⎍ –	Test mode (Normally GND level)
22	EXPST	O	LATCH	ACTIVE	Strobe signal output to the output expansion IC (IC707)
23	METCE	O	⎍ ON	OFF	Chip enable signal output to the meter IC (IC709)
24	WR	O	ON	OFF	WRITE signal output to S-RAM (IC708) and the meter IC (IC709)
25	RD	O	ON	OFF	READ signal output to S-RAM (IC708) and the meter IC (IC709)
26	RAMCE	O	ON	OFF	Chip enable signal output to S-RAM (IC708)
27	ROMSO	O	–	–	Serial data output to E²PROM (IC702)
28	ROMSC	O	–	–	Serial clock signal output to E²PROM (IC702)
29	ROMCE	O	ON	OFF	Chip enable signal output to E²PROM (IC702)
30	OSCI	O	–	–	Ceramic oscillator for clock connecting terminal (4.19 MHz)
31	OSCO	O	–	–	Ceramic oscillator for clock connecting terminal (4.19 MHz)
32	GND	O	–	–	GND
33 – 40	T0 – T7	O	OFF	ON	FL grid output
41 – 48	S31 – S24	O	OFF	ON	FL segment output
49	VFLT	–	–	–	B+ for FL (+35 V)
50 – 73	S23 – S0	O	OFF	ON	FL segment output
74	V_{DD}	–	–	–	+5 V power supply
75 – 80	D0 – D5	I/O	–	–	Data bus

4-2. BLOCK DIAGRAM

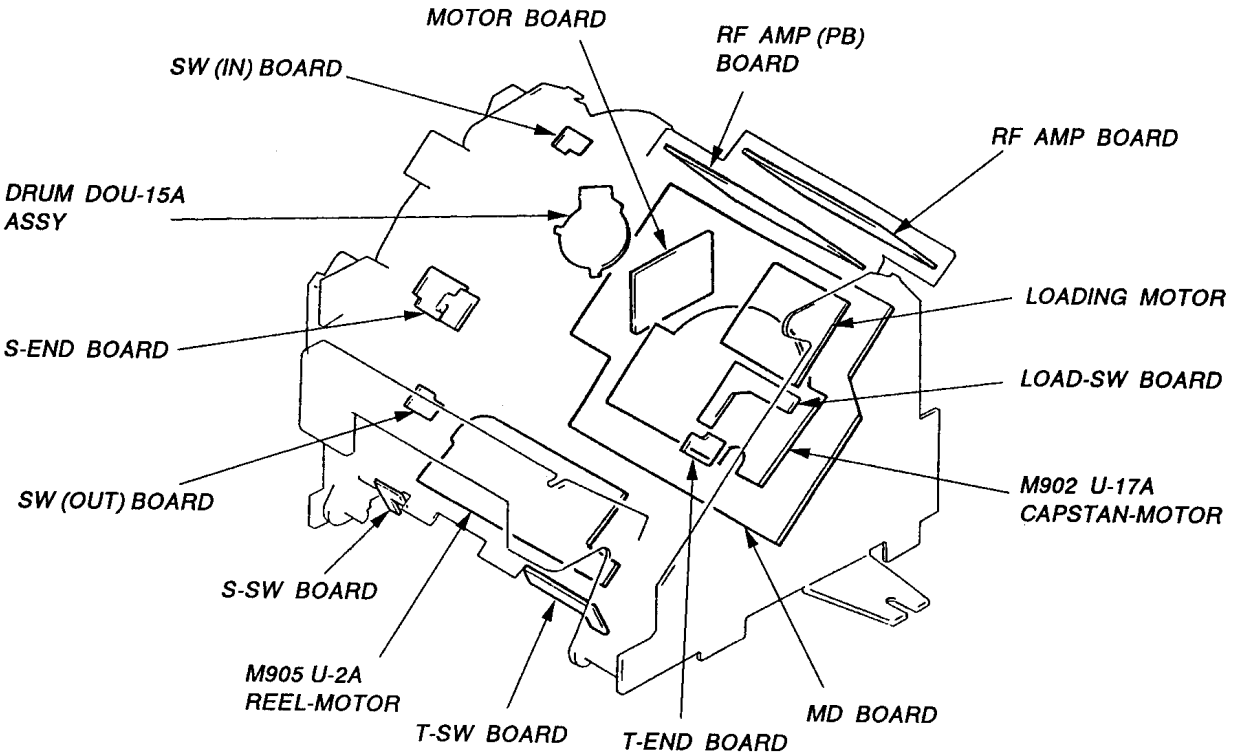



18 bit 8 fs
IC348 CXD2552Q
D/A CONVERTER
IC151, IC251
LPF
(FIXED)
LINE OUT
DE-EMPHASIS
IC152, IC252
MUTING
PHONES LEVEL
VCO
CP321
THE OTHER CHANNEL
[AUDIO BOARD]
PHONES AMP
IC153, IC253
HEAD PHONES
(SLAVE)
RF AMP (PB)
A' – B' HEADS
IC51
CXA1364Q
DRIVER
(OPTICAL)
IC523
DIGITAL OUT
S-PBDT
IC504 2/2 CXD1136Q
REC MONITOR (SOURCE/TAPE)
IC503 1/2 CXD2601AQ
DIGITAL FADER
MASTER
DIGO
DADT
IC503 2/2 CXD2601AQ
DIGITAL INTERFACE
S-TX
DRIVER
(COAXIAL)
IC523
(PB)
SLAVE
S-DADT
DIGITAL SIGNAL PROCESSOR (SLAVE)
256K S-RAM
IC507 CXK58257M
[DIGITAL BOARD]
IC709 MSM6338MS
DADT
DIGITAL LEVEL METER CONTROL
IC712 RF5C62
DATE CONTROL
CLOCK
MOTOR PLUNGER DRIVER
IC002 CX20115A
MOTOR-FG/PG END-SENSOR AMP
DRUM
LOADING
CAPSTAN
FWD PLUNGER
SUPPLY REEL
TAKE-UP REEL
BRAKE PLUNGER
OPEN/ CLOSE
4 DIRECT DRIVE MECHA DECK
IC707 M50782
OUTPUT EXPAND
LED
[DISPLAY BOARD]
3V LI BATTERY BAT501

• CIRCUIT BOARDS LOCATION



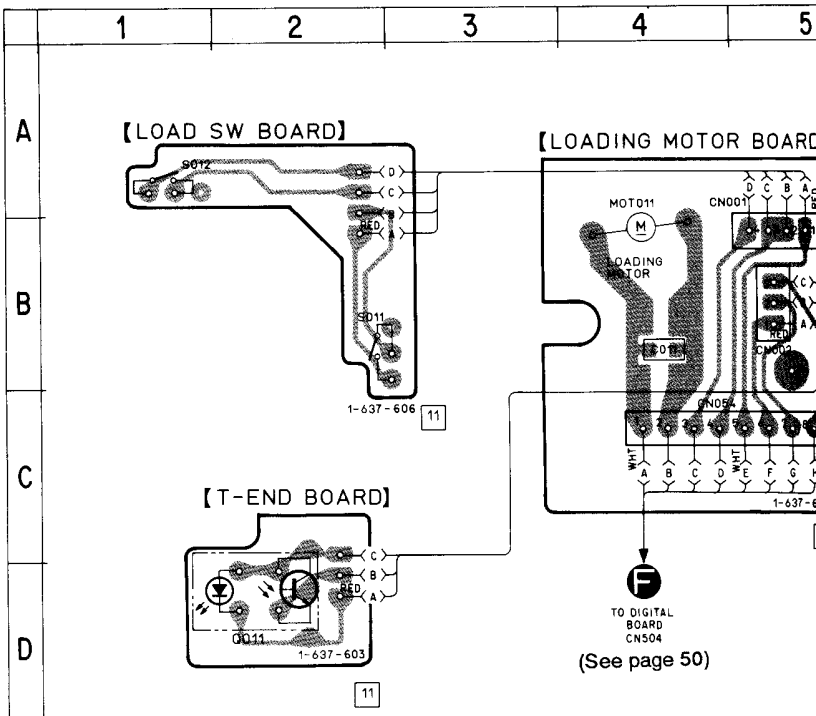
(DATM-51)

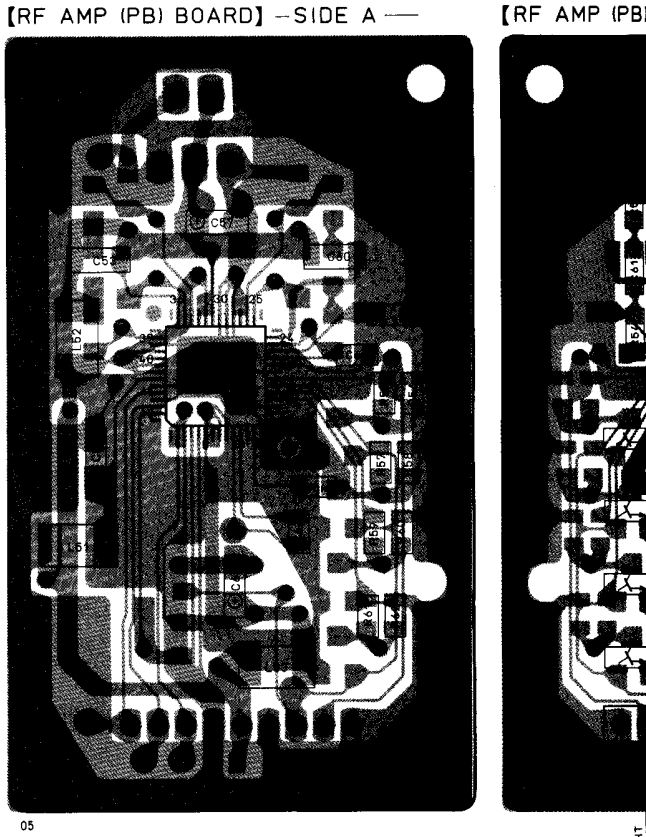


4-3. PRINTED WIRING BOARDS – RF/MD SECTION –

• **Semiconductor Location**

Ref. No.	Location
D011	J-16
D012	J-16
IC51	G-2
IC001	G-17
IC002	I-17
IC951	H-9
Q51	I-5
Q52	I-5
Q53	H-5
Q54	H-5
Q55	I-6
Q001	I-16
Q002	I-16
Q003	F-17
Q011	D-2
Q012	B-14

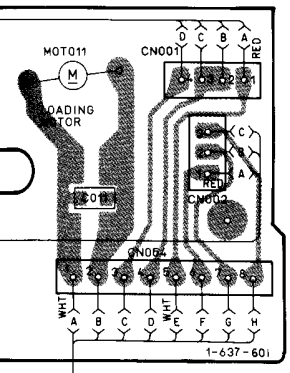




Note on Mounting Diagram:

- o—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- o—o : Jumper wire connected to the ground pattern on the component side.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.

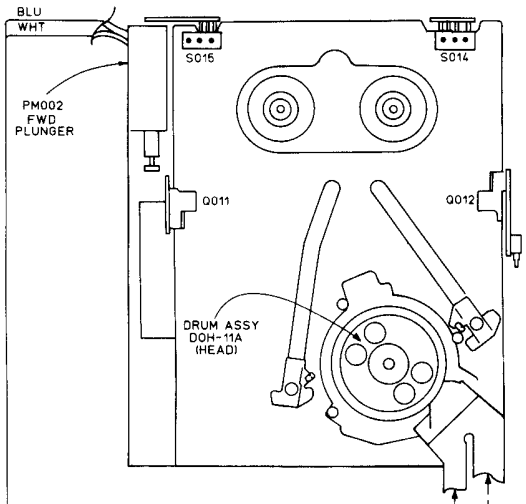
LOADING MOTOR BOARD】



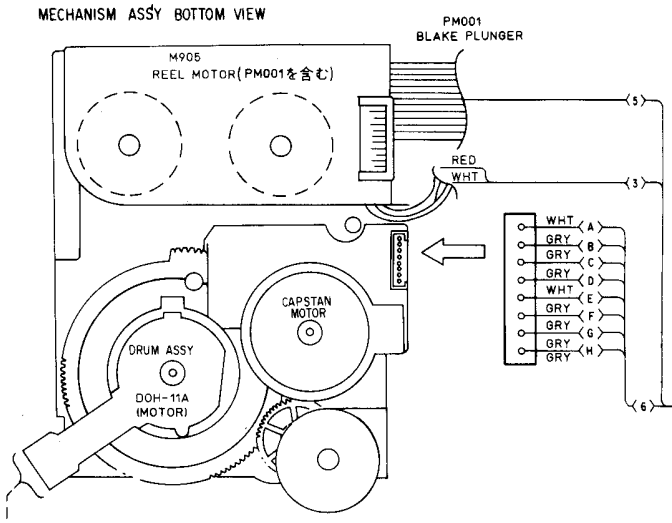
TO DIGITAL BOARD CN504

(See page 50)

MECHANISM ASSY TOP VIEW



MECHANISM ASSY BOTTOM VIEW

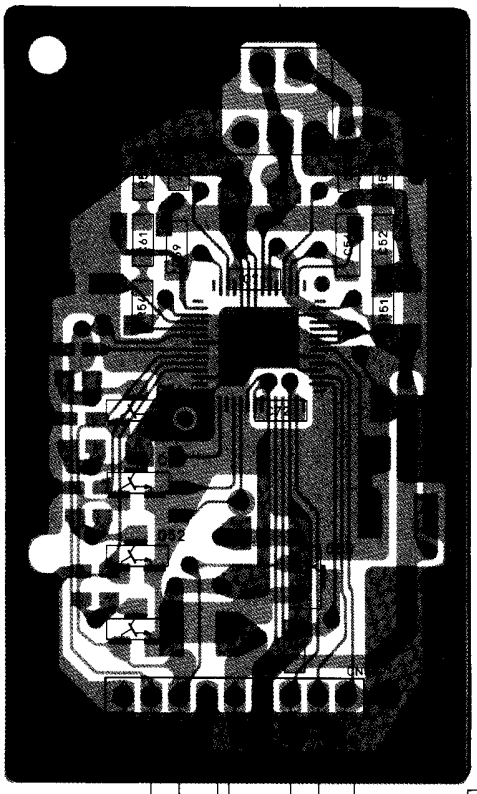


(FLEXIBLE BD

(FLEXIBLE BOARD)

(FLEXIBLE BOARD)

【RF AMP (PB) BOARD】— SIDE B —



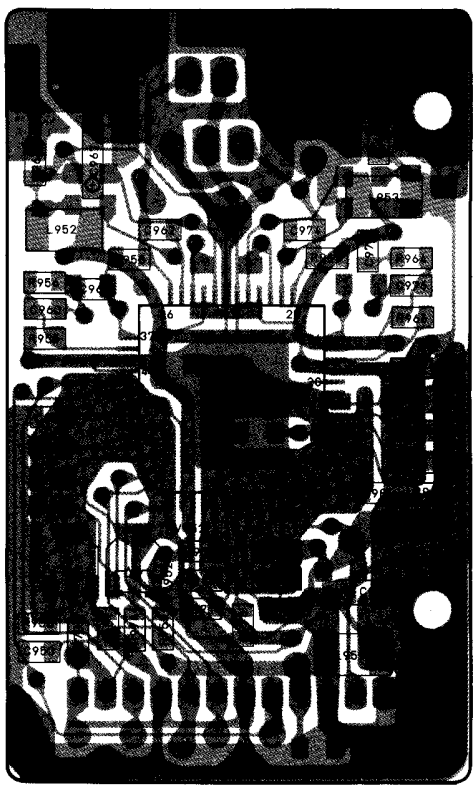
WHT GRY GRY WHT WHT GRY GRY

11

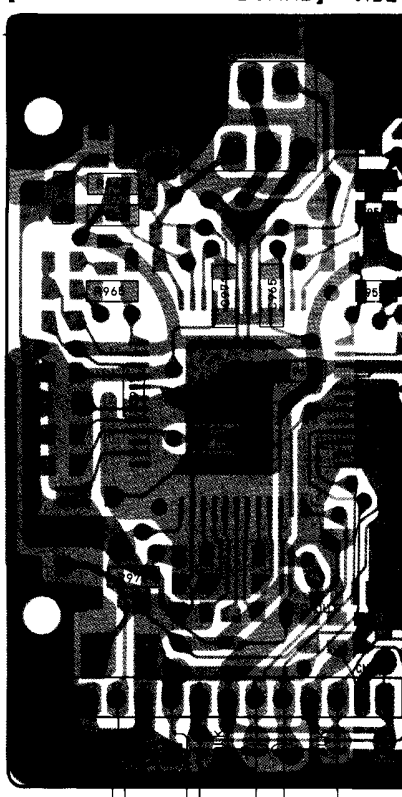
TO DIGITAL BOARD CN508

(See page 51)

【RF AMP (REC/PB) BOARD】— SIDE A —



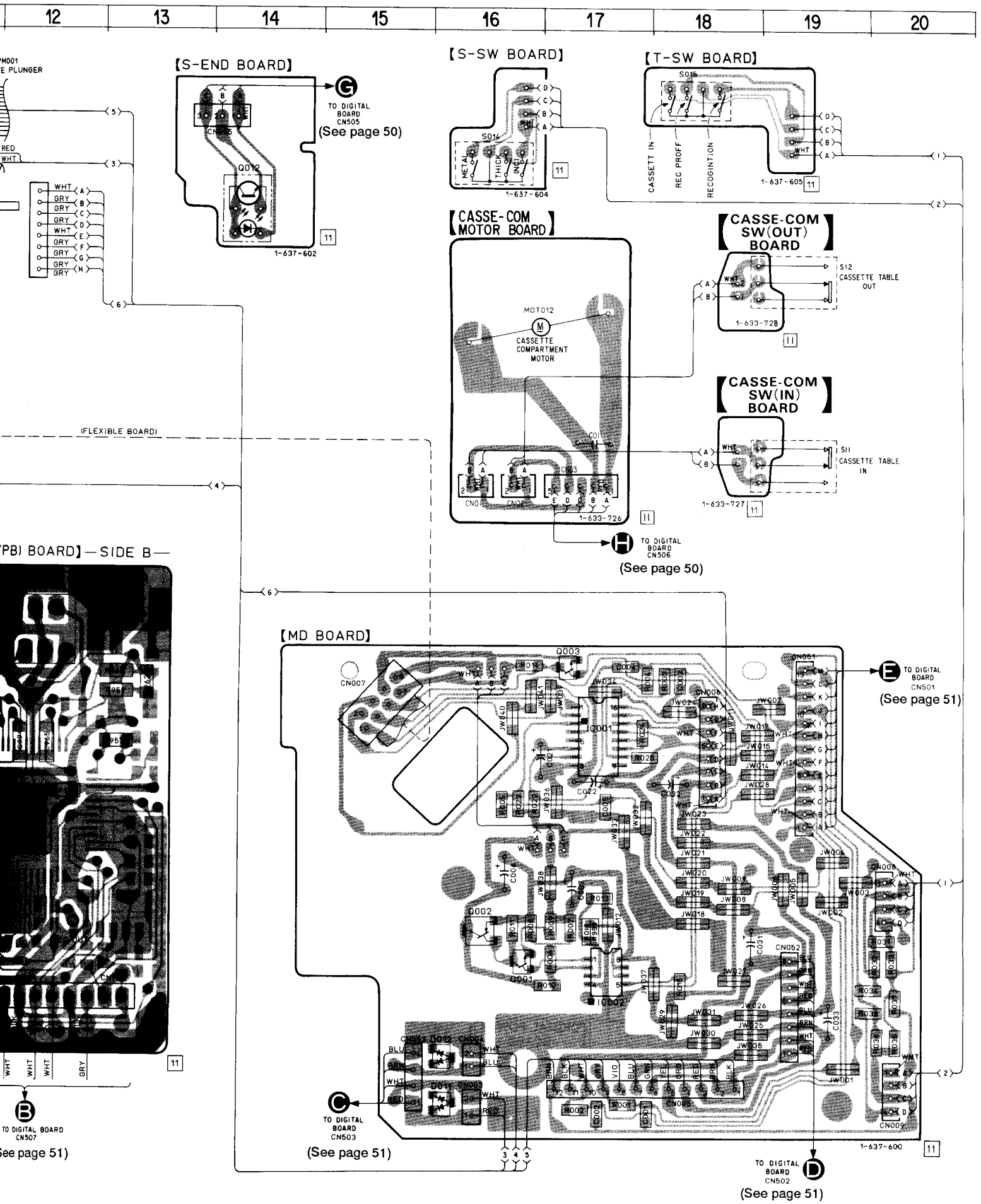
【RF AMP (REC/PB) BOARD】— SIDE



WHT GRY GRY WHT WHT WHT GRY

TO DIGITAL BOARD CN507

(See page 51)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【S-END BOARD】
TO DIGITAL BOARD CN505
(See page 50)
Q012
1-637-602
【S-SW BOARD】
S014
METAL
THICK
INCH
1-637-604
【T-SW BOARD】
S015
CASSETT IN
REC PROFF
RECOGINTION
1-637-605
【CASSE-COM MOTOR BOARD】
MOT012
CASSETTE COMPARTMENT MOTOR
1-633-726
【CASSE-COM SW(OUT) BOARD】
S12
CASSETTE TABLE OUT
1-633-728
【CASSE-COM SW(IN) BOARD】
S11
CASSETTE TABLE IN
1-633-727
TO DIGITAL BOARD CN506
(See page 50)
(FLEXIBLE BOARD)
【PB】 BOARD】—SIDE B—
TO DIGITAL BOARD CN507
(See page 51)
【MD BOARD】
CN007
Q003
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IC001
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CN051
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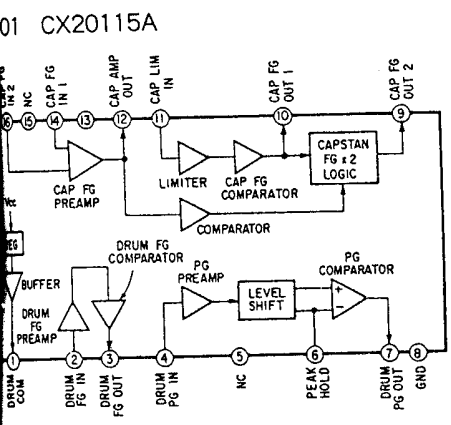
CN998
CN999
CN1000
TO DIGITAL BOARD CN501
(See page 51)
TO DIGITAL BOARD CN503
(See page 51)
TO DIGITAL BOARD CN502
(See page 51)
1-637-600

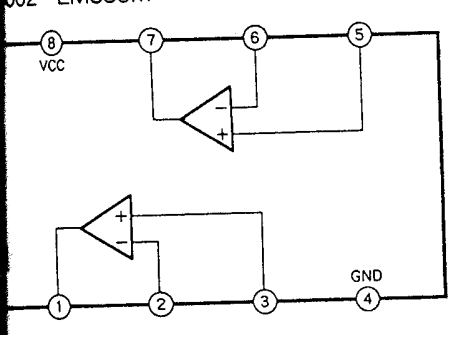
4-4. SCHEMATIC DIAGRAM – RF/MD SECTION –

【RF AMP(PB) BOARD】

(See page 47)
TO DIGITAL BOARD CN508



002 LM358M



【RF AMP(REC/PB) BOARD】

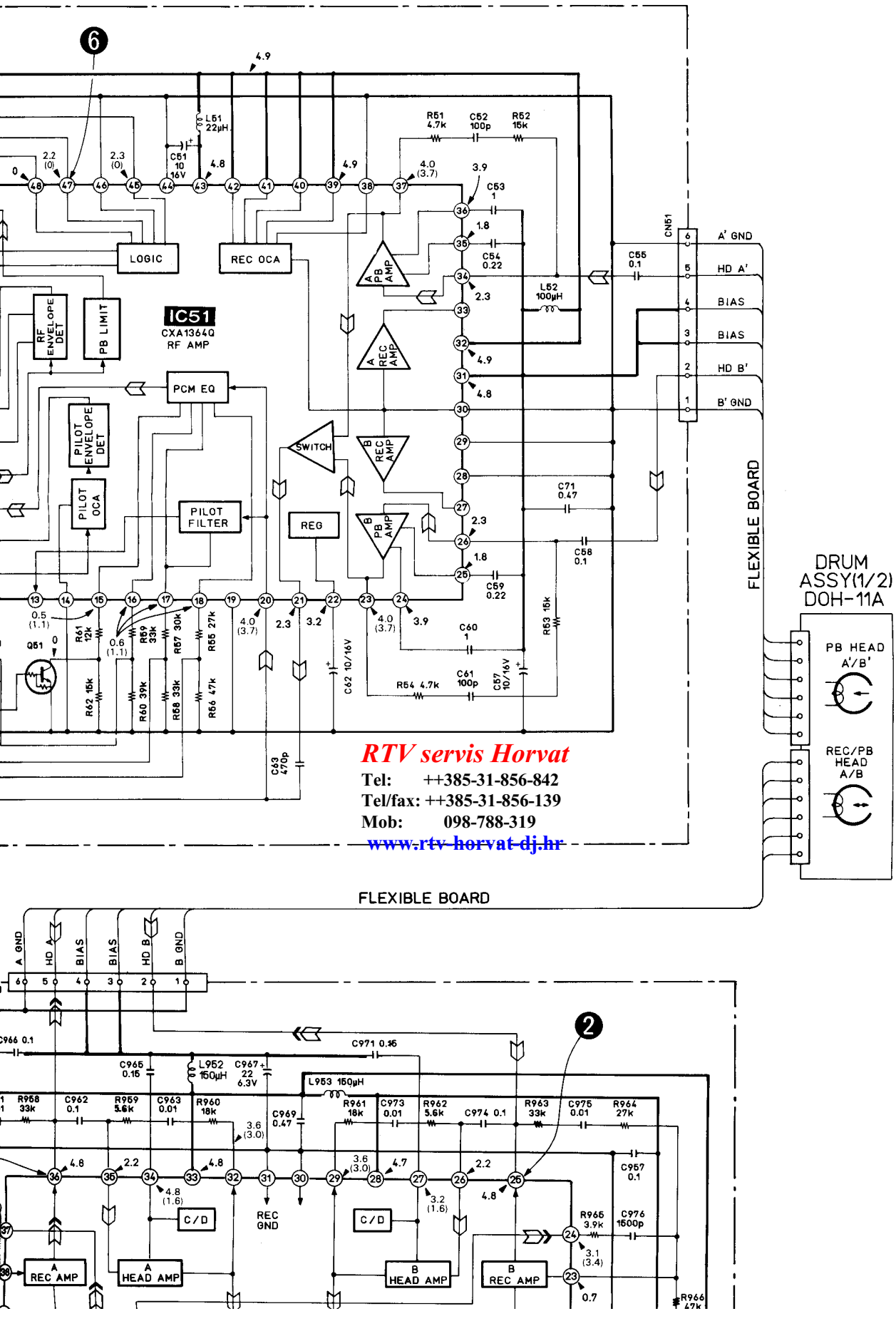
(See page 47)
TO DIGITAL BOARD CN507

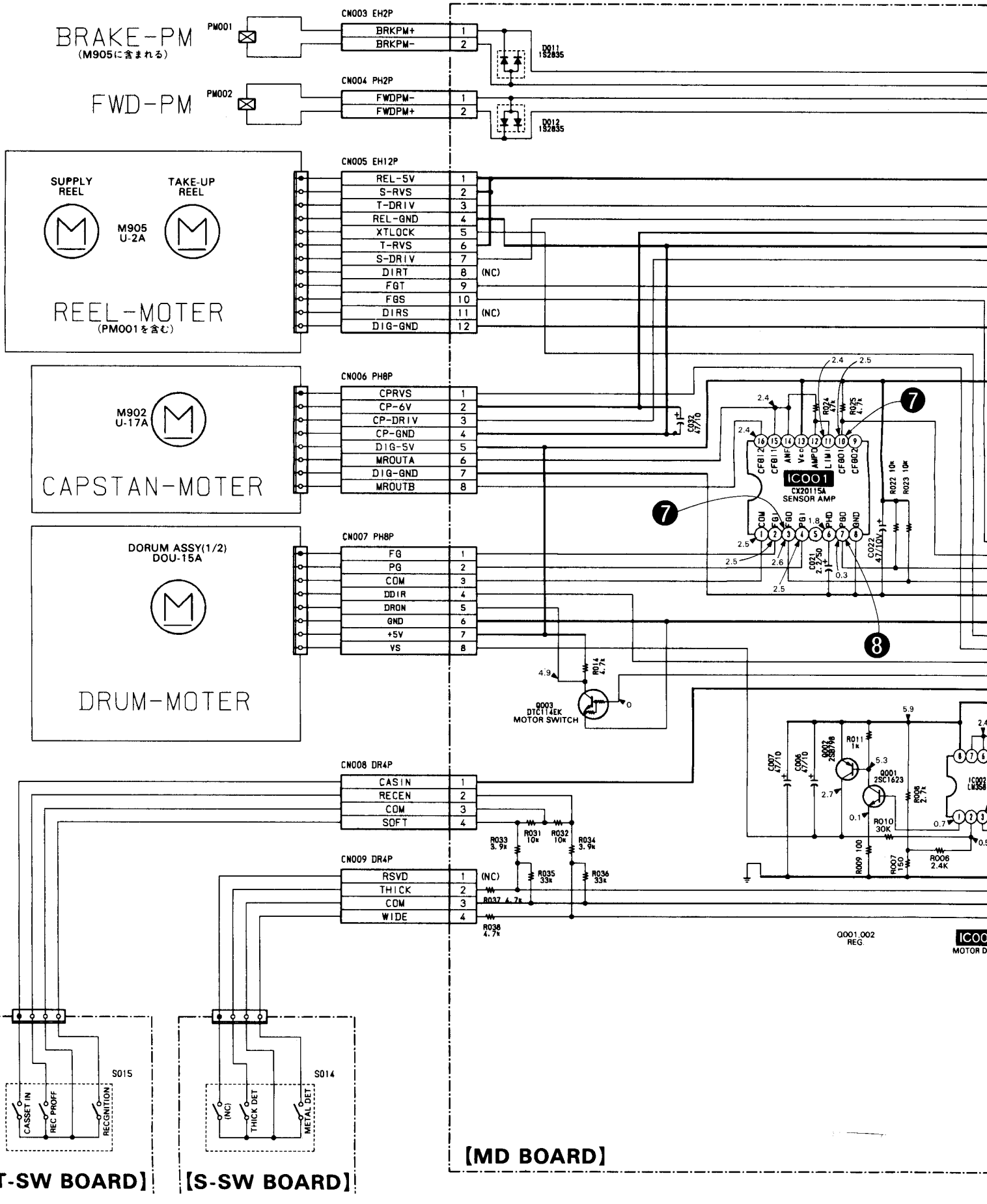
CN951 CN952 CN962 CN963 CN52

IC51 CXA1364Q RF AMP

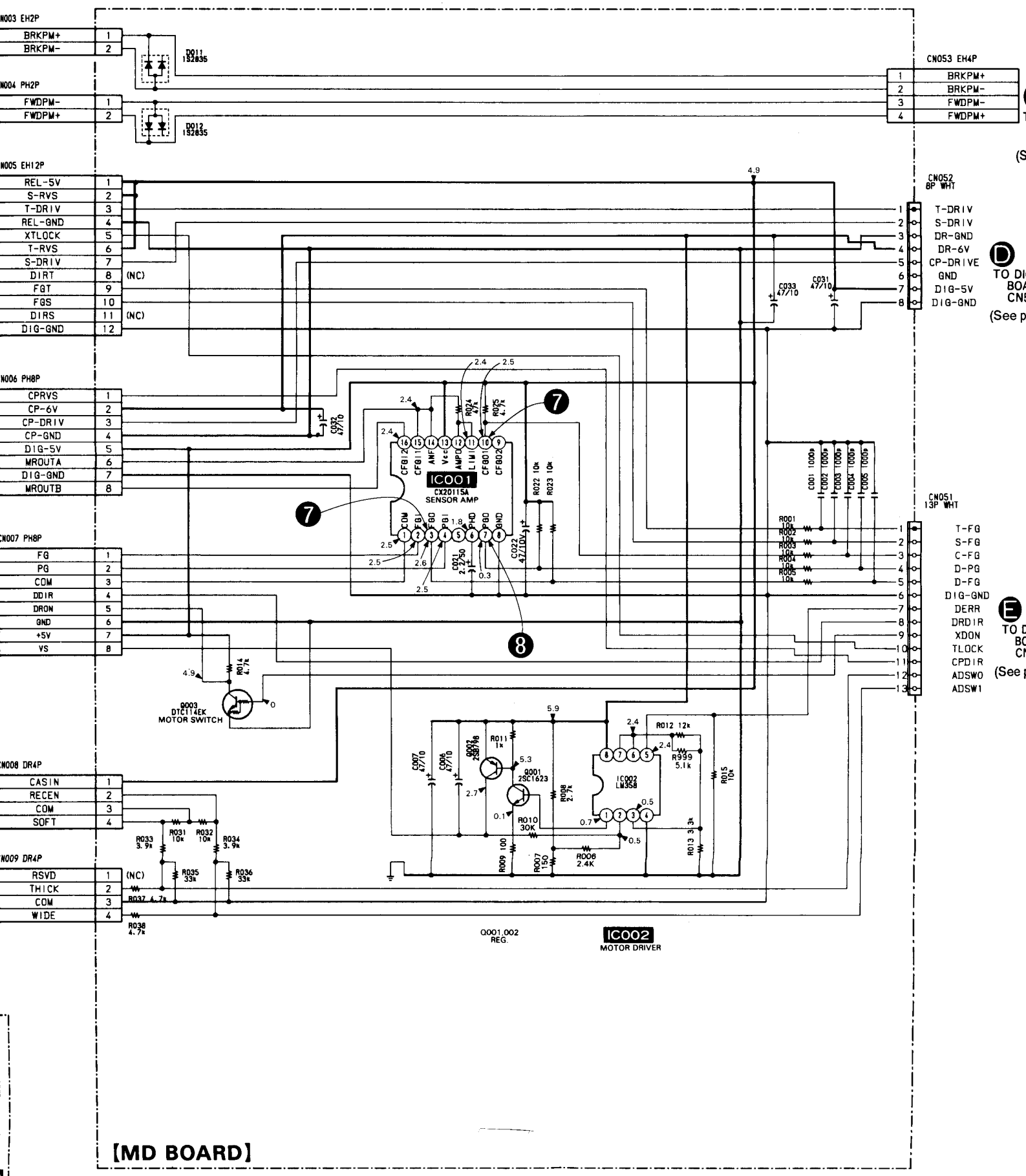
LOGIC
RF ENVELOPE DET
PB LIMIT
PILOT ENVELOPE DET
PILOT OCA
PCM EQ
REC AMP
HEAD AMP

Q51~54 DTC114EK EQ SWITCH
Q55 DTC114EK SWITCH

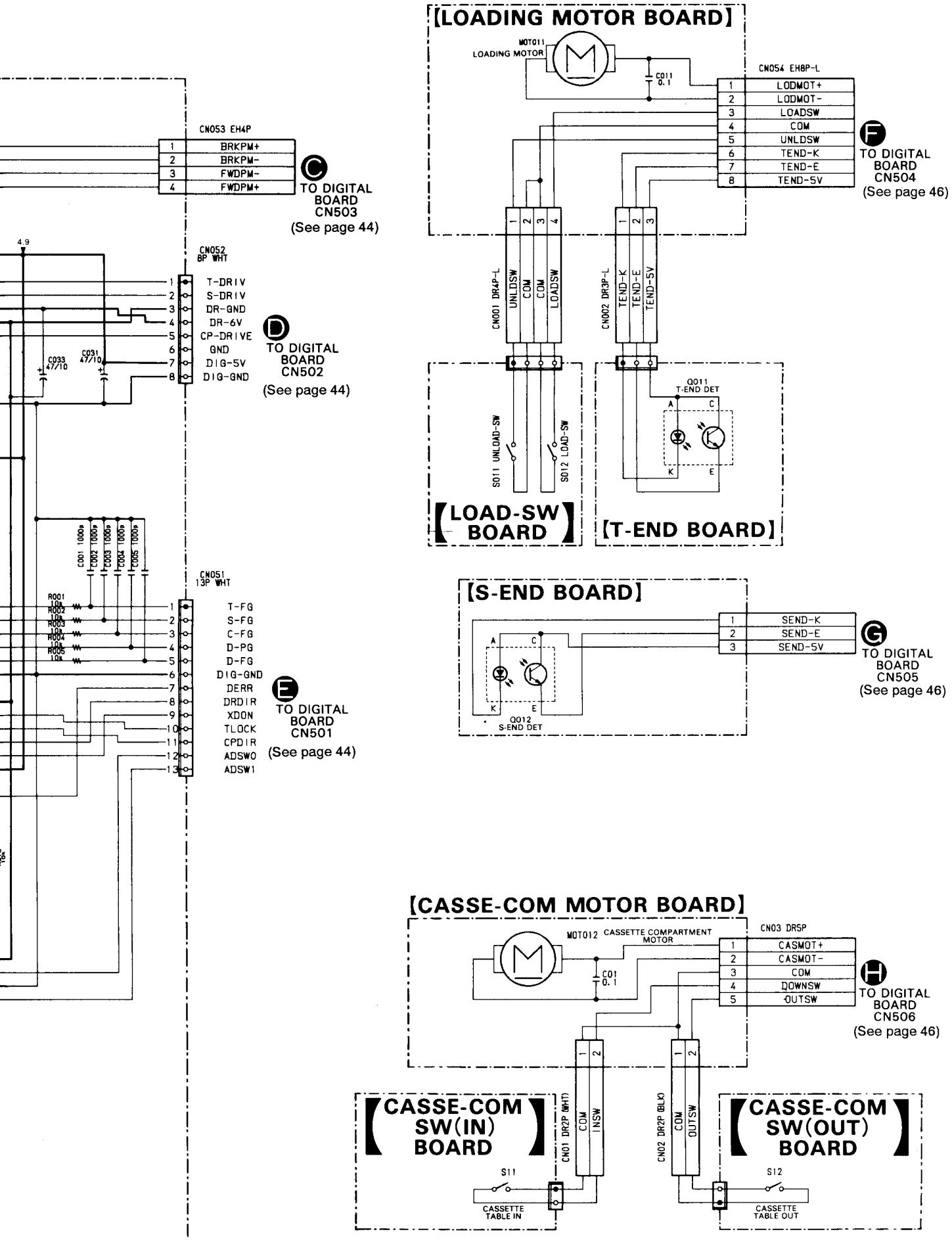



BRAKE-PM
(M905に含まれる)
PM001
CN003 EH2P
BRKPM+ 1
BRKPM- 2
D011 1S2835
FWD-PM
PM002
CN004 PH2P
FWDPM- 1
FWDPM+ 2
D012 1S2835
SUPPLY REEL
TAKE-UP REEL
M905 U-2A
REEL-MOTER
(PM001を含む)
CN005 EH12P
REL-5V 1
S-RVS 2
T-DRIV 3
REL-GND 4
XTLOCK 5
T-RVS 6
S-DRIV 7
DIRT 8 (NC)
FGT 9
FGS 10
DIRS 11 (NC)
DIG-GND 12
M902 U-17A
CAPSTAN-MOTER
CN006 PH8P
CPRVS 1
CP-6V 2
CP-DRIV 3
CP-GND 4
DIG-5V 5
MROUTA 6
DIG-GND 7
MROUTB 8
DORUM ASSY(1/2)
DOU-15A
DRUM-MOTER
CN007 PH8P
FG 1
PG 2
COM 3
DDIR 4
DRON 5
GND 6
+5V 7
VS 8
ICO01
CX20115A
SENSOR AMP
Q003
DTC114EK
MOTOR SWITCH
CN008 DR4P
CASIN 1
RECEN 2
COM 3
SOFT 4
CN009 DR4P
RSVD 1 (NC)
THICK 2
COM 3
WIDE 4
Q001 2SC1623
Q001,002
REG.
S015
CASSET IN
REC PROOFF
RECGNITION
S014
(NC)
THICK DET
METAL DET
[T-SW BOARD]
[S-SW BOARD]
[MD BOARD]

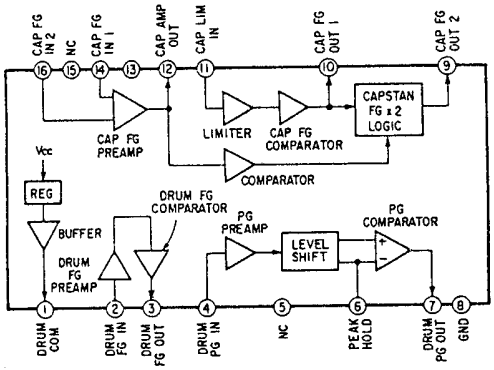
15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23



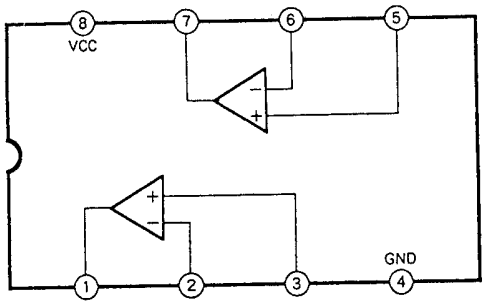
[MD BOARD]

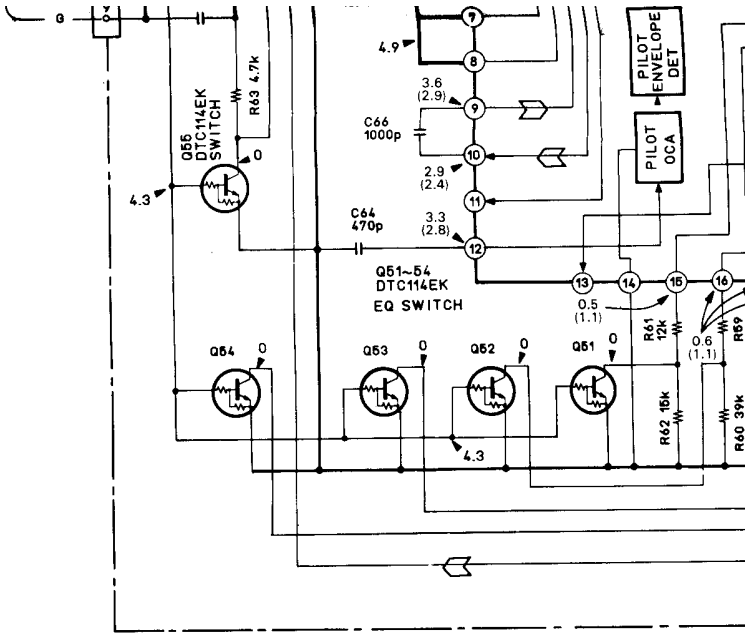

[LOADING MOTOR BOARD]
MOT011
LOADING MOTOR
C011
0.1
CN054 EH8P-L
1 LODMOT+
2 LODMOT-
3 LOADSW
4 COM
5 UNLDSW
6 TEND-K
7 TEND-E
8 TEND-5V
F
TO DIGITAL BOARD CN504
(See page 46)
CN001 DR4P-L
UNLDSW
COM
COM
LOADSW
CN002 DR3P-L
TEND-K
TEND-E
TEND-5V
Q011
T-END DET
S011 UNLOAD-SW
S012 LOAD-SW
[LOAD-SW BOARD]
[T-END BOARD]
[S-END BOARD]
1 SEND-K
2 SEND-E
3 SEND-5V
G
TO DIGITAL BOARD CN505
(See page 46)
Q012
S-END DET
CN053 EH4P
1 BRKPM+
2 BRKPM-
3 FWDPM-
4 FWDPM+
C
TO DIGITAL BOARD CN503
(See page 44)
CN052
8P WHT
1 T-DRIV
2 S-DRIV
3 DR-GND
4 DR-6V
5 CP-DRIVE
6 GND
7 DIG-5V
8 DIG-GND
D
TO DIGITAL BOARD CN502
(See page 44)
C033 47/10
C031 47/10
C001 1000p
C002 1000p
C003 1000p
C004 1000p
C005 1000p
R001 10k
R002 10k
R003 10k
R004 10k
R005 10k
CN051
13P WHT
1 T-FG
2 S-FG
3 C-FG
4 D-PG
5 D-FG
6 DIG-GND
7 DERR
8 DRDIR
9 XDON
10 TLOCK
11 CPDIR
12 ADSWO
13 ADSW1
E
TO DIGITAL BOARD CN501
(See page 44)
[CASSE-COM MOTOR BOARD]
MOT012 CASSETTE COMPARTMENT MOTOR
C01
0.1
CN03 DR5P
1 CASMOT+
2 CASMOT-
3 COM
4 DOWNSW
5 OUTSW
H
TO DIGITAL BOARD CN506
(See page 46)
[CASSE-COM SW(IN) BOARD]
CN01 DR2P (WHT)
COM
INSW
S11
CASSETTE TABLE IN
CN02 DR2P (BLK)
COM
OUTSW
[CASSE-COM SW(OUT) BOARD]
S12
CASSETTE TABLE OUT

IC001 CX20115A

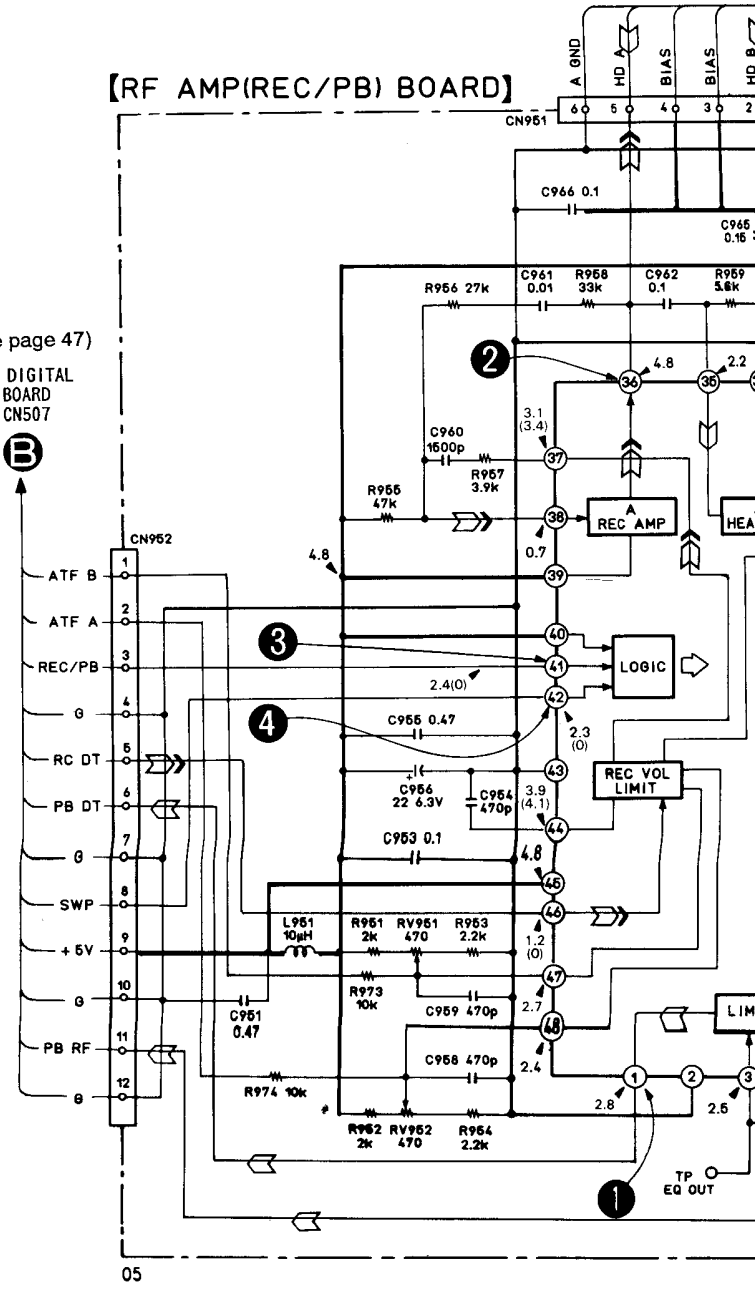


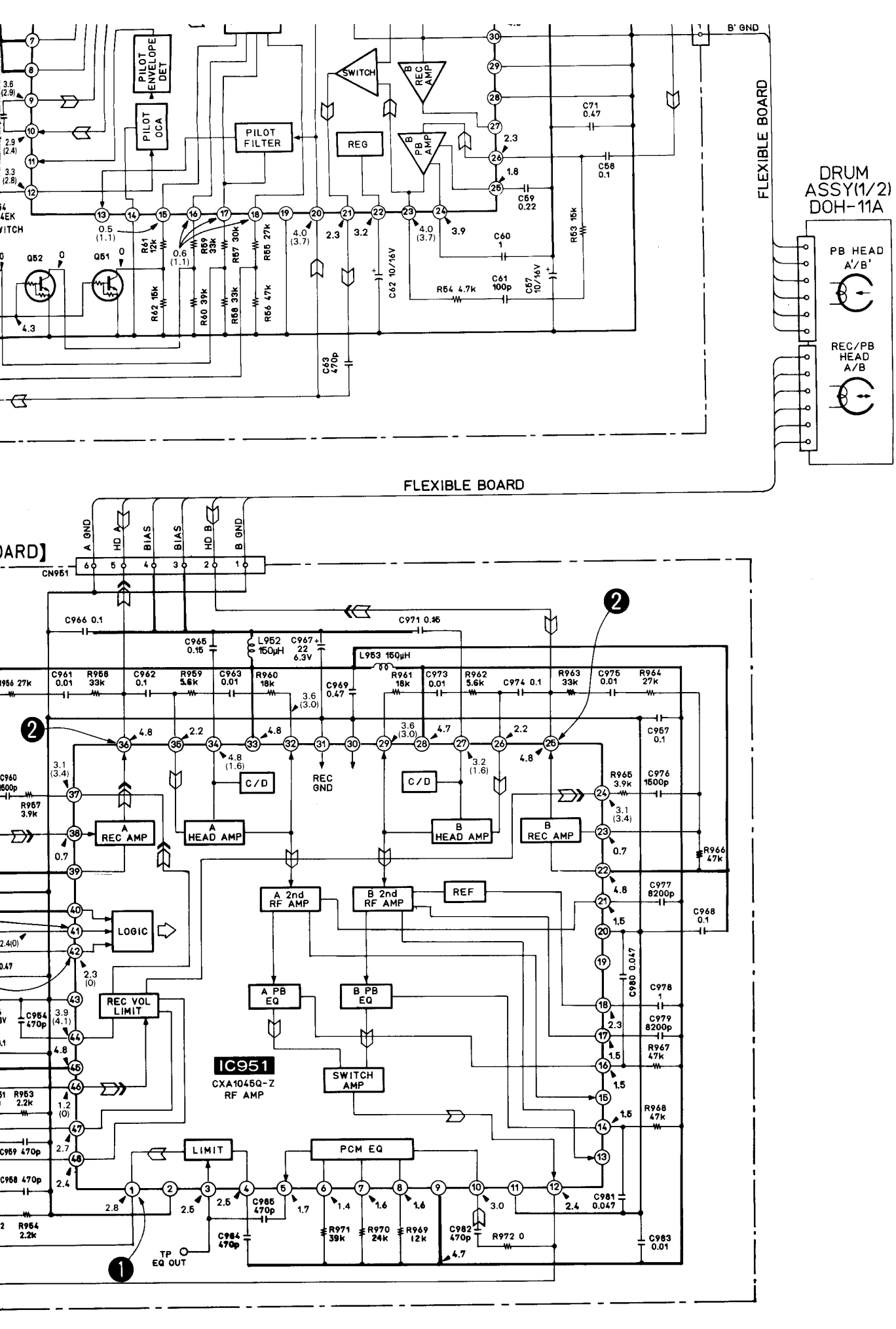
IC002 LM358M





【RF AMP(REC/PB) BOARD】



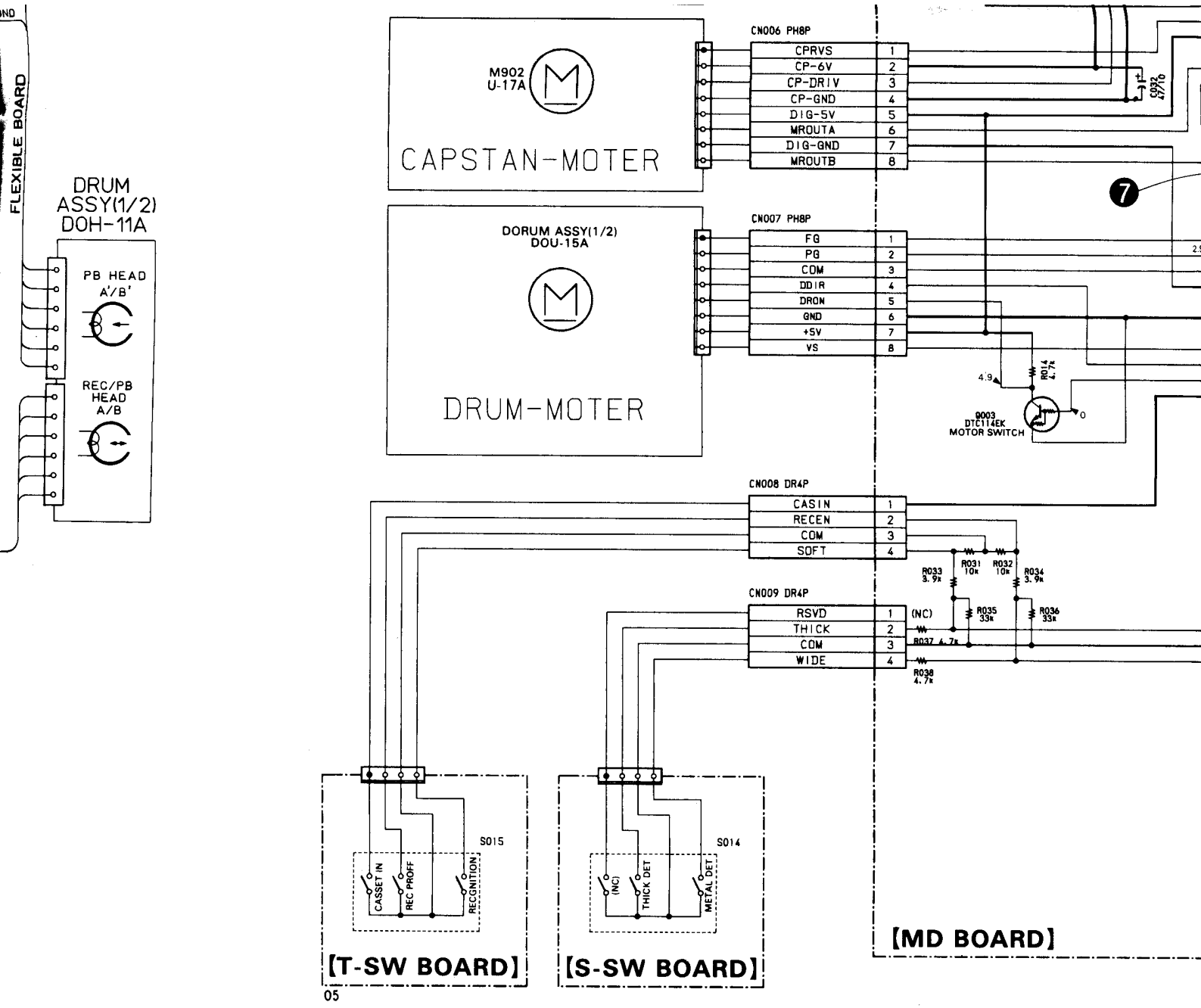


Note on Schem

- All capacitors
  50 WV or
  and tantalums
- All resistors
  specified.
- % : ind
- △ : int
- : fus

Note:
The componer
by mark ⚠ o
with mark ⚠ a
safety.
Replace only
number specifi

- : B
- : B
- : ad



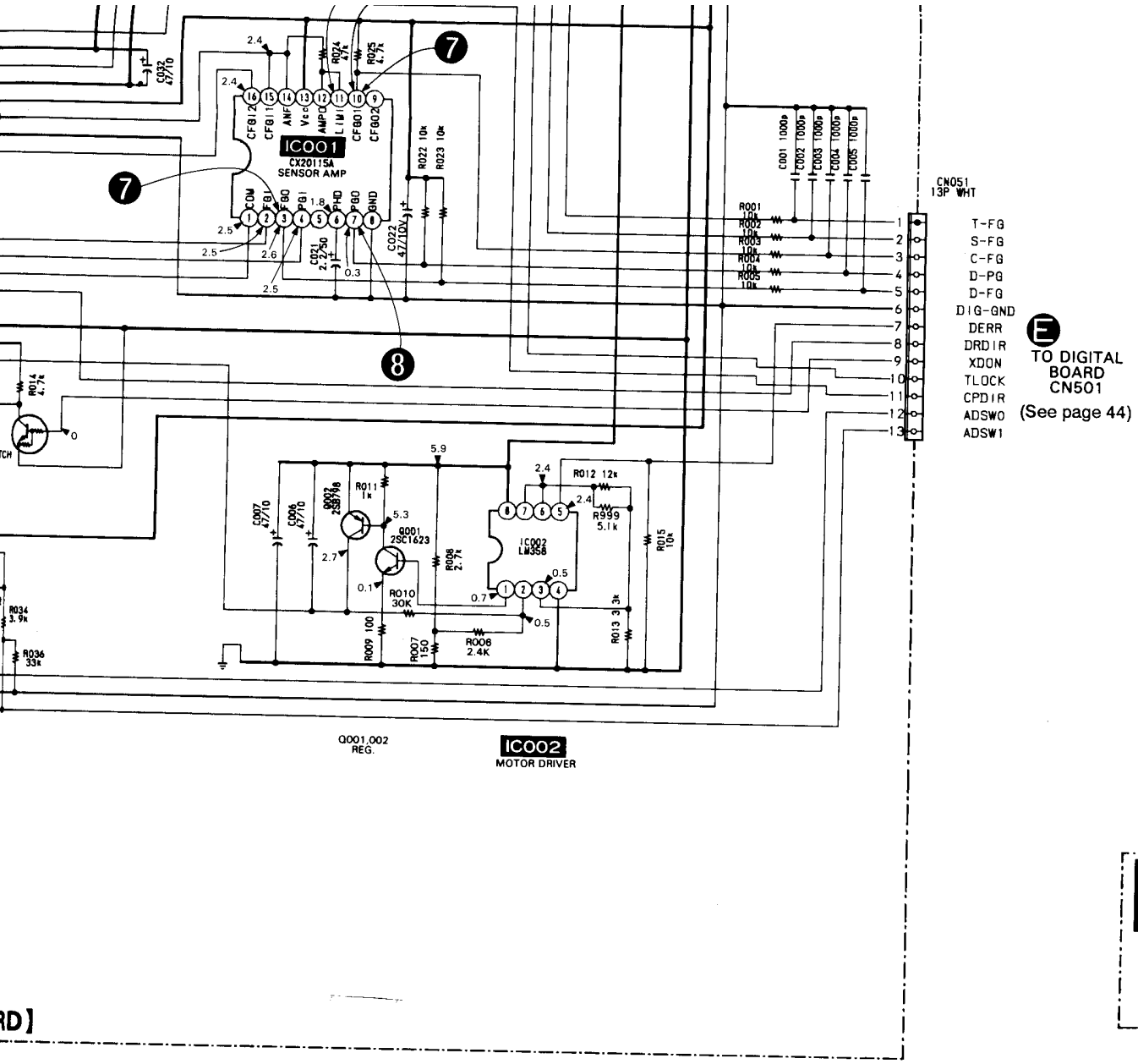
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ⊣w⊢ : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B + Line.
- ▬ ▬ : B − Line.
- ▭ : adjustment for repair.

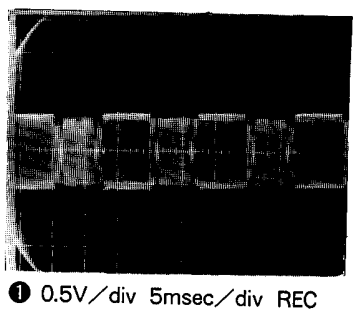
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : REC/PLAY
  ( ) : PLAY
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Wavefroms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to wavefroms.
- Signal path.
  ▷ : PB
  ▷» : REC



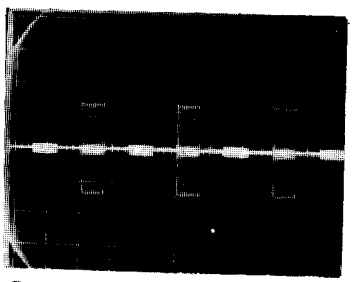
ground under

MΩ).
production

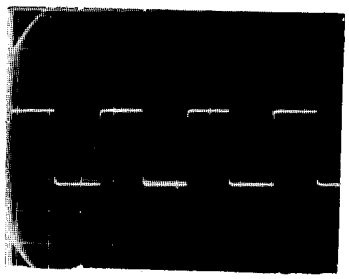
production



❶ 0.5V/div 5msec/div REC

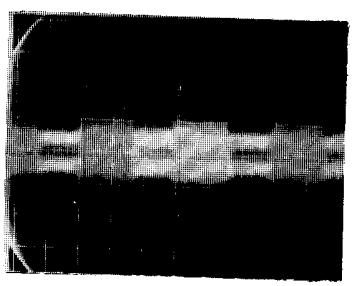


❷ 2V/div 10msec/div REC

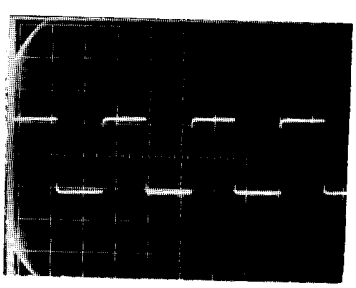


❸ 2V/div 5msec/div REC

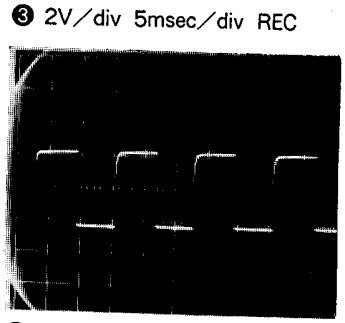
❹ 2V/d



❺ 0.2V/div 0.5 μ sec/div PB

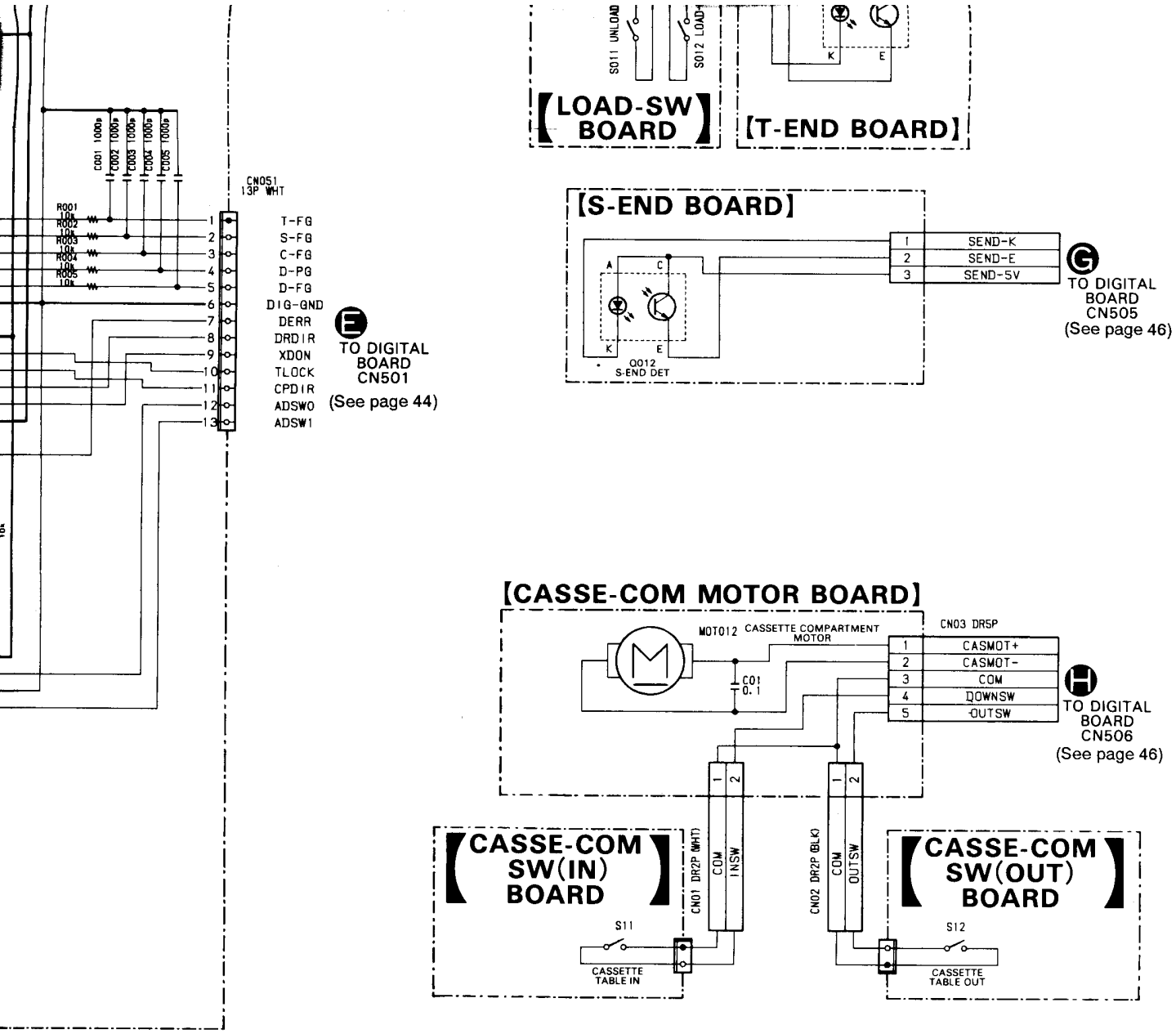


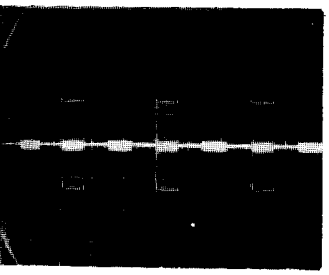
❻ 2V/div 10 μ sec/div REC/PB



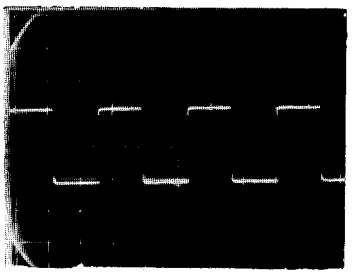
❼ 2V/div 0.5msec/div REC

❽ 2V/d

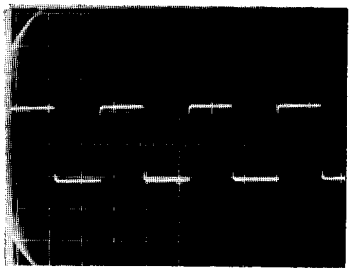




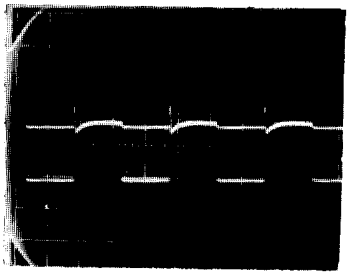
❷ 2V/div 10msec/div REC



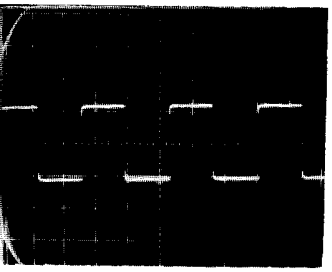
❸ 2V/div 5msec/div REC



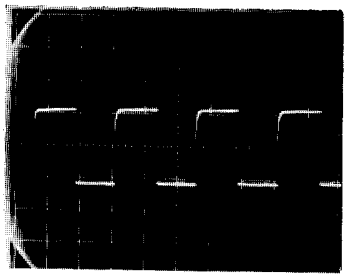
❹ 2V/div 10msec/div REC



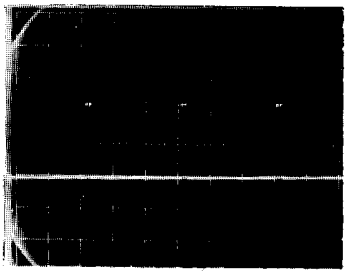
❺ 0.5V/div 5msec/div REC



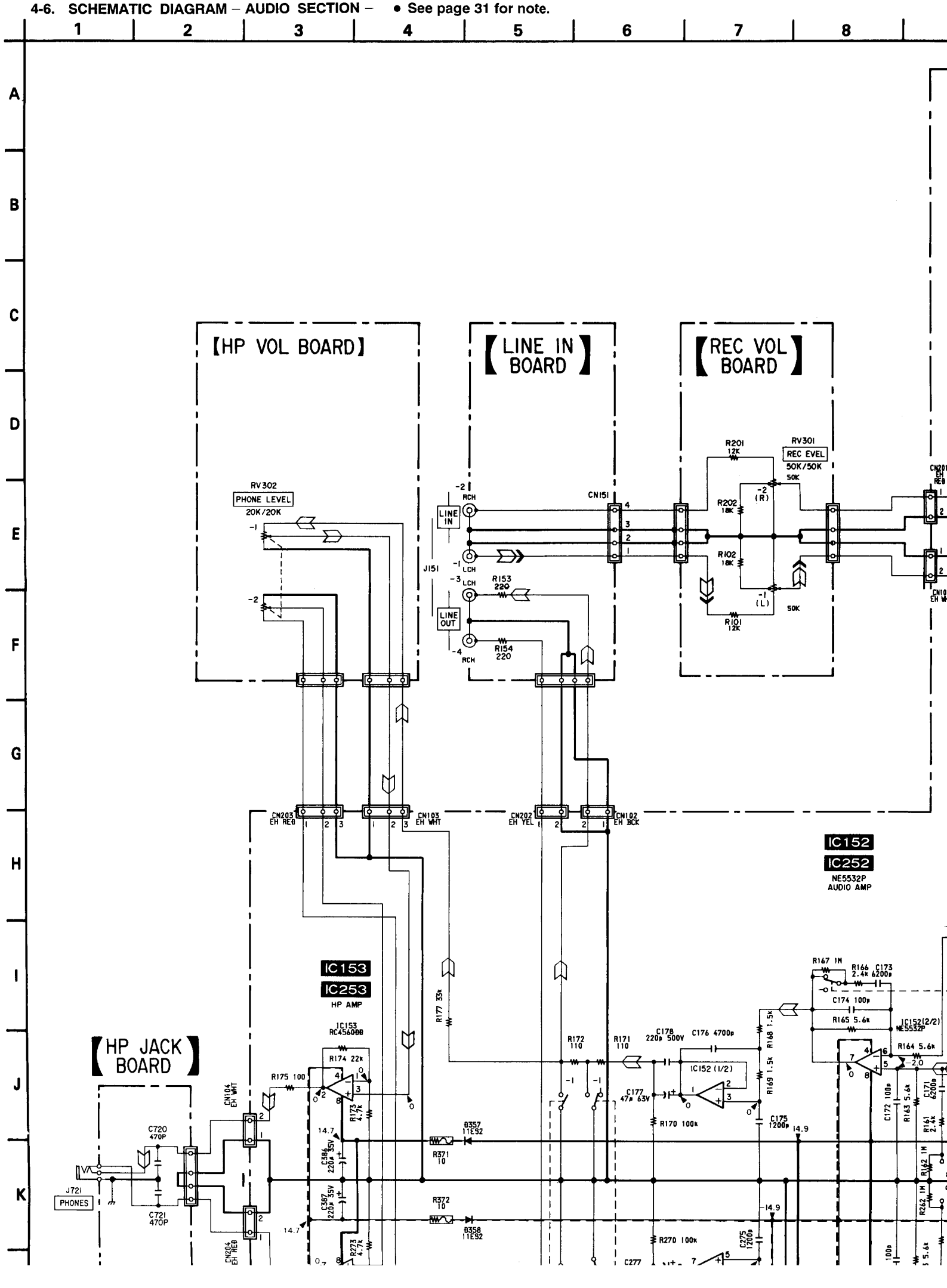
❻ 2V/div 10 μsec/div REC/PB



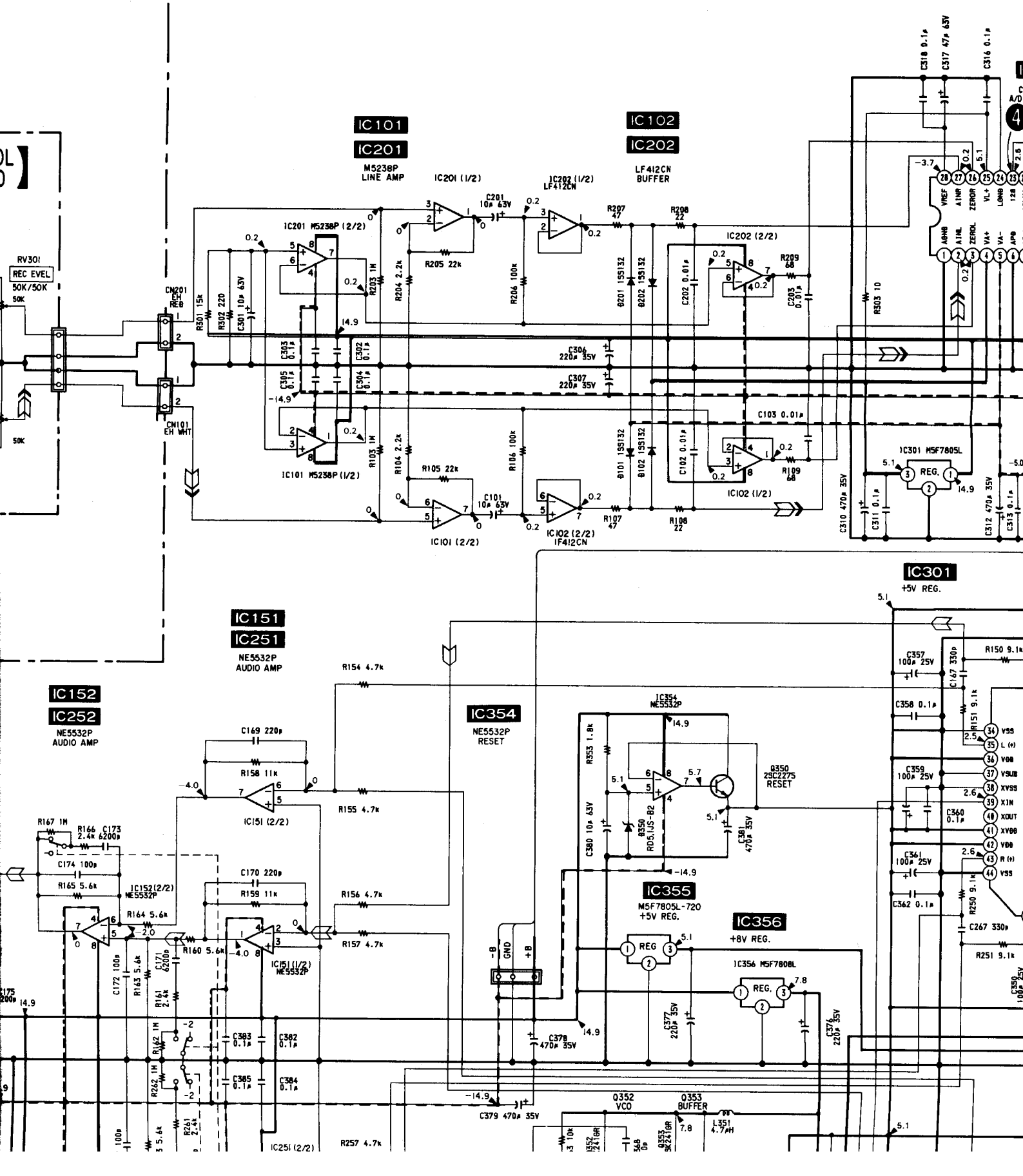
❼ 2V/div 0.5msec/div REC

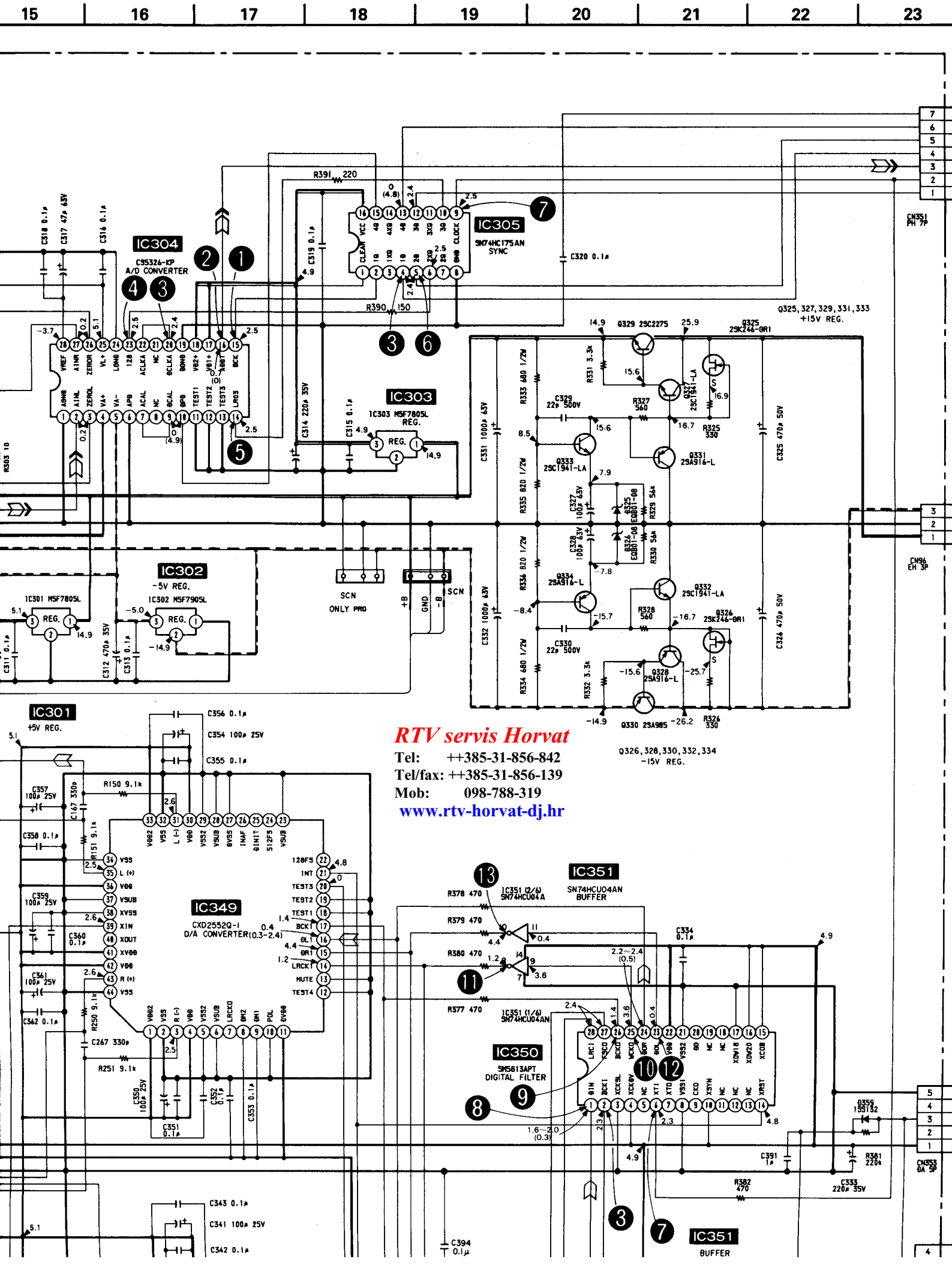


❽ 2V/div 10msec/div REC


【HP VOL BOARD】
【LINE IN BOARD】
【REC VOL BOARD】
【HP JACK BOARD】
RV302
PHONE LEVEL
20K/20K
RV301
REC EVEL
50K/50K
R201
12K
R202
18K
R102
18K
R101
12K
R153
220
R154
220
CN151
J151
LINE IN
LINE OUT
RCH
LCH
CN203
CN103
CN202
CN102
IC152
IC252
NE5532P
AUDIO AMP
IC153
IC253
HP AMP
RC4560DB
R174 22k
R175 100
R173 4.7k
R273 4.7k
R177 33k
R172 110
R171 110
C178 220p 500V
C176 4700p
R168 1.5k
R169 1.5k
C177 47p 63V
R170 100k
C175 1200p
R167 1M
R166 2.4k
C173 6200p
C174 100p
R165 5.6k
R164 5.6k
C172 100p
R163 5.6k
C171 6200p
R161 2.4k
R162 1M
R262 1M
C275 1200p
R270 100k
C277
C720 470P
C721 470P
J721
PHONES
CN104
CN204
C386 220p 35V
C387 220p 35V
R371 10
R372 10
8357 11ES2
8358 11ES2
14.7
14.9

【AUDIO BOARD】


IC101
IC201
M5238P
LINE AMP
IC102
IC202
LF412CN
BUFFER
IC201 (1/2)
IC202 (1/2)
IC201 M5238P (2/2)
IC202 (2/2)
IC101 M5238P (1/2)
IC102 (1/2)
IC101 (2/2)
IC102 (2/2)
IC301
+5V REG.
IC151
IC251
NE5532P
AUDIO AMP
IC152
IC252
NE5532P
AUDIO AMP
IC354
NE5532P
RESET
IC355
M5F7805L-720
+5V REG.
IC356
+8V REG.
IC356 M5F7808L
IC301 M5F7805L
RV301
REC EVEL
50K/50K
CN201
CN101
Q350
2SC2275
RESET
Q352
VCO
Q353
BUFFER
IC151 (2/2)
IC152(2/2)
NE5532P
IC151(1/2)
NE5532P
IC251 (2/2)
IC101 (2/2)
IC102 (2/2)
IF412CN
REG.
GND
-B
+B


15
16
17
18
19
20
21
22
23
IC304
C95326-KP
A/D CONVERTER
IC305
SN74HC175AN
SYNC
IC303
1C303 M5F7805L
REG.
IC302
-5V REG.
1C302 M5F7905L
1C301 M5F7805L
IC301
+5V REG.
IC349
CXD2552Q-1
D/A CONVERTER(0.3-2.4)
IC351
SN74HCU04AN
BUFFER
IC350
SM5813APT
DIGITAL FILTER
SCN
ONLY PRO
Q325,327,329,331,333
+15V REG.
Q326,328,330,332,334
-15V REG.
RTV servis Horvat
Tel: ++385-31-856-842
Tel/fax: ++385-31-856-139
Mob: 098-788-319
www.rtv-horvat-dj.hr

7	GND
6	ADPD
5	X128FS
4	BCK
3	ADDT
2	X256FS
1	LR03

CN351 PH 7P

I

TO DIGITAL BOARD CN531

(See page 44)

325, 327, 329, 331, 333 +15V REG.

3	-UNREG
2	GND
1	+UNREG

CN96 EH 3P

T

TO POWER BOARD

(See page 68)

4.9

D359 1SS132

R381 220k

C333 220µ 35V

5	GND
4	SOFTMUT
3	MODE RESET
2	XRST
1	D1G-5V

CN353 6A 5P

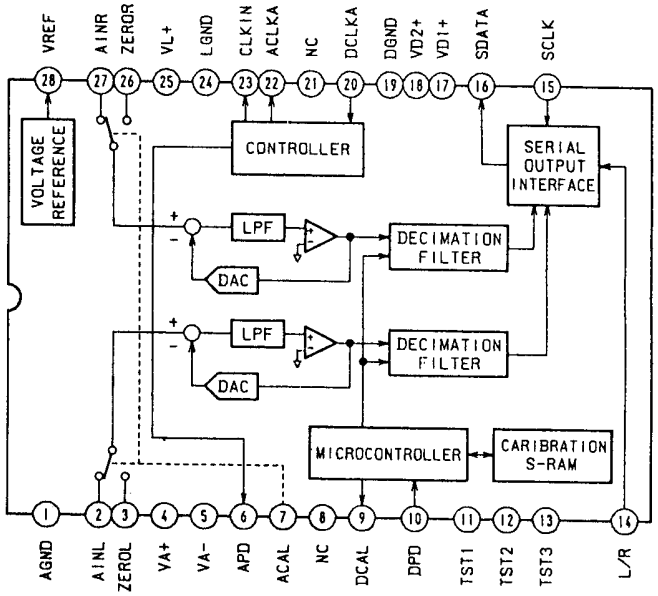
K

TO DIGITAL BOARD CN533

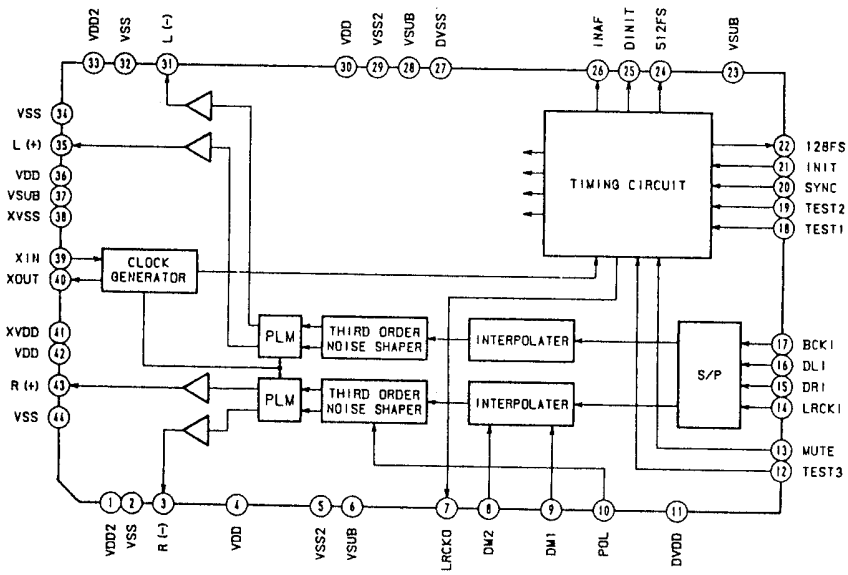
(See page 44)

4	GND

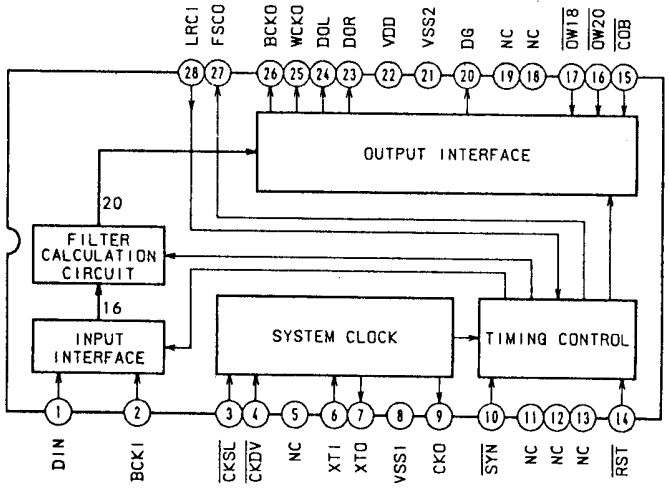
IC304 CS5326-KP



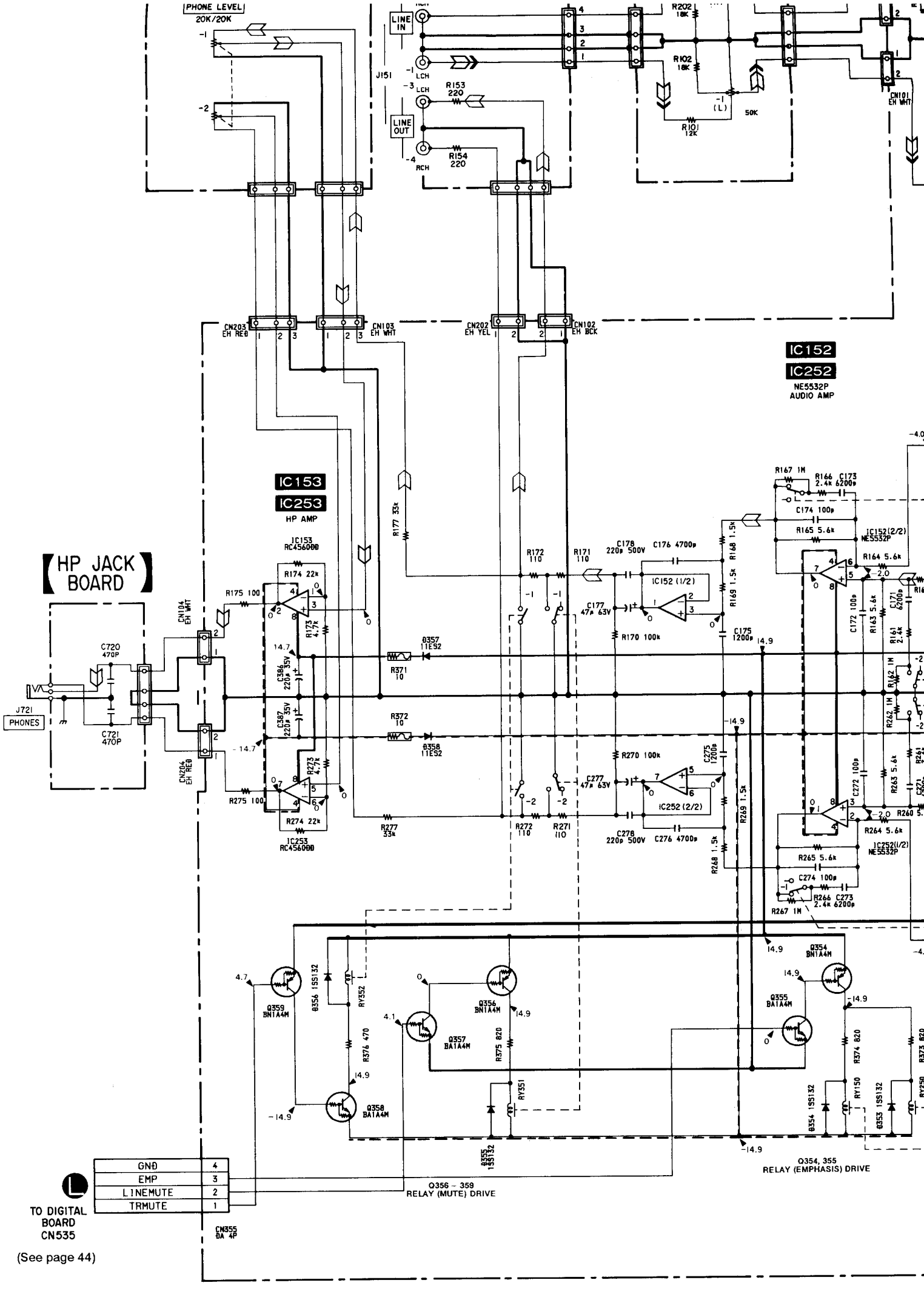
IC348 CXD2552



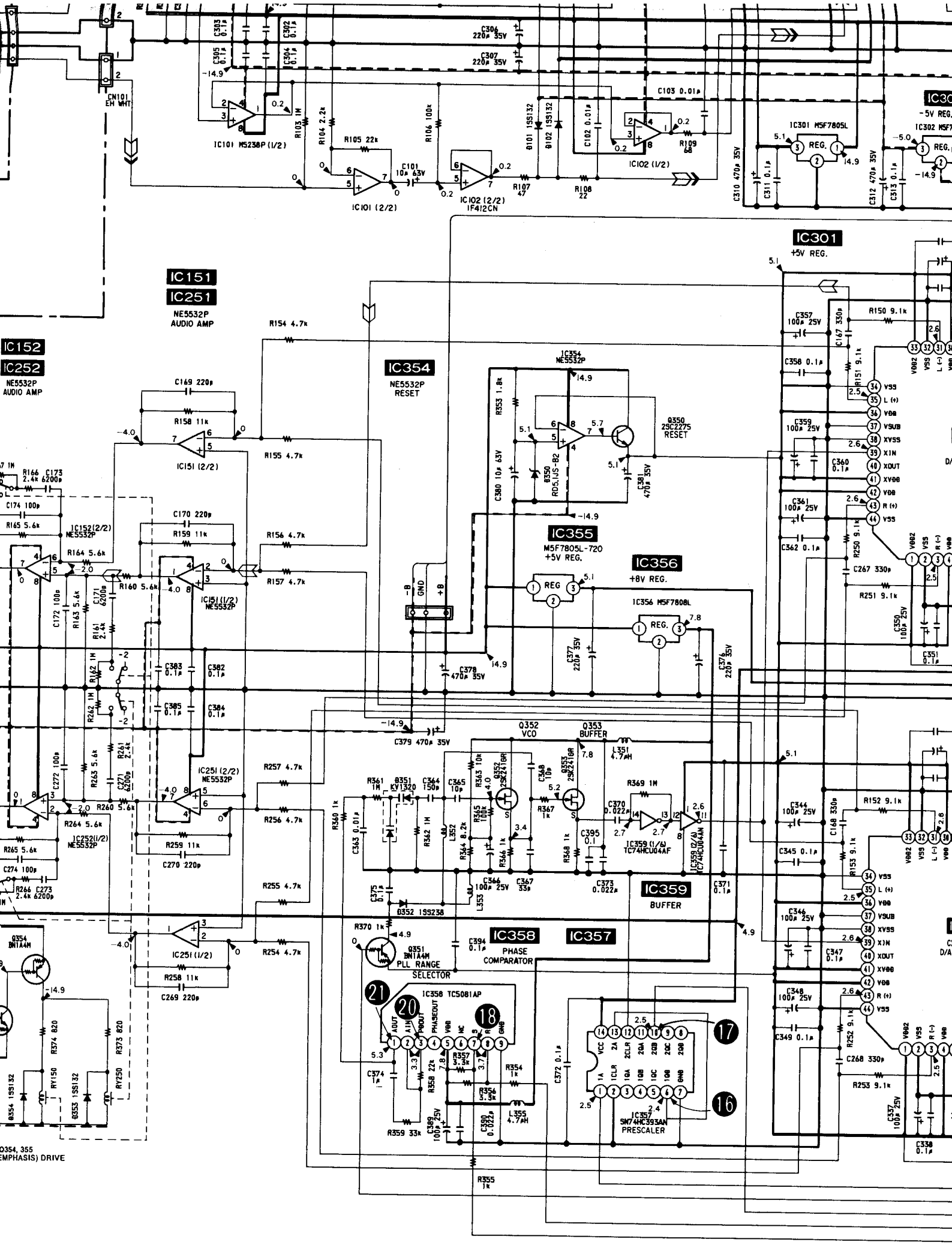
IC350 SM5813APT

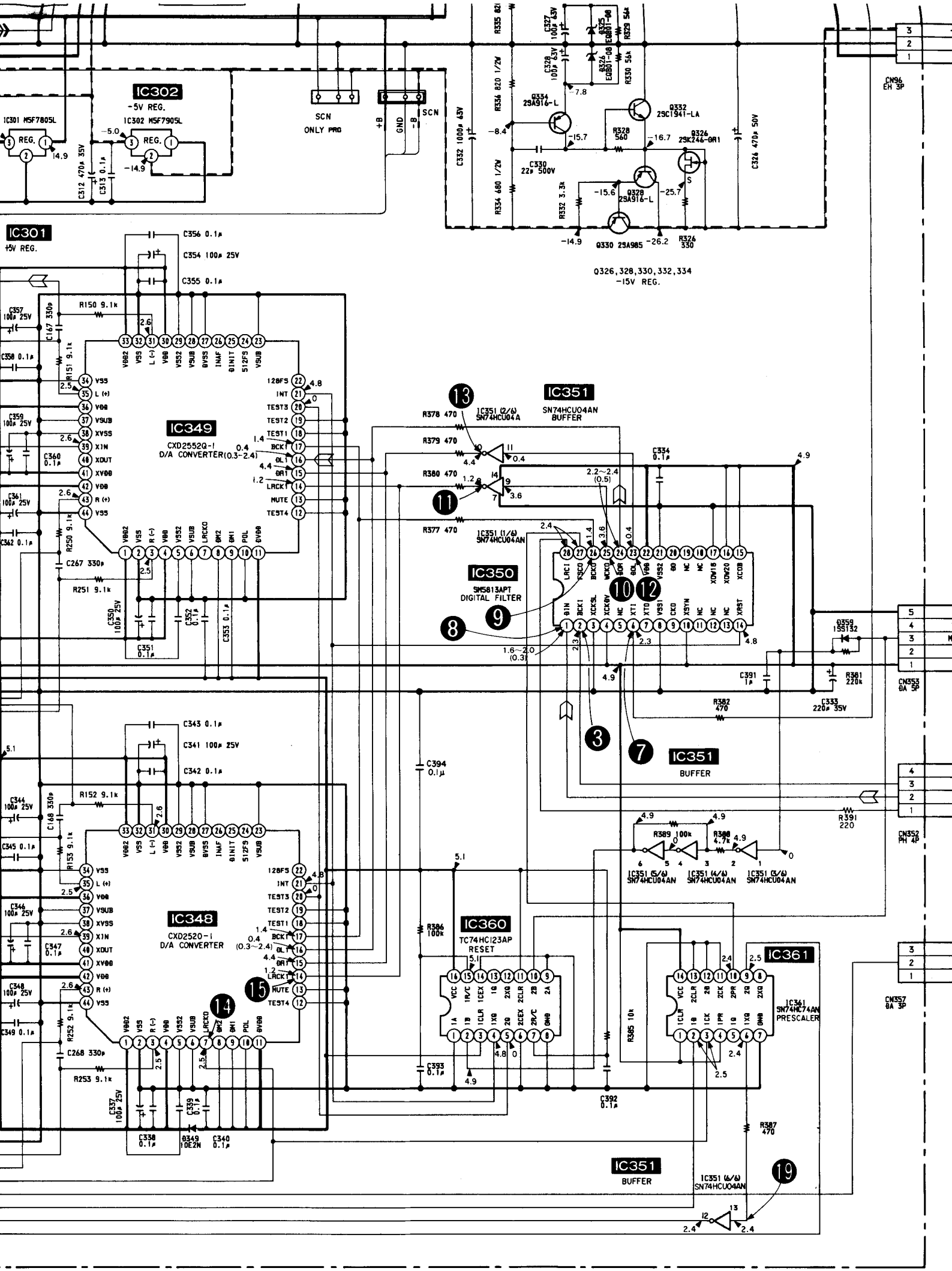


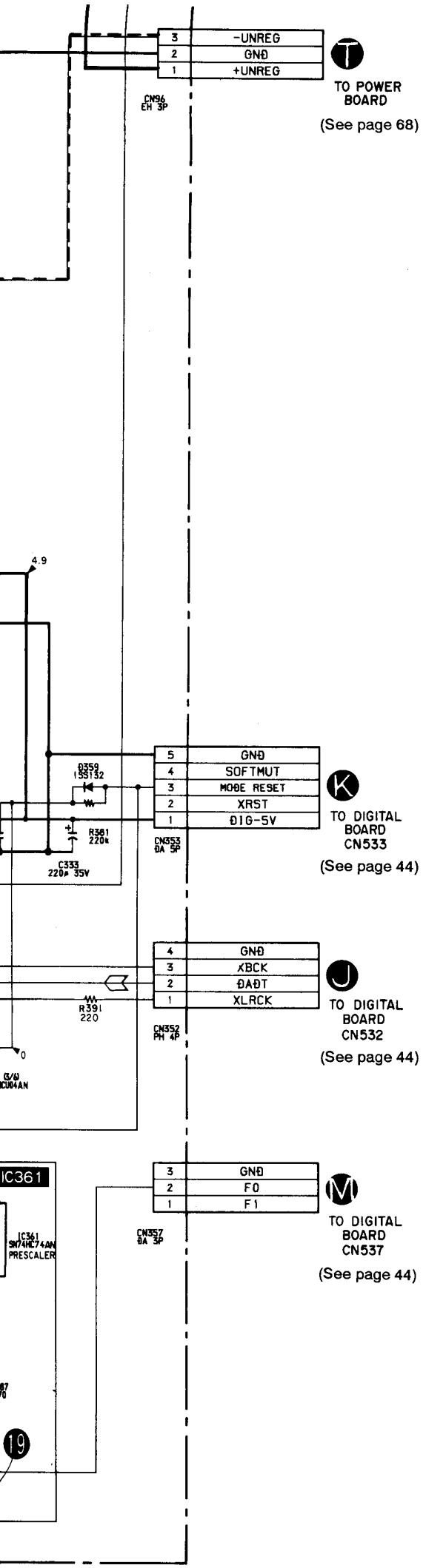
IC358 TC5081AP

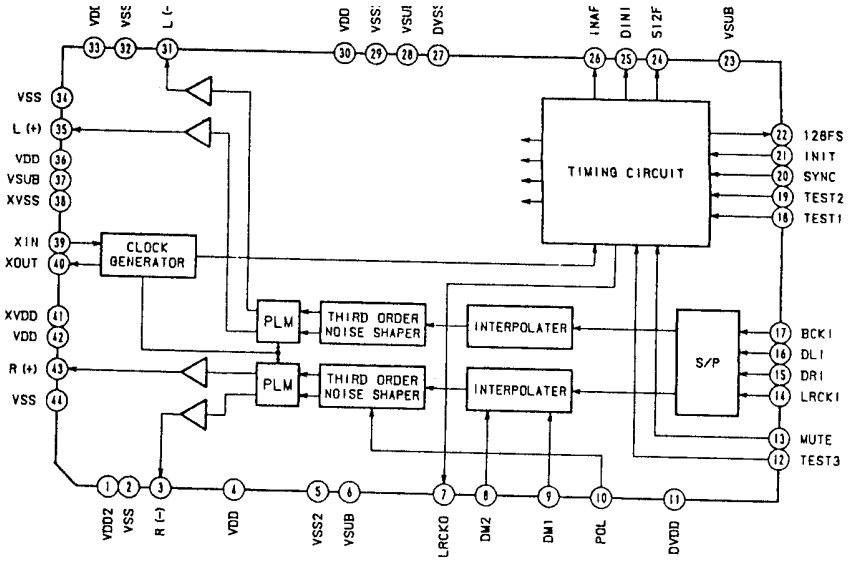

PHONE LEVEL
20K/20K
LINE IN
LINE OUT
J151
LCH
RCH
R153 220
R154 220
R202 18K
R102 18K
R101 12K
50K
CN101 EH WHT
CN203 EH RED
CN103 EH WHT
CN202 EH YEL
CN102 EH BCK
IC152
IC252
NE5532P
AUDIO AMP
IC153
IC253
HP AMP
HP JACK BOARD
J721
PHONES
C720 470P
C721 470P
CN104 EH WHT
CN204 EH RED
R175 100
R174 22k
R173 4.7k
R275 100
R274 22k
R223 4.7k
IC153 RC4560DD
IC253 RC4560DD
C386 220µ 35V
C387 220µ 35V
R371 10
R372 10
0357 11ES2
0358 11ES2
R177 33k
R277 33k
R172 110
R171 110
R272 110
R271 110
C178 220p 500V
C176 4700p
C177 47µ 63V
C278 220p 500V
C276 4700p
C277 47µ 63V
R170 100k
R270 100k
C175 1200p
C275 1200p
R168 1.5k
R169 1.5k
R268 1.5k
R269 1.5k
IC152 (1/2)
IC252 (2/2)
R167 1M
R166 2.4k
C173 6200p
C174 100p
R165 5.6k
R164 5.6k
IC152(2/2) NE5532P
C172 100p
R163 5.6k
C171 6200p
R161 2.4k
R162 1M
R262 1M
R263 5.6k
C272 100p
R264 5.6k
IC252(1/2) NE5532P
R265 5.6k
C274 100p
R266 2.4k
C273 6200p
R267 1M
Q359 BN1A4M
Q356 BN1A4M
Q357 BA1A4M
Q358 BA1A4M
Q354 BN1A4M
Q355 BA1A4M
0356 1SS132
RY352
R376 470
R375 820
RY351
0355 1SS132
R374 820
RY150
0354 1SS132
0353 1SS132
GND 4
EMP 3
L1NEMUTE 2
TRMUTE 1
CN355 BA 4P
TO DIGITAL BOARD CN535
Q356 – 359 RELAY (MUTE) DRIVE
Q354, 355 RELAY (EMPHASIS) DRIVE

(See page 44)

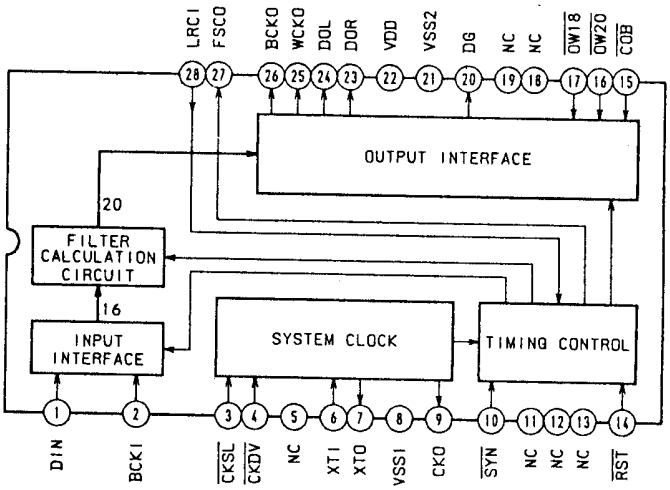

IC151
IC251
NE5532P
AUDIO AMP
IC152
IC252
NE5532P
AUDIO AMP
IC354
NE5532P
RESET
IC355
M5F7805L-720
+5V REG.
IC356
+8V REG.
IC301
+5V REG.
IC359
BUFFER
IC358
PHASE
COMPARATOR
IC357
PRESCALER
IC358 TC5081AP
IC357
SN74HC393AN
PRESCALER
IC359 (1/6)
TC74HCU04AF
IC101 M5238P (1/2)
IC101 (2/2)
IC102 (1/2)
IC102 (2/2)
1F412CN
IC301 M5F7805L
IC356 M5F7808L
IC252(1/2)
NE5532P
IC151 (1/2)
NE5532P
IC251 (2/2)
NE5532P
IC251 (1/2)
IC152(2/2)
NE5532P
Q350
2SC2275
RESET
Q351
BN1A4M
PLL RANGE
SELECTOR
Q352
VCO
Q353
BUFFER
Q354
BN1A4M
Q355
2SK241GR
Q356
2SK241GR
Q357
2SK241GR
D350
RD5.1JS-B2
D351
KV1320
D352
1SS238
D353
1SS132
D354
1SS132
CN101
EH WHT
-5V REG.
IC302 M5F7
VSS
L (+)
VDD
VSUB
XVSS
XIN
XOUT
XVDD
R (+)
R (-)
-B
GND
+B
REG.
PHASEOUT
FOUT
AIN
VCC
GND
PRESCALER
BUFFER
VCO
PHASE
COMPARATOR
PLL RANGE
SELECTOR
EMPHASIS) DRIVE


IC302
-5V REG.
IC302 M5F7905L
IC301 M5F7805L
REG.
SCN
ONLY PRO
+B
GND
-B
SCN
Q334 2SA916-L
Q332 2SC1941-LA
Q328 2SA916-L
Q330 2SA985
Q326 2SK246-GR1
Q326,328,330,332,334
-15V REG.
IC301
+5V REG.
IC349
CXD2552Q-1
D/A CONVERTER(0.3-2.4)
IC350
SM5813APT
DIGITAL FILTER
IC351
SN74HCU04AN
BUFFER
IC348
CXD2520-1
D/A CONVERTER
IC360
TC74HC123AP
RESET
IC361
SN74HC74AN
PRESCALER
CN96
EH 3P
CN353
8A 5P
CN352
PH 4P
CN357
8A 3P

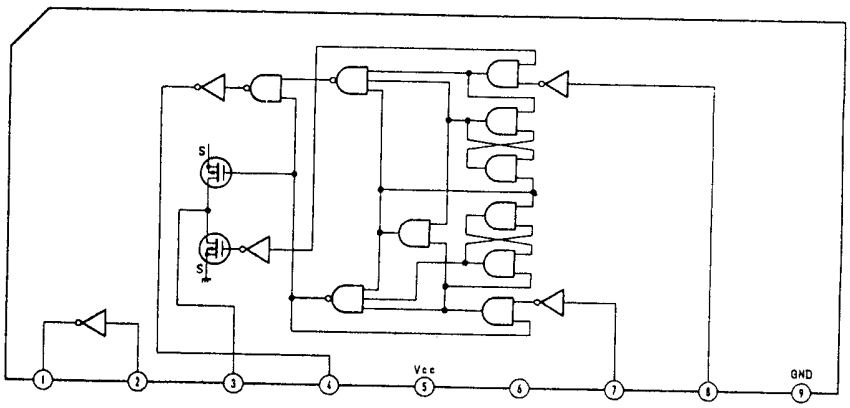


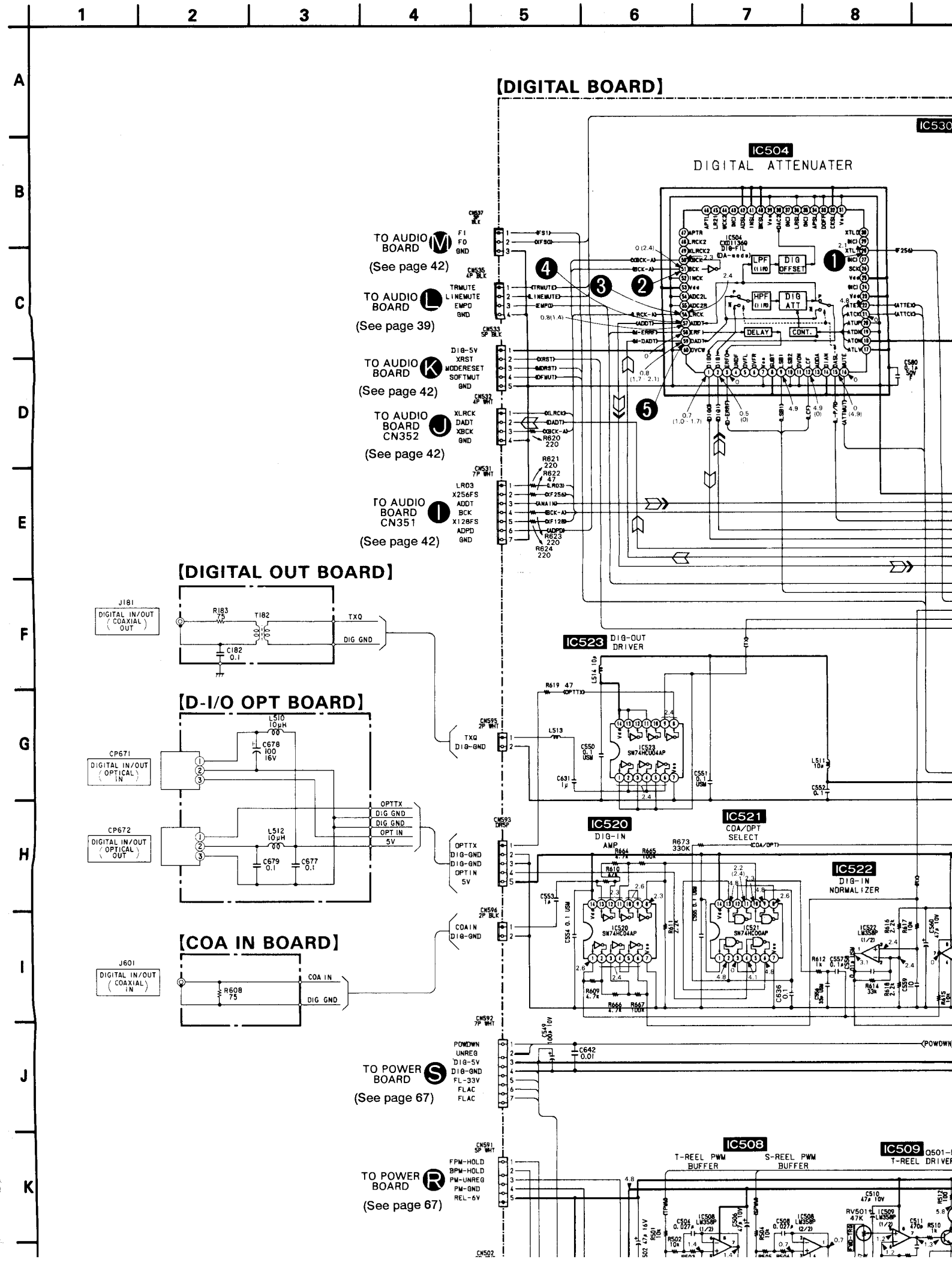


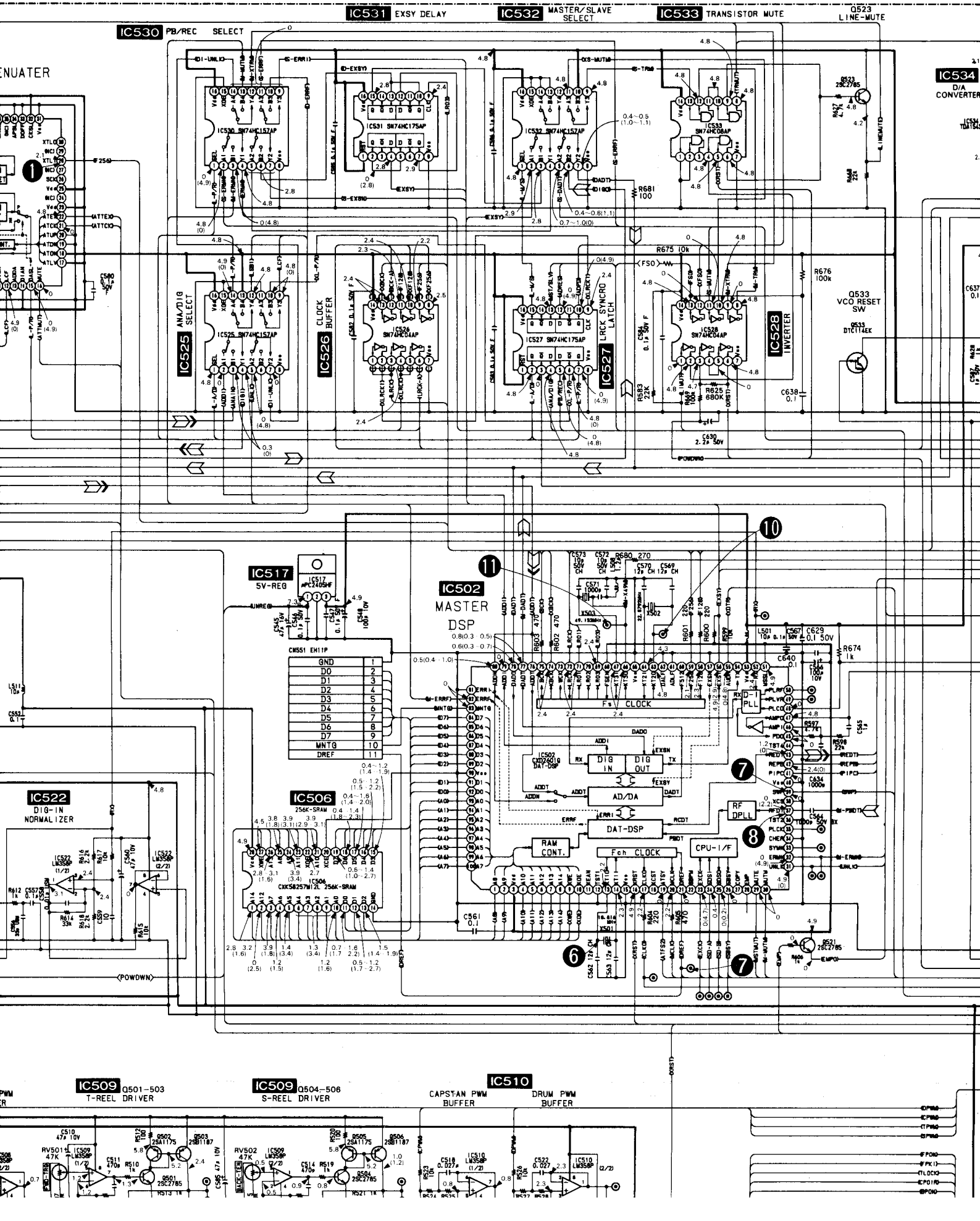
IC350 SM5813APT

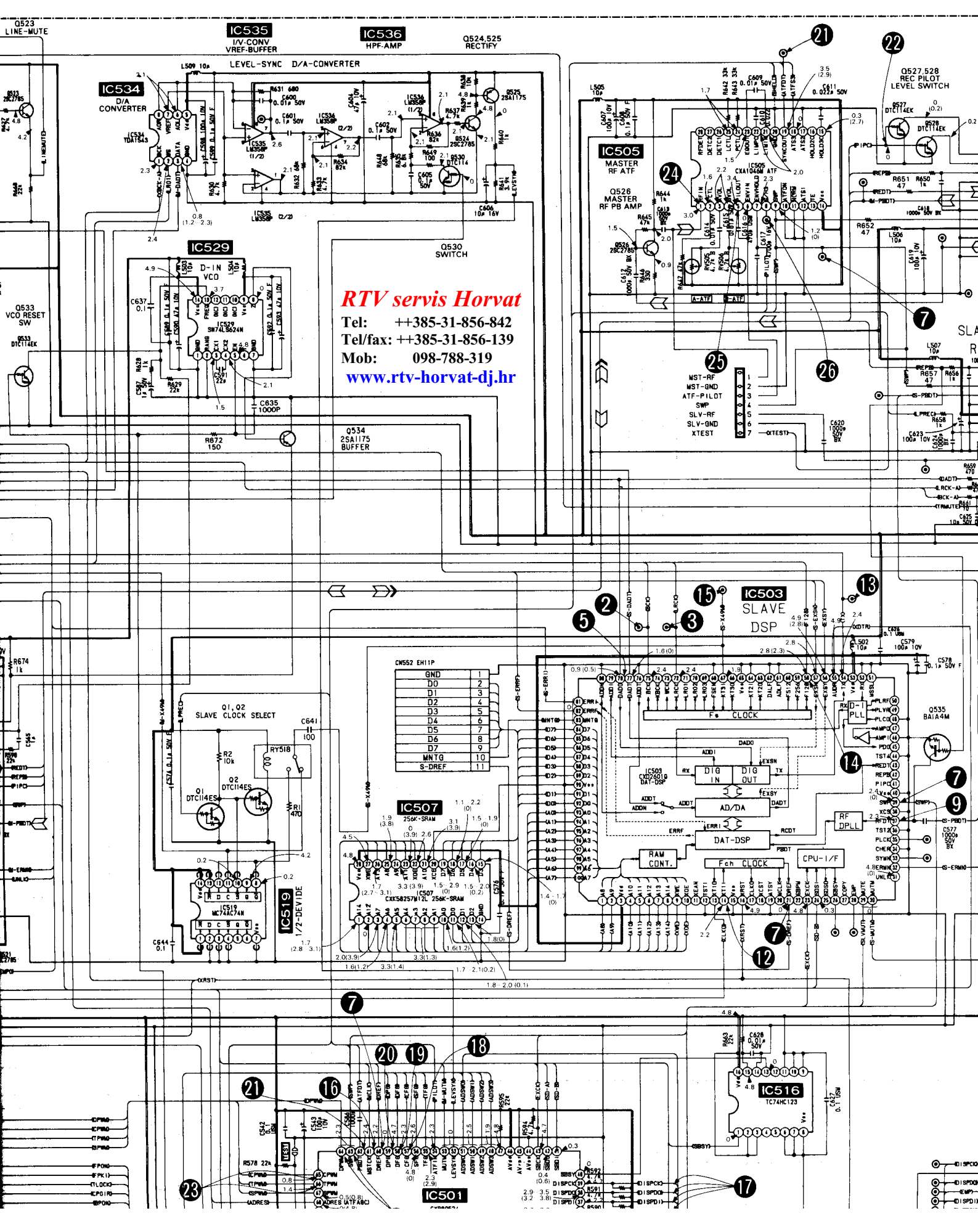


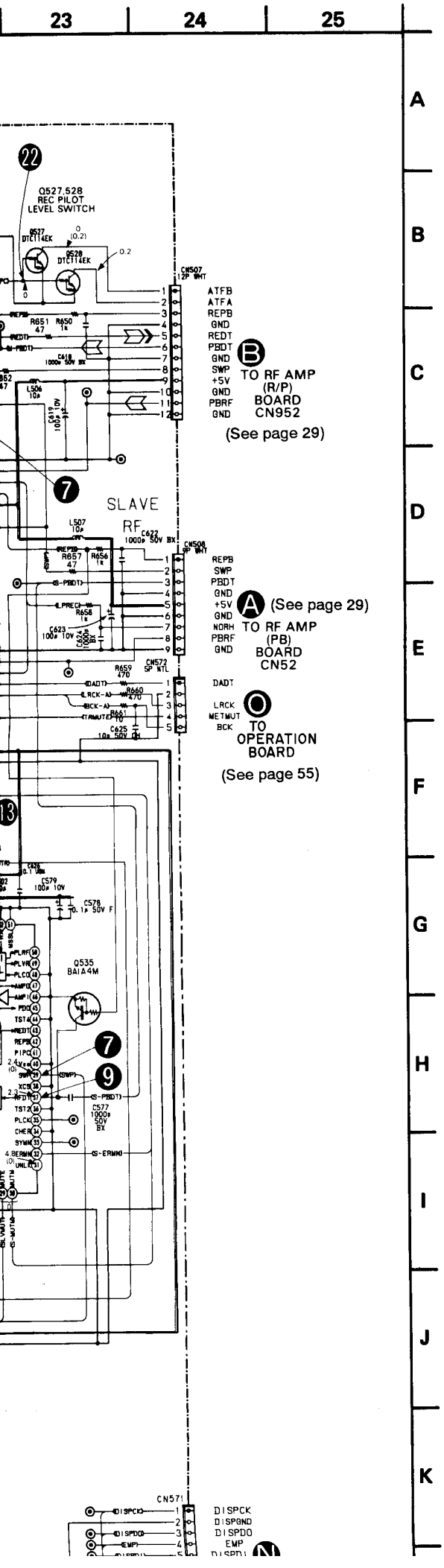
IC358 TC5081AP



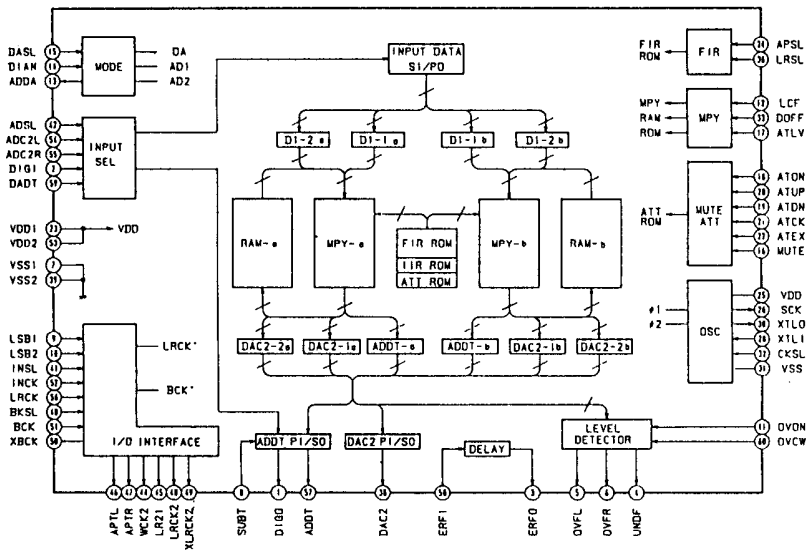

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
[DIGITAL BOARD]
IC504
DIGITAL ATTENUATER
IC530
TO AUDIO BOARD M
(See page 42)
TO AUDIO BOARD L
(See page 39)
TO AUDIO BOARD K
(See page 42)
TO AUDIO BOARD J CN352
(See page 42)
TO AUDIO BOARD I CN351
(See page 42)
[DIGITAL OUT BOARD]
J181
DIGITAL IN/OUT (COAXIAL) OUT
[D-I/O OPT BOARD]
CP671
DIGITAL IN/OUT (OPTICAL) IN
CP672
DIGITAL IN/OUT (OPTICAL) OUT
[COA IN BOARD]
J601
DIGITAL IN/OUT (COAXIAL) IN
IC523 DIG-OUT DRIVER
IC520 DIG-IN AMP
IC521 COA/OPT SELECT
IC522 DIG-IN NORMALIZER
TO POWER BOARD S
(See page 67)
TO POWER BOARD R
(See page 67)
IC508 T-REEL PWM BUFFER
S-REEL PWM BUFFER
IC509 T-REEL DRIVER


IC530 PB/REC SELECT
IC531 EXSY DELAY
IC532 MASTER/SLAVE SELECT
IC533 TRANSISTOR MUTE
Q523 LINE-MUTE
IC534 D/A CONVERTER
IC525 ANA/DIG SELECT
IC526 CLOCK BUFFER
IC527 LRCK SYNCRO LATCH
IC528 INVERTER
Q533 VCO RESET SW
IC517 5V-REG
IC502 MASTER DSP
IC522 DIG-IN NORMALIZER
IC506 256K-SRAM
IC509 Q501-503 T-REEL DRIVER
IC509 Q504-506 S-REEL DRIVER
IC510 CAPSTAN PWM BUFFER
DRUM PWM BUFFER
CN551 EH11P
GND
D0
D1
D2
D3
D4
D5
D6
D7
MNTG
DREF
Fs CLOCK
D-PLL
DIG IN
DIG OUT
AD/DA
DAT-DSP
RAM CONT.
Fch CLOCK
CPU-I/F
RF DPLL
POWDWN

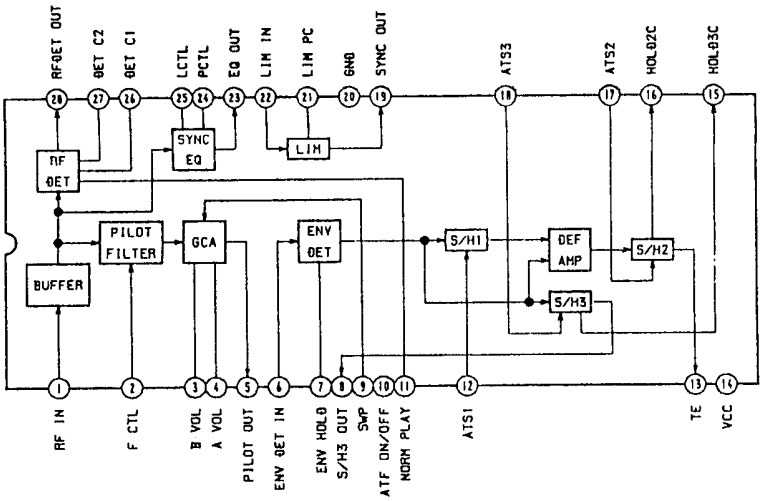

15
16
17
18
19
20
21
22
23
IC535
I/V-CONV
VREF-BUFFER
IC536
HPF-AMP
Q524,525
RECTIFY
LEVEL-SYNC D/A-CONVERTER
IC534
D/A
CONVERTER
Q523
LINE-MUTE
IC529
D-IN
VCO
Q530
SWITCH
Q533
VCO RESET
SW
Q534
2SA1175
BUFFER
IC505
MASTER
RF ATF
Q526
MASTER
RF PB AMP
Q527,528
REC PILOT
LEVEL SWITCH
MST-RF
MST-GND
ATF-PILOT
SWP
SLV-RF
SLV-GND
XTEST
IC503
SLAVE
DSP
Fs CLOCK
DIG IN
DIG OUT
AD/DA
DAT-DSP
RAM CONT.
Fch CLOCK
CPU-I/F
RF DPLL
D-PLL
Q535
BA7444M
IC507
256K-SRAM
IC519
1/2-DEVIDE
Q1, Q2
SLAVE CLOCK SELECT
IC516
TC74HC123
IC501
CN552 EH11P
GND
D0
D1
D2
D3
D4
D5
D6
D7
MNTG
S-DREF
RTV servis Horvat
Tel: ++385-31-856-842
Tel/fax: ++385-31-856-139
Mob: 098-788-319
www.rtv-horvat-dj.hr



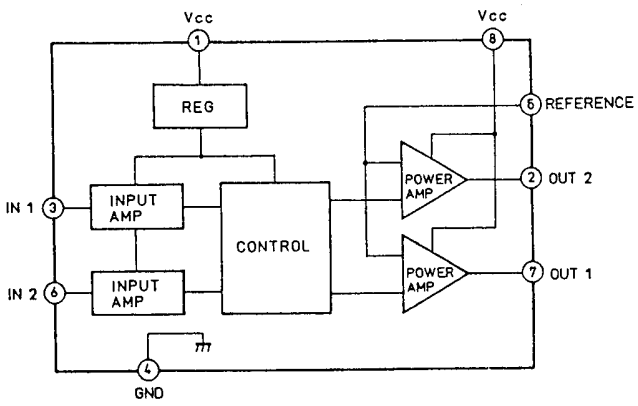
IC504 CXD1136Q



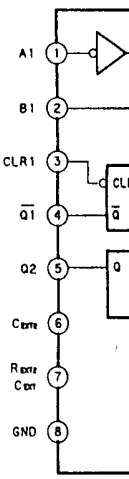
IC505 CXA1046M



IC513, 514 M54641L

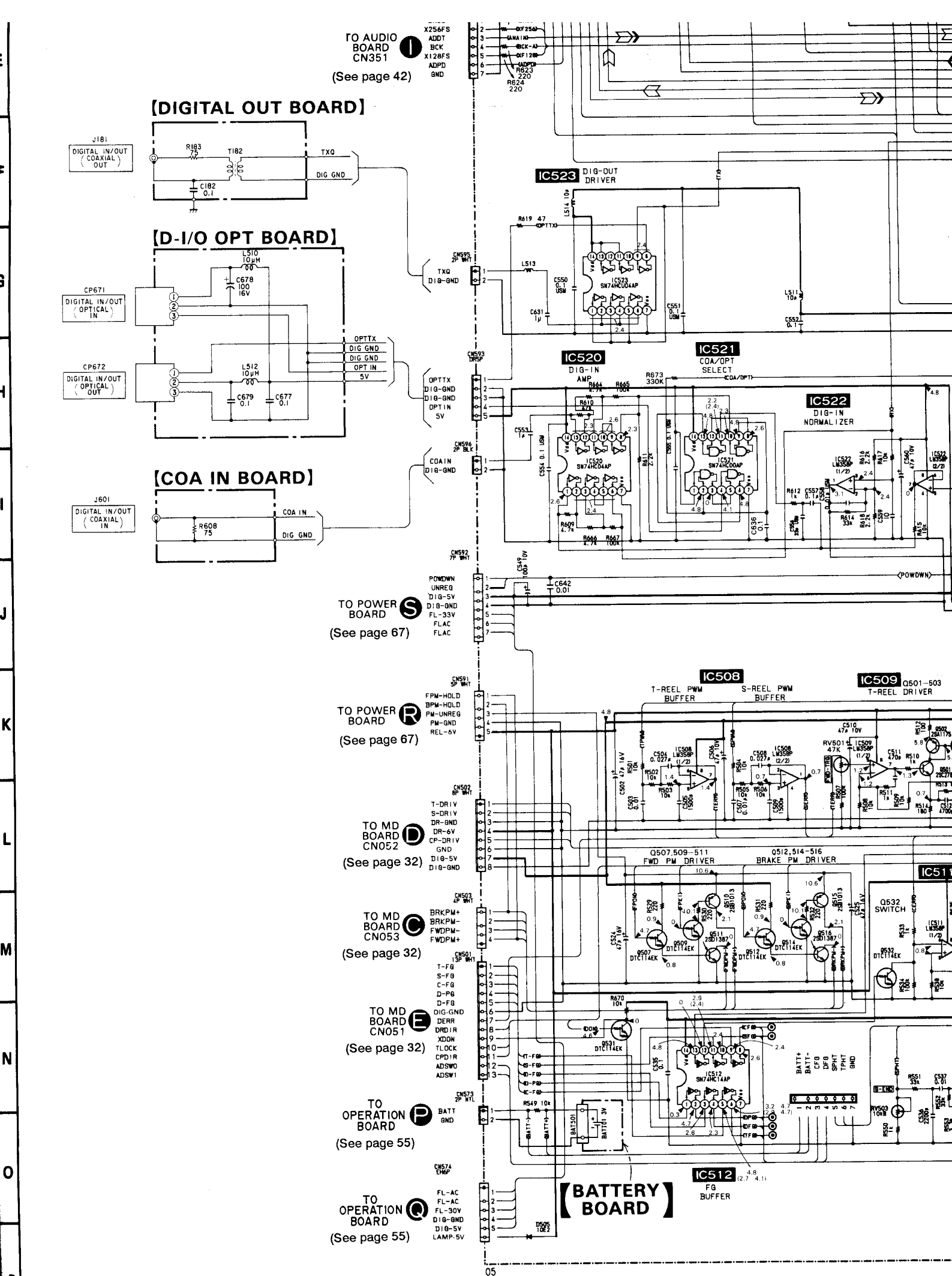


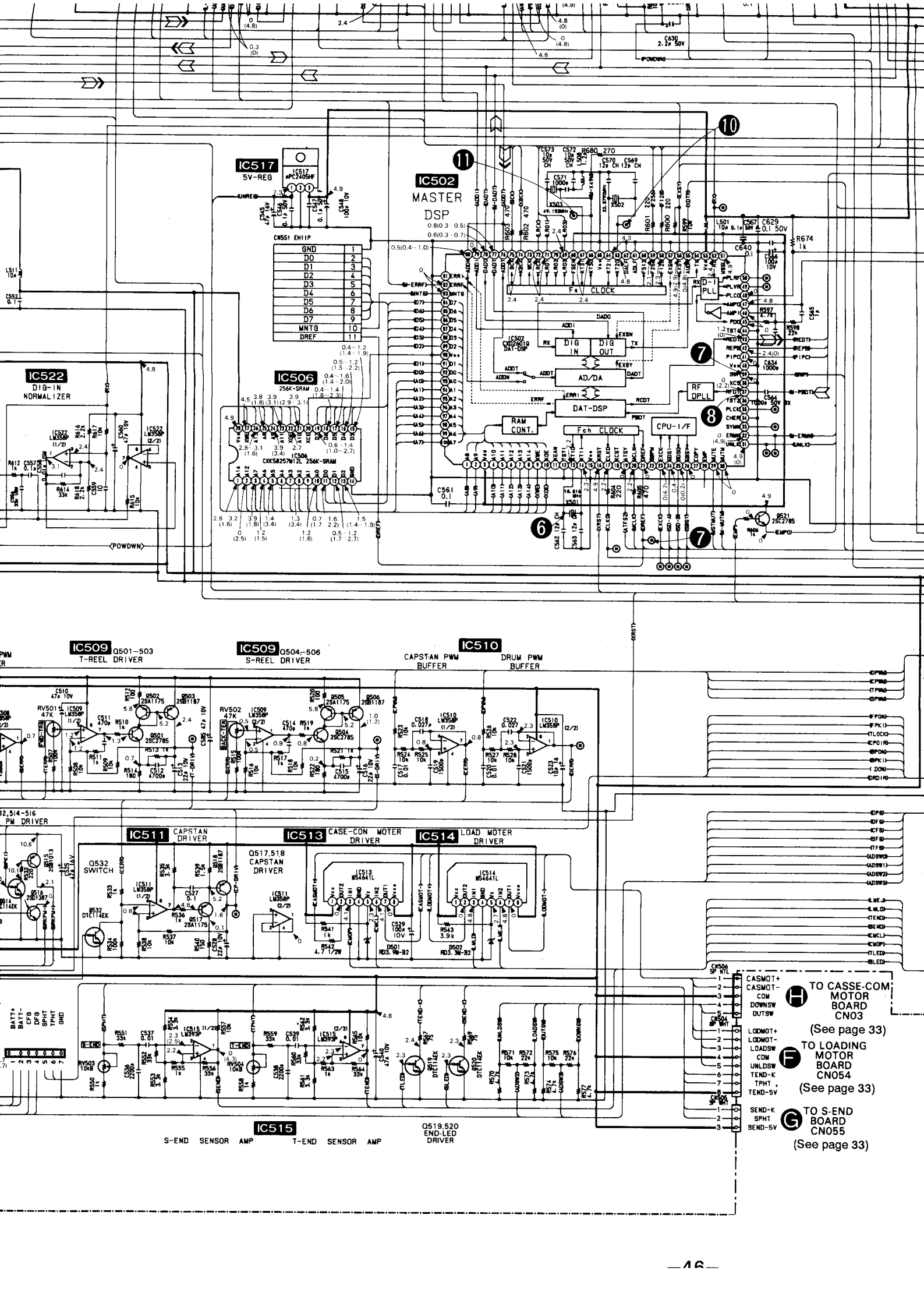
IC516

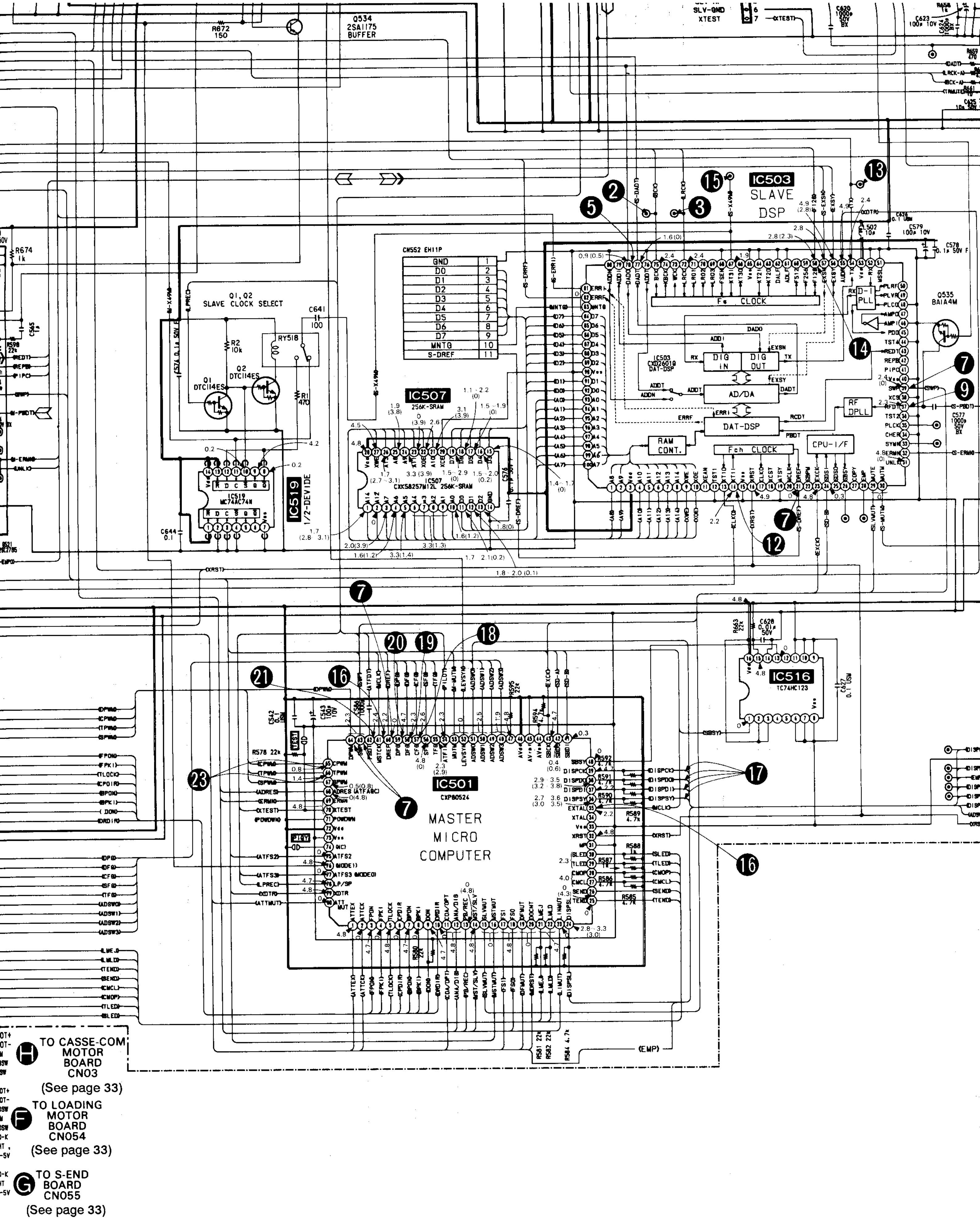


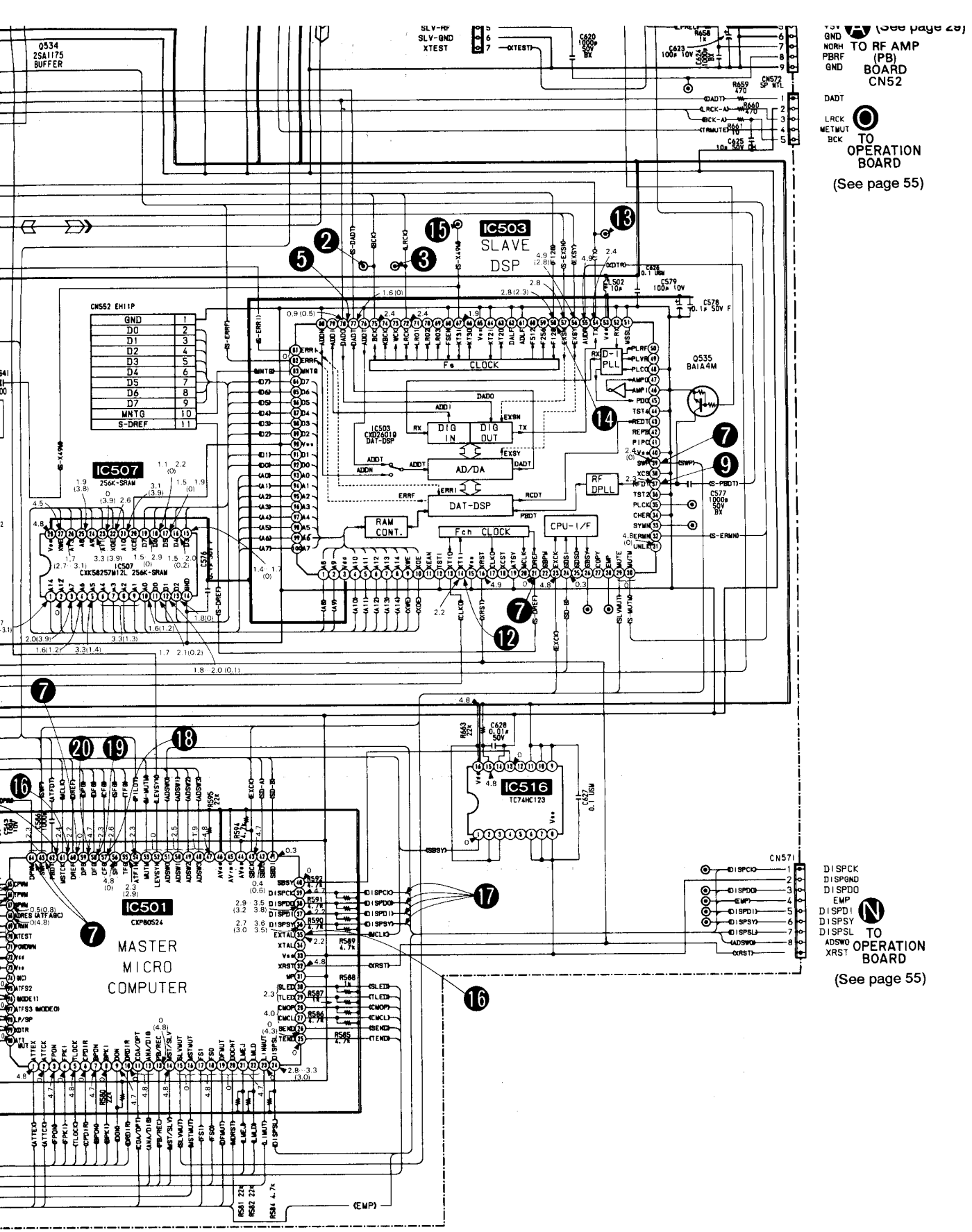
IC529 74LS624

IC534 TDA1543


[DIGITAL OUT BOARD]
[D-I/O OPT BOARD]
[COA IN BOARD]
[BATTERY BOARD]
TO AUDIO BOARD CN351 (See page 42)
TO POWER BOARD (See page 67)
TO POWER BOARD (See page 67)
TO MD BOARD CN052 (See page 32)
TO MD BOARD CN053 (See page 32)
TO MD BOARD CN051 (See page 32)
TO OPERATION BOARD (See page 55)
TO OPERATION BOARD (See page 55)
IC523 DIG-OUT DRIVER
IC520 DIG-IN AMP
IC521 COA/OPT SELECT
IC522 DIG-IN NORMALIZER
IC508 T-REEL PWM BUFFER
S-REEL PWM BUFFER
IC509 Q501-503 T-REEL DRIVER
Q507,509-511 FWD PM DRIVER
Q512,514-516 BRAKE PM DRIVER
Q532 SWITCH
IC512 FG BUFFER
J181 DIGITAL IN/OUT (COAXIAL) OUT
CP671 DIGITAL IN/OUT (OPTICAL) IN
CP672 DIGITAL IN/OUT (OPTICAL) OUT
J601 DIGITAL IN/OUT (COAXIAL) IN
TXO
DIG GND
OPTTX
OPT IN
5V
COA IN
POWDWN
UNREG
DIG-5V
DIG-GND
FL-33V
FLAC
FPM-HOLD
BPM-HOLD
PM-UNREG
PM-GND
REL-5V
T-DRIV
S-DRIV
DR-GND
DR-6V
CP-DRIV
GND
DIG-5V
DIG-GND
BRKPM+
BRKPM-
FWDPM-
FWDPM+
T-FG
S-FG
C-FG
D-PG
D-FG
DIG-GND
DERR
DRDIR
XDON
TLOCK
CPDIR
ADSW0
ADSW1
BATT
GND
FL-AC
FL-AC
FL-30V
DIG-GND
DIG-5V
LAMP-5V
BATT+
BATT-
CFB
DFB
SPHT
TPHT
GND


IC517
5V-REG
IC502
MASTER
DSP
IC506
256K-SRAM
IC522
DIG-IN
NORMALIZER
IC509 Q501-503
T-REEL DRIVER
IC509 Q504-506
S-REEL DRIVER
IC510
CAPSTAN PWM BUFFER
DRUM PWM BUFFER
IC511 CAPSTAN DRIVER
IC513 CASE-CON MOTER DRIVER
IC514 LOAD MOTER DRIVER
Q532 SWITCH
Q517,518 CAPSTAN DRIVER
IC515
S-END SENSOR AMP
T-END SENSOR AMP
Q519,520 END-LED DRIVER
DIG IN
DIG OUT
AD/DA
DAT-DSP
RAM CONT.
Fch CLOCK
CPU-I/F
RF DPLL
D-PLL
Fs CLOCK
TO CASSE-COM MOTOR BOARD CN03
(See page 33)
TO LOADING MOTOR BOARD CN054
(See page 33)
TO S-END BOARD CN055
(See page 33)


Q534
2SA1175
BUFFER
R672
150
SLV-GND
XTEST
IC503
SLAVE
DSP
IC503
CXD2601Q
DAT-DSP
Fs CLOCK
D-I
PLL
DIG
IN
DIG
OUT
AD/DA
RF
DPLL
DAT-DSP
RAM
CONT.
Fch CLOCK
CPU-I/F
Q535
BA1A4M
CN552 EH11P
GND
D0
D1
D2
D3
D4
D5
D6
D7
MNTG
S-DREF
Q1, Q2
SLAVE CLOCK SELECT
Q1
DTC114ES
Q2
DTC114ES
RY518
C641
100
R2
10k
R1
470
R674
1k
IC519
1/2-DEVIDE
IC519
MC74AC74N
C644
0.1
IC507
256K-SRAM
IC507
CXK58257M12L 256K-SRAM
IC501
CXP80524
MASTER
MICRO
COMPUTER
IC516
TC74HC123
R663
22k
C628
0.01μ
50V
C627
0.1 USM
R578 22k
R595
22k
R594
4.7k
R592
4.7k
R591
4.7k
R590
4.7k
R589
4.7k
R588
1k
R587
1k
R586
4.7k
R585
4.7k
R581 22k
R582 22k
R584 4.7k
(EMP)
TO CASSE-COM
MOTOR
BOARD
CN03
(See page 33)
TO LOADING
MOTOR
BOARD
CN054
(See page 33)
TO S-END
BOARD
CN055
(See page 33)

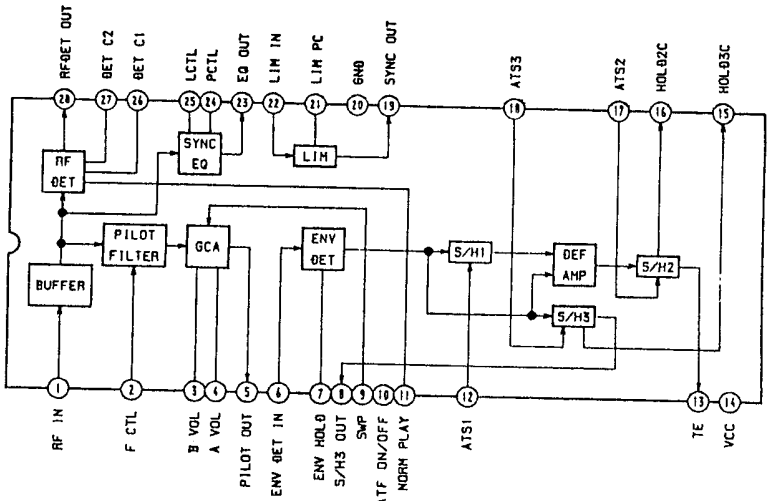

IC503
SLAVE
DSP
IC507
256K-SRAM
IC501
MASTER
MICRO
COMPUTER
IC516
TC74HC123
Fs CLOCK
Fch CLOCK
D-I
PLL
RF
DPLL
DIG
IN
DIG
OUT
AD/DA
DAT-DSP
RAM
CONT.
CPU-I/F
Q534
2SA1175
BUFFER
Q535
BA1A4M
TO RF AMP
(PB)
BOARD
CN52
TO
OPERATION
BOARD
(See page 55)
(See page 29)
TO
OPERATION
BOARD
(See page 55)

TO RF AMP (PB) BOARD CN52

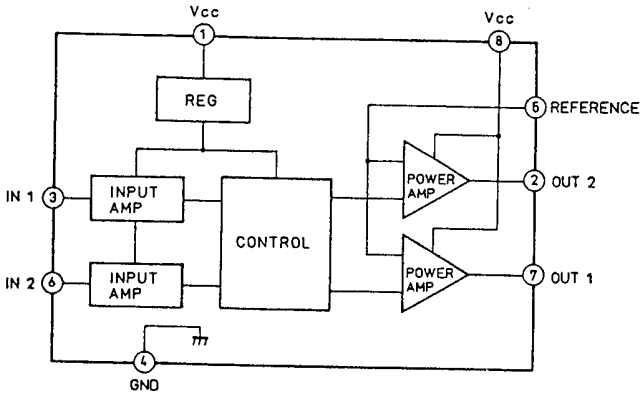
TO OPERATION BOARD

ee page 55)

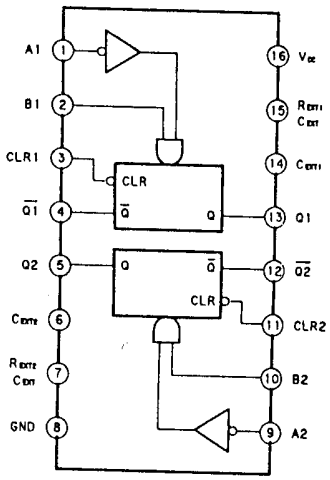
E F G H I J K L M N O P



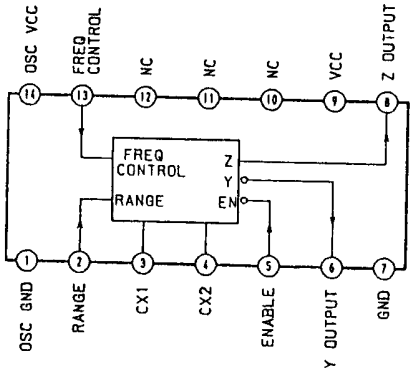
IC513, 514 M54641L



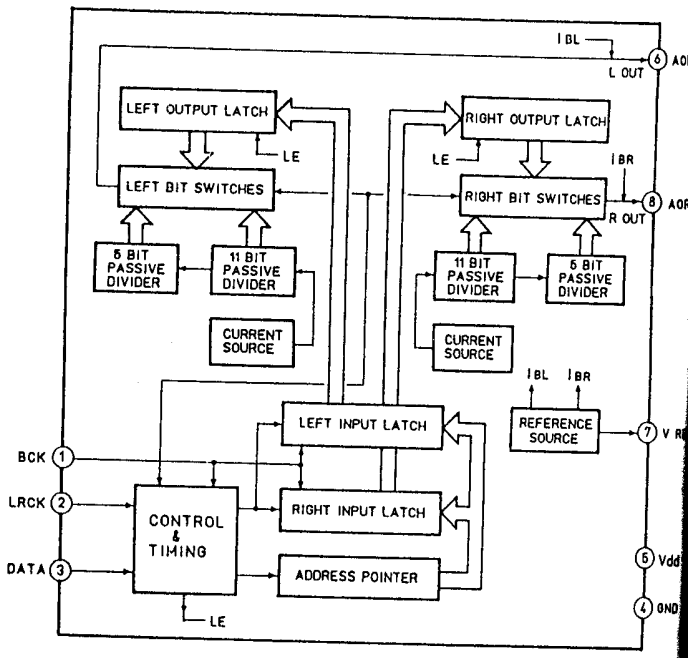
IC516 TC74HC123AP



IC529 74LS624



IC534 TDA1543



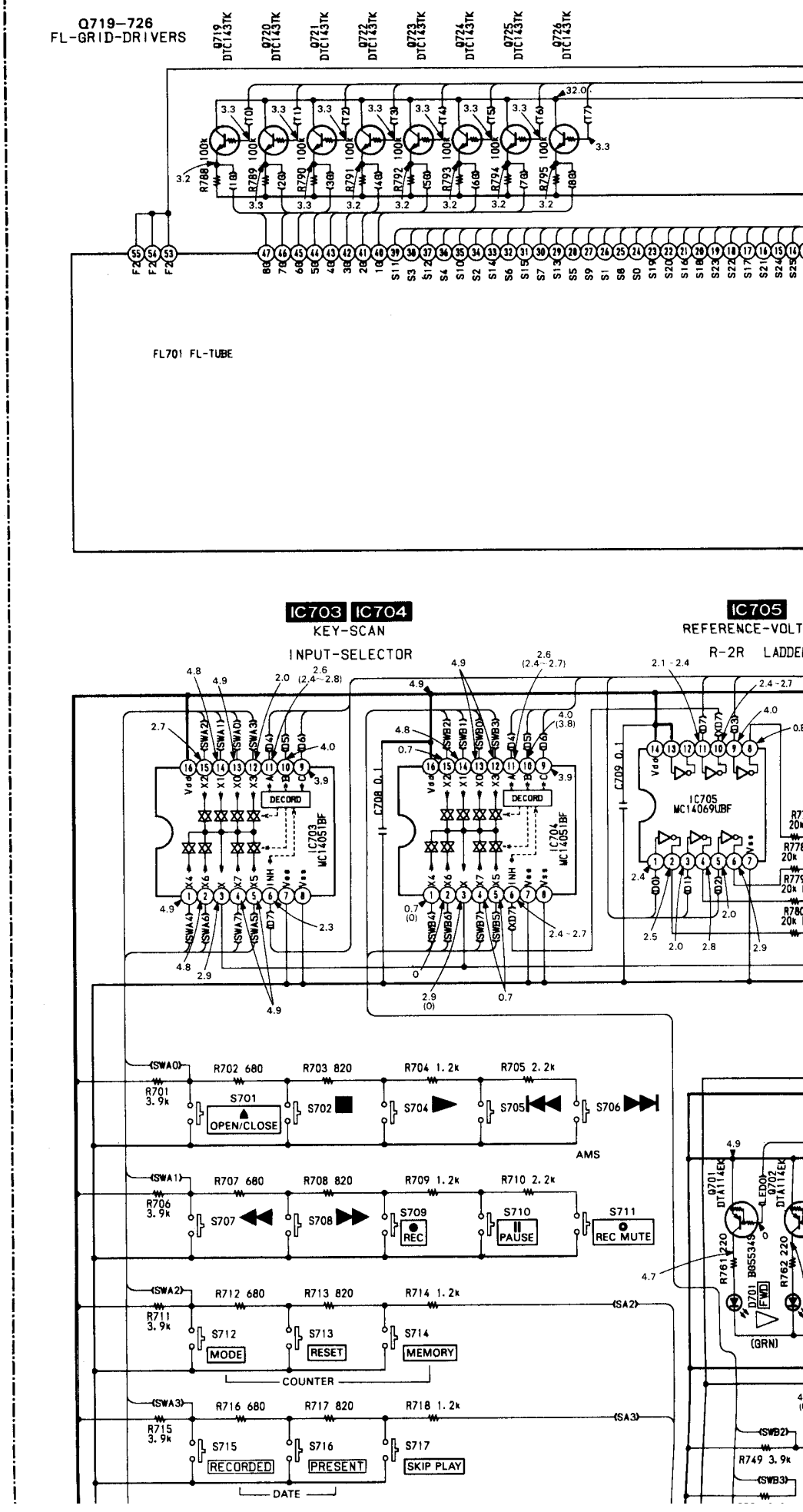
TO OPERATION BOARD

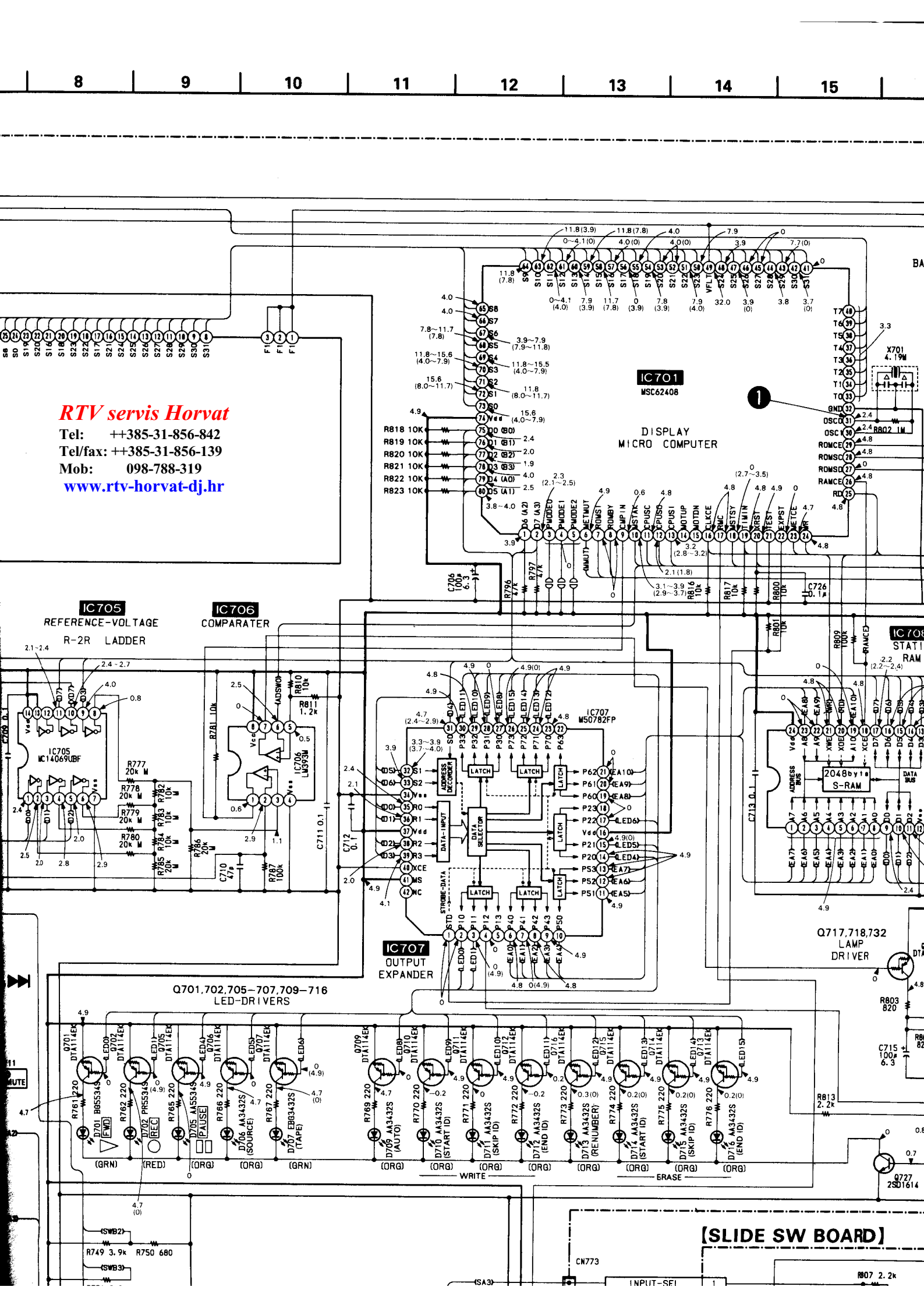
page 55)

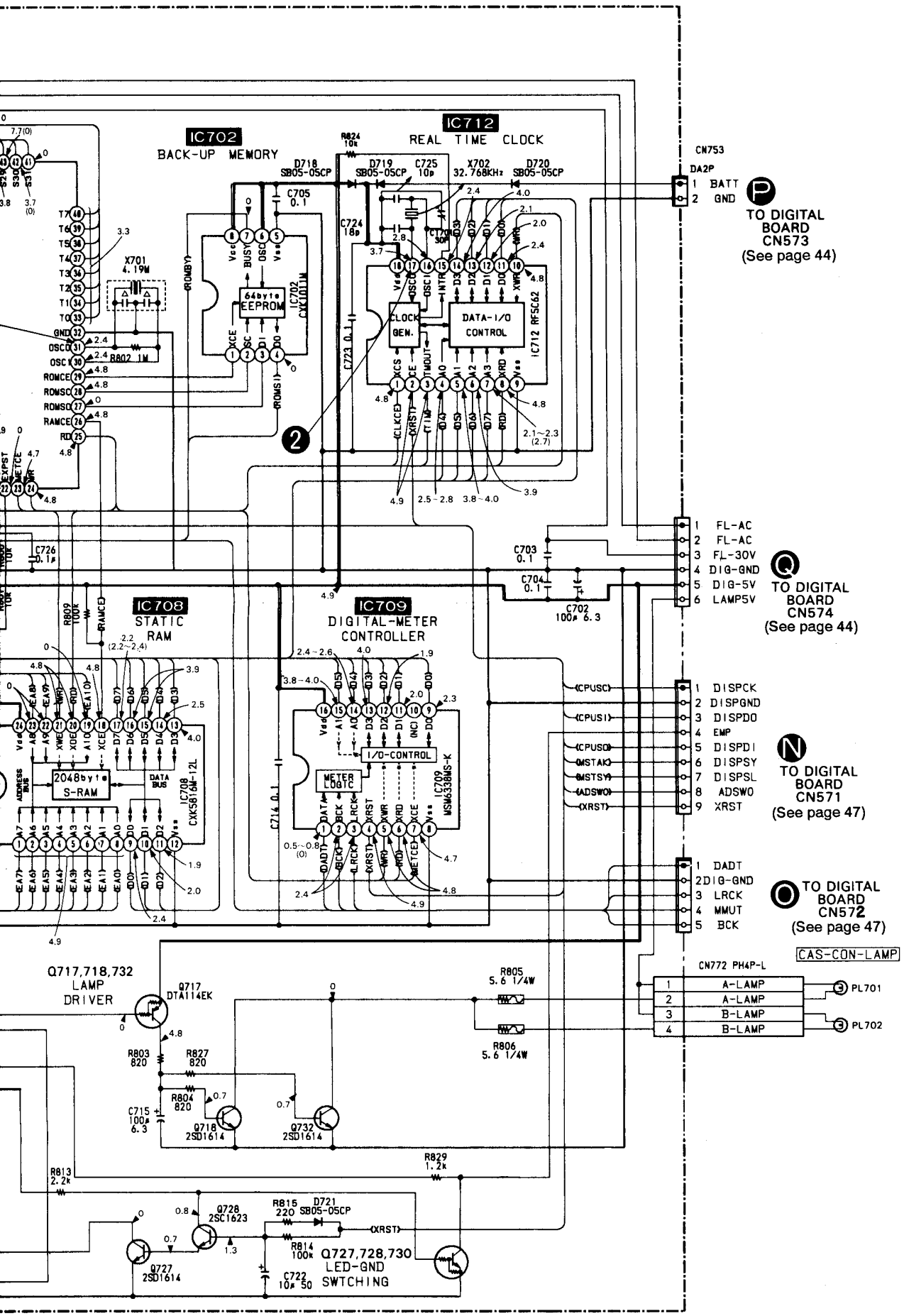
1 2 3 4 5 6 7 8

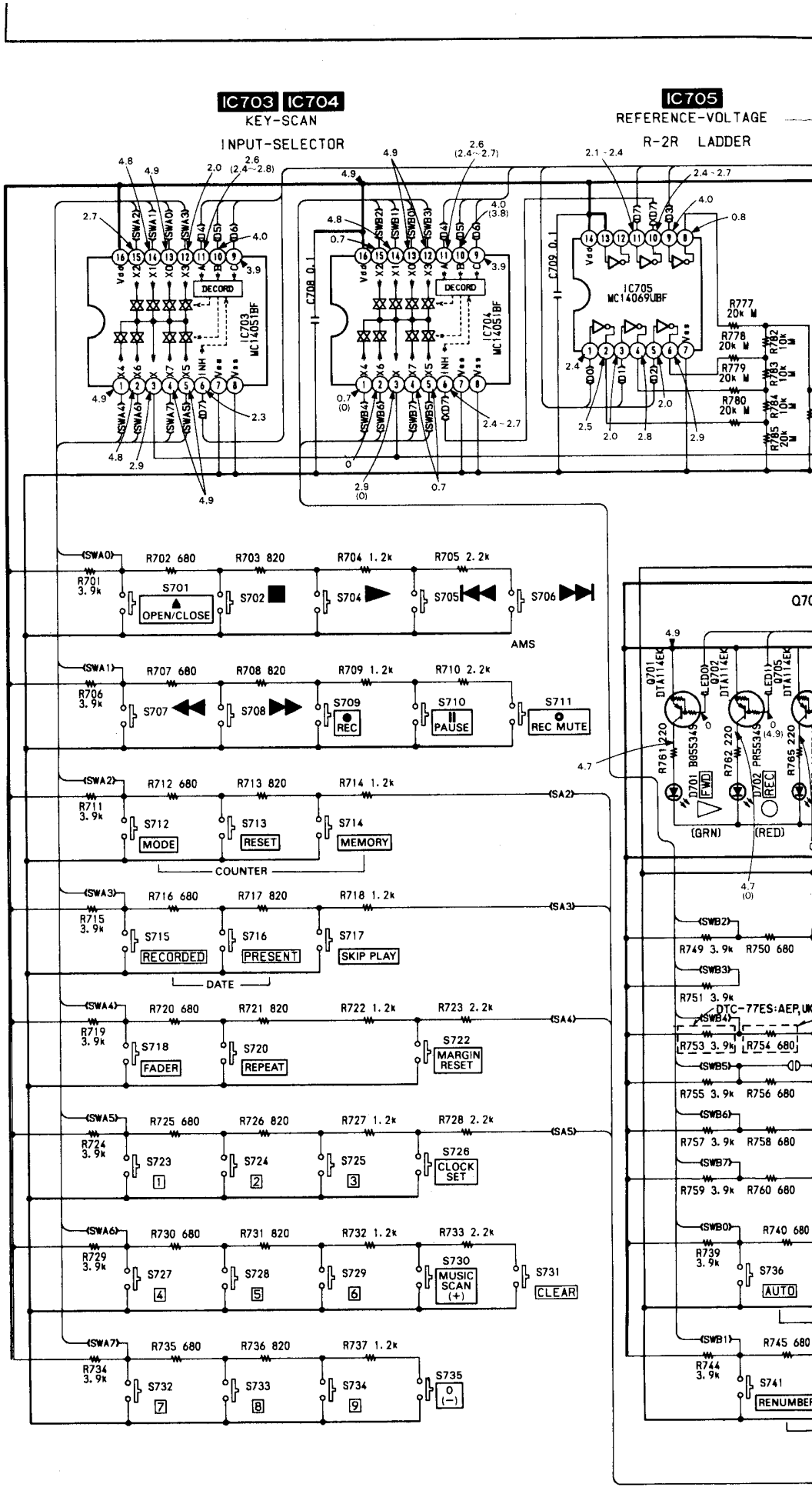
A B C D E F G H I J K

[CONTROL SW BOARD]

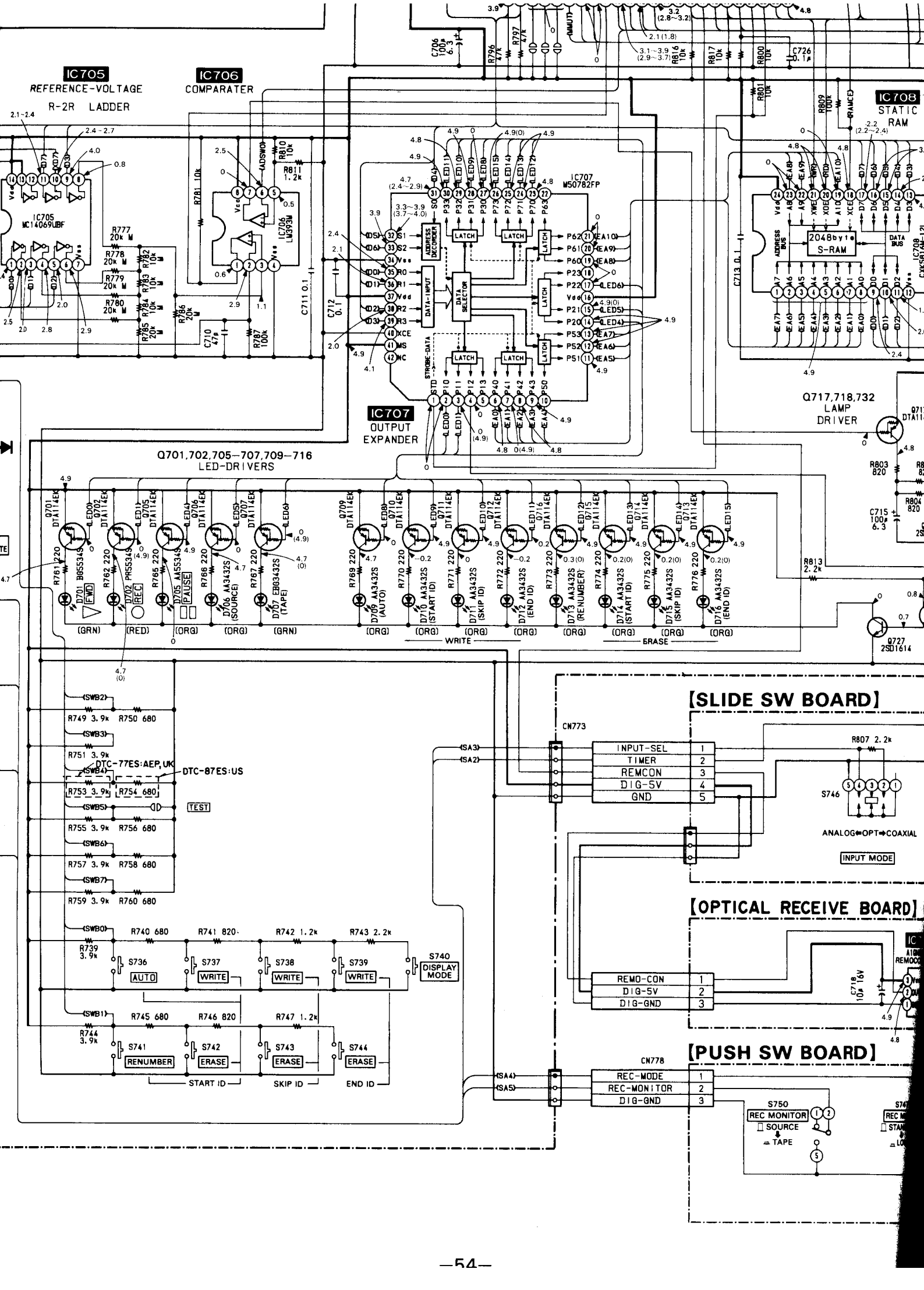


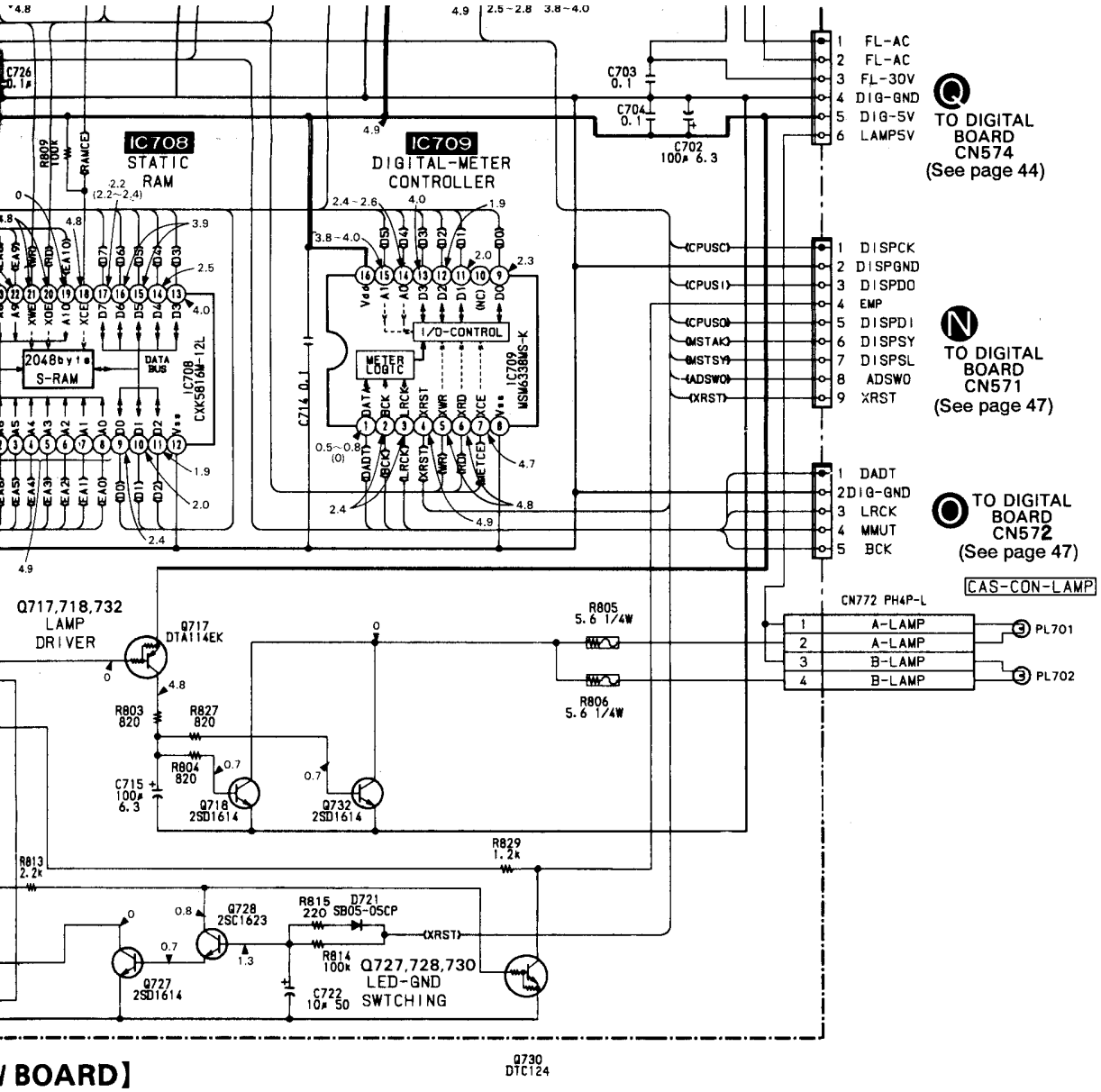



IC702
BACK-UP MEMORY
IC712
REAL TIME CLOCK
IC708
STATIC RAM
IC709
DIGITAL-METER CONTROLLER
CN753
DA2P
1 BATT
2 GND
TO DIGITAL BOARD CN573
(See page 44)
1 FL-AC
2 FL-AC
3 FL-30V
4 DIG-GND
5 DIG-5V
6 LAMP5V
TO DIGITAL BOARD CN574
(See page 44)
1 DISPCK
2 DISPGND
3 DISPDO
4 EMP
5 DISPDI
6 DISPSY
7 DISPSL
8 ADSWO
9 XRST
TO DIGITAL BOARD CN571
(See page 47)
1 DADT
2 DIG-GND
3 LRCK
4 MMUT
5 BCK
TO DIGITAL BOARD CN572
(See page 47)
CAS-CON-LAMP
CN772 PH4P-L
1 A-LAMP
2 A-LAMP
3 B-LAMP
4 B-LAMP
PL701
PL702
Q717,718,732 LAMP DRIVER
Q727,728,730 LED-GND SWTCHING
Q730 DTC124
SW BOARD]

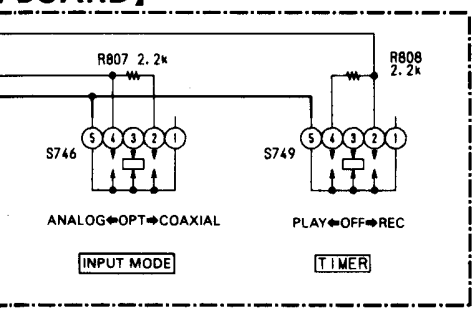

IC703 IC704
KEY-SCAN
INPUT-SELECTOR
IC705
REFERENCE-VOLTAGE
R-2R LADDER
IC703 MC14051BF
IC704 MC14051BF
IC705 MC14069UBF
DECORD
S701 OPEN/CLOSE
S702
S704
S705
S706
AMS
S707
S708
S709 REC
S710 PAUSE
S711 REC MUTE
S712 MODE
S713 RESET
S714 MEMORY
COUNTER
S715 RECORDED
S716 PRESENT
S717 SKIP PLAY
DATE
S718 FADER
S720 REPEAT
S722 MARGIN RESET
S723 1
S724 2
S725 3
S726 CLOCK SET
S727 4
S728 5
S729 6
S730 MUSIC SCAN (+)
S731 CLEAR
S732 7
S733 8
S734 9
S735 0 (−)
S736 AUTO
S741 RENUMBER
D701 FWD
D702 REC
(GRN)
(RED)
DTC-77ES:AEP,UK

05

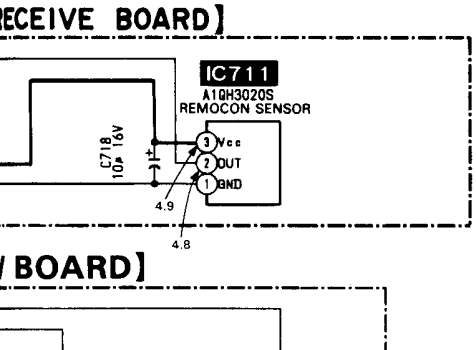

IC705
REFERENCE-VOLTAGE
R-2R LADDER
IC706
COMPARATER
IC707
OUTPUT
EXPANDER
IC708
STATIC
RAM
Q701,702,705–707,709–716
LED-DRIVERS
Q717,718,732
LAMP
DRIVER
WRITE
ERASE
[SLIDE SW BOARD]
[OPTICAL RECEIVE BOARD]
[PUSH SW BOARD]
CN773
CN778
INPUT-SEL
TIMER
REMCON
DIG-5V
GND
REMO-CON
DIG-GND
REC-MODE
REC-MONITOR
ANALOG⇐OPT⇒COAXIAL
INPUT MODE
REC MONITOR
SOURCE
TAPE
DTC-77ES:AEP,UK
DTC-87ES:US
TEST
AUTO
RENUMBER
DISPLAY MODE
START ID
SKIP ID
END ID



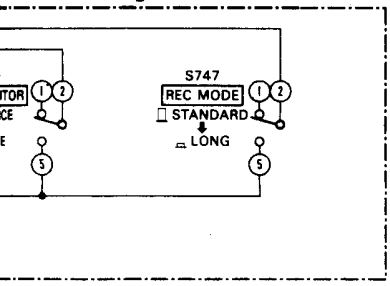
/ BOARD]

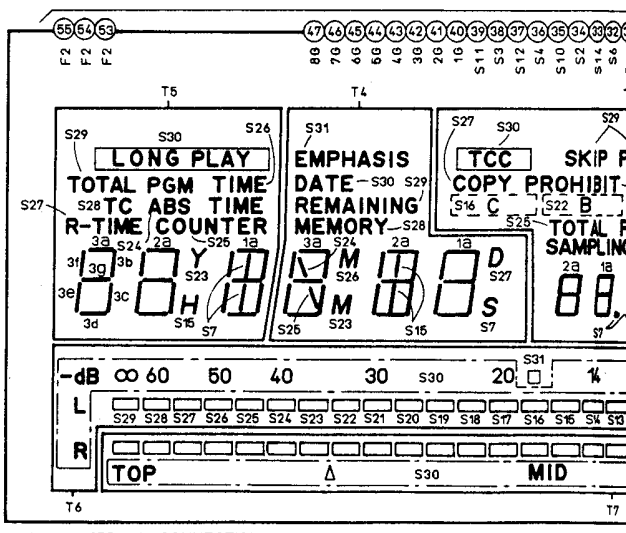


RECEIVE BOARD]



/ BOARD]

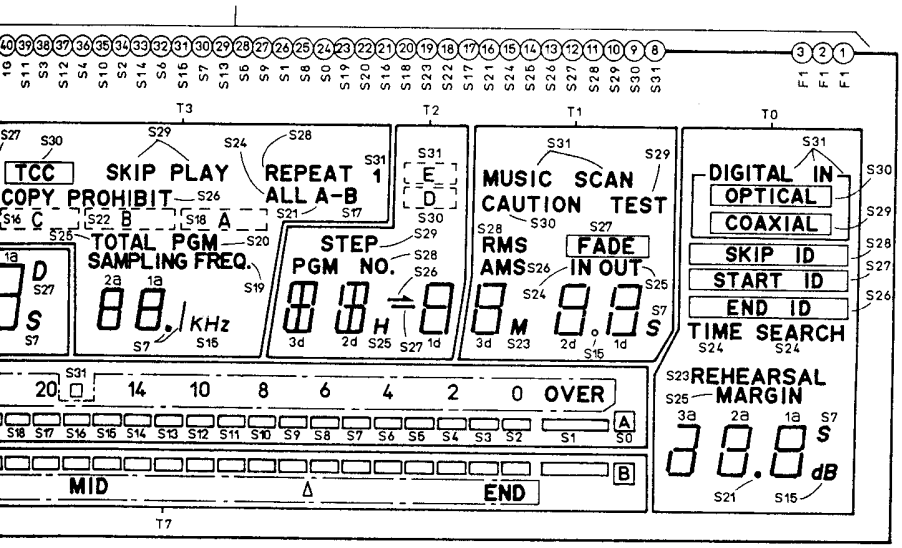




FL701 INTERNAL CONNECTION

❶ 1V/div 0.2 μ sec/div REC

❷ 0.5V/div 10 μ sec/div REC

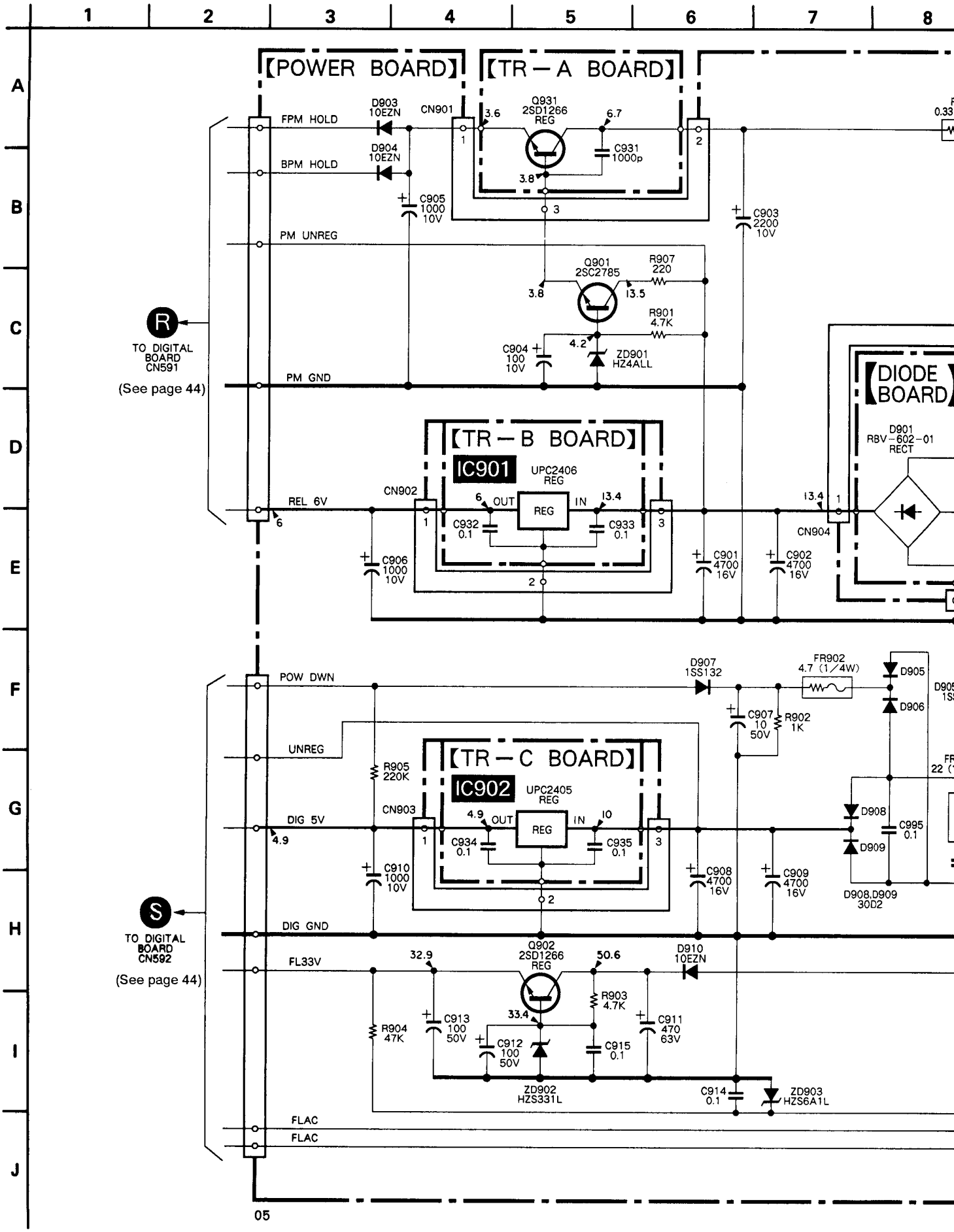


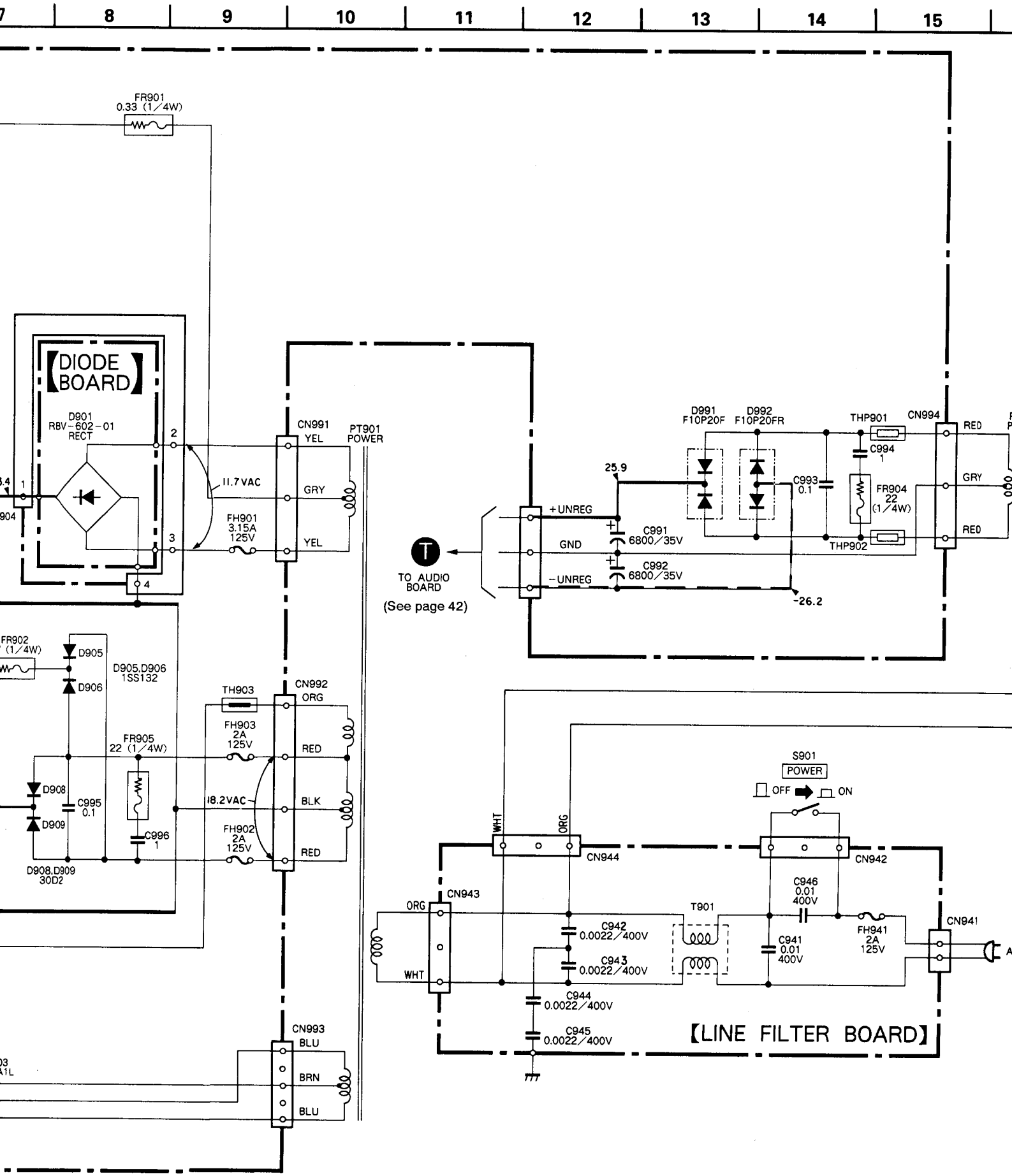
E F G H I J K L M N O P

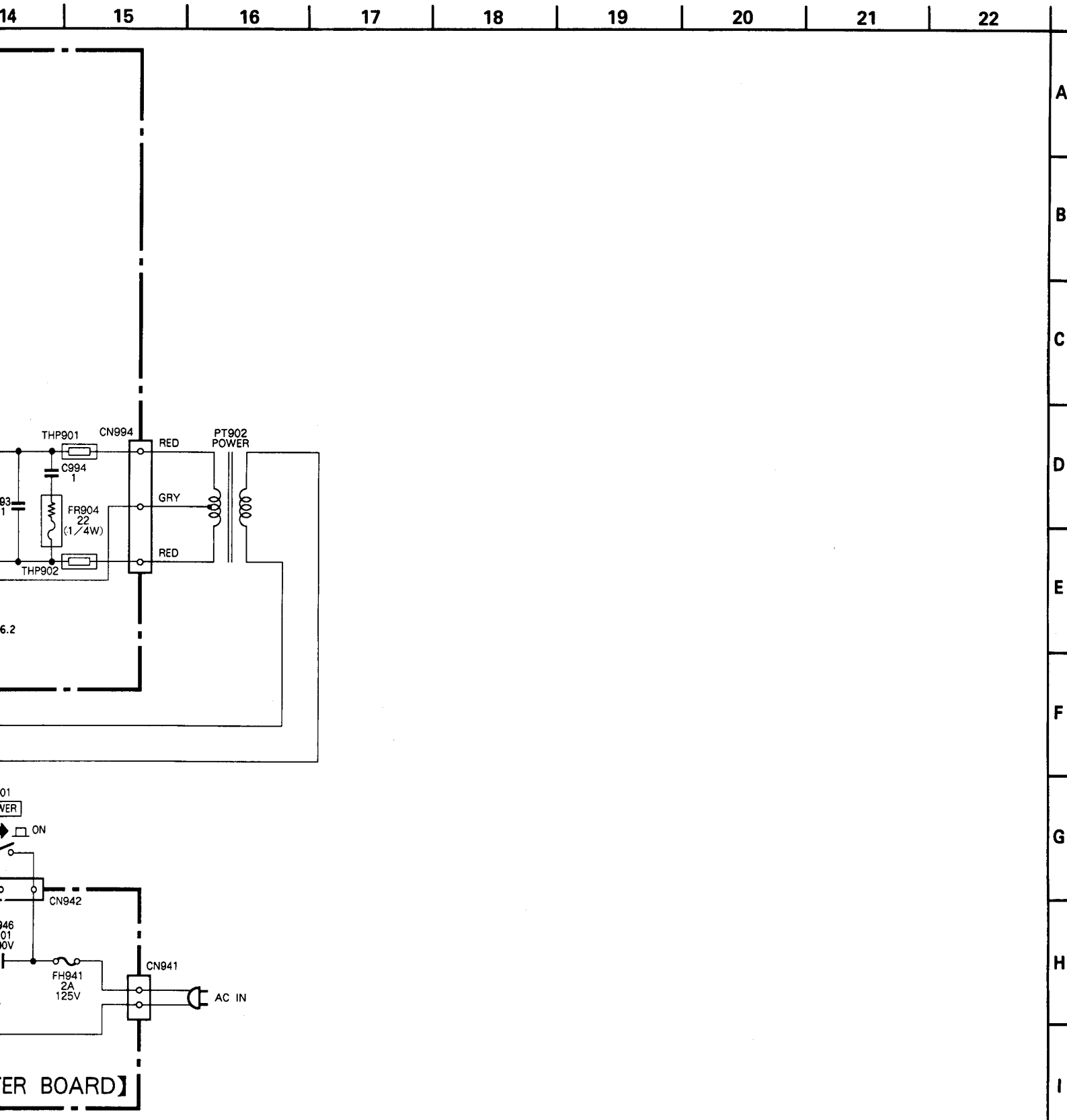
- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D701	C-23	Q701	C-14
D702	C-31	Q702	C-6
D705	C-25	Q705	C-11
D706	G-30	Q706	G-7
D707	G-31	Q707	G-6
D709	G-30	Q709	H-8
D710	F-30	Q710	G-8
D711	F-30	Q711	G-8
D712	E-30	Q712	F-8
D713	G-31	Q713	E-10
D714	F-31	Q714	E-10
D715	F-31	Q715	E-9
D716	E-31	Q716	E-9
D718	E-7	Q717	D-16
D719	E-7	Q718	C-16
D720	G-6	Q719	H-15
D721	E-8	Q720	H-14
		Q721	H-14
IC701	F-28	Q722	H-14
IC702	F-26	Q723	G-13
IC703	G-21	Q724	G-13
IC704	G-16	Q725	G-13
IC705	F-21	Q726	G-12
IC706	F-16	Q727	F-6
IC707	F-25	Q728	E-6
IC708	E-23	Q730	D-6
IC709	F-14	Q732	C-16
IC711	B-34		
IC712	C-8		

4-12. SCHEMATIC DIAGRAM – POWER SECTION – • See page 31 for note.




7
8
9
10
11
12
13
14
15
FR901
0.33 (1/4W)
【DIODE BOARD】
D901
RBV-602-01
RECT
CN991
YEL
PT901
POWER
11.7VAC
GRY
FH901
3.15A
125V
YEL
D991
F10P20F
D992
F10P20FR
THP901
CN994
RED
C994
1
25.9
C993
0.1
FR904
22
(1/4W)
GRY
RED
+UNREG
GND
-UNREG
C991
6800/35V
C992
6800/35V
THP902
-26.2
TO AUDIO
BOARD
(See page 42)
FR902
(1/4W)
D905
D906
D905,D906
1SS132
TH903
CN992
ORG
FH903
2A
125V
FR905
22 (1/4W)
RED
D908
C995
0.1
D909
18.2VAC
BLK
C996
1
FH902
2A
125V
RED
D908,D909
30D2
S901
POWER
OFF
ON
WHT
ORG
CN944
CN942
CN943
ORG
WHT
T901
C946
0.01
400V
C942
0.0022/400V
C943
0.0022/400V
C941
0.01
400V
FH941
2A
125V
CN941
C944
0.0022/400V
C945
0.0022/400V
【LINE FILTER BOARD】
CN993
BLU
BRN
BLU


14
15
16
17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
THP901
CN994
RED
PT902
POWER
C994
1
GRY
FR904
22
(1/4W)
RED
THP902
6.2
ON
CN942
FH941
2A
125V
CN941
AC IN
ER BOARD]

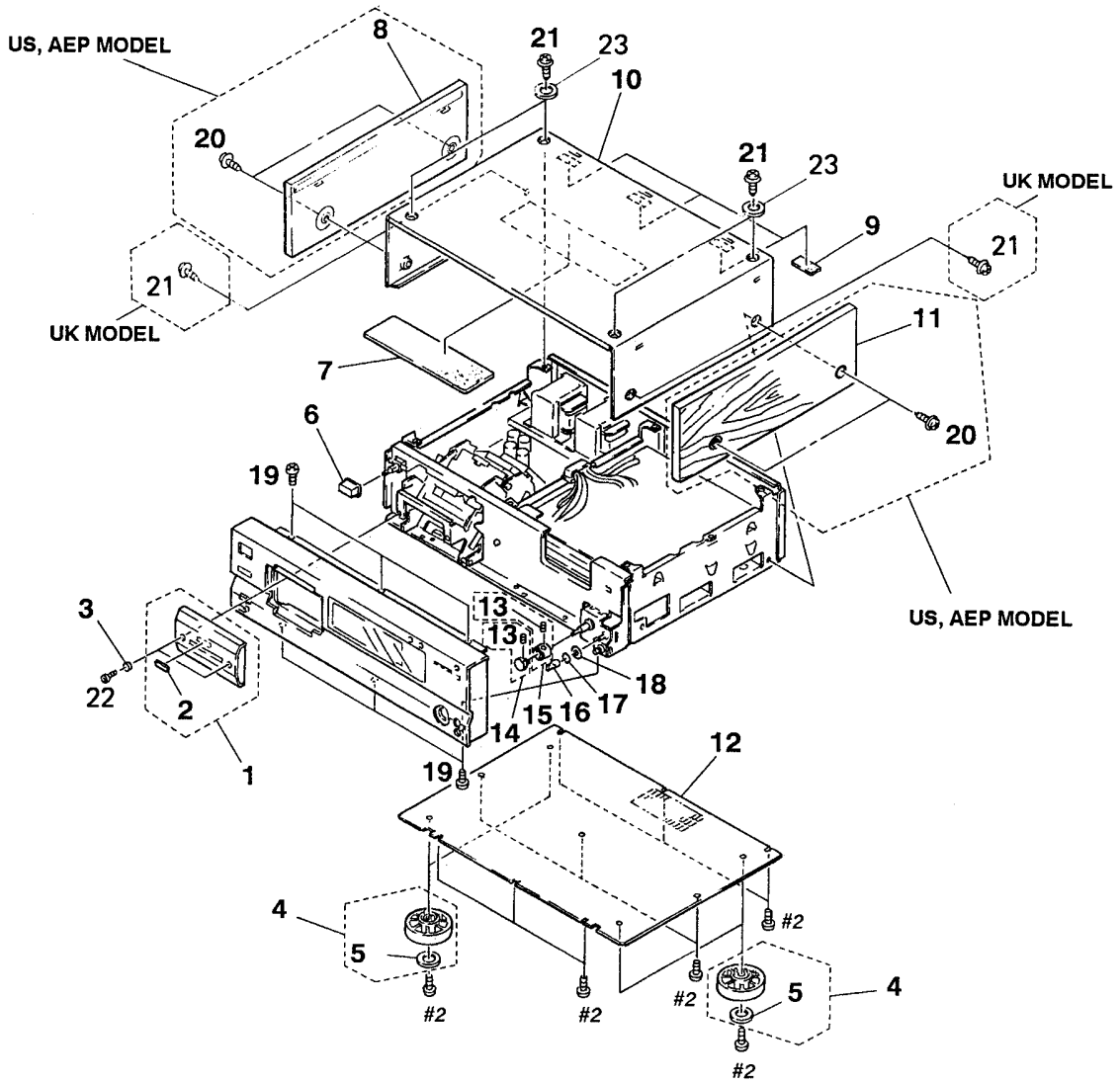
SECTION 5
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

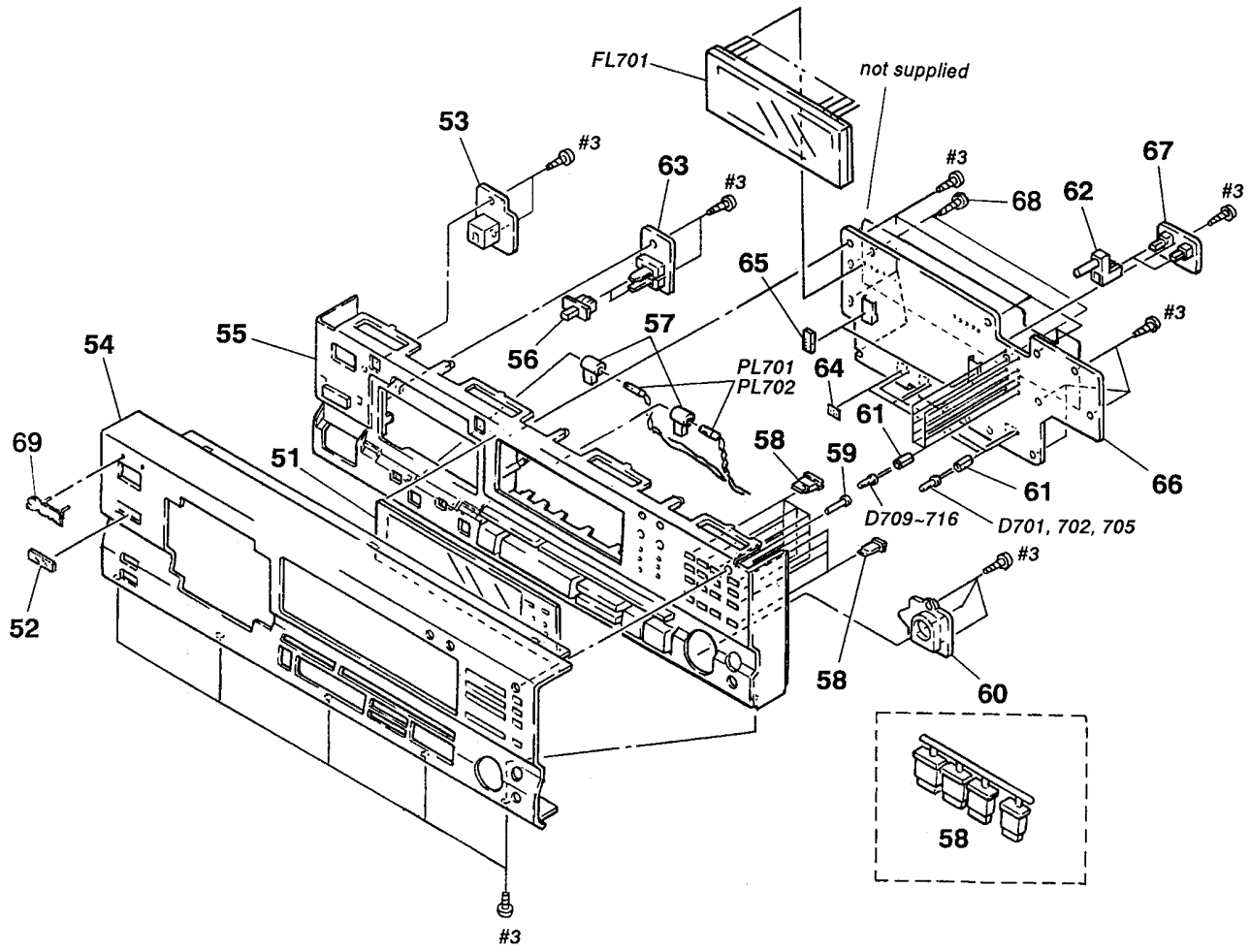
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	A-2003-671-A	PANEL (CASSETTE) ASSY. . . (BLACK)	
	A-2003-903-A	PANEL (CASSETTE) ASSY. . . (GOLD)	
2	4-936-615-01	PLATE (DAT LOGO), ORNAMENTAL. . . (BLACK)	
	4-936-615-11	PLATE (DAT LOGO), ORNAMENTAL. . . (GOLD)	
3	4-884-635-00	BASE, ORNAMENTAL. . . (BLACK)	
	4-884-635-21	BASE, ORNAMENTAL. . . (GOLD)	
4	X-3304-938-2	FOOT ASSY. . . (BLACK)	
	X-4928-110-1	FOOT ASSY. . . (GOLD)	
5	4-923-836-11	CUSHION	
6	4-923-520-01	KNOB, POWER. . . (BLACK)	
	4-923-520-12	KNOB, POWER. . . (GOLD)	
7	* 4-936-612-01	RUBBER (DAMPER)	
8	X-3362-385-1	PANEL (L) ASSY, SIDE. . . (BLACK) (US, AEP)	
	X-3363-177-1	PANEL (L) ASSY, SIDE. . . (GOLD)	
9	3-831-441-XX	CUSHION, SPEAKER	
10	4-925-039-41	CASE. . . (BLACK)	
	3-369-901-01	CASE. . . (GOLD)	
11	X-3362-386-1	PANEL (R) ASSY, SIDE. . . (BLACK) (US, AEP)	
	X-3363-178-1	PANEL (R) ASSY, SIDE. . . (GOLD)	
12	* 4-931-433-11	PLATE, BOTTOM	
13	3-701-506-01	SET SCREW, DOUBLE POINT 3X4	
14	X-3362-380-1	KNOB (REC-R) ASSY. . . (BLACK)	
	X-3363-175-1	KNOB (REC-R) ASSY. . . (GOLD)	
15	X-3362-381-1	KNOB (REC-L) ASSY. . . (BLACK)	
	X-3363-176-1	KNOB (REC-L) ASSY. . . (GOLD)	
16	3-354-931-01	KNOB (DIA. 10). . . (BLACK)	
	3-354-931-31	KNOB (DIA. 10). . . (GOLD)	
17	3-356-935-01	SPRING	
18	* 4-604-335-01	PLATE, BLIND (A)	
19	3-703-685-21	SCREW (+BV 3X8)	
20	4-933-446-01	SCREW (SIDE PANEL) (EXCEPT UK)	
21	3-704-366-01	SCREW (CASE) (M3X8). . . (BLACK)	
	3-704-366-11	SCREW (CASE) (M3X8). . . (GOLD)	
22	7-621-996-05	BOLT, HEXAGON SOCKET 2.6X5. . . (BLACK)	
	4-901-727-00	BOLT (M2.6X5), HOLE, HEXAGON. . . (GOLD)	
23	4-928-025-41	ESCUTCHEON (TOP PLATE). . . (GOLD)	

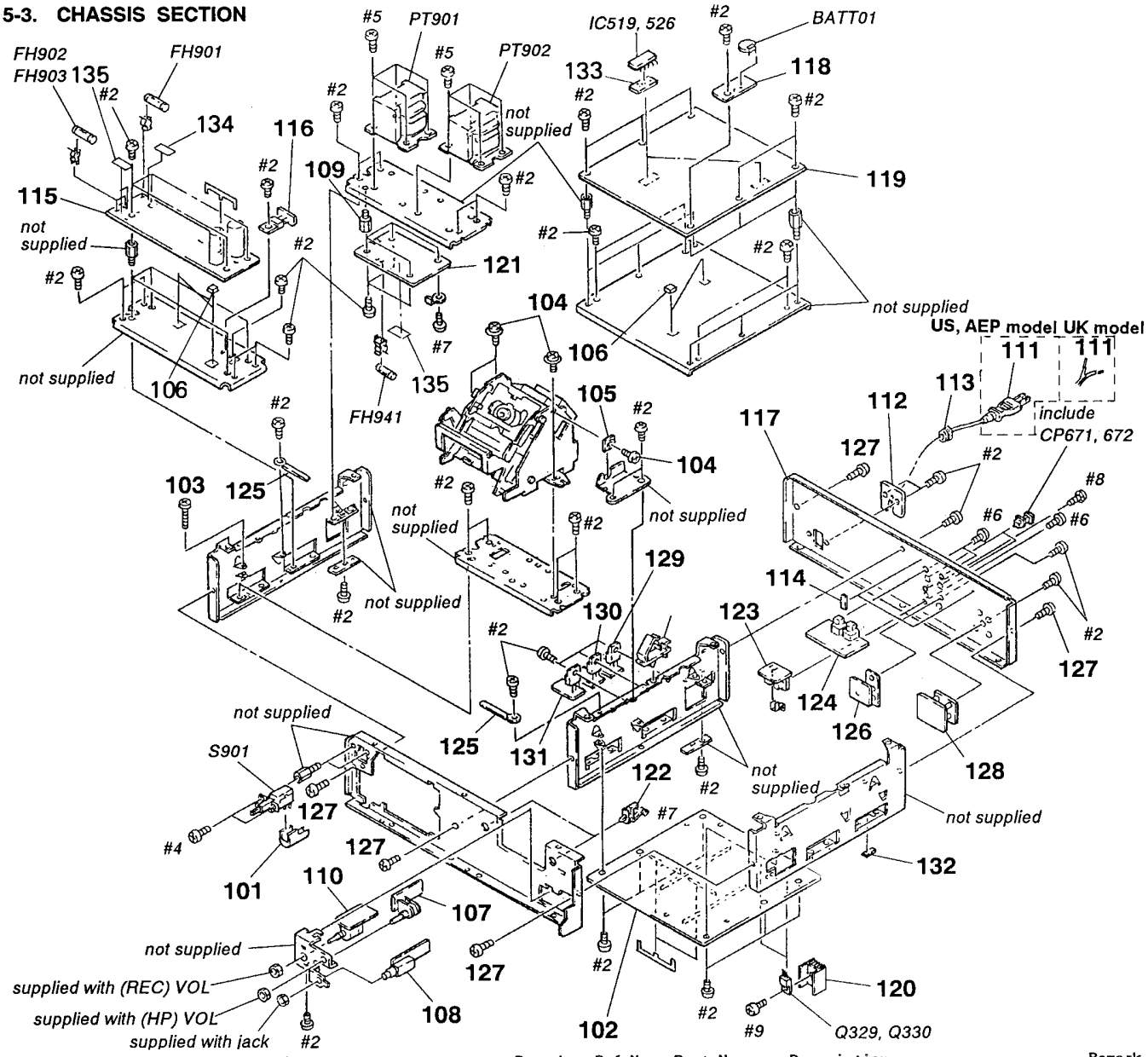
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-364-924-01	WINDOW (FL TUBE)	
52	3-364-919-01	FILTER	
53	* 1-637-609-11	OPTICAL RECEIVE BOARD	
54	3-364-943-01	PANEL (FRONT)... (BLACK) (77ES: AEP)	
	3-364-943-12	PANEL (FRONT) (87ES)	
	3-364-943-21	PANEL (FRONT) (77ES: UK)	
	3-364-943-31	PANEL (FRONT)... (GOLD) (77ES: AEP)	
55	X-3362-388-1	ESCUTCHEON (PANEL) ASSY... (BLACK)	
	X-3363-174-1	ESCUTCHEON (PANEL) ASSY... (GOLD)	
56	3-307-538-21	KNOB, SWITCH, TIMER... (BLACK)	
	3-307-538-81	KNOB, SWITCH, TIMER... (GOLD)	
57	* 3-365-031-01	COVER, LAMP	
58	3-364-927-01	BUTTON (10 KEY)... (BLACK)	
	3-364-927-11	BOTTON (10 KEY)... (GOLD)	
59	4-934-031-01	BUTTON (DISPLAY)... (BLACK)	
	4-934-031-21	BUTTON (DISPLAY)... (GOLD)	

Ref. No.	Part No.	Description	Remark
60	3-364-928-01	ESCUTCHEON (R. V)... (BLACK)	
	3-364-928-11	ESCUTCHEON (R, V)... (GOLD)	
61	* 4-911-676-01	SPACER, LED	
62	4-923-879-01	BUTTON (DIA. 4)... (BLACK)	
	4-923-879-21	BUTTON (DIA. 4)... (GOLD)	
63	* 1-637-608-11	SLIDE SW BOARD	
64	3-831-441-11	CUSHION	
65	9-911-839-XX	CUSHION	
66	* A-2006-536-A	CONTROL SW BOARD, COMPLETE (US)	
	* A-2006-557-A	CONTROL SW BOARD, COMPLETE (AEP, UK)	
67	* 1-637-610-11	PUSH SW BOARD	
68	3-531-576-01	RIVET	
69	4-908-848-01	EMBLEM, SONY	
PL701	1-518-664-11	LAMP, PILOT	
PL702	1-518-664-11	LAMP, PILOT	

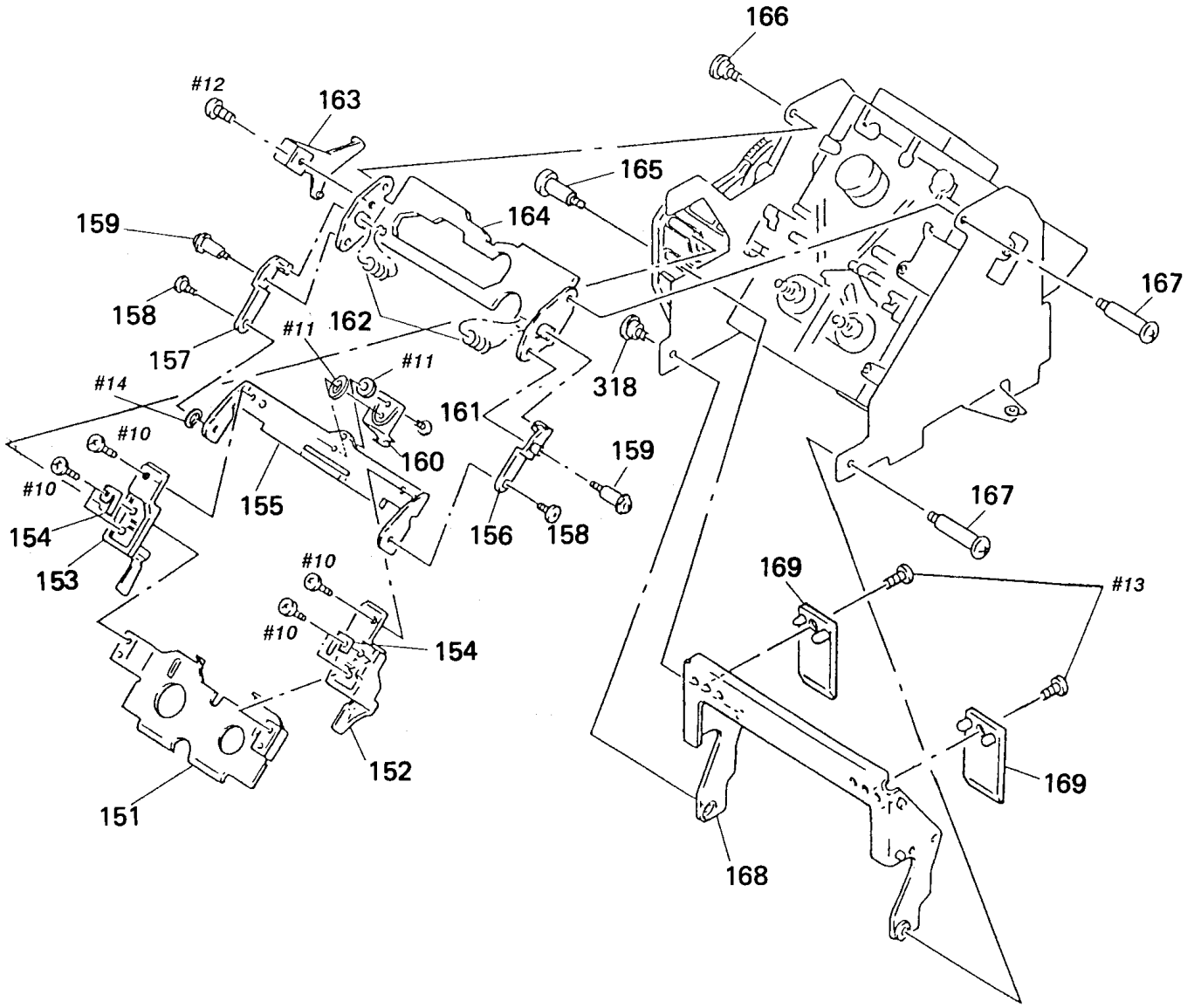
5-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	3-575-524-00	COVER, POWER SWITCH	
102	* A-2006-537-A	AUDIO BOARD, COMPLETE	
103	3-704-242-01	SCREW, TERMINAL, +BVTP CLAW	
104	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
105	4-931-466-01	SPACER	
106	9-911-839-XX	CUSHION	
107	* 1-637-613-11	HP VOL BOARD	
108	* 1-637-614-11	HP JACK BOARD	
109	* 3-363-575-31	SUPPORT	
110	* 1-637-615-11	REC VOL BOARD	
111	⚠1-559-479-11	CORD, POWER (US)	
	⚠1-575-912-11	CORD, POWER (AEP)	
	⚠1-575-913-11	CORD, POWER (UK)	
112	* 4-923-873-01	BRACKET, CORD STOPPER	
113	⚠3-703-244-00	BUSHING (2104), CORD (AEP, UK)	
	⚠4-916-783-01	BUSHING, CORD (US)	
114	4-860-518-00	PAPER, VIBRATION PROOF (E)	
115	* A-2006-344-A	POWER BOARD, COMPLETE	
116	* 1-637-625-11	DIODE BOARD	
117	* 3-364-938-11	PANEL, BACK (87ES)	
	* 3-364-938-31	PANEL, BACK (77ES: UK)	
	* 3-364-938-41	PANEL, BACK (77ES: AEP)	
118	* 1-637-626-11	BATTERY BOARD	
119	* A-2006-587-A	DIGITAL BOARD, COMPLETE	
120	* 4-931-401-01	HEAT SINK, V. OUT	
121	* 1-637-621-11	LINE FILTER BOARD	
122	* 3-329-937-02	CLIP, WIRE	
123	* 1-637-617-11	DIGITAL OUT BOARD	
124	* 1-637-618-11	D-I/O OPT BOARD	
125	3-703-150-11	STOPPER, WIRING	
126	* 1-637-616-11	COA IN BOARD	
127	3-703-685-21	SCREW (+BV 3X8)	
128	* 1-637-620-11	LINE IN BOARD	
129	* 1-637-622-11	TR-A BOARD	
130	* 1-637-623-11	TR-B BOARD	
131	* 1-637-624-11	TR-C BOARD	
132	9-911-843-XX	CUSHION, FLYWHEEL	
133	1-543-843-11	FERRITE BOARD, MULTI HOLE	
134	3-701-947-16	LABEL (T3.15A) FUSE (AEP, UK)	
135	* 3-701-947-14	LABEL(T2A), FUSE (AEP, UK)	
BATT01	⚠1-528-229-11	BATTERY, LITHIUM (CR-2450)	
FH901	⚠1-532-745-11	FUSE, GLASS TUBE (3.15A 125V) (US)	
	⚠1-532-237-00	FUSE, TIME-LAG (T3.15A 250V) (AEP, UK)	
FH902	⚠1-532-203-00	FUSE, TIME-LAG (T2A 250V) (AEP, UK)	
	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 125V) (US)	
FH903	⚠1-532-203-00	FUSE, TIME-LAG (T2A 125V) (AEP, UK)	
	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 250V) (US)	
FH941	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 125V) (US)	
	⚠1-532-203-00	FUSE, TIME-LAG (T2A 250V) (AEP, UK)	
PT901	⚠1-450-450-11	TRANSFORMER, POWER (D) (US)	
	⚠1-450-603-11	TRANSFORMER, POWER (AEP, UK)	
PT902	⚠1-450-449-11	TRANSFORMER, POWER (A) (US)	
	⚠1-450-604-11	TRANSFORMER, POWER (A) (AEP, UK)	
S901	⚠1-554-920-11	SWITCH, PUSH (AC POWER) (1 KEY)	

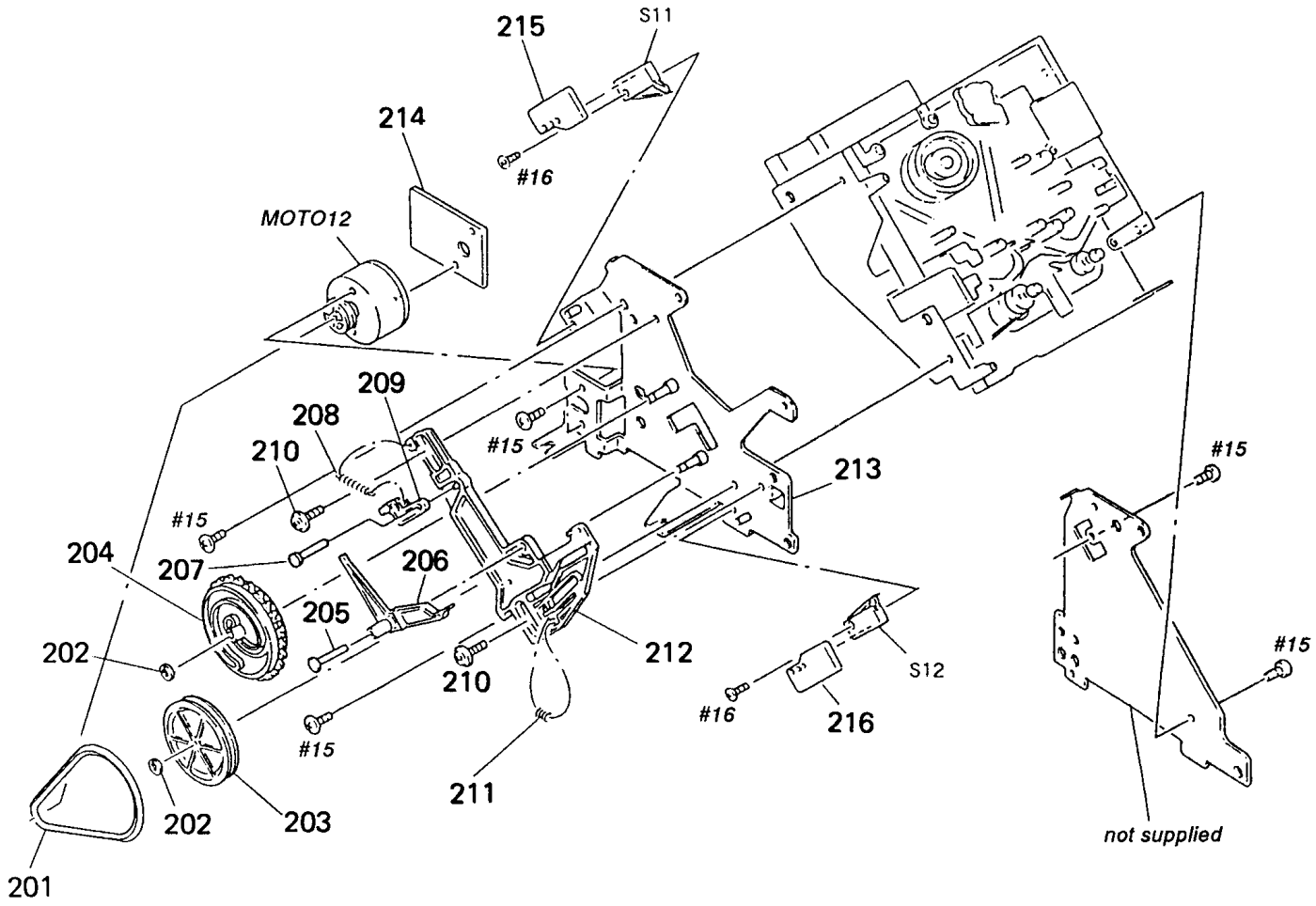
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-4. MECHANISM SECTION 1



Ref. No.	Part No.	Description	Remark
151	4-931-476-01	HOLDER (LOWER)	
152	4-931-486-01	HOLDER (C-RIGHT)	
153	4-931-484-01	HOLDER (C-LEFT)	
154	3-366-308-01	SPRING (SIDE), PLATE	
155	* 4-931-485-01	HOLDER (C-INNER)	
156	4-931-481-01	ARM (LIMITER L)	
157	4-931-473-01	ARM (LIMITER R)	
158	3-312-161-00	SCREW, STEP, PRECISION	
159	4-918-991-01	SCREW, STEP	
160	4-931-461-01	SPRING (CENTER), LEAF	
161	3-352-517-01	SCREW (M2X2.5)	
162	3-537-214-00	SPRING, COMPRESSION	
163	* X-3362-941-1	JOINT ASSY	
164	3-369-235-01	PLATE, FULCRUM	
165	4-931-471-01	SCREW (STEP)	
166	2-236-956-00	SCREW, STEP	
167	4-931-463-01	SCREW (STEP)	
168	4-931-474-01	HOLDER (WINDOW)	
169	4-931-469-01	PLATE, ORNAMENTAL	

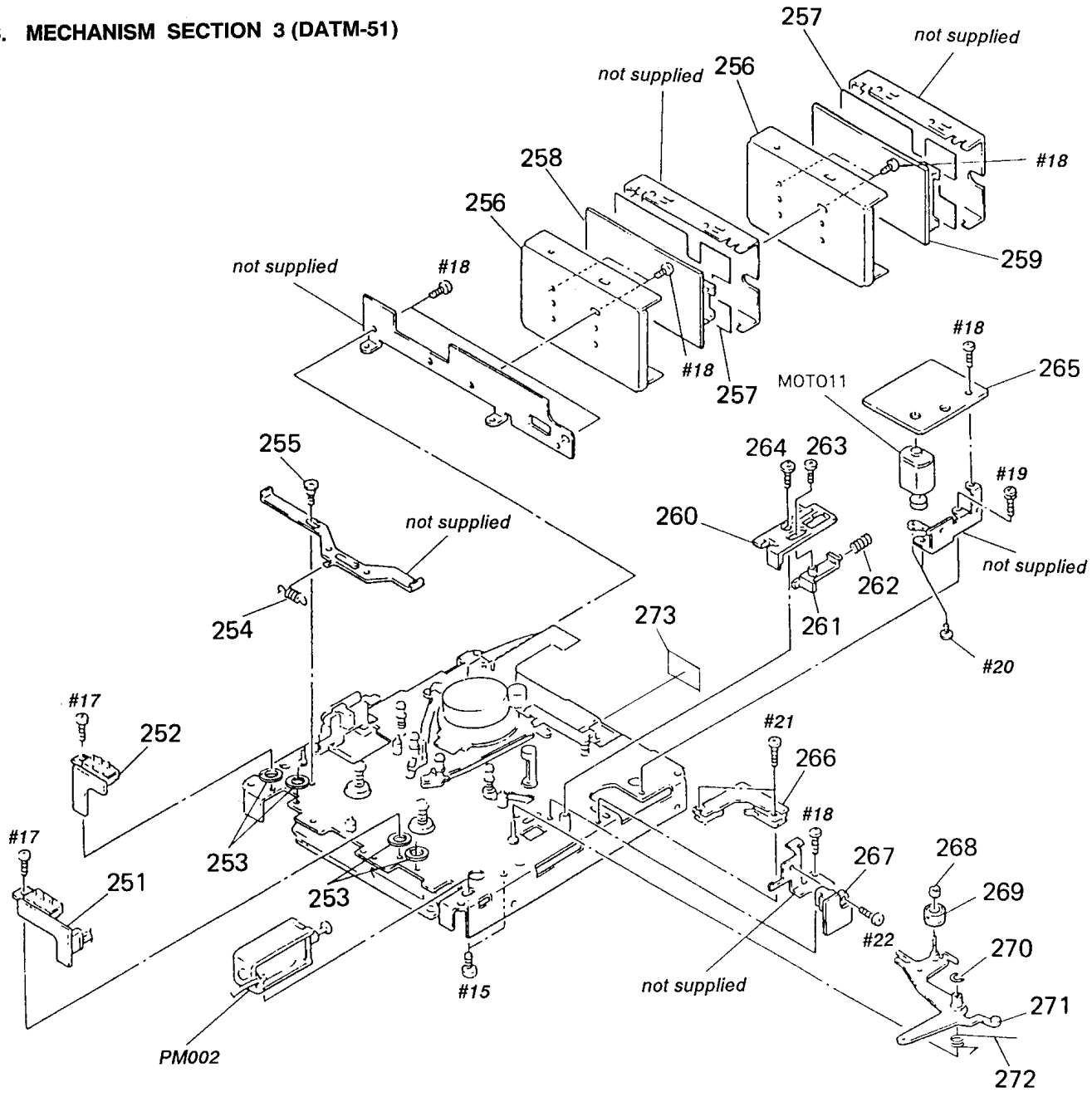
5-5. MECHANISM SECTION 2



Ref. No.	Part No.	Description	Remark
201	4-931-470-01	BELT (DRIVING)	
202	3-307-948-21	WASHER, NYLON	
203	4-931-459-01	PULLEY	
204	4-931-477-01	GEAR (CAM)	
205	4-931-468-01	SHAFT (PRESS FITTING)	
206	4-931-490-01	LEVER (LINK)	
207	4-936-626-01	SHAFT (ARM PRESS FITTING)	
208	3-549-810-00	SPRING, TENSION	
209	4-931-460-01	ARM (SLIDER)	

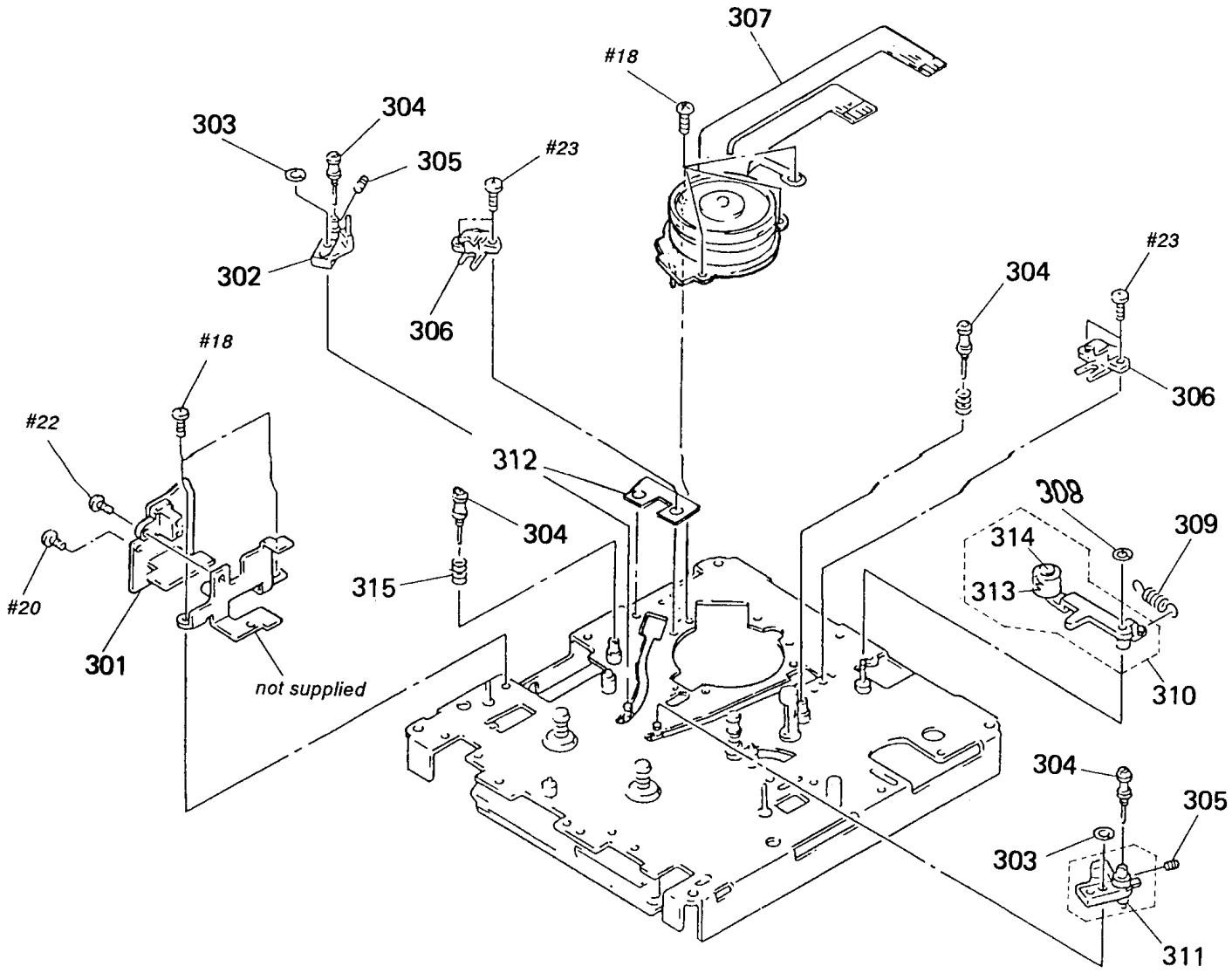
Ref. No.	Part No.	Description	Remark
210	4-932-336-01	SCREW (STEP)	
211	3-537-215-00	SPRING, COMPRESSION	
212	4-931-492-01	SLIDER (CAM)	
213	* X-4919-023-4	PLATE ASSY, SIDE	
214	* 1-633-726-11	PC BOARD, MOTOR	
215	* 1-633-727-11	PC BOAED, SW(IN)	
216	* 1-633-728-11	PC BOARD, SW(OUT)	
MOTO12	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	

5-6. MECHANISM SECTION 3 (DATM-51)



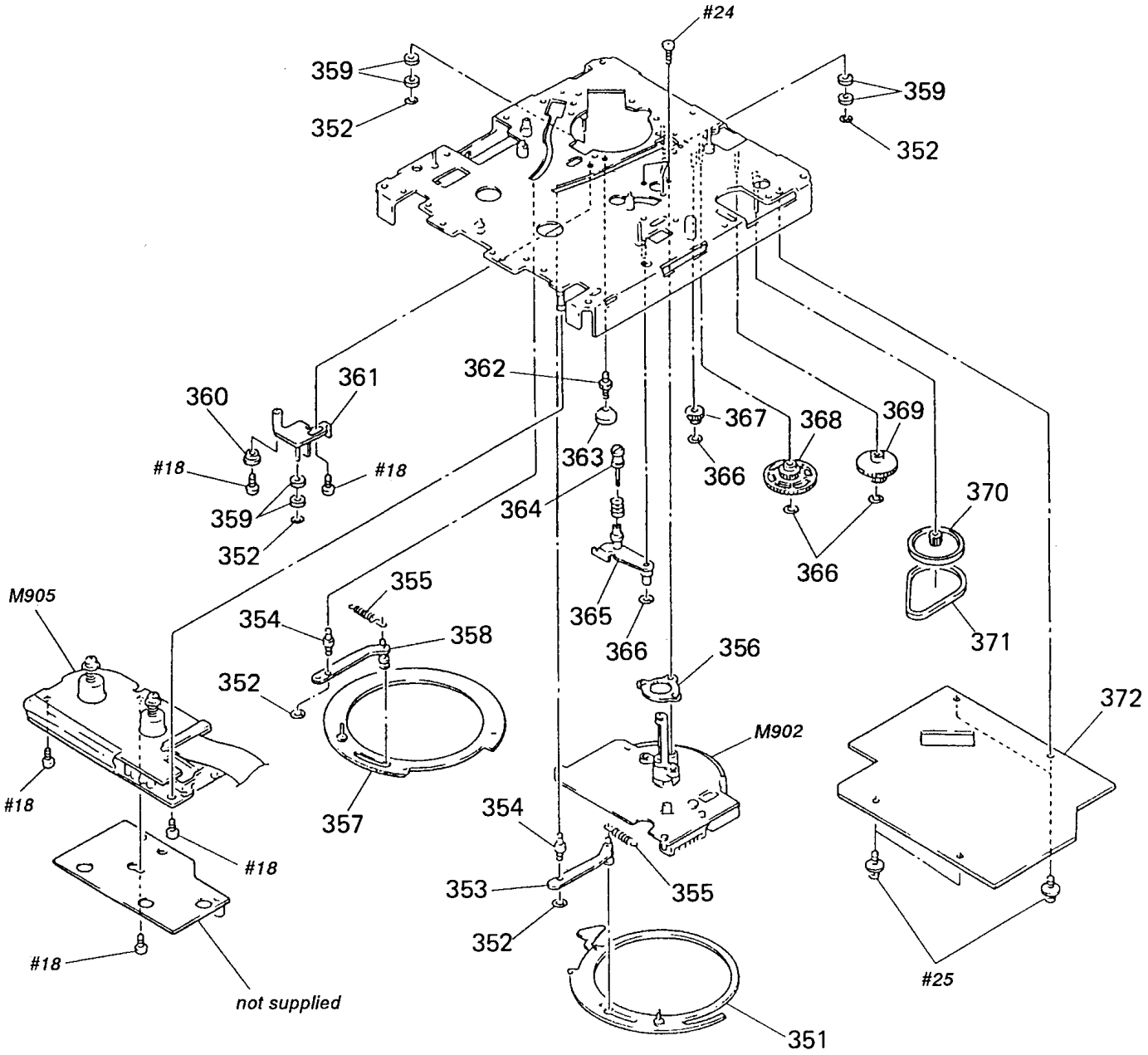
Ref. No.	Part No.	Description	Remark
251	* 1-637-605-11	T-SW BOARD	
252	* 1-637-604-11	S-SW BOARD	
253	3-344-781-01	WASHER, POLYETHYLENE	
254	3-307-375-00	SPRING, TENSION	
255	3-312-161-00	SCREW, STEP, PRECISION	
256	* 3-337-686-11	CASE (LOWER), SHIELD	
257	* 3-362-537-01	SHEET (RF)	
258	* A-2006-207-A	AMPLIFIER BOARD, COMPLETE	
259	* A-2006-206-A	AMPLIFIER BOARD, COMPLETE	
260	3-362-148-01	SLIDER (PINCH)	
261	3-362-149-01	SLIDER (LIMITTER)	
262	3-564-035-00	SPRING, COMPRESSION	
263	2-623-756-01	SCREW, (B1.7X3), TAPPING	
264	3-703-502-11	SCREW	
265	* 1-637-601-11	LOADING MOTOR BOARD	
266	* 1-637-606-11	LOAD-SW BOARD	
267	* 1-637-603-11	T-END BOARD	
268	3-337-626-01	CAP, PINCH ROLLER	
269	X-3337-610-1	PINCH ROLLER ASSY	
270	3-701-436-11	WASHER, STOPPER	
271	X-3362-021-1	LEVER (PINCH ROLLER) ASSY	
272	3-367-352-01	SPRING (PINCH)	
273	3-366-886-01	SHEET (RF BRACKET)	
MOTO11	A-2003-660-A	MOTOR ASSY (LOADING)	
PM002	1-454-522-11	SOLENOID, PLUNGER	

5-7. MECHANISM SECTION 4 (DATM-51)



Ref. No.	Part No.	Description	Remark
301	* 1-637-602-11	S-END BOARD	
302	X-3362-028-1	SLANT BLOCK (L2) ASSY	
303	3-325-698-01	RING, RETAINING	
304	X-3362-027-1	GUIDE ASSY, ROLLER	
305	3-362-152-01	SCREW (RETURN GUIDE BOSS)	
306	* 3-337-685-01	CATCHER	
307	8-848-549-11	DRUM ASSY DOU-15A-R	
308	3-701-436-11	WASHER, STOPPER	
309	3-307-375-00	SPRING, TENSION	
310	A-2003-487-A	ARM (CLEANING) ASSY	
311	X-3362-029-1	SLANT BLOCK (R2) ASSY	
312	3-701-437-01	SHEET (CATCHER)	
313	3-352-518-01	ROLLER (CLEANER)	
314	3-353-812-01	COLLAR (ROLLER)	
315	3-573-470-00	SPRING, COMPRESSION	

5-8. MECHANISM SECTION 5 (DATM-51)



Ref. No.		Part No.	Description	Remark
351		X-3362-204-1	GEAR (LOAD) ASSY	
352		3-559-408-11	WASHER, POLYETHYLENE, DIA. 1.2	
353	*	X-3362-025-1	LEVER (LOADING R) ASSY	
354		3-362-151-01	BOSS (GUIDE)	
355		3-337-653-01	SPRING, TENSION	
356	*	3-362-156-01	BRACKET (CAPSTAN)	
357		X-3337-602-1	RING (LEFT) ASSY, LOADING	
358	*	X-3362-024-1	LEVER (LOADING L) ASSY	
359		3-337-622-01	ROLLER, RING	
360	*	3-362-158-01	COLLAR (RING ADJUSTMENT)	
361	*	X-3362-023-1	ARM (RING ROLLER) ASSY	
362	*	3-362-159-01	SHAFT (RING ADJUSTMENT)	
363		3-362-160-01	NUT (RING ADJUSTMENT)	
364		X-3362-027-1	GUIDE ASSY, ROLLER	
365	*	X-3362-020-1	LEVER (F GUIDE) ASSY	
366		3-701-436-11	WASHER, STOPPER	
367		3-345-182-01	GEAR (LOADING B)	
368		3-345-181-01	GEAR (LOADING A)	
369		3-362-155-01	GEAR (A)	
370		4-932-338-01	PULLEY (A)	
371		4-913-325-01	BELT, TAKE-UP	
372	*	A-2006-382-A	MD BOARD, COMPLETE	
M902		8-835-306-01	MOTOR, DC U-17A	
M905	*	8-835-205-01	MOTOR, DC U-2A	

RF AMP (REC/PB)

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When including parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark
	* A-2006-206-A	RF AMP (REC/PB) BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C951	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C953	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C954	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	
C955	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C956	1-124-778-00	ELECT CHIP	22uF 20%	6.3V	
C957	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C958	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	
C959	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	
C960	1-163-011-11	CERAMIC CHIP	0.0015uF 10%	50V	
C961	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C962	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	
C963	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C965	1-164-298-11	CERAMIC CHIP	0.15uF 10%	25V	
C966	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C967	1-124-778-00	ELECT CHIP	22uF 20%	6.3V	
C968	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C969	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C971	1-164-298-11	CERAMIC CHIP	0.15uF 10%	25V	
C973	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C974	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	
C975	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C976	1-163-011-11	CERAMIC CHIP	0.0015uF 10%	50V	
C977	1-163-020-00	CERAMIC CHIP	0.0082uF 10%	50V	
C978	1-162-638-11	CERAMIC CHIP	1uF	16V	
C979	1-163-020-00	CERAMIC CHIP	0.0082uF 10%	50V	
C980	1-163-809-11	CERAMIC CHIP	0.047uF 10%	25V	
C981	1-163-809-11	CERAMIC CHIP	0.047uF 10%	25V	
C982	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	
C983	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C984	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	
C985	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	

Ref. No.	Part No.	Description				Remark
		〈 CONNECTOR 〉				
CN951	1-569-349-11	CONNECTOR, F.P.C 6P				
CN952	* 1-564-728-11	PIN, CONNECTOR (SMALL TYPE)12P				
		〈 IC 〉				
IC951	8-752-032-26	IC CXA1045Q-Z				
		〈 COIL 〉				
L951	1-408-777-00	INDUCTOR CHIP	10uH			
L952	1-408-791-00	INDUCTOR CHIP	150uH			
L953	1-408-791-00	INDUCTOR CHIP	150uH			
		〈 RESISTOR 〉				
R951	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R952	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R953	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R954	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R955	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R956	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R957	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R958	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R959	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R960	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R961	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R962	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R963	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R964	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R965	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R966	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R967	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R968	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R969	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R970	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R971	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R972	1-216-295-00	METAL CHIP	0	5%	1/10W	
R973	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R974	1-216-073-00	METAL CHIP	10K	5%	1/10W	

RF AMP (REC/PB) | RF AMP (PB) | AUDIO

Ref.No.	Part No.	Description			Remark
		〈 VARIABLE RESISTOR 〉			
RV951	1-238-237-11	RES, ADJ, CERMET 470			
RV952	1-238-237-11	RES, ADJ, CERMET 470			
**********					
		* A-2006-207-A RF AMP (PB) BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C51	1-124-779-00	ELECT CHIP	10uF	20% 16V	
C52	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C53	1-162-638-11	CERAMIC CHIP	1uF	16V	
C54	1-164-299-11	CERAMIC CHIP	0.22uF	10% 25V	
C55	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C57	1-124-779-00	ELECT CHIP	10uF	20% 16V	
C58	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C59	1-164-299-11	CERAMIC CHIP	0.22uF	10% 25V	
C60	1-162-638-11	CERAMIC CHIP	1uF	16V	
C61	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C62	1-124-779-00	ELECT CHIP	10uF	20% 16V	
C63	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C64	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C66	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C69	1-124-779-00	ELECT CHIP	10uF	20% 16V	
C70	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C71	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C72	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
		〈 CONNECTOR 〉			
CN51	1-569-349-11	CONNECTOR, F.P.C 6P			
CN52	* 1-564-725-11	PIN, CONNECTOR (SMALL TYPE) 9P			
		〈 IC 〉			
IC51	8-752-039-01	IC CXA1364R			
		〈 COIL 〉			
L51	1-408-781-00	INDUCTOR, CHIP 22uH			
L52	1-408-789-21	INDUCTOR, CHIP 100uH			
L53	1-408-781-00	INDUCTOR, CHIP 22uH			
		〈 TRANSISTOR 〉			
Q51	8-729-901-01	TRANSISTOR DTC144EK			
Q52	8-729-901-01	TRANSISTOR DTC144EK			
Q53	8-729-901-01	TRANSISTOR DTC144EK			
Q54	8-729-901-01	TRANSISTOR DTC144EK			
Q55	8-729-901-01	TRANSISTOR DTC144EK			

Ref.No.	Part No.	Description			Remark
		〈 RESISTOR 〉			
R51	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	
R52	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R53	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R54	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	
R55	1-216-083-00	METAL CHIP	27K	5% 1/10W	
R56	1-216-089-00	METAL CHIP	47K	5% 1/10W	
R57	1-216-084-00	METAL GLAZE	30K	5% 1/10W	
R58	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R59	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R60	1-216-748-11	METAL CHIP	39K	5% 1/10W	
R61	1-216-075-00	METAL CHIP	12K	5% 1/10W	
R62	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R63	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	
**********					
		* A-2006-537-A AUDIO BOARD, COMPLETE			
		**********			
	1-568-129-11	BAR, BUS 8P			
*	1-568-130-11	BAR, BUS 3P			
	7-682-147-15	SCREW, TR			
*	3-346-266-12	PLATE, GROUND			
*	4-931-401-01	HEAT SINK, V.OUT			
		〈 CAPACITOR 〉			
C101	1-124-915-11	ELECT	10uF	20% 63V	
C102	1-136-153-00	FILM	0.01uF	5% 50V	
C103	1-136-153-00	FILM	0.01uF	5% 50V	
C167	1-136-811-11	FILM	330PF	5% 100V	
C168	1-136-811-11	FILM	330PF	5% 100V	
C169	1-136-810-11	FILM	220PF	5% 100V	
C170	1-136-810-11	FILM	220PF	5% 100V	
C171	1-136-234-11	FILM	0.0062uF	3% 100V	
C172	1-136-808-11	FILM	100PF	5% 100V	
C173	1-136-234-11	FILM	0.0062uF	3% 100V	
C174	1-136-808-11	FILM	100PF	5% 100V	
C175	1-136-228-11	FILM	0.0012uF	3% 100V	
C176	1-136-233-11	FILM	0.0047uF	3% 100V	
C177	1-124-918-11	ELECT	47uF	20% 63V	
C178	1-109-621-00	MICA	220PF	500V	
C201	1-124-915-11	ELECT	10uF	20% 63V	
C202	1-136-153-00	FILM	0.01uF	5% 50V	
C203	1-136-153-00	FILM	0.01uF	5% 50V	
C267	1-136-811-11	FILM	330PF	5% 100V	
C268	1-136-811-11	FILM	330PF	5% 100V	
C269	1-136-810-11	FILM	220PF	5% 100V	
C270	1-136-810-11	FILM	220PF	5% 100V	
C271	1-136-234-11	FILM	0.0062uF	3% 100V	
C272	1-136-808-11	FILM	100PF	5% 100V	
C273	1-136-234-11	FILM	0.0062uF	3% 100V	

AUDIO

Ref. No.	Part No.	Description				Remark
C274	1-136-808-11	FILM	100PF	5%	100V	
C275	1-136-228-11	FILM	0.0012uF	3%	100V	
C276	1-136-233-11	FILM	0.0047uF	3%	100V	
C277	1-124-918-11	ELECT	47uF	20%	63V	
C278	1-109-621-00	MICA	220PF	1%	500V	
C301	1-124-915-11	ELECT	10uF	20%	63V	
C302	1-136-165-00	FILM	0.1uF	5%	50V	
C303	1-136-165-00	FILM	0.1uF	5%	50V	
C304	1-136-165-00	FILM	0.1uF	5%	50V	
C305	1-136-165-00	FILM	0.1uF	5%	50V	
C306	1-124-484-11	ELECT	220uF	20%	35V	
C307	1-124-484-11	ELECT	220uF	20%	35V	
C310	1-124-713-11	ELECT	470uF	20%	35V	
C311	1-136-165-00	FILM	0.1uF	5%	50V	
C312	1-124-713-11	ELECT	470uF	20%	35V	
C313	1-136-165-00	FILM	0.1uF	5%	50V	
C314	1-124-484-11	ELECT	220uF	20%	35V	
C315	1-136-165-00	FILM	0.1uF	5%	50V	
C316	1-136-165-00	FILM	0.1uF	5%	50V	
C317	1-124-918-11	ELECT	47uF	20%	63V	
C318	1-136-165-00	FILM	0.1uF	5%	50V	
C319	1-136-165-00	FILM	0.1uF	5%	50V	
C320	1-136-165-00	FILM	0.1uF	5%	50V	
C325	1-124-517-11	ELECT	470uF	20%	50V	
C326	1-124-517-11	ELECT	470uF	20%	50V	
C327	1-124-130-00	ELECT	100uF	20%	63V	
C328	1-124-130-00	ELECT	100uF	20%	63V	
C329	1-107-210-00	MICA	22PF	5%	500V	
C330	1-107-210-00	MICA	22PF	5%	500V	
C331	1-124-922-11	ELECT	1000uF	20%	63V	
C332	1-124-922-11	ELECT	1000uF	20%	63V	
C333	1-124-484-11	ELECT	220uF	20%	35V	
C334	1-136-165-00	FILM	0.1uF	5%	50V	
C337	1-124-122-11	ELECT	100uF	20%	50V	
C338	1-136-165-00	FILM	0.1uF	5%	50V	
C339	1-136-165-00	FILM	0.1uF	5%	50V	
C340	1-136-165-00	FILM	0.1uF	5%	50V	
C341	1-124-122-11	ELECT	100uF	20%	50V	
C342	1-136-165-00	FILM	0.1uF	5%	50V	
C343	1-136-165-00	FILM	0.1uF	5%	50V	
C344	1-124-122-11	ELECT	100uF	20%	50V	
C345	1-136-165-00	FILM	0.1uF	5%	50V	
C346	1-124-122-11	ELECT	100uF	20%	50V	
C347	1-136-165-00	FILM	0.1uF	5%	50V	
C348	1-124-122-11	ELECT	100uF	20%	50V	
C349	1-136-165-00	FILM	0.1uF	5%	50V	
C350	1-124-122-11	ELECT	100uF	20%	50V	
C351	1-136-165-00	FILM	0.1uF	5%	50V	
C352	1-136-165-00	FILM	0.1uF	5%	50V	
C353	1-136-165-00	FILM	0.1uF	5%	50V	

Ref. No.	Part No.	Description				Remark
C354	1-124-122-11	ELECT	100uF	20%	50V	
C355	1-136-165-00	FILM	0.1uF	5%	50V	
C356	1-136-165-00	FILM	0.1uF	5%	50V	
C357	1-124-122-11	ELECT	100uF	20%	50V	
C358	1-136-165-00	FILM	0.1uF	5%	50V	
C359	1-124-122-11	ELECT	100uF	20%	50V	
C360	1-136-165-00	FILM	0.1uF	5%	50V	
C361	1-124-122-11	ELECT	100uF	20%	50V	
C362	1-136-165-00	FILM	0.1uF	5%	50V	
C363	1-136-153-00	FILM	0.01uF	5%	50V	
C364	1-162-284-31	CERAMIC	150PF	10%	50V	
C365	1-162-199-31	CERAMIC	10PF	5%	50V	
C366	1-124-122-11	ELECT	100uF	20%	50V	
C367	1-162-211-31	CERAMIC	33PF	5%	50V	
C368	1-162-199-31	CERAMIC	10PF	5%	50V	
C370	1-136-157-00	FILM	0.022uF	5%	50V	
C371	1-136-165-00	FILM	0.1uF	5%	50V	
C372	1-136-165-00	FILM	0.1uF	5%	50V	
C373	1-136-157-00	FILM	0.022uF	5%	50V	
C374	1-136-177-00	FILM	1uF	5%	50V	
C375	1-136-165-00	FILM	0.1uF	5%	50V	
C376	1-124-484-11	ELECT	220uF	20%	35V	
C377	1-124-484-11	ELECT	220uF	20%	35V	
C378	1-124-713-11	ELECT	470uF	20%	35V	
C379	1-124-713-11	ELECT	470uF	20%	35V	
C380	1-124-915-11	ELECT	10uF	20%	63V	
C381	1-124-713-11	ELECT	470uF	20%	35V	
C382	1-136-165-00	FILM	0.1uF	5%	50V	
C383	1-136-165-00	FILM	0.1uF	5%	50V	
C384	1-136-165-00	FILM	0.1uF	5%	50V	
C385	1-136-165-00	FILM	0.1uF	5%	50V	
C386	1-124-484-11	ELECT	220uF	20%	35V	
C387	1-124-484-11	ELECT	220uF	20%	35V	
C389	1-124-122-11	ELECT	100uF	20%	50V	
C390	1-136-157-00	FILM	0.022uF	5%	50V	
C391	1-136-177-00	FILM	1uF	5%	50V	
C392	1-136-165-00	FILM	0.1uF	5%	50V	
C393	1-136-165-00	FILM	0.1uF	5%	50V	
C394	1-136-165-00	FILM	0.1uF	5%	50V	
C395	1-162-179-11	CERAMIC	0.1uF		50V	

〈 CONNECTOR 〉

CN96	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN101	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN102	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN103	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN104	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN201	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN202	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN203	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN204	* 1-564-505-11	PLUG, CONNECTOR 2P	

Ref.No.	Part No.	Description	Remark
CN351	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN352	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		〈 DIODE 〉	
D101	8-719-107-94	DIODE 1SS202-1	
D102	8-719-107-94	DIODE 1SS202-1	
D201	8-719-107-94	DIODE 1SS202-1	
D202	8-719-107-94	DIODE 1SS202-1	
D325	8-719-902-87	DIODE EQB01-08Q	
D326	8-719-902-87	DIODE EQB01-08Q	
D349	8-719-200-77	DIODE 10E2N	
D350	8-719-114-30	DIODE RD5.1JSB2	
D351	8-719-901-59	DIODE KV1320	
D352	8-719-903-27	DIODE 1SS168	
D353	8-719-107-94	DIODE 1SS202-1	
D354	8-719-107-94	DIODE 1SS202-1	
D355	8-719-107-94	DIODE 1SS202-1	
D356	8-719-107-94	DIODE 1SS202-1	
D357	8-719-200-82	DIODE 11ES2	
D358	8-719-200-82	DIODE 11ES2	
D359	8-719-107-94	DIODE 1SS202-1	
		〈 IC 〉	
IC101	8-759-602-83	IC M5238P	
IC102	8-759-504-50	IC LF412CN/SL161841	
IC151	8-759-900-72	IC NE5532P	
IC152	8-759-900-72	IC NE5532P	
IC153	8-759-981-98	IC RC4560DD	
IC201	8-759-602-83	IC M5238P	
IC202	8-759-504-50	IC LF412CN/SL161841	
IC251	8-759-900-72	IC NE5532P	
IC252	8-759-900-72	IC NE5532P	
IC253	8-759-981-98	IC RC4560DD	
IC301	8-759-231-53	IC TA7805S	
IC302	8-759-604-47	IC M5F7905L	
IC303	8-759-231-53	IC TA7805S	
IC304	8-759-999-09	IC CS5326-KP	
IC305	8-759-916-55	IC SN74HC175AN	
IC348	8-752-335-51	IC CXD2552Q-1	
IC349	8-752-335-51	IC CXD2552Q-1	
IC350	8-759-999-32	IC SM5813APT	
IC351	8-759-917-18	IC SN74HCU04AN	
IC354	8-759-900-72	IC NE5532P	
IC355	8-759-634-55	IC M5F7805L-720	
IC356	8-759-604-30	IC M5F7808L	
IC357	8-759-917-11	IC SN74HC393AN	
IC358	8-759-250-81	IC TC5081AP	
IC359	8-759-233-64	IC TC74HCU04AF	
IC360	8-759-239-47	IC TC74HC123AP	
IC361	8-759-916-29	IC SN74HC74N	

Ref.No.	Part No.	Description	Remark
		〈 COIL 〉	
L351	1-410-324-11	INDUCTOR 4.7uH	
L352	1-460-042-11	COIL (WITH CORE)	
L353	1-460-042-11	COIL (WITH CORE)	
L355	1-410-324-11	INDUCTOR 4.7uH	
		〈 TRANSISTOR 〉	
Q325	8-729-204-90	TRANSISTOR 2SK246-GR1	
Q326	8-729-204-90	TRANSISTOR 2SK246-GR1	
Q327	8-729-803-82	TRANSISTOR 2SC3468-E	
Q328	8-729-803-76	TRANSISTOR 2SA1371-E	
Q329	8-729-127-53	TRANSISTOR 2SC2275-P	
Q330	8-729-190-53	TRANSISTOR 2SA985A-P	
Q331	8-729-803-76	TRANSISTOR 2SA1371-E	
Q332	8-729-803-82	TRANSISTOR 2SC3468-E	
Q333	8-729-803-82	TRANSISTOR 2SC3468-E	
Q334	8-729-803-76	TRANSISTOR 2SA1371-E	
Q350	8-729-127-53	TRANSISTOR 2SC2275-P	
Q351	8-729-900-61	TRANSISTOR DTA114ES	
Q352	8-729-200-56	TRANSISTOR 2SK241-GR	
Q353	8-729-200-56	TRANSISTOR 2SK241-GR	
Q354	8-729-900-61	TRANSISTOR DTA114ES	
Q355	8-729-900-80	TRANSISTOR DTC114ES	
Q356	8-729-900-61	TRANSISTOR DTA114ES	
Q357	8-729-900-80	TRANSISTOR DTC114ES	
Q358	8-729-900-80	TRANSISTOR DTC114ES	
Q359	8-729-900-61	TRANSISTOR DTA114ES	
		〈 RESISTOR 〉	
R103	1-246-545-00	CARBON 1.0M 5% 1/4W	
R104	1-247-717-11	CARBON 2.2K 5% 1/4W	
R105	1-249-462-11	CARBON 22K 5% 1/4W	
R106	1-249-469-11	CARBON 100K 5% 1/4W	
R107	1-249-520-11	CARBON 47 5% 1/4W	
R108	1-249-512-11	CARBON 22 5% 1/4W	
R109	1-249-524-11	CARBON 68 5% 1/4W	
R150	1-249-946-11	CARBON 9.1K 1% 1/4W	
R151	1-249-946-11	CARBON 9.1K 1% 1/4W	
R152	1-249-946-11	CARBON 9.1K 1% 1/4W	
R153	1-249-946-11	CARBON 9.1K 1% 1/4W	
R154	1-247-721-11	CARBON 4.7K 5% 1/4W	
R155	1-247-721-11	CARBON 4.7K 5% 1/4W	
R156	1-247-721-11	CARBON 4.7K 5% 1/4W	
R157	1-247-721-11	CARBON 4.7K 5% 1/4W	
R158	1-249-948-11	CARBON 11K 1% 1/4W	
R159	1-249-948-11	CARBON 11K 1% 1/4W	
R160	1-249-941-11	CARBON 5.6K 1% 1/4W	
R161	1-249-932-11	CARBON 2.4K 1% 1/4W	
R162	1-246-545-00	CARBON 1.0M 5% 1/4W	

AUDIO

Ref. No.	Part No.	Description				Remark
R163	1-249-941-11	CARBON	5.6K	1%	1/4W	
R164	1-249-941-11	CARBON	5.6K	1%	1/4W	
R165	1-249-941-11	CARBON	5.6K	1%	1/4W	
R166	1-249-932-11	CARBON	2.4K	1%	1/4W	
R167	1-246-545-00	CARBON	1.0M	5%	1/4W	
R168	1-249-556-11	CARBON	1.5K	5%	1/4W	
R169	1-249-556-11	CARBON	1.5K	5%	1/4W	
R170	1-249-469-11	CARBON	100K	5%	1/4W	
R171	1-249-529-11	CARBON	110	5%	1/4W	
R172	1-249-529-11	CARBON	110	5%	1/4W	
R173	1-247-721-11	CARBON	4.7K	5%	1/4W	
R174	1-249-462-11	CARBON	22K	5%	1/4W	
R175	1-247-700-11	CARBON	100	5%	1/4W	
R177	1-249-497-11	CARBON	33K	5%	1/4W	
R203	1-246-545-00	CARBON	1.0M	5%	1/4W	
R204	1-247-717-11	CARBON	2.2K	5%	1/4W	
R205	1-249-462-11	CARBON	22K	5%	1/4W	
R206	1-249-469-11	CARBON	100K	5%	1/4W	
R207	1-249-520-11	CARBON	47	5%	1/4W	
R208	1-249-512-11	CARBON	22	5%	1/4W	
R209	1-249-524-11	CARBON	68	5%	1/4W	
R250	1-249-946-11	CARBON	9.1K	1%	1/4W	
R251	1-249-946-11	CARBON	9.1K	1%	1/4W	
R252	1-249-946-11	CARBON	9.1K	1%	1/4W	
R253	1-249-946-11	CARBON	9.1K	1%	1/4W	
R254	1-247-721-11	CARBON	4.7K	5%	1/4W	
R255	1-247-721-11	CARBON	4.7K	5%	1/4W	
R256	1-247-721-11	CARBON	4.7K	5%	1/4W	
R257	1-247-721-11	CARBON	4.7K	5%	1/4W	
R258	1-249-948-11	CARBON	11K	1%	1/4W	
R259	1-249-948-11	CARBON	11K	1%	1/4W	
R260	1-249-941-11	CARBON	5.6K	1%	1/4W	
R261	1-249-932-11	CARBON	2.4K	1%	1/4W	
R262	1-246-545-00	CARBON	1.0M	5%	1/4W	
R263	1-249-941-11	CARBON	5.6K	1%	1/4W	
R264	1-249-941-11	CARBON	5.6K	1%	1/4W	
R265	1-249-941-11	CARBON	5.6K	1%	1/4W	
R266	1-249-932-11	CARBON	2.4K	1%	1/4W	
R267	1-246-545-00	CARBON	1.0M	5%	1/4W	
R268	1-249-556-11	CARBON	1.5K	5%	1/4W	
R269	1-249-556-11	CARBON	1.5K	5%	1/4W	
R270	1-249-469-11	CARBON	100K	5%	1/4W	
R271	1-249-529-11	CARBON	110	5%	1/4W	
R272	1-249-529-11	CARBON	110	5%	1/4W	
R273	1-247-721-11	CARBON	4.7K	5%	1/4W	
R274	1-249-462-11	CARBON	22K	5%	1/4W	
R275	1-247-700-11	CARBON	100	5%	1/4W	
R277	1-249-497-11	CARBON	33K	5%	1/4W	
R301	1-249-460-11	CARBON	15K	5%	1/4W	
R302	1-247-704-11	CARBON	220	5%	1/4W	
R303	1-249-504-11	CARBON	10	5%	1/4W	
R325	1-247-706-11	CARBON	330	5%	1/4W	
R326	1-247-706-11	CARBON	330	5%	1/4W	
R327	1-247-710-11	CARBON	560	5%	1/4W	
R328	1-247-710-11	CARBON	560	5%	1/4W	
R329	1-249-466-11	CARBON	56K	5%	1/4W	
R330	1-249-466-11	CARBON	56K	5%	1/4W	
R331	1-247-719-11	CARBON	3.3K	5%	1/4W	
R332	1-247-719-11	CARBON	3.3K	5%	1/4W	
R333	1-249-798-11	CARBON	680	5%	1/2W	
R334	1-249-798-11	CARBON	680	5%	1/2W	
R335	1-247-751-11	CARBON	820	5%	1/2W	
R336	1-247-751-11	CARBON	820	5%	1/2W	
R353	1-247-716-11	CARBON	1.8K	5%	1/4W	
R354	1-249-417-11	CARBON	1K	5%	1/4W	
R355	1-249-417-11	CARBON	1K	5%	1/4W	
R356	1-249-423-11	CARBON	3.3K	5%	1/4W	
R357	1-249-423-11	CARBON	3.3K	5%	1/4W	
R358	1-249-433-11	CARBON	22K	5%	1/4W	
R359	1-249-435-11	CARBON	33K	5%	1/4W	
R360	1-249-417-11	CARBON	1K	5%	1/4W	
R361	1-247-903-00	CARBON	1M	5%	1/4W	
R362	1-247-903-00	CARBON	1M	5%	1/4W	
R363	1-249-429-11	CARBON	10K	5%	1/4W	
R364	1-249-428-11	CARBON	8.2K	5%	1/4W	
R365	1-249-441-11	CARBON	100K	5%	1/4W	
R366	1-249-417-11	CARBON	1K	5%	1/4W	
R367	1-249-417-11	CARBON	1K	5%	1/4W	
R368	1-249-417-11	CARBON	1K	5%	1/4W	
R369	1-247-903-00	CARBON	1M	5%	1/4W	
R370	1-249-417-11	CARBON	1K	5%	1/4W	
R371	⚠1-212-857-00	FUSIBLE	10	5%	1/4W	F
R372	⚠1-212-857-00	FUSIBLE	10	5%	1/4W	F
R373	1-249-416-11	CARBON	820	5%	1/4W	
R374	1-249-416-11	CARBON	820	5%	1/4W	
R375	1-249-416-11	CARBON	820	5%	1/4W	
R376	1-249-413-11	CARBON	470	5%	1/4W	
R377	1-249-413-11	CARBON	470	5%	1/4W	
R378	1-249-413-11	CARBON	470	5%	1/4W	
R379	1-249-413-11	CARBON	470	5%	1/4W	
R380	1-249-413-11	CARBON	470	5%	1/4W	
R381	1-247-887-00	CARBON	220K	5%	1/4W	
R382	1-249-413-11	CARBON	470	5%	1/4W	
R385	1-249-429-11	CARBON	10K	5%	1/4W	
R386	1-249-441-11	CARBON	100K	5%	1/4W	
R387	1-249-413-11	CARBON	470	5%	1/4W	
R388	1-249-425-11	CARBON	4.7K	5%	1/4W	
R389	1-249-441-11	CARBON	100K	5%	1/4W	
R390	1-249-407-11	CARBON	150	5%	1/4W	
R391	1-249-409-11	CARBON	220	5%	1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			Remark
		〈 RELAY 〉			
RY150	1-515-727-11	RELAY			
RY250	1-515-727-11	RELAY			
RY351	1-515-727-11	RELAY			
RY352	1-515-772-11	RELAY			
**********					
*	1-637-626-11	BATTERY BOARD			
		**********			
**********					
*	A-2006-557-A	CONTROL SW BOARD, COMPLETE (AEP, UK)			
*	A-2006-536-A	CONTROL SW BOARD, COMPLETE (US)			
		**********			
	9-911-839-XX	CUSHION			
*	4-911-676-01	SPACER, LED			
		〈 CAPACITOR 〉			
C702	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	
C703	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C704	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C705	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C706	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	
C708	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C709	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C710	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C711	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C712	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C713	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C714	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C715	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	
C722	1-124-779-00	ELECT CHIP	10uF	20% 16V	
C723	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C724	1-163-099-00	CERAMIC CHIP	18PF	5% 50V	
C725	1-163-227-11	CERAMIC CHIP	10PF	5% 50V	
C726	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
		〈 CONNECTOR 〉			
CN772	* 1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN773	* 1-564-339-00	PIN, CONNECTOR 5P			
		〈 TRIMMER 〉			
CT701	1-141-334-11	CAP, VAR, TRIMMER			
		〈 DIODE 〉			
D701	8-719-304-16	DIODE SEL2510W-D			
D702	8-719-918-76	DIODE GL-3PR9			
D705	8-719-934-34	DIODE AA3432S			
D706	8-719-934-34	DIODE AA3432S			
D707	8-719-304-16	DIODE SEL2510W-D			
D709	8-719-934-34	DIODE AA3432S			
D710	8-719-934-34	DIODE AA3432S			
D711	8-719-934-34	DIODE AA3432S			
D712	8-719-934-34	DIODE AA3432S			
D713	8-719-934-34	DIODE AA3432S			
D714	8-719-934-34	DIODE AA3432S			
D715	8-719-934-34	DIODE AA3432S			
D716	8-719-934-34	DIODE AA3432S			
D718	8-719-938-75	DIODE SB05-05CP-TA			
D719	8-719-938-75	DIODE SB05-05CP-TA			
D720	8-719-938-75	DIODE SB05-05CP-TA			
D721	8-719-938-75	DIODE SB05-05CP-TA			
		〈 INDICATOR 〉			
FL701	1-519-601-11	INDICATOR TUBE, FLUORESCENT			
		〈 IC 〉			
IC701	8-759-513-16	IC MSC62408-020GS-K			
IC702	8-752-326-33	IC CXK1011M			
IC703	8-759-009-05	IC MC14051BF			
IC704	8-759-009-05	IC MC14051BF			
IC705	8-759-009-10	IC MC14069UBF			
IC706	8-759-502-84	IC LM393M			
IC707	8-759-630-70	IC M50782FP			
IC708	8-752-323-64	IC CXK5816M-12L			
IC709	8-759-500-05	IC MSM6338MS-K			
IC712	8-759-504-23	IC RF5C62			
		〈 TRANSISTOR 〉			
Q701	8-729-901-04	TRANSISTOR DTA114EK			
Q702	8-729-901-04	TRANSISTOR DTA114EK			
Q705	8-729-901-04	TRANSISTOR DTA114EK			
Q706	8-729-901-04	TRANSISTOR DTA114EK			
Q707	8-729-901-04	TRANSISTOR DTA114EK			
Q709	8-729-901-04	TRANSISTOR DTA114EK			
Q710	8-729-901-04	TRANSISTOR DTA114EK			
Q711	8-729-901-04	TRANSISTOR DTA114EK			
Q712	8-729-901-04	TRANSISTOR DTA114EK			
Q713	8-729-901-04	TRANSISTOR DTA114EK			
Q714	8-729-901-04	TRANSISTOR DTA114EK			
Q715	8-729-901-04	TRANSISTOR DTA114EK			
Q716	8-729-901-04	TRANSISTOR DTA114EK			
Q717	8-729-901-04	TRANSISTOR DTA114EK			
Q718	8-729-807-16	TRANSISTOR 2SD1621-R			
Q719	8-729-900-98	TRANSISTOR DTC143TK			
Q720	8-729-900-98	TRANSISTOR DTC143TK			
Q721	8-729-900-98	TRANSISTOR DTC143TK			

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Ref. No.	Part No.	Description	Remark
Q722	8-729-900-98	TRANSISTOR DTC143TK	
Q723	8-729-900-98	TRANSISTOR DTC143TK	
Q724	8-729-900-98	TRANSISTOR DTC143TK	
Q725	8-729-900-98	TRANSISTOR DTC143TK	
Q726	8-729-900-98	TRANSISTOR DTC143TK	
Q727	8-729-807-16	TRANSISTOR 2SD1621-R	
Q728	8-729-100-66	TRANSISTOR 2SC1623-L6	
Q730	8-729-901-00	TRANSISTOR DTC124EK	
Q732	8-729-807-16	TRANSISTOR 2SD1621-R	
		〈 RESISTOR 〉	
R701	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R702	1-216-045-00	METAL CHIP 680 5% 1/10W	
R703	1-216-047-00	METAL CHIP 820 5% 1/10W	
R704	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R705	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R706	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R707	1-216-045-00	METAL CHIP 680 5% 1/10W	
R708	1-216-047-00	METAL CHIP 820 5% 1/10W	
R709	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R710	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R711	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R712	1-216-045-00	METAL CHIP 680 5% 1/10W	
R713	1-216-047-00	METAL CHIP 820 5% 1/10W	
R714	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R715	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R716	1-216-045-00	METAL CHIP 680 5% 1/10W	
R717	1-216-047-00	METAL CHIP 820 5% 1/10W	
R718	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R719	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R720	1-216-045-00	METAL CHIP 680 5% 1/10W	
R721	1-216-047-00	METAL CHIP 820 5% 1/10W	
R722	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R723	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R724	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R725	1-216-045-00	METAL CHIP 680 5% 1/10W	
R726	1-216-047-00	METAL CHIP 820 5% 1/10W	
R727	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R728	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R729	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R730	1-216-045-00	METAL CHIP 680 5% 1/10W	
R731	1-216-047-00	METAL CHIP 820 5% 1/10W	
R732	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R733	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R734	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R735	1-216-045-00	METAL CHIP 680 5% 1/10W	
R736	1-216-047-00	METAL CHIP 820 5% 1/10W	
R737	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R739	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R740	1-216-045-00	METAL CHIP 680 5% 1/10W	
R741	1-216-047-00	METAL CHIP 820 5% 1/10W	
R742	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R743	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R744	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R745	1-216-045-00	METAL CHIP 680 5% 1/10W	
R746	1-216-047-00	METAL CHIP 820 5% 1/10W	
R747	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R749	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R750	1-216-045-00	METAL CHIP 680 5% 1/10W	
R751	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R753	1-216-063-00	METAL CHIP 3.9K 5% 1/10W (AEP, UK)	
R754	1-216-045-00	METAL CHIP 680 5% 1/10W (US)	
R755	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R756	1-216-045-00	METAL CHIP 680 5% 1/10W	
R757	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R758	1-216-045-00	METAL CHIP 680 5% 1/10W	
R759	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R760	1-216-045-00	METAL CHIP 680 5% 1/10W	
R761	1-216-033-00	METAL CHIP 220 5% 1/10W	
R762	1-216-033-00	METAL CHIP 220 5% 1/10W	
R765	1-216-033-00	METAL CHIP 220 5% 1/10W	
R766	1-216-033-00	METAL CHIP 220 5% 1/10W	
R767	1-216-033-00	METAL CHIP 220 5% 1/10W	
R769	1-216-033-00	METAL CHIP 220 5% 1/10W	
R770	1-216-033-00	METAL CHIP 220 5% 1/10W	
R771	1-216-033-00	METAL CHIP 220 5% 1/10W	
R772	1-216-033-00	METAL CHIP 220 5% 1/10W	
R773	1-216-033-00	METAL CHIP 220 5% 1/10W	
R774	1-216-033-00	METAL CHIP 220 5% 1/10W	
R775	1-216-033-00	METAL CHIP 220 5% 1/10W	
R776	1-216-033-00	METAL CHIP 220 5% 1/10W	
R777	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R778	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R779	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R780	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R781	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R782	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R783	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R784	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R785	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R786	1-216-682-11	METAL CHIP 20K 0.5% 1/10W	
R787	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R788	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R789	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R790	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R791	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R792	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R793	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R794	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R795	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R796	1-216-089-00	METAL CHIP 47K 5% 1/10W	

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Ref.No.	Part No.	Description				Remark
R797	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R800	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R801	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R802	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R803	1-216-047-00	METAL CHIP	820	5%	1/10W	
R804	1-216-047-00	METAL CHIP	820	5%	1/10W	
R805	⚠1-212-851-00	FUSIBLE	5.6	5%	1/4W F	
R806	⚠1-212-851-00	FUSIBLE	5.6	5%	1/4W F	
R809	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R810	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R811	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R813	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R814	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R815	1-216-033-00	METAL CHIP	220	5%	1/10W	
R816	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R817	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R818	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R819	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R820	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R821	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R822	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R823	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R824	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R827	1-216-047-00	METAL CHIP	820	5%	1/10W	
R829	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	

〈 SWITCH 〉

S701	1-554-596-21	SWITCH, KEY BOARD (▲ OPEN/CLOSE)
S702	1-554-596-21	SWITCH, KEY BOARD (■)
S704	1-554-596-21	SWITCH, KEY BOARD (▶)
S705	1-554-596-21	SWITCH, KEY BOARD (⏮)
S706	1-554-596-21	SWITCH, KEY BOARD (⏭)
S707	1-554-596-21	SWITCH, KEY BOARD (◀◀)
S708	1-554-596-21	SWITCH, KEY BOARD (▶▶)
S709	1-554-596-21	SWITCH, KEY BOARD (● REC)
S710	1-554-596-21	SWITCH, KEY BOARD (❚❚ PAUSE)
S711	1-554-596-21	SWITCH, KEY BOARD (○ REC MUTE)
S712	1-554-596-21	SWITCH, KEY BOARD (COUNTER MODE)
S713	1-554-596-21	SWITCH, KEY BOARD (COUNTER RESET)
S714	1-554-596-21	SWITCH, KEY BOARD (COUNTER MEMORY)
S715	1-554-596-21	SWITCH, KEY BOARD (DATE RECORDED)
S716	1-554-596-21	SWITCH, KEY BOARD (DATE PRESENT)
S717	1-554-596-21	SWITCH, KEY BOARD (SKIP PLAY)
S718	1-554-596-21	SWITCH, KEY BOARD (FADER)
S720	1-554-596-21	SWITCH, KEY BOARD (REPEAT)
S722	1-554-596-21	SWITCH, KEY BOARD (MARGIN RESET)
S723	1-554-596-21	SWITCH, KEY BOARD (1)
S724	1-554-596-21	SWITCH, KEY BOARD (2)
S725	1-554-596-21	SWITCH, KEY BOARD (3)
S726	1-554-596-21	SWITCH, KEY BOARD (CLOCK SET)
S727	1-554-596-21	SWITCH, KEY BOARD (4)
S728	1-554-596-21	SWITCH, KEY BOARD (5)
S729	1-554-596-21	SWITCH, KEY BOARD (6)
S730	1-554-596-21	SWITCH, KEY BOARD (MUSIC SCAN/+)
S731	1-554-596-21	SWITCH, KEY BOARD (CLEAR)
S732	1-554-596-21	SWITCH, KEY BOARD (7)
S733	1-554-596-21	SWITCH, KEY BOARD (8)
S734	1-554-596-21	SWITCH, KEY BOARD (9)
S735	1-554-596-21	SWITCH, KEY BOARD (0/-)
S736	1-554-596-21	SWITCH, KEY BOARD (START ID AUTO)
S737	1-554-596-21	SWITCH, KEY BOARD (START ID WEITE)
S738	1-554-596-21	SWITCH, KEY BOARD (SKIP ID WRITE)
S739	1-554-596-21	SWITCH, KEY BOARD (END ID WRITE)
S740	1-554-596-21	SWITCH, KEY BOARD (DISPLAY MODE)
S741	1-554-596-21	SWITCH, KEY BOARD (START ID RENUMBER)
S742	1-554-596-21	SWITCH, KEY BOARD (START ID ERASE)
S743	1-554-596-21	SWITCH, KEY BOARD (SKIP ID ERASE)
S744	1-554-596-21	SWITCH, KEY BOARD (END ID ERASE)

〈 CRYSTAL 〉

X701	1-567-775-11	VIBRATOR, CERAMIC (4.19MHZ)
X702	1-567-098-00	CRYSTAL (32.8KHZ)

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* A-2006-587-A DIGITAL BOARD, COMPLETE
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〈 CONNECTOR 〉

BAT501	* 1-564-336-81	PIN, CONNECTOR 2P

〈 CAPACITOR 〉

C502	1-126-022-11	ELECT	47uF	20%	16V
C503	1-136-153-00	FILM	0.01uF	5%	50V
C504	1-136-158-00	FILM	0.027uF	5%	50V
C505	1-130-473-00	MYLAR	0.0015uF	5%	50V
C506	1-126-022-11	ELECT	47uF	20%	10V
C507	1-136-153-00	FILM	0.01uF	5%	50V
C508	1-136-158-00	FILM	0.027uF	5%	50V
C509	1-130-473-00	MYLAR	0.0015uF	5%	50V
C510	1-126-022-11	ELECT	47uF	20%	10V
C511	1-162-290-31	CERAMIC	470PF	10%	50V
C512	1-130-479-00	MYLAR	0.0047uF	5%	50V
C513	1-126-049-11	ELECT	22uF	20%	10V
C514	1-162-290-31	CERAMIC	470PF	10%	50V
C515	1-130-479-00	MYLAR	0.0047uF	5%	50V
C516	1-126-049-11	ELECT	22uF	20%	10V
C517	1-136-153-00	FILM	0.01uF	5%	50V
C518	1-136-158-00	FILM	0.027uF	5%	50V
C519	1-130-473-00	MYLAR	0.0015uF	5%	50V
C520	1-136-153-00	FILM	0.01uF	5%	50V
C521	1-130-473-00	MYLAR	0.0015uF	5%	50V

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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Ref. No.	Part No.	Description			Remark
C522	1-136-158-00	FILM	0.027uF	5%	50V
C523	1-126-157-11	ELECT	10uF	20%	16V
C524	1-126-022-11	ELECT	47uF	20%	16V
C525	1-126-022-11	ELECT	47uF	20%	16V
C527	1-136-165-00	FILM	0.1uF	5%	50V
C528	1-126-049-11	ELECT	22uF	20%	10V
C529	1-124-994-11	ELECT	100uF	20%	10V
C535	1-136-165-00	FILM	0.1uF	5%	50V
C536	1-130-475-00	MYLAR	0.0022uF	5%	50V
C537	1-136-153-00	FILM	0.01uF	5%	50V
C538	1-130-475-00	MYLAR	0.0022uF	5%	50V
C539	1-136-153-00	FILM	0.01uF	5%	50V
C540	1-126-022-11	ELECT	47uF	20%	10V
C542	1-164-159-11	CERAMIC	0.1uF		50V
C543	1-124-994-11	ELECT	100uF	20%	10V
C545	1-126-022-11	ELECT	47uF	20%	16V
C546	1-164-159-11	CERAMIC	0.1uF		50V
C547	1-164-159-11	CERAMIC	0.1uF		50V
C548	1-124-994-11	ELECT	100uF	20%	10V
C549	1-124-994-11	ELECT	100uF	20%	10V
C550	1-164-159-11	CERAMIC	0.1uF		50V
C551	1-164-159-11	CERAMIC	0.1uF		50V
C552	1-136-165-00	FILM	0.1uF	5%	50V
C553	1-136-177-00	FILM	1uF	5%	50V
C554	1-164-159-11	CERAMIC	0.1uF		50V
C555	1-164-159-11	CERAMIC	0.1uF		50V
C556	1-162-211-31	CERAMIC	33PF	5%	50V
C557	1-136-165-00	FILM	0.1uF	5%	50V
C558	1-161-379-00	CERAMIC	0.01uF	20%	25V
C559	1-126-157-11	ELECT	10uF	20%	16V
C560	1-126-022-11	ELECT	47uF	20%	10V
C561	1-164-159-11	CERAMIC	0.1uF		50V
C562	1-162-201-31	CERAMIC	12PF	5%	50V
C563	1-162-201-31	CERAMIC	12PF	5%	50V
C564	1-162-294-31	CERAMIC	0.001uF	10%	50V
C565	1-136-177-00	FILM	1uF	5%	50V
C566	1-124-994-11	ELECT	100uF	20%	10V
C567	1-164-159-11	CERAMIC	0.1uF		50V
C569	1-162-201-31	CERAMIC	12PF	5%	50V
C570	1-162-201-31	CERAMIC	12PF	5%	50V
C571	1-162-294-31	CERAMIC	0.001uF	10%	50V
C572	1-162-199-31	CERAMIC	10PF	5%	50V
C573	1-162-199-31	CERAMIC	10PF	5%	50V
C574	1-162-179-11	CERAMIC	0.1uF		50V
C576	1-164-159-11	CERAMIC	0.1uF		50V
C577	1-162-294-31	CERAMIC	0.001uF	10%	50V
C578	1-164-159-11	CERAMIC	0.1uF		50V
C579	1-124-994-11	ELECT	100uF	20%	10V
C580	1-164-159-11	CERAMIC	0.1uF		50V
C582	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description			Remark
C583	1-164-159-11	CERAMIC	0.1uF		50V
C584	1-164-159-11	CERAMIC	0.1uF		50V
C585	1-126-022-11	ELECT	47uF	20%	10V
C586	1-162-294-31	CERAMIC	0.001uF	10%	50V
C587	1-126-044-11	ELECT	1uF	20%	50V
C589	1-136-165-00	FILM	0.1uF	5%	50V
C590	1-126-022-11	ELECT	47uF	20%	10V
C591	1-162-207-31	CERAMIC	22PF	5%	50V
C592	1-136-165-00	FILM	0.1uF	5%	50V
C593	1-126-022-11	ELECT	47uF	20%	10V
C595	1-164-159-11	CERAMIC	0.1uF		50V
C596	1-164-159-11	CERAMIC	0.1uF		50V
C598	1-124-994-11	ELECT	100uF	20%	10V
C599	1-136-165-00	FILM	0.1uF	5%	50V
C600	1-136-153-00	FILM	0.01uF	5%	50V
C601	1-136-165-00	FILM	0.1uF	5%	50V
C602	1-136-165-00	FILM	0.1uF	5%	50V
C604	1-126-022-11	ELECT	47uF	20%	10V
C605	1-136-165-00	FILM	0.1uF	5%	50V
C606	1-126-157-11	ELECT	10uF	20%	16V
C607	1-124-994-11	ELECT	100uF	20%	10V
C608	1-164-159-11	CERAMIC	0.1uF		50V
C609	1-136-153-00	FILM	0.01uF	5%	50V
C610	1-136-157-00	FILM	0.022uF	5%	50V
C611	1-136-157-00	FILM	0.022uF	5%	50V
C612	1-162-294-31	CERAMIC	0.001uF	10%	50V
C613	1-162-294-31	CERAMIC	0.001uF	10%	50V
C614	1-136-153-00	FILM	0.01uF	5%	50V
C615	1-136-153-00	FILM	0.01uF	5%	50V
C616	1-162-290-31	CERAMIC	470PF	10%	50V
C617	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C618	1-162-294-31	CERAMIC	0.001uF	10%	50V
C619	1-124-994-11	ELECT	100uF	20%	10V
C620	1-162-294-31	CERAMIC	0.001uF	10%	50V
C622	1-162-294-31	CERAMIC	0.001uF	10%	50V
C623	1-124-994-11	ELECT	100uF	20%	10V
C624	1-162-294-31	CERAMIC	0.001uF	10%	50V
C625	1-162-199-31	CERAMIC	10PF	5%	50V
C626	1-164-159-11	CERAMIC	0.1uF		50V
C627	1-164-159-11	CERAMIC	0.1uF		50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C629	1-164-159-11	CERAMIC	0.1uF		50V
C630	1-124-925-11	ELECT	2.2uF	20%	100V
C631	1-136-177-00	FILM	1uF	5%	50V
C634	1-162-294-31	CERAMIC	0.001uF	10%	50V
C635	1-162-294-31	CERAMIC	0.001uF	10%	50V
C636	1-136-165-00	FILM	0.1uF	5%	50V
C637	1-136-165-00	FILM	0.1uF	5%	50V
C638	1-136-165-00	FILM	0.1uF	5%	50V
C640	1-164-159-11	CERAMIC	0.1uF		50V

Ref.No.	Part No.	Description	Remark
C641	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C642	1-136-153-00	FILM 0.01uF 5% 50V	
C644	1-162-179-11	CREAMIC 0.1uF 50V	
		〈 CONNECTOR 〉	
CN501	* 1-564-715-11	PIN, CONNECTOR (SMALL TYPE) 13P	
CN502	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN503	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN504	* 1-564-511-11	PLUG, CONNECTOR 8P	
CN505	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN506	* 1-564-339-00	PIN, CONNECTOR 5P	
CN507	* 1-564-714-11	PIN, CONNECTOR (SMALL TYPE) 12P	
CN508	* 1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
CN531	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN532	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN533	* 1-564-339-61	PIN, CONNECTOR 5P	
CN535	* 1-564-338-61	PIN, CONNECTOR 4P	
CN537	* 1-564-337-61	PIN, CONNECTOR 3P	
CN551	* 1-564-514-11	PLUG, CONNECTOR 11P	
CN552	* 1-564-514-11	PLUG, CONNECTOR 11P	
CN555	* 1-564-337-00	PIN, CONNECTOR 3P	
CN571	* 1-506-503-11	PIN, CONNECTOR 9P	
CN572	* 1-564-339-61	PIN, CONNECTOR 5P	
CN573	* 1-564-336-00	PIN, CONNECTOR 2P	
CN574	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN591	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN592	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN593	* 1-564-339-00	PIN, CONNECTOR 5P	
CN595	* 1-564-336-61	PIN, CONNECTOR 2P	
CN596	* 1-564-336-71	PIN, CONNECTOR 2P	
		〈 DIODE 〉	
D501	8-719-109-72	DIODE RD3.9ES-B2	
D502	8-719-109-66	DIODE RD3.3ES-B2	
D505	8-719-200-77	DIODE 10E2N	
		〈 IC 〉	
IC501	8-752-818-41	IC CXP80524-020Q	
IC502	8-752-339-43	IC CXD2601AQ	
IC503	8-752-339-43	IC CXD2601AQ	
IC504	8-759-947-57	IC CXD1136Q	
IC505	8-752-030-63	IC CXA1046M	
IC506	8-752-330-68	IC CXK58257M-12L	
IC507	8-752-330-68	IC CXK58257M-12L	
IC508	8-759-135-80	IC uPC358C	
IC509	8-759-135-80	IC uPC358C	
IC510	8-759-135-80	IC uPC358C	
IC511	8-759-135-80	IC uPC358C	
IC512	8-759-916-20	IC SN74HC14AN	
IC513	8-759-633-65	IC M54641L	
IC514	8-759-633-65	IC M54641L	
IC515	8-759-987-16	IC LM393P	
IC516	8-759-239-47	IC TC74HC123AP	
IC517	8-759-144-82	IC uPC2405HF	
IC519	8-759-036-44	IC MC74AC74N	
IC520	8-759-916-14	IC SN74HC04AN	
IC521	8-759-916-12	IC SN74HC00AN	
IC522	8-759-135-80	IC uPC358C	
IC523	8-759-917-18	IC SN74HCU04AN	
IC525	8-759-916-50	IC SN74HC157AN	
IC526	8-759-916-14	IC SN74HC04AN	
IC527	8-759-916-55	IC SN74HC175AN	
IC528	8-759-916-14	IC SN74HC04AN	
IC529	8-759-906-24	IC SN74LS624N	
IC530	8-759-916-50	IC SN74HC157AN	
IC531	8-759-916-55	IC SN74HC175AN	
IC532	8-759-916-50	IC SN74HC157AN	
IC533	8-759-803-70	IC LC74HC08	
IC534	8-759-504-22	IC TDA1543	
IC535	8-759-135-80	IC uPC358C	
IC536	8-759-135-80	IC uPC358C	
		〈 COIL 〉	
L501	1-410-509-11	INDUCTOR 10uH	
L502	1-410-509-11	INDUCTOR 10uH	
L503	1-410-509-11	INDUCTOR 10uH	
L504	1-410-509-11	INDUCTOR 10uH	
L505	1-410-509-11	INDUCTOR 10uH	
L506	1-410-509-11	INDUCTOR 10uH	
L507	1-410-509-11	INDUCTOR 10uH	
L508	1-410-498-11	INDUCTOR 1.2uH	
L509	1-410-509-11	INDUCTOR 10uH	
L511	1-410-509-11	INDUCTOR 10uH	
L513	1-410-953-11	INDUCTOR, SMALL TYPE	
L514	1-410-509-11	INDUCTOR 10uH	
L516	* 1-410-858-11	INDUCTOR 0uH	
		〈 TRANSISTOR 〉	
Q1	8-729-900-80	TRANSISTOR DTC114ES	
Q2	8-729-900-80	TRANSISTOR DTC114ES	
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q503	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q506	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q507	8-729-900-80	TRANSISTOR DTC114ES	
Q509	8-729-900-80	TRANSISTOR DTC114ES	
Q510	8-729-801-84	TRANSISTOR 2SB1013-4	
Q511	8-729-801-93	TRANSISTOR 2SD1387-3	
Q512	8-729-900-80	TRANSISTOR DTC114ES	
Q514	8-729-900-80	TRANSISTOR DTC114ES	

DIGITAL

Ref. No.	Part No.	Description	Remark
Q515	8-729-801-84	TRANSISTOR 2SB1013-4	
Q516	8-729-801-93	TRANSISTOR 2SD1387-3	
Q517	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q518	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q519	8-729-900-80	TRANSISTOR DTC114ES	
Q520	8-729-900-80	TRANSISTOR DTC114ES	
Q521	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q523	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q524	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q525	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q526	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q527	8-729-900-80	TRANSISTOR DTC114ES	
Q528	8-729-900-80	TRANSISTOR DTC114ES	
Q530	8-729-900-80	TRANSISTOR DTC114ES	
Q531	8-729-900-80	TRANSISTOR DTC114ES	
Q532	8-729-900-80	TRANSISTOR DTC114ES	
Q533	8-729-900-80	TRANSISTOR DTC114ES	
Q534	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q535	8-729-900-80	TRANSISTOR DTC114ES	

〈 RESISTOR 〉

R1	1-249-413-11	CARBON	470	5%	1/4W
R2	1-249-429-11	CARBON	10K	5%	1/4W
R501	1-249-429-11	CARBON	10K	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-429-11	CARBON	10K	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-429-11	CARBON	10K	5%	1/4W
R506	1-249-429-11	CARBON	10K	5%	1/4W
R507	1-249-441-11	CARBON	100K	5%	1/4W
R508	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-429-11	CARBON	10K	5%	1/4W
R510	1-249-417-11	CARBON	1K	5%	1/4W
R511	1-249-417-11	CARBON	1K	5%	1/4W
R512	1-249-405-11	CARBON	100	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-408-11	CARBON	180	5%	1/4W
R515	1-249-441-11	CARBON	100K	5%	1/4W
R516	1-249-429-11	CARBON	10K	5%	1/4W
R517	1-249-417-11	CARBON	1K	5%	1/4W
R518	1-249-429-11	CARBON	10K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-249-405-11	CARBON	100	5%	1/4W
R521	1-249-417-11	CARBON	1K	5%	1/4W
R522	1-249-408-11	CARBON	180	5%	1/4W
R523	1-249-429-11	CARBON	10K	5%	1/4W
R524	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-249-429-11	CARBON	10K	5%	1/4W
R526	1-249-429-11	CARBON	10K	5%	1/4W
R527	1-249-429-11	CARBON	10K	5%	1/4W
R528	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R529	1-249-409-11	CARBON	220	5%	1/4W
R530	1-249-409-11	CARBON	220	5%	1/4W
R531	1-249-409-11	CARBON	220	5%	1/4W
R532	1-249-409-11	CARBON	220	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-249-441-11	CARBON	100K	5%	1/4W
R535	1-249-423-11	CARBON	3.3K	5%	1/4W
R536	1-249-417-11	CARBON	1K	5%	1/4W
R537	1-249-429-11	CARBON	10K	5%	1/4W
R538	1-249-429-11	CARBON	10K	5%	1/4W
R539	1-249-419-11	CARBON	1.5K	5%	1/4W
R540	1-249-407-11	CARBON	150	5%	1/4W
R541	1-249-417-11	CARBON	1K	5%	1/4W
R542	1-249-482-11	CARBON	4.7	5%	1/2W
R543	1-249-424-11	CARBON	3.9K	5%	1/4W
R549	1-249-429-11	CARBON	10K	5%	1/4W
R550	1-249-417-11	CARBON	1K	5%	1/4W
R551	1-249-435-11	CARBON	33K	5%	1/4W
R552	1-249-435-11	CARBON	33K	5%	1/4W
R553	1-249-423-11	CARBON	3.3K	5%	1/4W
R554	1-249-423-11	CARBON	3.3K	5%	1/4W
R555	1-249-417-11	CARBON	1K	5%	1/4W
R556	1-249-435-11	CARBON	33K	5%	1/4W
R557	1-249-429-11	CARBON	10K	5%	1/4W
R558	1-249-417-11	CARBON	1K	5%	1/4W
R559	1-249-435-11	CARBON	33K	5%	1/4W
R560	1-249-435-11	CARBON	33K	5%	1/4W
R561	1-249-423-11	CARBON	3.3K	5%	1/4W
R562	1-249-423-11	CARBON	3.3K	5%	1/4W
R563	1-249-417-11	CARBON	1K	5%	1/4W
R564	1-249-435-11	CARBON	33K	5%	1/4W
R565	1-249-429-11	CARBON	10K	5%	1/4W
R567	1-247-804-11	CARBON	75	5%	1/4W
R569	1-247-804-11	CARBON	75	5%	1/4W
R570	1-249-425-11	CARBON	4.7K	5%	1/4W
R571	1-249-429-11	CARBON	10K	5%	1/4W
R572	1-249-433-11	CARBON	22K	5%	1/4W
R573	1-249-425-11	CARBON	4.7K	5%	1/4W
R574	1-249-425-11	CARBON	4.7K	5%	1/4W
R575	1-249-429-11	CARBON	10K	5%	1/4W
R576	1-249-433-11	CARBON	22K	5%	1/4W
R577	1-249-425-11	CARBON	4.7K	5%	1/4W
R578	1-249-433-11	CARBON	22K	5%	1/4W
R580	1-249-433-11	CARBON	22K	5%	1/4W
R581	1-249-433-11	CARBON	22K	5%	1/4W
R582	1-249-433-11	CARBON	22K	5%	1/4W
R583	1-249-433-11	CARBON	22K	5%	1/4W
R584	1-249-425-11	CARBON	4.7K	5%	1/4W
R585	1-249-425-11	CARBON	4.7K	5%	1/4W
R586	1-249-425-11	CARBON	4.7K	5%	1/4W

Ref. No.	Part No.	Description				Remark
R587	1-249-417-11	CARBON	1K	5%	1/4W	
R588	1-249-417-11	CARBON	1K	5%	1/4W	
R589	1-249-425-11	CARBON	4.7K	5%	1/4W	
R590	1-249-425-11	CARBON	4.7K	5%	1/4W	
R591	1-249-425-11	CARBON	4.7K	5%	1/4W	
R592	1-249-425-11	CARBON	4.7K	5%	1/4W	
R594	1-249-425-11	CARBON	4.7K	5%	1/4W	
R595	1-249-433-11	CARBON	22K	5%	1/4W	
R597	1-249-425-11	CARBON	4.7K	5%	1/4W	
R598	1-249-433-11	CARBON	22K	5%	1/4W	
R599	1-249-429-11	CARBON	10K	5%	1/4W	
R600	1-249-409-11	CARBON	220	5%	1/4W	
R601	1-249-409-11	CARBON	220	5%	1/4W	
R602	1-249-413-11	CARBON	470	5%	1/4W	
R603	1-249-413-11	CARBON	470	5%	1/4W	
R604	1-249-409-11	CARBON	220	5%	1/4W	
R605	1-249-413-11	CARBON	470	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R609	1-249-425-11	CARBON	4.7K	5%	1/4W	
R610	1-249-437-11	CARBON	47K	5%	1/4W	
R611	1-249-421-11	CARBON	2.2K	5%	1/4W	
R612	1-249-417-11	CARBON	1K	5%	1/4W	
R614	1-249-435-11	CARBON	33K	5%	1/4W	
R615	1-249-429-11	CARBON	10K	5%	1/4W	
R616	1-249-421-11	CARBON	2.2K	5%	1/4W	
R617	1-249-429-11	CARBON	10K	5%	1/4W	
R618	1-249-421-11	CARBON	2.2K	5%	1/4W	
R619	1-249-401-11	CARBON	47	5%	1/4W	
R620	1-249-409-11	CARBON	220	5%	1/4W	
R621	1-249-409-11	CARBON	220	5%	1/4W	
R622	1-249-401-11	CARBON	47	5%	1/4W	
R623	1-249-409-11	CARBON	220	5%	1/4W	
R624	1-249-409-11	CARBON	220	5%	1/4W	
R625	1-247-899-11	CARBON	680K	5%	1/4W	
R627	1-249-425-11	CARBON	4.7K	5%	1/4W	
R628	1-249-417-11	CARBON	1K	5%	1/4W	
R629	1-249-433-11	CARBON	22K	5%	1/4W	
R630	1-249-425-11	CARBON	4.7K	5%	1/4W	
R631	1-249-415-11	CARBON	680	5%	1/4W	
R632	1-249-439-11	CARBON	68K	5%	1/4W	
R633	1-249-425-11	CARBON	4.7K	5%	1/4W	
R634	1-249-440-11	CARBON	82K	5%	1/4W	
R635	1-249-427-11	CARBON	6.8K	5%	1/4W	
R636	1-249-440-11	CARBON	82K	5%	1/4W	
R637	1-249-425-11	CARBON	4.7K	5%	1/4W	
R638	1-249-429-11	CARBON	10K	5%	1/4W	
R639	1-249-417-11	CARBON	1K	5%	1/4W	
R640	1-249-417-11	CARBON	1K	5%	1/4W	
R641	1-249-424-11	CARBON	3.9K	5%	1/4W	
R642	1-249-435-11	CARBON	33K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R643	1-249-435-11	CARBON	33K	5%	1/4W	
R644	1-249-417-11	CARBON	1K	5%	1/4W	
R645	1-249-437-11	CARBON	47K	5%	1/4W	
R646	1-249-411-11	CARBON	330	5%	1/4W	
R647	1-249-437-11	CARBON	47K	5%	1/4W	
R648	1-249-439-11	CARBON	68K	5%	1/4W	
R649	1-249-405-11	CARBON	100	5%	1/4W	
R650	1-249-417-11	CARBON	1K	5%	1/4W	
R651	1-249-401-11	CARBON	47	5%	1/4W	
R652	1-249-401-11	CARBON	47	5%	1/4W	
R656	1-249-417-11	CARBON	1K	5%	1/4W	
R657	1-249-401-11	CARBON	47	5%	1/4W	
R658	1-249-417-11	CARBON	1K	5%	1/4W	
R659	1-249-413-11	CARBON	470	5%	1/4W	
R660	1-249-413-11	CARBON	470	5%	1/4W	
R661	1-249-393-11	CARBON	10	5%	1/4W	
R663	1-249-433-11	CARBON	22K	5%	1/4W	
R664	1-249-425-11	CARBON	4.7K	5%	1/4W	
R665	1-249-441-11	CARBON	100K	5%	1/4W	
R666	1-249-425-11	CARBON	4.7K	5%	1/4W	
R667	1-249-441-11	CARBON	100K	5%	1/4W	
R668	1-249-433-11	CARBON	22K	5%	1/4W	
R669	1-249-441-11	CARBON	100K	5%	1/4W	
R670	1-249-429-11	CARBON	10K	5%	1/4W	
R672	1-249-407-11	CARBON	150	5%	1/4W	
R673	1-247-891-00	CARBON	330K	5%	1/4W	
R674	1-249-417-11	CARBON	1K	5%	1/4W	
R675	1-249-429-11	CARBON	10K	5%	1/4W	
R676	1-249-441-11	CARBON	100K	5%	1/4W	
R680	1-249-410-11	CARBON	270	5%	1/4W	
R681	1-249-405-11	CARBON	100	5%	1/4W	

〈 VARIABLE RESISTOR 〉

RV501	1-238-019-11	RES, ADJ, CARBON 47K
RV502	1-238-019-11	RES, ADJ, CARBON 47K
RV503	1-238-016-11	RES, ADJ, CARBON 10K
RV504	1-238-016-11	RES, ADJ, CARBON 10K
RV505	1-238-015-11	RES, ADJ, CARBON 4.7K
RV506	1-238-015-11	RES, ADJ, CARBON 4.7K

〈 RELAY 〉

RY518	1-515-640-11	RELAY (5V)

〈 CRYSTAL 〉

X501	1-567-816-11	VIBRATOR, CRYSTAL (18.8MHZ)
X502	1-567-815-11	VIBRATOR, CRYSTAL (22.6MHZ)
X503	1-578-667-11	VIBRATOR, CRYSTAL (49.1MHZ)

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DIGITAL I/O (OPT) DIGITAL IN (COAX) DIGITAL OUT (COAX)

DIODE HEADPHONE JACK HEADPHONE VOL LINE FILTER

Ref.No.	Part No.	Description			Remark
	* 1-637-618-11	DIGITAL I/O (OPT) BOARD			
		**********			
		〈 CAPACITOR 〉			
C677	1-162-179-11	CERAMIC	0.1uF		50V
C678	1-126-023-11	ELECT	100uF	20%	16V
C679	1-162-179-11	CERAMIC	0.1uF		50V
		〈 IC 〉			
CP671	8-749-921-11	IC GP1F32R (OPTICAL IN)			
CP672	8-749-921-12	IC GP1F32T (OPTICAL OUT)			
		〈 COIL 〉			
L510	1-410-509-11	INDUCTOR	10uH		
L512	1-410-509-11	INDUCTOR	10uH		
**********					
	* 1-637-616-11	DIGITAL IN (COAX) BOARD			
		**********			
		〈 CAPACITOR 〉			
	1-126-059-11	ELECT	10MF	20%	50V
		〈 JACK 〉			
J601	1-563-079-11	JACK, PIN 1P (DIGITAL IN)			
		〈 RESISTOR 〉			
R608	1-247-804-11	CARBON	75	5%	1/4W
**********					
	* 1-637-617-11	DIGITAL OUT (COAX) BOARD			
		**********			
	* 4-916-318-01	PLATE, GROUND			
		〈 CAPACITOR 〉			
C182	1-162-179-11	CERAMIC	0.1uF		50V
		〈 JACK 〉			
J181	1-566-922-21	JACK, PIN 1P (DIGITAL OUT)			
		〈 RESISTOR 〉			
R183	1-247-804-11	CARBON	75	5%	1/4W
		〈 COIL 〉			
T182	1-459-795-11	COIL (WITH CORE)			
**********					

Ref.No.	Part No.	Description			Remark
	* 1-637-625-11	DIODE BOARD			
		**********			
		〈 DIODE 〉			
D901	8-719-302-38	DIODE RBV-602-01			
**********					
	* 1-637-614-11	HEADPHONE JACK BOARD			
		**********			
		〈 CAPACITOR 〉			
C720	1-162-290-31	CERAMIC	470PF	10%	50V
C721	1-162-290-31	CERAMIC	470PF	10%	50V
		〈 JACK 〉			
J721	1-565-327-11	JACK, LARGE TYPE 1P (PHONES)			
**********					
	* 1-637-613-11	HEADPHONE VOL BOARD			
		**********			
		〈 VARIABLE RESISTOR 〉			
RV302	1-238-841-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)			
**********					
	* 1-637-621-11	LINE FILTER BOARD			
		**********			
	* 1-533-213-31	HOLDER, FUSE			
	4-870-539-00	PLATE, GROUND			
		〈 CAPACITOR 〉			
C941	⚠1-161-744-00	CERAMIC	0.01uF		400V
C942	⚠1-161-742-00	CERAMIC	0.0022uF	20%	400V
C943	⚠1-161-742-00	CERAMIC	0.0022uF	20%	400V
C944	⚠1-161-742-00	CERAMIC	0.0022uF	20%	400V
C945	⚠1-161-742-00	CERAMIC	0.0022uF	20%	400V
C946	⚠1-161-744-00	CERAMIC	0.01uF		400V
		〈 CONNECTOR 〉			
CN941	* 1-564-321-00	PIN, CONNECTOR 2P			
CN942	* 1-565-395-11	PIN, CONNECTOR 3P			
CN943	* 1-564-687-11	PIN, CONNECTOR 3P			
CN944	* 1-564-687-11	PIN, CONNECTOR 3P			
		〈 COIL 〉			
T901	⚠1-421-915-11	COIL, LINE FILTER			

LINE PIN JACK | LOAD-MOT | LOAD-SW | MD

Ref. No.	Part No.	Description				Remark
**********						
	* 1-637-620-11	LINE PIN JACK BOARD				
		**********				
		〈 CONNECTOR 〉				
CN151	* 1-564-519-11	PLUG, CONNECTOR 4P				
		〈 JACK 〉				
J151	1-568-101-11	JACK, PIN 4P (LINE IN/OUT)				
		〈 RESISTOR 〉				
R153	1-249-657-11	CARBON	220	5%	1/2W	
R154	1-249-657-11	CARBON	220	5%	1/2W	
**********						
	* 1-637-601-11	LOAD-MOT BOARD				
		**********				
		〈 CAPACITOR 〉				
C011	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
		〈 CONNECTOR 〉				
CN001	* 1-564-497-11	PIN, CONNECTOR 4P				
CN002	* 1-564-496-11	PIN, CONNECTOR 3P				
CN054	* 1-564-523-11	PLUG, CONNECTOR 8P				
**********						
	* 1-637-606-11	LOAD-SW BOARD				
		**********				
		〈 SWITCH 〉				
S011	1-571-489-11	SWITCH, SLIDE				
S012	1-571-489-11	SWITCH, SLIDE				
**********						
	* A-2006-382-A	MD BOARD, COMPLETE				
		**********				
	4-352-844-01	PIN, LEAD, COATING				
		〈 JUMPER 〉				
JW1-JW41	1-216-296-00	METAL CHIP	0	5%	1/8W	
		〈 CAPACITOR 〉				
C001	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C002	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C003	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C004	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C005	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C006	1-124-126-00	ELECT	47uF	20%	10V	
C007	1-124-126-00	ELECT	47uF	20%	10V	
C021	1-124-925-11	ELECT	2.2uF	20%	100V	
C022	1-124-126-00	ELECT	47uF	20%	10V	
C031	1-124-126-00	ELECT	47uF	20%	10V	
C032	1-124-126-00	ELECT	47uF	20%	10V	
C033	1-124-126-00	ELECT	47uF	20%	10V	
		〈 CONNECTOR 〉				
CN003	* 1-564-505-11	PLUG, CONNECTOR 2P				
CN004	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				
CN005	* 1-564-515-11	PLUG, CONNECTOR 12P				
CN006	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P				
CN007	* 1-568-369-11	HOUSING, CONNECTOR (PC BOARD) 8P				
CN008	* 1-564-338-00	PIN, CONNECTOR 4P				
CN009	* 1-564-338-61	PIN, CONNECTOR 4P				
CN051	* 1-564-715-11	PIN, CONNECTOR (SMALL TYPE) 13P				
CN052	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P				
CN053	* 1-564-507-11	PLUG, CONNECTOR 4P				
		〈 DIODE 〉				
D011	8-719-104-34	DIODE 1S2836				
D012	8-719-104-34	DIODE 1S2836				
		〈 IC 〉				
IC001	8-759-107-68	IC CX20115A				
IC002	8-759-502-80	IC LM358M				
		〈 TRANSISTOR 〉				
Q001	8-729-100-66	TRANSISTOR 2SC1623L6				
Q002	8-729-101-07	TRANSISTOR 2SB798-DL				
Q003	8-729-900-53	TRANSISTOR DTC114EK				
		〈 RESISTOR 〉				
R001	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R002	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R003	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R004	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R005	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R006	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W	
R007	1-216-029-00	METAL CHIP	150	5%	1/10W	
R008	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R009	1-216-025-00	METAL CHIP	100	5%	1/10W	
R010	1-216-084-00	METAL GLAZE	30K	5%	1/10W	
R011	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R012	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R013	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R014	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R015	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R022	1-216-073-00	METAL CHIP	10K	5%	1/10W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

T-SW | TRANSISTOR (A) | TRANSISTOR (B) | TRANSISTOR (C)

Ref. No.	Part No.	Description	Remark
	* 1-637-605-11	T-SW BOARD	
		**********	
		⟨ SWITCH ⟩	
S015	1-572-459-11	SWITCH, PUSH	
**********			
	* 1-637-622-11	TRANSISTOR (A) BOARD	
		**********	
		⟨ CAPACITOR ⟩	
C931	9-831-246-50	WIRE KIT 1uF 10% 50V	
		⟨ TRANSISTOR ⟩	
Q931	8-729-111-55	TRANSISTOR 2SD1312-K	
**********			
	* 1-637-623-11	TRANSISTOR (B) BOARD	
		**********	
		⟨ CAPACITOR ⟩	
C932	1-164-159-11	CERAMIC 0.1uF	50V
C933	1-164-159-11	CERAMIC 0.1uF	50V
		⟨ IC ⟩	
IC901	8-759-148-79	IC uPC2406HF	
**********			
	* 1-637-624-11	TRANSISTOR (C) BOARD	
		**********	
		⟨ CAPACITOR ⟩	
C934	1-164-159-11	CERAMIC 0.1uF	50V
C935	1-164-159-11	CERAMIC 0.1uF	50V
		⟨ IC ⟩	
IC902	8-759-144-82	IC uPC2405HF	
**********			
		MISCELLANEOUS	
		**********	
111	⚠1-559-479-11	CORD, POWER (US)	
	⚠1-575-912-11	CORD, POWER (AEP)	
	⚠1-575-913-11	CORD, POWER (UK)	
BATT01	1-528-229-11	BATTERY, LITHIUCR-2450	
FH901	1-532-745-11	FUSE, GLASS TUBE (3.15A 125V) (US)	
	⚠1-532-237-00	FUSE, TIME-LAG (T3.15A 250V) (AEP, UK)	
FH902	⚠1-532-203-00	FUSE, TIME-LAG (T2A 250V) (AEP, UK)	
	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 125V) (US)	
FH903	⚠1-532-203-00	FUSE, TIME-LAG (T2A 125V) (AEP, UK)	
	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 250V) (US)	
FH941	⚠1-532-743-11	FUSE, GLASS TUBE (2A, 125V) (US)	
	⚠1-532-203-00	FUSE, TIME-LAG (T2A 250V) (AEP, UK)	
M902	8-835-306-01	MOTOR, DC U-17A	
M905	* 8-835-205-01	MOTOR, DC U-2A	
MOT011	A-2003-660-A	MOTOR ASSY	
MOT012	A-2003-448-A	MOTOR ASSY	
PL701	1-518-664-11	LAMP, PILOT	
PL702	1-518-664-11	LAMP, PILOT	
PM002	1-454-522-11	SOLENOID, PLUNGER	
PT901	⚠1-450-450-11	TRANSFORMER, POWER (D) (US)	
	⚠1-450-603-11	TRANSFORMER, POWER (AEP, UK)	
PT902	⚠1-450-449-11	TRANSFORMER, POWER (A) (US)	
	⚠1-450-604-11	TRANSFORMER, POWER (A) (AEP, UK)	
S901	⚠1-554-920-11	SWITCH, PUSH (AC POWER) (1 KEY)	
**********			
		ACCESSORY & PACKING MATERIAL	
		**********	
	1-465-642-11	REMOTE COMMANDER (RM-D77A)... (BLACK)	
	1-465-823-11	REMOTE COMMANDER (RM-D77A/D)... (GOLD)	
	1-590-861-11	CORD, CONNECTION	
	* 3-369-153-01	INDIVIDUAL CARTON (87ES)	
	* 3-370-205-01	INDIVIDUAL CARTON (77ES)	
	3-703-450-01	INSTRUCTION (87ES)	
	3-704-366-01	SCREW (CASE) (M3X8) (BLACK) (US, AEP)	
	3-704-366-11	SCREW (CASE) (M3X8) (GOLD)	
	3-707-584-01	COVER, BATTERY (for RM-D77A, RM-D77A/D)	
	3-752-666-11	MANUAL, INSTRUCTION (AEP, UK) (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
	3-752-666-21	MANUAL, INSTRUCTION (US) (ENGLISH)	
	3-752-666-41	MANUAL, INSTRUCTION (AEP) (GERMAN, DUTCH, SWEDISH, ITALIAN)	
	* 4-936-624-01	CUSHION	

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HARDWARE LIST

#2	7-682-548-09	SCREW +BVTT 3X8 (S)
#3	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
#4	7-621-773-86	SCREW +B 2.6X4
#5	7-682-560-04	SCREW +BVTT 4X6 (S)
#6	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#7	7-682-548-04	SCREW, TIGHT, S
#8	7-621-771-06	SCREW, LOCK
#9	7-682-147-15	SCREW, TR
#10	7-621-772-10	SCREW +B 2X4
#11	7-688-001-01	W 2, SMALL

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
#12	7-682-545-09	SCREW +B 3X4	
#13	7-621-772-00	SCREW +B 2X3	
#14	7-688-001-12	W 2, MIDDLE	
#15	7-621-775-08	SCREW +B 2.6X3	
#16	7-621-255-45	SCREW +P 2X6	
#17	7-627-852-28	+P 1.7X3	
#18	7-621-772-08	SCREW +B 2X3	
#19	7-628-253-00	SCREW +PS 2X4	
#20	7-627-553-27	SCREW, PRECISION +P 2X2.5	
#21	7-627-553-67	SCREW, PRECISION +P 2X5	
#22	7-621-772-20	SCREW +B 2X5	
#23	7-627-450-78	SCREW, PRECISION +K 1.7X4	
#24	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#25	7-621-759-35	+PSW, 2.6X5	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.