MHC-GRX8/R800/RX88/RX99

HCR-GRX8/R800/RX99

SERVICE MANUAL

AEP Model
UK Model
MHC-RX88/RX99
E Model
MHC-GRX8/R800
Australian Model
MHC-GRX8

- MHC-GRX8/R800/RX88/RX99 is composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR MHC-GRX8/R800/RX88/RX99

	MHC-GRX8	MHC-R800	MHC-RX88	MHC-RX99
COMPACT DISC DECK RECEIVER SYSTEM	HCD-GRX8	HCD-R800	HCD-RX88	HCD-RX99
FRONT SPEAKER SYSTEM	SS-GRX8	SS-R800	SS-RX88	SS-RX99
SURROUND SPEAKER SYSTEM	SS-SR110			SS-SR110

HCR-GRX8 is composed of HCD-GRX8 and SS-SR110
HCR-R800 is composed of HCD-R800 and SS-SR110
HCD-RX99 is composed of HCD-RX99 and SS-SR110

- Abbreviation
  - G : German model
  - EE : East European model
  - SP : Singapore model
  - MY : Malaysia model
  - MX : Mexican model
  - AR : Argentine model
  - EA3 : Saudi Arabia model
  - HK : Hong kong model
  - TW : Taiwan model
  - TH : Thai model

SPECIFICATIONS

General

Power requirements
European models: 230 V AC, 50/60 Hz
Other models: 120 V, 220 V or 230 - 240 V AC, 50/60 Hz.
Adjustable with the voltage selector
Power consumption
MHC-GRX8/R800: 270 watts
MHC-RX88/RX99: 240 watts

Supplied accessories

AM loop antenna (1)
Remote RM-SR8
Batteries (2)
FM lead antenna (1)
Speaker cords (4)
Front speaker pads (8)

Design and specifications are subject to change without notice.

PARTS LIST

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS **********	
	1-475-571-11	COMMANDER, STANDARD (RM-SR8)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-659-41	ANTENNA (FM) (GRX8/R800)	
	1-501-804-11	ANTENNA (FM) (RX88/RX99)	
	1-769-317-11	CORD, SPEAKER (2.5m) (FRONT SPEAKER)	
	1-769-433-11	CORD, SPEAKER(10m) (SURROUND SPEAKER)	
	3-862-011-11	MANUAL, INSTRUCTION (ENGLISH)	(EXCEPT G, TH)
	3-862-011-21	MANUAL, INSTRUCTION (FRENCH, SPANISH)	(AEP, E, SP, MY, MX, AR, EA3)
	3-862-011-31	MANUAL, INSTRUCTION (CHINESE)	(E, SP, MY, HK, TW)
	3-862-011-41	MANUAL, INSTRUCTION (ARABIC) (EA3)	
	3-862-011-51	MANUAL, INSTRUCTION (GERMAN) (AEP, G)	
	3-862-011-61	MANUAL, INSTRUCTION (DUTCH, ITALIAN, PORTUGUESE) (AEP)	
	3-862-011-71	MANUAL, INSTRUCTION (DANISH, FINNISH, SWEDISH) (AEP)	
	3-862-011-81	MANUAL, INSTRUCTION (POLISH, RUSSIAN)	(AEP, EE, CIS)
	3-862-012-11	MANUAL, INSTRUCTION (HUNGARIAN)	(AEP,EE,CIS)
	3-862-012-21	MANUAL, INSTRUCTION (CZECH) (AEP)	
	3-862-012-31	MANUAL, INSTRUCTION (GREEK) (AEP)	
	3-862-012-41	MANUAL, INSTRUCTION (TURKISH) (AEP)	
	3-862-015-31	MANUAL, INSTRUCTION (ENGLISH, THAI) (TH)	
	3-862-818-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SWEDISH, RUSSIAN)	(For SS-RX88/RX99)
	4-991-151-21	COVER, BATTERY (FOR RM-SR8)	

MINI Hi-Fi COMPONENT SYSTEM

SONY

MICROFILM

9-922-784-11

Sony Corporation
Home A&V Products Company

98B001671-1
Printed in Japan ©1998.2
Published by General Engineering Dept.
(Shibaura)

HCD-GRX8/R800/ RX88/RX99

SERVICE MANUAL

AEP Model
UK Model
HCD-RX88/RX99
E Model
HCD-GRX8/R800
Australian Model
HCD-GRX8

Photo: HCD-GRX8

HCD-GRX8/R800/RX88/RX99 is the tuner, deck, CD and amplifier section in MHC-GRX8/R800/RX88/RX99.

This stereo system is equipped with the Dolby B-type noise reduction system*.
* Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY and the double-D symbol ⊡ are trademarks of Dolby Laboratories Licensing Corporation.

CD SECTION	Model Name Using Similar Mechanism	HCD-H991AV
	CD Mechanism Type	CDM38L-5BD29AL/ CDM38LH-5BD29AL
	Base Unit Type	BU-5BD29AL
	Optical Pick-up Type	KSS-213D/Q-NP
TAPE DECK SECTION	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-230AWR1/230PWR1

SPECIFICATIONS

Amplifier section

HCD-RX88/RX99:
DIN power output (rated)
80 + 80 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)

HCD-GRX8/R800:
The following measured at AC 120, 220, 240 V 50/60 Hz
DIN power output (rated)
105 + 105 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
130 + 130 watts
(8 ohms at 1 kHz, 10% THD)
Peak music power output (reference)
2000 watts

Inputs
VIDEO IN, MD IN: (phono jacks) voltage 250 mV, impedance 47 kilohms
MIX MIC: (phone jack) sensitivity 1 mV, impedance 10 kilohms

Outputs
MD OUT: (phono jacks) voltage 250 mV impedance 1 kilohms
PHONES: (stereo phone jack) accepts headphones of 8 ohms or more
SPEAKER: accepts impedance of 8 to 16 ohms
SURROUND SPEAKER: accepts impedance of 16 ohms
SUPER WOOFER: Voltage 1 V, impedance 1 kilohm

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ=780nm) Emission duration: continuous
Laser output: Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength: 780 – 790 nm
Frequency response: 2 Hz – 20 kHz (±0.5 dB)
Signal-to-noise ratio: More than 90 dB
Dynamic range: More than 90 dB
CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)
Wavelength: 600 nm
Output Level: –18 dBm

Tape player section

Recording system: 4-track 2-channel stereo
Frequency response (DOLBY NR OFF): 40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette
40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range
2 band models: 87.5 – 108.0 MHz
3 band (FM–MW–SW) models: 87.5 – 108.0 MHz
3 band (FM–MW–LW) models: 87.5 – 108.0 MHz
4 band models: 87.5 – 108.0 MHz
Antenna: FM lead antenna
Antenna terminals: 75 ohm unbalanced
Intermediate frequency: 10.7 MHz

UKV tuner section (East European, CIS model)

Tuning range: 65.0 – 74.0 MHz Stereo plus

— Continued on next page —

COMPACT DISC DECK RECEIVER

MICROFILM

SONY

AM tuner section

Tuning range	
2 Band type:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
3 Band/4 Band type:	
European models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz)
LW:	153 – 279 kHz (with the interval set at 3 kHz)
Middle Eastern models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Other models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
European models:	230 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
HCD-GRX8/R800:	270 watts
HCD-RX88/RX99:	240 watts
Dimensions (w/h/d)	Approx. 280 x 365 x 405 mm
Mass	
HCD-GRX8/R800:	Approx. 11.7 kg
HCD-RX88/RX99:	Approx. 10.4 kg

Design and specifications are subject to change without notice.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

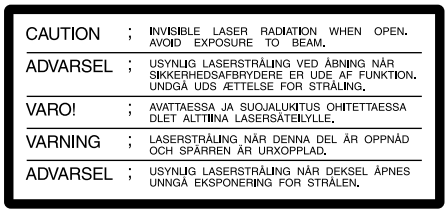
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



This caution label is located inside the unit.

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.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.
The flexible board is easily damaged and should be handled with care.

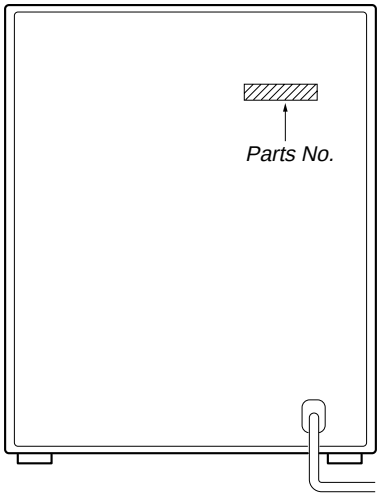
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveform is output three times.

MODEL IDENTIFICATION — BACK PANEL —



- Abbreviation
  G : German model
  EE : East European model
  MX : Mexican model
  HK : Hong Kong model
  SP : Singapore model
  MY : Malaysia model
  TW : Taiwan model
  AUS : Australian model
  AR : Argentine model
  TH : Thailand model
  EA3 : Saudi arabia model
  EA4 : Israel model
  E2 : Without SW tuner E model.
  E3 : With SW tuner E model.

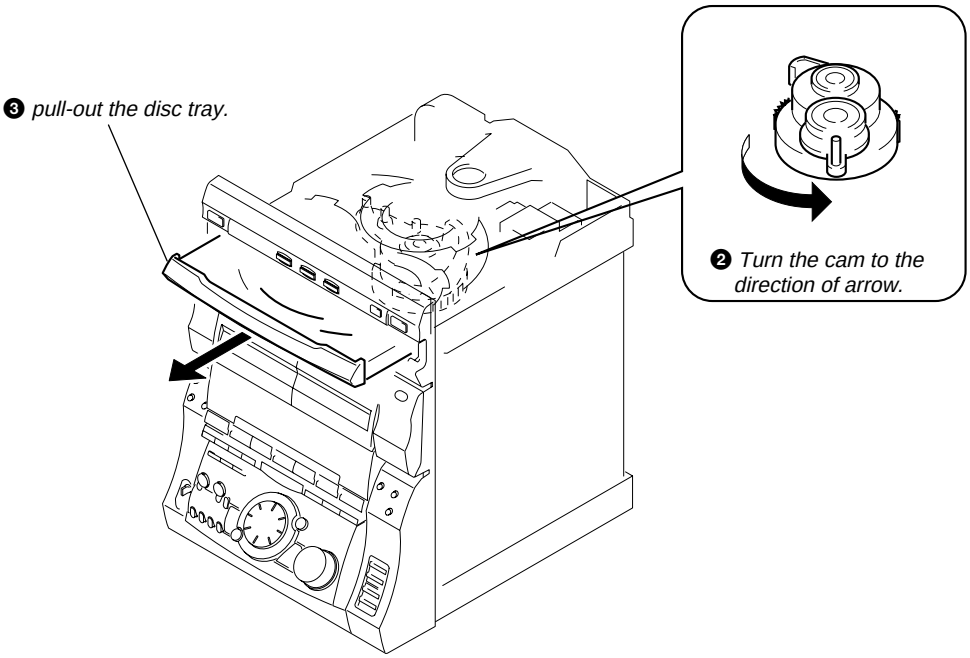
PARTS No.	MODEL	PRODUCT COUNTRY
4-996-817-0□	RX99: AEP, UK, G	MALAYSIA
4-996-817-1□	RX99: EE, CIS	MALAYSIA
4-996-817-2□	RX99: AEP, UK, G	INDONESIA
4-996-817-3□	RX99: EE, CIS	INDONESIA
4-996-817-4□	RX88	MALAYSIA
4-996-817-5□	RX88	INDONESIA
4-996-817-6□	GRX8: TH, EA4	THAILAND
4-996-818-0□	GRX8: E2, E3	INDONESIA
4-996-818-1□	GRX8: SP, MY	INDONESIA
4-996-818-2□	GRX8: TW	INDONESIA
4-996-818-3□	GRX8: HK	INDONESIA
4-996-818-4□	GRX8: AUS	INDONESIA
4-996-818-5□	GRX8: MX	INDONESIA
4-997-818-8□	R800: MX	INDONESIA
4-997-818-9□	R800: AR	INDONESIA
4-997-720-0□	GRX8: E2, E3	MALAYSIA
4-997-720-1□	GRX8: SP, MY	MALAYSIA
4-997-720-2□	GRX8: TW	MALAYSIA
4-997-720-3□	GRX8: HK	MALAYSIA
4-997-720-4□	GRX8: AUS	MALAYSIA
4-997-720-5□	GRX8: MX	MALAYSIA
4-997-720-6□	GRX8: EA3	MALAYSIA
4-997-720-8□	R800: MX	MALAYSIA
4-997-720-9□	R800: AR	MALAYSIA

TABLE OF CONTENTS

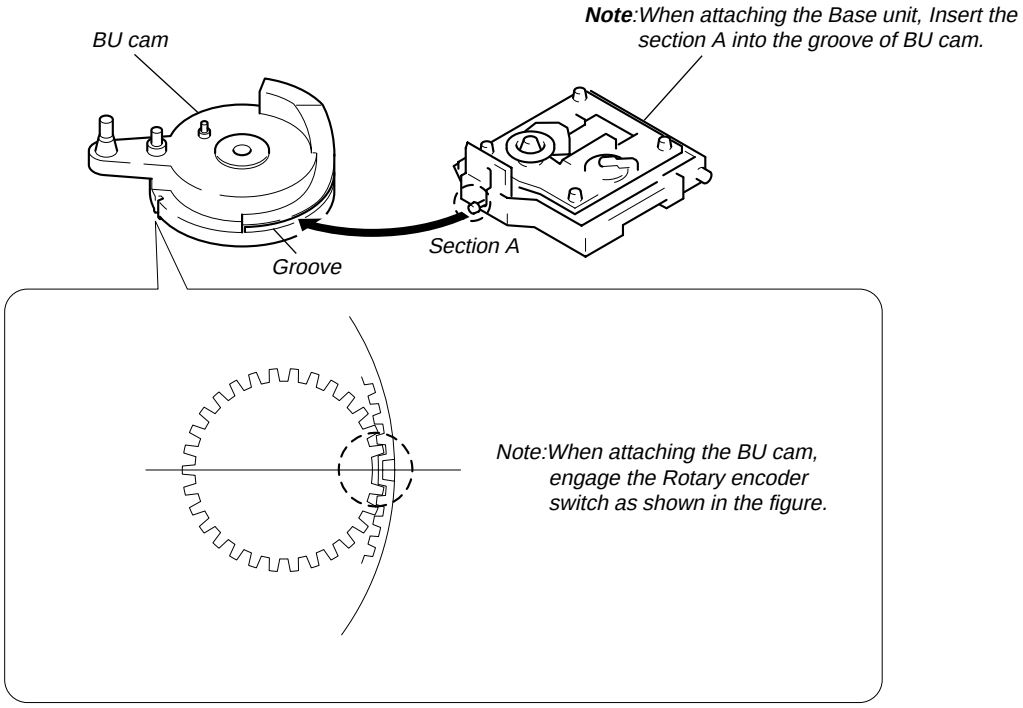
SECTION 1
SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

❶ *Remove the Case.*

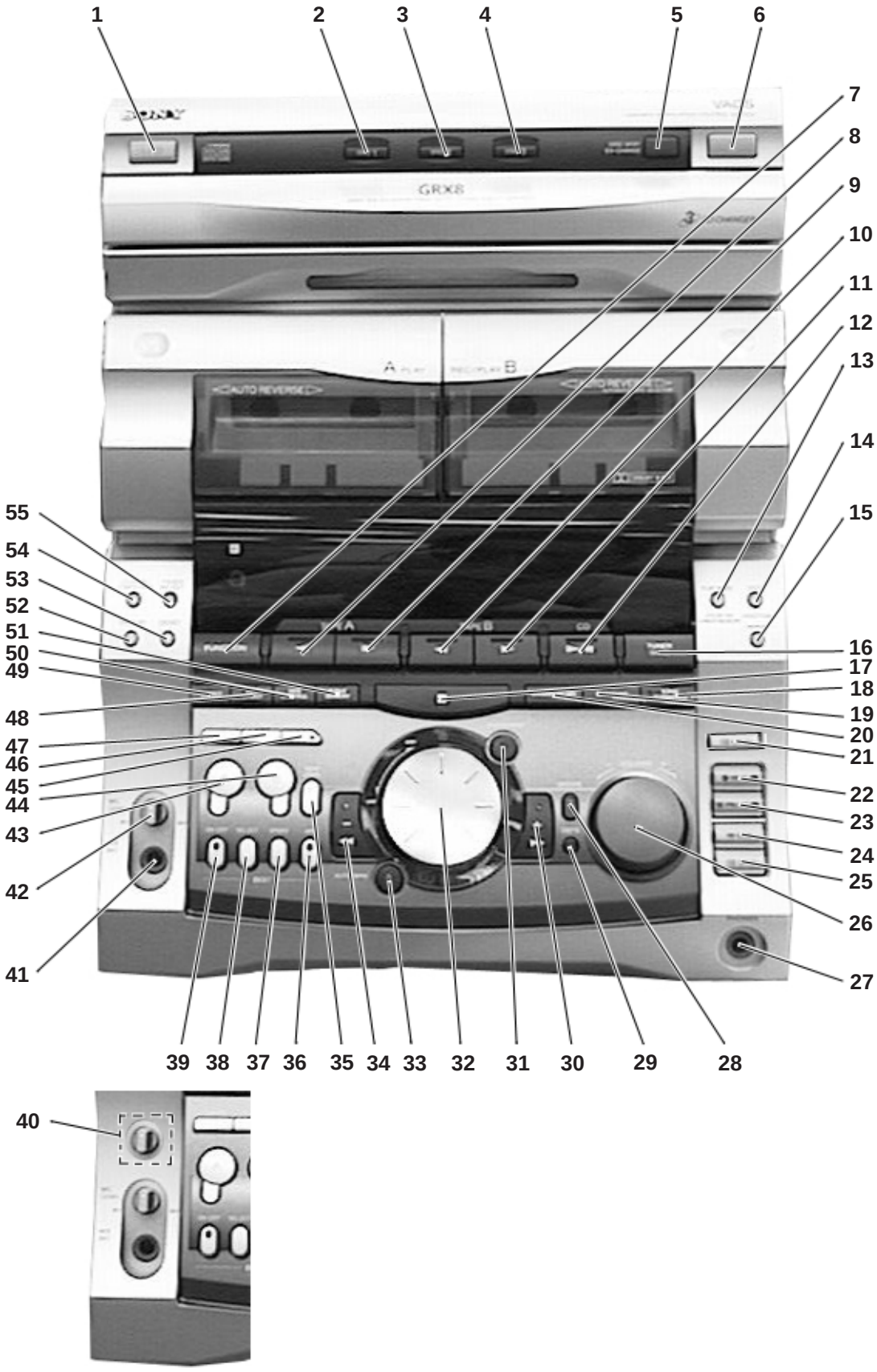


Note for Installation (ROTARY ENCODER)



SECTION 2
GENERAL

Front Panel



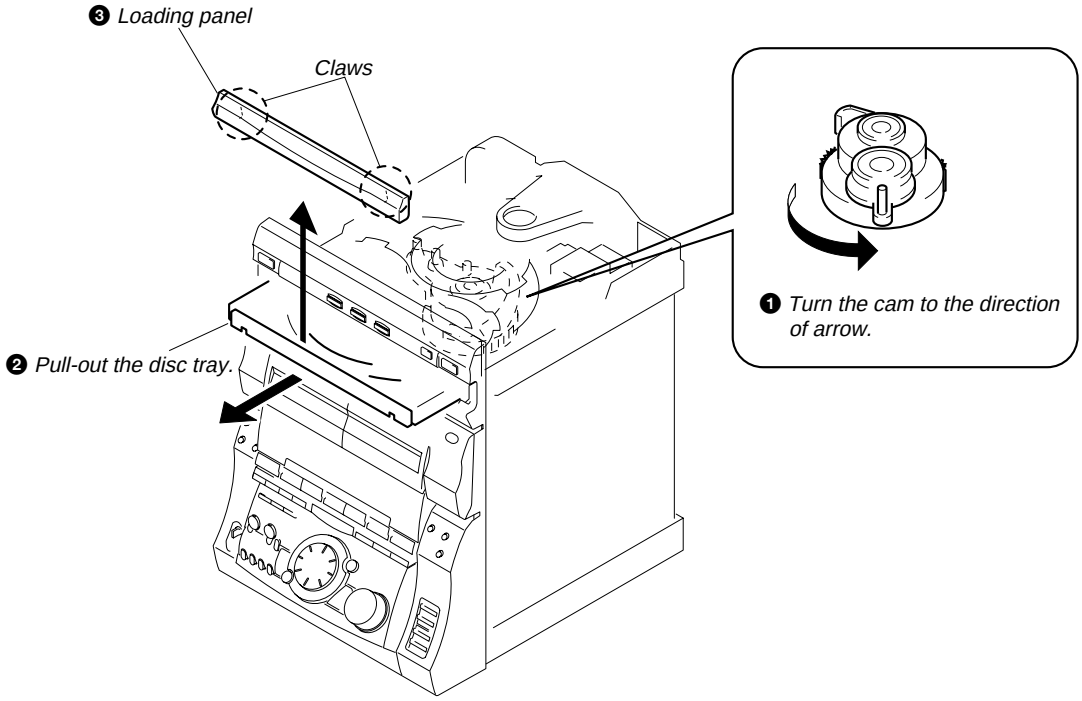
LOCATION OF PARTS AND CONTROLS

1 I/⏻ button
2 DISC 1 button
3 DISC 2 button
4 DISC 3 button
5 DISC SKIP/EX-CHANGE button
6 ⏏ button
7 FUNCTION button
8 Deck A ◁ button
9 Deck A ▷ button
10 Deck B ◁ button
11 Deck B ▷ button
12 CD ▷II button
13 PLAY MODE/DOLBY NR/TUNER MEMORY button
14 EDIT/DIRECTION button
15 REPEAT/STEREO/MONO button
16 TUNER/BAND button
17 ■ button
18 MUTING button (RX88)
SONIC FORMATION button (GRX8/RX99/R800)
19 SURROUND button
20 KARAOKE PON/MPX button
21 PTY button (AEP, UK model)
22 ● REC button
23 II PAUSE button
24 HI-PUB button
25 CD SYNC button
26 VOLUME knob
27 PHONES jack
28 GROOVE button
29 DBFB button
30 ▶▶/+ button
31 ENTER/NEXT button
32 JOG button
33 AUTO BPM
34 ◀◀/– button
35 BEAT LEVEL button
36 JAM button
37 SPEED button
38 SELECT button
39 ON/OFF button
40 ECHO LEVEL knob (Saudi Arabia model)
41 MIX MIC jack
42 MIC LEVEL knob
43 PAD A button
44 PAD B button
45 NON STOP button
46 FLASH button
47 LOOP button
48 FILE SELECT button
49 EFFECT button
50 GEQ CONTROL button
51 P FILE MEMORY button
52 DISPLAY button
53 DEMO button
54 CLOCK/TIMER SET button
55 TIMER/SELECT button

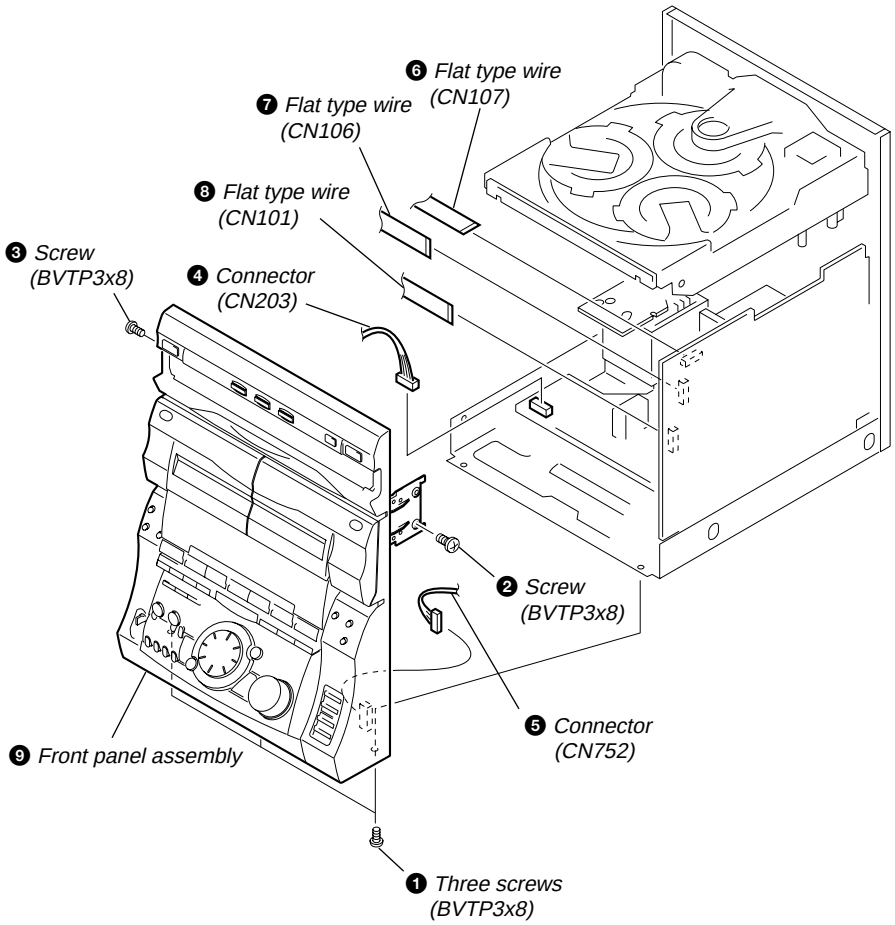
SECTION 3
DISASSEMBLY

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

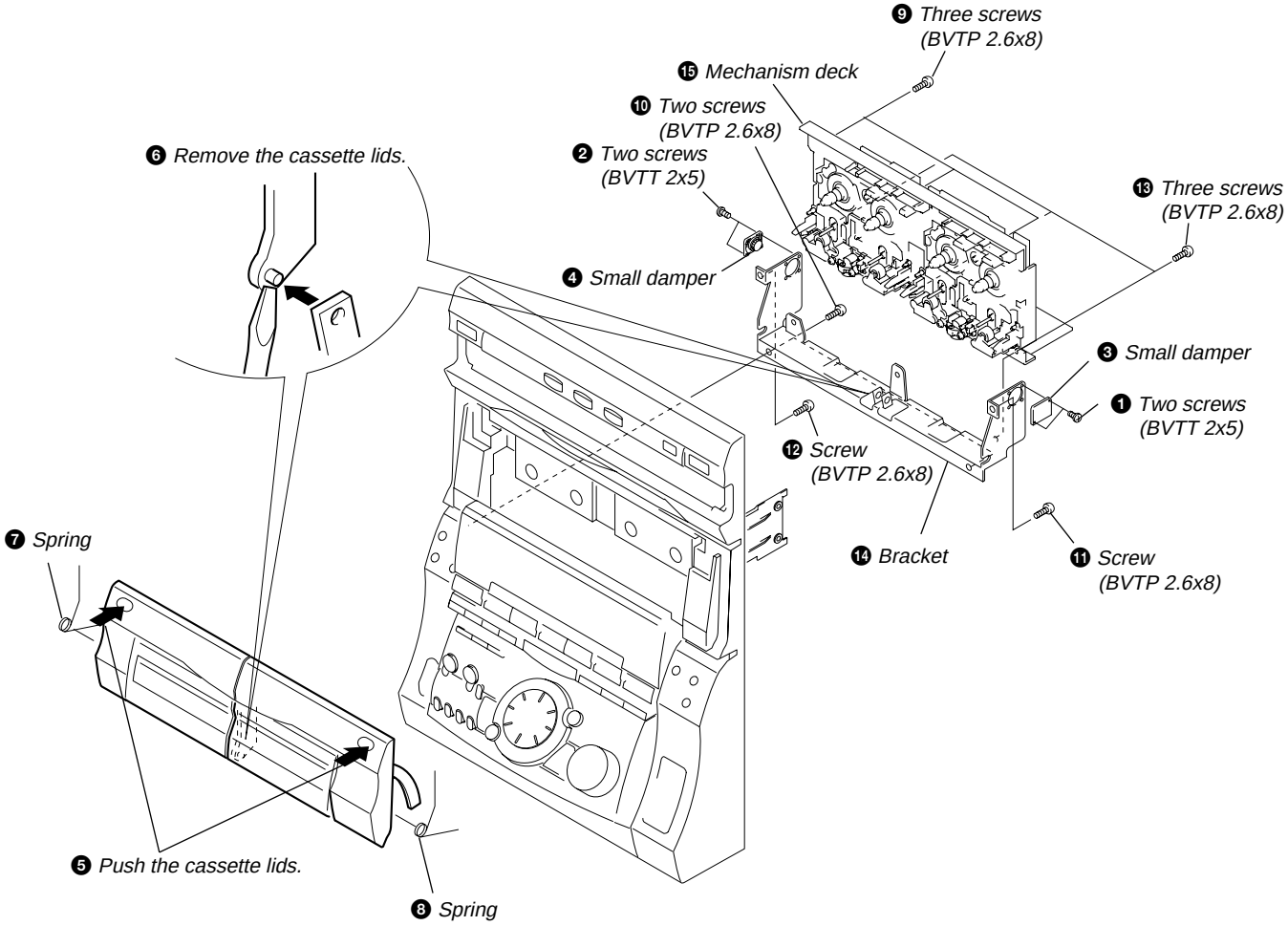
3-1. LOADING PANEL



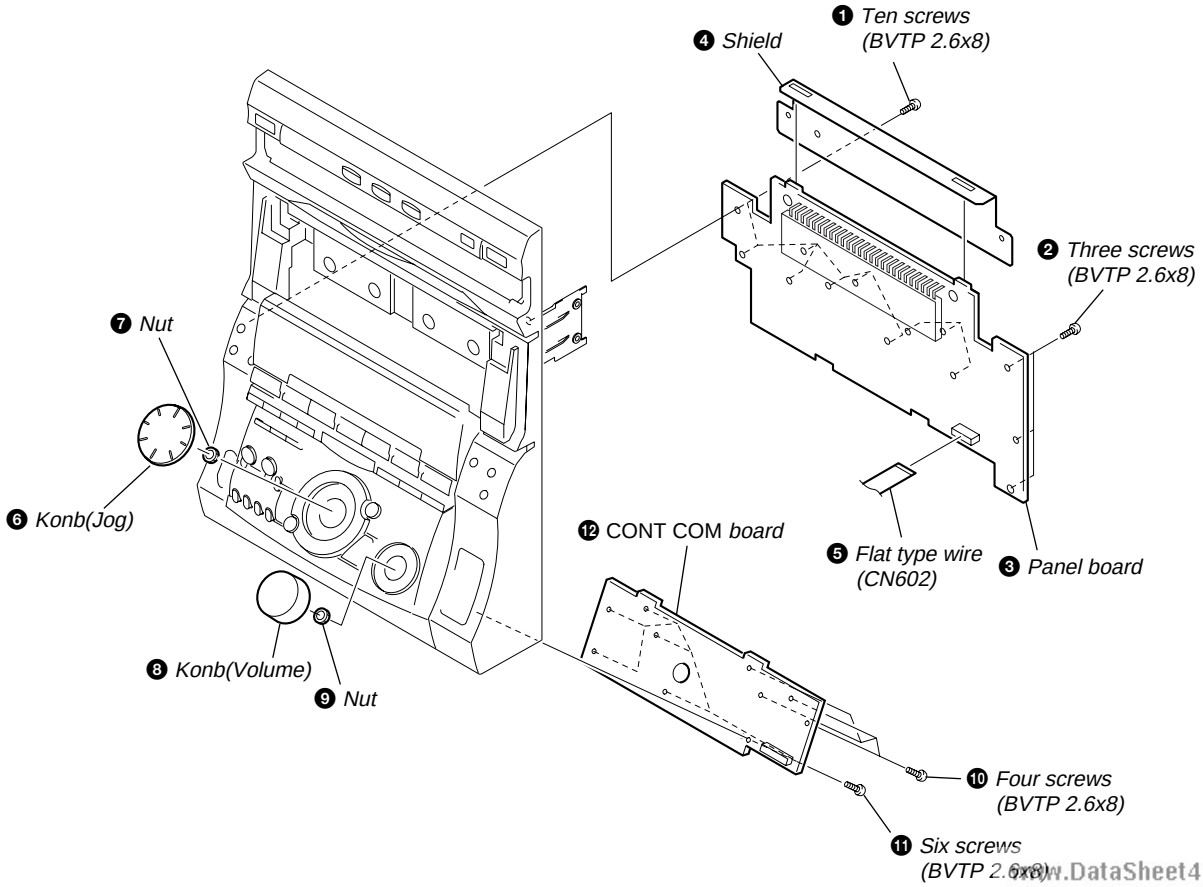
3-2. FRONT PANEL



3-3. CASSETTE MECHANISM DECK



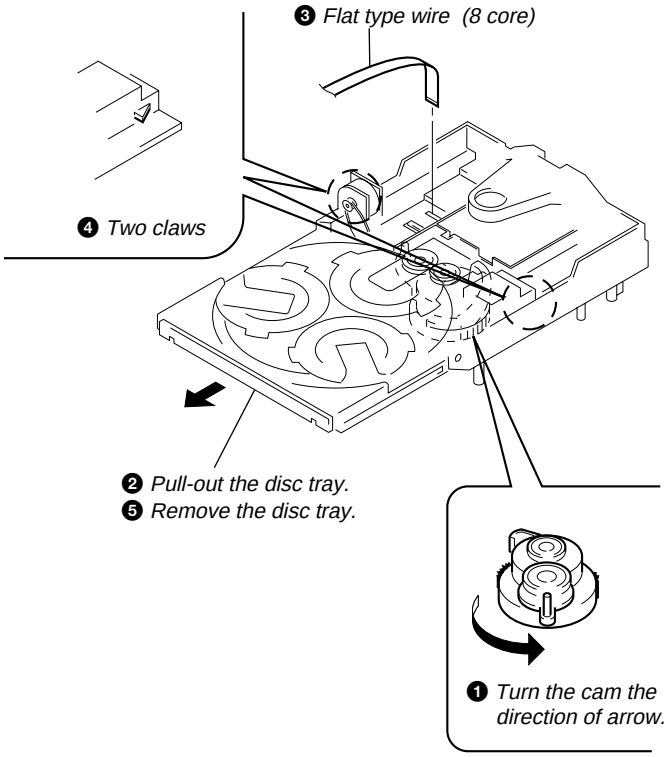
3-4. PANEL BOARD AND CONT COM BOARD

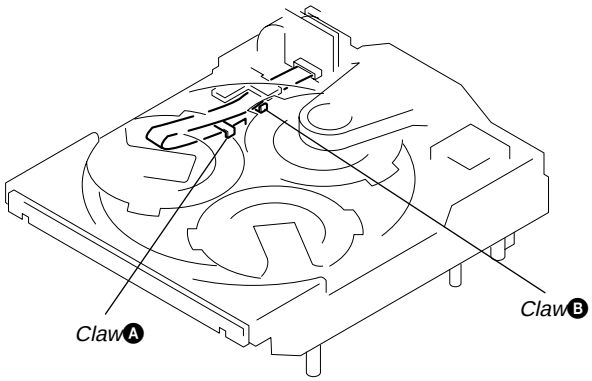


3-5. DISC TRAY

(Perfom after removing the front panel.)

Note: *When installing the Disc tray, pull around the flat type wire to pass through the clawA and clawB, as shown in the figure.*





SECTION 4
SERVICE MODE

MC Cold Reset

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons [■], [ENTER/NEXT], and [I/⏻] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

CD Delivery Mode

• This mode moves the pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Press [LOOP] button and [I/⏻] button simultaneously.
3. A message “LOCK” is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons [■], [ENTER/NEXT], and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

Sled Servo Mode

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pick-up.

Procedure:

1. Select the function “CD”.
2. Press three buttons [■], [ENTER/NEXT], and [⏏] simultaneously.
3. The Sled Servo mode is selected, if “CD” is blanking on the fluorescent indicator tube.
4. With the CD in stop status, press [►► +] utton move the pick-up to outside track, or [– ◄◄] button to inside track.
5. To exit from this mode, perform as follows:
   1) Move the pick-up to the most inside track.
   2) Press three buttons in the same manner as step 2.

Note:

• Always move the pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

Change-over of AM Tuner Step between 9kHz and 10kHz

• A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Select the function “TUNER”, and press TUNER/BAND button to select the BAND “AM”.
3. Press [I/⏻] button to turn the set OFF.
4. Press [ENTER/NEXT] and [I/⏻] buttons simultaneously, and the display of fluorescent indicator tube changes to “AM 9k STEP” or “AM 10k STEP”, and thus the channel step is changed over.

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

1. Press three buttons [■], [ENTER/NEXT], and [DISC 2] simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press [DISC 2] button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays “K 1 V0 J0”. Each time a button is pressed, “K”value increases. However, once a button is pressed, it is no longer taken into account.
   “J” Value increases like 1, 2, 3 ... if rotating JOG knob in “+” direction, or it decreases like 0, 9, 8 ... if rotating in “-” direction.
   “V” Value increases like 1, 2, 3 ... if rotating [VOLUME] knob in “+” direction, or it decreases like 0, 9, 8 ... if rotating in “-” direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

Aging Mode

This mode can be used for checking the operations of the CD player and tape deck.

- When problems occur;
  Aging stops, and the stopped state is displayed on the fluorescent display tube.
- When no problems;
  Aging continues.

Preparations:

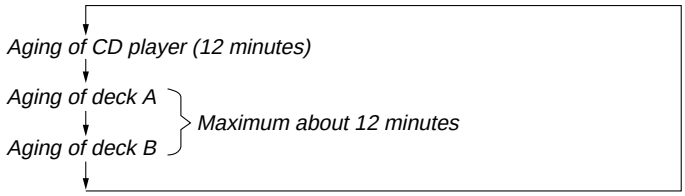
- Set the CD on the DISC1 tray.
- Insert a commercially available tape for recording (tapes which contents can be erased, etc.) in decks A and B.

Setting the aging mode:

Press the ■ button, ENTER/NEXT button, and DISC SKIP/EX-CHANGE button together.
When the aging mode is set, the CD roulette mark blinks. To exit the mode, press the I/⏻ button and turn OFF the power.

Sequence:

The aging mode is executed in the following sequence.
If the function is set to “CD” when the aging mode is set, aging is performed starting from the CD player. When set to “TAPE A” or “TAPE B”, aging is started from deck A.
If the function is set to others, aging will not be started until the function is switched to CD or TAPE.



Display of status:

- The aging status is displayed on the fluorescent display tube.
- Normally, the CD player displays the remaining aging time. But if operations ended abnormally, it displays the cause.
- During the aging of the tape deck, the operations performed will be displayed. If operations ended abnormally, this will be displayed at the fluorescent display tube.

CD Player

- During normal operations:
  Display of fluorescent display tube

**1-@@

**: Displays “CD” and the remaining aging time (minutes) alternately. The remaining aging time is counted down from 12.

@@: Track number being accessed.

• When operations end abnormally:

Display of fluorescent display tube

Display	Main Cause
NO DISC ERR	DISC 1 is NO DISC from the beginning
FOCUS1 ERR	Focus is not imposed properly
FOCUS2 ERR	The focus deviated several times after the disc rotated normally
GFS ERR	GFS ERROR
FBIAS ERR	Error during focus bias adjustment
SENSOR ERR	DISC 1 was found to be NO DISC by the disc sensor
TABLE ERR	The table did not rotate normally
TRAY ERR	The tray containing the BD did not operate normally

Tape Deck

Display of Operations	Operation	Timing of Ending
TAPE A AG-1	TAPE A REW	Shutoff
TAPE A AG-2	TAPE A FWD	2 minute playback
TAPE A AG-3	TAPE A FF	20 seconds or shutoff
TAPE A AG-4	TAPE A REV	2 minutes playback
TAPE A AG-5	TAPE A REW	Shutoff
TAPE B AG-1	TAPE B REW	Shutoff
TAPE B AG-2	TAPE B FWD	2 minute playback
TAPE B AG-3	TAPE B FF	20 seconds or shutoff
TAPE B AG-4	TAPE B REV	2 minute playback
TAPE B AG-5	TAPE B REW	Shutoff

Operations during aging

• Operations are performed in the following sequence during aging

<CD player>

1. The CD tray rotates and disc 1 is selected.
2. Chucking is performed.
3. TOC is read.
4. Track 1 played back for 2 seconds.
5. The last track is played back for 2 seconds.
6. 1 to 5 is repeated.
7. After 12 minutes of aging, aging is switched to the tape deck.

<Tape Deck>

1. The tape in deck A is rewound to the head.
2. The FWD side is played back for 2 minutes.
3. The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
4. The REV side is played back for 2 minutes.
5. The tape is rewound to the head (REW).
6. The tape in deck B is rewound to the head.
7. The FWD side is played back for 2 minutes.
8. The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
9. The REV side is played back for 2 minutes.
10. The tape is rewound to the head (REW).
11. Aging is switched to the CD player.

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

1. Demagnetize the record/playback head with a head damagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

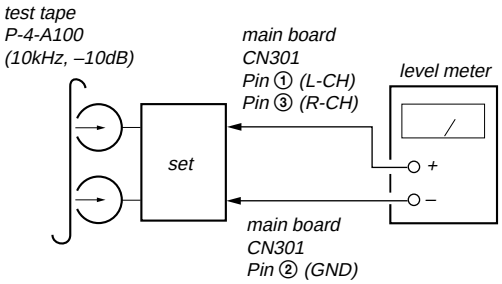
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

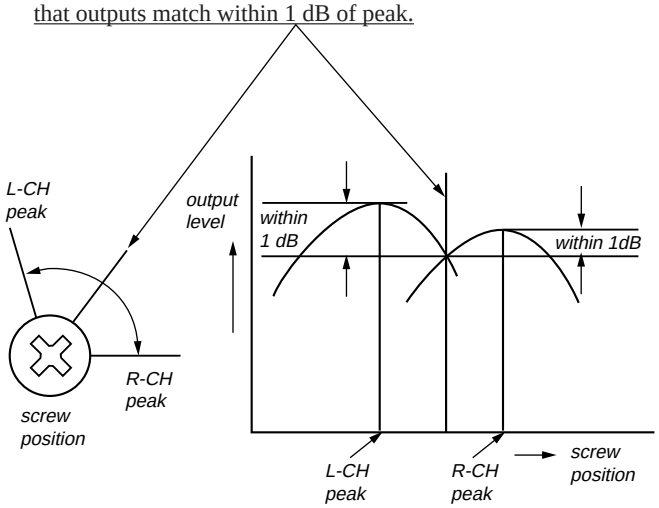
Note: Perform this adjustments for both decks.

Procedure:

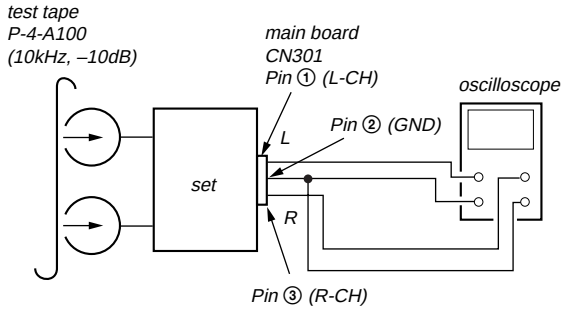
1. Mode : Playback

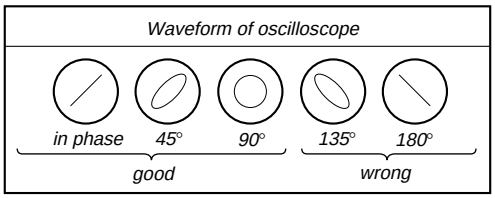


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



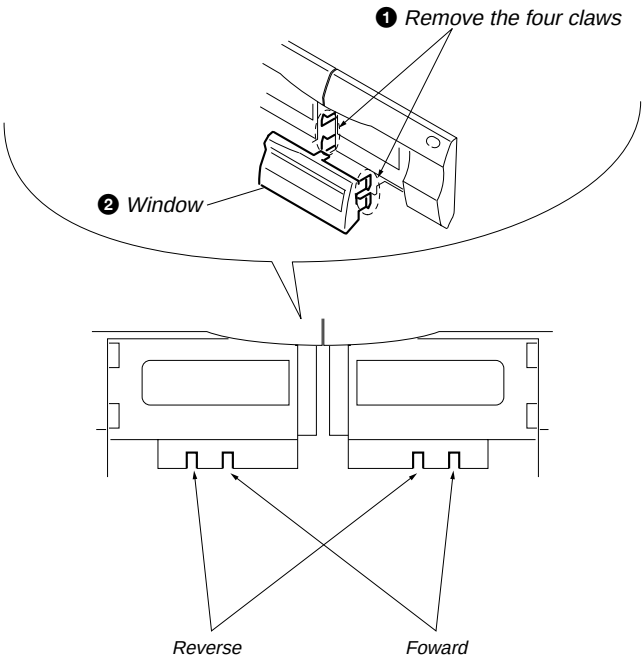
3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Playback Head (Deck A)
Record/Playback/Erase Head (Deck B)



Tape Speed Adjustment (Deck A)

Note: Set the test mode using the following method and begin tape speed adjustment.
In the test mode, the speed will switch to double speed or normal speed each time the HI-DUB button is pressed.

Procedure:
With the power turned ON, press the ■ button, ENTER/NEXT button, and DISC 3 button simultaneously.
(The "VOLUME" on the fluorescent display tube will blink while in the test mode.)
To exit the test mode, press the I/⏻ button.

1. Insert the WS-48B into deck B.
2. Press the ▷ button of deck B.
3. Press the HI-DUB button and play the tape at double speed.
4. Adjust RV1001 of the LEAF SW board so that the reading of the frequency counter becomes 6000 ± 180 Hz.
5. Press the HI-DUB button and play the tape at normal speed.
6. Adjust RV1002 of the LEAF SW board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

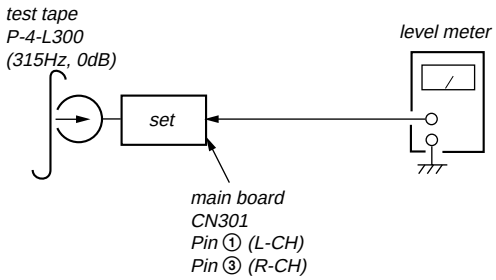
Adjustment Location: LEAF SW board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

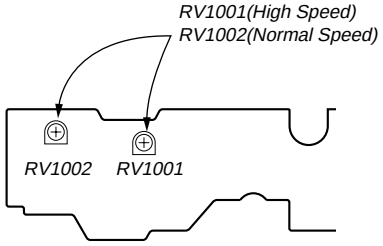
Procedure:
Mode: Playback



Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH)
so that adjustment within the following adjustment level.

Adjustment level:
CN301 playback level: 301.5 to 338.3 mV (–8.2 to –7.2 dB)
level difference between the channels: within ± 0.5 dB
Adjustment Location: AUDIO board

Adjustment Location [LEAF SW BOARD]

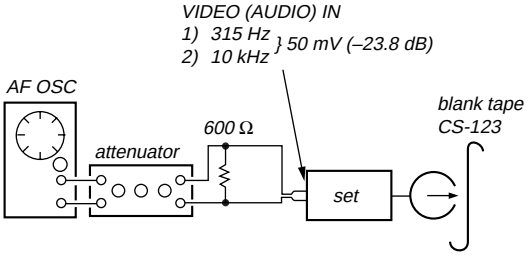


Record Bias Adjustment (Deck B)

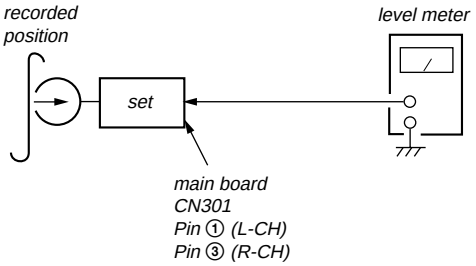
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

Adjustment level: The playback output of 10 kHz level difference against 315 Hz reference should be ± 1.0 dB.

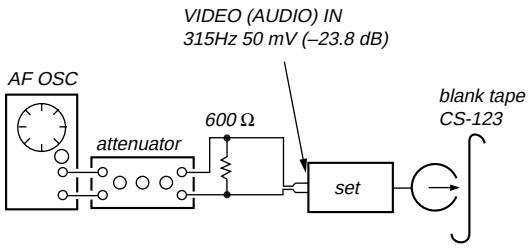
Adjustment Location: AUDIO board

Record Level Adjustment (Deck B)

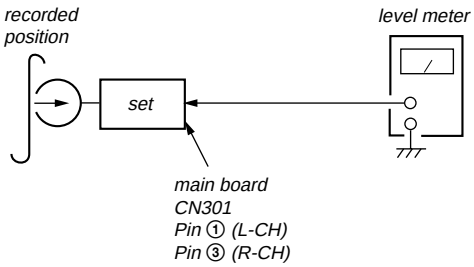
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback

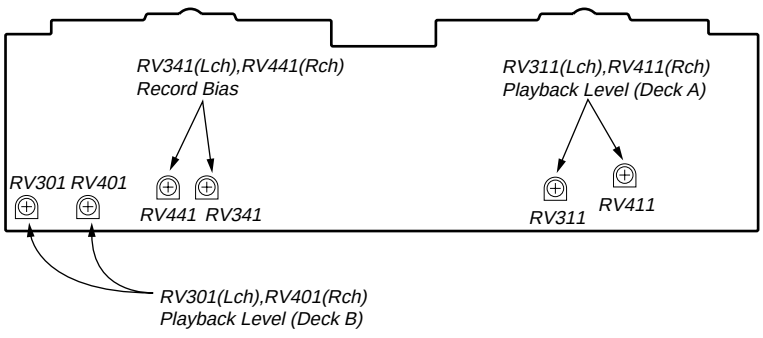


5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

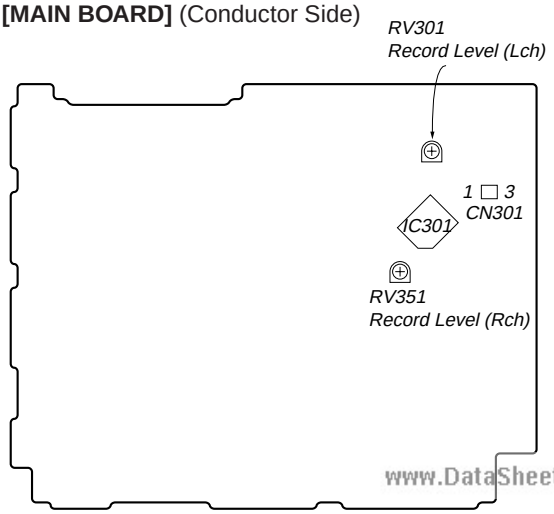
Adjustment level:
CN403 playback level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

Adjustment Location:
[AUDIO BOARD] (Conductor Side)



[MAIN BOARD] (Conductor Side)



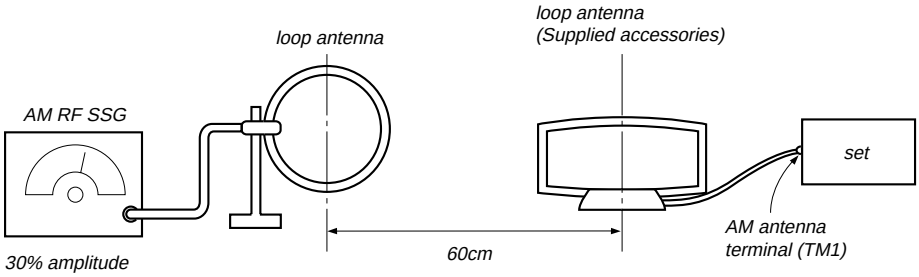
TUNER SECTION | 0dB=1μV

Note 1: As a front-end (FE1) is difficult to repair if faulty, replace it with new one.
Note 2: No adjustment is needed due to a tuner pack for except AEP, UK, German, East European, CIS models.

AM Tuned Level Adjustment
(AEP, UK, German, East European, CIS model only)

Note: FM Tuned Level adjustment should be performed after this AM Tuned Level Adjustment.

Setting:
Band: MW



Modulation: 999 kHz (at 9 kHz step)
1,050 kHz (at 10 kHz step)

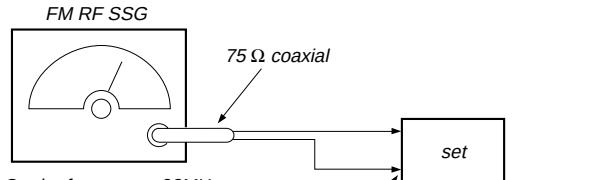
Procedure:
1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 999 kHz or 1,050 kHz.
3. Adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: TCB board

FM Tuned Level Adjustment
(AEP, UK, German, East European, CIS model only)

Note: This adjustment should be performed after the AM Tuned Level Adjustment.

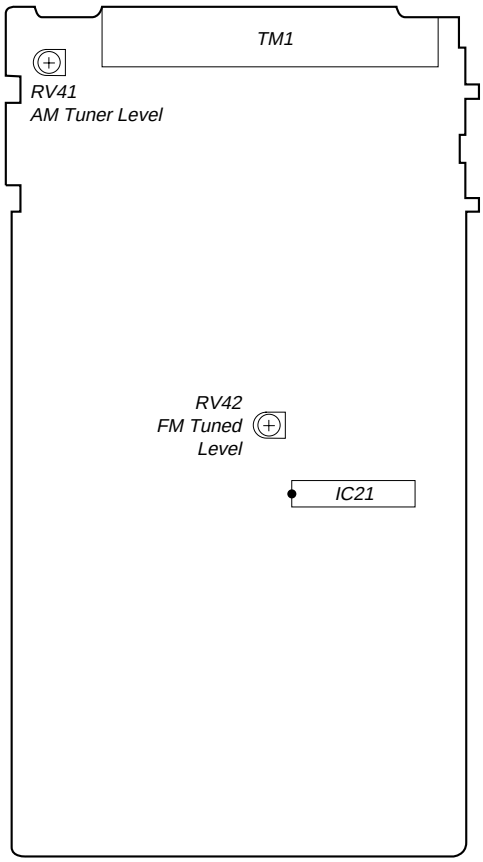
Setting:
Band: FM



Procedure:
1. Supply a 25 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

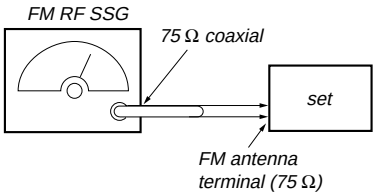
Adjustment Location: TCB board

Adjustment Location
[TCB BOARD] (Component Side)



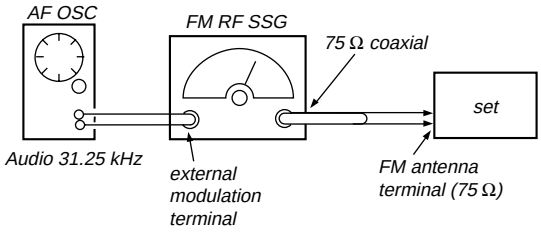
FM Polar Adjustment (East European, CIS model only)

Connection 1 :



Carrier frequency: 69 MHz
Output level: 1 mV (60 dBμ) (at 75 Ω open)
Modulation: AUDIO 1 kHz, 10 kHz deviation

Connection 2 :



Carrier frequency: 69 MHz
Output level: 1 mV (60 dBμ) (at 75 Ω open)
Modulation: AUDIO 31.25 kHz, 10 kHz deviation (EXTERNAL MODULATION)

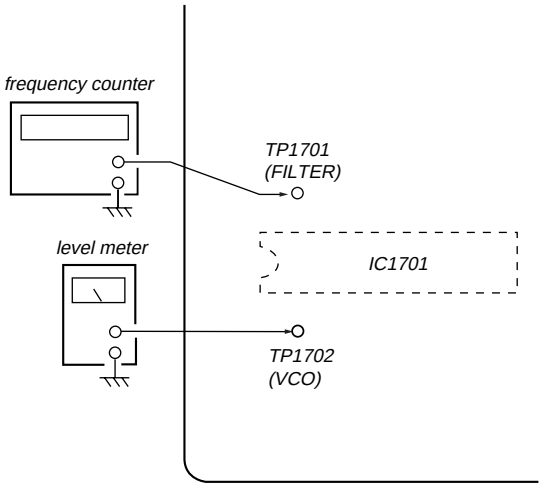
Procedure :

1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to “Connection 1”.
2. Tune the set to 69 MHz.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 (VCO) becomes within 31.25 kHz ± 0.05 kHz. (VCO adjustment)
4. Then record the reading of the level meter connected to TP1701.
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to “Connection 2”.
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 (FILTER) becomes maximum.
   Then adjust the CT1701 so that the reading of the level meter connected to TP1701 (FILTER) becomes maximum. (SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14 dB higher value than the level recorded in step 4. (SUB CARRIER LEVEL Adjustment)

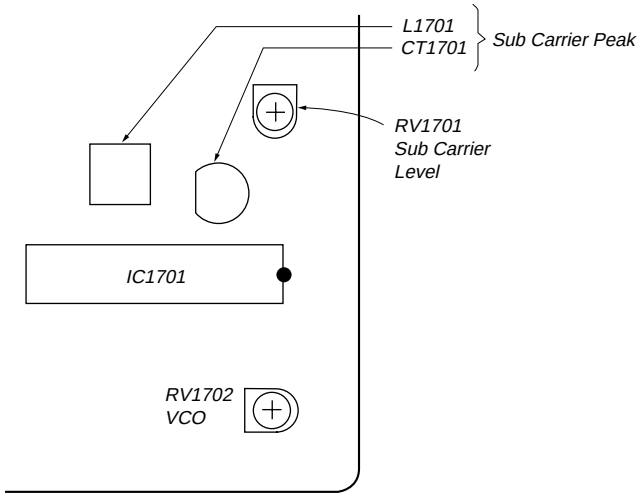
Adjustment Location: TCB board

Adjustment Location:

[TCB BOARD] (Conductor Side)



[TCB BOARD] (Component Side)

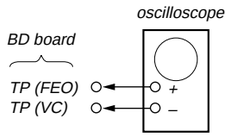


CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

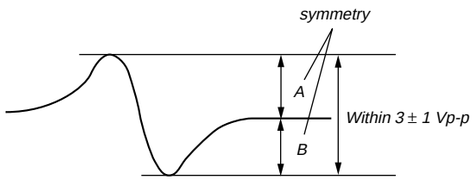
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and Ground by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1Vp-p.

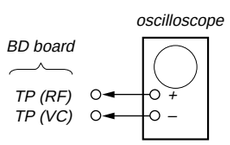
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

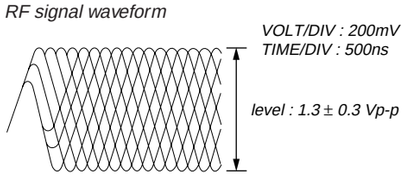


Procedure :

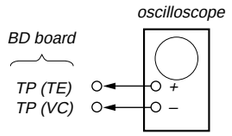
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform



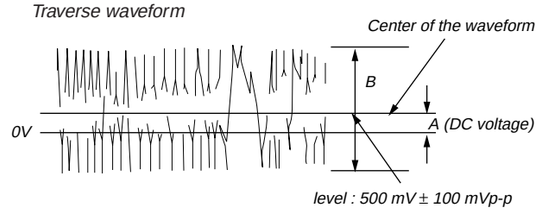
E-F Balance (Traverse) Check



Procedure :

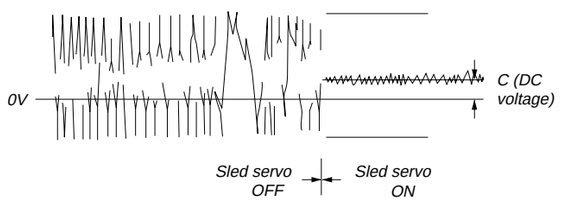
1. Connect oscilloscpe to test point TP (TEO) on BD board.
2. Turned Power switch on. Press [FUNCTION] button to select CD.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the [■] button, [ENTER/NEXT] button and [▶II] button simultaneously several times until the ''SHUFFLE" on the fluorescent display tube blinks.
   (The sledding servo is turned OFF.)
5. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 7%

Traverse waveform



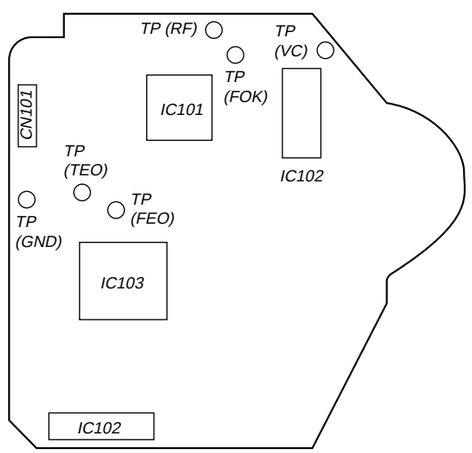
6. Press the [■] button, [ENTER/NEXT] button and [▶II] button simultaneously several times until the ''SHUFFLE" on the fluorescent display tube goes off. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 5.

Traverse waveform



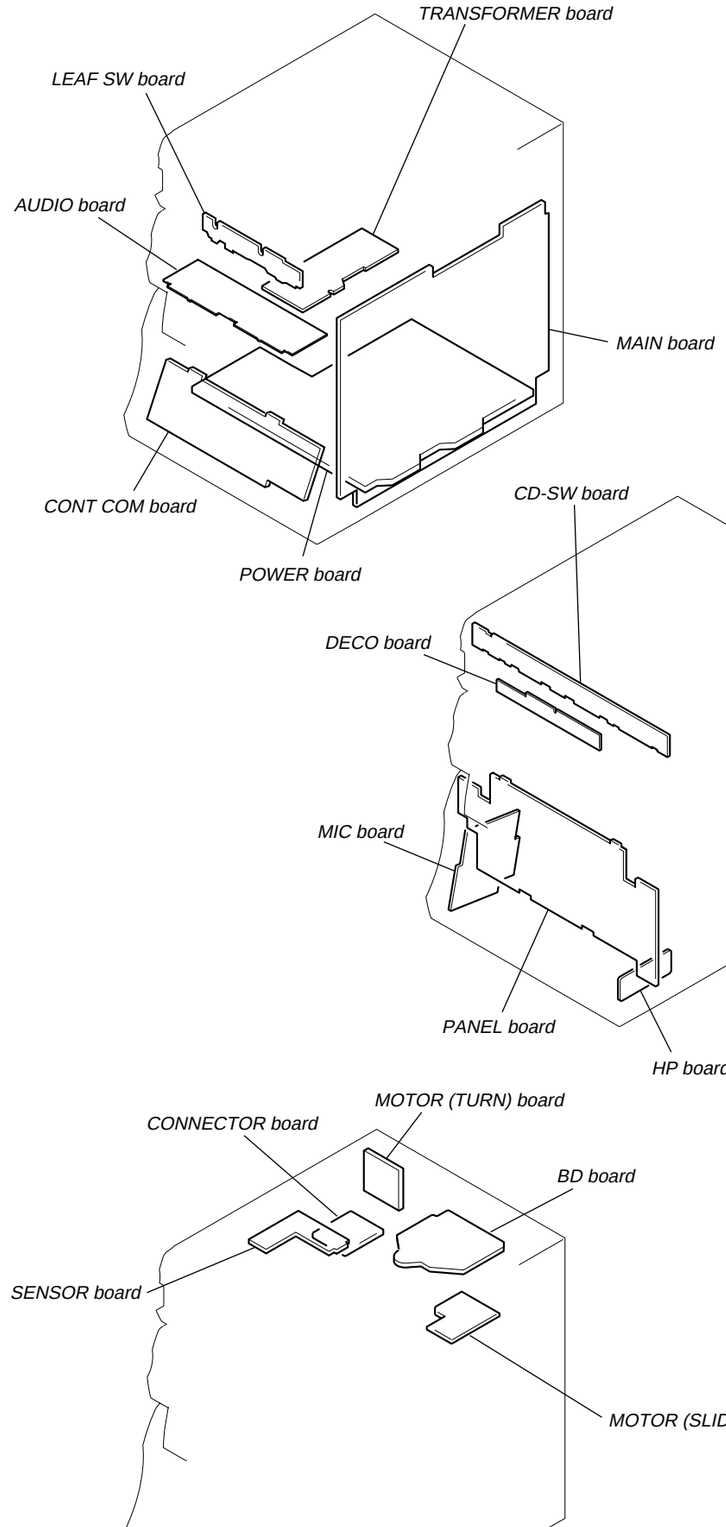
Adjustment Location :

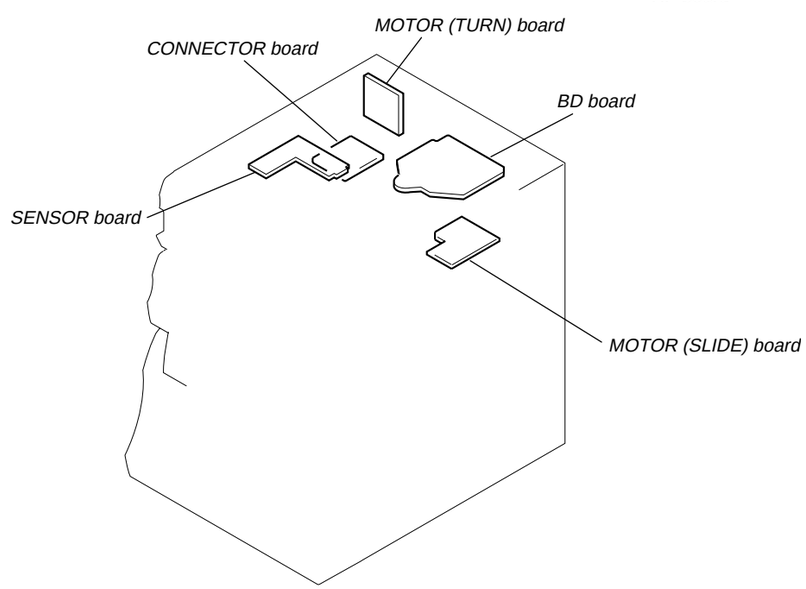
[BD BOARD] — SIDE A —



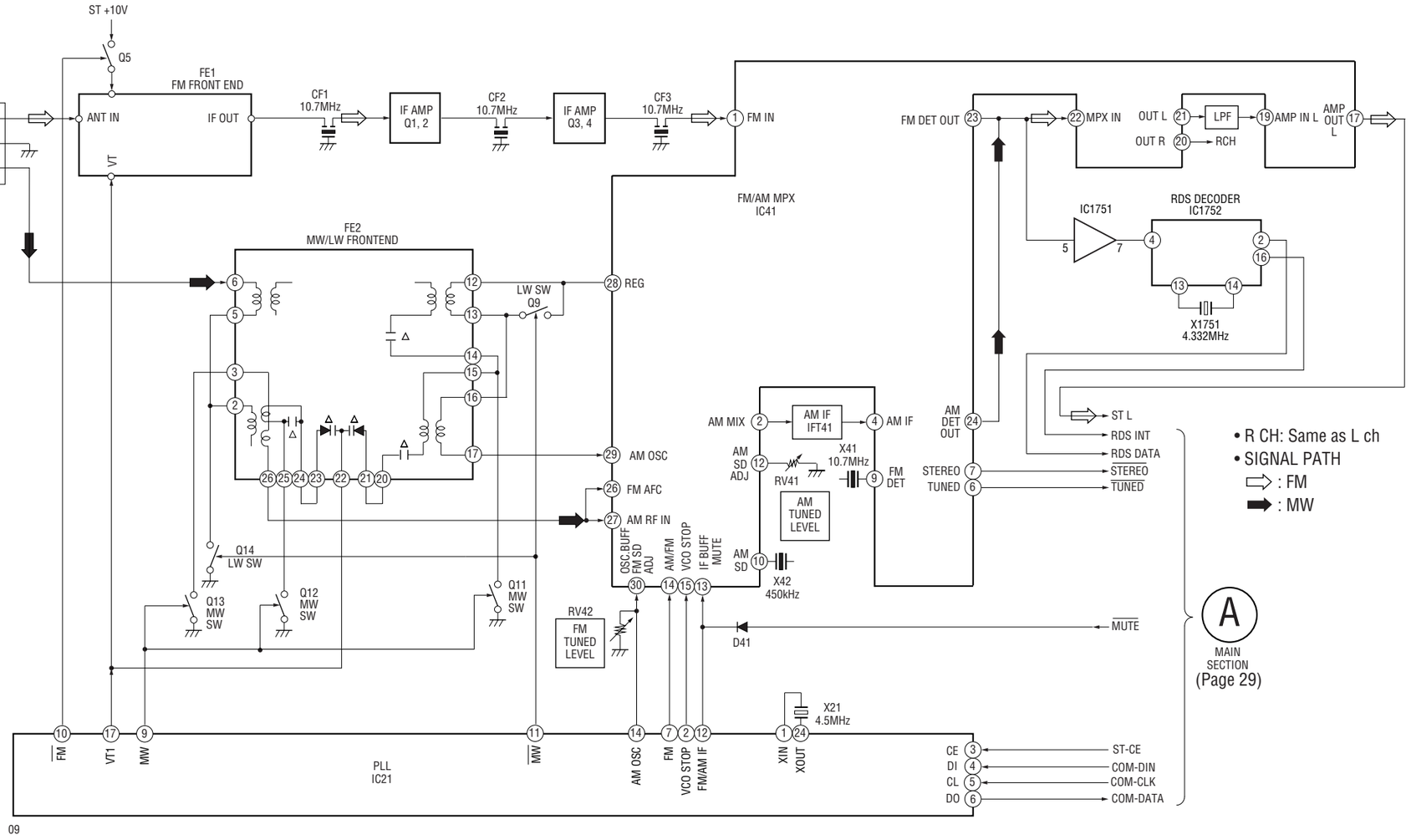
SECTION 7
DIAGRAMS

7-1. CIRCUIT BOARDS LOCATION

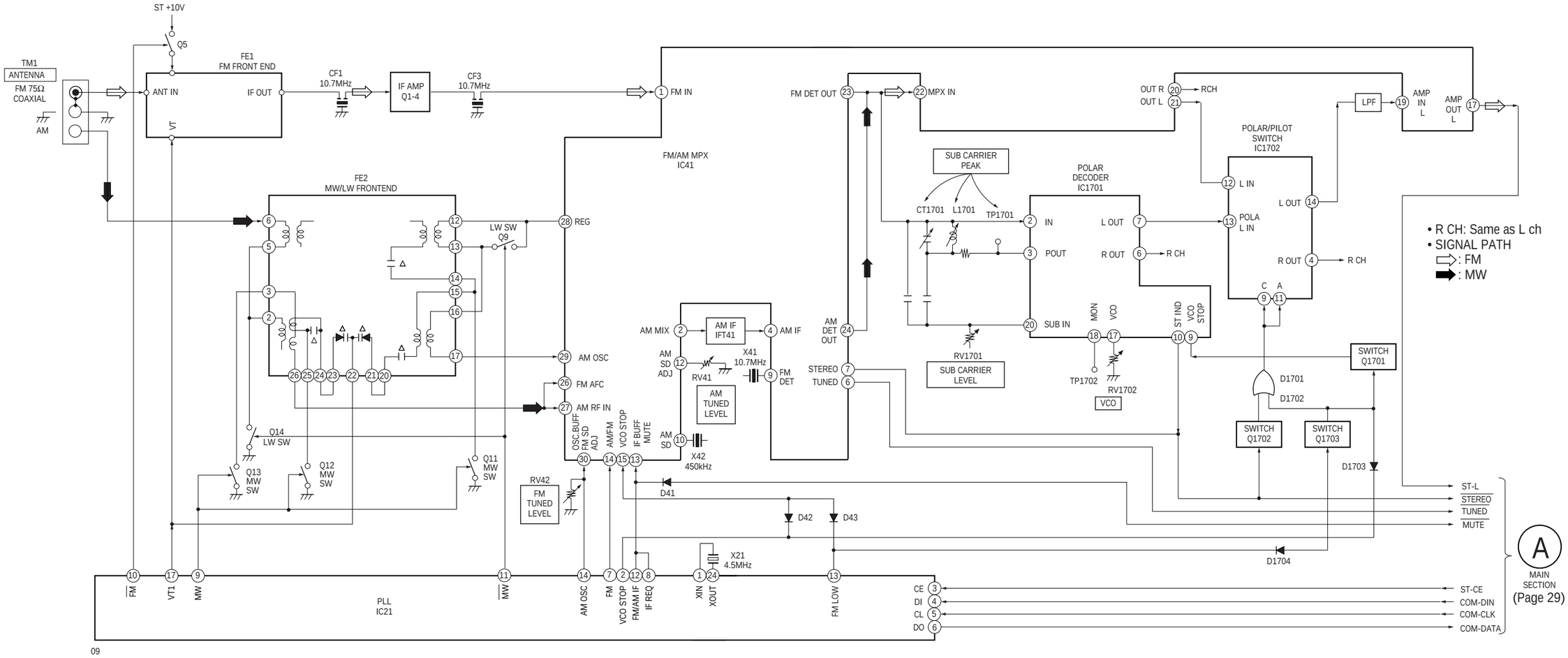




7-2. BLOCK DIAGRAMS
– TUNER SECTION – (AEP, UK, German model)



– TUNER SECTION – (East European, CIS model)



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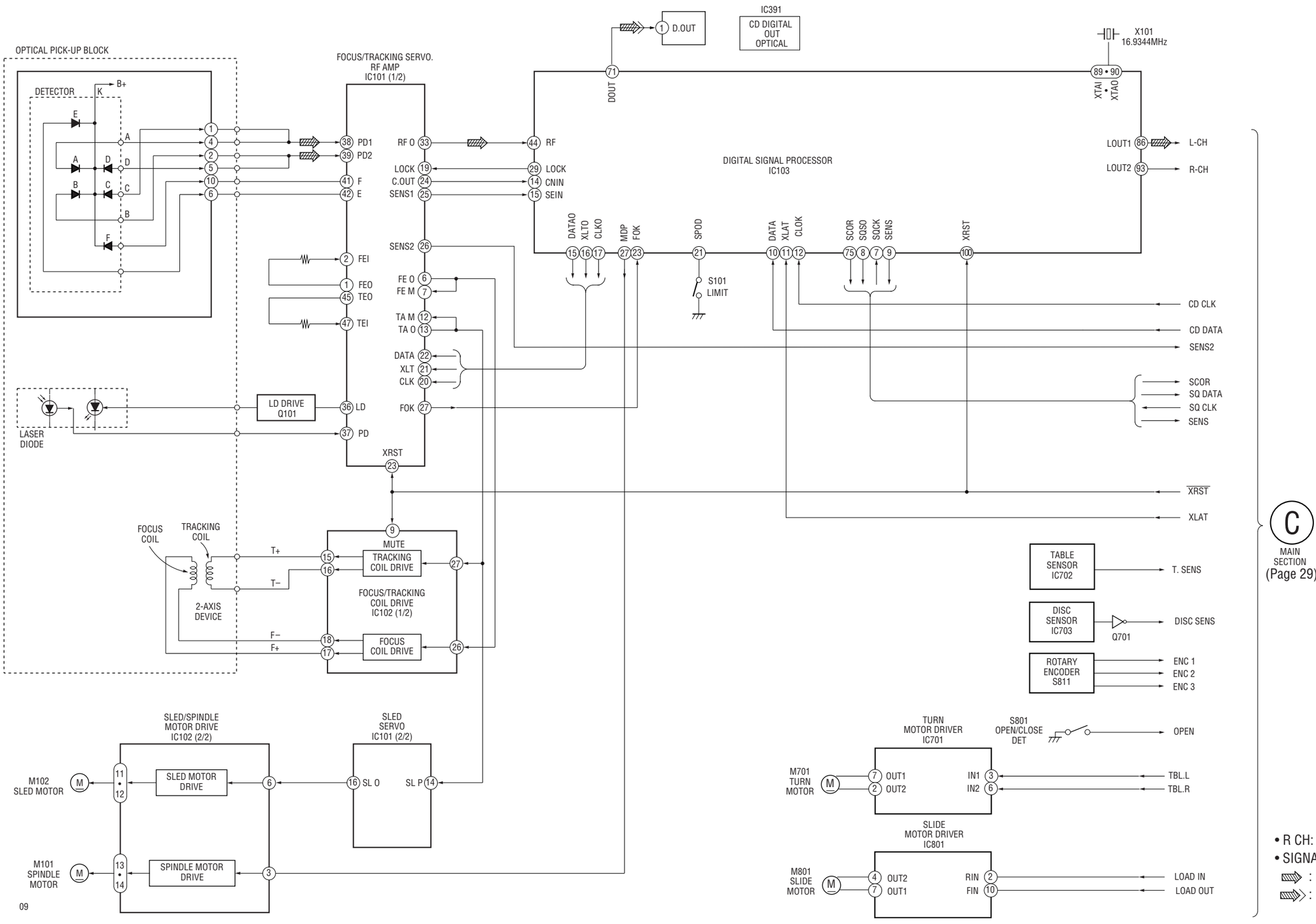
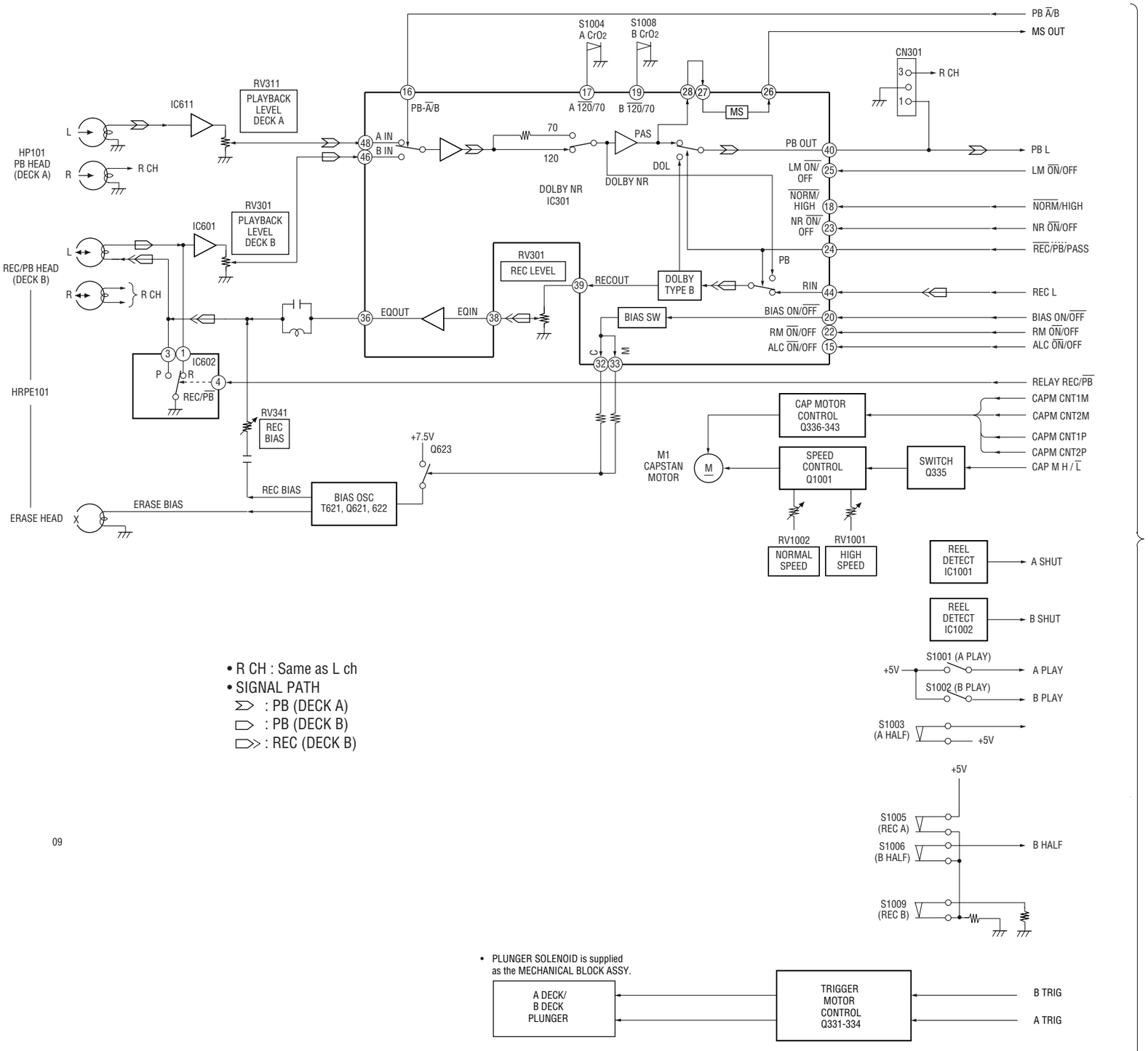
– CD SECTION –



C
MAIN
SECTION
(Page 29)

- R CH: Same as L ch
- SIGNAL PATH
  : CD
  : Digital out

– DECK SECTION –



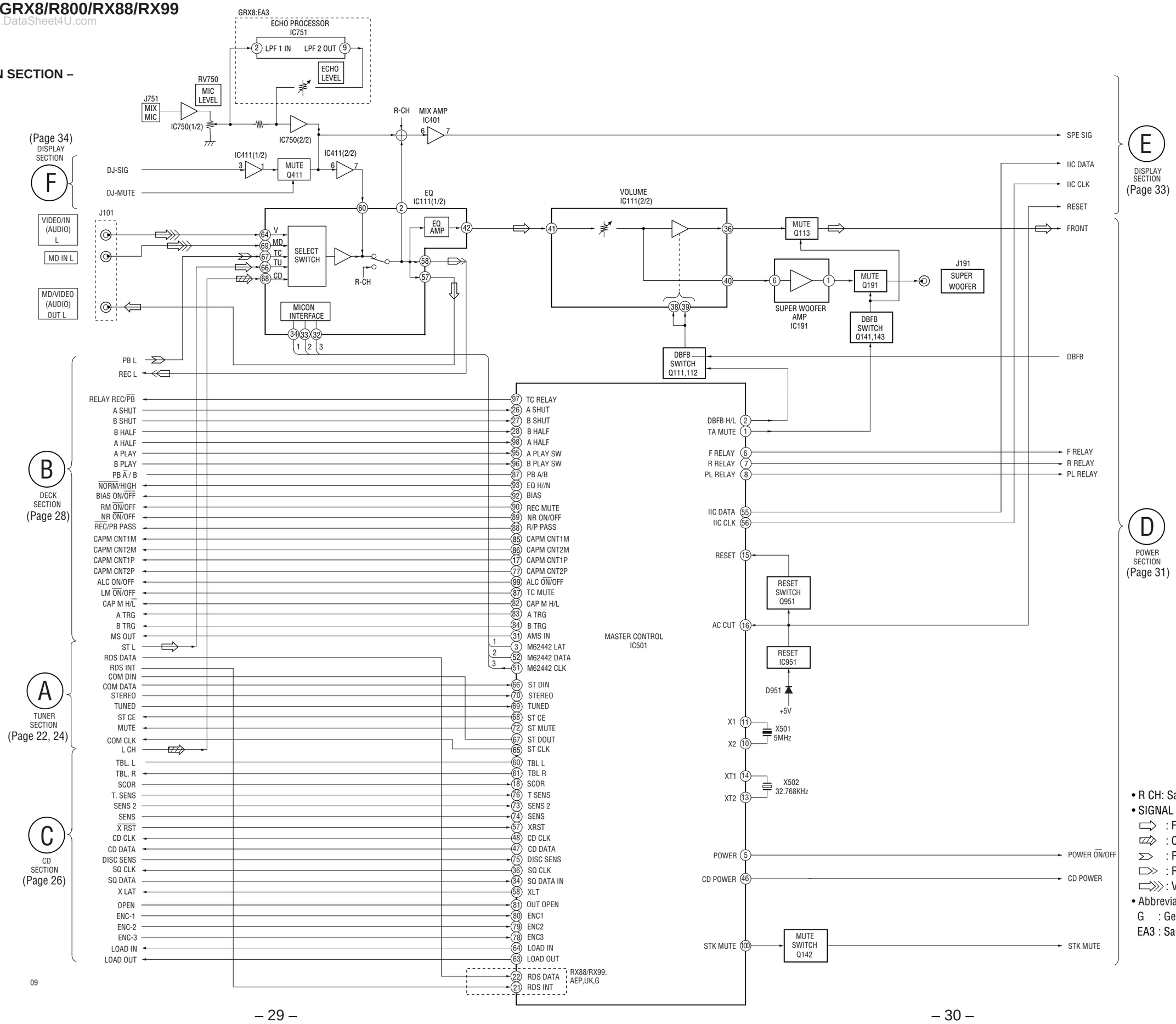
B
MAIN SECTION
(Page 29)

• R CH : Same as L ch
• SIGNAL PATH
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

09

• PLUNGER SOLENOID is supplied as the MECHANICAL BLOCK ASSY.

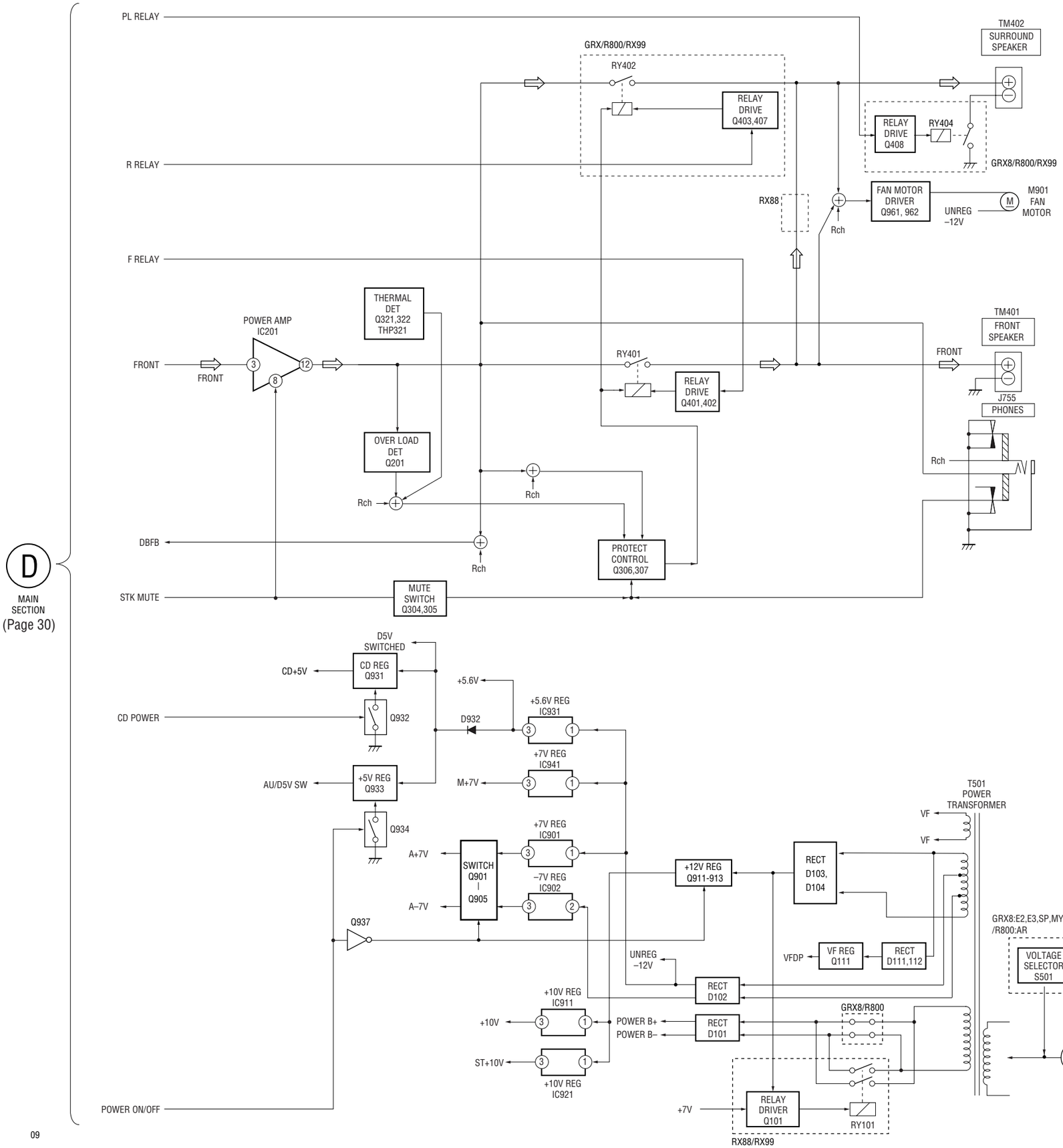
– MAIN SECTION –



- R CH: Same as L ch
- SIGNAL PATH
  - ⇨ : FM
  - ⇨ : CD
  - ⇨ : PB
  - ⇨ : REC
  - ⇨ : VIDEO/MD
- Abbreviation
  - G : German model.
  - EA3 : Saudi Arabia model.

09

– POWER SECTION –



D
MAIN SECTION
(Page 30)

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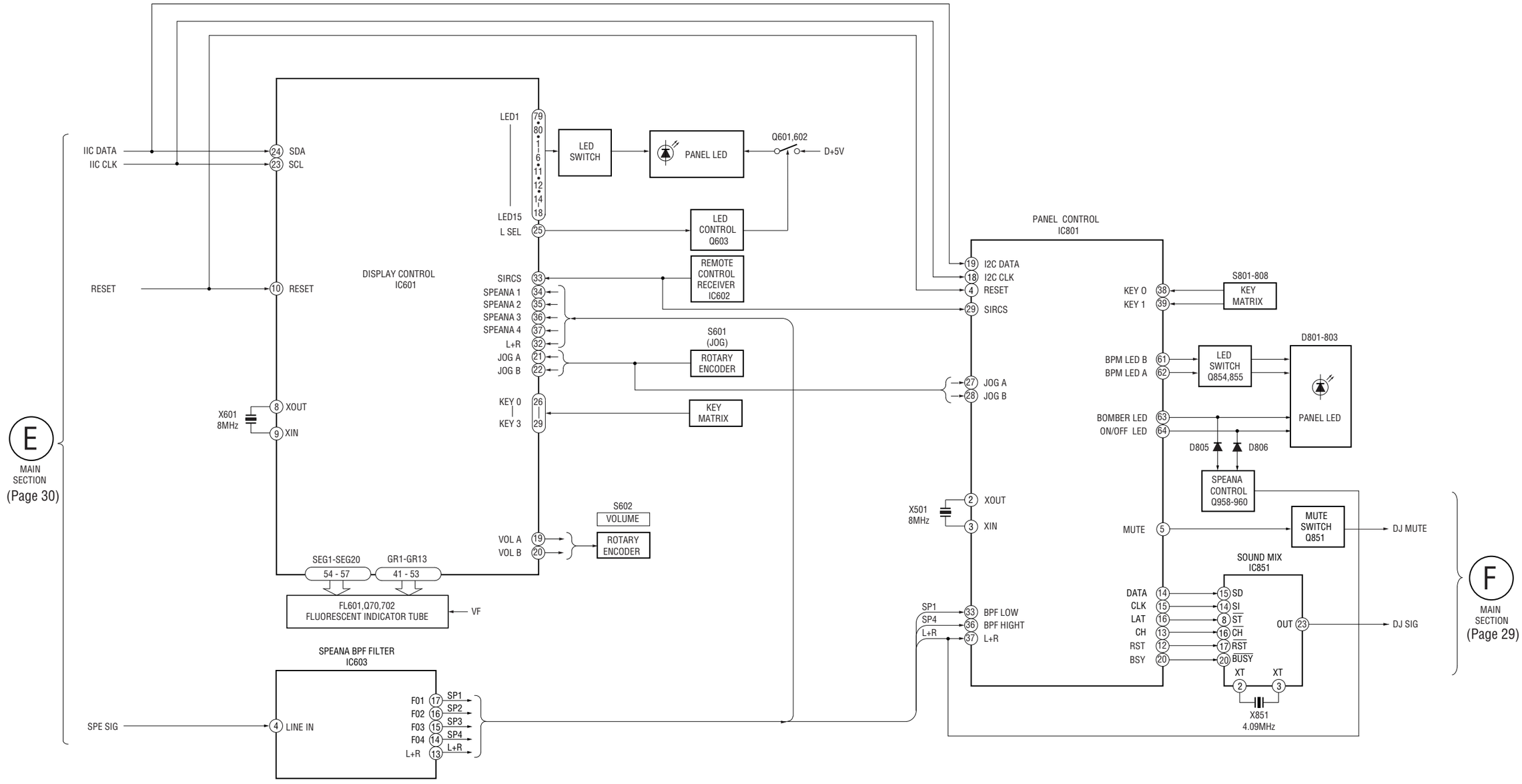
- R CH : Same as L ch
- SIGNAL PATH
  ⇨ : FM
- Abbreviation
  E2 : Without SW tuner E model.
  E3 : Without SW tuner E model.
  EA3 : Saudi Arabia model.
  SP : Singapore model.
  MY : Malaysia model.
  HK : Hong Kong model.
  TW : Taiwan model.
  AR :Argentine model.

– DISPLAY SECTION –



09

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- 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 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

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

- B+ : B+ Line.
- B− : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇛ : VIDEO/MD
  - Σ : PB (DECK A)
  - ▷ : PB (DECK B)
  - ▷» : REC (DECK B)
  - ⇨ : CD
  - ⇛ : digital out
- Abbreviation
  - G : German model.
  - E2 : Without SW tuner E model.
  - E3 : With SW tuner E model.
  - EA3 : Saudi Arabia model.
  - EA4 : Israeli model.
  - EE : East European model.
  - AUS : Australian model.
  - SP : Singapore model.
  - MY : Malaysia model.
  - HK : Hong Kong model.
  - TW : Taiwan model.
  - AR : Argentine model.
  - IA : Indonesian model.
  - TH : Thai model.
  - MX : Mexican model.
  - SAF : South African model.

For printed wiring boards.

Note:

- o——— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

WAVEFORMS
– CD SECTION –

① 1.3Vp-p, 500mV/DIV, 500nsec/DIV
IC101 ㉝ RFO

② 0.5Vp-p, 200mV/DIV, 1µsec/DIV
IC101 ② FEI

③ 0.2Vp-p, 50mV/DIV, 1msec/DIV
IC101 ㊼ TEI

④ 7.8µsec, 2.5Vp-p
IC103 ㉗ MDP

⑤ 230µsec, 5Vp-p
IC103 ㊿ XPCK

⑥ 135µsec, 5Vp-p
IC103 ㊷ RFCK

⑦ 135µsec, 5Vp-p
IC103 ㉞ WFCK

⑧ 2.6Vp-p, 16.9344MHz
IC103 ㊾ XTAI

– TUNER SECTION –
(AEP, UK, German model)

① 4.2Vp-p, 4.5MHz
IC21 ㉔ XOUT

② 2Vp-p, 4.332MHz
IC1752 ⑭ OEC O

– TUNER SECTION –
(East European, CIS model)

① 4.2Vp-p, 4.5MHz
IC21 ㉔ XOUT

– MAIN SECTION –

① 5.5Vp-p, 5MHz
IC501 ⑩ X2

② 5Vp-p, 32.768kHz
IC501 ⑬ XT2

– DISPLAY SECTION –

① 4Vp-p, 8MHz
IC601 ⑧ X-OUT

② 4.3Vp-p, 8MHz
IC801 ② X-OUT

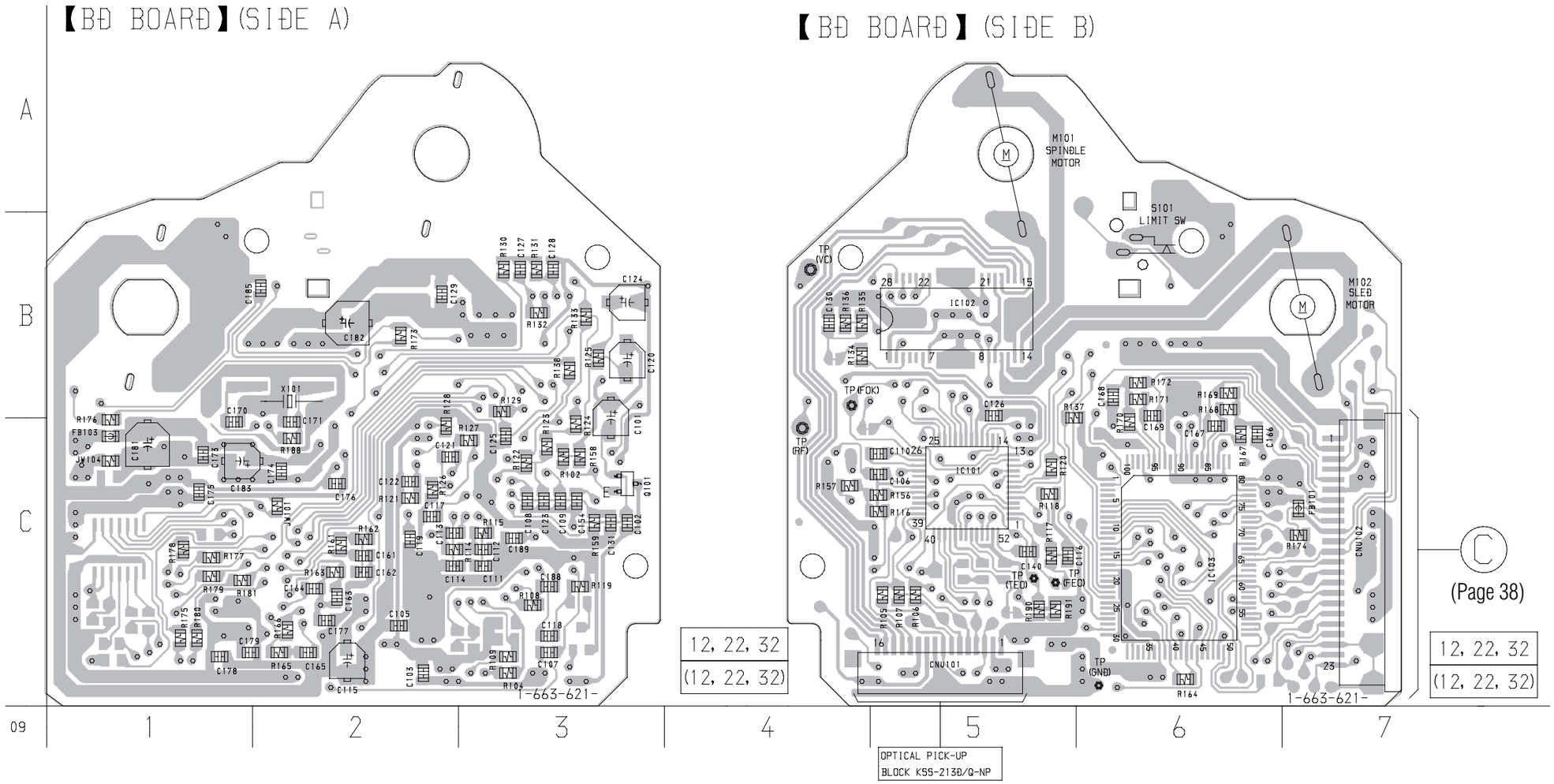
③ 3.6Vp-p, 4.09MHz
IC851 ② TX

7-3. PRINTED WIRING BOARD — CD SECTION —

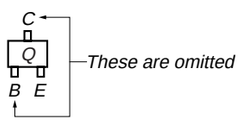
• See page 20 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
IC101	C-5
IC102	B-5
IC103	C-6
Q101	C-3

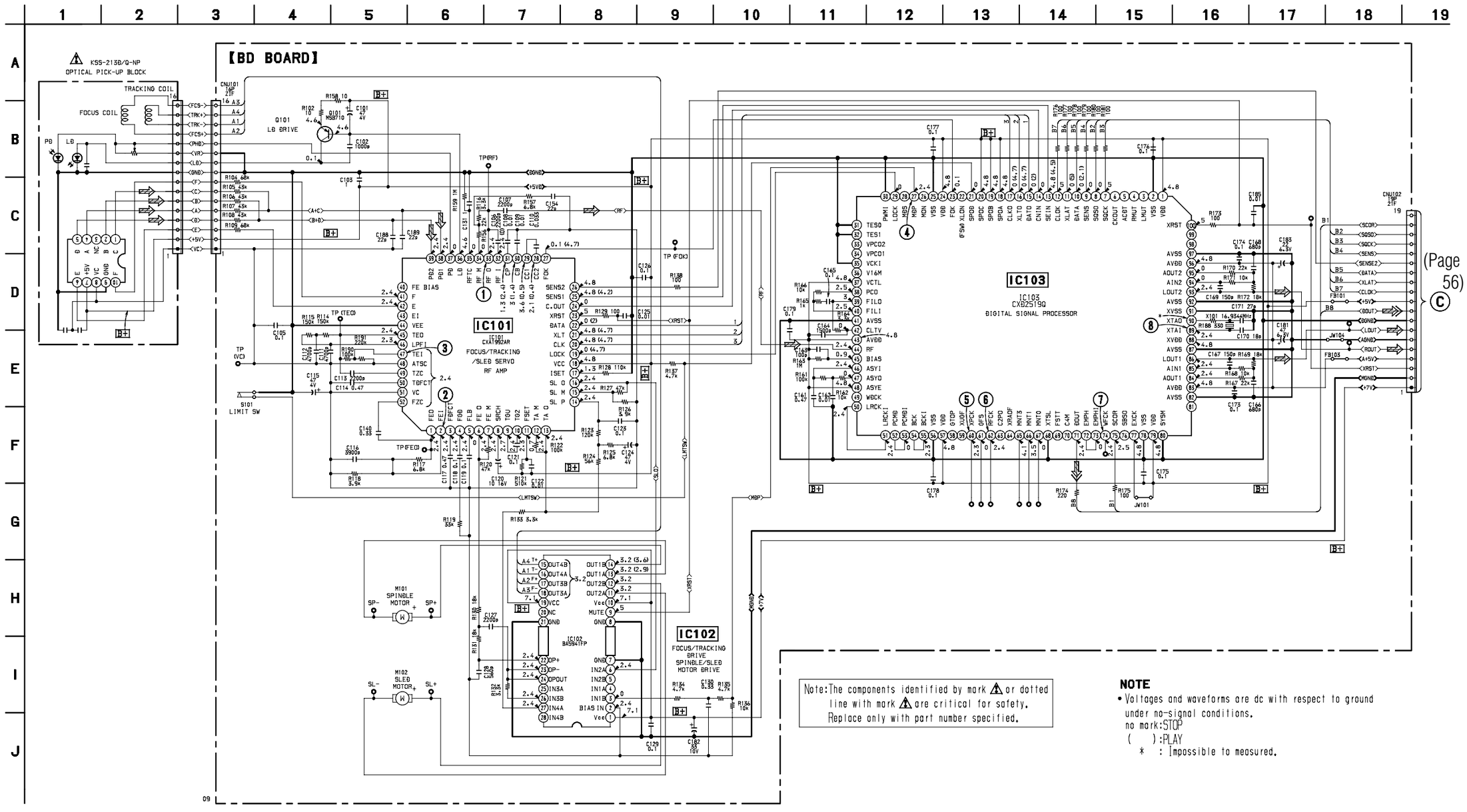


• **Indication of transistor**



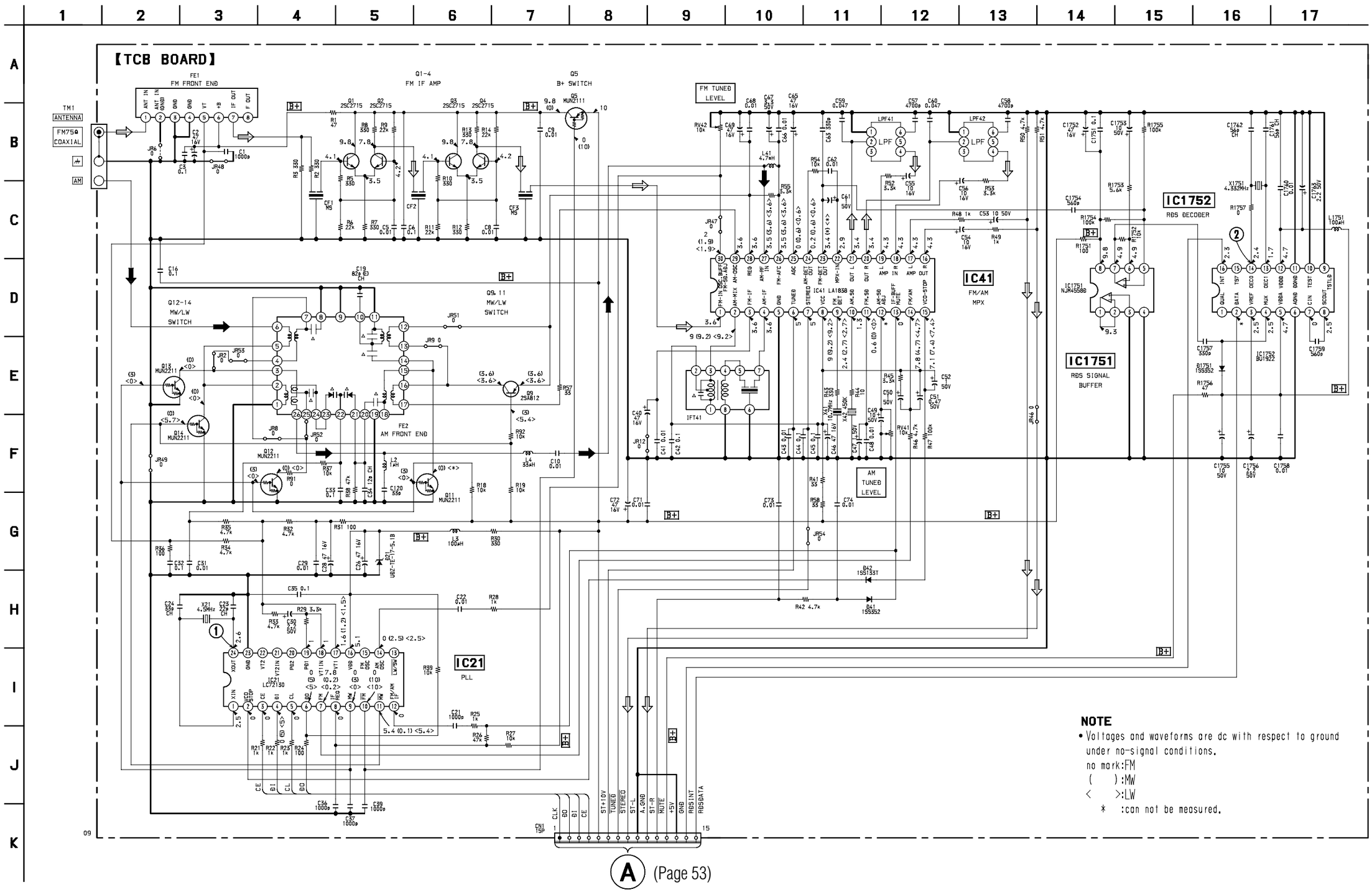
7-4. SCHEMATIC DIAGRAM — CD SECTION —

- See page 35 for Waveforms.
- See page 85 for IC Block Diagrams.
- See page 88 for IC Pin Functions.



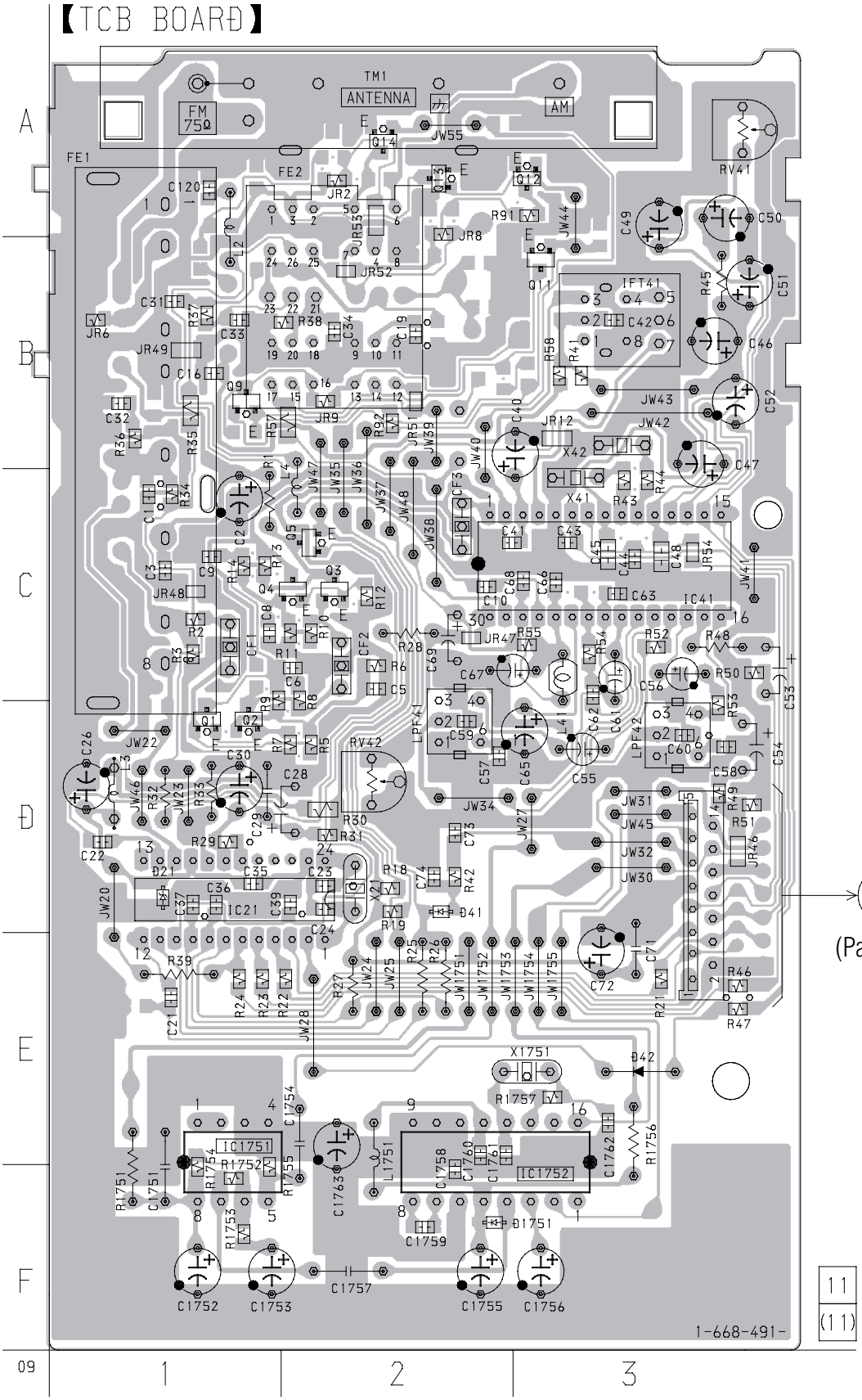
7-5. SCHEMATIC DIAGRAM – TUNER SECTION – (AEP, UK, German model)

- See page 36 for Waveforms.
- See page 83 for IC Block Diagrams.



7-6. PRINTED WIRING BOARD – TUNER SECTION – (AEP, UK, German model)

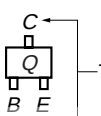
• See page 20 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D21	D-1
D41	D-2
D42	E-3
D1751	F-2
IC21	D-1
IC41	C-3
IC1751	E-1
IC1752	F-3
Q1	D-1
Q2	D-1
Q3	C-2
Q4	C-2
Q5	C-2
Q9	B-1
Q11	B-3
Q12	A-3
Q13	A-2
Q14	A-2

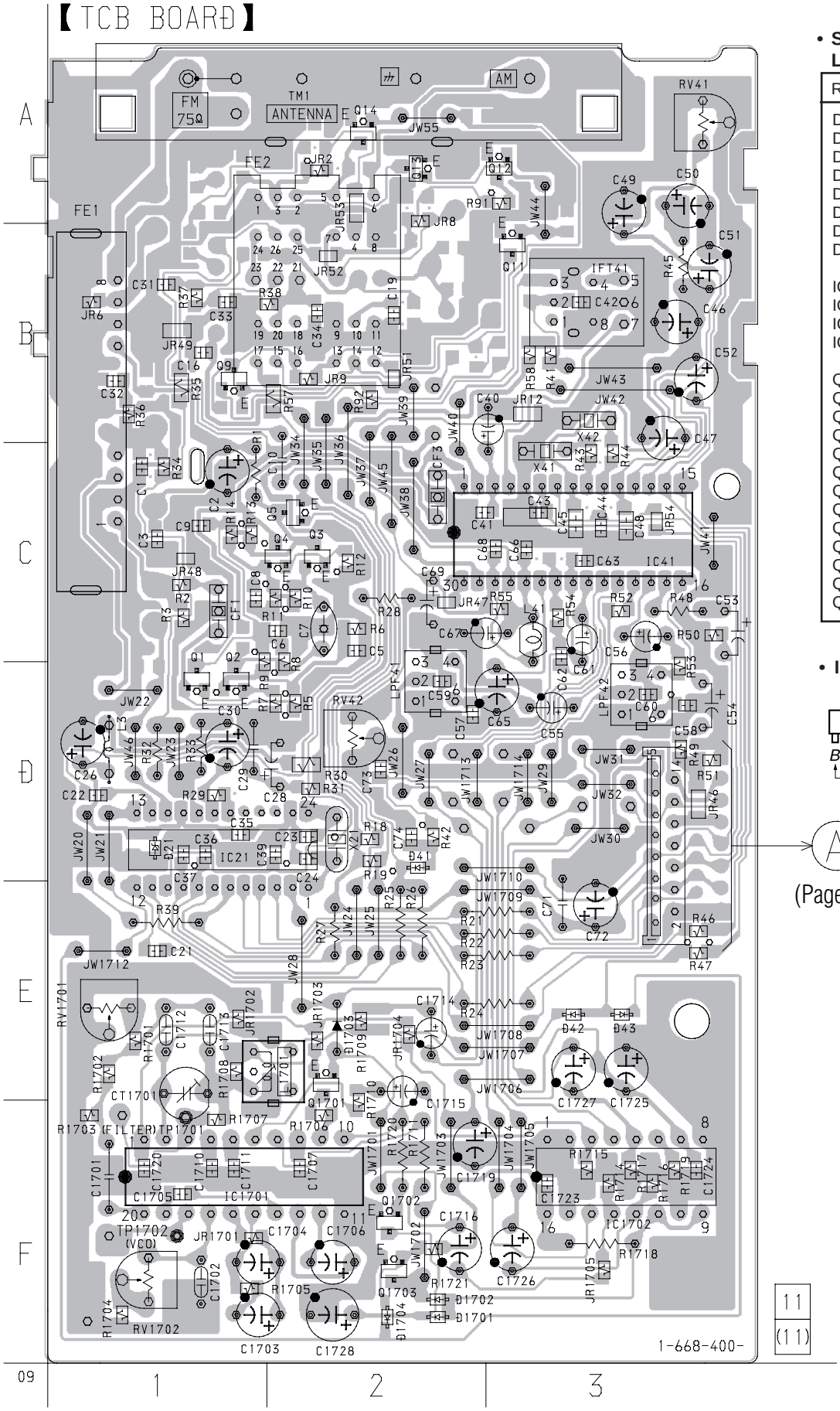
• **Indication of transistor**



These are omitted

7-7. PRINTED WIRING BOARD – TUNER SECTION – (East European, CIS model)

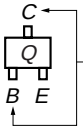
• See page 20 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D1	D-1
D41	D-2
D42	E-3
D43	E-3
D1701	F-2
D1702	F-2
D1703	E-2
D1704	F-2
IC21	D-1
IC41	C-3
IC1701	F-1
IC1702	F-3
Q1	D-1
Q2	D-2
Q3	C-2
Q4	C-2
Q5	C-2
Q9	B-1
Q11	B-3
Q12	A-3
Q13	A-2
Q14	A-2
Q1701	E-2
Q1702	F-2
Q1703	F-2

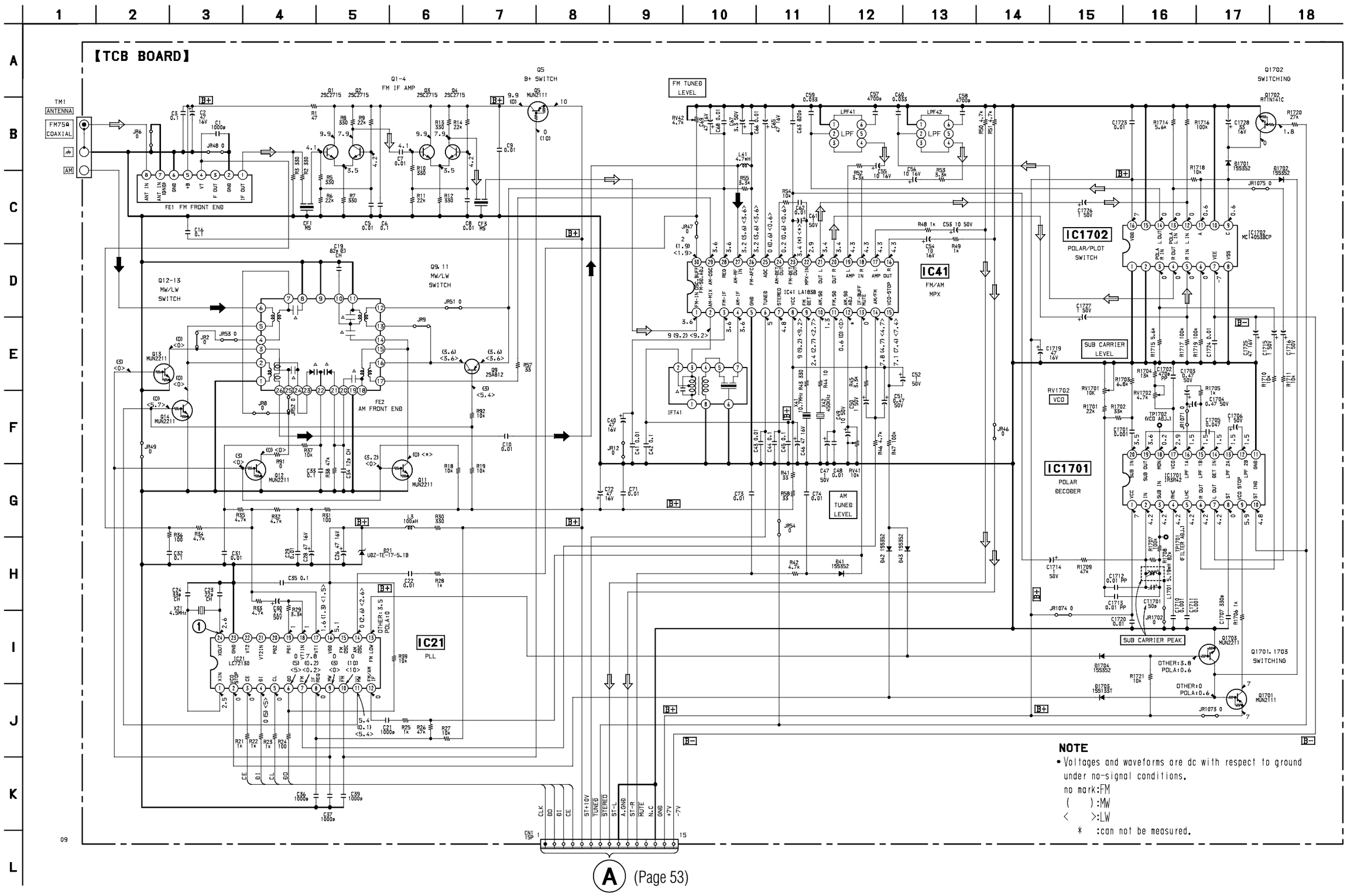
• **Indication of transistor**



These are omitted

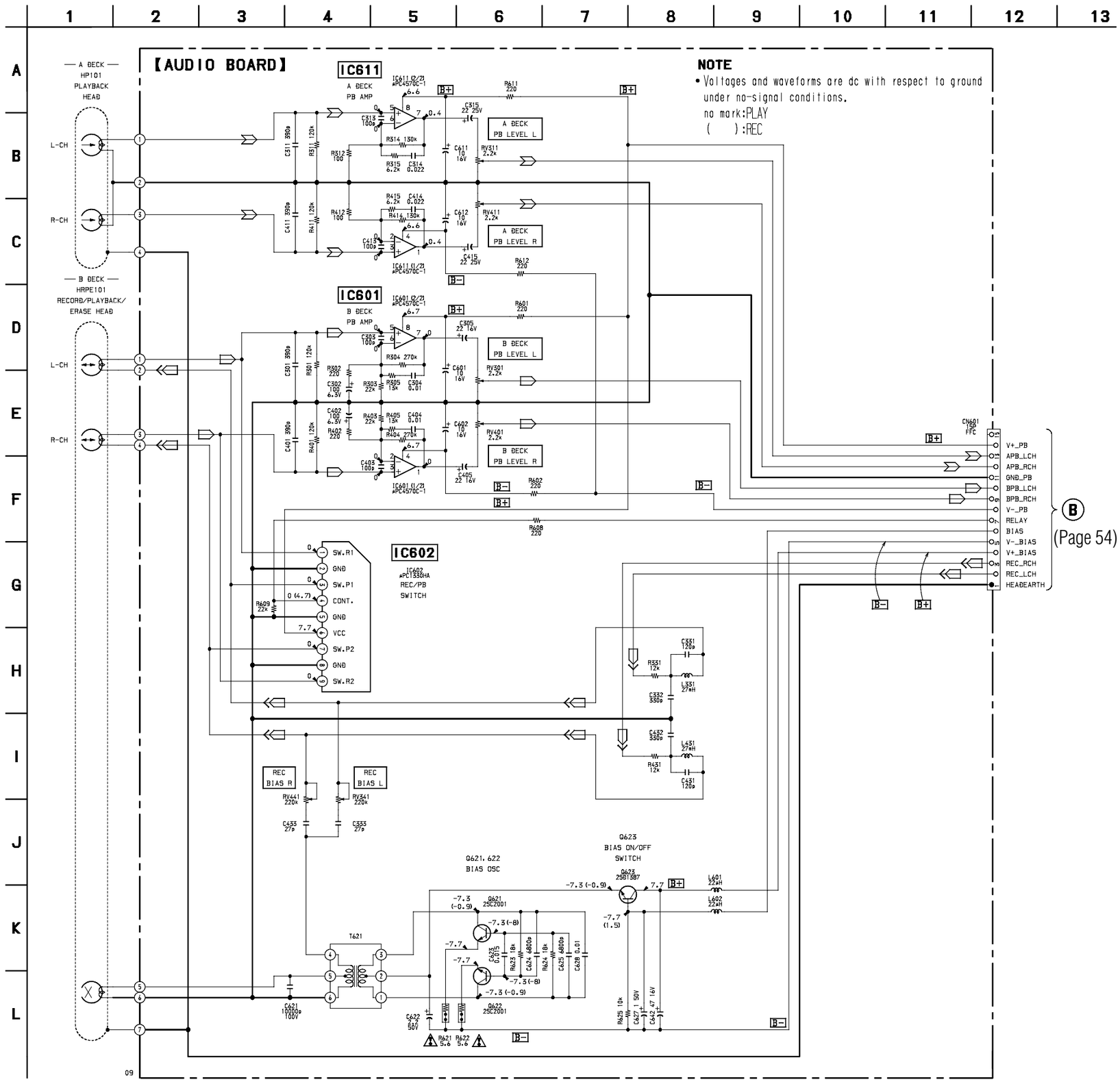
7-8. SCHEMATIC DIAGRAM – TUNER SECTION – (East European, CIS model)

- See page 36 for Waveforms.
- See page 83 for IC Block Diagrams.



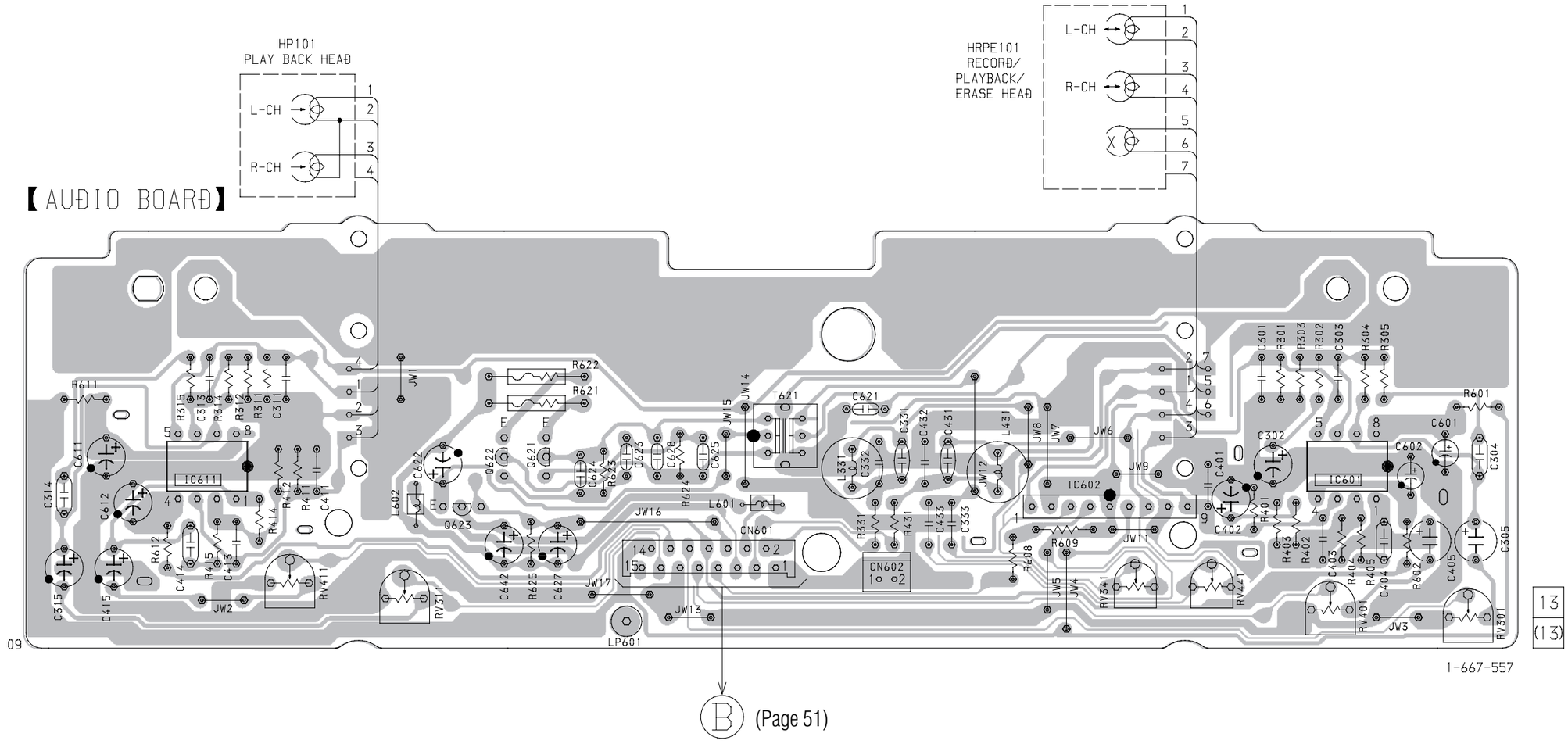
7-9. SCHEMATIC DIAGRAM – DECK SECTION –

• See page 87 for IC Block Diagrams.

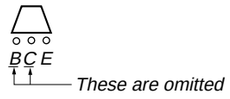


7-10. PRINTED WIRING BOARD – DECK SECTION –

• See page 20 for Circuit Boards Location.



• Indication of transistor

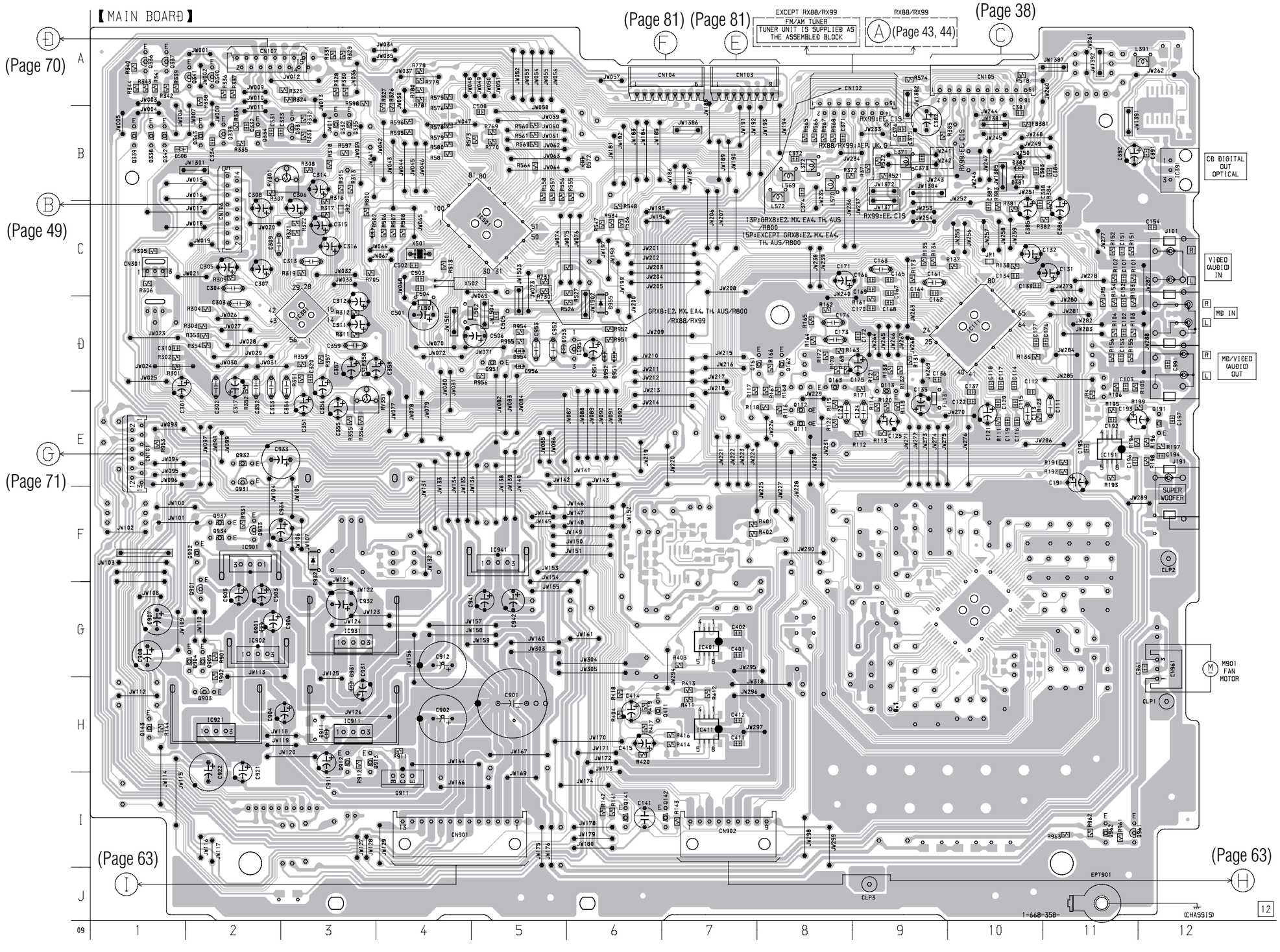


7-11. PRINTED WIRING BOARD – MAIN SECTION –

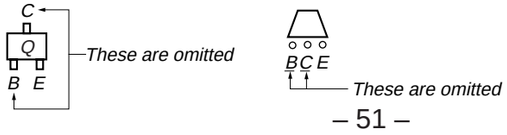
• See page 20 for Circuit Boards Location.

• **Semiconductor Location**

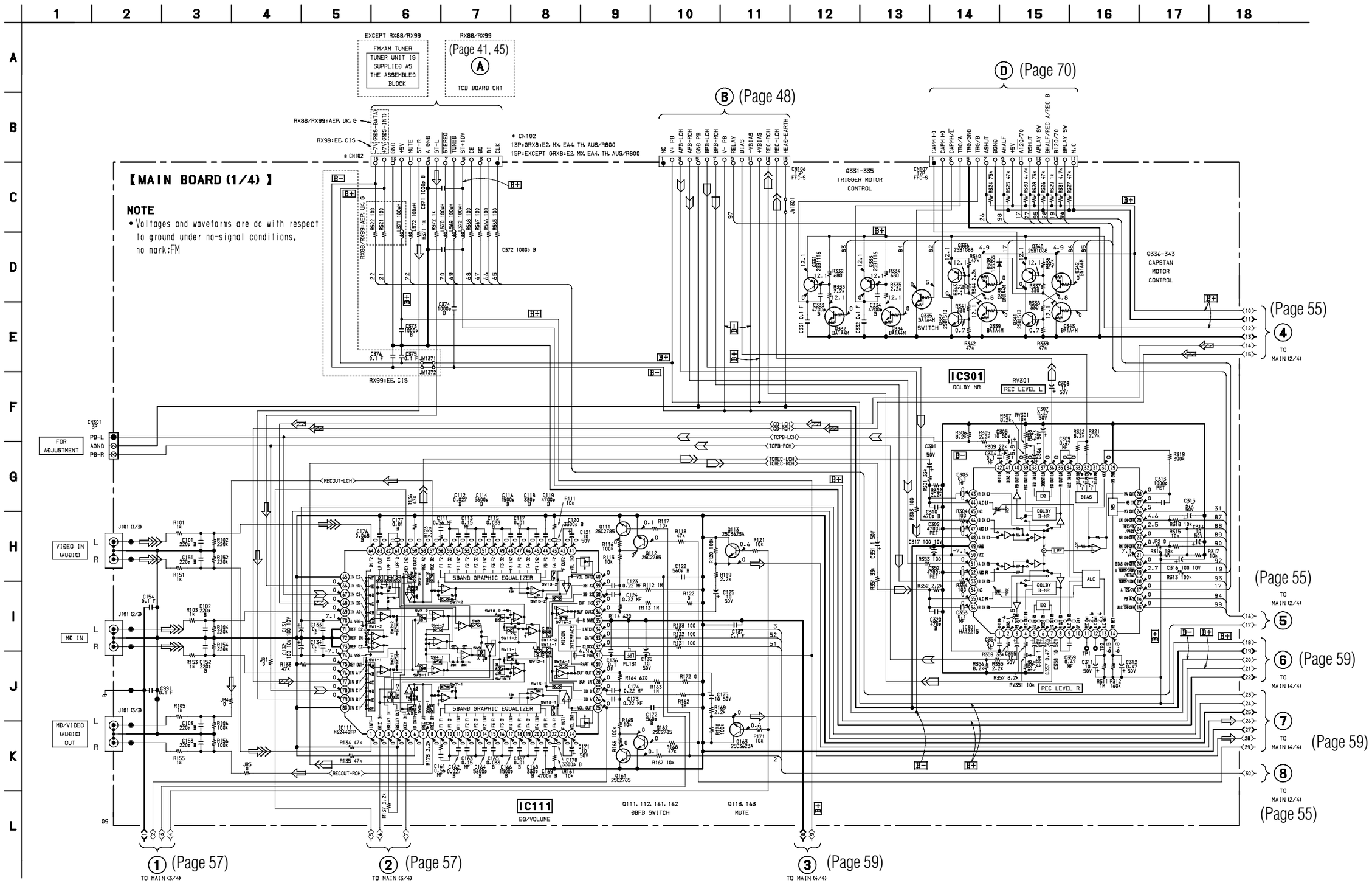
Ref. No.	Location
D381	B-10
D382	B-10
D502	C-3
D508	B-1
D572	B-6
D901	G-2
D911	H-3
D931	H-3
D932	F-3
D951	D-6
D952	D-6
D953	D-5
D954	D-5
D955	D-6
D956	D-5
IC111	D-10
IC191	E-11
IC301	D-3
IC391	B-12
IC401	G-7
IC411	H-7
IC501	C-5
IC901	F-2
IC902	G-2
IC911	H-3
IC921	H-2
IC931	G-3
IC941	F-5
IC951	D-6
Q111	E-8
Q112	E-8
Q113	E-9
Q141	I-6
Q142	I-7
Q143	H-1
Q161	D-8
Q162	D-8
Q163	D-8
Q191	E-12
Q331	B-3
Q332	B-3
Q333	B-2
Q334	B-2
Q335	B-3
Q336	A-1
Q337	A-1
Q338	B-1
Q339	B-1
Q340	A-2
Q341	A-2
Q342	B-1
Q343	B-2
Q411	H-6
Q901	G-2
Q902	F-2
Q903	H-2
Q904	G-2
Q905	G-2
Q911	I-4
Q912	H-3
Q913	H-3
Q931	E-2
Q932	E-2
Q933	F-2
Q934	F-2
Q937	F-2
Q951	D-5
Q961	I-11
Q962	I-11



• **Indication of transistor**

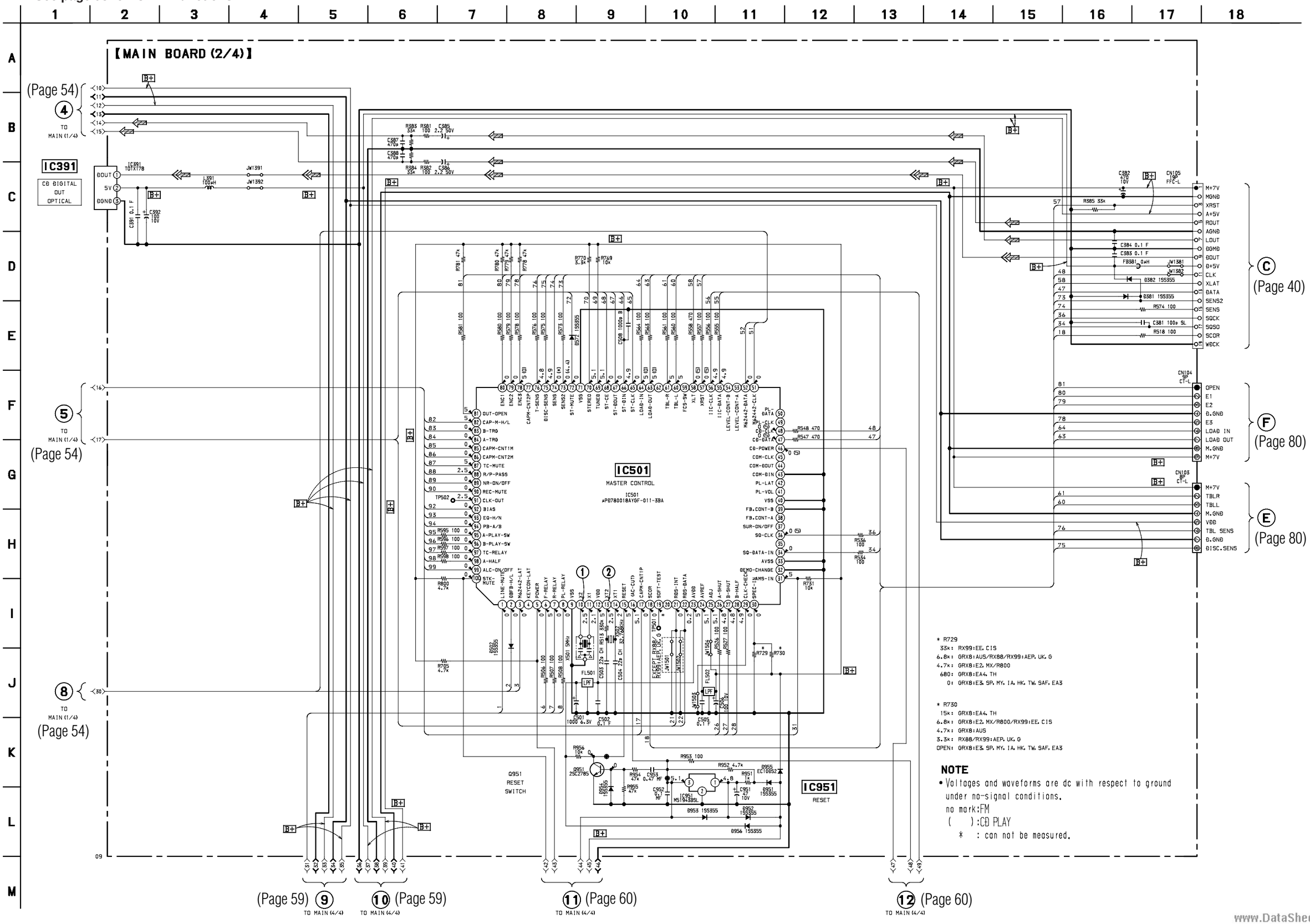


7-12. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



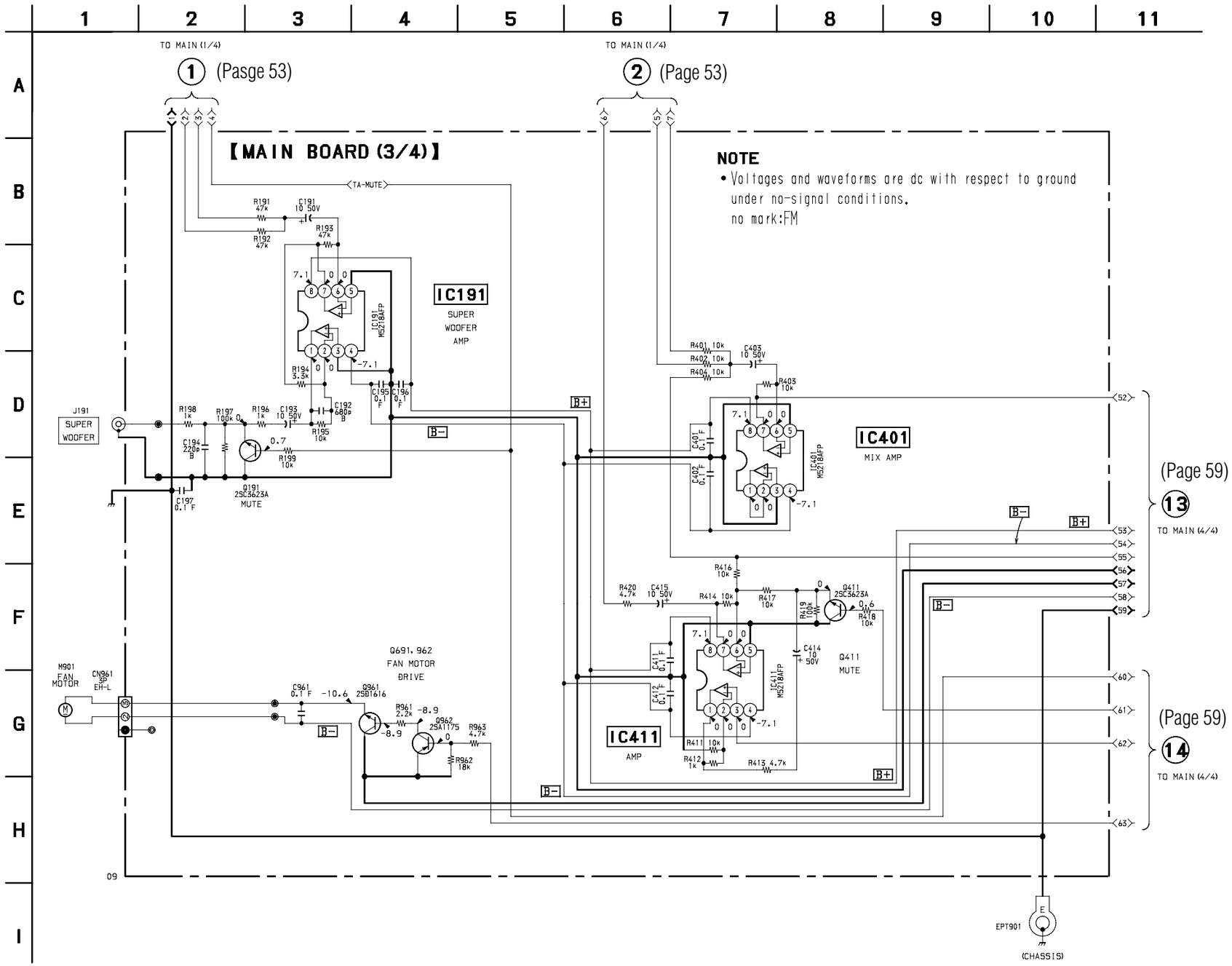
7-13. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

- See page 36 for Waveforms.
- See page 51 for Printed Wiring Board.
- See page 93 for IC Pin Functions.



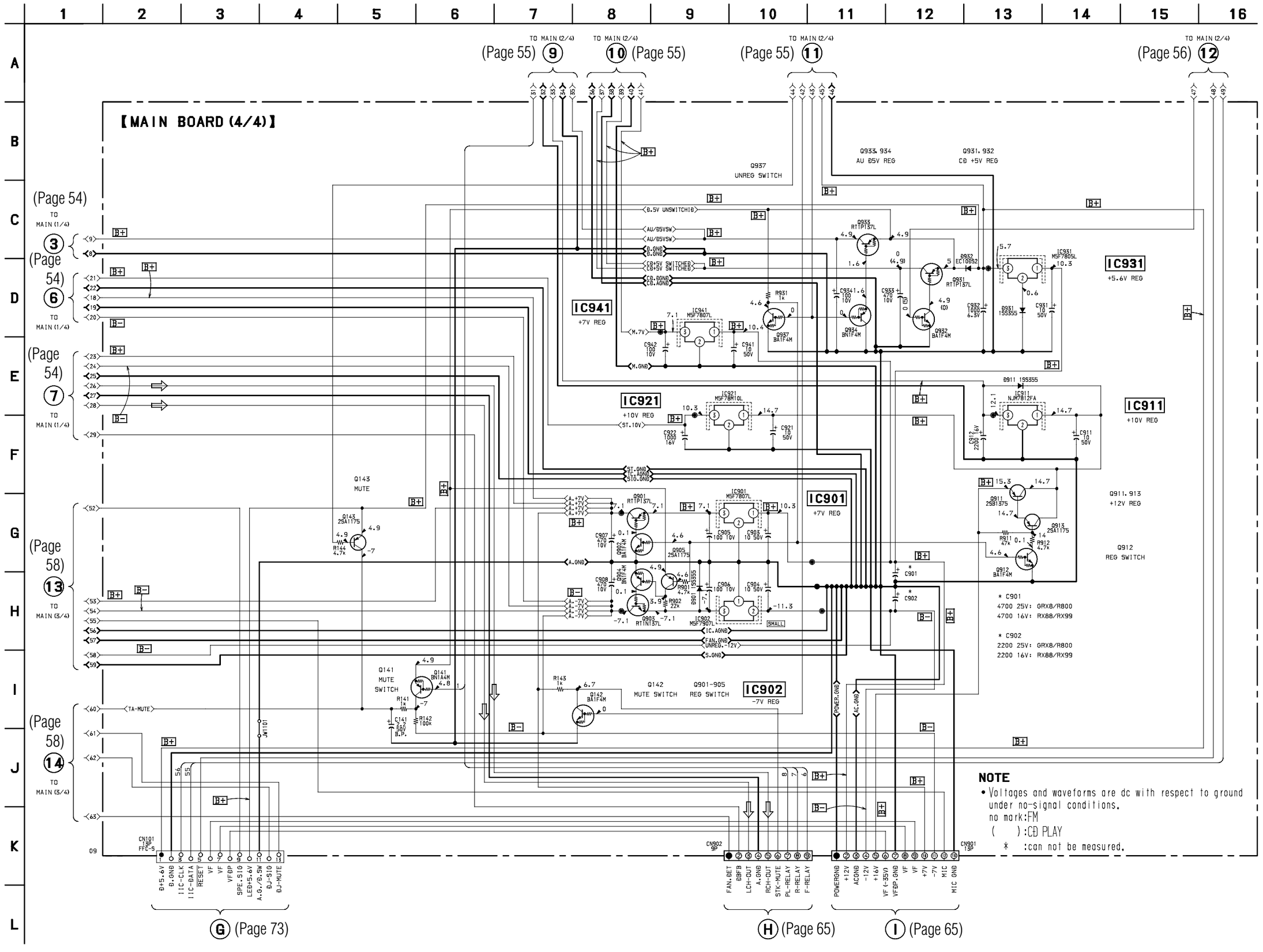
7-14. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

• See page 51 for Printed Wiring Board.



7-15. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

• See page 51 for Printed Wiring Board.

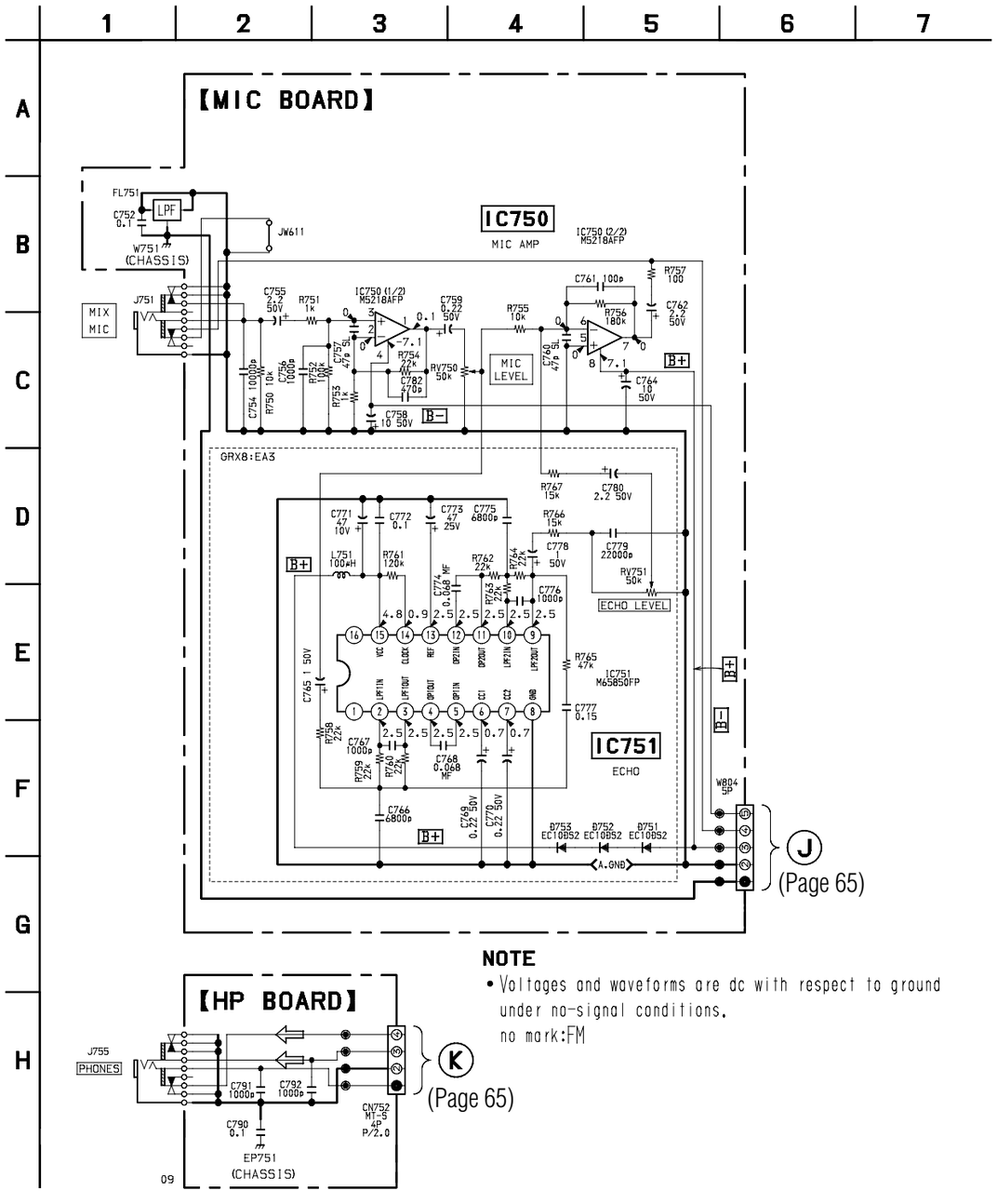


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM
  ( ):CD PLAY
  * :can not be measured.

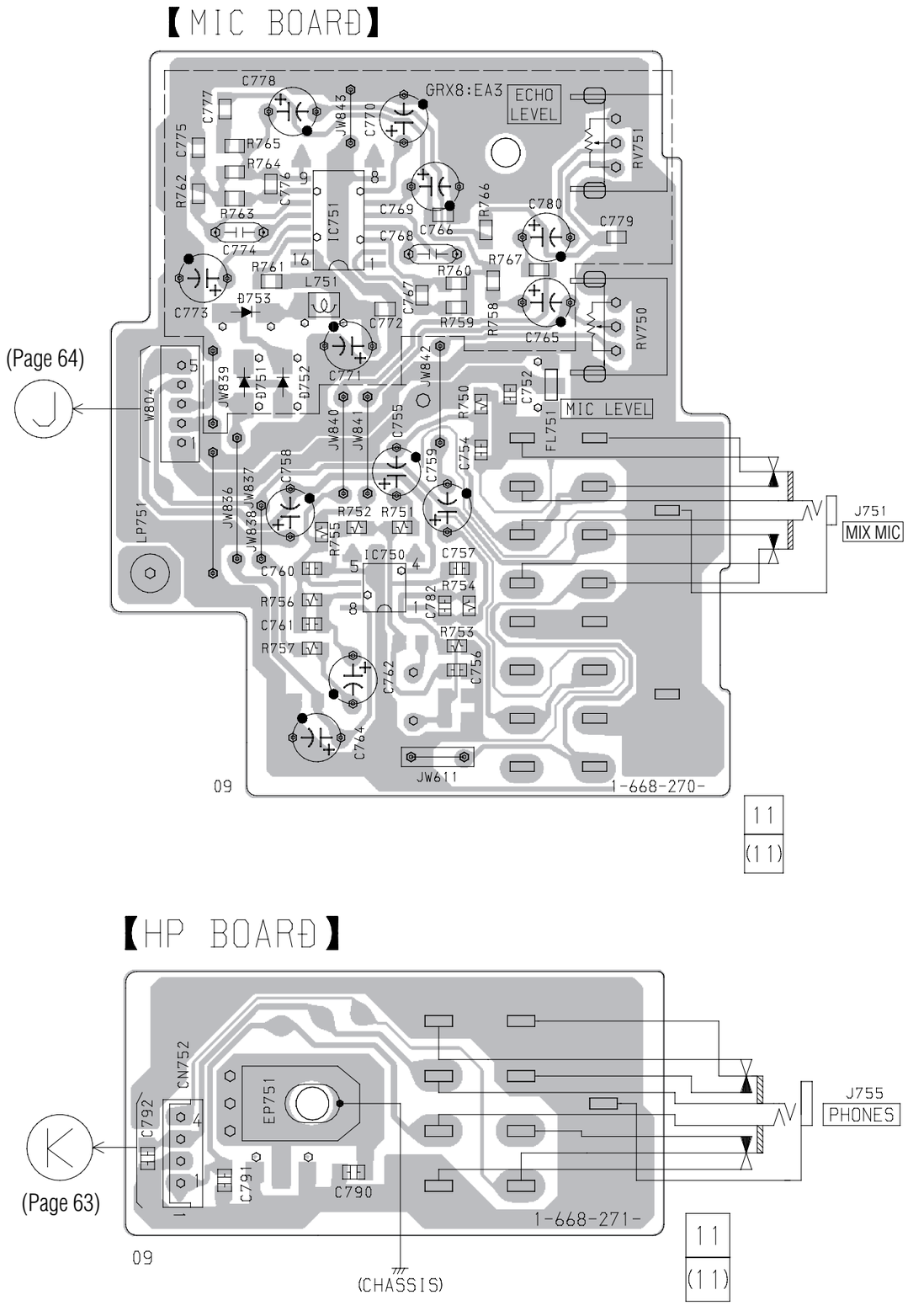
7-16. SCHEMATIC DIAGRAM – MIC/HP SECTION –

• See page 87 for IC Block Diagrams.



7-17. PRINTED WIRING BOARD – MIC/HP SECTION –

• See page 20 for Circuit Boards Location.



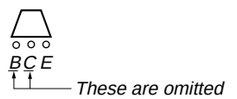
7-18. PRINTED WIRING BOARD – POWER SECTION –

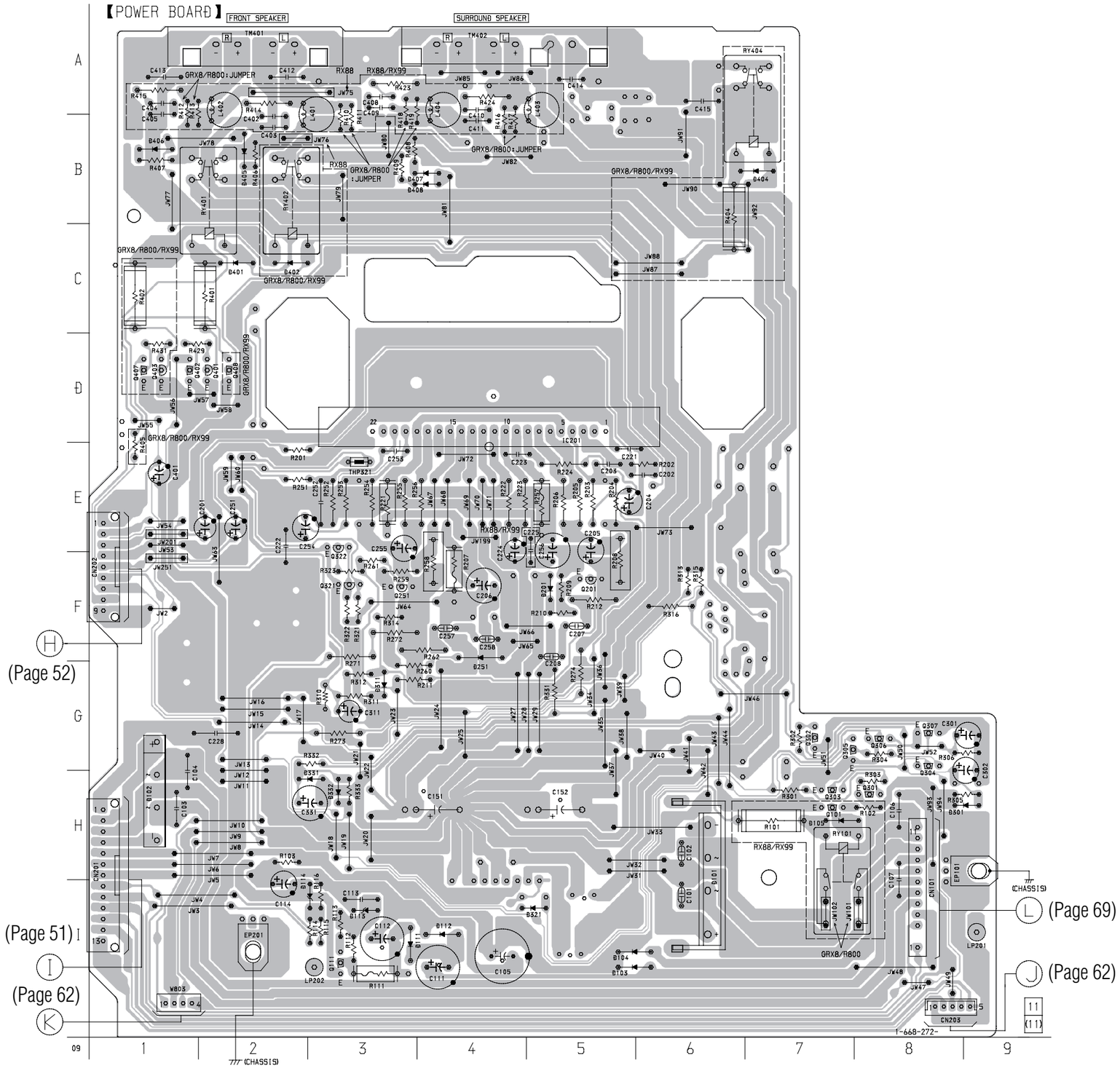
• See page 20 for Circuit Boards Location.

- **Semiconductor Location**

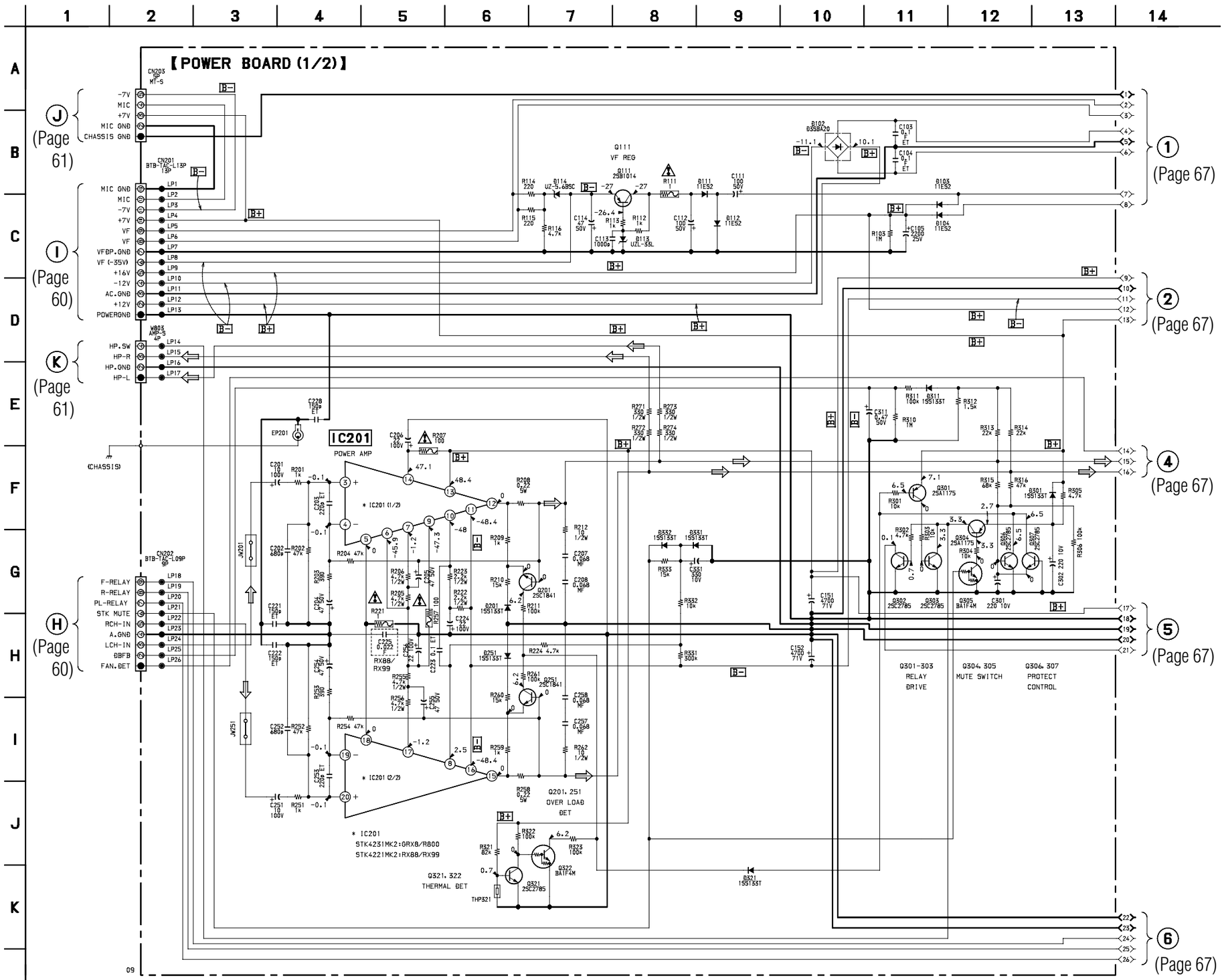
Ref. No.	Location
D101	H-6
D102	H-1
D103	I-5
D104	I-5
D105	H-7
D111	I-3
D112	I-4
D113	I-3
D114	I-3
D201	F-5
D251	F-4
D301	H-9
D311	G-3
D321	I-5
D331	H-3
D332	H-3
D401	C-2
D402	C-2
D404	B-7
D405	B-2
D406	B-1
D407	B-4
D408	B-4
IC201	D-5
Q101	H-7
Q111	I-3
Q201	F-5
Q251	F-3
Q301	H-8
Q302	G-7
Q303	H-7
Q304	G-8
Q305	G-7
Q306	G-8
Q307	G-8
Q321	F-3
Q322	E-3
Q401	D-2
Q402	D-1
Q403	D-1
Q407	D-1
Q408	D-2

- **Indication of transistor**





7-19. SCHEMATIC DIAGRAM – POWER SECTION –



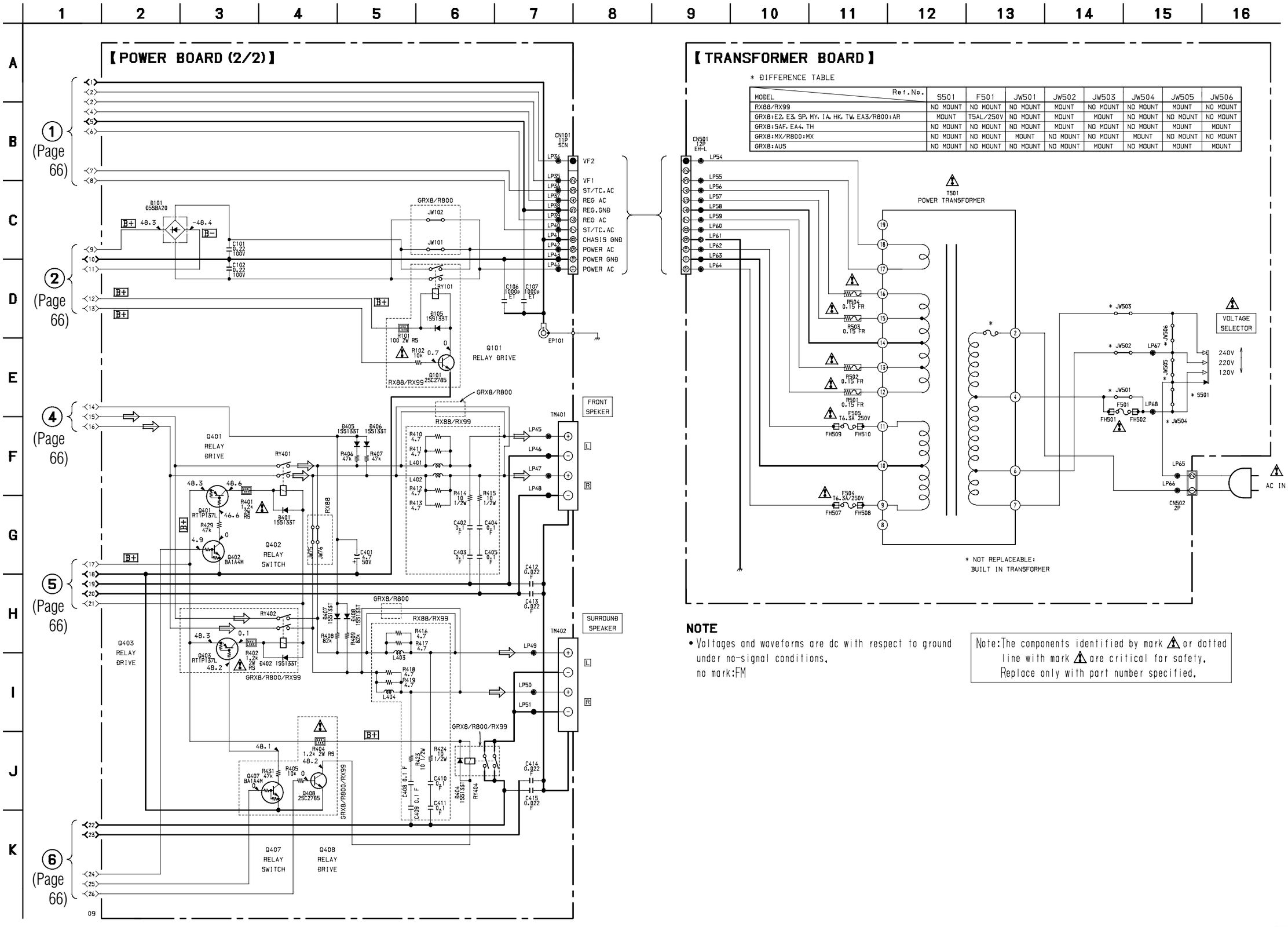
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM

7-20. SCHEMATIC DIAGRAM – TRANSFORMER SECTION –

• See page 63 for Printed Wiring Board. (POWER BOARD)



Ref.No. / MODEL	S501	F501	JW501	JW502	JW503	JW504	JW505	JW506
RX88/RX99	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT
GRX8:E2, E3, SP, MY, IA, HK, TW, EA3/R800:AR	MOUNT	T5AL/250V	NO MOUNT	MOUNT	MOUNT	NO MOUNT	NO MOUNT	NO MOUNT
GRX8:SAF, EA4, TH	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	MOUNT
GRX8:MX/R800:MX	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT
GRX8:AUS	NO MOUNT	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	MOUNT	MOUNT

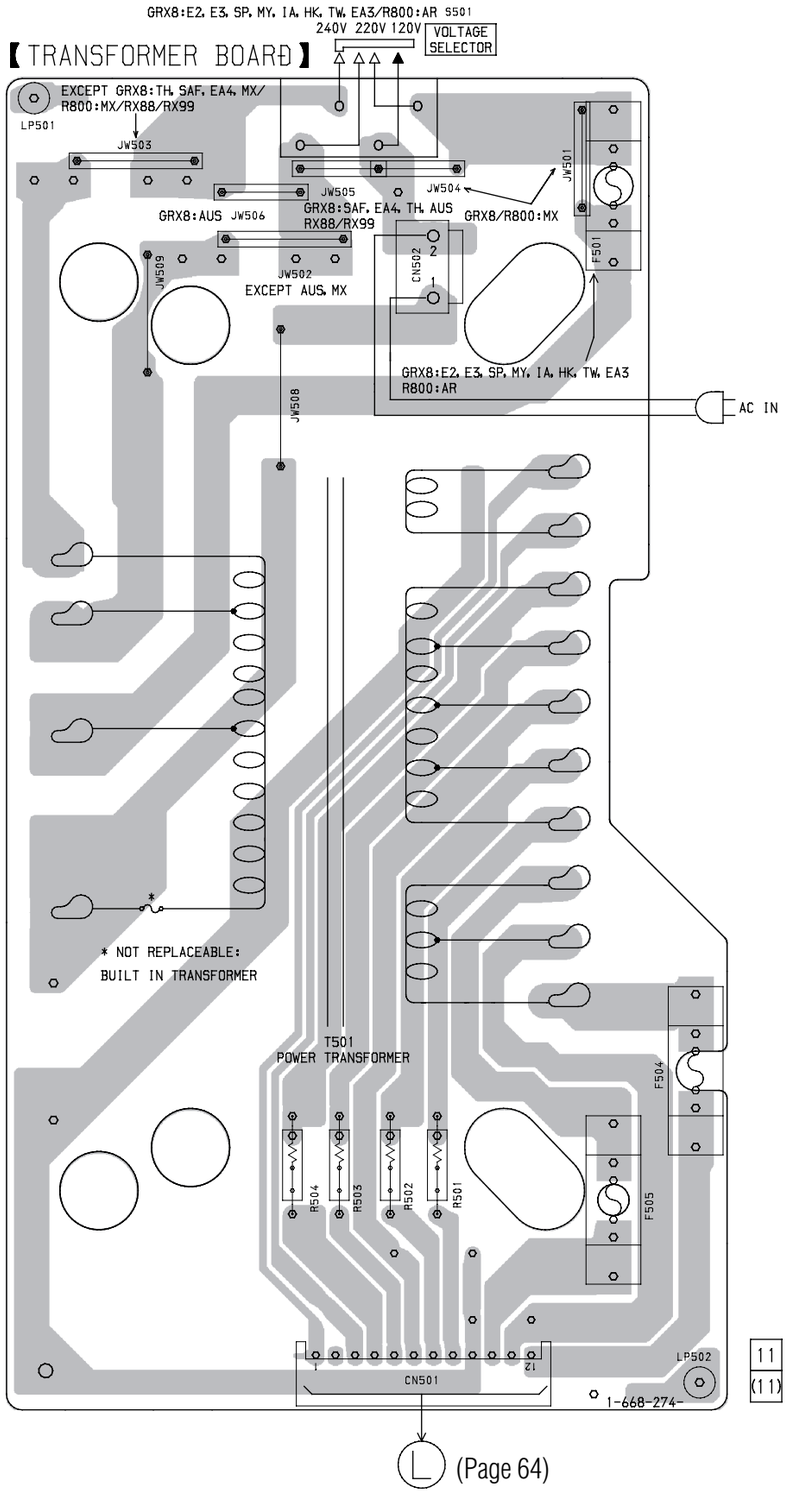
NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

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

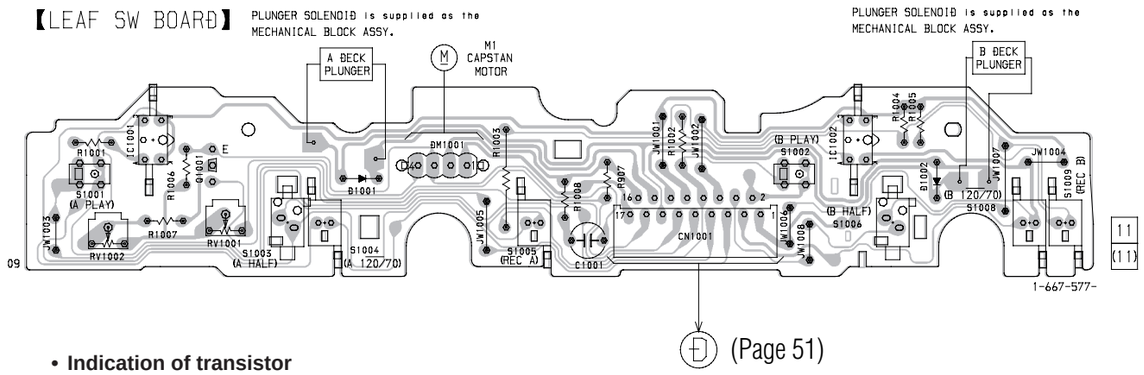
7-21. PRINTED WIRING BOARD – TRANSFORMER SECTION –

• See page 20 for Circuit Boards Location.

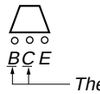


7-22. PRINTED WIRING BOARD – LEAF SW SECTION –

• See page 20 for Circuit Boards Location.

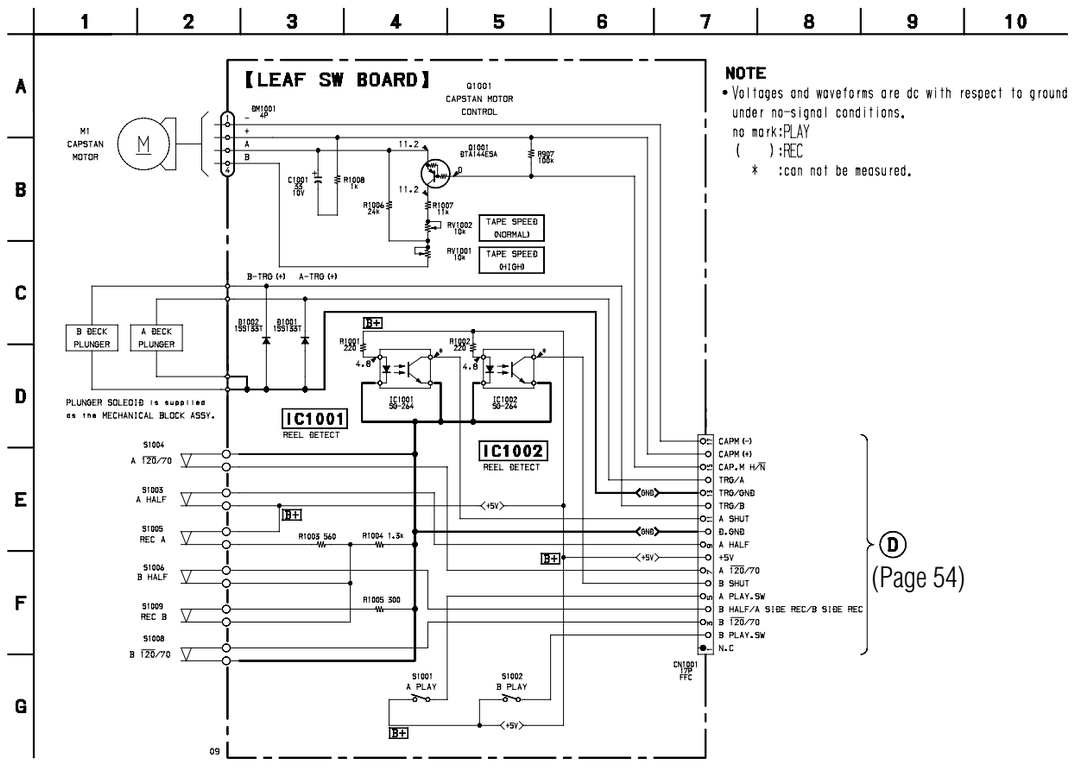


• **Indication of transistor**



These are omitted

7-23. SCHEMATIC DIAGRAM – LEAF SW SECTION –



NOTE

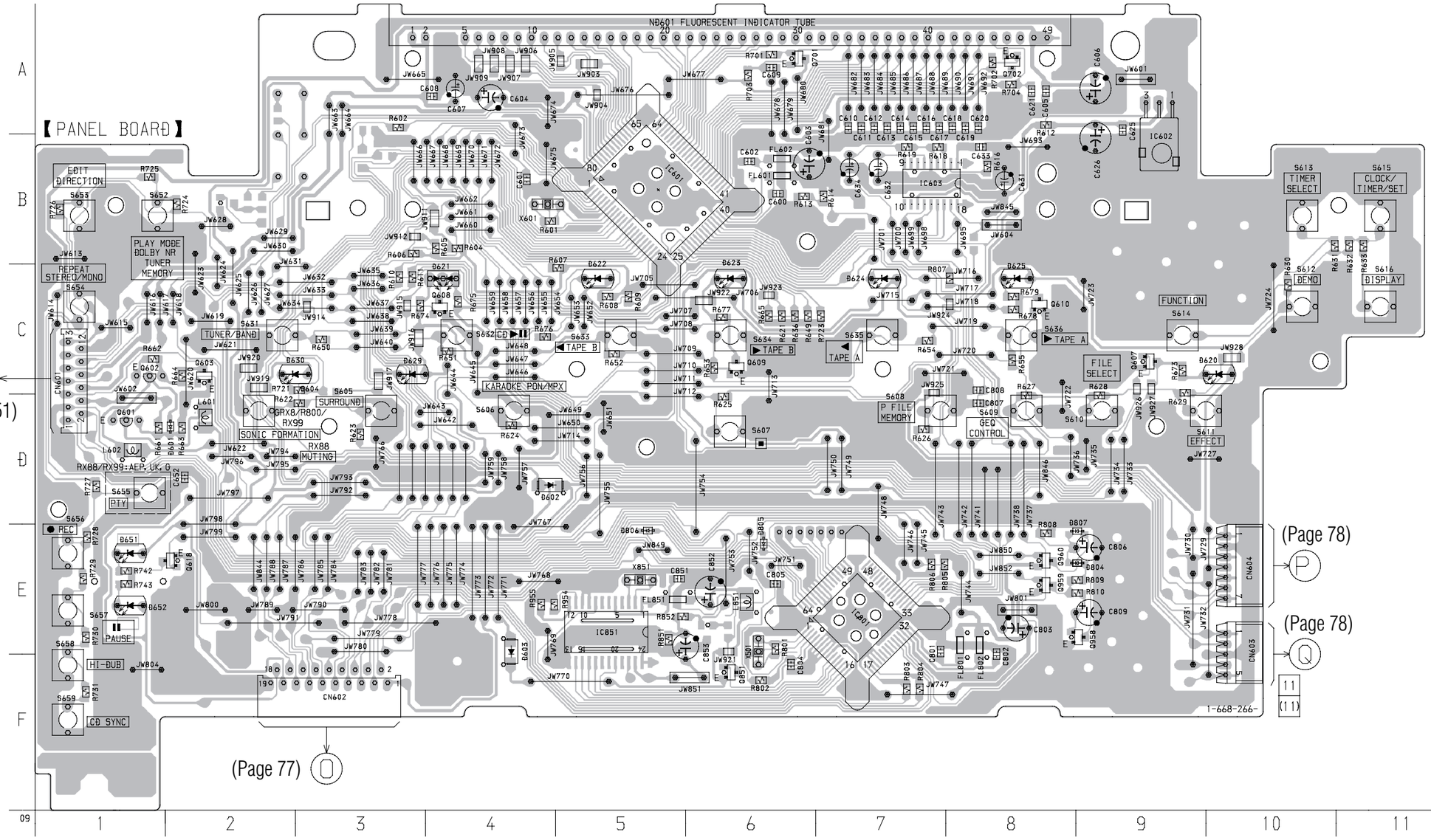
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:PLAY
( ):REC
* :can not be measured.

7-24. PRINTED WIRING BOARD – DISPLAY SECTION –

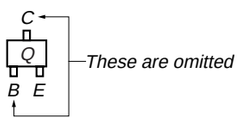
• See page 20 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D601	D-2
D602	D-4
D603	D-4
D620	C-10
D621	C-4
D622	C-5
D623	C-6
D624	C-7
D625	C-8
D629	C-3
D630	C-2
D651	E-1
D652	E-1
D804	I-17
D805	E-6
D806	E-5
D807	E-9
IC601	B-5
IC602	A-9
IC603	B-7
IC801	E-7
IC851	E-5
Q601	D-1
Q602	C-1
Q603	C-2
Q607	C-9
Q608	C-4
Q609	C-6
Q610	C-8
Q618	E-2
Q701	A-6
Q702	A-8
Q851	F-6
Q958	E-9
Q959	E-8
Q960	E-8

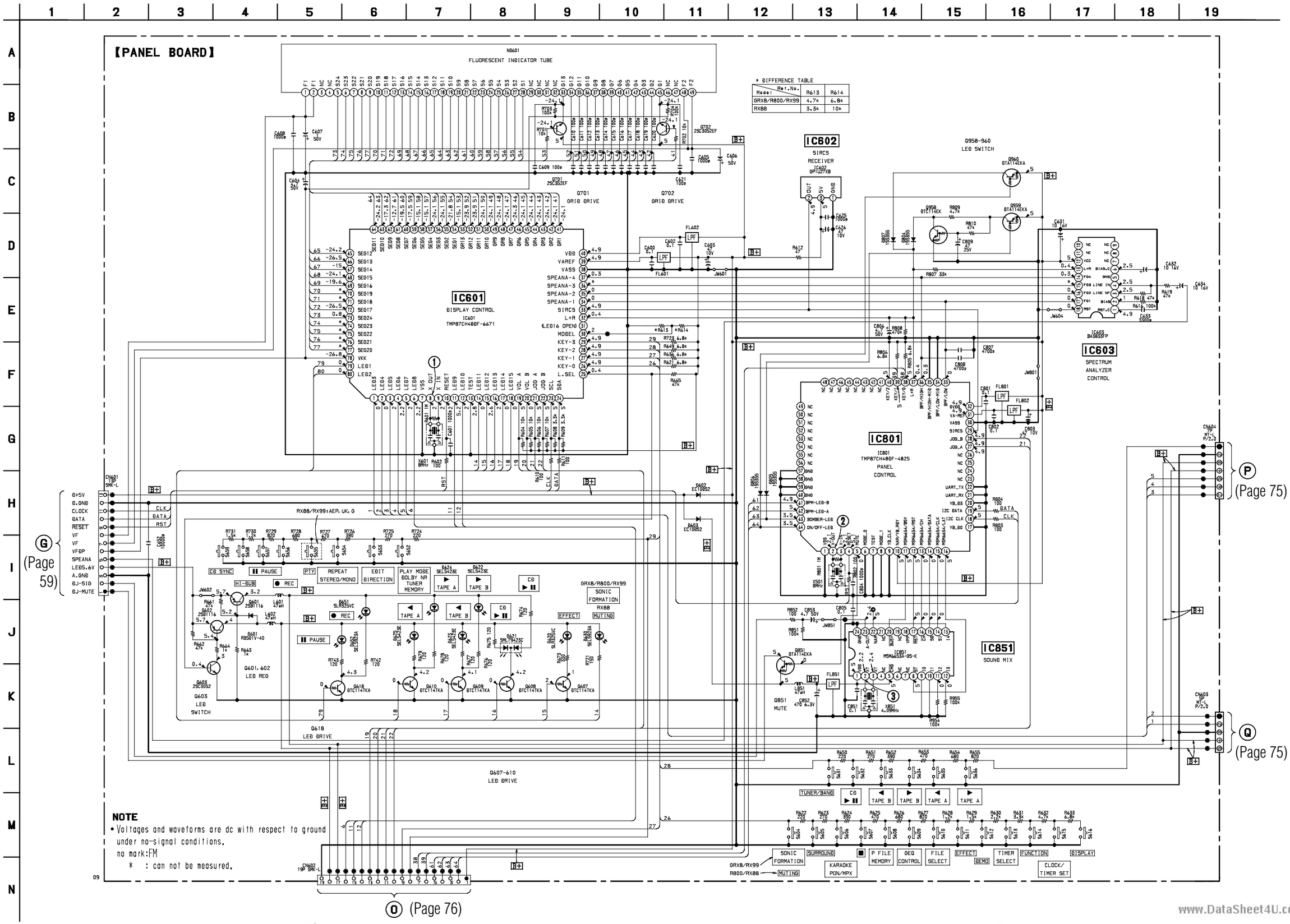


• **Indication of transistor**

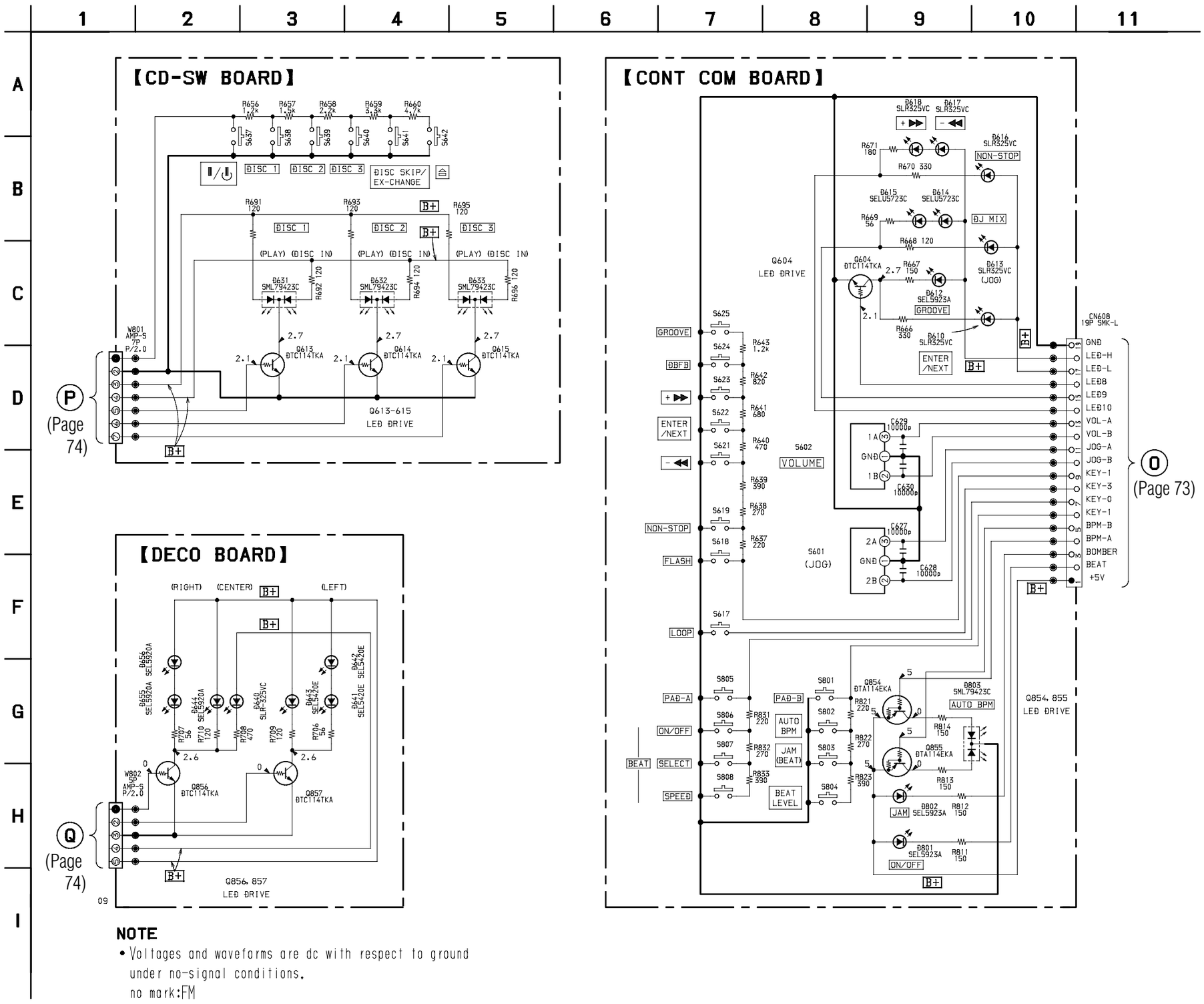


7-25. SCHEMATIC DIAGRAM – DISPLAY SECTION –

- See page 36 for Waveforms.
- See page 87 for IC Block Diagrams.
- See page 96 for IC Pin Functions.



7-26. SCHEMATIC DIAGRAM – PANEL SECTION –



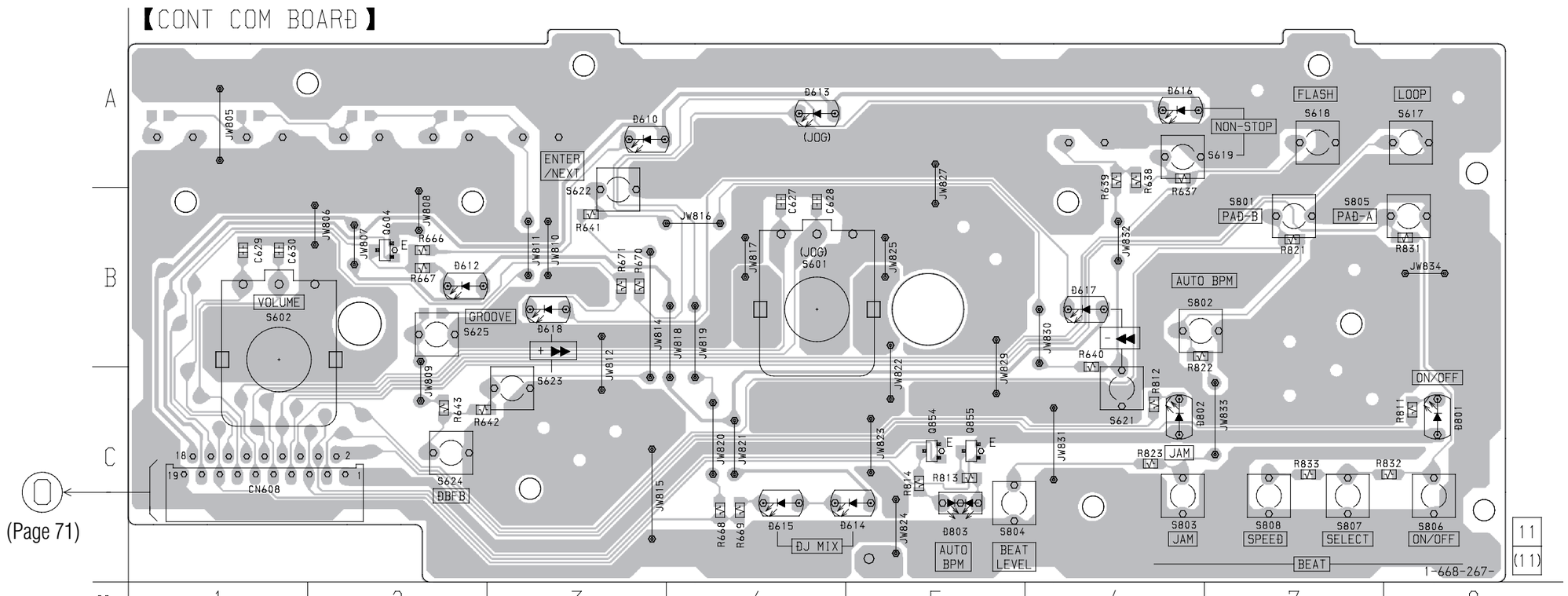
NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM

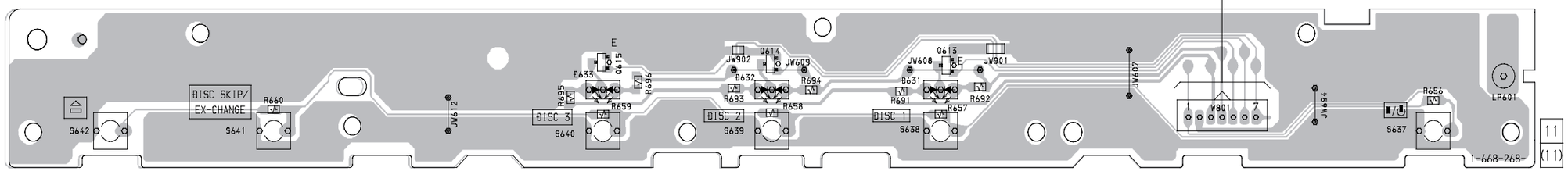
7-27. PRINTED WIRING BOARD – PANEL SECTION –

• See page 20 for Circuit Boards Location.

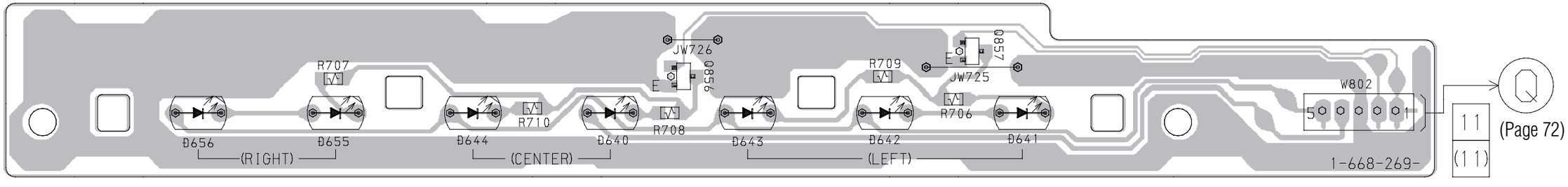
【CONT COM BOARÐ】



【CÐ SW BOARÐ】



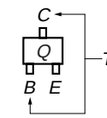
【ÐECO BOARÐ】



• **Semiconductor Location**

Ref. No.	Location
D610	A-3
D612	B-2
D613	A-4
D614	C-5
D615	C-4
D616	A-6
D617	B-6
D618	B-3
D801	C-8
D802	C-6
D803	C-5
Q604	B-2
Q854	C-5
Q855	C-5

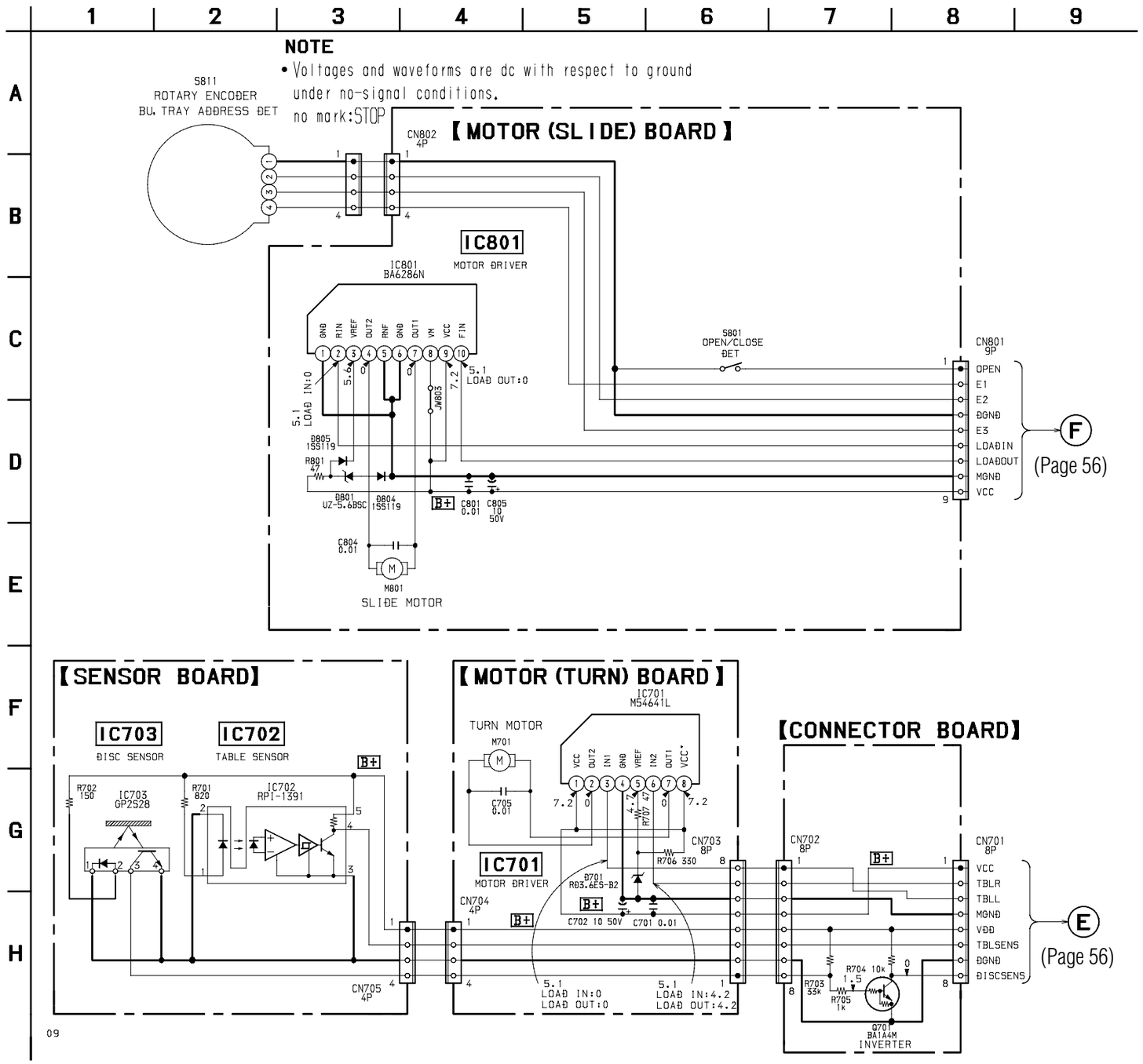
• **Indication of transistor**



These are omitted

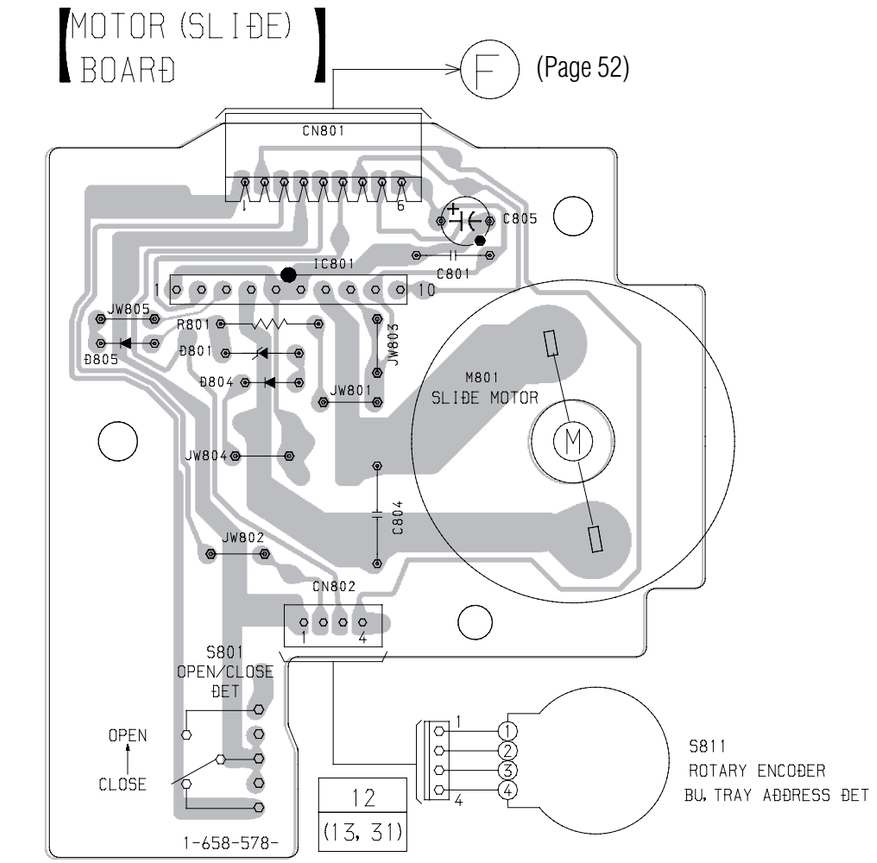
7-28. SCHEMATIC DIAGRAM – CD MOTOR SECTION –

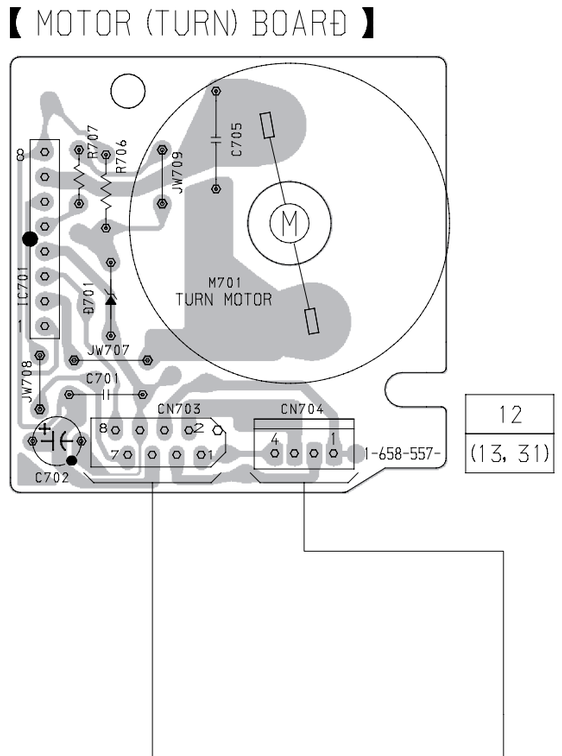
• See page 87 for IC Block Diagrams.

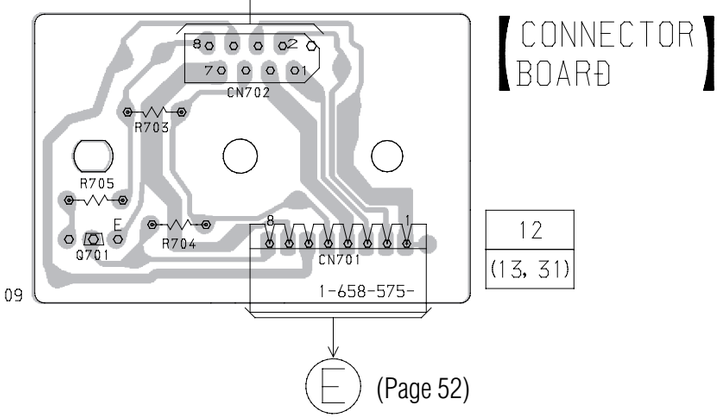


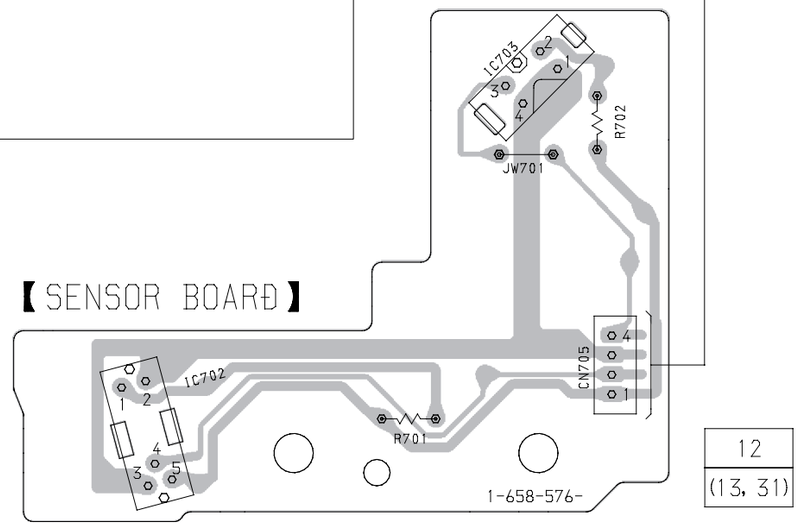
7-29. PRINTED WIRING BOARD – CD MOTOR SECTION –

• See page 20 for Circuit Boards Location.

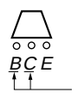








• **Indication of transistor**



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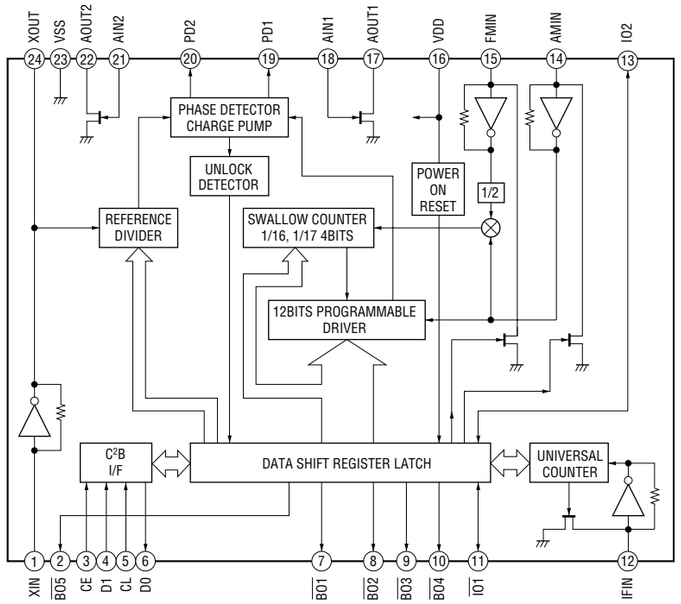
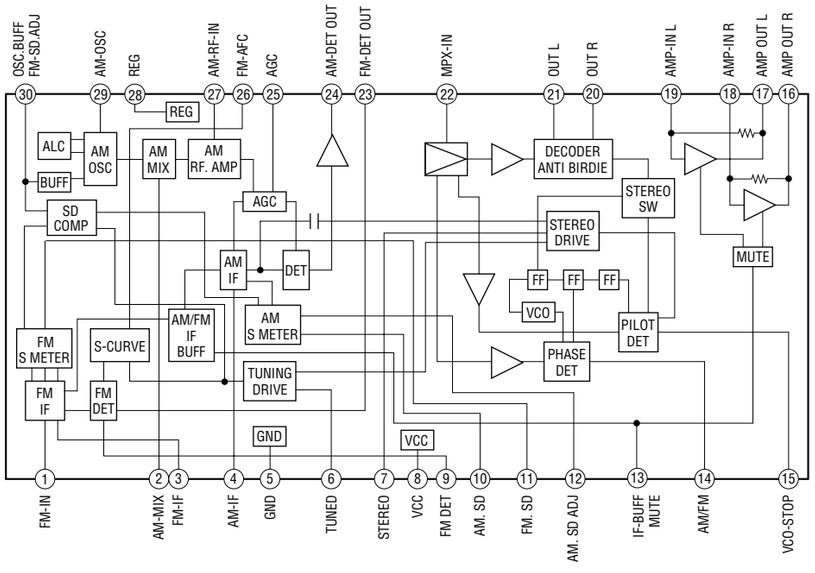
7-30. IC BLOCK DIAGRAMS

• **Tuner section**

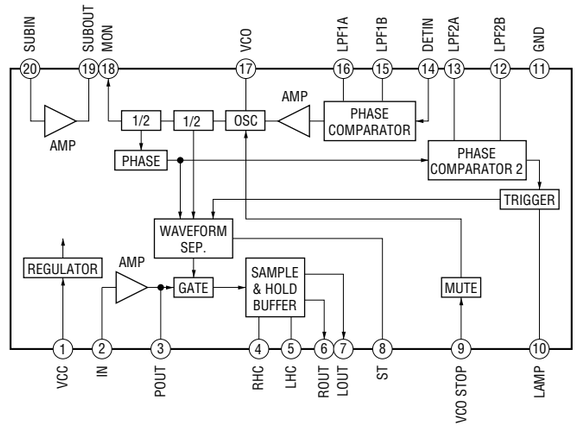
IC21 LC72130



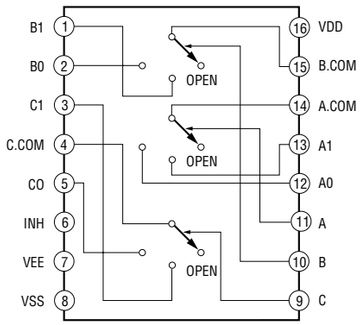
IC41 LA1838



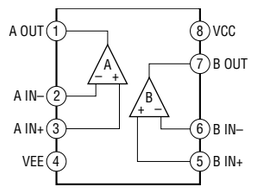
IC1701 IR3R42



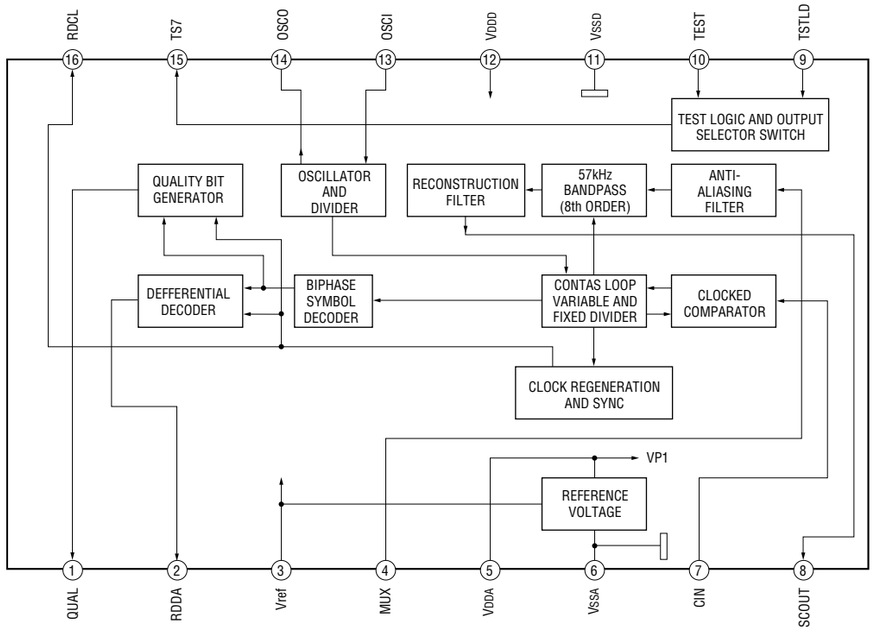
IC1702 MC14053BCP



IC1751 NJM4558D

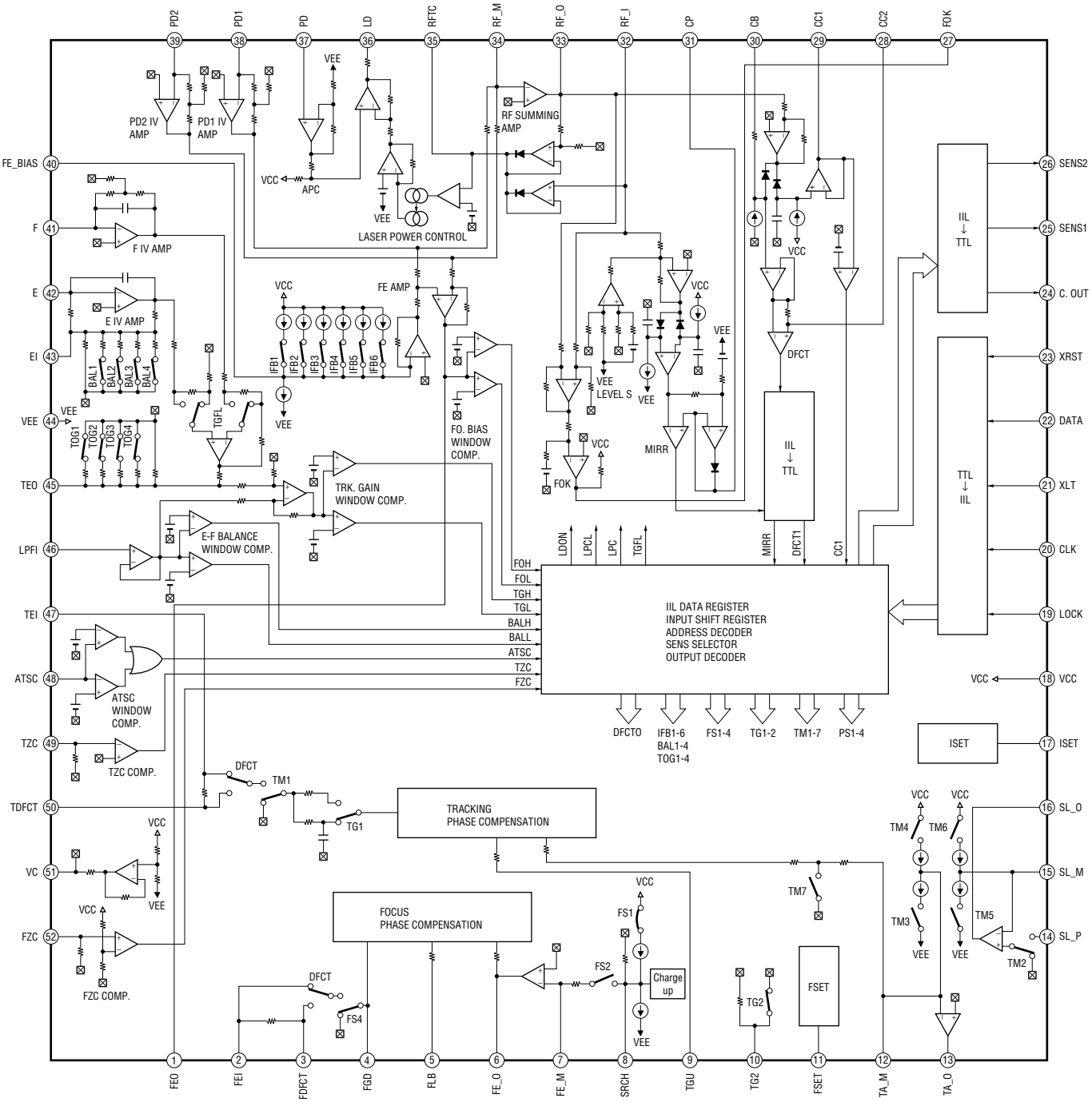


IC1752 BU1922

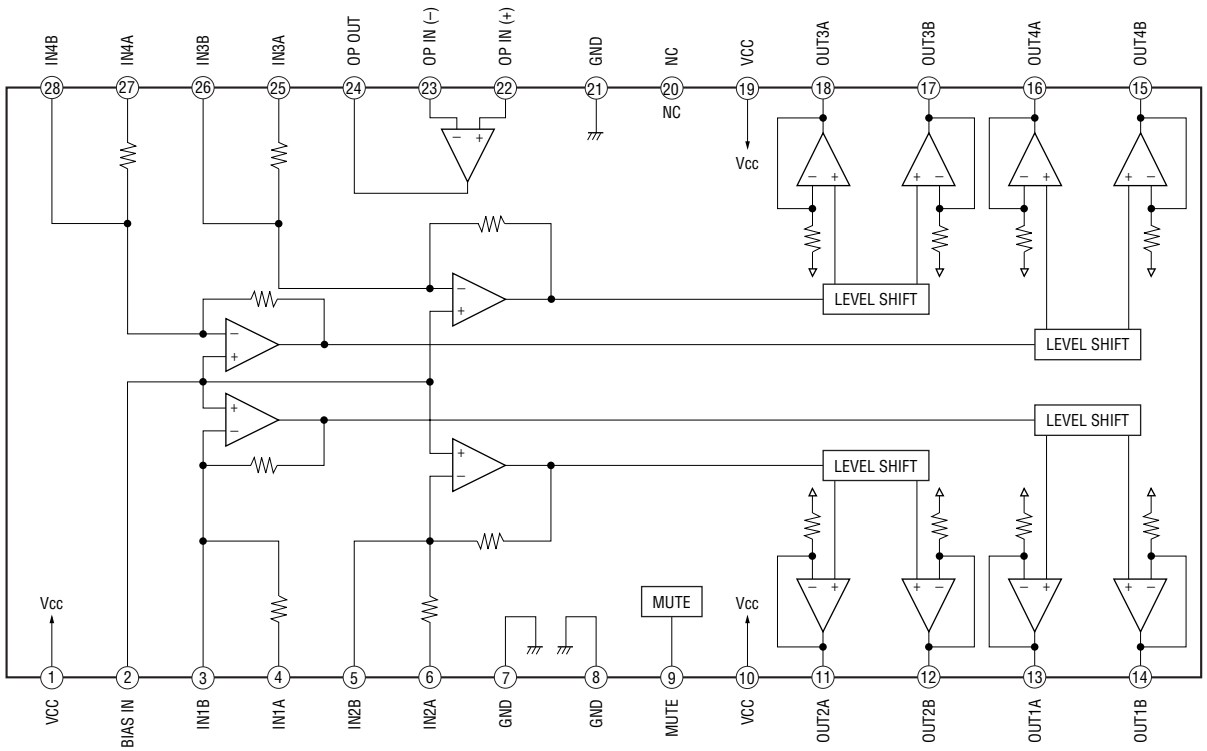


• **CD section**

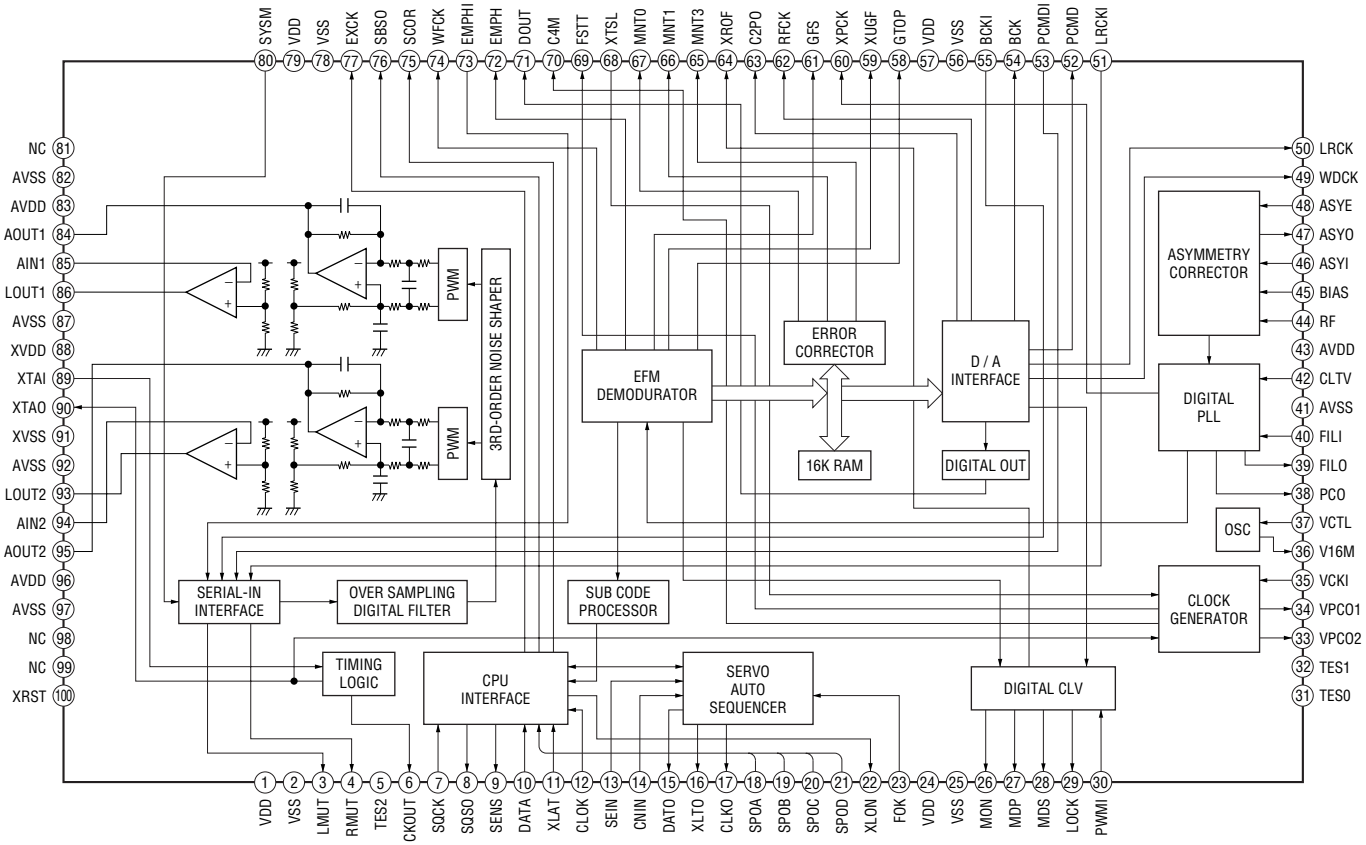
IC101 CXA1992AR



IC102 BA5941FP

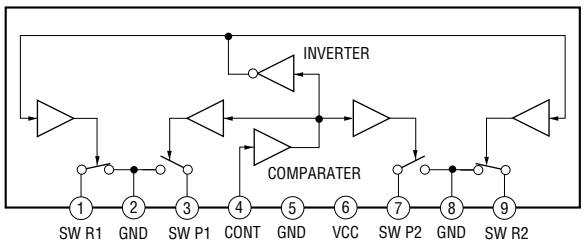


IC103 CXD2519Q



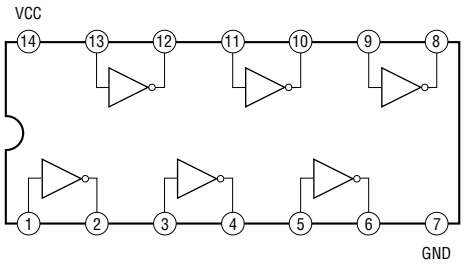
• **Deck section**

IC602 uPC1330HA



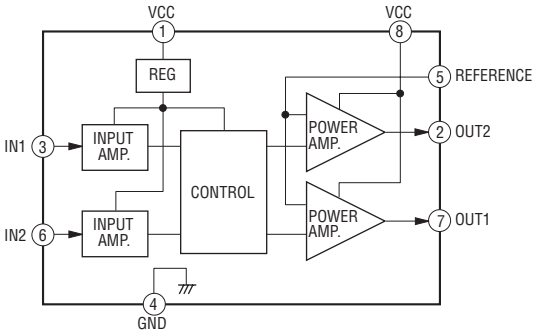
• **Main section**

IC392 MC74HCU04F

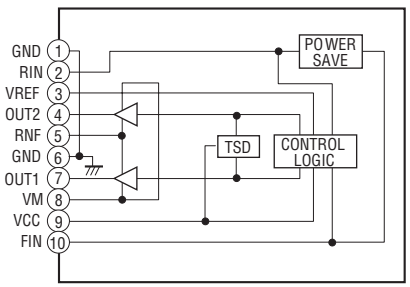


• **CD motor section**

IC701 M54641L

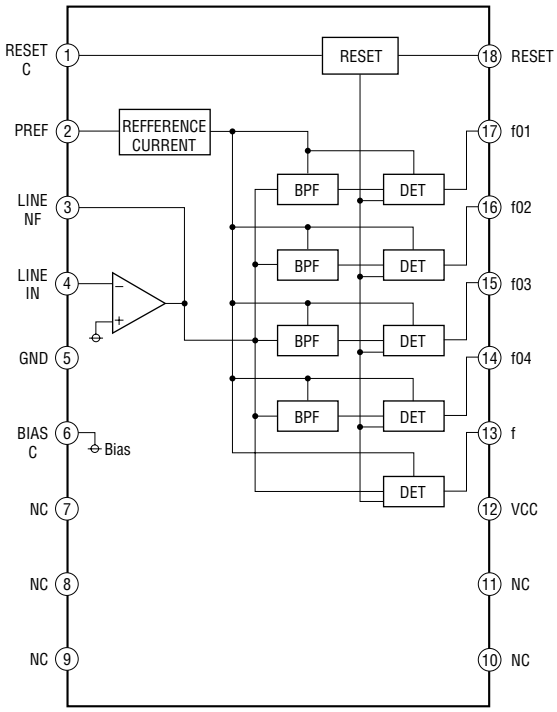


IC801 BA6286N

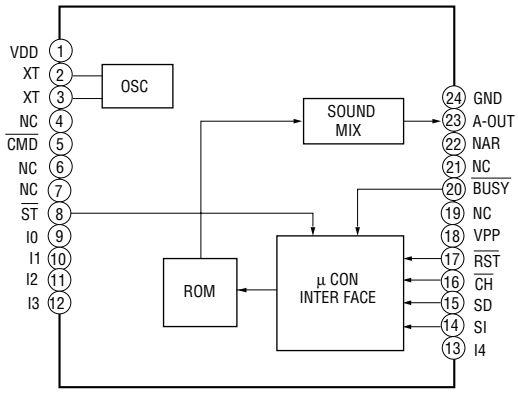


• **Display section**

IC603 BA3833FP

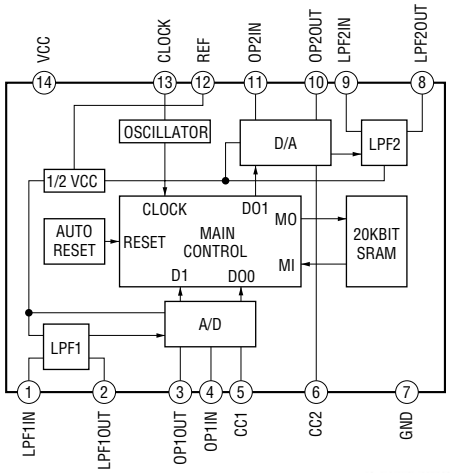


IC851 MSM6653A-517GS-K



• **Mic section**

IC751 M65850FP



7-31. IC PIN FUNCTIONS

• IC101 FOCUS/TRACKING/SLED SERVO RF AMP (CXA1992AR)

Pin No.	Pin Name	I/O	Function
1	FEO	O	Focus error amplifier output Connected internally to the window comparator input for bias adjustment
2	FEI	I	Focus error input
3	FDFCT	I	Capacitor connection pin for defect time constant
4	FGD	I	Ground this pin through a capacitor for cutting the focus servo high-frequency gain
5	FLB	I	External time constant setting pin for boosting the focus servo low-frequency
6	FE O	O	Focus drive output
7	FE M	I	Focus amplifier inverted input
8	SRCH	I	External time constant setting pin for generating focus search waveform
9	TGU	I	External time constant setting pin for switching tracking high-frequency gain
10	TG2	I	External time constant setting pin for switching tracking high-frequency gain
11	FSET	I	Peak frequency setting pin for focus and tracking phase compensation amplifier
12	TA M	I	Tracking amplifier inverted input
13	TA O	O	Tracking drive output
14	SL P	I	Sled amplifier non-inverted input
15	SL M	I	Sled amplifier inverted input
16	SL O	O	Sled drive output
17	ISET	I	Connect an external capacitance to set the current which determines the Focus search, Track jump, and Sled kick heights
18	V_{CC}	I	Positive power supply
19	LOCK	I	The sled overrun prevention circuit operates when this pin is Low (No pull-up resistance)
20	CLK	I	Serial data transfer clock input from CPU (No pull-up resistance)
21	XLT	I	Lach input from CPU (No pull-up resistance)
22	DATA	I	Serial data input from CPU (No pull-up resistance)
23	XRST	I	Reset input; resets at Low (No pull-up resistance)
24	C.OUT	O	Track number count signal output
25	SENS1	O	Outputs FZC, DFCT1, TZC, BALH, TGH, FOH, ATSC, and others according to the command from CPU
26	SENS2	O	Outputs DFCT2, MIRR, BALL, TGL, FOL,and others according to the command from CPU
27	FOK	O	Focus OK comparator output
28	CC2	I	Input for the defect bottom hold output with capacitance coupled
29	CC1	O	Defect bottom hold output Connected internally to the interruption comparator input
30	CB	I	Connection pin for defect bottom hold capacitor
31	CP	I	Connection pin for MIRR hold capacitor MIRR comparator non-inverted input
32	RF I	I	Input for the RF summing amplifier output with capacitance coupled
33	RF O	O	RF summing amplifier output Eye-pattern check point

• Abbreviation

FZC : Focus zero-cross
DFCT : Defect
TZC : Tracking zero-cross
BALH : E-F Balance (High)
TGH : Tracking Gain (High)
FOH : Focus Bias (High)
ATSC : Anti Shock
MIRR : Mirror
BALL : E-F Balance (Low)
TGL : Tracking Gain (Low)
FOL : Focus Bias (Low)

Pin No.	Pin Name	I/O	Function
34	RF M	I	RF summing amplifier inverted input The RF amplifier gain is determined by the resistance connected between this pin and RFO pin
35	RFTC	I	External time constant setting pin during RF level control
36	LD	O	APC amplifier output
37	PD	I	APC amplifier input
38	PD1	I	RF I-V amplifier inverted input
39	PD2	I	Connect these pins to the photo diode A+C and B+D pins
40	FE BIAS	I	Bias adjustment of focus error amplifier Leave this pin open for automatic adjustment
41	F	I	F I-V and E I-V amplifier inverted input
42	E	I	Connect these pins to photo diodes F and E
43	EI	–	I-V amplifier E gain adjustment (When not using automatic balance adjustment)
44	V_{EE}	–	Negative power supply
45	TEO	O	Tracking error amplifier output E-F signal is output
46	LPFI	I	Comparator input for balance adjustment (Input from TEO through LPF)
47	TEI	I	Tracking error input
48	ATSC	I	Window comparator input for ATSC detection
49	TZC	I	Trackig zero-cross comparator input
50	TDFCT	I	Capacitor connection pin for defect time constant
51	VC	O	(V_{CC} + V_{EE})/2 direct voltage output
52	FZC	I	Focus zero-cross comparator input

• Abbreviation
APC : Auto Power Control

• **IC103 DIGITAL SIGNAL PROCESSOR (CXD2519Q)**

Pin No.	Pin Name	I/O	Function
1	VDD	–	+5V power supply
2	VSS	–	Ground
3	LMUT	O	Lch "L" detection flog (Not used)
4	RMUT	O	Rch "L" detection flog (Not used)
5	ACDT	O	Test output (Not used)
6	CKOUT	O	Master clock divider output (Not used)
7	SQCK	I	Clock input for SQSO read out
8	SQSO	O	Serial output for Sub-Q 80bit
9	SENS	O	SENS signal output to CPU
10	DATA	I	Serial data input, supplied from CPU
11	XLAT	I	Latch input, supplied from CPU
12	CLOK	I	Serial data transfer clock input, supplied from CPU
13	SEIN	I	SENS input from IC101
14	CNIN	I	Numbers of track jump counted signal input
15	DATO	O	Serial data output to IC101
16	XLTO	O	Serial data latch output to IC101
17	CLKO	O	Serial data transfer clock output to IC101
18	SPOA	I	Micro computer demodulation interface (Input A)
19	SPOB	I	Micro computer demodulation interface (Input B)
20	SPOC	I	Micro computer demodulation interface (Input C)
21	SPOD	I	Micro computer demodulation interface (Input D)
22	XLON	O	Micro computer demodulation interface (Output)
23	FOK	I	Focus OK input
24	VDD	–	+5V power supply
25	VSS	–	Ground
26	MON	O	Output to control ON/OFF of spindle motor (Not used)
27	MDP	O	Output to control spindle motor servo
28	MDS	O	Output to control spindle motor servo (Not used)
29	LOCK	O	GFS is sampled by 460Hz
30	PWMI	I	Input to control the outside spindle motor
31	TES0	I	Test pin (Connected to ground)
32	TES1	I	Test pin (Connected to ground)
33	VPCO2	O	Charge-pump output (Not used)
34	VPCO1	O	Charge-pump output (Not used)
35	VCKI	I	VCO2 oscillator input (Not used)
36	V16M	O	VCO2 oscillator output (Not used)
37	VCTL	I	VCO2 control voltage input
38	PCO	O	Charge-pump output to master PLL
39	FILO	O	Filter output to master PLL
40	FILI	I	Filter input for master PLL

• Abbreviation
GFS : Guarded Frame Sync
PLL : Phase Locked Loop

Pin No.	Pin Name	I/O	Function
41	AVSS	–	Analog ground
42	CLTV	I	Control voltage input for VCO
43	AVDD	–	Analog power supply
44	RF	I	EFM signal input
45	BIAS	I	Asymmetry circuit constant current input
46	ASYI	I	Asymmetry comparate voltage input
47	ASYO	O	EFM full swing output (“L” =VSS, “H” =VDD)
48	ASYE	I	Asymmetry circuit ON/OFF (“L”=OFF, “H”=ON)
49	WDCK	O	D/A interface Word clock f=2fs (Not used)
50	LRCK	O	D/A interface LR clock output f=Fs
51	LRCKI	I	D/A interface LR clock input f=Fs
52	PCMD	O	D/A interface Serial data output
53	PCMDI	I	D/A interface Serial data input
54	BCK	O	D/A interface Bit clock output
55	BCKI	I	D/A interface Bit clock input
56	VSS	–	Ground
57	VDD	–	+5V power supply
58	GTOP	O	Not used
59	XUGF	O	Not used
60	XPLCK	O	EFM decoder PLL clock output
61	GFS	O	“H” Playback EFM sync and interpolation protection timming much
62	RFCK	O	Read frame clock signal output
63	C2PO	O	Not used
64	XRAOF	O	Internal RAM overflow detection signal output (Not used)
65	MNT3	O	Not used
66	MNT1	O	Not used
67	MNT0	O	Not used
68	XTSL	I	Not used
69	FSTT	O	2/3 divider output (Not used)
70	C4M	O	4.2336MHz output(Not used)
71	DOUT	O	Digital audio signal output
72	EMPH	O	Playback disc output in emphasis mode
73	EMPHI	I	“H” =Input when de-emphasis ON
74	WFCK	O	Write frame clock signal output
75	SCOR	O	Sub-code sync output
76	SBSO	O	Sub-P through Sub-W serial output
77	EXCK	I	Clock input for SBSO read-out
78	VSS	–	Ground
79	VDD	–	+5V power supply
80	SYSM	I	System mute input

• Abbreviation
EFM : Eight to Fourteen Modulation

Pin No.	Pin Name	I/O	Function
81	—	–	Not used
82	AVSS	–	Analog ground
83	AVDD	–	Analog power supply
84	AOUT1	O	Lch analog output
85	AIN1	I	Lch opamp input
86	LOUT1	O	Lch line output
87	AVSS	–	Analog ground
88	XVDD	–	Master clock power supply
89	XTAI	I	X'tal oscillator circuit input
90	XTAO	O	X'tal oscillator circuit output
91	XVSS	–	Master clock ground
92	AVSS	–	Analog ground
93	LOUT2	O	Rch line output
94	AIN2	I	Rch opamp input
95	AOUT2	O	Rch analog output
96	AVDD	–	Analog power supply
97	AVSS	–	Analog ground
98	—	–	Not used
99	—	–	Not used
100	XRST	I	System reset input

• **IC501 MASTER CONTROL (uPD780018AYGF-011-3BA)**

Pin No.	Pin Name	I/O	Function
1	LINE-MUTE	O	Line mute signal output
2	DBFB-H/L	O	DBFB H/L select signal output
3	M62442-LAT	O	Latch signal output for IC111 (M62442FP)
4	KCON-LAT	O	Not used
5	POWER	O	Power ON/OFF signal output
6	F-RELAY	O	Front speaker relay control output (Not used)
7	R-RELAY	O	Rear speaker relay control output
8	PL-RELAY	O	Not used
9	VSS	–	Ground
10	X2	O	X'tal (5MHz)
11	X1	I	
12	VDD	–	Power supply (+5V)
13	XT2	O	X'tal (32.768 KHz)
14	XT1	I	
15	RESET	I	Reset signal input
16	(AC-CUT)	I	Back up signal input
17	CAPM-CNT1P	I	Capstan motor control 1 (+) signal output
18	SCOR	O	Subcode data request signal output
19	SOFT-TEST	O	Software test port
20	—	–	Not used
21	RDS-INT	I	RDS data interrupt input
22	RDS-DATA	I	RDS data interrupt input
23	AVDD	–	Power supply (+5V)
24	AVREF	I	Analog reference voltage input.
25	ADJ	I	CD adjust point port Normal "H"
26	A-SHUT	I	A Deck reel pulse detector
27	B-SHUT	I	B Deck reel pulse detector
28	B-HALF	I	Half detector signal input
29	CLK-CHECK	I	Connected to ground
30	SPEC-IN	I	Version select signal input
31	AMS-IN	I	Connected to ground
32	DEMO-CHANGE	I	DEMO H/L select signal input (Connected to ground)
33	AVSS	–	Ground
34	SQ-DATA-IN	I	Subcode Q data clock input
35	—	–	Not used
36	SQ-CLK	I	Sub code Q data clock input
37	SUR-ON/OFF	O	Not used
38	FB CONT-A	I	Not used
39	FB CONT-B	I	Connected to ground
40	VSS	–	Ground
41	PL-VOL	O	Latch signal output to erectrial volume (Not used)
42	PL-LAT	O	Latch signal input to pro-logic (Not used)
43	COM-DIN	I	Connected to ground
44	COM-DOUT	O	Common serial data output (Not used)

• Abbreviation
APC : Auto Power Control

Pin No.	Pin Name	I/O	Function
45	COM-CLK	O	Common serial clock output
46	CD-POWER	O	CD power on signal output
47	CD-DATA	O	CD data output
48	CD-CLK	O	CD clock output
49	PL-CLK	O	Clock signal output to pro-logic (Not used)
50	PL-DATA	I	Data signal output to pro-logic (Not used)
51	M62442-CLK	O	Clock signal output for IC111 (M62442FP)
52	M62442-DATA	O	Data signal output for IC111 (M62442FP)
53	LEVEL-CONT-A	O	Not used
54	LEVEL-CONT-B	O	Not used
55	IIC-DATA	O	Data output for IC601
56	IIC-CLK	O	Clock output for IC601
57	XRST	O	CD reset signal output
58	XLT	O	CD latch signal output
59	FCS-SW	O	Not used
60	TBL-L	O	Table motor control output
61	TBL-R	O	
62	—	O	Not used
63	LOAD-OUT	O	Loading motor control signal output
64	LOAD-IN	O	
65	ST-CLK	O	Tuner clock output
66	ST-DIN	I	Tuner data input
67	ST-DOUT	O	Tuner data output
68	ST-CE	O	Tuner chip enable output
69	TUNED	I	Tuned detection for tuner
70	STEREO	I	Stereo detection for tuner
71	VSS	–	Ground
72	ST-MUTE	O	Tuner mute signal output
73	SENS2	I	BD Condition signal input
74	SENS	I	
75	DISC-SENS	I	Slit sensor of disc table input
76	T-SENS	I	CD table detection signal input
77	CAPM-CNT2P	O	Capstan motor control 2 (+) signal output
78	ENC 3	I	Disc tray adrress detect encoder input
79	ENC 2	I	
80	ENC 1	I	
81	OUT-OPEN	O	Loading out detection signal output
82	CAP-M-H/L	O	Capstan motor H/N speed select signal output
83	B-TRG	O	Trigger motor control output
84	A-TRG	O	Trigger motor control output
85	CAPM-CONT1M	O	Capstan motor control 1 (–) signal output
86	CAPM-CONT2M	O	Capstan motor control 2 (–) signal output
87	TC-MUTE	O	TC mute ON/OFF selection output

Pin No.	Pin Name	I/O	Function
88	R/P-PASS	O	REC/PB/PASS selection output
89	NR-ON/OFF	O	NR ON/OFF signal output
90	REC-MUTE	O	REC mute ON/OFF selection output
91	CLK-OUT	O	Clock out signal check
92	BIAS	O	Bias ON/OFF signal output
93	EQ-H/N	O	Equalizer H/N select output
94	PB-A/B	O	PB Deck A/Deck B select output
95	A-PLAY-SW	I	Deck A play detect
96	B-PLAY-SW	I	Deck B play detect
97	TC-RELAY	O	REC/PB head selection output for IC602
98	A-HALF	I	Deck A cassette detect
99	ALC-ON/OFF	O	ALC ON/OFF output signal
100	STK-MUTE	O	Power amp ON/OFF signal output

• IC601 DISPLAY CONTROL (TMP87CM74AF)

Pin No.	Pin Name	I/O	Function
1 to 6	LED3 to LED8	O	LED driver output
7	VSS	–	Ground
8	X OUT	O	X'tall (8MHz)
9	X IN	I	
10	RESET	I	Reset signal input from main controller
11	LED9	O	LED driver output
12	LED10	O	
13	TEST	I	Connected ground
14 to 18	LED11 to LED15	O	LED driver output
19	VOL A	I	Rotary encoder (S602) pulse input
20	VOL B	I	
21	JOG A	I	Rotaly encoder (S601) pulse input
22	JOG B	I	
23	SCL	O	Serial clock input from master controller
24	SDA	O	Serial data input from master controller
25	L. SEL	O	LED select signal output
26 to 29	KEY 0 to KEY 3	I	Key input
30	MODEL	I	Version select signal input
31	(LED 16 OPEN)	–	LED driver output (Not used)
32	L + R	I	Spectrum analyzer (high frequency) input
33	SIRCS	I	Remote commander signal input
34 to 37	SPEANA 1 to SPEANA 4	I	Spectrum analyzer input
38	VASS	–	Ground
39	VAREF	I	Analog reference voltage input
40	VDD	–	Power supply (+5V)
41 to 53	GR 1 to GR13	O	FL gride signal output
54 to 77	SEG 1 to SEG 24	O	FL segment signal output
78	VKK	–	Power supply (–25V) for FL segment signal output
79	LED 1	O	LED driver output
80	LED 2	O	

• Abbreviation
FL : Fluorescent indicator tube

• IC801 PANEL CONTROL (TMP87CH48DF)

Pin No.	Pin Name	I/O	Function
1	VSS	–	Ground
2	X OUT	O	X'tall (8MHz)
3	X IN	I	
4	RESET	I	Reset signal input
5	MUTE	I	Mute ON/OFF selection input
6	MODE_0	I	Connected to ground
7	TEST	–	
8	MODE_1	I	
9	YB_CLK	O	
10	NAR/YB_RDY	I	Connected to VDD
11	MSM6654/BSY	I	Busy signal input for IC851 (MSM6653A)
12	MSM6654/RST	O	Reset signal output for IC851 (MSM6653A)
13	MSM6654/CH	O	Channel signal output for IC851 (MSM6653A)
14	MSM6654/DATA	O	Data signal output for IC851 (MSM6653A)
15	MSM6654/CLK	O	Clock signal output for IC851 (MSM6653A)
16	MSM6654/LAT	O	Latch signal output for IC851 (MSM6653A)
17	YB_D0	I	Connected to ground
18	IC2 CLK	I	Serial clock input from master controller
19	IC2 DATA	I	Serial data input from master controller
20	YB_D3	I	Connected to ground
21	UART RX	I	
22	UART TX	O	
23 to 26	NC	O	Connected to ground
27	JOG_A	I	Rotary encoder (S601) pulse input
28	JOG_B	I	
29	SIRCS	I	Remote commander signal input
30	VASS	–	Ground
31	VAREF	I	Analog reference voltage input
32	DVDD	–	Power supply (+5V)
33	BPF/LOW	I	Spectrum analyzer input
34	BPF/LOW-MID	I	Connected to ground
35	BPF/HIGH-MID	I	Connected to ground
36	BPF/HIGH	I	Spectrum analyzer input
37	L + R	I	Spectrum analyzer (high frequency) input
38	KEY/0	I	Key input
39	KEY/1	I	
40	KEY/2	I	Connected to VDD
41 to 56	NC	O	Not used
57 to 60	GND	–	Ground
61	BPM_LED_B	O	LED Drive output
62	BPM_LED_A	O	
63	BOMBER_LED	O	
64	ON/OFF_LED	O	

SECTION 8
EXPLODED VIEWS

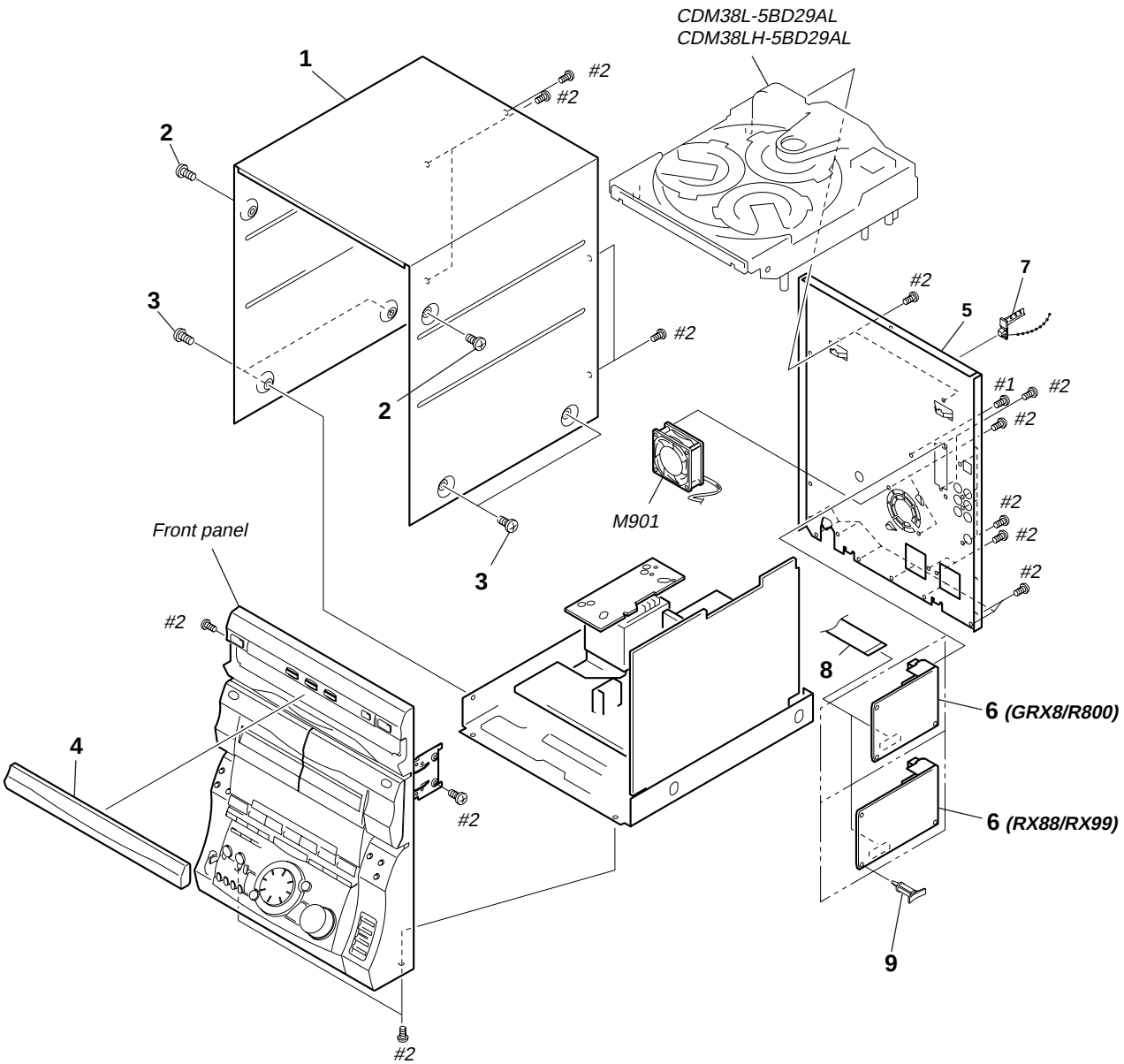
NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- Abbreviation
  - G : German model
  - EE : East European model
  - EA3 : Saudi Arabia model
  - EA4 : Israel model
  - MX : Mexican model
  - HK : Hong Kong model
  - SP : Singapore model
  - MY : Malaysia model
  - TW : Taiwan model

AUS : Australian model
AR : Argentine model
TH : Thailand model
E2 : Without SW tuner E model
E3 : With SW tuner E model

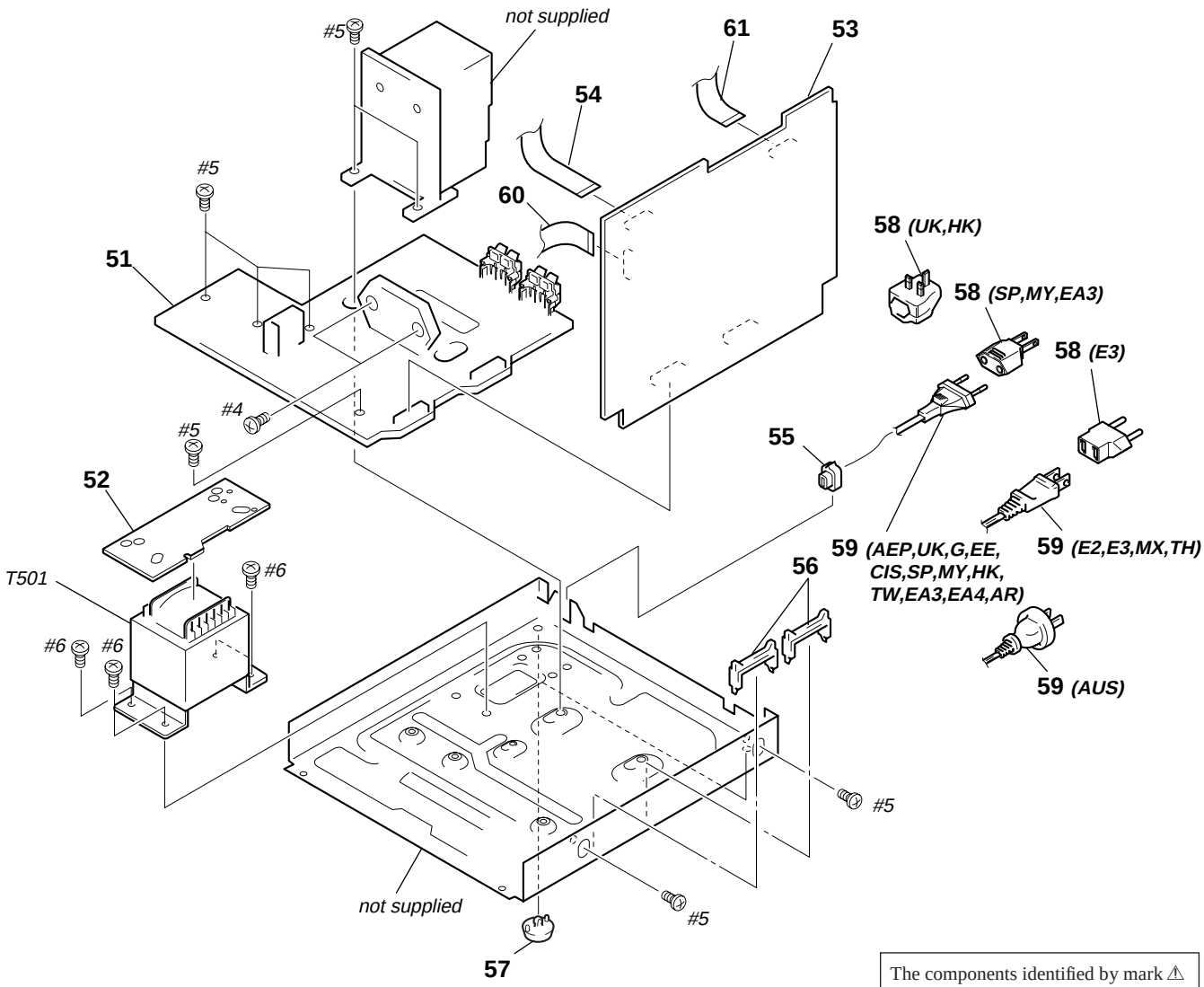
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	4-996-816-01	CASE	
2	3-363-099-71	SCREW (CASE 3 TP2)	
3	3-363-099-11	SCREW (CASE 3 TP2)	
4	4-996-784-11	PANEL, LOADING (RX88)	
4	4-996-784-21	PANEL, LOADING (GRX8)	
4	4-996-784-71	PANEL, LOADING (RX99)	
4	4-996-784-91	PANEL, LOADING (R800)	
* 5	4-996-817-01	PANEL, BACK (MALAYSIA PRODUCT)(RX99:AEP,UK,G)	
* 5	4-996-817-11	PANEL, BACK (MALAYSIA PRODUCT)(RX99:EE,CIS)	
* 5	4-996-817-21	PANEL, BACK (INDONESIA PRODUCT)(RX99:AEP,UK,G)	
* 5	4-996-817-31	PANEL, BACK (INDONESIA PRODUCT)(RX99:EE,CIS)	
* 5	4-996-817-41	PANEL, BACK (MALAYSIA PRODUCT)(RX88)	
* 5	4-996-817-51	PANEL, BACK (INDONESIA PRODCT)(RX88)	
* 5	4-996-817-61	PANEL, BACK (GRX8:EA4,TH)	
* 5	4-996-818-01	PANEL, BACK (INDONESIA PRODUCT)(GRX8:E2,E3)	
* 5	4-996-818-11	PANEL, BACK (INDONESIA PRODUCT)(GRX8:SP,MY)	
* 5	4-996-818-21	PANEL, BACK (INDONESIA PRODUCT)(GRX8:TW)	
* 5	4-996-818-31	PANEL, BACK (INDONESIA PRODUCT)(GRX8:HK)	
* 5	4-996-818-41	PANEL, BACK (INDONESIA PRODUCT)(GRX8:AUS)	
* 5	4-996-818-51	PANEL, BACK (INDONESIA PRODUCT)(GRX8:MX)	
* 5	4-996-818-81	PANEL, BACK (INDONESIA PRODUCT)(R800:MX)	
* 5	4-996-818-91	PANEL, BACK (INDONESIA PRODUCT)(R800:AR)	
* 5	4-997-720-01	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:E2,E3)	
* 5	4-997-720-11	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:SP,MY)	
* 5	4-997-720-21	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:TW)	
* 5	4-997-720-31	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:HK)	
* 5	4-997-720-41	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:AUS)	
* 5	4-997-720-51	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:MX)	
* 5	4-997-720-61	PANEL, BACK (GRX8:EA3)	
* 5	4-997-720-81	PANEL, BACK (MALAYSIA PRODUCT)(R800:MX)	
* 5	4-997-720-91	PANEL, BACK (MALAYSIA PRODUCT)(R800:AR)	
* 6	A-4303-588-A	TCB BOARD, COMPLETE (EE,CIS)	
* 6	A-4303-590-A	TCB BOARD, COMPLETE (AEP,UK,G)	
6	1-233-545-11	ENCAPSULATED COMPONENT (E2,MX,EA4,TH,AUS,AR)	
6	1-233-546-11	ENCAPSULATED COMPONENT (E3,SP,MY,HK,TW,EA3)	
7	4-956-370-12	BAND, PLUG FIXED (UK,HK,AUS)	
8	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm) (AEP,UK,G,EE,CIS,E3,SP,MY,HK,TW,EA3)	
8	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)(150mm) (E2,MX,EA4,TH,AUS,AR)	
9	4-924-098-91	HOLDER, PC BOARD (RX88,RX99)	
M901	1-698-792-11	FAN, DC (RX88/RX99)	
M901	1-763-048-21	FAN, D.C. (GRX8/R800)	

8-2. CHASSIS SECTION

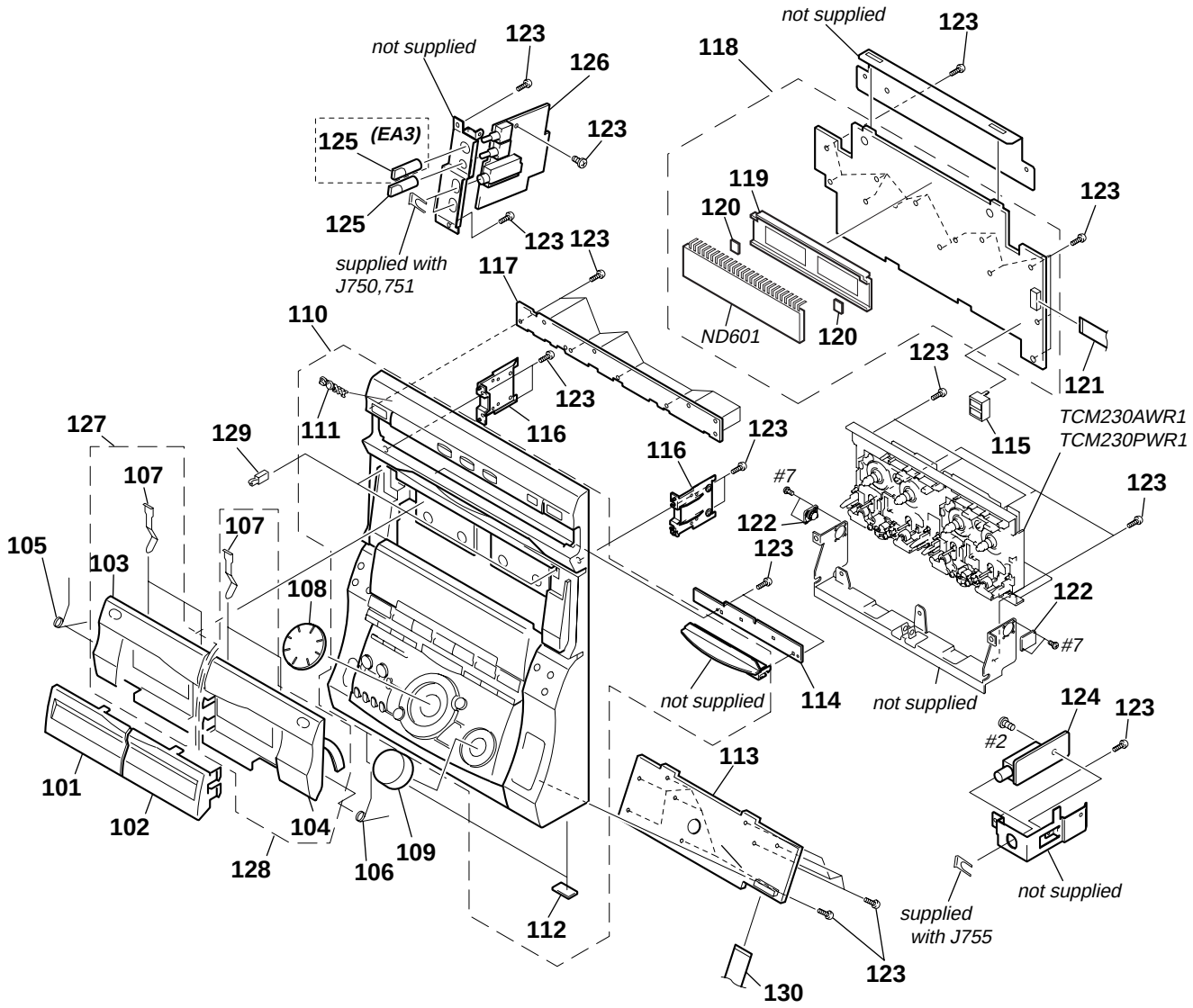


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	A-4407-260-A	POWER BOARD, COMPLETE (GRX8/R800)	
* 51	A-4407-300-A	POWER BOARD, COMPLETE (RX88)	
* 51	A-4407-722-A	POWER BOARD, COMPLETE (RX99)	
* 52	1-668-274-11	TRANSFORMER BOARD	
* 53	A-4405-131-A	MAIN BOARD, COMPLETE (GRX8:E3,SP,MY,HK,TW,EA3)	
* 53	A-4405-146-A	MAIN BOARD, COMPLETE (RX88/RX99:AEP,UK,G)	
* 53	A-4407-252-A	MAIN BOARD, COMPLETE (GRX8:E2,MX/R800)	
* 53	A-4407-322-A	MAIN BOARD, COMPLETE (RX99:EE,CIS)	
* 53	A-4407-723-A	MAIN BOARD, COMPLETE (GRX8:AUS)	
* 53	A-4407-749-A	MAIN BOARD, COMPLETE (GRX8:EA4,TH)	
54	1-773-041-11	WIRE (FLAT TYPE) (17 CORE)	
55	3-703-244-00	BUSHING (FBS001), CORD (AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AUS,AR)	
55	3-703-571-11	BUSHING (S) (4516), CORD (E2,E3,MX,TH)	

Ref. No.	Part No.	Description	Remark
* 56	4-988-533-01	HOLDER, PWB	
57	4-965-822-01	FOOT	
⚠58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠58	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY,EA3)	
⚠58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK,HK)	
⚠59	1-558-943-41	CORD, POWER (E2,E3,MX,)	
⚠59	1-575-651-21	CORD, POWER (AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AR)	
⚠59	1-696-845-31	CORD, POWER (AUS)	
⚠59	1-751-326-21	CORD, POWER (TH)	
60	1-773-011-11	WIRE (FLAT TYPE)(15 CORE)(170mm)	
61	1-773-112-11	WIRE (FLAT TYPE)(19 CORE)(140mm)	
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)	
⚠T501	1-431-709-11	TRANSFORMER, POWER (E2,E3,SP,MY,MX,HK,EA3,EA4,TW,AUS,AR)	

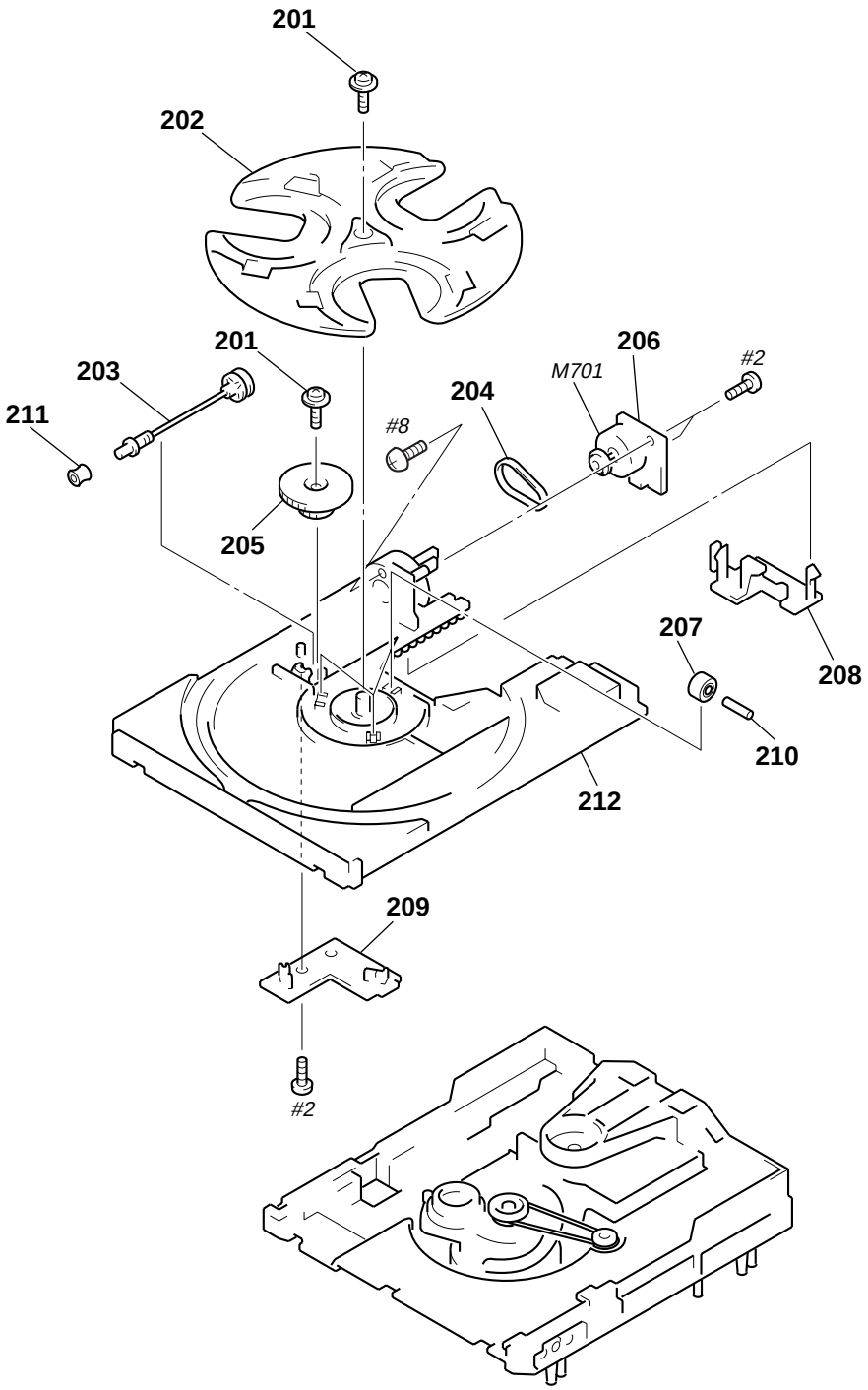
8-3. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	4-996-808-01	WINDOW (TCL)	
102	4-996-809-01	WINDOW (TCR)	
103	4-996-799-01	LID (A), CASSETTE	
104	4-996-800-01	LID (B), CASSETTE	
105	4-996-732-01	SPRING (A DECK)	
106	4-996-733-01	SPRING (B DECK)	
107	4-959-229-11	DETENT, CASSETTE	
108	4-996-810-01	KNOB (JOG)	
109	4-996-811-01	KNOB (VOL)	
110	X-4949-323-1	PANEL ASSY, FRONT (EXCEPT AEP,UK,G,EA3)	
110	X-4949-329-1	PANEL ASSY, FRONT (RX99:AEP,UK,G)	
110	X-4949-509-1	PANEL ASSY, FRONT (RX88)	
110	X-4949-510-1	PANEL ASSY, FRONT (GRX8:EA3)	
111	4-962-708-11	EMBLEM (4-A), SONY	
112	4-988-663-01	FOOT (FELT)	
* 113	A-4407-304-A	CONT COM BOARD, COMPLETE (EXCEPT GRX8:EA4,TH)	
* 114	1-668-269-11	DECO BOARD	
115	4-996-812-01	HOLDER (LED)	
116	4-996-716-01	HOLDER (CDM)	

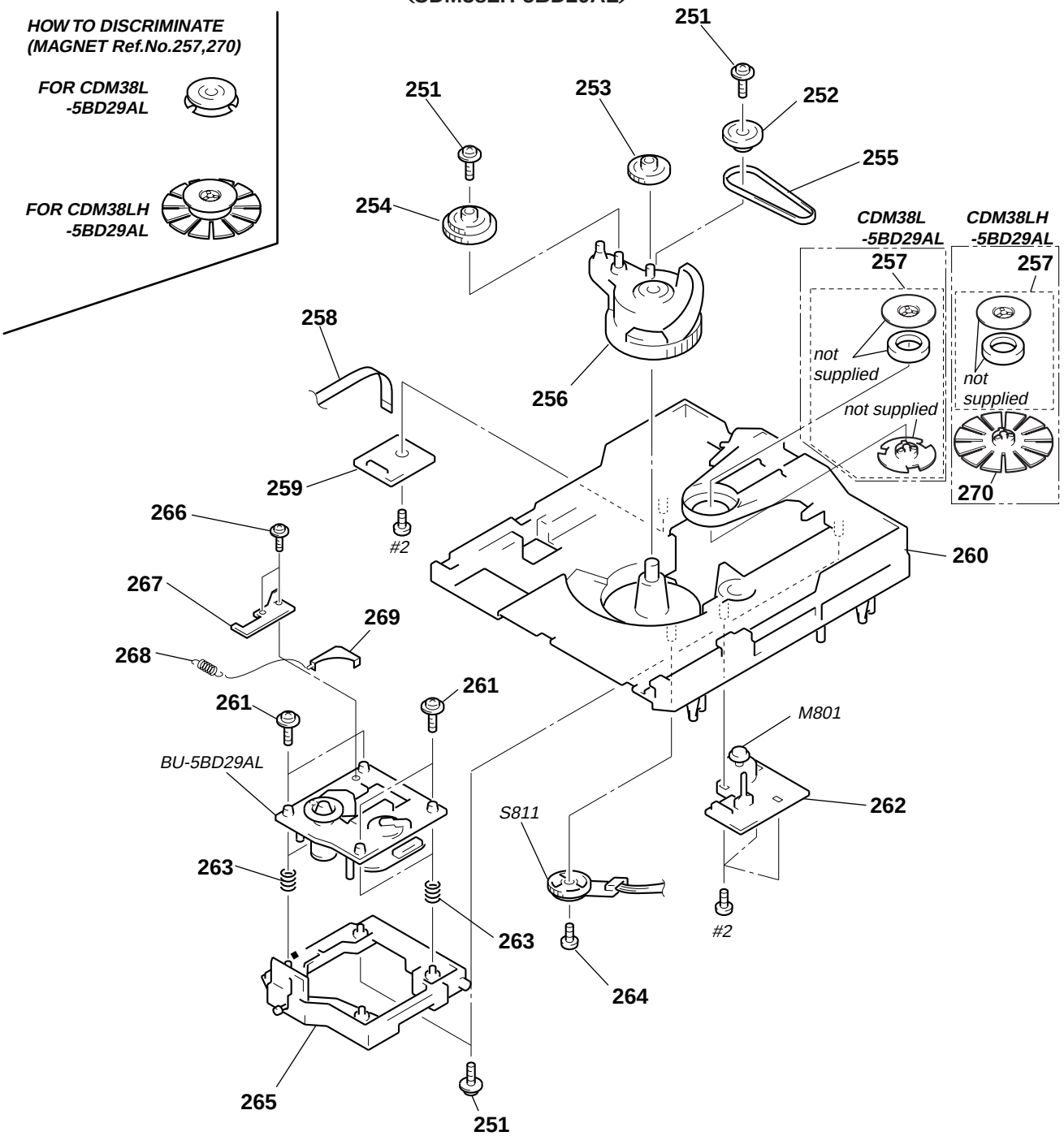
Ref. No.	Part No.	Description	Remark
* 117	1-668-268-11	CD-SW BOARD	
* 118	A-4407-257-A	PANEL BOARD, COMPLETE (GRX8/R800/RX99:EE,CIS)	
* 118	A-4407-308-A	PANEL BOARD, COMPLETE (RX88)	
* 118	A-4407-720-A	PANEL BOARD, COMPLETE (RX99:AEP,UK,G)	
* 119	4-996-796-01	HOLDER, FL TUBE	
* 120	4-932-810-31	CUSHION (FL)	
121	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	
122	3-319-224-01	DAMPER, SMALL	
123	4-951-620-01	SCREW (2.6X8), +BVTP	
* 124	1-668-271-11	HP BOARD	
125	4-986-893-51	KNOB (MICROPHONE)	
* 126	1-668-270-11	MIC BOARD	
127	X-4949-941-1	LID (L) ASSY, CASSETTE	
128	X-4949-942-1	LID (R) ASSY, CASSETTE	
129	4-995-081-01	LATCH, DC	
130	1-773-109-11	WIRE (FLAT TYPE)(19 CORE)(110mm)	
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT	

8-4. CD MECHANISM DECK SECTION-1 (CDM38L-5BD29AL / CDM38LH-5BD29AL)



Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET (2), YOKE	
202	4-977-945-01	TRAY (TURN)	
203	X-4946-665-1	SHAFT ASSY, WORM	
204	4-977-943-01	BELT (TURN) (1.2)	
205	4-977-956-01	WHEEL, WORM	
* 206	1-658-577-11	MOTOR (TURN) BOARD	
207	4-988-162-01	ROLLER	
208	4-977-941-01	BEARING (WORM)	
* 209	1-658-576-11	SENSOR BOARD	
210	4-934-376-01	SHAFT (ROLLER)	
211	4-981-187-01	COLLAR (WORM)	
212	4-977-944-01	TRAY (SLIDE)	
M701	A-4672-004-A	MOTOR ASSY (TURN)	

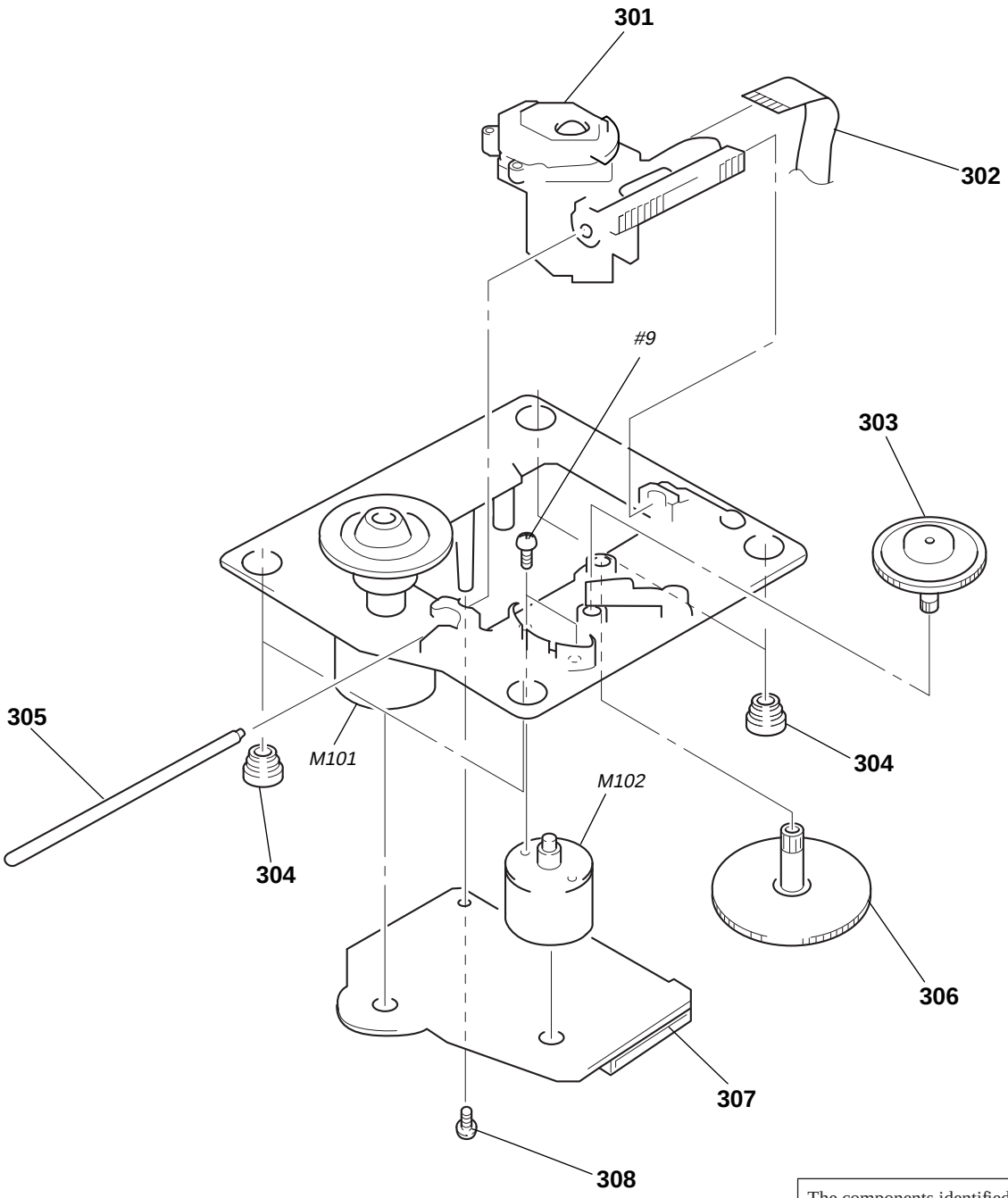
8-5. CD MECHANISM DECK SECTION-2 (CDM38L-5BD29AL CDM38LH-5BD29AL)



Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-667-1	CAM ASSY, BU	
257	1-452-879-11	MAGNET (CDM38L-5BD29AL)	
257	1-452-925-21	MAGNET ASSY (CDM38LH-5BD29AL)	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
* 260	X-4946-668-1	CHASSIS (CDM) ASSY	
261	4-985-672-01	SCREW (+PTPWH M2.6X6), FLOATING	

Ref. No.	Part No.	Description	Remark
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
* 265	X-4946-666-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-21	SLIDER (38)	
268	4-989-819-02	SPRING, TENSION	
269	4-989-491-21	COVER, LENS	
270	4-933-142-11	PULLEY (L), PRESS (CDM38LH-5BD29AL)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
S811	1-473-335-11	ENCODER, ROTARY (BU, TRAY ADDRESS DET)	

8-6. BASE UNIT SECTION (BU-5BD29AL)

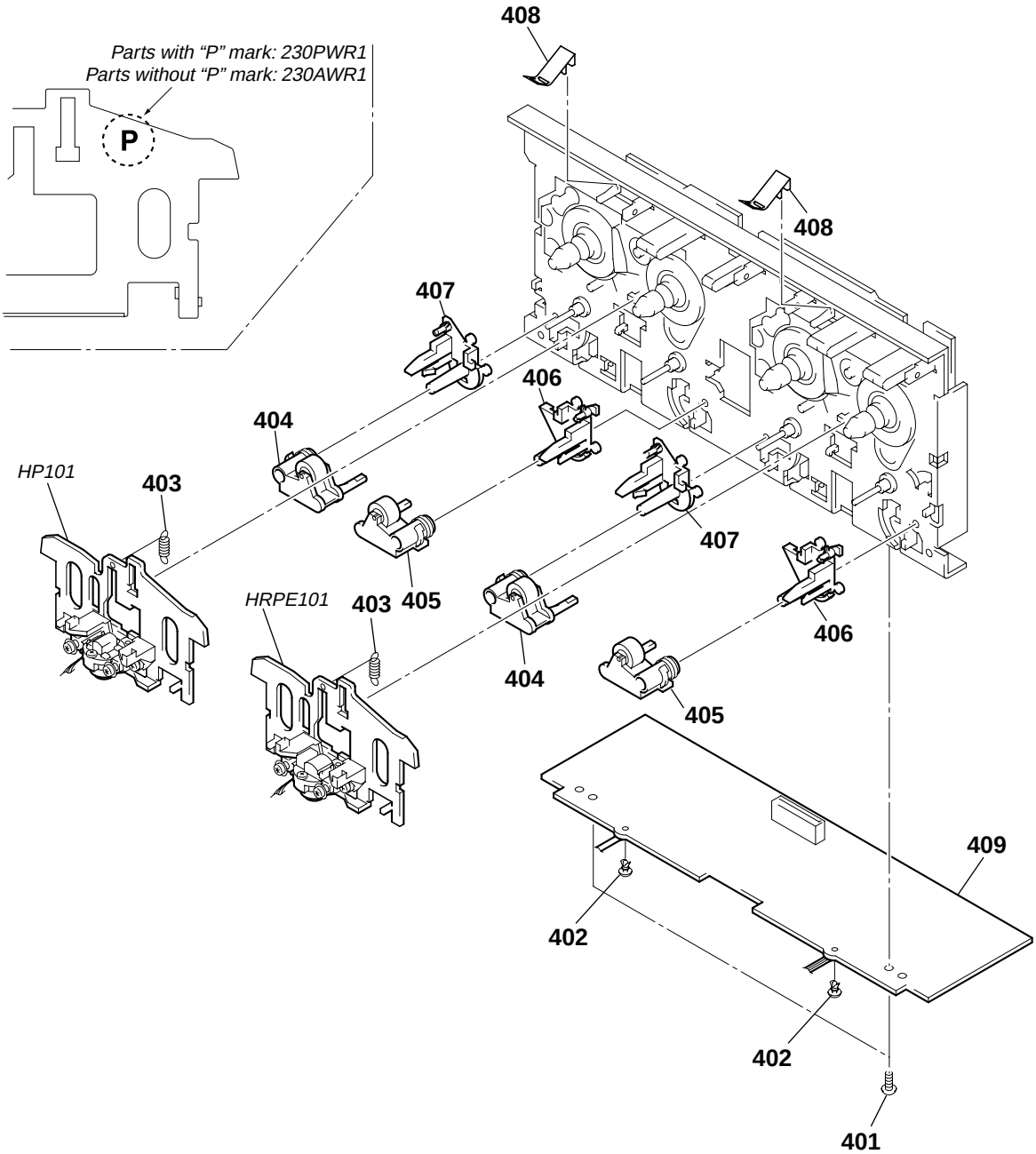


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP BLOCK KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
303	4-912-567-21	GEAR (M)	
304	4-951-940-01	INSULATOR (BU)	
305	4-917-565-01	SHAFT, SLED	
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4699-522-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

8-7. TC MECHANISM SECTION 1 (TCM230AWR1 TCM230PWR1)

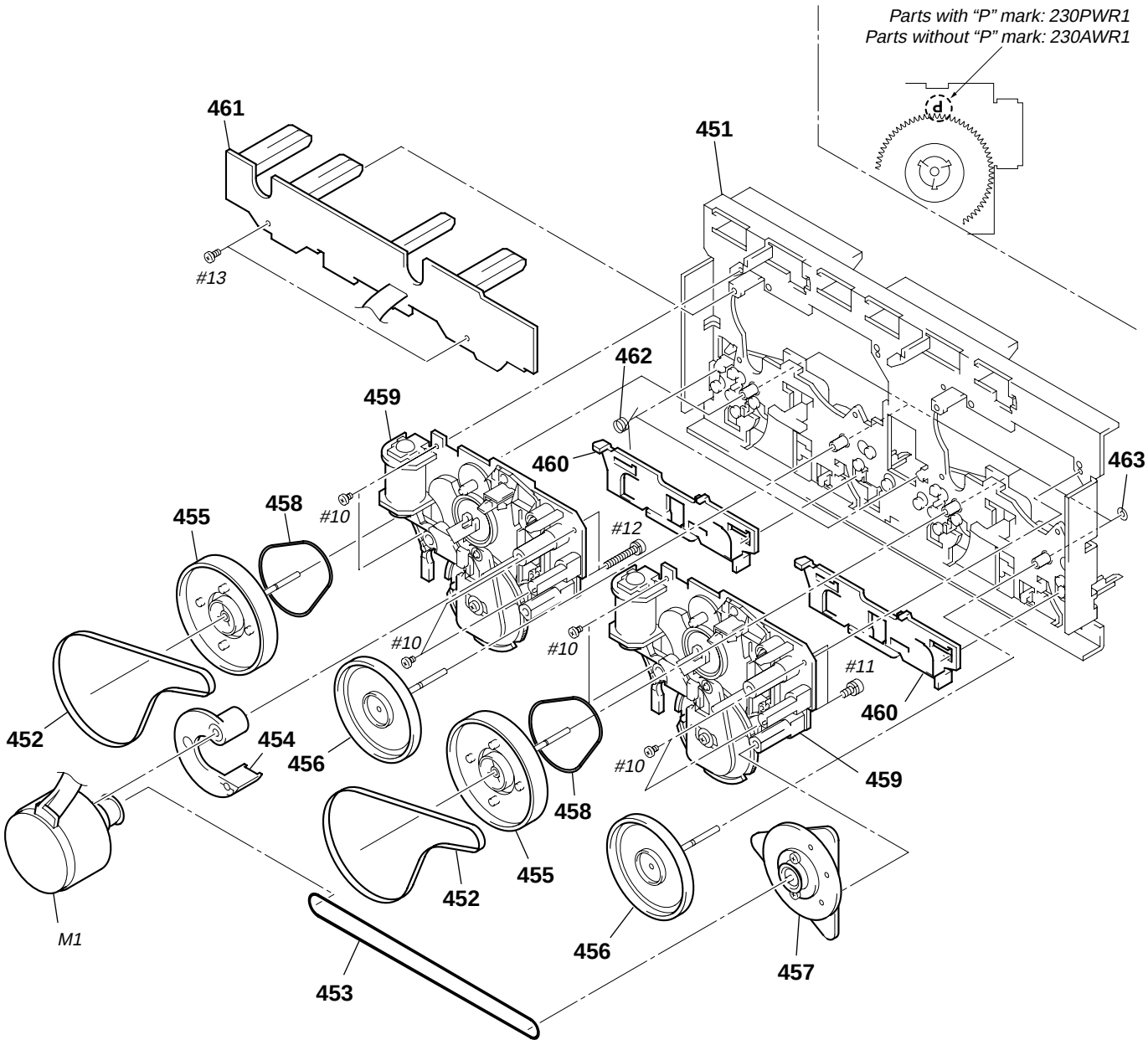
***NOTE:** Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part*



Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
402	3-911-116-21	RIVET, PUSH	
403	3-016-574-01	SPRING (HEAD), TENSION	
404	X-3374-156-2	PINCH LEVER (REV) ASSY	
405	X-3374-155-2	PINCH LEVER (FWD) ASSY	
406	3-016-564-01	BASE (PINCH LEVER FWD)	
407	3-016-565-01	BASE (PINCH LEVER REV)	
408	3-016-567-02	SPRING (CASSETTE), LEAF	
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR1)(*NOTE)	
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR1)(*NOTE)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR1)(*NOTE)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR1)(*NOTE)	

8-8. TC MECHANISM SECTION 2 (TCM230AWR1 TCM230PWR1)

***NOTE:** Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.*



Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-1	CASSIS ASSY, MAIN	
452	3-016-570-01	BELT (CAPSTAN)	
453	3-016-569-01	BELT (TENSION)	
454	3-017-360-01	BRACKET (MOTOR)	
455	X-3374-234-1	FLYWHEEL (FWD) ASSY	
456	X-3374-235-1	FLYWHEEL (REV) ASSY	
457	X-3374-238-1	PULLEY ASSY, TENSION	
458	3-024-405-01	BELT (FR)	

Ref. No.	Part No.	Description	Remark
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR1)	(*NOTE)
459	A-2004-630-A	MECHANICAL BLOCK ASSY (230PWR1)	(*NOTE)
460	3-016-566-01	SLIDER, REVERSE	
* 461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
462	3-016-575-01	SPRING, TORSION	
463	3-019-208-01	WASHER, STOPPER	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	

SECTION 9
ELECTRICAL PARTS LIST

AUDIO

Note:

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

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

- 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, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable

- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μ A..., uPA...: μ PA..., uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
  uF : μ F

- COILS
  uH : μ H
- Abbreviation
  G : German model.
  EE : East European model.
  AUS : Australian model.
  EA3 : Saudi Arabia model.
  EA4 : Israel model.
  SP : Singapore model.
  TW : Thai model.
  HK : Hong Kong model.
  MY : Malaysia model.
  TH : Thailand model.
  E2 : Without SW tuner E model.
  E3 : With SW tuner E model.
  MX : Mexican model.
  AR : Argentine model.

Ref. No.	Part No.	Description			Remark
*	A-2007-731-A	AUDIO MOUNTED BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-104-396-11	ELECT	10uF	20%	16V
C612	1-104-396-11	ELECT	10uF	20%	16V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V

Ref. No.	Part No.	Description				Remark
		< CONNECTOR >				
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P				
		< HEAD >				
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (PLAY BACK HEAD)				
	7-685-783-09	SCREW +PTT 2X6 (S)				
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (RECORD/PLAY BACK/ERASE HEAD)				
		< IC >				
IC601	8-759-111-44	IC UPC4570C-1				
IC602	8-759-143-54	IC UPC1330HA				
IC611	8-759-111-44	IC UPC4570C-1				
		< COIL >				
L331	1-410-780-11	INDUCTOR 27mH				
L431	1-410-780-11	INDUCTOR 27mH				
L601	1-414-193-41	INDUCTOR, MICRO 22uH				
L602	1-414-193-41	INDUCTOR, MICRO 22uH				
		< TRANSISTOR >				
Q621	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q622	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q623	8-729-801-93	TRANSISTOR 2SD1387				
		< RESISTOR >				
R301	1-247-881-00	CARBON	120K	5%	1/4W	
R302	1-249-409-11	CARBON	220	5%	1/4W	F
R303	1-249-433-11	CARBON	22K	5%	1/4W	
R304	1-247-889-00	CARBON	270K	5%	1/4W	
R305	1-247-858-11	CARBON	13K	5%	1/4W	
R311	1-247-881-00	CARBON	120K	5%	1/4W	
R312	1-247-807-31	CARBON	100	5%	1/4W	
R314	1-247-882-11	CARBON	130K	5%	1/4W	
R315	1-247-850-11	CARBON	6.2K	5%	1/4W	
R331	1-249-430-11	CARBON	12K	5%	1/4W	
R401	1-247-881-00	CARBON	120K	5%	1/4W	
R402	1-249-409-11	CARBON	220	5%	1/4W	F
R403	1-249-433-11	CARBON	22K	5%	1/4W	
R404	1-247-889-00	CARBON	270K	5%	1/4W	

Ref. No.	Part No.	Description			Remark
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6.2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W F
R602	1-249-409-11	CARBON	220	5%	1/4W F
R608	1-249-409-11	CARBON	220	5%	1/4W F
R609	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W F
R612	1-249-409-11	CARBON	220	5%	1/4W F
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV341	1-241-768-11	RES, ADJ, CARBON 220K			
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV441	1-241-768-11	RES, ADJ, CARBON 220K			
		< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

****

*	A-4699-522-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C106	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C107	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C112	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C113	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C119	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C120	1-124-779-00	ELECT CHIP	10uF	20%	16V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C161	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C162	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C163	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C164	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C165	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C166	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C167	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C168	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C169	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C170	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C171	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C173	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C175	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C176	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C177	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C178	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C179	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C181	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C182	1-126-393-11	ELECT CHIP	33uF	20%	10V
C183	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C185	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C188	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C189	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P			
CNU102	1-778-874-11	CONNECTOR, FFC (LIF (NON-ZIF)) 19P			
		< FERRITE BEAD >			
FB101	1-414-234-11	INDUCTOR CHIP 0UH			
FB103	1-414-234-11	INDUCTOR CHIP 0UH			
		< IC >			
IC101	8-752-080-62	IC CXA1992AR			
IC102	8-759-429-32	IC BA5941FP-E2			
IC103	8-752-378-66	IC CXD2519Q			
		< JUMPER RESISTOR >			
JW101	1-216-295-91	SHORT	0		
JW104	1-216-295-91	SHORT	0		
		< MOTOR >			
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)			
M102	X-4917-504-1	MOTOR ASSY (SLED)			

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
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R104	1-216-093-00	METAL CHIP	68K	5%	1/10W
R105	1-216-088-00	METAL CHIP	43K	5%	1/10W
R106	1-216-088-00	METAL CHIP	43K	5%	1/10W
R107	1-216-088-00	METAL CHIP	43K	5%	1/10W
R108	1-216-088-00	METAL CHIP	43K	5%	1/10W
R109	1-216-093-00	METAL CHIP	68K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-063-91	RES, CHIP	3.9K	5%	1/10W
R119	1-216-085-00	METAL CHIP	33K	5%	1/10W
R120	1-216-089-91	RES, CHIP	47K	5%	1/10W
R121	1-216-114-00	RES, CHIP	510K	5%	1/10W
R122	1-216-097-91	RES, CHIP	100K	5%	1/10W
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R126	1-216-063-91	RES, CHIP	3.9K	5%	1/10W
R127	1-216-089-91	RES, CHIP	47K	5%	1/10W
R128	1-216-098-00	METAL CHIP	110K	5%	1/10W
R129	1-216-025-91	RES, CHIP	100	5%	1/10W
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-025-91	RES, CHIP	100	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R158	1-216-001-00	METAL CHIP	10	5%	1/10W
R159	1-216-121-91	RES, CHIP	1M	5%	1/10W
R161	1-216-097-91	RES, CHIP	100K	5%	1/10W
R162	1-216-073-00	METAL CHIP	10K	5%	1/10W
R163	1-216-121-91	RES, CHIP	1M	5%	1/10W
R164	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R165	1-216-049-91	RES, CHIP	1K	5%	1/10W
R166	1-216-073-00	METAL CHIP	10K	5%	1/10W
R167	1-216-081-00	METAL CHIP	22K	5%	1/10W
R168	1-216-073-00	METAL CHIP	10K	5%	1/10W
R169	1-216-079-00	METAL CHIP	18K	5%	1/10W
R170	1-216-081-00	METAL CHIP	22K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-079-00	METAL CHIP	18K	5%	1/10W
R173	1-216-025-91	RES, CHIP	100	5%	1/10W
R174	1-216-033-00	METAL CHIP	220	5%	1/10W
R175	1-216-025-91	RES, CHIP	100	5%	1/10W
R176	1-216-025-91	RES, CHIP	100	5%	1/10W
R177	1-216-025-91	RES, CHIP	100	5%	1/10W
R178	1-216-025-91	RES, CHIP	100	5%	1/10W
R179	1-216-025-91	RES, CHIP	100	5%	1/10W
R180	1-216-025-91	RES, CHIP	100	5%	1/10W
R181	1-216-025-91	RES, CHIP	100	5%	1/10W
R188	1-216-037-00	METAL CHIP	330	5%	1/10W
R190	1-216-097-91	RES, CHIP	100K	5%	1/10W
R191	1-216-105-91	RES, CHIP	220K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
*	1-668-268-11	CD-SW BOARD			
		**********			
		< DIODE >			
D631	8-719-056-13	DIODE SML79423C-TP15 (DISC 1)			
D632	8-719-056-13	DIODE SML79423C-TP15 (DISC 2)			
D633	8-719-056-13	DIODE SML79423C-TP15 (DISC 3)			
		< JUMPER RESISTOR >			
JW901	1-216-296-91	SHORT 0			
JW902	1-216-295-91	SHORT 0			
		< TRANSISTOR >			
Q613	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q614	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q615	8-729-027-60	TRANSISTOR DTC144TKA-T146			
		< RESISTOR >			
R656	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R657	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R658	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R659	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R660	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R691	1-216-027-00	METAL CHIP	120	5%	1/10W
R692	1-216-027-00	METAL CHIP	120	5%	1/10W
R693	1-216-027-00	METAL CHIP	120	5%	1/10W
R694	1-216-027-00	METAL CHIP	120	5%	1/10W
R695	1-216-027-00	METAL CHIP	120	5%	1/10W
R696	1-216-027-00	METAL CHIP	120	5%	1/10W
		< SWITCH >			
S637	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
S638	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S639	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S640	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S641	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP/EX-CHANGE)			
S642	1-762-875-21	SWITCH, KEYBOARD (⏏)			
**********					

CONNECTOR | CONT COM | DECO

Ref. No.	Part No.	Description			Remark
*	1-658-575-11	CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
* CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W F

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*	A-4407-304-A	CONT COM BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C627	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C628	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C629	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C630	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
* CN608	1-568-862-11	SOCKET, CONNECTOR 19P			
		< DIODE >			
D610	8-719-063-93	DIODE SLR325VC-N-T32 (ENTER/NEXT)			
D612	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)			
D613	8-719-063-93	DIODE SLR325VC-N-T32 (JOG)			
D614	8-719-064-65	DIODE SELU5723C-TP15 (DJ MIX)			
D615	8-719-064-65	DIODE SELU5723C-TP15 (DJ MIX)			
D616	8-719-063-93	DIODE SLR325VC-N-T32 (NON-STOP)			
D617	8-719-063-93	DIODE SLR325VC-N-T32 (– ◀◀)			
D618	8-719-063-93	DIODE SLR325VC-N-T32 (+ ▶▶)			
D801	8-719-057-97	DIODE SEL5923A-TP15 (ON/OFF)			
D802	8-719-057-97	DIODE SEL5923A-TP15 (JAM)			
D803	8-719-056-13	DIODE SML79423C-TP15 (AUTO BPM)			
		< TRANSISTOR >			
Q604	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q854	8-729-027-23	TRANSISTOR DTA114EKA-T146			
Q855	8-729-027-23	TRANSISTOR DTA114EKA-T146			
		< RESISTOR >			
R637	1-216-033-00	METAL CHIP	220	5%	1/10W
R638	1-216-035-00	METAL CHIP	270	5%	1/10W
R639	1-216-039-00	METAL CHIP	390	5%	1/10W
R640	1-216-041-00	METAL CHIP	470	5%	1/10W
R641	1-216-045-00	METAL CHIP	680	5%	1/10W
R642	1-216-047-91	RES,CHIP	820	5%	1/10W
R643	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R666	1-216-037-00	METAL CHIP	330	5%	1/10W
R667	1-216-029-00	METAL CHIP	150	5%	1/10W
R668	1-216-027-00	METAL CHIP	120	5%	1/10W
R669	1-216-019-00	METAL CHIP	56	5%	1/10W
R670	1-216-037-00	METAL CHIP	330	5%	1/10W
R671	1-216-031-00	METAL CHIP	180	5%	1/10W
R811	1-216-029-00	METAL CHIP	150	5%	1/10W
R812	1-216-029-00	METAL CHIP	150	5%	1/10W
R813	1-216-029-00	METAL CHIP	150	5%	1/10W
R814	1-216-029-00	METAL CHIP	150	5%	1/10W
R821	1-216-033-00	METAL CHIP	220	5%	1/10W
R822	1-216-035-00	METAL CHIP	270	5%	1/10W
R823	1-216-039-00	METAL CHIP	390	5%	1/10W
R831	1-216-033-00	METAL CHIP	220	5%	1/10W
R832	1-216-035-00	METAL CHIP	270	5%	1/10W
R833	1-216-039-00	METAL CHIP	390	5%	1/10W
		< SWITCH >			
S601	1-473-534-11	ENCODER, ROTARY (JOG)			
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)			
S617	1-762-875-21	SWITCH, KEYBOARD (LOOP)			
S618	1-762-875-21	SWITCH, KEYBOARD (FLASH)			
S619	1-762-875-21	SWITCH, KEYBOARD (NON-STOP)			
S621	1-762-875-21	SWITCH, KEYBOARD (– ◀◀)			
S622	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)			
S623	1-762-875-21	SWITCH, KEYBOARD (+ ▶▶)			
S624	1-762-875-21	SWITCH, KEYBOARD (DBFB)			
S625	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
S801	1-762-875-21	SWITCH, KEYBOARD (PAD-B)			
S802	1-762-875-21	SWITCH, KEYBOARD (AUTO BPM)			
S803	1-762-875-21	SWITCH, KEYBOARD (JAM-BEAT)			
S804	1-762-875-21	SWITCH, KEYBOARD (BEAT LEVEL)			
S805	1-762-875-21	SWITCH, KEYBOARD (PAD-A)			
S806	1-762-875-21	SWITCH, KEYBOARD (ON/OFF-BEAT)			
S807	1-762-875-21	SWITCH, KEYBOARD (SELECT-BEAT)			
S808	1-762-875-21	SWITCH, KEYBOARD (SPEED-BEAT)			

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*	1-668-269-11	DECO BOARD			
		**********			
		< DIODE >			
D640	8-719-063-93	DIODE SLR325VC-N-T32 (CENTER)			
D641	8-719-032-86	DIODE SEL5420E (LEFT)			
D642	8-719-032-86	DIODE SEL5420E (LEFT)			
D643	8-719-032-86	DIODE SEL5420E (LEFT)			
D644	8-719-033-06	DIODE SEL5920A (CENTER)			
D655	8-719-033-06	DIODE SEL5920A (RIGHT)			
D656	8-719-033-06	DIODE SEL5920A (RIGHT)			
		< TRANSISTOR >			
Q856	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q857	8-729-027-60	TRANSISTOR DTC144TKA-T146			
		< RESISTOR >			
R706	1-216-019-00	METAL CHIP	56	5%	1/10W
R707	1-216-019-00	METAL CHIP	56	5%	1/10W
R708	1-216-041-00	METAL CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			Remark
R709	1-216-027-00	METAL CHIP	120	5%	1/10W
R710	1-216-027-00	METAL CHIP	120	5%	1/10W
**********					
*	1-668-271-11	HP BOARD			
		********			
		< CAPACITOR >			
C790	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C791	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C792	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN752	1-506-469-11	PIN, CONNECTOR 4P			
		< GROUND PLATE >			
* EP751	1-537-738-21	TERMINAL, EARTH			
		< JACK >			
J755	1-784-224-11	JACK (LARGE TYPE)(PHONES)			
**********					
*	A-2007-732-A	LEAF SW BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1001	1-128-124-11	ELECT	33uF	20%	10V
		< CONNECTOR >			
CN1001	1-568-860-11	SOCKET, CONNECTOR 17P			
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P			
		< DIODE >			
D1001	8-719-911-19	DIODE 1SS119			
D1002	8-719-911-19	DIODE 1SS119			
		< CONNECTOR >			
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P			
		< IC >			
IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
		< TRANSISTOR >			
Q1001	8-729-029-56	TRANSISTOR DTA144ESA			
Q1001	8-729-900-65	TRANSISTOR DTA144ES			
		< RESISTOR >			
R907	1-247-879-11	CARBON	100K	5%	1/4W
R1001	1-249-409-11	CARBON	220	5%	1/4W F
R1002	1-249-409-11	CARBON	220	5%	1/4W F
R1003	1-249-414-11	CARBON	560	5%	1/4W F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-11	CARBON	300	5%	1/4W

Ref. No.	Part No.	Description			Remark
R1006	1-247-864-11	CARBON	24K	5%	1/4W
R1007	1-247-856-00	CARBON	11K	5%	1/4W
R1008	1-249-417-11	CARBON	1K	5%	1/4W F
		< VARIABLE RESISTOR >			
RV1001	1-241-785-11	RES, ADJ, CARBON 10K			
RV1002	1-241-785-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S1001	1-570-953-11	SWITCH, PUSH (1 KEY) (A PLAY)			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (B PLAY)			
S1003	1-771-333-11	SWITCH, LEAF (A HALF)			
S1004	1-771-205-11	SWITCH, LEAF (A 120/70)			
S1005	1-771-205-11	SWITCH, LEAF (REC A)			
S1006	1-771-333-11	SWITCH, LEAF (B HALF)			
S1008	1-771-205-11	SWITCH, LEAF (B 120/70)			
S1009	1-771-205-11	SWITCH, LEAF (REC B)			
**********					
*	A-4405-131-A	MAIN BOARD, COMPLETE			
		**********			
		(GRX8:E3,SP,MY,HK,TW,EA3)			
*	A-4405-146-A	MAIN BOARD, COMPLETE			
		**********			
		(RX88/RX99:AEP,UK,G)			
*	A-4407-252-A	MAIN BOARD, COMPLETE (GRX8:E2,MX/R800)			
		**********			
*	A-4407-322-A	MAIN BOARD, COMPLETE (RX99:EE,CIS)			
		**********			
*	A-4407-723-A	MAIN BOARD, COMPLETE (GRX8:AUS)			
		**********			
*	A-4407-749-A	MAIN BOARD, COMPLETE (GRX8:EA4,TH)			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C101	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C102	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C103	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C111	1-137-195-11	FILM	0.56uF	5%	50V
C112	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C113	1-136-167-00	FILM	0.15uF	5%	50V
C114	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C115	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C116	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C117	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C118	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C119	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C120	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C121	1-126-964-11	ELECT	10uF	20%	50V
C122	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C123	1-136-169-00	FILM	0.22uF	5%	50V
C124	1-136-169-00	FILM	0.22uF	5%	50V
C125	1-126-964-11	ELECT	10uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C131	1-126-933-11	ELECT	100uF	20%	10V
C132	1-126-933-11	ELECT	100uF	20%	10V
C133	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C134	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C135	1-126-964-11	ELECT	10uF	20%	50V
C136	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C137	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C141	1-124-767-00	ELECT	2.2uF	20%	50V
C151	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C152	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C153	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C154	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C161	1-137-195-11	FILM	0.56uF	5%	50V
C162	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C163	1-136-167-00	FILM	0.15uF	5%	50V
C164	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C165	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C166	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C167	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C168	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C169	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C170	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C171	1-126-964-11	ELECT	10uF	20%	50V
C172	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C173	1-136-169-00	FILM	0.22uF	5%	50V
C174	1-136-169-00	FILM	0.22uF	5%	50V
C175	1-126-964-11	ELECT	10uF	20%	50V
C176	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C177	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C191	1-126-964-11	ELECT	10uF	20%	50V
C192	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C193	1-126-964-11	ELECT	10uF	20%	50V
C194	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C195	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C196	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C197	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C301	1-126-960-11	ELECT	1uF	20%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-136-173-00	FILM	0.47uF	5%	50V
C310	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20%	50V
C312	1-126-959-11	ELECT	0.47uF	20%	50V
C313	1-130-471-00	MYLAR	0.001uF	5%	50V
C314	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-963-11	ELECT	4.7uF	20%	50V
C316	1-126-933-11	ELECT	100uF	20%	10V
C317	1-126-933-11	ELECT	100uF	20%	10V
C320	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C331	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C332	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C333	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V

Ref. No.	Part No.	Description			Remark
C334	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C351	1-126-960-11	ELECT	1uF	20%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-136-165-00	FILM	0.1uF	5%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-126-959-11	ELECT	0.47uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-136-173-00	FILM	0.47uF	5%	50V
C371	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C372	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C373	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C374	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C375	1-163-038-91	CERAMIC CHIP	0.1uF		25V (RX99:EE,CIS)
C376	1-163-038-91	CERAMIC CHIP	0.1uF		25V (RX99:EE,CIS)
C381	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C382	1-126-925-11	ELECT	470uF	20%	10V
C383	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C384	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C385	1-126-961-11	ELECT	2.2uF	20%	50V
C386	1-126-961-11	ELECT	2.2uF	20%	50V
C387	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C388	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C391	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C392	1-126-933-11	ELECT	100uF	20%	10V
C401	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C402	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C403	1-126-964-11	ELECT	10uF	20%	50V
C411	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C412	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C414	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-964-11	ELECT	10uF	20%	50V
C501	1-126-916-11	ELECT	1000uF	20%	6.3V
C502	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C503	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C504	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C505	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C506	1-126-933-11	ELECT	100uF	20%	10V
C508	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-126-937-11	ELECT	4700uF	20%	16V (RX88/RX99)
C901	1-128-548-11	ELECT	4700uF	20%	25V (GRX8/R800)
C902	1-126-768-11	ELECT	2200uF	20%	16V (RX88/RX99)
C902	1-126-943-11	ELECT	2200uF	20%	25V (GRX8/R800)
C903	1-126-964-11	ELECT	10uF	20%	50V
C904	1-126-964-11	ELECT	10uF	20%	50V
C905	1-126-933-11	ELECT	100uF	20%	10V
C906	1-126-933-11	ELECT	100uF	20%	10V
C907	1-126-925-11	ELECT	470uF	20%	10V
C908	1-126-925-11	ELECT	470uF	20%	10V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-126-768-11	ELECT	2200uF	20%	16V

Ref. No.	Part No.	Description			Remark
C921	1-126-964-11	ELECT	10uF	20%	50V
C922	1-126-767-11	ELECT	1000uF	20%	16V
C931	1-126-964-11	ELECT	10uF	20%	50V
C932	1-126-916-11	ELECT	1000uF	20%	6.3V
C933	1-126-925-11	ELECT	470uF	20%	10V
C934	1-126-933-11	ELECT	100uF	20%	10V
C941	1-126-964-11	ELECT	10uF	20%	50V
C942	1-126-933-11	ELECT	100uF	20%	10V
C951	1-126-967-11	ELECT	47uF	20%	10V
C952	1-136-165-00	FILM	0.1uF	5%	50V
C953	1-136-173-00	FILM	0.47uF	5%	50V
C961	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C991	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
* CN101	1-568-832-11	SOCKET, CONNECTOR 13P			
CN102	1-784-600-11	SOCKET, CONNECTOR (NON ZIF)15P (GRX8:E3,SP,MY,HK,TW,EA3/RX88/RX99)			
CN102	1-784-601-11	SOCKET, CONNECTOR (NON ZIF) 13P (GRX8:E2,MX,EA4,TH,AUS/R800)			
* CN103	1-568-946-11	PIN, CONNECTOR 8P			
* CN104	1-568-947-11	PIN, CONNECTOR 9P			
CN105	1-764-698-11	SOCKET, CONNECTOR (NON ZIF) 19P			
CN106	1-568-834-11	SOCKET, CONNECTOR 15P			
* CN107	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD) 3P			
CN901	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P			
CN902	1-770-728-11	CONNECTOR, BOARD TO BOARD 9P			
* CN961	1-564-518-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D381	8-719-988-62	DIODE 1SS355			
D382	8-719-988-62	DIODE 1SS355			
D502	8-719-988-62	DIODE 1SS355			
D508	8-719-988-62	DIODE 1SS355			
D572	8-719-988-62	DIODE 1SS355			
D901	8-719-988-62	DIODE 1SS355			
D911	8-719-988-62	DIODE 1SS355			
D931	8-719-988-62	DIODE 1SS355			
D932	8-719-210-33	DIODE EC10DS2			
D951	8-719-988-62	DIODE 1SS355			
D952	8-719-988-62	DIODE 1SS355			
D953	8-719-988-62	DIODE 1SS355			
D954	8-719-988-62	DIODE 1SS355			
D955	8-719-210-33	DIODE EC10DS2			
D956	8-719-988-62	DIODE 1SS355			
		< GROUND TERMINAL >			
* EPT901	4-870-539-11	PLATE, GROUND			
		< COIL >			
FB381	1-414-234-11	INDUCTOR CHIP 0UH			
		< IC >			
IC111	8-759-495-24	IC M62442FP-TP			
IC191	8-759-636-55	IC M5218AFP			
IC301	8-759-495-26	IC HA12215			

Ref. No.	Part No.	Description	Remark
IC391	8-749-923-04	IC TOTX178	
IC401	8-759-636-55	IC M5218AFP	
IC411	8-759-636-55	IC M5218AFP	
IC501	8-759-496-10	IC uPD780018AYGF-011-3BA	
IC901	8-759-604-86	IC M5F7807L	
IC902	8-759-604-90	IC M5F7907L	
IC911	8-759-231-58	IC TA7812S	
IC921	8-759-604-38	IC M5F78M10	
IC931	8-759-231-53	IC TA7805S	
IC941	8-759-604-86	IC M5F7807L	
IC951	8-759-635-63	IC M51943BSL	
		< JACK >	
J101	1-774-411-11	JACK, PIN 6P (VIDEO(AUDIO) IN, MD IN, MD/VIDEO (AUDIO) OUT)	
J191	1-774-785-11	JACK, PIN 1P (SUPER WOOFER)	
		< JUMPER RESISTOR >	
JR1	1-216-295-91	SHORT 0	
JR2	1-216-295-91	SHORT 0	
JR4	1-216-295-91	SHORT 0	
JR5	1-216-295-91	SHORT 0	
		< COIL >	
L371	1-412-032-11	INDUCTOR CHIP 100uH (RX88/RX99:AEP,UK,G)	
L372	1-412-032-11	INDUCTOR CHIP 100uH	
L391	1-412-032-11	INDUCTOR CHIP 100uH	
L569	1-412-032-11	INDUCTOR CHIP 100uH	
L570	1-412-032-11	INDUCTOR CHIP 100uH	
L572	1-412-032-11	INDUCTOR CHIP 100uH	
		< FILTER >	
FL131	1-233-289-21	FILTER, EMI (SMD)	
FL501	1-233-289-21	FILTER, EMI (SMD)	
FL502	1-233-289-21	FILTER, EMI (SMD)	
		< TRANSISTOR >	
Q111	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q113	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q141	8-729-422-57	TRANSISTOR UN4111	
Q142	8-729-900-36	TRANSISTOR DTC124ES	
Q143	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q161	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q163	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q331	8-729-118-00	TRANSISTOR 2SB1116-L	
Q332	8-729-900-80	TRANSISTOR DTC114ES	
Q333	8-729-118-00	TRANSISTOR 2SB1116-L	
Q334	8-729-900-80	TRANSISTOR DTC114ES	
Q335	8-729-900-80	TRANSISTOR DTC114ES	
Q336	8-729-116-55	TRANSISTOR 2SB1068	
Q337	8-729-144-44	TRANSISTOR 2SD1513	
Q338	8-729-422-57	TRANSISTOR UN4111	
Q339	8-729-900-80	TRANSISTOR DTC114ES	

MAIN

Ref. No.	Part No.	Description			Remark
Q340	8-729-166-55	TRANSISTOR	2SB1068		
Q341	8-729-144-44	TRANSISTOR	2SD1513		
Q342	8-729-422-57	TRANSISTOR	UN4111		
Q343	8-729-900-80	TRANSISTOR	DTC114ES		
Q411	8-729-141-30	TRANSISTOR	2SC3623A-LK		
Q901	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q902	8-729-900-36	TRANSISTOR	DTC124ES		
Q903	8-729-040-19	TRANSISTOR	RT1N137L-TP		
Q904	8-729-900-63	TRANSISTOR	DTA124ES		
Q905	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q911	8-729-141-83	TRANSISTOR	2SB1094-LK		
Q912	8-729-900-36	TRANSISTOR	DTC124ES		
Q913	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q931	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q932	8-729-900-36	TRANSISTOR	DTC124ES		
Q933	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q934	8-729-900-63	TRANSISTOR	DTA124ES		
Q937	8-729-900-36	TRANSISTOR	DTC124ES		
Q951	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q961	8-729-111-29	TRANSISTOR	2SD1616A-K		
Q962	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R101	1-216-049-91	RES,CHIP	1K	5%	1/10W
R102	1-216-105-91	RES,CHIP	220K	5%	1/10W
R103	1-216-049-91	RES,CHIP	1K	5%	1/10W
R104	1-216-105-91	RES,CHIP	220K	5%	1/10W
R105	1-216-049-91	RES,CHIP	1K	5%	1/10W
R106	1-216-097-91	RES,CHIP	100K	5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-121-91	RES,CHIP	1M	5%	1/10W
R113	1-216-111-91	RES,CHIP	390K	5%	1/10W
R114	1-216-044-00	METAL CHIP	620	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-105-91	RES,CHIP	220K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-089-91	RES,CHIP	47K	5%	1/10W
R119	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R120	1-216-097-91	RES,CHIP	100K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R122	1-216-295-91	SHORT	0		
R123	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R131	1-216-025-91	RES,CHIP	100	5%	1/10W
R132	1-216-025-91	RES,CHIP	100	5%	1/10W
R133	1-216-025-91	RES,CHIP	100	5%	1/10W
R134	1-216-089-91	RES,CHIP	47K	5%	1/10W
R135	1-216-089-91	RES,CHIP	47K	5%	1/10W
R136	1-216-089-91	RES,CHIP	47K	5%	1/10W
R137	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R138	1-216-089-91	RES,CHIP	47K	5%	1/10W
R141	1-216-049-91	RES,CHIP	1K	5%	1/10W
R142	1-216-097-91	RES,CHIP	100K	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R144	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R152	1-216-105-91	RES,CHIP	220K	5%	1/10W
R153	1-216-049-91	RES,CHIP	1K	5%	1/10W
R154	1-216-105-91	RES,CHIP	220K	5%	1/10W
R155	1-216-049-91	RES,CHIP	1K	5%	1/10W
R156	1-216-097-91	RES,CHIP	100K	5%	1/10W
R161	1-216-073-00	METAL CHIP	10K	5%	1/10W
R162	1-216-121-91	RES,CHIP	1M	5%	1/10W
R163	1-216-111-91	RES,CHIP	390K	5%	1/10W
R164	1-216-044-00	METAL CHIP	620	5%	1/10W
R165	1-216-073-00	METAL CHIP	10K	5%	1/10W
R166	1-216-097-91	RES,CHIP	100K	5%	1/10W
R167	1-216-073-00	METAL CHIP	10K	5%	1/10W
R168	1-216-089-91	RES,CHIP	47K	5%	1/10W
R169	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R170	1-216-097-91	RES,CHIP	100K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-295-91	SHORT	0		
R173	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R191	1-216-089-91	RES,CHIP	47K	5%	1/10W
R192	1-216-089-91	RES,CHIP	47K	5%	1/10W
R193	1-216-089-91	RES,CHIP	47K	5%	1/10W
R194	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R195	1-216-073-00	METAL CHIP	10K	5%	1/10W
R196	1-216-049-91	RES,CHIP	1K	5%	1/10W
R197	1-216-097-91	RES,CHIP	100K	5%	1/10W
R198	1-216-049-91	RES,CHIP	1K	5%	1/10W
R199	1-216-073-00	METAL CHIP	10K	5%	1/10W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W
R302	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W
R304	1-216-025-91	RES,CHIP	100	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R306	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R307	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W
R311	1-216-121-91	RES,CHIP	1M	5%	1/10W
R312	1-216-102-00	RES,CHIP	160K	5%	1/10W
R313	1-216-097-91	RES,CHIP	100K	5%	1/10W
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W
R316	1-216-079-00	METAL CHIP	18K	5%	1/10W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W
R319	1-216-111-91	RES,CHIP	390K	5%	1/10W
R321	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R322	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R324	1-216-094-00	RES,CHIP	75K	5%	1/10W
R325	1-216-089-91	RES,CHIP	47K	5%	1/10W
R326	1-216-089-91	RES,CHIP	47K	5%	1/10W
R327	1-216-089-91	RES,CHIP	47K	5%	1/10W
R328	1-216-094-00	RES,CHIP	75K	5%	1/10W
R329	1-216-049-91	RES,CHIP	1K	5%	1/10W
R330	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R331	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R332	1-216-045-00	METAL CHIP	680	5%	1/10W
R333	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R334	1-216-045-00	METAL CHIP	680	5%	1/10W
R335	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R336	1-216-089-91	RES,CHIP	47K	5%	1/10W
R337	1-216-037-00	METAL CHIP	330	5%	1/10W
R338	1-216-037-00	METAL CHIP	330	5%	1/10W
R339	1-216-089-91	RES,CHIP	47K	5%	1/10W
R340	1-216-089-91	RES,CHIP	47K	5%	1/10W
R341	1-216-037-00	METAL CHIP	330	5%	1/10W
R342	1-216-089-91	RES,CHIP	47K	5%	1/10W
R343	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R344	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R351	1-216-085-00	METAL CHIP	33K	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R353	1-216-025-91	RES,CHIP	100	5%	1/10W
R354	1-216-025-91	RES,CHIP	100	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R356	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R357	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R358	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R359	1-216-085-00	METAL CHIP	33K	5%	1/10W
R371	1-216-049-91	RES,CHIP	1K	5%	1/10W
R372	1-216-049-91	RES,CHIP	1K	5%	1/10W
R381	1-216-025-91	RES,CHIP	100	5%	1/10W
R382	1-216-025-91	RES,CHIP	100	5%	1/10W
R383	1-216-085-00	METAL CHIP	33K	5%	1/10W
R384	1-216-085-00	METAL CHIP	33K	5%	1/10W
R385	1-216-085-00	METAL CHIP	33K	5%	1/10W
R401	1-216-073-00	METAL CHIP	10K	5%	1/10W
R402	1-216-073-00	METAL CHIP	10K	5%	1/10W
R403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R411	1-216-073-00	METAL CHIP	10K	5%	1/10W
R412	1-216-049-91	METAL CHIP	1K	5%	1/10W
R413	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W
R416	1-216-073-00	METAL CHIP	10K	5%	1/10W
R417	1-216-073-00	METAL CHIP	10K	5%	1/10W
R418	1-216-073-00	METAL CHIP	10K	5%	1/10W
R419	1-216-097-91	RES,CHIP	100K	5%	1/10W
R420	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R506	1-216-025-91	RES,CHIP	100	5%	1/10W
R507	1-216-025-91	RES,CHIP	100	5%	1/10W
R508	1-216-025-91	RES,CHIP	100	5%	1/10W
R513	1-216-109-00	METAL CHIP	330K	5%	1/10W
R518	1-216-025-91	RES,CHIP	100	5%	1/10W
R521	1-216-025-91	RES,CHIP	100	5%	1/10W (RX88/RX99:AEP,UK,G)
R522	1-216-025-91	RES,CHIP	100	5%	1/10W (RX88/RX99:AEP,UK,G)
R526	1-216-025-91	RES,CHIP	100	5%	1/10W
R527	1-216-025-91	RES,CHIP	100	5%	1/10W
R534	1-216-025-91	RES,CHIP	100	5%	1/10W
R536	1-216-025-91	RES,CHIP	100	5%	1/10W
R547	1-216-041-00	RES,CHIP	470	5%	1/10W
R548	1-216-041-00	RES,CHIP	470	5%	1/10W
R555	1-216-025-91	RES,CHIP	100	5%	1/10W
R556	1-216-025-91	RES,CHIP	100	5%	1/10W
R557	1-216-025-91	RES,CHIP	100	5%	1/10W
R558	1-216-041-00	RES,CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			Remark
R560	1-216-025-91	RES,CHIP	100	5%	1/10W
R561	1-216-025-91	RES,CHIP	100	5%	1/10W
R563	1-216-025-91	RES,CHIP	100	5%	1/10W
R564	1-216-025-91	RES,CHIP	100	5%	1/10W
R565	1-216-025-91	RES,CHIP	100	5%	1/10W
R566	1-216-025-91	RES,CHIP	100	5%	1/10W
R567	1-216-025-91	RES,CHIP	100	5%	1/10W
R568	1-216-025-91	RES,CHIP	100	5%	1/10W
R573	1-216-025-91	RES,CHIP	100	5%	1/10W
R574	1-216-025-91	RES,CHIP	100	5%	1/10W
R575	1-216-025-91	RES,CHIP	100	5%	1/10W
R576	1-216-025-91	RES,CHIP	100	5%	1/10W
R578	1-216-025-91	RES,CHIP	100	5%	1/10W
R579	1-216-025-91	RES,CHIP	100	5%	1/10W
R580	1-216-025-91	RES,CHIP	100	5%	1/10W
R581	1-216-025-91	RES,CHIP	100	5%	1/10W
R595	1-216-025-91	RES,CHIP	100	5%	1/10W
R596	1-216-025-91	RES,CHIP	100	5%	1/10W
R597	1-216-025-91	RES,CHIP	100	5%	1/10W
R598	1-216-025-91	RES,CHIP	100	5%	1/10W
R705	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R729	1-216-045-00	METAL CHIP	680	5%	1/10W (GRX8:EA4,TH)
R729	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (GRX8:E2,MX/R800)
R729	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (GRX8:AUS/RX88/RX99:AEP,UK,G)
R729	1-216-085-00	METAL CHIP	33K	5%	1/10W (RX99:EE,CIS)
R729	1-216-295-91	SHORT	0		(GRX8:E3,SP,MY,HK,TW,EA3)
R730	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (RX88/RX99:AEP,UK,G)
R730	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (GRX8:AUS)
R730	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (GRX8:E2,MX/R800/RX99:EE,CIS)
R730	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA4,TH)
R731	1-216-073-00	METAL CHIP	10K	5%	1/10W
R769	1-216-073-00	METAL CHIP	10K	5%	1/10W
R770	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R778	1-216-089-91	RES,CHIP	47K	5%	1/10W
R779	1-216-089-91	RES,CHIP	47K	5%	1/10W
R780	1-216-089-91	RES,CHIP	47K	5%	1/10W
R781	1-216-089-91	RES,CHIP	47K	5%	1/10W
R800	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R901	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R902	1-216-081-00	METAL CHIP	22K	5%	1/10W
R911	1-216-089-91	RES,CHIP	47K	5%	1/10W
R912	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R931	1-216-049-91	RES,CHIP	1K	5%	1/10W
R951	1-216-049-91	RES,CHIP	1K	5%	1/10W
R952	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R953	1-216-025-91	RES,CHIP	100	5%	1/10W
R954	1-216-089-91	RES,CHIP	47K	5%	1/10W
R955	1-216-089-91	RES,CHIP	47K	5%	1/10W
R956	1-216-073-00	METAL CHIP	10K	5%	1/10W
R961	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

MAIN MIC

Ref. No.	Part No.	Description			Remark
R962	1-216-079-00	METAL CHIP	18K	5%	1/10W
R963	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
		< VARIABLE RESISTOR >			
RV301	1-241-764-11	RES, ADJ, CARBON 10K			
RV351	1-241-764-11	RES, ADJ, CARBON 10K			
		< VIBRATOR >			
X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	1-668-270-11	MIC BOARD **********			
		< CAPACITOR >			
C752	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C754	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C755	1-126-961-11	ELECT	2.2uF	20%	50V
C756	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C757	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C758	1-126-964-11	ELECT	10uF	20%	50V
C759	1-126-957-11	ELECT	0.22uF	20%	50V
C760	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C761	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C762	1-126-961-11	ELECT	2.2uF	20%	50V
C764	1-126-964-11	ELECT	10uF	20%	50V
C765	1-126-301-11	ELECT	1uF	20%	50V (GRX8:EA3)
C766	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX8:EA3)
C767	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX8:EA3)
C768	1-136-495-11	FILM	0.068uF	5%	50V (GRX8:EA3)
C769	1-124-464-11	ELECT	0.22uF	20%	50V (GRX8:EA3)
C770	1-124-464-11	ELECT	0.22uF	20%	50V (GRX8:EA3)
C771	1-124-589-11	ELECT	47uF	20%	16V (GRX8:EA3)
C772	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (GRX8:EA3)
C773	1-124-589-11	ELECT	47uF	20%	16V (GRX8:EA3)
C774	1-136-495-11	FILM	0.068uF	5%	50V (GRX8:EA3)
C775	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX8:EA3)
C776	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX8:EA3)
C777	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V (GRX8:EA3)
C778	1-126-301-11	ELECT	1uF	20%	50V (GRX8:EA3)
C779	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V (GRX8:EA3)
C780	1-124-257-00	ELECT	2.2uF	20%	50V (GRX8:EA3)

Ref. No.	Part No.	Description			Remark
C782	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
		< DIODE >			
D751	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
D752	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
D753	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
		< FILTER >			
FL751	1-233-289-21	FILTER, CHIP EMI			
		< IC >			
IC750	8-759-636-55	IC M5218AFP			
IC751	8-759-496-41	IC M65850FP-E1 (GRX8:EA3)			
		< JACK >			
J751	1-784-224-11	JACK (LARGE TYPE) (MIX MIC)			
		< COIL >			
L751	1-412-032-11	INDUCTOR CHIP	100uH (GRX8:EA3)		
		< RESISTOR >			
R750	1-216-073-00	METAL CHIP	10K	5%	1/10W
R751	1-216-049-91	RES,CHIP	1K	5%	1/10W
R752	1-216-097-91	RES,CHIP	100K	5%	1/10W
R753	1-216-049-91	RES,CHIP	1K	5%	1/10W
R754	1-216-081-00	METAL CHIP	22K	5%	1/10W
R755	1-216-073-00	METAL CHIP	10K	5%	1/10W
R756	1-216-103-00	METAL CHIP	180K	5%	1/10W
R757	1-216-025-91	RES,CHIP	100	5%	1/10W
R758	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R759	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R760	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R761	1-216-099-00	METAL CHIP	120K	5%	1/10W (GRX8:EA3)
R762	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R763	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R764	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R765	1-216-089-91	RES,CHIP	47K	5%	1/10W (GRX8:EA3)
R766	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA3)
R767	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA3)
		< VARIABLE RESISTOR >			
RV750	1-225-587-11	RES, VAR 50K (MIC LEVEL)			
RV751	1-225-587-11	RES, VAR 50K (ECHO LEVEL) (GRX8:EA3)			
		<CONNECTOR>			
* W751	1-690-880-31	LEAD (WITH CONNECTOR)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-658-577-11	MOTOR (TURN) BOARD **********			
		< CAPACITOR >			
C701	1-162-306-11	CERAMIC	0.01uF	20%	16V
C702	1-126-964-11	ELECT	10uF	20%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			
		< DIODE >			
D701	8-719-109-69	DIODE RD3.6ES-B2			
		< IC >			
IC701	8-759-633-65	IC M54641L			
		< RESISTOR >			
R706	1-249-411-11	CARBON	330	5%	1/4W
R707	1-249-401-11	CARBON	47	5%	1/4W F
**********					
*	1-658-578-11	MOTOR (SLIDE) BOARD **********			
		< CAPACITOR >			
C801	1-162-306-11	CERAMIC	0.01uF	20%	16V
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V
C805	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
* CN801	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D801	8-719-010-43	DIODE UZ-5.6BSC			
D804	8-719-911-19	DIODE 1SS119			
D805	8-719-911-19	DIODE 1SS119			
		< IC >			
IC801	8-759-274-09	IC BA6286N			
		< RESISTOR >			
R801	1-249-401-11	CARBON	47	5%	1/4W F
		< SWITCH >			
S801	1-762-527-11	SWITCH, ROTARY			
**********					

Ref. No.	Part No.	Description			Remark
*	A-4407-257-A	PANEL BOARD, COMPLETE **********			(GRX8/R800/RX99:EE,CIS)
*	A-4407-308-A	PANEL BOARD, COMPLETE (RX88) **********			
*	A-4407-720-A	PANEL BOARD, COMPLETE (RX99:AEP,UK,G) **********			
*	4-932-810-31	CUSHION (FL)			
*	4-996-796-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C600	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C601	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C602	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C603	1-124-589-11	ELECT	47uF	20%	16V
C604	1-124-259-11	ELECT	4.7uF	20%	50V
C605	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C606	1-126-160-11	ELECT	1uF	20%	50V
C607	1-126-160-11	ELECT	1uF	20%	50V
C608	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C609	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C610	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C611	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C612	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C613	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C614	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C615	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C616	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C617	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C618	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C619	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C620	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C621	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C625	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C626	1-124-589-11	ELECT	47uF	20%	16V
C631	1-126-157-11	ELECT	10uF	20%	16V
C632	1-126-157-11	ELECT	10uF	20%	16V
C633	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C634	1-126-157-11	ELECT	10uF	20%	16V
C652	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C801	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C802	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C803	1-124-589-11	ELECT	47uF	20%	16V
C804	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C806	1-126-963-11	ELECT	4.7uF	20%	50V
C807	1-163-017-00	CERAMIC CHIP	4700PF	10%	50V
C808	1-163-017-00	CERAMIC CHIP	4700PF	10%	50V
C809	1-126-967-11	ELECT	47uF	20%	50V
C851	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C852	1-126-935-11	ELECT	470uF	20%	6.3V
C853	1-126-963-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
* CN601	1-568-832-11	SOCKET, CONNECTOR 13P			

PANEL

Ref. No.	Part No.	Description	Remark
CN602	1-764-698-11	SOCKET, CONNECTOR 19P	
* CN603	1-568-943-11	PIN, CONNECTOR 5P	
CN604	1-506-486-11	PIN, CONNECTOR 7P	
		< DIODE >	
D601	8-719-058-24	DIODE RB501V-40TE-17	
D602	8-719-210-33	DIODE EC10DS2	
D603	8-719-210-33	DIODE EC10DS2	
D620	8-719-063-93	DIODE SLR325VC-N-T32 (EFFECT)	
D621	8-719-056-13	DIODE SML79423C-TP15 (CD ►II)	
D622	8-719-058-03	DIODE SEL5423E-TP15 (◄ TAPE B)	
D623	8-719-058-03	DIODE SEL5423E-TP15 (► TAPE B)	
D624	8-719-058-03	DIODE SEL5423E-TP15 (◄ TAPE A)	
D625	8-719-058-03	DIODE SEL5423E-TP15 (► TAPE A)	
D630	8-719-057-97	DIODE SEL5923A-TP15 (SONIC FORMATION) GRX8/RX99/R800/(MUTING)RX88	
D651	8-719-063-93	DIODE SLR325VC-N-T32 (● REC)	
D652	8-719-057-97	DIODE SEL5923A-TP15 (II PAUSE)	
D804	8-719-988-62	DIODE 1SS355	
D805	8-719-988-62	DIODE 1SS355	
D806	8-719-988-62	DIODE 1SS355	
D807	8-719-988-62	DIODE 1SS355	
		< FILTER >	
FL601	1-233-289-21	FILTER, CHIP EMI	
FL602	1-233-289-21	FILTER, CHIP EMI	
FL801	1-233-289-21	FILTER, CHIP EMI	
FL802	1-233-289-21	FILTER, CHIP EMI	
FL851	1-233-289-21	FILTER, CHIP EMI	
		< IC >	
IC601	8-759-496-12	IC TMP87CM74AF-6671	
IC602	8-759-332-18	IC GP1U27XB	
IC603	8-759-495-25	IC BA3833FP	
IC801	8-759-496-11	IC TMP87CH48DF-4825	
IC851	8-759-498-98	IC MSM6653A-GS-K	
		< JUMPER RESISTOR >	
JW903	1-216-296-91	SHORT 0	
JW904	1-216-296-91	SHORT 0	
JW905	1-216-296-91	SHORT 0	
JW906	1-216-295-91	SHORT 0	
JW907	1-216-296-91	SHORT 0	
JW908	1-216-296-91	SHORT 0	
JW909	1-216-296-91	SHORT 0	
JW911	1-216-296-91	SHORT 0	
JW912	1-216-295-91	SHORT 0	
JW914	1-216-296-91	SHORT 0	
JW915	1-216-296-91	SHORT 0	
JW916	1-216-296-91	SHORT 0	
JW919	1-216-295-91	SHORT 0	
JW920	1-216-295-91	SHORT 0	
JW921	1-216-295-91	SHORT 0	
JW922	1-216-295-91	SHORT 0	
JW923	1-216-296-91	SHORT 0	
JW924	1-216-296-91	SHORT 0	
JW925	1-216-295-91	SHORT 0	
JW926	1-216-295-91	SHORT 0	

Ref. No.	Part No.	Description	Remark
JW927	1-216-295-91	SHORT 0	
JW928	1-216-295-91	SHORT 0	
		< COIL >	
L601	1-412-031-11	INDUCTOR CHIP 47uH	
L602	1-412-031-11	INDUCTOR CHIP 47uH	
L851	1-412-031-11	INDUCTOR CHIP 47uH	
		< FLUORECENT INDICATOR >	
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT	
		< TRANSISTOR >	
Q601	8-729-118-00	TRANSISTOR 2SB1116-L	
Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
Q603	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q607	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q608	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q609	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q610	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q618	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q701	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q851	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q958	8-729-900-53	TRANSISTOR DTC114EK	
Q959	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q960	8-729-027-23	TRANSISTOR DTA114EKA-T146	
		< RESISTOR >	
R601	1-216-121-91	RES,CHIP 1M 5% 1/10W	
R602	1-216-025-91	RES,CHIP 100 5% 1/10W	
R604	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R605	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R606	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R607	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R608	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R609	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R610	1-216-025-91	RES,CHIP 100 5% 1/10W	
R611	1-216-025-91	RES,CHIP 100 5% 1/10W	
R612	1-216-017-91	RES,CHIP 47 5% 1/10W	
R613	1-216-061-00	METAL CHIP 3.3K 5% 1/10W (RX88)	
R613	1-216-065-91	RES,CHIP 4.7K 5% 1/10W (GRX8/R800/RX99)	
R614	1-216-069-00	METAL CHIP 6.8K 5% 1/10W (GRX8/R800/RX99)	
R614	1-216-073-00	METAL CHIP 10K 5% 1/10W (RX88)	
R616	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R618	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R619	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R621	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R622	1-216-033-00	METAL CHIP 220 5% 1/10W	
R623	1-216-035-00	METAL CHIP 270 5% 1/10W	
R624	1-216-039-00	METAL CHIP 390 5% 1/10W	
R625	1-216-041-00	METAL CHIP 470 5% 1/10W	
R626	1-216-045-00	METAL CHIP 680 5% 1/10W	
R627	1-216-047-91	RES,CHIP 820 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R628	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R629	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R630	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R631	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R632	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R633	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R636	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R649	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R650	1-216-033-00	METAL CHIP	220	5%	1/10W
R651	1-216-035-00	METAL CHIP	270	5%	1/10W
R652	1-216-039-00	METAL CHIP	390	5%	1/10W
R653	1-216-041-00	METAL CHIP	470	5%	1/10W
R654	1-216-045-00	METAL CHIP	680	5%	1/10W
R655	1-216-047-91	RES,CHIP	820	5%	1/10W
R661	1-216-089-91	RES,CHIP	47K	5%	1/10W
R662	1-216-089-91	RES,CHIP	47K	5%	1/10W
R663	1-216-049-91	RES,CHIP	1K	5%	1/10W
R664	1-216-049-91	RES,CHIP	1K	5%	1/10W
R665	1-216-089-91	RES,CHIP	47K	5%	1/10W
R673	1-216-037-00	METAL CHIP	330	5%	1/10W
R674	1-216-027-00	METAL CHIP	120	5%	1/10W
R675	1-216-027-00	METAL CHIP	120	5%	1/10W
R676	1-216-027-00	METAL CHIP	120	5%	1/10W
R677	1-216-027-00	METAL CHIP	120	5%	1/10W
R678	1-216-027-00	METAL CHIP	120	5%	1/10W
R679	1-216-027-00	METAL CHIP	120	5%	1/10W
R701	1-216-073-00	METAL CHIP	10K	5%	1/10W
R702	1-216-073-00	METAL CHIP	10K	5%	1/10W
R703	1-216-097-91	RES,CHIP	100K	5%	1/10W
R704	1-216-097-91	RES,CHIP	100K	5%	1/10W
R721	1-216-029-00	METAL CHIP	150	5%	1/10W
R723	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R724	1-216-033-00	METAL CHIP	220	5%	1/10W
R725	1-216-035-00	METAL CHIP	270	5%	1/10W
R726	1-216-039-00	METAL CHIP	390	5%	1/10W
R727	1-216-041-00	METAL CHIP	470	5%	1/10W
R728	1-216-045-00	METAL CHIP	680	5%	1/10W
R729	1-216-047-91	RES,CHIP	820	5%	1/10W
R730	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R731	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R742	1-216-027-00	METAL CHIP	120	5%	1/10W
R743	1-216-027-00	METAL CHIP	120	5%	1/10W
R801	1-216-121-91	RES,CHIP	1M	5%	1/10W
R802	1-216-025-91	RES,CHIP	100	5%	1/10W
R803	1-216-025-91	RES,CHIP	100	5%	1/10W
R804	1-216-025-91	RES,CHIP	100	5%	1/10W
R805	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R806	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R807	1-216-085-00	METAL CHIP	33K	5%	1/10W
R808	1-216-113-00	METAL CHIP	470K	5%	1/10W
R809	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R810	1-216-089-91	RES,CHIP	47K	5%	1/10W
R851	1-216-097-91	RES,CHIP	100K	5%	1/10W
R852	1-216-025-91	RES,CHIP	100	5%	1/10W
R954	1-216-097-91	RES,CHIP	100K	5%	1/10W
R955	1-216-097-91	RES,CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S604	1-762-875-21	SWITCH, KEYBOARD (SONIC FORMATION):GRX8/R800/RX99/(MUTING):RX88	
S605	1-762-875-21	SWITCH, KEYBOARD (SURROUND)	
S606	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)	
S607	1-762-875-21	SWITCH, KEYBOARD (■)	
S608	1-762-875-21	SWITCH, KEYBOARD (P FILE MEMORY)	
S609	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)	
S610	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)	
S611	1-762-875-21	SWITCH, KEYBOARD (EFFECT)	
S612	1-762-875-21	SWITCH, KEYBOARD (DEMO)	
S613	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)	
S614	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)	
S615	1-762-875-21	SWITCH, KEYBOARD (CLOCK/TIMER SET)	
S616	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)	
S631	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)	
S632	1-762-875-21	SWITCH, KEYBOARD (CD ►II)	
S633	1-762-875-21	SWITCH, KEYBOARD (◄ TAPE B)	
S634	1-762-875-21	SWITCH, KEYBOARD (► TAPE B)	
S635	1-762-875-21	SWITCH, KEYBOARD (◄ TAPE A)	
S636	1-762-875-21	SWITCH, KEYBOARD (► TAPE A)	
S652	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE, DOLBY NR, TUNER MEMORY)	
S653	1-762-875-21	SWITCH, KEYBOARD (EDIT, DIRECTION)	
S654	1-762-875-21	SWITCH, KEYBOARD (REPEAT, STEREO/MONO)	
S655	1-762-875-21	SWITCH, KEYBOARD (PTY)	(RX88/RX99:AEP,UK,G)
S656	1-762-875-21	SWITCH, KEYBOARD (● REC)	
S657	1-762-875-21	SWITCH, KEYBOARD (II PAUSE)	
S658	1-762-875-21	SWITCH, KEYBOARD (HI-DUB)	
S659	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)	
		< VIBRATOR >	
X501	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X601	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X851	1-767-353-11	VIBRATOR, CERAMIC (4.09MHz)	

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*	A-4407-260-A	POWER BOARD, COMPLETE (GRX8/R800)	
		**********	
*	A-4407-300-A	POWER BOARD, COMPLETE (RX88)	
		**********	
*	A-4407-722-A	POWER BOARD, COMPLETE (RX99)	
		**********	
		< CAPACITOR >	

C101	1-130-781-00	FILM	0.22uF	10%	100V
C102	1-130-781-00	FILM	0.22uF	10%	100V
C103	1-164-159-21	CERAMIC	0.1uF		50V
C104	1-164-159-21	CERAMIC	0.1uF		50V
C105	1-126-943-11	ELECT	2200uF	20%	25V
C106	1-162-294-31	CERAMIC	0.001uF	10%	50V
C107	1-162-294-31	CERAMIC	0.001uF	10%	50V
C111	1-126-968-11	ELECT	100uF	20%	50V
C112	1-126-968-11	ELECT	100uF	20%	50V

POWER

Ref. No.	Part No.	Description			Remark
C113	1-162-294-31	CERAMIC	0.001uF	10%	50V
C114	1-126-967-11	ELECT	47uF	20%	50V
C151	1-128-493-21	ELECT	4700uF	20%	71V
C152	1-128-493-21	ELECT	4700uF	20%	71V
C201	1-128-582-11	ELECT	10uF	20%	100V
C202	1-162-292-31	CERAMIC	680PF	10%	50V
C203	1-162-286-21	CERAMIC	220PF	10%	50V
C204	1-126-967-11	ELECT	47uF	20%	50V
C205	1-126-967-11	ELECT	47uF	20%	50V
C206	1-128-560-11	ELECT	22uF	20%	100V
C207	1-130-493-00	MYLAR	0.068uF	5%	50V
C208	1-130-493-00	MYLAR	0.068uF	5%	50V
C221	1-162-284-31	CERAMIC	150PF	10%	50V
C222	1-162-284-31	CERAMIC	150PF	10%	50V
C223	1-164-159-21	CERAMIC	0.1uF		50V
C224	1-128-560-11	ELECT	22uF	20%	100V
C225	1-161-494-00	CERAMIC	0.022uF		25V (RX88/RX99)
C228	1-162-284-31	CERAMIC	150PF	10%	50V
C251	1-128-582-11	ELECT	10uF	20%	100V
C252	1-162-292-31	CERAMIC	680PF	10%	50V
C253	1-162-286-21	CERAMIC	220PF	10%	50V
C254	1-126-967-11	ELECT	47uF	20%	50V
C255	1-126-967-11	ELECT	47uF	20%	50V
C256	1-128-560-11	ELECT	22uF	20%	100V
C257	1-130-493-00	MYLAR	0.068uF	5%	50V
C258	1-130-493-00	MYLAR	0.068uF	5%	50V
C301	1-126-923-11	ELECT	220uF	20%	10V
C302	1-126-923-11	ELECT	220uF	20%	10V
C311	1-126-959-11	ELECT	0.47uF	20%	50V
C331	1-126-924-11	ELECT	330uF	20%	10V
C401	1-126-963-11	ELECT	4.7uF	20%	50V
C402	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C403	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C404	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C405	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C408	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C409	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C410	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C411	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C412	1-161-494-00	CERAMIC	0.022uF		25V
C413	1-161-494-00	CERAMIC	0.022uF		25V
C414	1-161-494-00	CERAMIC	0.022uF		25V
C415	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN201	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P			
CN202	1-770-724-11	CONNECTOR, BOARD TO BOARD 9P			
* CN203	1-573-128-11	PIN, CONNECTOR 5P			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D101	8-719-510-68	DIODE D5SBA20F01	
D102	8-719-028-23	DIODE D3SBA20-4101	
D103	8-719-200-82	DIODE 11ES2	
D104	8-719-200-82	DIODE 11ES2	
D105	8-719-991-33	DIODE 1SS133T-77 (RX88/RX99)	
D111	8-719-200-82	DIODE 11ES2	
D112	8-719-200-82	DIODE 11ES2	
D113	8-719-002-60	DIODE UZL-33L	
D114	8-719-010-43	DIODE UZ-5.6BSC	
D201	8-719-991-33	DIODE 1SS133T-77	
D251	8-719-991-33	DIODE 1SS133T-77	
D301	8-719-991-33	DIODE 1SS133T-77	
D311	8-719-991-33	DIODE 1SS133T-77	
D321	8-719-991-33	DIODE 1SS133T-77	
D331	8-719-991-33	DIODE 1SS133T-77	
D332	8-719-991-33	DIODE 1SS133T-77	
D401	8-719-991-33	DIODE 1SS133T-77	
D402	8-719-911-19	DIODE 1SS119 (GRX8/R800/RX99)	
D404	8-719-911-19	DIODE 1SS119 (GRX8/R800/RX99)	
D405	8-719-991-33	DIODE 1SS133T-77	
D406	8-719-991-33	DIODE 1SS133T-77	
D407	8-719-911-19	DIODE 1SS119	
D408	8-719-911-19	DIODE 1SS119	
		< GROUND PLATE >	
* EP101	1-537-738-21	TERMINAL, EARTH	
* EP201	1-537-738-21	TERMINAL, EARTH	
		< IC >	
IC201	8-749-921-68	IC STK-4231MK2 (GRX8/R800)	
IC201	8-749-922-65	IC STK-4221MK2 (RX88/RX99)	
		< COIL >	
L401	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L402	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L403	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L404	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
		< TRANSISTOR >	
Q101	8-729-119-78	TRANSISTOR 2SC403SP-51 (RX88/RX99)	
Q111	8-729-118-01	TRANSISTOR 2SB1116	
Q201	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q251	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q302	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q303	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q305	8-729-900-36	TRANSISTOR DTC124ES	
Q306	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q307	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q321	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q322	8-729-900-36	TRANSISTOR DTC124ES	
Q401	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q402	8-729-900-80	TRANSISTOR DTC114ES	
Q403	8-729-040-20	TRANSISTOR RT1P137L-TP (GRX8/R800/RX99)	

Ref. No.	Part No.	Description			Remark
Q407	8-729-900-80	TRANSISTOR DTC114ES (GRX8/R800/RX99)			
Q408	8-729-119-78	TRANSISTOR 2SC403SP-51 (GRX8/R800/RX99)			
		< RESISTOR >			
⚠R101	1-215-886-11	METAL OXIDE	100	5%	2W F (RX88/RX99)
R102	1-249-429-11	CARBON	10K	5%	1/4W (RX88/RX99)
R103	1-247-903-00	CARBON	1M	5%	1/4W
⚠R111	1-217-637-00	FUSIBLE	1	5%	1/4W F
R112	1-249-417-11	CARBON	1K	5%	1/4W F
R113	1-249-417-11	CARBON	1K	5%	1/4W F
R114	1-247-815-91	CARBON	220	5%	1/4W
R115	1-247-815-91	CARBON	220	5%	1/4W
R116	1-249-425-11	CARBON	4.7K	5%	1/4W F
R201	1-249-417-11	CARBON	1K	5%	1/4W F
R202	1-249-437-11	CARBON	47K	5%	1/4W
R203	1-249-412-11	CARBON	390	5%	1/4W F
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-260-107-11	CARBON	4.7K	5%	1/2W
R206	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R207	1-212-881-11	FUSIBLE	100	5%	1/4W F
R208	1-220-893-11	METAL	0.22	10%	5W
R209	1-249-417-11	CARBON	1K	5%	1/4W F
R210	1-249-431-11	CARBON	15K	5%	1/4W
R211	1-249-441-11	CARBON	100K	5%	1/4W
R212	1-260-076-11	CARBON	10	5%	1/2W
⚠R221	1-217-637-00	FUSIBLE	1	5%	1/4W F
R222	1-260-103-11	CARBON	2.2K	5%	1/2W
R223	1-260-103-11	CARBON	2.2K	5%	1/2W
R224	1-249-425-11	CARBON	4.7K	5%	1/4W F
R251	1-249-417-11	CARBON	1K	5%	1/4W F
R252	1-249-437-11	CARBON	47K	5%	1/4W
R253	1-249-412-11	CARBON	390	5%	1/4W F
R254	1-249-437-11	CARBON	47K	5%	1/4W
R255	1-260-107-11	CARBON	4.7K	5%	1/2W
R256	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R257	1-212-881-11	FUSIBLE	100	5%	1/4W F
R258	1-220-893-11	METAL	0.22	10%	5W
R259	1-249-417-11	CARBON	1K	5%	1/4W F
R260	1-249-431-11	CARBON	15K	5%	1/4W
R261	1-249-441-11	CARBON	100K	5%	1/4W
R262	1-260-076-11	CARBON	10	5%	1/2W
R271	1-260-093-11	CARBON	330	5%	1/2W
R272	1-260-093-11	CARBON	330	5%	1/2W
R273	1-260-093-11	CARBON	330	5%	1/2W
R274	1-260-093-11	CARBON	330	5%	1/2W
R301	1-249-429-11	CARBON	10K	5%	1/4W
R302	1-249-425-11	CARBON	4.7K	5%	1/4W F
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-429-11	CARBON	10K	5%	1/4W
R305	1-249-425-11	CARBON	4.7K	5%	1/4W F
R306	1-249-441-11	CARBON	100K	5%	1/4W
R310	1-247-903-00	CARBON	1M	5%	1/4W
R311	1-249-441-11	CARBON	100K	5%	1/4W
R312	1-249-419-11	CARBON	1.5K	5%	1/4W F
R313	1-247-863-91	CARBON	22K	5%	1/4W
R314	1-247-863-91	CARBON	22K	5%	1/4W
R315	1-249-439-11	CARBON	68K	5%	1/4W
R316	1-249-437-11	CARBON	47K	5%	1/4W
R321	1-249-440-11	CARBON	82K	5%	1/4W
R322	1-249-441-11	CARBON	100K	5%	1/4W
R323	1-249-441-11	CARBON	100K	5%	1/4W
R331	1-247-890-11	CARBON	300K	5%	1/4W
R332	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-249-431-11	CARBON	15K	5%	1/4W
⚠R401	1-216-457-00	METAL OXIDE	1.2K	5%	2W F (GRX8/R800/RX99)
⚠R402	1-216-457-00	METAL OXIDE	1.2K	5%	2W F (GRX8/R800/RX99)
⚠R404	1-216-457-00	METAL OXIDE	1.2K	5%	2W F (GRX8/R800/RX99)
R405	1-249-429-11	CARBON	10K	5%	1/4W (GRX8/R800/RX99)
R406	1-249-437-11	CARBON	47K	5%	1/4W
R407	1-249-437-11	CARBON	47K	5%	1/4W
R408	1-249-440-11	CARBON	82K	5%	1/4W
R409	1-249-440-11	CARBON	82K	5%	1/4W
R410	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R411	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R412	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R413	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R414	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R415	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R416	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R417	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R418	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R419	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R423	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R424	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R429	1-249-437-11	CARBON	47K	5%	1/4W
R431	1-249-437-11	CARBON	47K	5%	1/4W (GRX8/R800/RX99)
		< RELAY >			
RY101	1-755-195-11	RELAY (RX88/RX99)			
RY401	1-755-141-11	RELAY			
RY402	1-755-141-11	RELAY (GRX8/R800/RX99)			
RY404	1-515-920-11	RELAY (24V)(GRX8/R800/RX99)			
		< THERMISTOR >			
THP321	1-807-796-11	THERMISTOR			
		< TERMINAL >			
TM401	1-537-842-11	TERMINAL BOARD (FRONT SPEAKER)			

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

POWER **SENSOR** **TCB**

Ref. No.	Part No.	Description			Remark
TM402	1-537-240-11	TERMINAL BOARD (CHECKER PIN) (SURROUND SPEAKER)			
**********					
*	1-658-576-11	SENSOR BOARD **********			
		< IC >			
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391			
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28			
		< RESISTOR >			
R701	1-249-416-11	CARBON	820	5%	1/4W F
R702	1-249-407-11	CARBON	150	5%	1/4W F
**********					
*	A-4303-588-A	TCB BOARD, COMPLETE (EE,CIS) **********			
		< CAPACITOR >			
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C5	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C6	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C7	1-101-004-00	CERAMIC	0.01uF		50V
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C10	1-162-306-11	CERAMIC CHIP	0.01uF	30%	16V
C16	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C19	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C22	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C23	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C24	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C26	1-126-967-11	ELECT	47uF	20%	16V
C28	1-126-967-11	ELECT	47uF	20%	16V
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V
C30	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C33	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C34	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C35	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C40	1-126-967-11	ELECT	47uF	20%	16V
C41	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C43	1-163-031-91	CERAMIC CHIP	0.01uF		50V
C44	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C45	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C46	1-126-967-11	ELECT	47uF	20%	16V
C47	1-126-301-11	ELECT	1.0uF	20%	50V
C48	1-163-059-00	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C49	1-126-964-11	ELECT	10uF	20%	50V
C50	1-126-960-11	ELECT	1.0uF	20%	50V
C51	1-126-959-11	ELECT	0.47uF	20%	50V
C52	1-126-960-11	ELECT	1.0uF	20%	50V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-104-396-11	ELECT	10uF	20%	16V
C55	1-104-396-11	ELECT	10uF	20%	16V
C56	1-104-396-11	ELECT	10uF	20%	16V
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C59	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C60	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C61	1-126-301-11	ELECT	1.0uF	20%	50V
C62	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C63	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C64	1-126-967-11	ELECT	47uF	20%	16V
C65	1-126-967-11	ELECT	47uF	20%	16V
C66	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C67	1-126-162-11	ELECT	3.3uF	20%	50V
C68	1-163-031-11	CERAMIC	0.01uF		50V
C69	1-126-967-11	ELECT	47uF	20%	16V
C71	1-162-306-11	CERAMIC	0.01uF	30%	16V
C72	1-126-967-11	ELECT	47uF	20%	16V
C73	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C74	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1701	1-162-294-31	CERAMIC CHIP	0.001uF	10%	50V
C1702	1-130-014-00	FILM	470PF	5%	50V
C1703	1-126-959-11	ELECT	0.47uF	20%	50V
C1704	1-126-959-11	ELECT	0.47uF	20%	50V
C1705	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C1706	1-126-960-11	ELECT	1.0uF	20%	50V
C1707	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C1710	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C1711	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C1712	1-130-736-11	FILM	0.01uF	5%	50V
C1713	1-130-736-11	FILM	0.01uF	5%	50V
C1714	1-126-960-11	ELECT	1.0uF	20%	50V
C1715	1-126-960-11	ELECT	1.0uF	20%	50V
C1716	1-126-960-11	ELECT	1.0uF	20%	50V
C1719	1-126-967-11	ELECT	47uF	20%	16V
C1720	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1723	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1724	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1725	1-126-967-11	ELECT	47uF	20%	16V
C1726	1-126-960-11	ELECT	1.0uF	20%	50V
C1727	1-126-960-11	ELECT	1.0uF	20%	50V
C1728	1-126-966-11	ELECT	33uF	20%	16V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF3	1-567-389-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-834-11	SOCKET, CONNECTOR 15P			

Ref. No.	Part No.	Description			Remark
		< TRIMMER >			
CT1701	1-141-444-11	CAP, CERAMIC TRIMMER 50PF			
CT1701	1-141-569-11	CAP, ADJ 50PF			
		< DIODE >			
D21	8-719-976-99	DIODE DTZ5.1B			
D41	8-719-016-74	DIODE 1SS352			
D42	8-719-016-74	DIODE 1SS352			
D43	8-719-016-74	DIODE 1SS352			
D1701	8-719-016-74	DIODE 1SS352			
D1702	8-719-016-74	DIODE 1SS352			
D1703	8-719-991-33	DIODE 1SS133T			
D1704	8-719-016-74	DIODE 1SS352			
		< FRONTEND >			
FE1	1-693-335-11	FRONT END (3 GANG)			
FE2	1-233-514-11	ENCAPSULATED COMPONENT			
		< IC >			
IC21	8-759-288-54	IC LC72130			
IC41	8-759-495-82	IC LA1838			
IC1701	8-759-063-04	IC IR3R42			
IC1702	8-759-140-53	IC uPD4053BC			
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< JUMPER RESISTOR >			
JR2	1-216-295-91	METAL CHIP	0	5%	1/10W
JR6	1-216-295-91	METAL CHIP	0	5%	1/10W
JR8	1-216-295-91	METAL CHIP	0	5%	1/10W
JR9	1-216-295-91	METAL CHIP	0	5%	1/10W
JR12	1-216-296-91	METAL CHIP	0	5%	1/8W
JR46	1-216-296-91	METAL CHIP	0	5%	1/8W
JR47	1-216-295-91	METAL CHIP	0	5%	1/10W
JR48	1-216-295-91	METAL CHIP	0	5%	1/10W
JR49	1-216-296-91	METAL CHIP	0	5%	1/8W
JR51	1-216-295-91	METAL CHIP	0	5%	1/10W
JR52	1-216-295-91	METAL CHIP	0	5%	1/10W
JR53	1-216-296-91	METAL CHIP	0	5%	1/8W
JR54	1-216-295-91	METAL CHIP	0	5%	1/10W
JR1701	1-216-295-91	METAL CHIP	0	5%	1/10W
JR1702	1-216-295-91	METAL CHIP	0	5%	1/10W
JR1703	1-216-295-91	METAL CHIP	0	5%	1/10W
JR1704	1-216-295-91	METAL CHIP	0	5%	1/10W
JR1705	1-216-295-91	METAL CHIP	0	5%	1/10W
		< COIL >			
L3	1-410-521-11	MICRO INDUCTOR	100uH		
L41	1-407-500-00	MICRO INDUCTOR	4.7mH		
L1701	1-409-497-11	COIL (FILTER)			
		< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS			
LPF42	1-239-845-11	FILTER, LOW PASS			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q1	8-729-201-27	TRANSISTOR 2SC2715Y			
Q2	8-729-201-27	TRANSISTOR 2SC2715Y			
Q3	8-729-201-27	TRANSISTOR 2SC2715Y			
Q4	8-729-201-27	TRANSISTOR 2SC2715Y			
Q5	8-729-216-22	TRANSISTOR MUN2111			
Q9	8-729-216-22	TRANSISTOR 2SA812-M5M6			
Q11	8-729-421-22	TRANSISTOR MUN2211			
Q12	8-729-421-22	TRANSISTOR MUN2211			
Q13	8-729-421-22	TRANSISTOR MUN2211			
Q14	8-729-421-22	TRANSISTOR MUN2211			
Q1701	8-729-424-08	TRANSISTOR MUN2111			
Q1702	8-729-027-43	TRANSISTOR RT1N141C			
Q1703	8-729-421-22	TRANSISTOR MUN2211			
		< RESISTOR >			
R1	1-249-401-11	CARBON	47	5%	1/4W F
R2	1-216-037-00	METAL CHIP	330	5%	1/10W
R3	1-216-037-00	METAL CHIP	330	5%	1/10W
R5	1-216-037-00	METAL CHIP	330	5%	1/10W
R6	1-216-081-00	METAL CHIP	22K	5%	1/10W
R7	1-216-037-00	METAL CHIP	330	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-081-00	METAL CHIP	22K	5%	1/10W
R10	1-216-037-00	METAL CHIP	330	5%	1/10W
R11	1-216-081-00	METAL CHIP	22K	5%	1/10W
R12	1-216-037-00	METAL CHIP	330	5%	1/10W
R13	1-216-037-00	METAL CHIP	330	5%	1/10W
R14	1-216-081-00	METAL CHIP	22K	5%	1/10W
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R21	1-249-417-11	CARBON	1.0K	5%	1/4W
R22	1-249-417-11	CARBON	1.0K	5%	1/4W
R23	1-249-417-11	CARBON	1.0K	5%	1/4W
R24	1-247-807-31	CARBON	100	5%	1/4W
R25	1-249-417-11	CARBON	1.0K	5%	1/4W F
R26	1-249-437-11	CARBON	47K	5%	1/4W
R27	1-249-429-11	CARBON	10K	5%	1/4W
R28	1-249-417-11	CARBON	1.0K	5%	1/4W F
R29	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R30	1-216-186-00	METAL CHIP	330	5%	1/8W
R31	1-216-025-91	METAL CHIP	100	5%	1/10W
R32	1-249-425-11	CARBON	4.7K	5%	1/4W F
R33	1-249-425-11	CARBON	4.7K	5%	1/4W F
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R35	1-216-214-00	METAL CHIP	4.7K	5%	1/8W
R36	1-216-025-91	METAL CHIP	100	5%	1/10W
R37	1-216-073-00	METAL CHIP	10K	5%	1/10W
R38	1-216-089-91	METAL CHIP	47K	5%	1/10W
R39	1-249-429-11	CARBON	10K	5%	1/4W
R41	1-216-013-00	METAL CHIP	33	5%	1/10W
R42	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R43	1-216-037-00	METAL CHIP	330	5%	1/10W
R44	1-216-001-00	METAL CHIP	10	5%	1/10W
R45	1-247-843-11	CARBON	3.3K	5%	1/4W F
R46	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

TCB

Ref. No.	Part No.	Description			Remark
R47	1-216-097-91	METAL CHIP	100K	5%	1/10W
R48	1-249-417-11	CARBON	1.0K	5%	1/4W F
R49	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R52	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R53	1-216-061-00	METAL CHIP	3.3K	5%	1/4W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R57	1-216-162-00	METAL CHIP	33	5%	1/8W
R58	1-216-013-00	METAL CHIP	33	5%	1/10W
R91	1-216-295-91	METAL CHIP	0	5%	1/10W
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1701	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1702	1-216-085-00	METAL CHIP	33K	5%	1/10W
R1703	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R1704	1-216-076-00	METAL CHIP	13K	5%	1/10W
R1705	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R1706	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R1707	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1708	1-216-095-00	METAL CHIP	82K	5%	1/10W
R1709	1-216-089-91	METAL CHIP	47K	5%	1/10W
R1710	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1711	1-249-429-11	CARBON	10K	5%	1/4W
R1714	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1715	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1716	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1717	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1718	1-249-429-11	CARBON	10K	5%	1/4W
R1719	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1720	1-249-434-11	CARBON	27K	5%	1/4W
R1721	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV41	1-238-600-11	RES, ADJ, CARBON 10K			
RV42	1-238-600-11	RES, ADJ, CARBON 10K			
RV1701	1-238-600-11	RES, ADJ, CARBON 10K			
RV1702	1-238-599-11	RES, ADJ, CARBON 4.7K			
		< TERMINAL >			
TM1	1-537-488-11	TERMINAL BOARD (ANT) (ANTENNA)			
		< TEST PIN>			
TP1701	1-536-354-00	PIN, POST			
TP1702	1-536-354-00	PIN, POST			
		< VIBRATOR >			
X21	1-760-549-31	VIBRATOR, CRYSTAL (4.5MHz)			
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)			
X41	1-767-825-21	FILTER, CERAMIC (10.7MHz)			
X42	1-527-981-00	FILTER, CERAMIC (450kHz)			

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Ref. No.	Part No.	Description			Remark
*	A-4303-590-A	TCB BOARD, COMPLETE (AEP,UK,G)			
		**********			
		< CAPACITOR >			
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C5	1-163-031-11	CERAMIC CHIP	0,01uF		50V
C6	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C10	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C19	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C22	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C23	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C24	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C26	1-126-967-11	ELECT	47uF	20%	16V
C28	1-126-967-11	ELECT	47uF	20%	16V
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V
C30	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C33	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C34	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C35	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C40	1-126-967-11	ELECT	47uF	20%	16V
C41	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C43	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C44	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C45	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C46	1-126-967-11	ELECT	47uF	20%	16V
C47	1-126-301-11	ELECT	1.0uF	20%	50V
C48	1-163-059-00	CERAMIC CHIP	0.01uF		50V
C49	1-126-964-11	ELECT	10uF	20%	50V
C50	1-126-960-11	ELECT	1.0uF	20%	50V
C51	1-126-959-11	ELECT	0.47uF	20%	50V
C52	1-126-960-11	ELECT	1.0uF	20%	50V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-104-396-11	ELECT	10uF	20%	16V
C55	1-104-396-11	ELECT	10uF	20%	16V
C56	1-104-396-11	ELECT	10uF	20%	16V
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C59	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C60	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C61	1-126-301-11	ELECT	1uF	20%	50V
C62	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C63	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C65	1-126-967-11	ELECT	47uF	20%	16V
C66	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C67	1-126-16211	ELECT	3.3uF	20%	50V

Ref. No.	Part No.	Description			Remark
C68	1-163-031-11	CERAMIC	0.01uF		50V
C69	1-126-967-11	ELECT	47uF	20%	16V
C71	1-162-306-11	CERAMIC	0.01uF	30%	16V
C72	1-126-967-11	ELECT	47uF	20%	16V
C73	1-163-031-11	CERAMIC	0.01uF		50V
C74	1-163-031-11	CERAMIC	0.01uF		50V
C120	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1751	1-164-159-21	CERAMIC	0.1uF		50V
C1752	1-126-967-11	ELECT	47uF	20%	16V
C1753	1-126-964-11	ELECT	10uF	20%	50V
C1754	1-162-291-31	CERAMIC	560PF	10%	50V
C1755	1-126-964-11	ELECT	10uF	20%	50V
C1756	1-126-961-11	ELECT	2.2uF	20%	50V
C1757	1-162-288-31	CERAMIC	330PF	10%	50V
C1758	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1759	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C1760	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1761	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1762	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1763	1-126-961-11	ELECT	2.2uF	20%	50V
		< FILTER >			
CF1	1-579-374-71	FILTER, CERAMIC			
CF2	1-760-393-11	FILTER, CERAMIC			
CF3	1-760-393-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-834-11	SOCKET, CONNECTOR 15P			
		< DIODE >			
D21	8-719-976-99	DIODE UDZ-TE-17-5.1B			
D41	8-719-016-74	DIODE 1SS352-TPH3			
D42	8-719-991-33	DIODE 1SS133T-77			
D1751	8-719-016-74	DIODE 1SS352-TPH3			
		< FRONT-END >			
FE1	1-693-357-11	FRONT END (4 GANG)			
FE2	1-233-514-11	ENCAPSULATED COMPONENT			
		< IC >			
IC21	8-759-288-54	IC LC72130			
IC41	8-759-495-82	IC LA1838			
IC1751	8-759-634-51	IC M5218AP			
IC1752	8-759-450-86	IC BU1922			
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< JUMPER RESISTOR >			
JR2	1-216-295-91	METAL CHIP	0	5%	1/10W
JR6	1-216-295-91	METAL CHIP	0	5%	1/10W
JR8	1-216-295-91	METAL CHIP	0	5%	1/10W
JR9	1-216-295-91	METAL CHIP	0	5%	1/10W
JR12	1-216-296-91	METAL CHIP	0	5%	1/8W
JR46	1-216-296-91	METAL CHIP	0	5%	1/8W
JR47	1-216-295-11	METAL CHIP	0	5%	1/10W
JR48	1-216-295-11	METAL CHIP	0	5%	1/10W
JR49	1-216-296-11	METAL CHIP	0	5%	1/8W
JR51	1-216-295-11	METAL CHIP	0	5%	1/10W
JR52	1-216-295-11	METAL CHIP	0	5%	1/10W
JR53	1-216-296-11	METAL CHIP	0	5%	1/8W
JR54	1-216-295-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L2	1-414-142-11	MICRO INDUCTOR	1uH		
L3	1-410-521-11	MICRO INDUCTOR	100uH		
L4	1-410-515-11	INDUCTOR	33uH		
L41	1-407-500-00	MICRO INDUCTOR	4.7mH		
L1751	1-410-521-11	MICRO INDUCTOR	100uH		
		< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS			
LPF42	1-239-845-11	FILTER, LOW PASS			
		< TRANSISTOR >			
Q1	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L			
Q2	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L			
Q3	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L			
Q4	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L			
Q5	8-729-424-08	TRANSISTOR MUN2111			
Q9	8-729-216-22	TRANSISTOR 2SA812-M5M6			
Q11	8-729-421-22	TRANSISTOR MUN2211			
Q12	8-729-421-22	TRANSISTOR MUN2211			
Q13	8-729-421-22	TRANSISTOR MUN2211			
Q14	8-729-421-22	TRANSISTOR MUN2211			
		< RESISTOR >			
R1	1-249-401-11	CARBON	47	5%	1/4W F
R2	1-216-037-00	METAL CHIP	330	5%	1/10W
R3	1-216-037-00	METAL CHIP	330	5%	1/10W
R5	1-216-037-00	METAL CHIP	330	5%	1/10W
R6	1-216-081-00	METAL CHIP	22K	5%	1/10W
R7	1-216-037-00	METAL CHIP	330	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-081-00	METAL CHIP	22K	5%	1/10W
R10	1-216-037-00	METAL CHIP	330	5%	1/10W
R11	1-216-081-00	METAL CHIP	22K	5%	1/10W
R12	1-216-037-00	METAL CHIP	330	5%	1/10W
R13	1-216-037-00	METAL CHIP	330	5%	1/10W
R14	1-216-081-00	METAL CHIP	22K	5%	1/10W
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R21	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R22	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R23	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R24	1-216-025-91	METAL CHIP	100	5%	1/10W
R25	1-249-417-11	CARBON	1K	5%	1/4W F
R26	1-249-437-11	CARBON	47K	5%	1/4W
R27	1-249-429-11	CARBON	10K	5%	1/4W
R28	1-249-417-11	CARBON	1K	5%	1/4W F
R29	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R30	1-216-186-00	METAL CHIP	330	5%	1/8W
R31	1-216-025-91	METAL CHIP	100	5%	1/10W

TCB TRANSFORMER

Ref. No.	Part No.	Description			Remark
R32	1-249-425-11	CARBON	4.7K	5%	1/4W F
R33	1-249-425-11	CARBON	4.7K	5%	1/4W F
R34	1-249-425-11	CARBON	4.7K	5%	1/10W
R35	1-216-214-00	METAL CHIP	4.7K	5%	1/8W
R36	1-216-025-91	METAL CHIP	100	5%	1/10W
R37	1-216-073-00	METAL CHIP	10K	5%	1/10W
R38	1-216-089-91	METAL CHIP	47K	5%	1/10W
R39	1-249-429-11	CARBON	10K	5%	1/4W
R41	1-216-013-00	METAL CHIP	33	5%	1/10W
R42	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R43	1-216-037-00	METAL CHIP	330	5%	1/10W
R44	1-216-001-00	METAL CHIP	10	5%	1/10W
R45	1-247-843-11	CARBON	3.3K	5%	1/4W F
R46	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R47	1-216-097-91	METAL CHIP	100K	5%	1/10W
R48	1-249-417-11	CARBON	1K	5%	1/4W F
R49	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R52	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R53	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R57	1-216-162-00	METAL CHIP	33	5%	1/8W
R58	1-216-013-00	METAL CHIP	33	5%	1/10W
R91	1-216-295-91	METAL CHIP	0	5%	1/10W
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1751	1-247-807-31	CARBON	100	5%	1/4W
R1752	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1753	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1754	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1755	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1756	1-249-401-11	CARBON	47	5%	1/4W F
R1757	1-216-295-91	METAL CHIP	0	5%	1/10W
		< VARIABLE RESISTOR >			
RV41	1-238-600-11	RES, ADJ, CARBON 10K			
RV42	1-238-600-11	RES, ADJ, CARBON 10K			
		< TERMINAL >			
TM1	1-537-488-11	TERMINAL BOARD (ANT) (ANTENNA)			
		< VIBRATOR >			
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)			
X41	1-767-825-21	FILTER, CERAMIC (10.7MHz)			
X42	1-527-981-00	FILTER, CERAMIC (450KHz)			
X1751	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)			

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*	1-668-274-11	TRANSFORMER BOARD	
		**********	
		< CONNECTOR >	
* CN501	1-564-527-11	PLUG, CONNECTOR 12P	
CN502	1-774-108-11	PIN, CONNECTOR (PC BOARD) 2P	

Ref. No.	Part No.	Description			Remark
		<FUSE>			
⚠F501	1-532-505-31	FUSE T5AL/250V			
		(E2,E3,SP,MY,HK,TW,EA3,AR)			
⚠F504	1-532-506-31	FUSE T6.3A/250V			
⚠F505	1-532-506-31	FUSE T6.3A/250V			
		< FUSE HOLDER >			
FH501	1-533-233-21	HOLDER, FUSE (E2,E3,SP,MY,HK,TW,EA3,AR)			
FH502	1-533-233-21	HOLDER, FUSE (E2,E3,SP,MY,HK,TW,EA3,AR)			
FH507	1-533-233-21	HOLDER, FUSE			
FH508	1-533-233-21	HOLDER, FUSE			
FH509	1-533-233-21	HOLDER, FUSE			
FH510	1-533-233-21	HOLDER, FUSE			
		< RESISTOR >			
⚠R501	1-219-120-11	FUSIBLE	0.15	5% 1/4W F	
⚠R502	1-219-120-11	FUSIBLE	0.15	5% 1/4W F	
⚠R503	1-219-120-11	FUSIBLE	0.15	5% 1/4W F	
⚠R504	1-219-120-11	FUSIBLE	0.15	5% 1/4W F	
		< SWITCH >			
⚠S501	1-771-291-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR)			
		(GRX8:E2,E3,SP,MY,IA,HK,TW,EA3/R800:AR)			
		< TRANSFORMER >			
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)			
⚠T501	1-431-709-11	TRANSFORMER, POWER			
		(E2,E3,SP,MY,MX,HK,EA3,EA4,TW,AUS,AR)			

****

		MISCELLANEOUS
		**********
6	1-233-545-11	ENCAPSULATED COMPONENT
		(E2,MX,EA4,TH,AUS,AR)
6	1-233-546-11	ENCAPSULATED COMPONENT
		(E3,SP,MY,HK,TW,EA3)
8	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm)
		(AEP,UK,G,EE,CIS,E3,SP,MY,HK,TW,EA3)
8	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)(150mm)
		(EA,MX,EA4,TH,AUS,AR)
54	1-773-041-11	WIRE (FLAT TYPE) (17 CORE)
⚠58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)
⚠58	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY,EA3)
⚠58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK,HK)
⚠59	1-558-943-41	CORD, POWER (E2,E3,MX)
⚠59	1-575-651-21	CORD, POWER
		(AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AR)
⚠59	1-696-845-31	CORD, POWER (AUS)
⚠59	1-751-326-21	CORD, POWER (TH)
60	1-773-011-11	WIRE (FLAT TYPE)(15 CORE)(170mm)
61	1-773-112-11	WIRE (FLAT TYPE)(19 CORE)(140mm)
121	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)
130	1-773-109-11	WIRE (FLAT TYPE)(19 CORE)(110mm)
257	1-452-879-11	MAGNET (CDM38L-5BD29AL)
257	1-452-925-21	MAGNET ASSY (CDM38LH-5BD29AL)
258	1-776-042-11	WIRE (FLAT TYPE) (8CORE)
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR1)

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
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR1)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR1)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR1)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M701	A-4672-004-A	MOTOR ASSY (TURN)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
M901	1-698-792-11	FAN, DC (RX88/RX99)	
M901	1-763-048-21	FAN, D.C. (GRX8/R800)	
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT	
S811	1-473-335-11	ENCODER,ROTARY (BU,TRAY ADDRESS DET)	
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)	
⚠T501	1-431-709-11	TRANSFORMER, POWER (E2,E3,SP,MY,MX,HK,TW,AUS,EA3,EA4,AR)	

****

ACCESSORIES & PACKING MATERIALS
****

	1-475-571-11	COMMANDER, STANDARD (RM-SR8)(RX88)
	1-501-374-11	ANTENNA, LOOP (RX88)
	1-501-804-11	ANTENNA (FM)(RX88:AEP,UK,G)
	3-862-011-11	MANUAL, INSTRUCTION (RX88)(ENGLISH)
	3-862-011-21	MANUAL, INSTRUCTION (RX88:AEP) (FRENCH,SPANISH)
	3-862-011-51	MANUAL, INSTRUCTION (RX88:AEP,G) (GERMAN)
	3-862-011-61	MANUAL, INSTRUCTION (RX88:AEP) (DUTCH,ITALIAN,POLISH)
	4-991-151-21	COVER, BATTERY (FOR RM-SR8)(RX88)

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****
HARDWARE LIST
****

#1	7-685-872-09	SCREW +BVTT 3X8 (S)
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#5	7-685-871-01	SCREW +BVTT 3X6 (S)
#6	7-685-880-09	SCREW +BVTT 4X6 (S)(GRX8/R800)
#6	7-685-871-01	SCREW +BVTT 3X6 (S)(RX88/RX99)
#7	7-685-852-04	SCREW +BVTT 2X5 (S)
#8	7-621-775-10	SCREW +B 2.6X4
#9	7-621-255-15	SCREW +P 2X3
#10	7-685-850-04	SCREW +BVTT 2X3 (S)
#11	7-628-254-15	SCREW +PS 2.6X6
#12	7-628-254-50	SCREW +PS 2.6X16
#13	7-628-851-04	SCREW +BVTT 2X4 (S)

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

9-922-760-11

Sony Corporation
Home A&V Products Company

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(Shibaura)

SS-GRX8/GRX10/RX99

SERVICE MANUAL

AEP Model
UK Model
SS-RX99
E Model
SS-GRX8/GRX10
Australian Model
SS-GRX8

This set is the speaker system in MHC-GRX8/GRX10AV/RX99.

SPECIFICATIONS

Speaker system	4-way, 5-unit, bass-reflex type, magnetically shielded type
Speaker units	
Woofer:	17 cm, cone type
Centre Tweeter:	5 cm, cone type
Side Tweeter:	5 cm, cone type x2
Super Tweeter:	2 cm, dome type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 230 x 365 x 320 mm
Mass	Approx. 5.5 kg net per speaker

Design and specification subject to change without notice.

SPEAKER SYSTEM

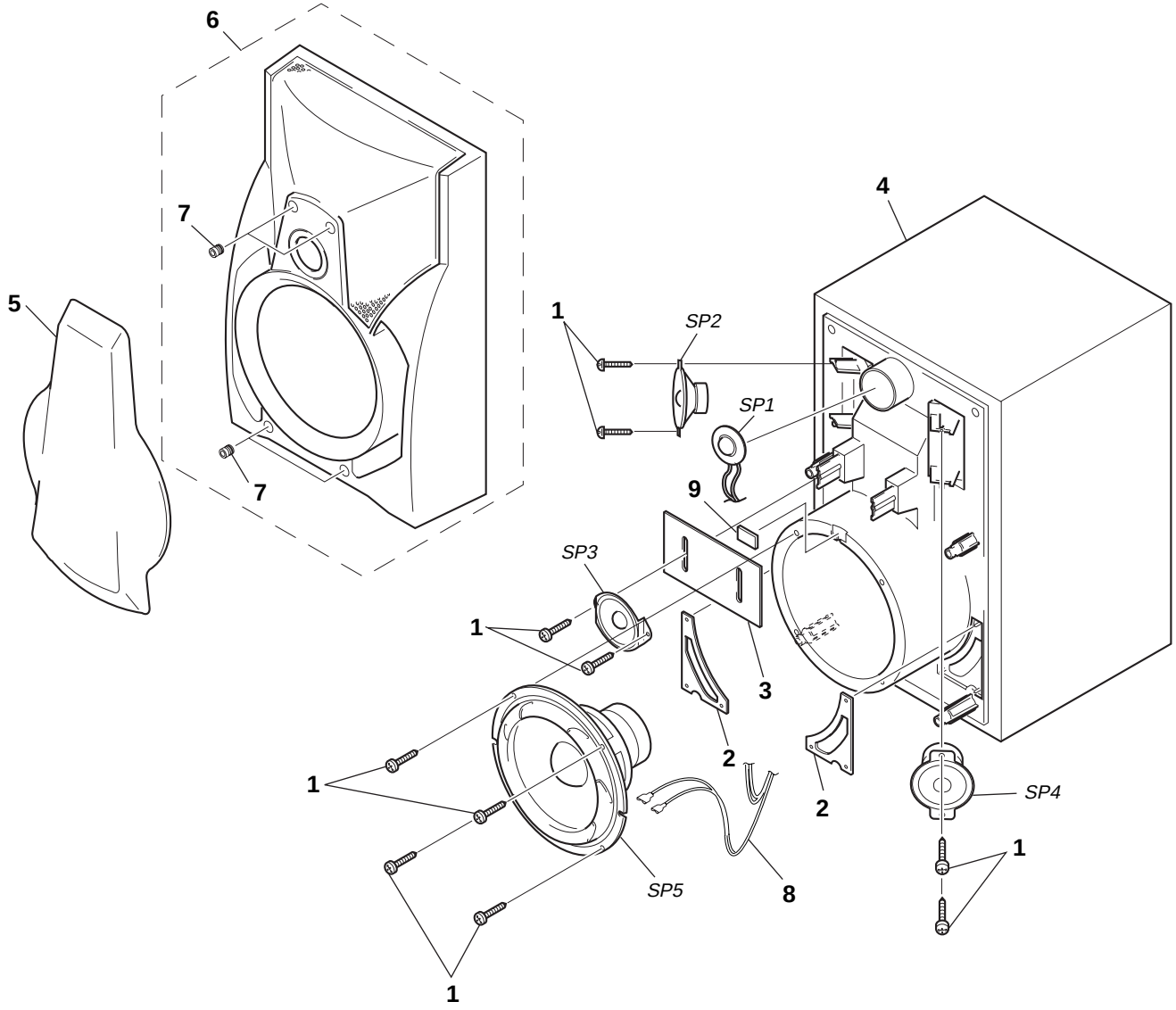
MICROFILM

SONY

EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  G : German model
  AED : North European model



Ref. No.	Part No.	Description	Remark
1	4-874-614-21	SCREW (4) (3.5X14), TAPPING	
2	4-997-191-01	PACKING	
3	4-997-169-01	PACKING	
* 4	A-4384-938-A	CABINET ASSY, SPEAKER (INCLUDING TERMINAL BOARD)(EXCEPT G, AED)	
* 4	A-4384-965-A	CABINET ASSY, SPEAKER (INCLUDING TERMINAL BOARD)(G, AED)	
5	X-4949-353-1	FRAME ASSY, GRILLE	
6	X-4949-354-1	PANEL ASSY, FRONT	
* 7	4-963-075-01	CATCHER	
8	1-783-580-11	CORD	
9	4-942-029-01	PACKING	
SP1	1-505-841-11	SPEAKER (2cm)	
SP2	1-505-510-11	SPEAKER (5cm) (RX99)	
SP2	1-505-583-11	SPEAKER (5cm) (GRX8/GRX10)	
SP3	1-505-518-11	SPEAKER (5cm) (GRX8/GRX10)	
SP3	1-505-861-11	SPEAKER (5cm) (RX99)	
SP4	1-505-510-11	SPEAKER (5cm) (RX99)	
SP4	1-505-583-11	SPEAKER (5cm) (GRX8/GRX10)	
SP5	1-505-857-11	SPEAKER (17cm) (RX99)	
SP5	1-505-858-11	SPEAKER (17cm) (GRX8/GRX10)	

****

ACCESSORIES & PACKING MATERIALS
****

1-769-306-11 CORD, SPEAKER
3-862-818-11 MANUAL, INSTRUCTION (ENGLISH,FRENCH,GERMAN,SWEDISH,RUSSIAN) (RX99)

SS-SR110

SERVICE MANUAL

Canadian Model
AEP Model
UK Model
E Model
Australian Model
Chinese Model

This set is the speaker system in
MHC-GRX8/GRX10AV/R800/
RX99/RX110AV/V818/V919AV.

SPECIFICATIONS

Speaker system	1-way, 1-unit, bass-reflex type
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	16 ohms
Dimensions (w/h/d)	Approx. 230 x 85 x 215 mm
Mass	Approx. 1.0 kg net per speaker

Design and specification subject to change without notice.

SPEAKER SYSTEM

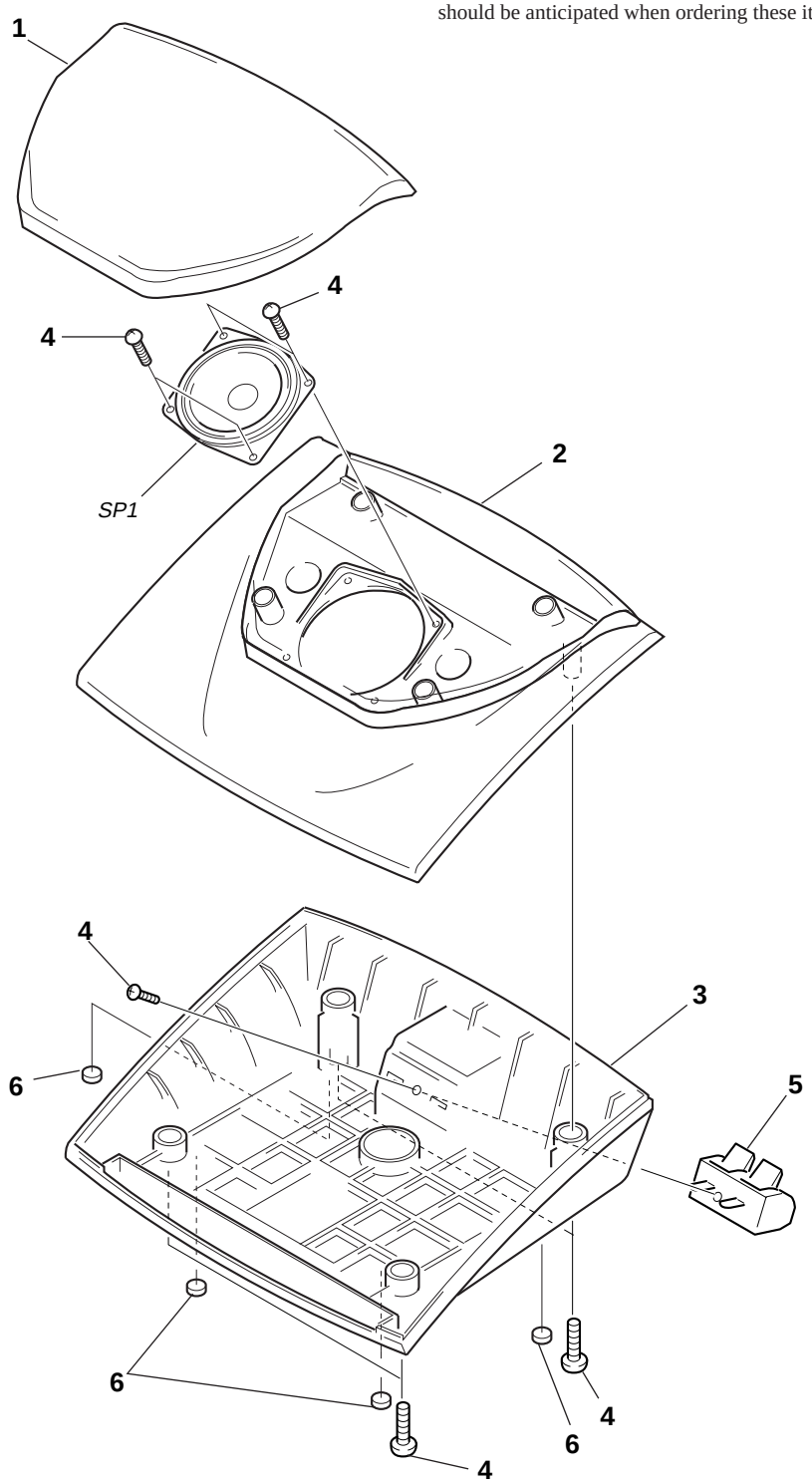
MICROFILM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



Ref. No.	Part No.	Description	Remark
1	X-4949-447-1	FRAME ASSY, GRILLE	
* 2	4-996-497-01	CABINET	
* 3	4-996-498-01	BASE	
4	7-685-661-29	SCREW +BVTP 4 x 12 TYPE 2 SLIT	
5	1-537-775-11	TERMINAL BOARD	
6	4-982-339-01	FOOT	
SP1	1-505-302-11	SPEAKER (8cm)	

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-769-433-11	CORD, SPEAKER	