ORDER NO. MD9612086C2

Service Manual

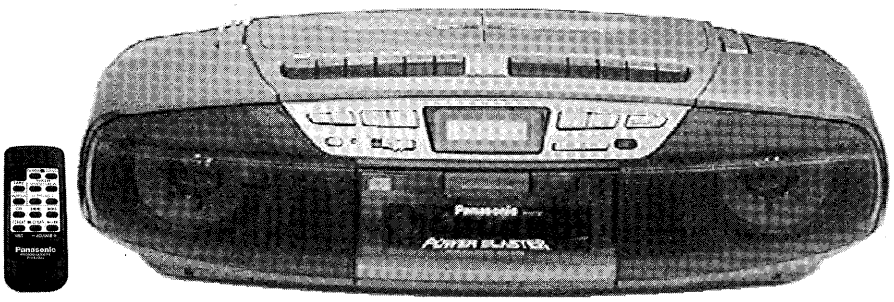
Portable Stereo CD System

Radio Cassette

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

RX-DT37



Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

* MASH is a trademark of NTT.

TAPE SECTION : SG20W MECHANISM SERIES
CD SECTION : RAE0150Z TRAVERSE DECK SERIES

■ Specifications

■RADIO

Frequency range	
FM	87.50 – 108.00 MHz (50 kHz steps)
AM	522 – 1611 kHz (9 kHz steps)
Intermediate Frequency	
FM	10.7 MHz
AM	459 kHz
Sensitivity	
FM	17 dB/50 mW
AM	52 dB/m/50 mW

■TAPE RECORDER

Track system	4 track, 2 channel, stereo
Recording system	AC bias
Erasing system	Magnet (Multi pole)
Monitor system	Variable sound monitor
Frequency range(Normal position)	50 – 12000 Hz

■CD PLAYER

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength; 780 nm)
No. of channels	2 channel, stereo
Wow and flutter	Less than possible measurement data
D/A converter	MASH (1 bit DAC)

■GENERAL

Power requirement	
AC	230 – 240 V, 50 Hz Power consumption: 60 W
Battery	12V (Eight R20/LR20, D size, UM-1 batteries)
Memory back-up for computer	6V (Four R6/LR6, AA size, UM-3 batteries)
Speakers	10 cm x 2 (6 Ω)
Jacks	
Output	Headphones; 32 Ω
Dimensions (W x H x D)	480 x 156 x 248 mm
Weight	4.8 kg without batteries

Notes :
Specifications are subject to change without notice.
Weight and dimensions are approximate.

⚠ WARNING

This service information is designed for experience repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

Contents

■ Contents

■ Precaution of Laser Diode

CAUTION : This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 780 nm
Maximum output radiation power from pick up : 100 μW/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale strahlungsleistung der lasereinheit :100μW/VDE

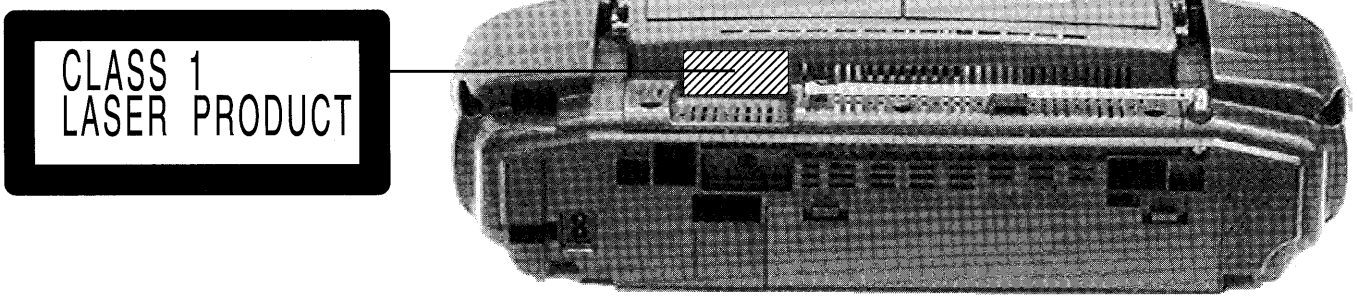
Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werkseitig justierten einstellregler der lasereinhit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

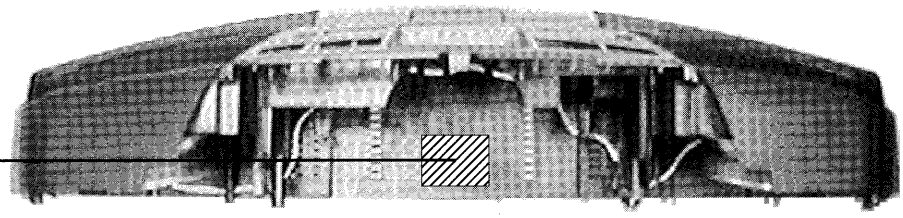
ADVARSEL: I dette a apparat anvendes laser.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ Use of Caution Labels

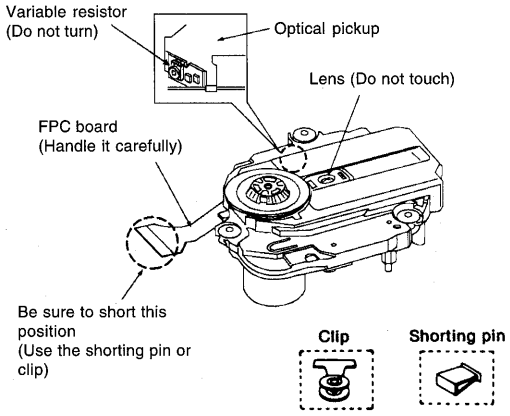


DANGER	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN. RQLS0119



■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

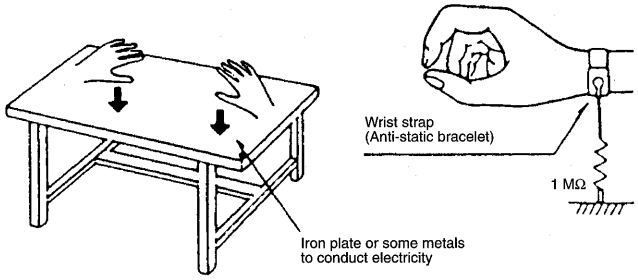


- **Handling of traverse deck (optical pickup)**

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.



Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

■ Caution for AC Mains Lead

(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION !
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use
Remove the connector cover.

How to replace the fuse
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

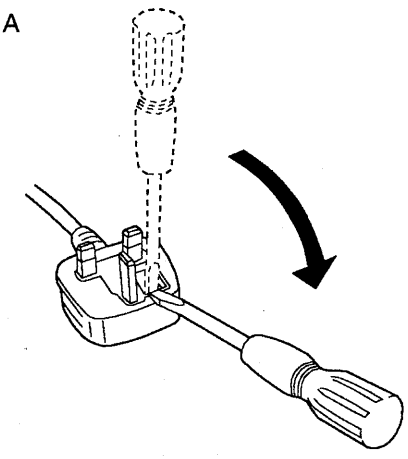
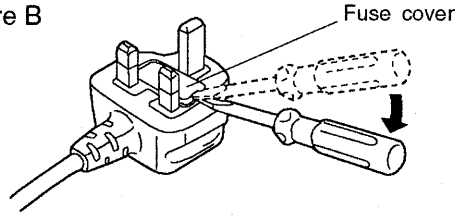


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

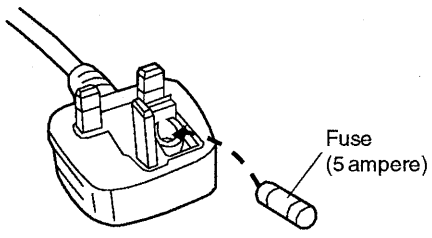
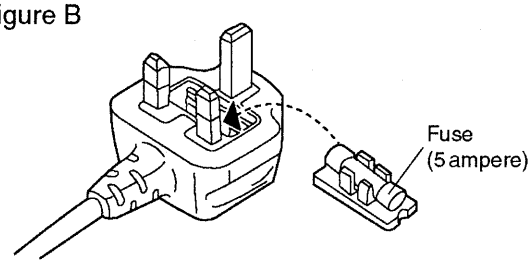


Figure B



■ Operation Checks and Main Component Replacement Procedures

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**

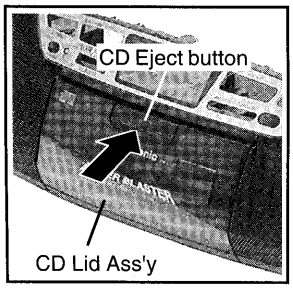
• Contents

Warning : This product uses a laser diode. Refer to caution statements on page 2.
ACHTUNG : • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

■ Checking Procedure for each major P.C.B.

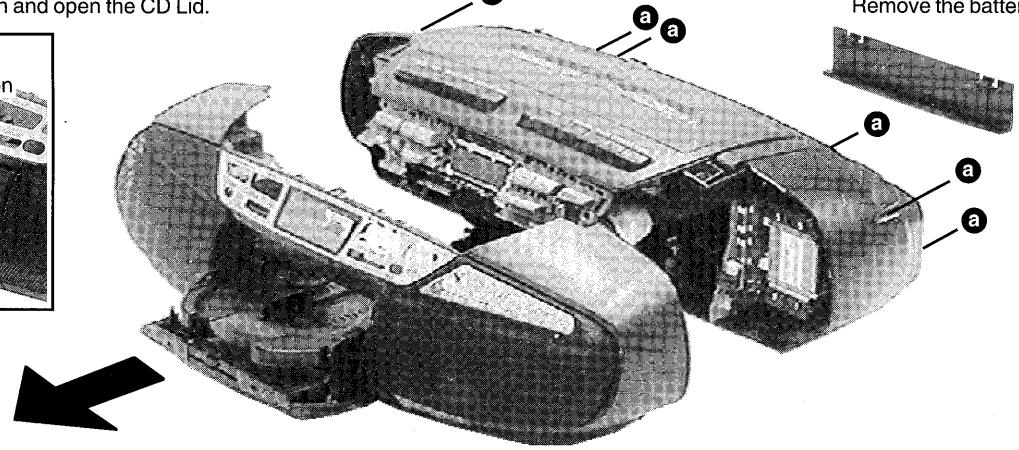
1. Checking of the Tuner P.C.B.

Step 3
Press the CD Eject button and open the CD Lid.

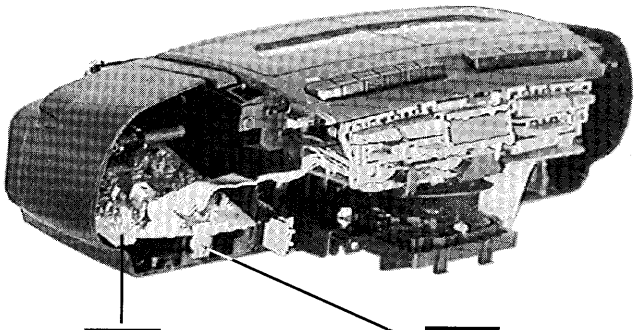


Step 2
ⓐ X 6

Step 1
Remove the battery cover.

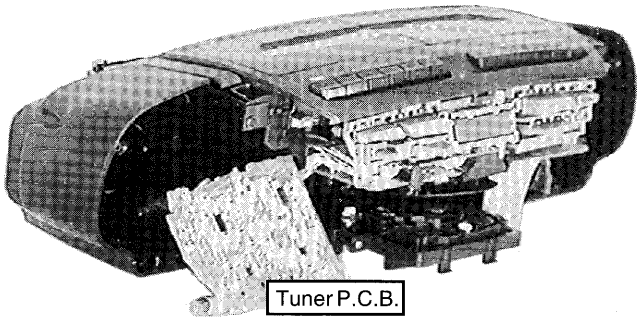


Step 4
Remove the front cabinet in the direction of arrow.



Step 6
Pull out the Tuner P.C.B.

Step 5
ⓑ X 1

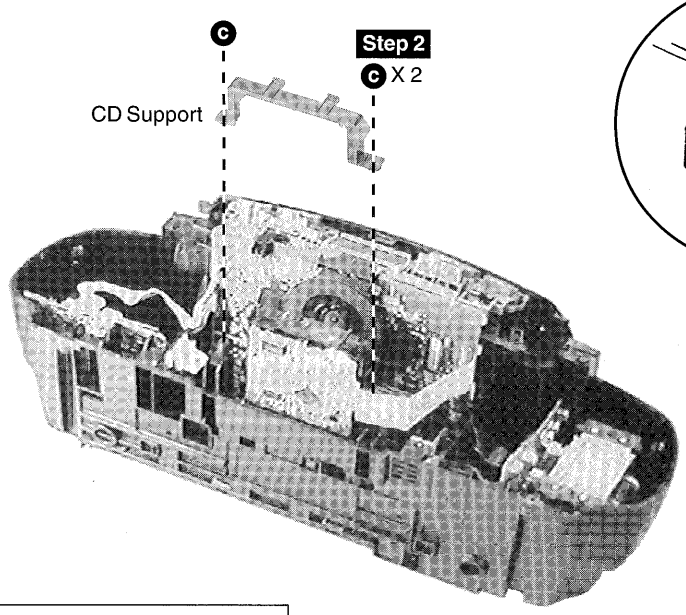


Step 7
Check the Tuner P.C.B. as shown above.

ⓐ XTV3 + 20G	ⓑ XTV3 + 12G

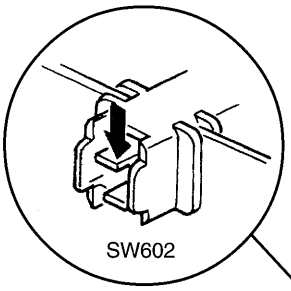
2. Checking of the Servo P.C.B.

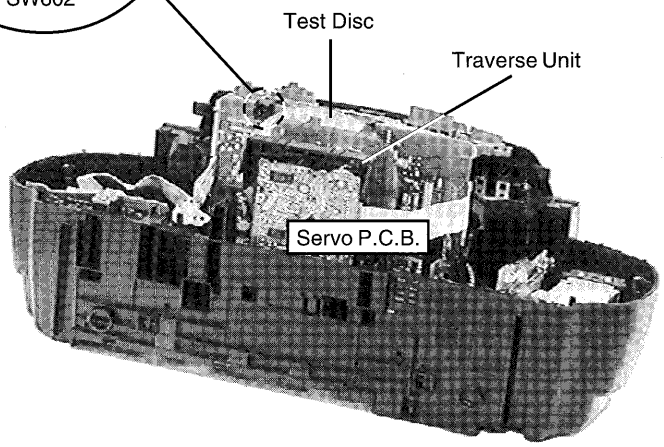
Step 1 Follow the procedures in 'Checking of the Tuner P.C.B.' (**Step 1** ~ **Step 4**).

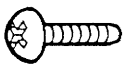


Step 3
Place the set and attach the test disc to the traverse unit as shown below, then check the Servo P.C.B.

Note :
Before perform checking, make sure the CD Lid detection switch SW602 is switched on.





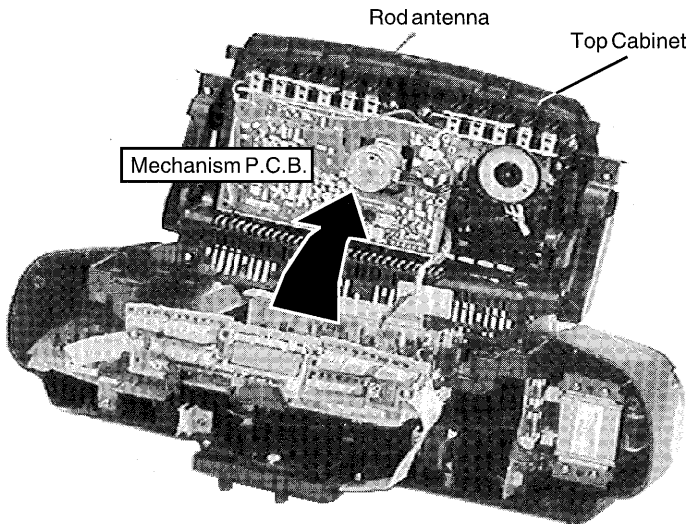


c XTV3 + 12G

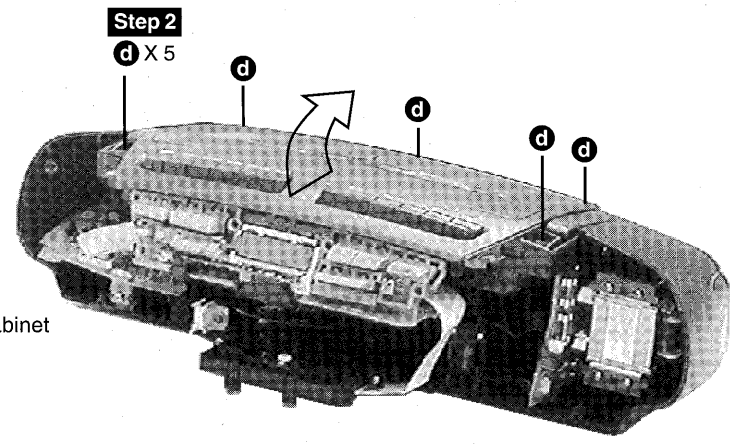
3. Checking of the Mechanism P.C.B. and Main P.C.B.

Step 1 Follow the procedures in 'Checking of the Tuner P.C.B.' (**Step 1** ~ **Step 4**).

Step 3
Lift up the Top Cabinet in the direction of arrow.
Using the rod antenna to support the Top Cabinet and then check the Mechanism P.C.B.

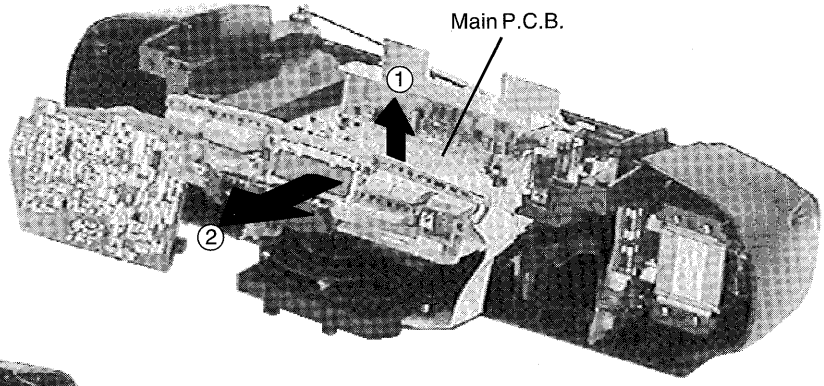


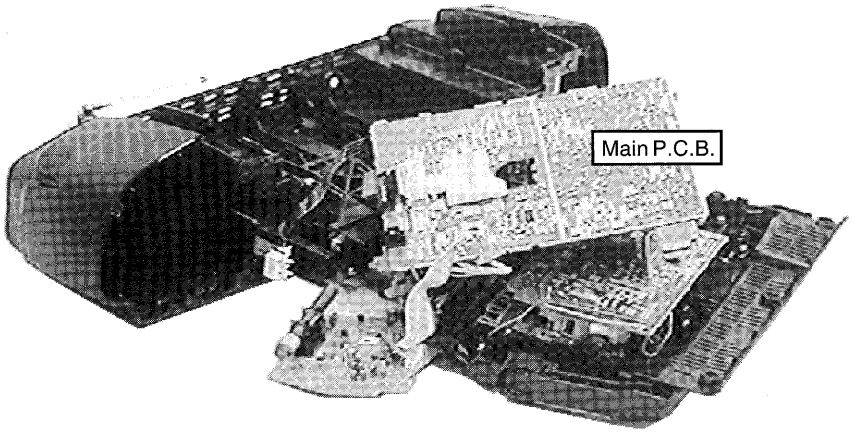
Step 2
d X 5



d XTN3 + 10CFZ

Step 4
Lift up the Main P.C.B. in the direction of arrow ① and pull out in the direction of arrow ②.





Step 5
Place the Main P.C.B. as shown on the left and then check the Main P.C.B.

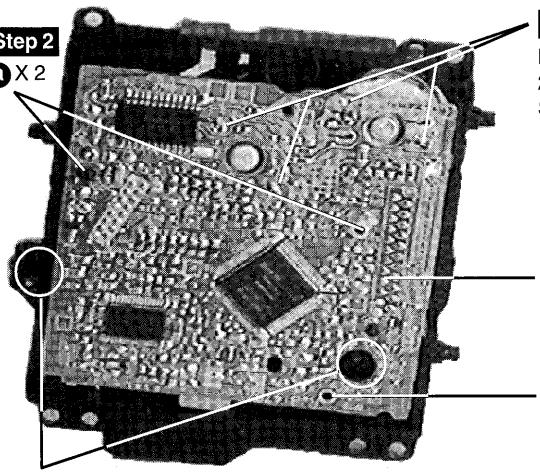
■ Main Component Replacement Procedures

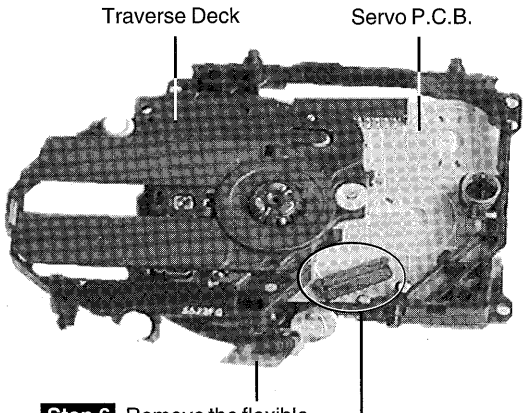
1. Replacement of the Traverse Deck

Step 1 Follow the procedures in 'Checking of the Servo P.C.B.' (**Step 1** ~ **Step 2**).

Step 2
ⓐ X 2

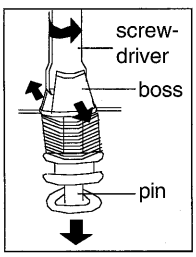
Step 4
Desolder the 4 legs of the 2 motors and pull out the Servo P.C.B.



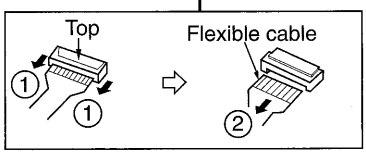


Step 6 Remove the flexible cable CN701.

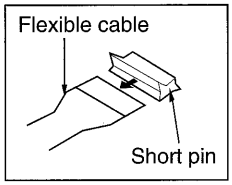
Step 5 Widen the 2 bosses with a flat screwdriver and pull out the 2 pins. Then remove the Traverse Deck.



- Removal of the flexible cable
  Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.



Note :
Insert a short pin into the flexible cable for traverse unit.



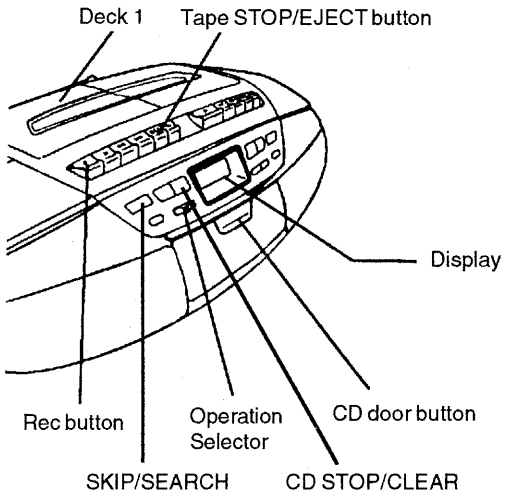
ⓐ [XTV2+6G] (Brass)

ⓑ [XTN2+6G] (Brass)

■ Self-Diagnostic Display Function

■ Self-diagnostic display

This unit is equipped with a self-diagnostic display function which, if a problem occurs, will display an error code corresponding to the problem. Use this function when performing maintenance on the unit.



■ Preparation

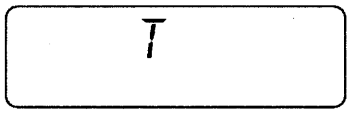
Normal blank tape with recording prevention tab on one side.

■ How to enter the Self-Diagnostic Display Function mode

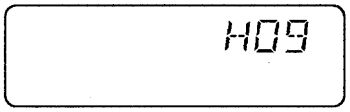
1. Turn the power on.
2. Set the Operation Selector to CD. (with no CD loading condition)
3. Press and hold the "STOP/CLEAR" button for at least 2 seconds. While pressing the "STOP/CLEAR" button, press the "SKIP/SEARCH" button for 2 seconds. "T" will appear on the FL display. (The set is in the Self-Diagnostic Function Mode)
4. Open the CD door.
5. Close the CD door.
6. Load the normal blank tape to DECK 1.
7. Press the "REC" button.
8. Press the "TAPE STOP/EJECT" button.

Press the "CD STOP/CLEAR (■) to check the result. If there is problem, the error code shall be displayed. (If no problem, display shows counter indication). In case several problems exist, error code will change each time you press the "CD STOP/CLEAR" button.

This means that the set is in the Self-Diagnostic Display Function mode



(Example of Error Code)



■ How to get out from the Self-Diagnostic Display Function

Select Operation Selector to other mode except CD.

■ Interpretation of Error Codes

(Note : * means error code will be displayed automatically)

Error Code	Problem condition	Correction procedure
*U01	When the unit is operating on batteries, power supply ceases soon after the power is turn on.	It is due to consumption of batteries. Replace the batteries with new ones.
*U02	Turn the power on causes no supply of power.	Check the power plug (AC) or insert batteries (DC).
H09	Tape does not play even pressing PLAY button.	Faulty Leaf switch (SW302, SW312). Faulty operation Q616.
H16	CD does not operate and indicate ⌈ NO DISC ⌋.	Faulty contact or short circuit of CD tray close switch. (SW602)
F15	Relatively long time (about 5 sec) is required to begin play when the CD play button is pressed from the power-off state or from a function other than CD player.	Faulty contact on CD mechanism optical pick-up rest switch (S701).
F26	CD does not operate and LCD shows ⌈ F26 ⌋.	Faulty data communication of servo processor IC and microprocessor.
F69	CD does not start to play at syncro-recording function mode.	Faulty contact or short circuit of recording switch (SW301).
*F75	⌈ NO DISC ⌋ indication show in the FL display even CD is loaded.	Faulty power circuit of CD. Faulty servo processor IC.

■ Measurements and Adjustments

< TUNER SECTION >

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT
Measuring Condition 1. Set volume control to maximum. 2. Set power source voltage to 12V DC. 3. Output of signal generator should be no higher than necessary to obtain an output reading. Note : No AM IF and FM STEREO alignment are required.

■ AM-RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	594 kHz	Tune to signal	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	(*1) L3(AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil along the ferrite core.
〃	1,503 kHz	〃	〃	CT1 (AM ANT Trimmer)	Adjust for maximum output.
(*1) Fix antenna coil with wax after completing alignment.					

< CASSETTE DECK SECTION >

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
Measuring Instruments • Digital frequency counter **Test tape** • Tape speed adjustment (3kHz, – 10 dB) : QZZCWAT	**Measuring condition** • Make sure the heads are clean. • Make sure the capstan and pressure roller are clean. • Tape-to-tape recording speed selector : NORMAL
Note : No Azimuth Head Alignment is required due to Aztec Head is used in the cassette mechanism.	

■ TAPE SPEED ALIGNMENT

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz, –10dB)	Headphone Jack (32Ω) (Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.)	VR301 (As shown in Fig 3)	3000 ± 30 Hz	• Insert the test tape to the DECK 1 and playback. • Adjust VR301 for output value of 3000±30 Hz. • Insert the test tape to the DECK 2 and playback. • Adjust VR301 for output value of 3000±30 Hz by reading the frequency counter.

■ ALIGNMENT POINTS

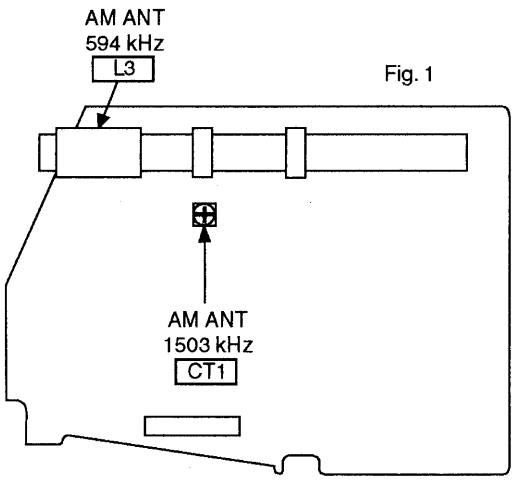


Fig. 1

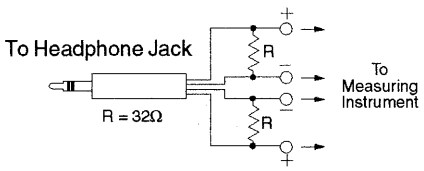


Fig. 2

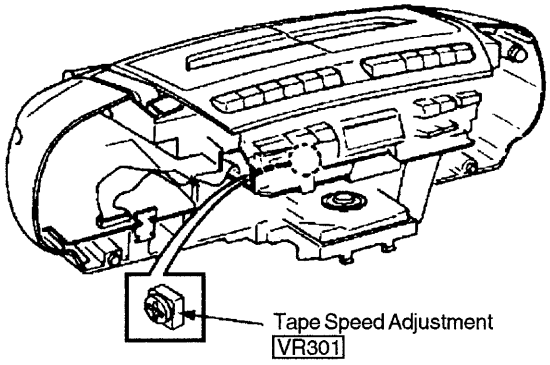


Fig. 3

■ Terminal Function of IC's

• IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDA	I	PD signal input
2	PDB	I	PD signal input
3	VCC	I	Power supply connection
4	LPD	I	Laser PD connection
5	LD	O	Power out for LD driving
6	RF	O	RF signal output
7	RFIN	I	RF signal input
8	CAGC	I	AGC loop filter connection
9	ARF	O	RF-AGC output
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	LD APC input ("H" : ON, "L" : OFF)
14	GND	—	Ground connection

Pin No.	Mark	I/O	Function
15	/RFDET	O	NRFDET output ("L" : detection)
16	CROSS	O	CROSS output (Track cross signal output)
17	OFTR	O	Off-track output("L" : ON track, "H" : OFF track)
18	VDET	O	VDET output("H" : Vibration detected)
19	ENV	O	RF envelope detection
20	TEBPF	I	Vibration detection signal input
21	CCRS	I	Capacitor for LPF connection
22	TE	O	Tracking error signal output
23	FE	O	Focus error signal output
24	TBAL	I	Tracking balance signal input
25	FBAL	I	Focus balance signal input
26	VREF	O	Reference voltage output
27	PDE	I	PD signal input
28	PDF	I	PD signal input

• IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	VCC	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	I/O	Function
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1–	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2–	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3–	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4–	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

• IC702 (MN662741RPA) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output
			(OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q
			register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output
			(CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at
			MSEL = "H" (fSMCK=8.4672MHz)
			1/4-divided clock signal of crystal oscillating at
			MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating
			(fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output
			(forced mode output)
25	ECS	O	Spindle motor drive signal output
			(servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD,
			FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output
			(Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)

Pin No.	Mark	I/O	Function
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open)
			(fPCK=4.321 MHz during normal playback)
54	PDO	O	Phase comparison signal of EFM and PCK signals
			(Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output
			(fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data
			(Not used, open)
63	FCLK	O	Crystal frame clock signal output
			(fCLK=7.35kHz, double=14.7kHz)
64	PFLAG	O	Interpolation flag output ("H" : interpolation)
			(Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output
			("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output
			("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output
			("H" : ON) (Not used, open)
69	RESY	O	Frame resynchronizing signal output
			(Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input

Pin No.	Mark	I/O	Function
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

• IC601 (SC440422CFU) System Microprocessor

Pin No.	Mark	I/O	Function
1	VDD	—	+5V power supply
2	BP2	O	Recording beat proof
3	CD L	I/O	CD power supply control
4	TMUTE	I/O	Tuner muting output
5	R CTL	I/O	Remote control power supply output
6	PLL CE	I/O	TUNER PLL IC CE output
7	PLL CK	I/O	When TUNER, PLL IC CLK output
	/MCLK		When CD, CD LSI CLK output
8	PLL DATA	I/O	When TUNER, PLL IC DATA output
	/MDATA		When CD, CD LSI DATA output
9	TUNED	I	When TUNER, Reception Condition input
	/FLOCK		When CD, Focus lock signal input
10	TLOCK	I	CD tracking clock signal input
11	MLD	O	CD LSI LOAD output
12	REC H	I	Recording condition detection input
13~15	VLCD 3~1	—	LCD driving bias voltage input
16	VSS	—	GND
17	VDD(NDLY)	—	TEST terminal
18	XOSC IN	I	X'tal connection terminal (32 kHz)
19	XOSC OUT	O	
20	RESET	I	Micro Processor reset input
21	OSC1	I	Ceramic Oscillator connection (4.19 MHz)
22	OSC2	O	
23	MBP1	O	Mirco Processor beat proof control output 1
24	MBP2	O	Mirco Processor beat proof control output 2
25	TONE/ASPCK	O	Tone control, ASP IC CLK output
26	BPI/ASPDA	O	AM Rec. beat proof, ASP IC data output
27	ASPLT	O	ASP IC latch output
28	HSTAT	I/O	HAMP MUTE control output, HAMP condition
			detection input
29	PCNT	O	Power control output
30	REST SW	I	CD traverse REST SW input
31	AC DET	I	AC power coding detection input
32	MOT LOW	I	Deck motor control detection input
33	S CD	I	Function SW CD input
34	S TAPE	I	Function SW TAPE input

Pin No.	Mark	I/O	Function
35	S TUNER	I	Function SW TUNER input
36	KEY WK	I	KEY 1 WAKE UP input
37	CLOSE SW	I	CD Lid CLOSE detection SW input
38	CD RESET	I/O	CD RST output
39	SUBQ	I	CD SUB code Q data input
40	FSEL	I/O	When reset start, CD mode setting input
41	SQCK	O	CD SUB code reading clock output
42	SENSE	I	CD SENSE input
43	STAT	I	CD STATUS input
44	MUTE A	O	Audio mute output
45	BLKCK	I	CD SUB code block clock input
46	REM IN	I	Remote control receive pulse input
47	VDD	—	+5V power supply
48~51	COM 3~0	O	LCD remote control output
52	V REF H	—	AD converter reference voltage (VDD)
53	V REF L	—	AD converter reference voltage (VSS)
54	P DET	I	SWVCC voltage detection input
55	KEY 1	I	Key input (KW1 coupling)
56	KEY 2	I	Key input
57	REG 1	I	Area setting input 1
58	REG 2	I	Area setting input 2
59	SEG 2	O	LCD segment output
60	VSS	—	GND
61~80	SEG 3~22	O	LCD segment output

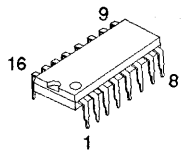
• IC2 (BU2616F-E2)

Pin No.	Mark	I/O	Function
1	XOUT	O	X'tal oscillator connection (7.2 MHz)
2	XIN	I	
3	CE	I	Tuner PLL strobe input (H=ENABLE)
4	DA	I	Tuner PLL data input
5	CL	I	Tuner PLL clock input
6	TUN	O	Tuner receiving condition detection output
7	SD	I	SD signal input
8	IFIN	I	IF detection signal input
9	P3	O	Pilot signal detection output

Pin No.	Mark	I/O	Function
10	P0	O	Phase detection signal output
11	P1	O	Tuner power supply control output
12	P2	I	AM OSC signal input
13	AMIN	I	AM OSC signal input
14	FMIN	I	FM OSC signal input
15	VDD	I	Power supply
16	PD1	O	FM/AM/Vcap control signal output
17	PD2	—	Open
18	GND	—	GND

■ Terminal Guide of IC's, Transistors and Diodes

AN7317



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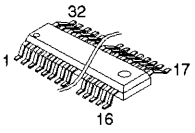

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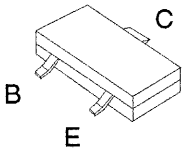

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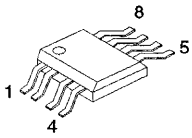

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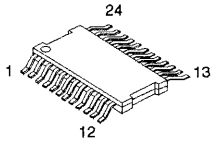

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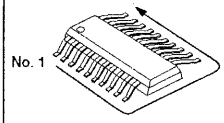

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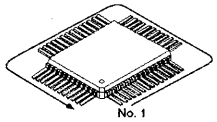

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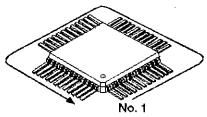

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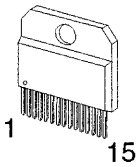

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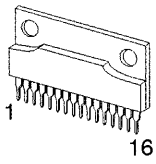

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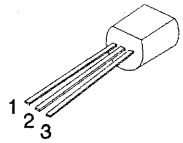

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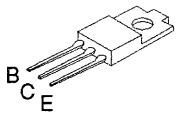

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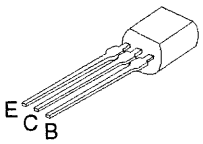

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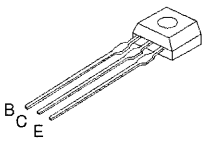

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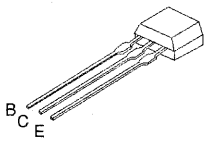

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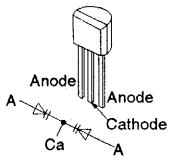

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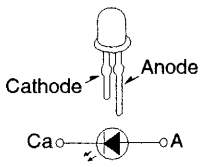

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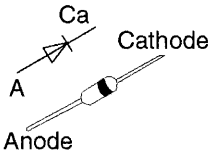

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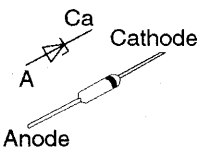

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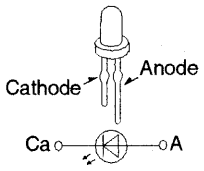

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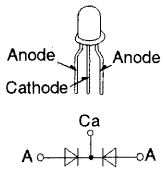

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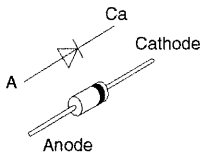
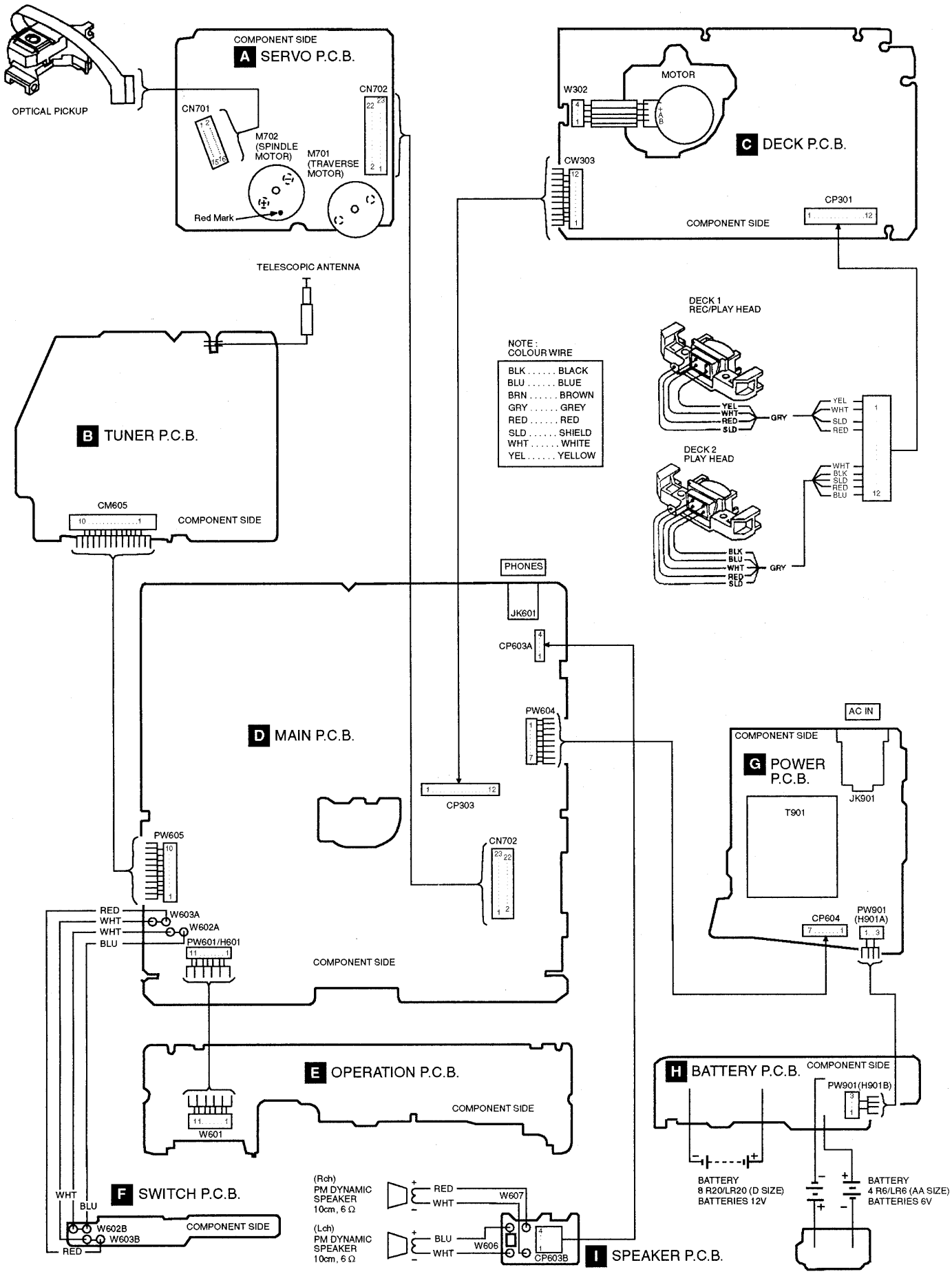
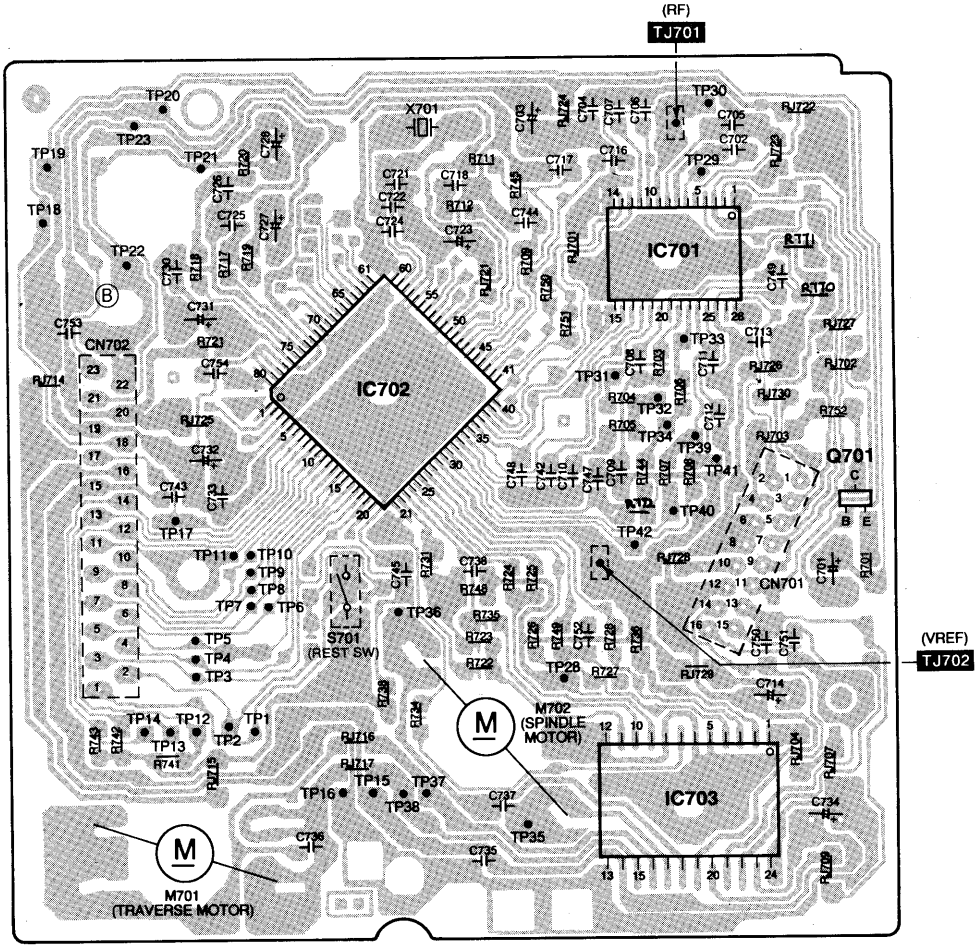


■ Wiring Connection Diagram

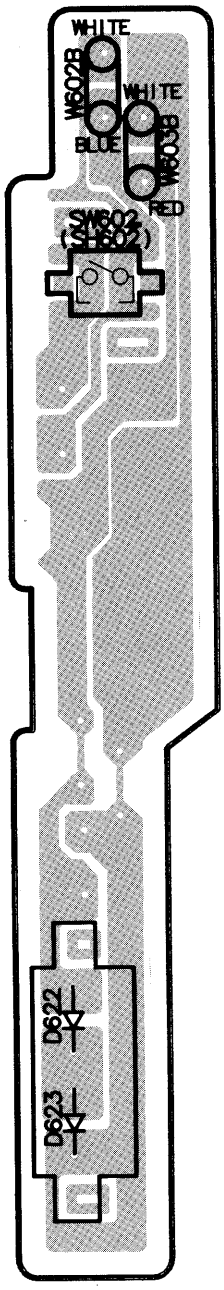


■ Printed Circuit Board

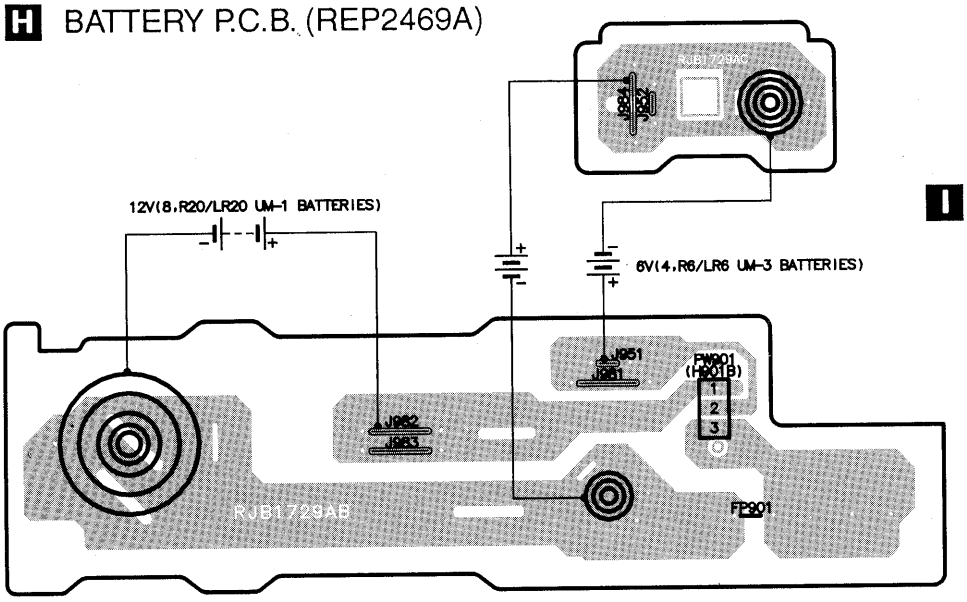
A SERVO P.C.B. (REPX0109)



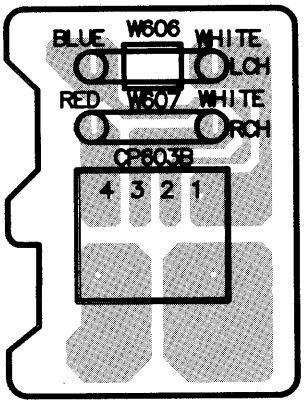
F SWITCH P.C.B. (REP2468A)



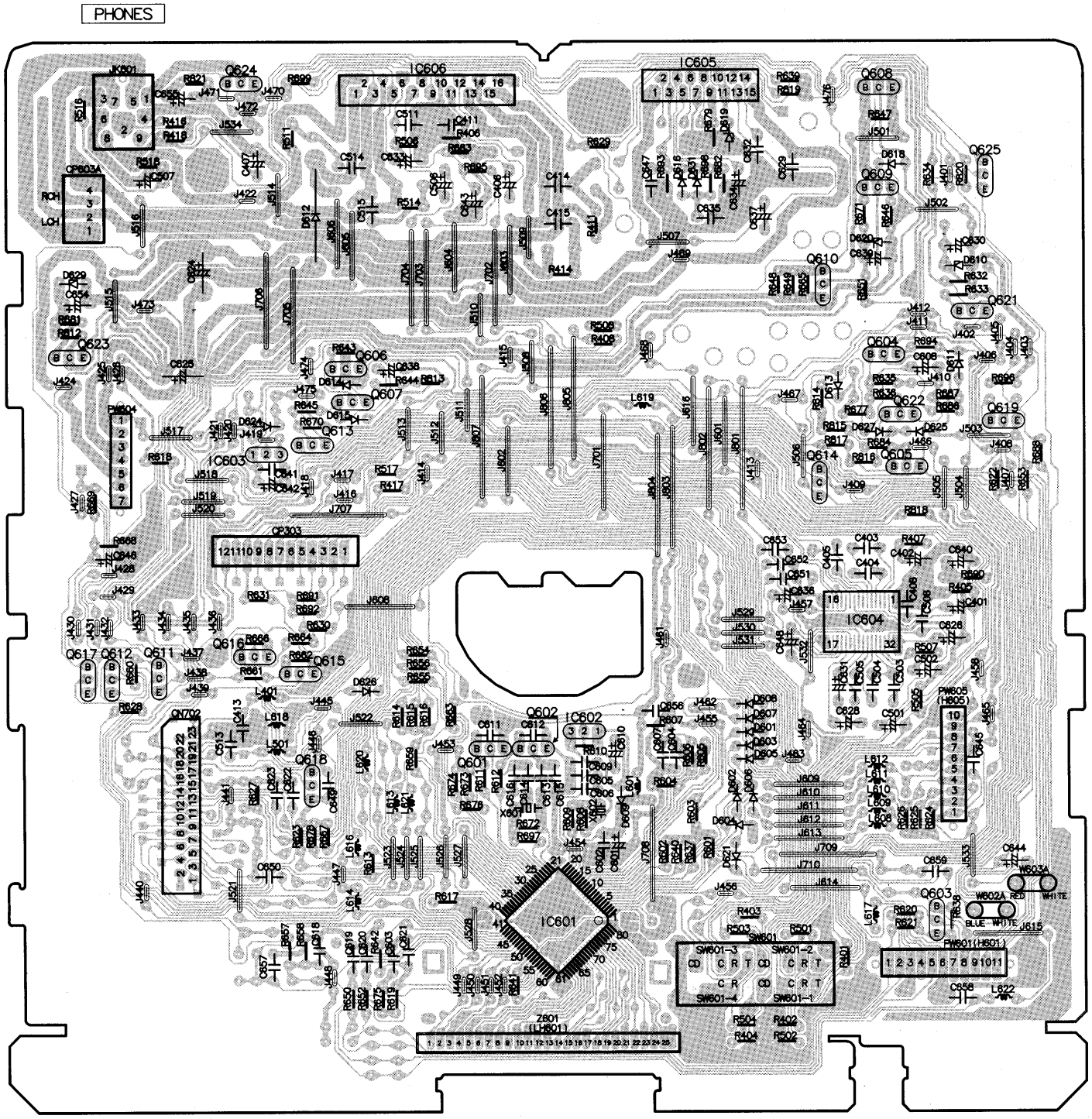
H BATTERY P.C.B. (REP2469A)



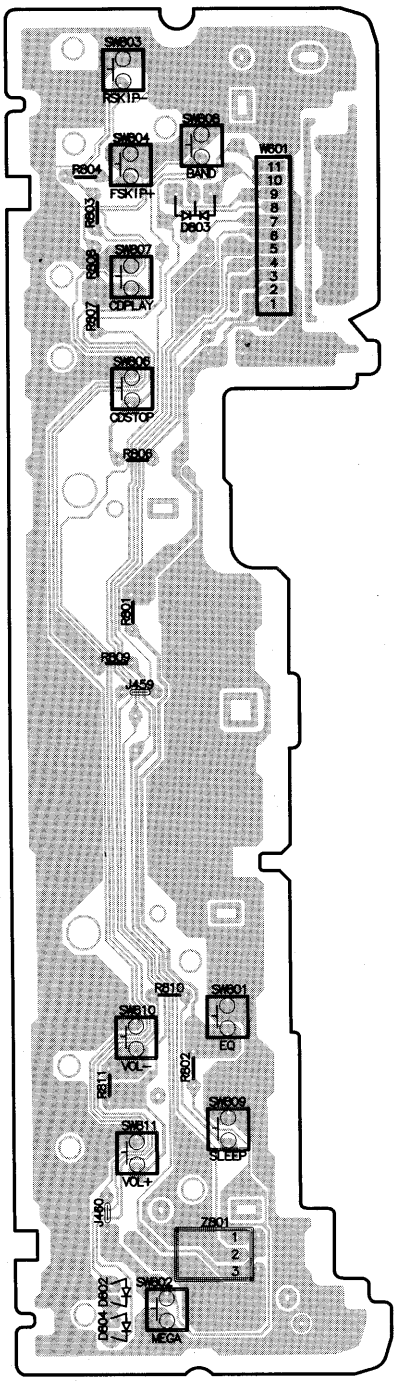
I SPEAKER P.C.B. (REP2468A)



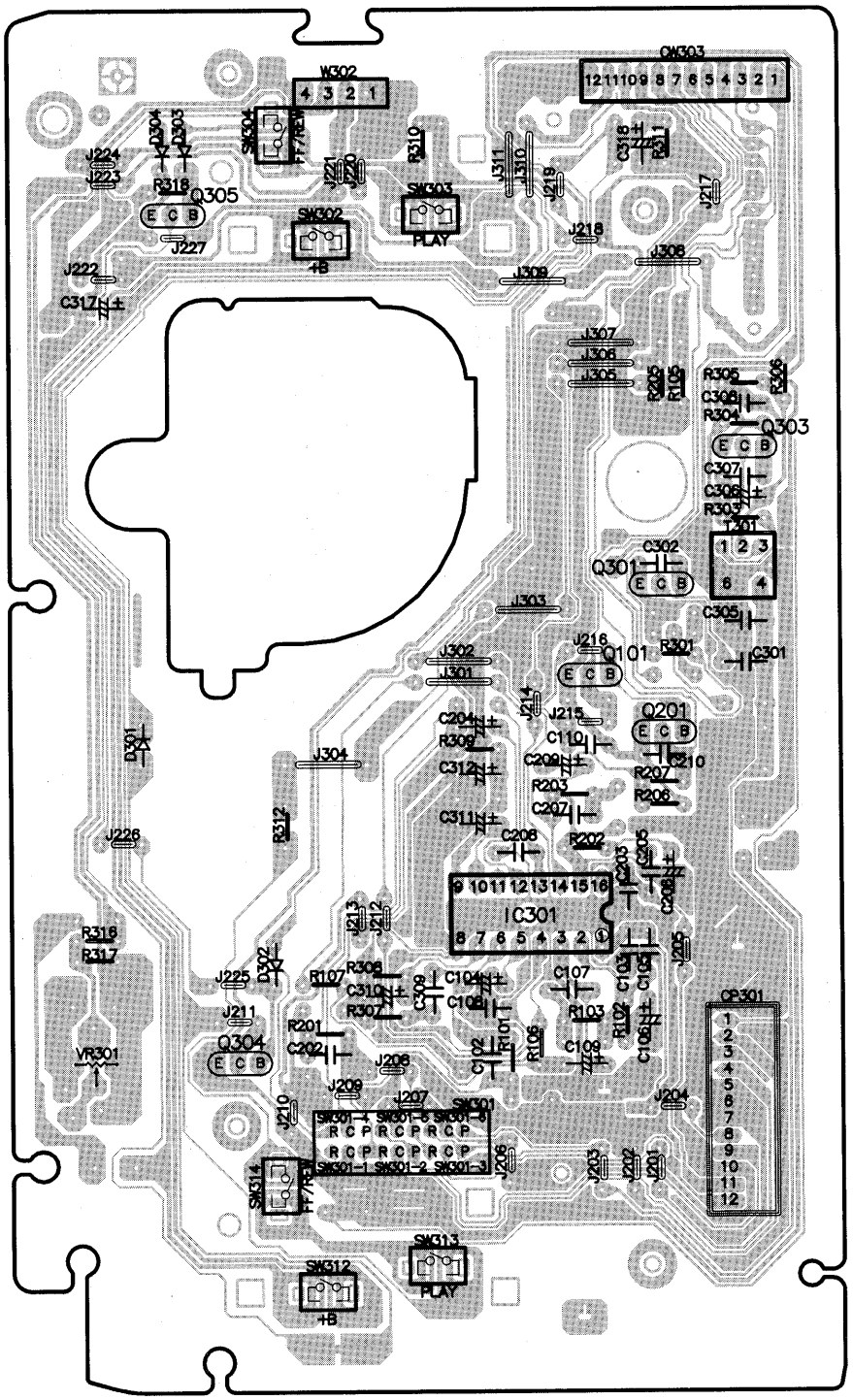
D MAIN P.C.B. (REP2468A)



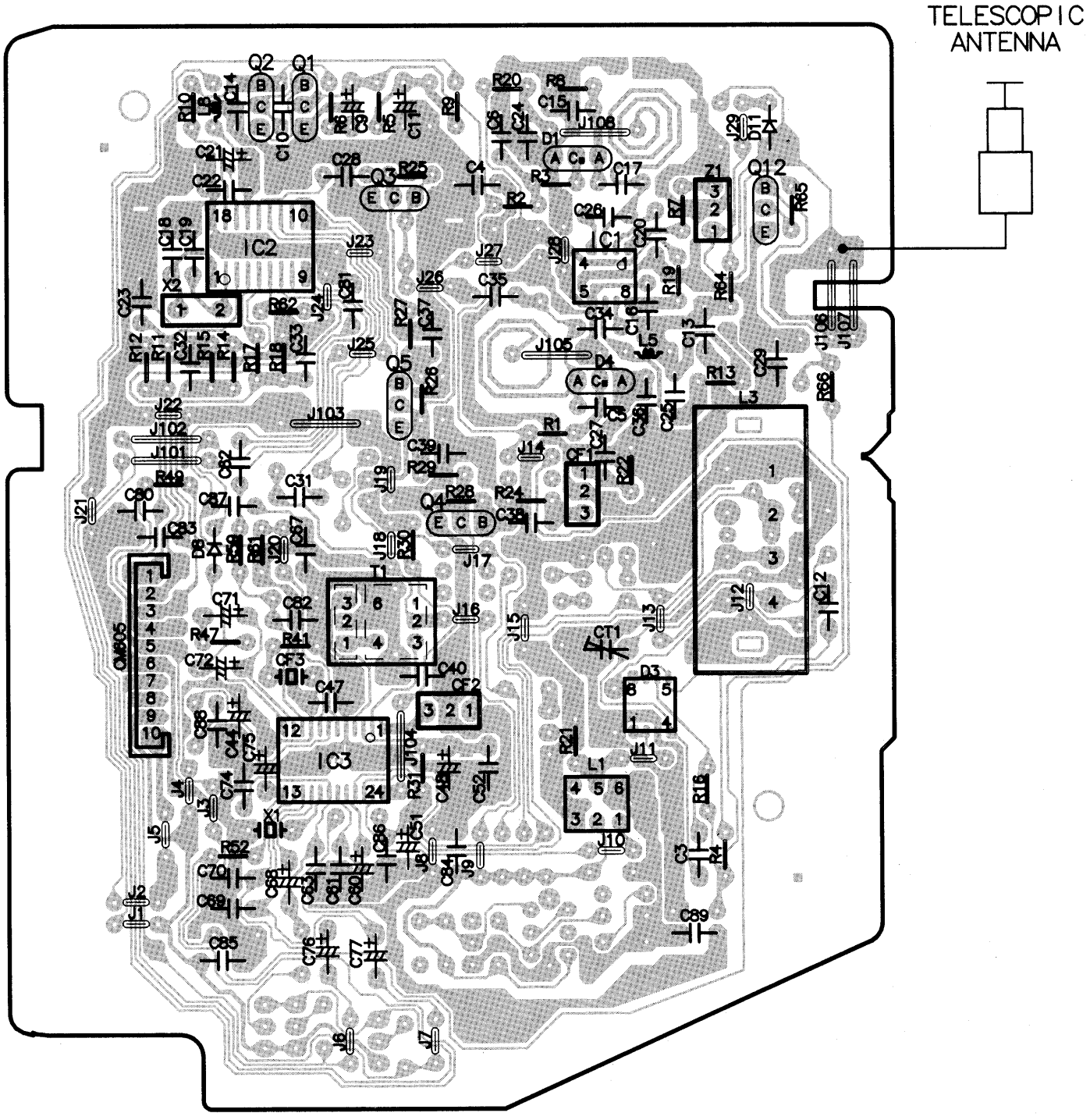
E OPERATION P.C.B. (REP2468A)



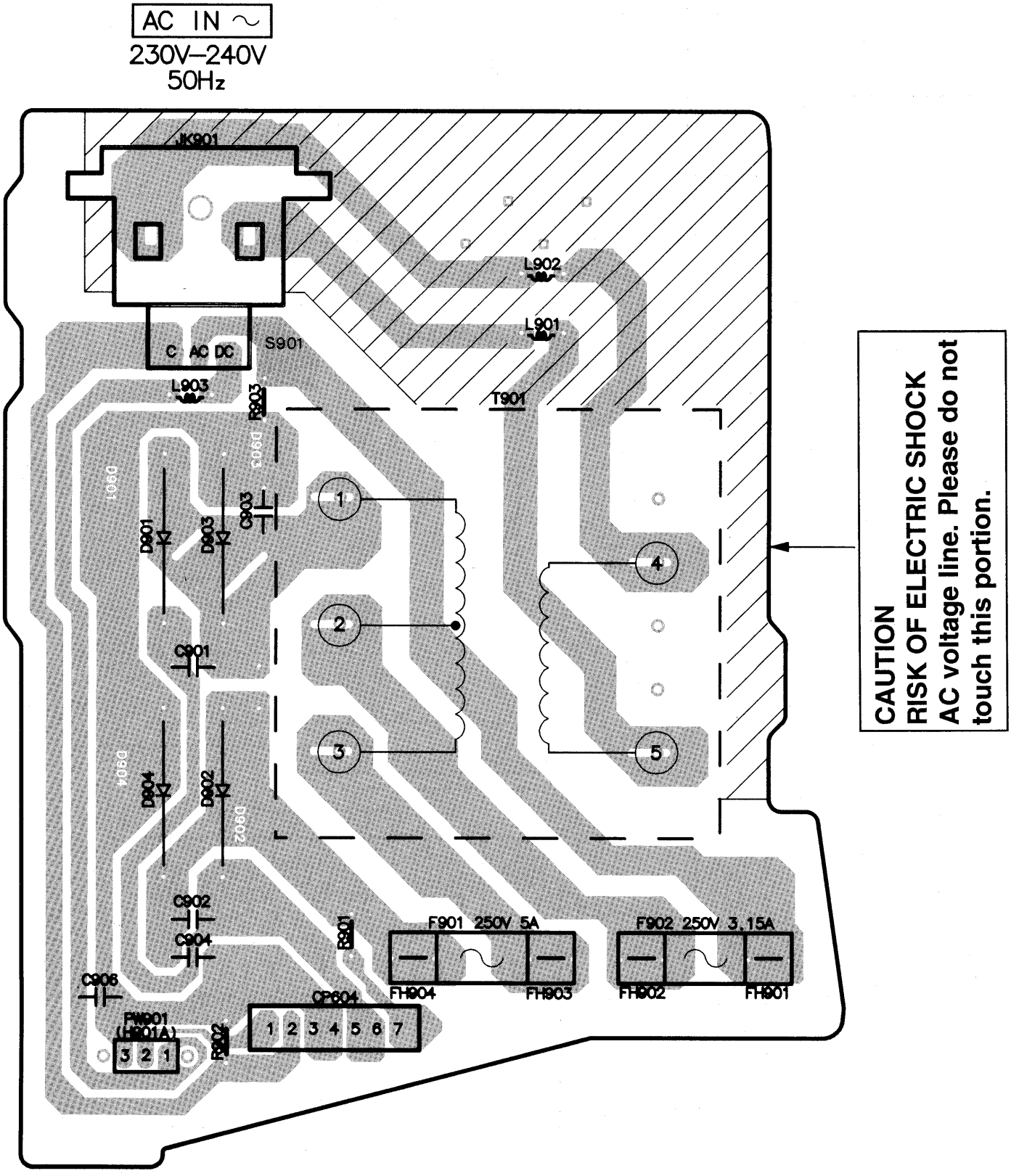
C DECK P.C.B. (REP2389C)



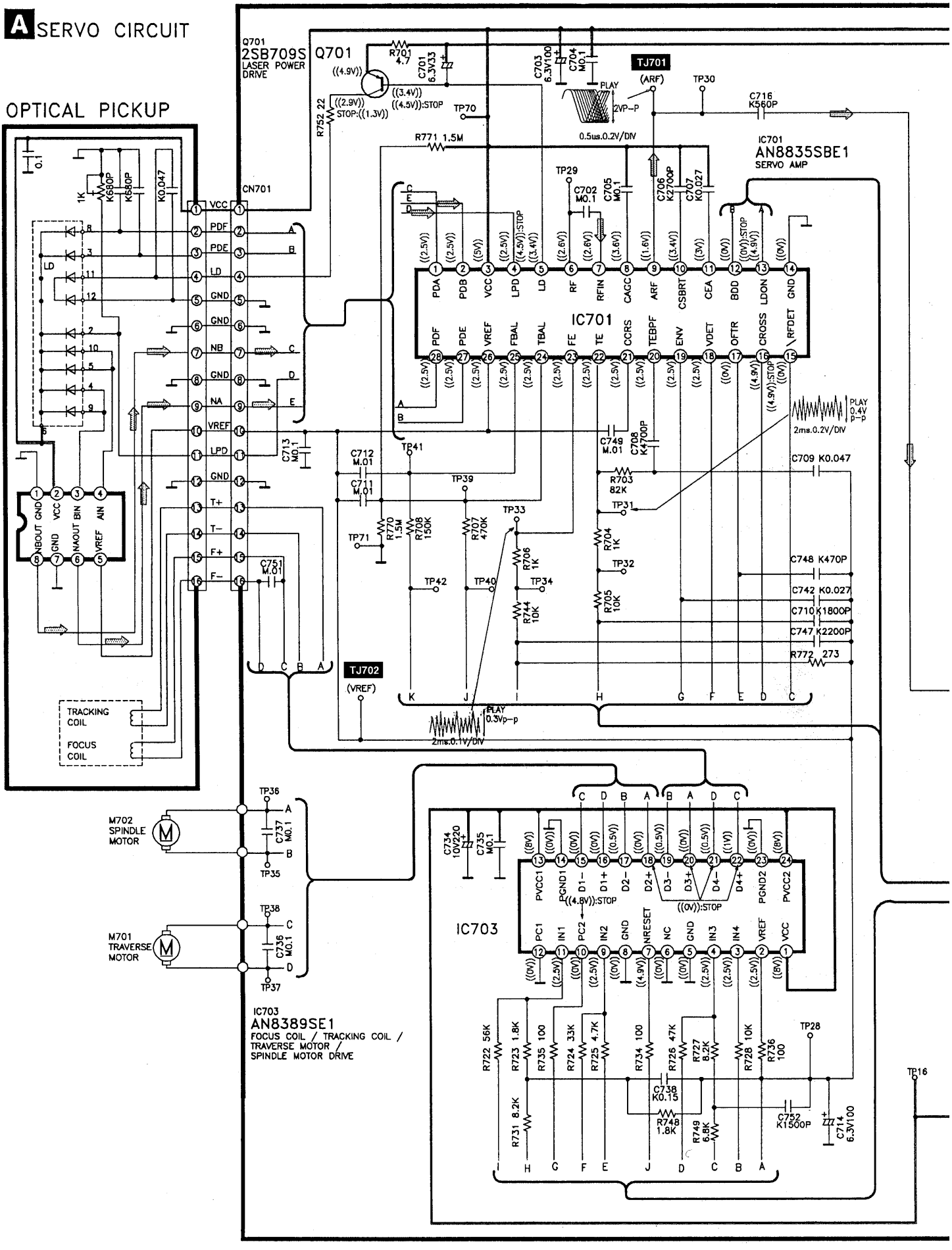
B TUNER P.C.B. (REP2470C)

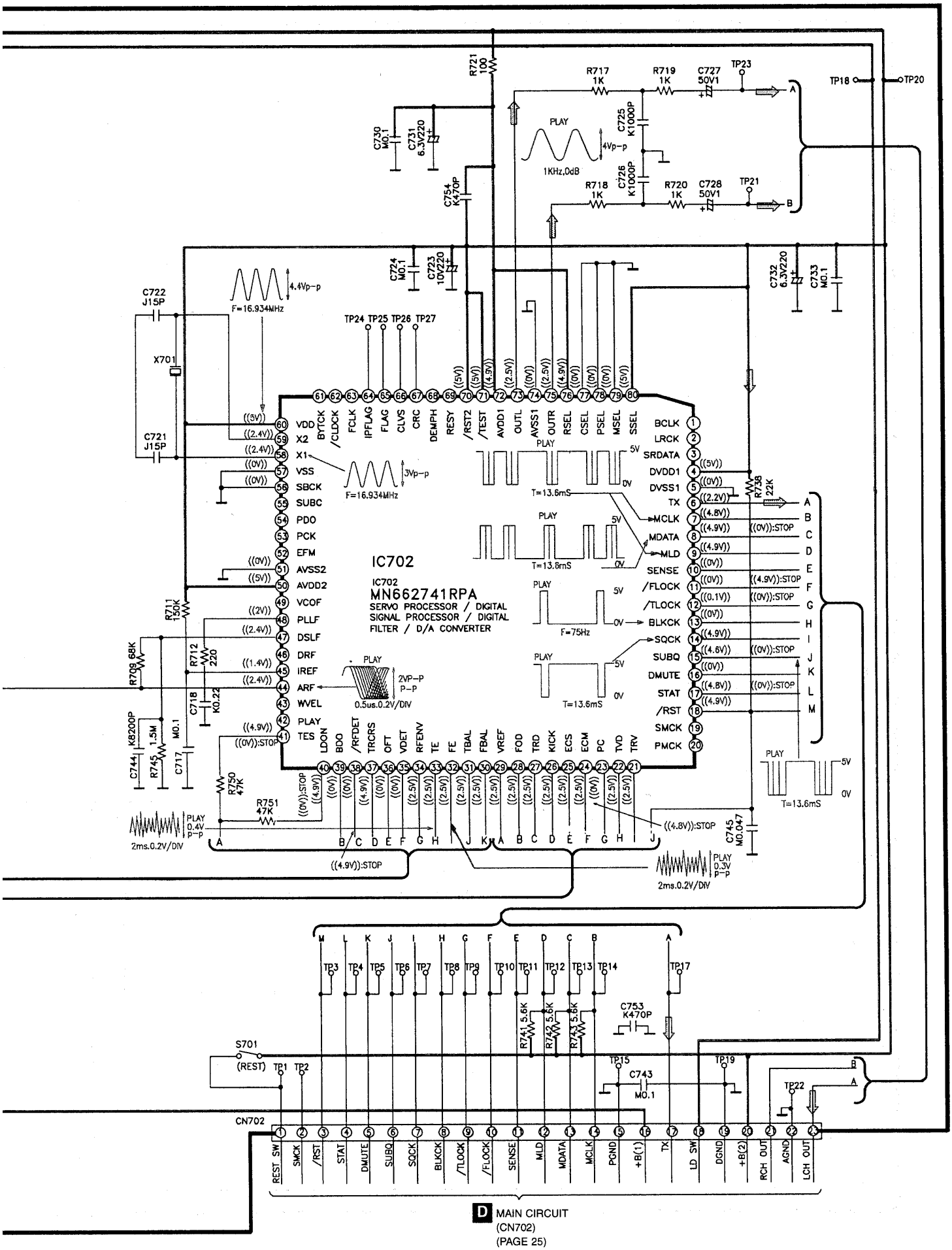


G POWER P.C.B. (REP2469A)



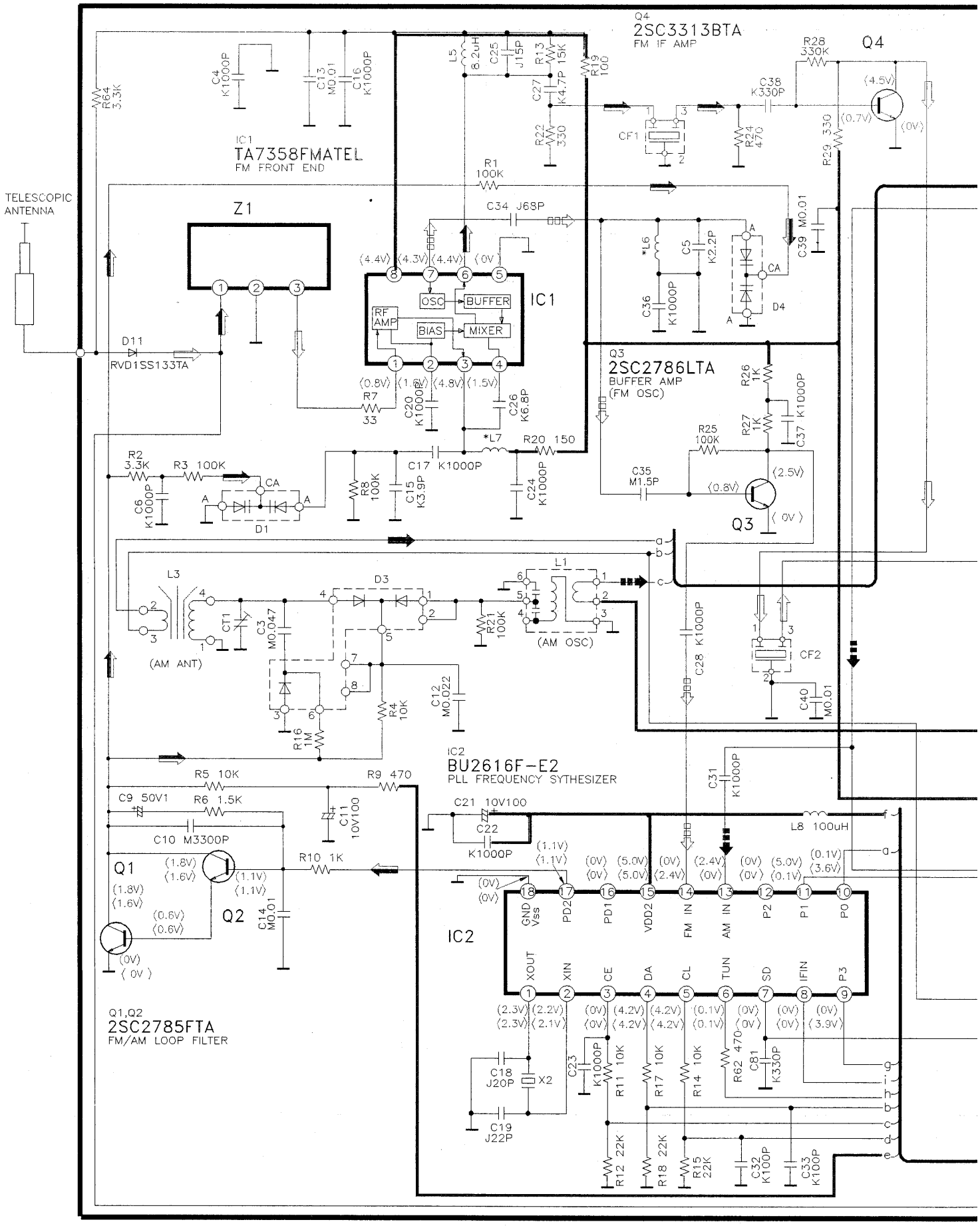
■ Schematic Diagram

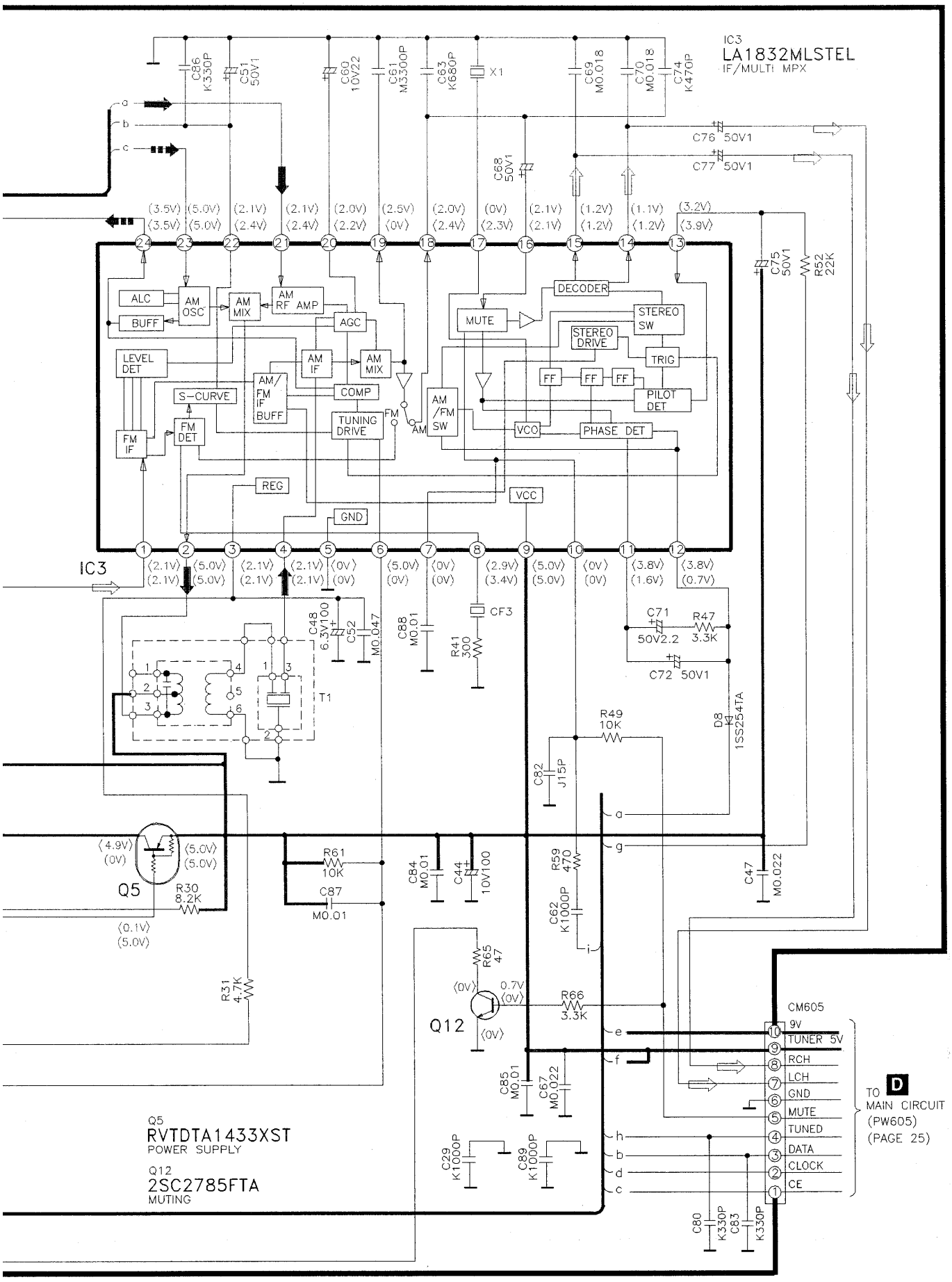




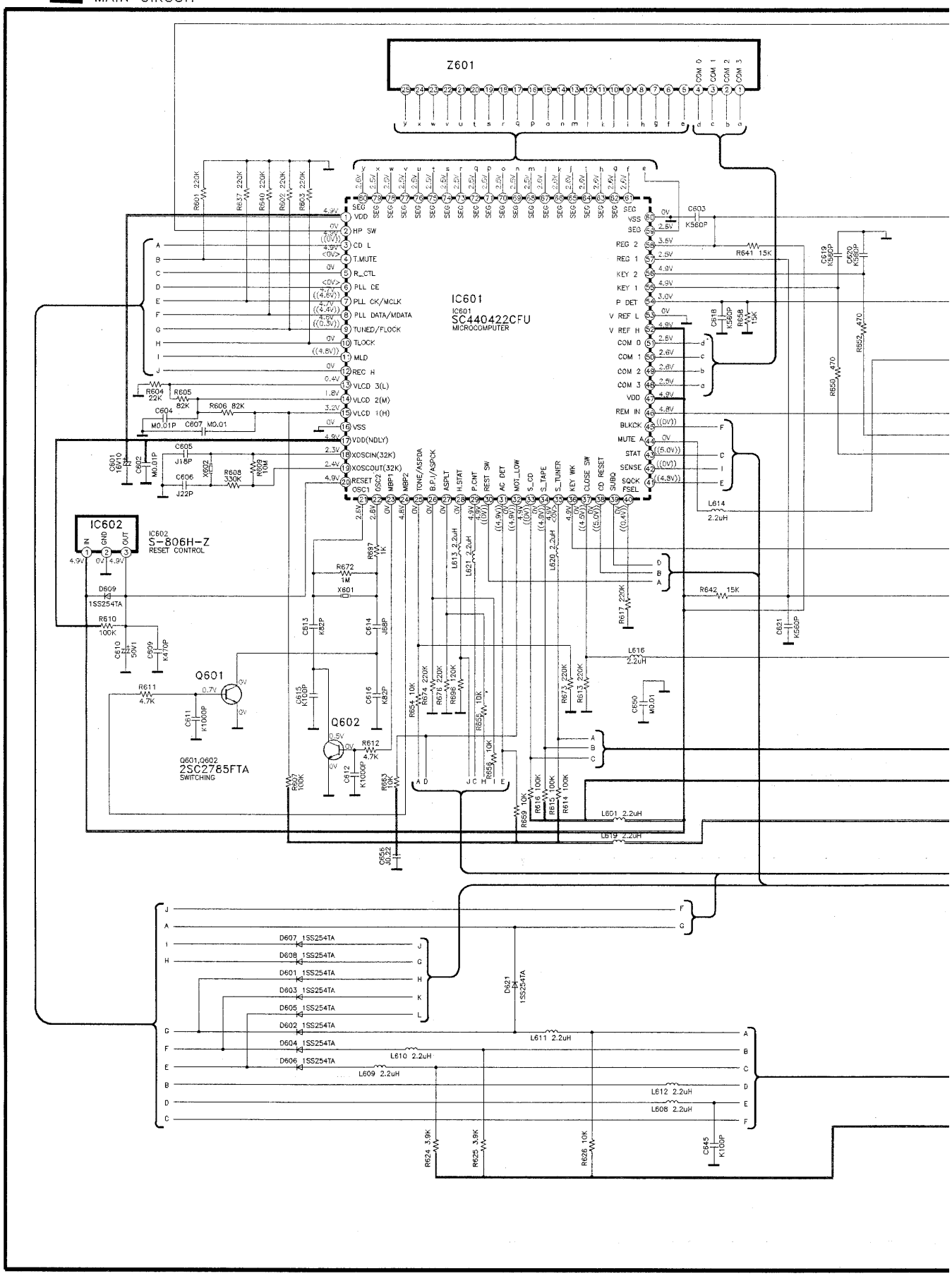
D MAIN CIRCUIT
(CN702)
(PAGE 25)

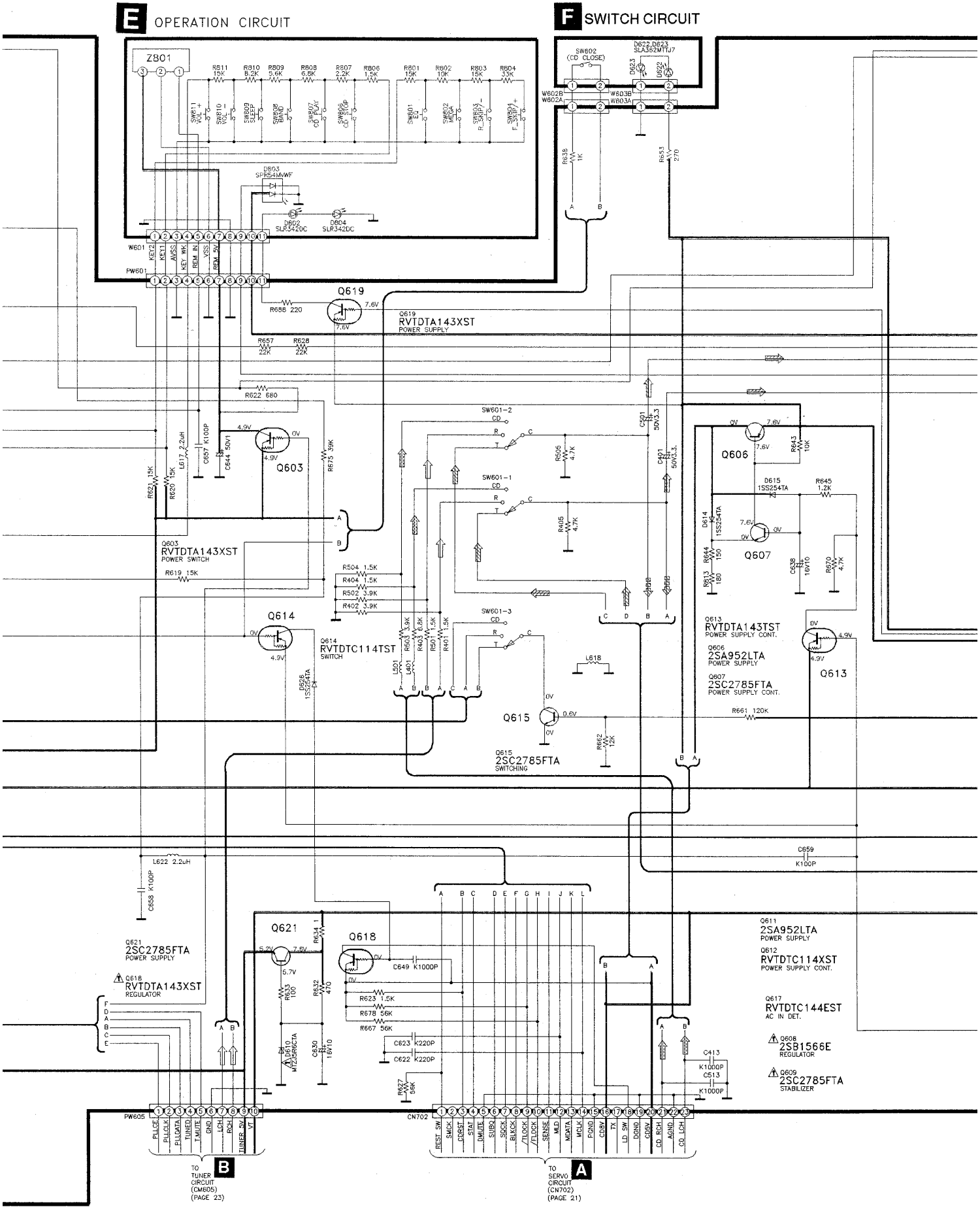
B TUNER CIRCUIT

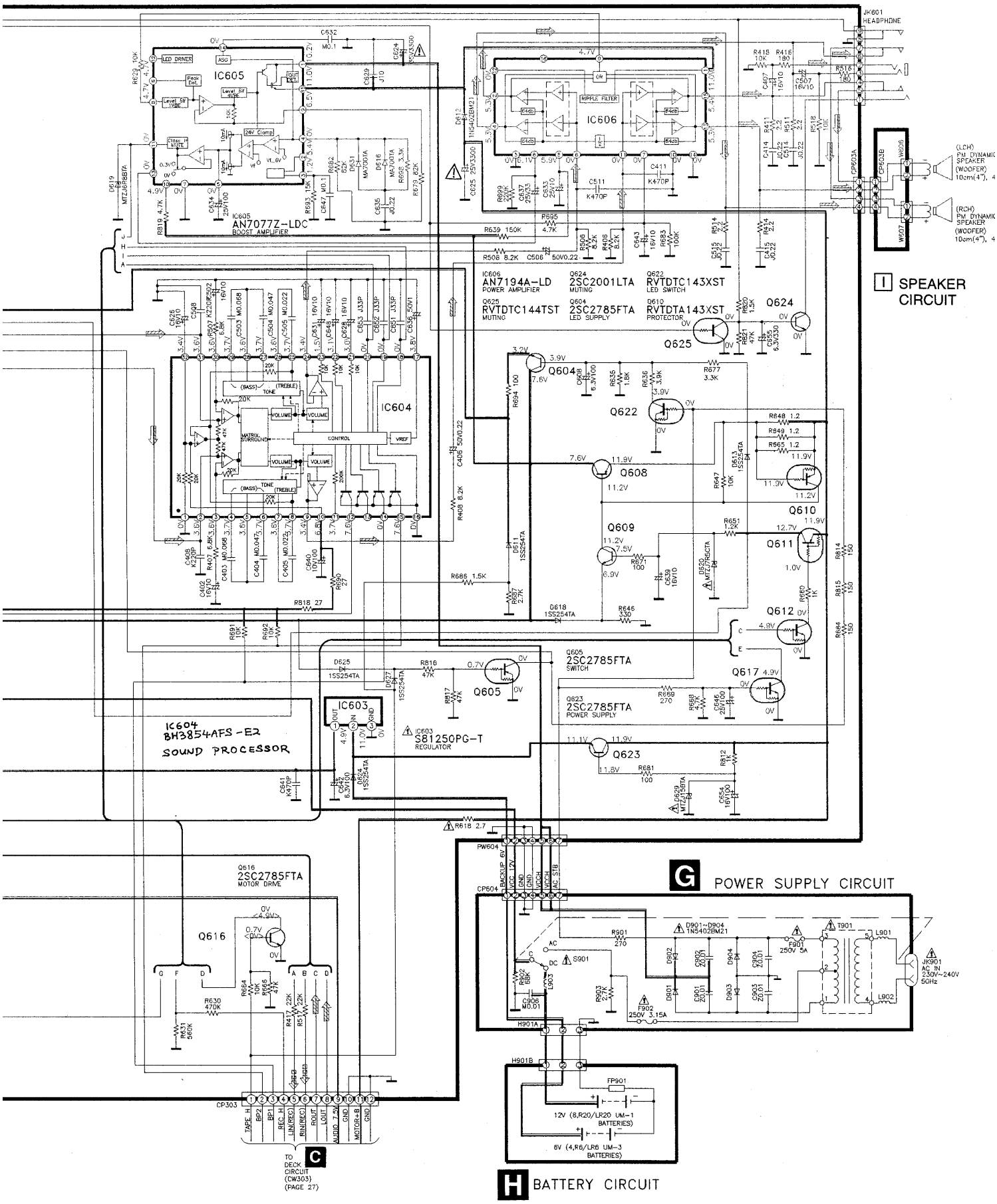



IC3
LA1832MLSTEL
IF/MULTI MPX
ALC
BUFF
AM OSC
AM MIX
AM RF AMP
AGC
LEVEL DET
AM IF
AM MIX
S-CURVE
AM/FM IF BUFF
COMP
FM IF
FM DET
TUNING DRIVE
FM
AM
AM/FM SW
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
FF
FF
PILOT DET
VCO
PHASE DET
REG
VCC
GND
IC3
T1
CF3
Q5
RVTDTA1433XST
POWER SUPPLY
Q12
2SC2785FTA
MUTING
CM605
9V
TUNER 5V
RCH
LCH
GND
MUTE
TUNED
DATA
CLOCK
CE
TO D
MAIN CIRCUIT
(PW605)
(PAGE 25)

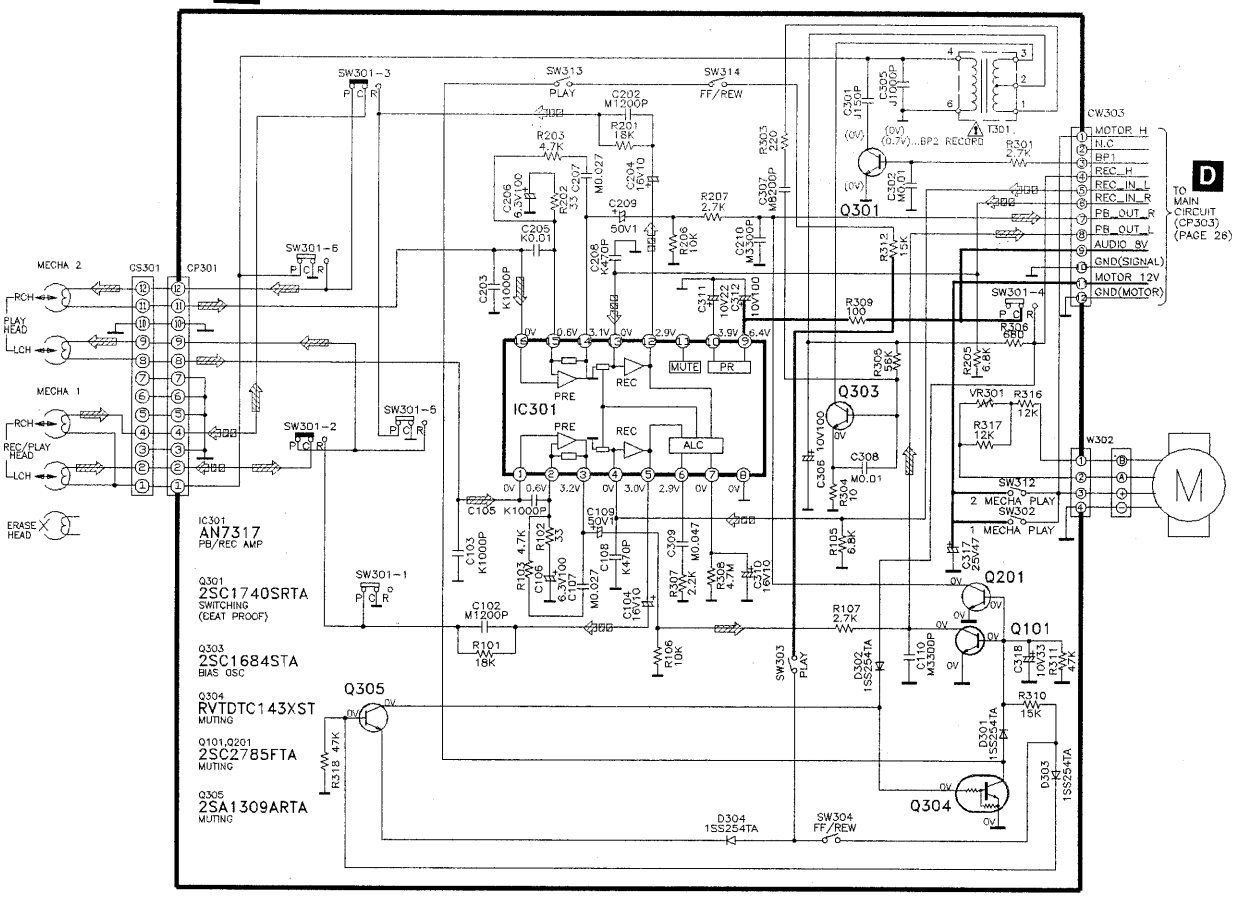
D MAIN CIRCUIT




E OPERATION CIRCUIT
F SWITCH CIRCUIT
Z801
SW602 (CD CLOSE)
D622,D623 SLA362MTTJ7
W602B
W602A
W603B
W603A
D803 SPR54MWWF
D602 SLR342DC
D604 SLR342DC
W601
PW601
Q619 RVTDTA143XST POWER SUPPLY
Q603 RVTDTA143XST POWER SWITCH
Q614 RVTDTC114TST SWITCH
Q615 2SC2785FTA SWITCHING
Q606 2SA952LTA POWER SUPPLY
Q607 2SC2785FTA POWER SUPPLY CONT.
Q613 RVTDTA143TST POWER SUPPLY CONT.
Q621 2SC2785FTA POWER SUPPLY
Q618 RVTDTA143XST REGULATOR
Q611 2SA952LTA POWER SUPPLY
Q612 RVTDTC114XST POWER SUPPLY CONT.
Q617 RVTDTC144EST AC IN DET.
Q608 2SB1566E REGULATOR
Q609 2SC2785FTA STABILIZER
SW601-1
SW601-2
SW601-3
PW605
CN702
TO B TUNER CIRCUIT (CM605) (PAGE 23)
TO A SERVO CIRCUIT (CN702) (PAGE 21)


IC605
AN7077Z-LDC
BOOST AMPLIFIER
IC606
AN7194A-LD
POWER AMPLIFIER
IC604
BH3854AFS-E2
SOUND PROCESSOR
IC603
S81250PG-T
REGULATOR
Q624 2SC2001LTA MUTING
Q622 RVTDTC143XST LED SWITCH
Q625 RVTDTC144TST MUTING
Q604 2SC2785FTA LED SUPPLY
D610 RVTDTA143XST PROTECTOR
Q605 2SC2785FTA SWITCH
Q623 2SC2785FTA POWER SUPPLY
Q616 2SC2785FTA MOTOR DRIVE
JK601 HEADPHONE
I SPEAKER CIRCUIT
G POWER SUPPLY CIRCUIT
H BATTERY CIRCUIT
C TO DECK CIRCUIT (CW303) (PAGE 27)
CP303
PW604
CP604
H901A
H901B
FP901
12V (8,R20/LR20 UM-1 BATTERIES)
6V (4,R6/LR6 UM-3 BATTERIES)

C DECK CIRCUIT



■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)
Note :

< for Servo circuit > (Page 21)
- **S701** : Rest switch

< for Main circuit, Switch circuit and Operation circuit > (Page 25)
- **SW601-1 ~ SW601-3** : Function switch
- **SW602** : Leaf switch
- **SW801** : PRESET EQ switch
- **SW802** : Power Blaster switch
- **SW803** : SKIP/SEARCH (–) switch
- **SW804** : SKIP/SEARCH (+) switch
- **SW806** : CD Stop/Clear switch
- **SW807** : CD Play/Pause switch
- **SW808** : Band switch
- **SW809** : Sleep (TUNER/CD) switch
- **SW810** : Volume (–) switch
- **SW811** : Volume (+) switch

< for Power Supply circuit > (Page 26)
- **S901** : AC/DC switch (JK901)

< for Deck circuit > (Page 27)
- **SW301-1 ~ SW301-6** : REC. switch
- **SW302** : FF/CUE (Deck 2) switch
- **SW303** : PLAY (Deck 2) switch
- **SW304** : FF/REW (Deck 2) switch
- **SW312** : FF/CUE (Deck 1) switch
- **SW313** : PLAY (Deck 1) switch
- **SW314** : FF/REW (Deck 1) switch
- **VR301** : Tape Speed switch

< General >
- **Battery Current**

Vol. min	330 mA (FM)	Vol. max	1.0 A (FM)
	320 mA (AM)		700 mA (AM)
	420 mA (TAPE)		1.50 A (TAPE)
	540 mA (CD)		2.25 A (CD)

(Measurement condition:
Radio : FM 60 dB, 30%mod
AM 74 dB/m, 30%mod
Tape : 315 Hz, 0dB
CD : 1kHz, 0dB)

•Signal line

: +B line
: FM/AM signal line
: Main signal line
: Playback signal line
: Record signal line
: CD signal line
: FM signal line
: AM signal line
: AM OSC signal line
: FM OSC signal line

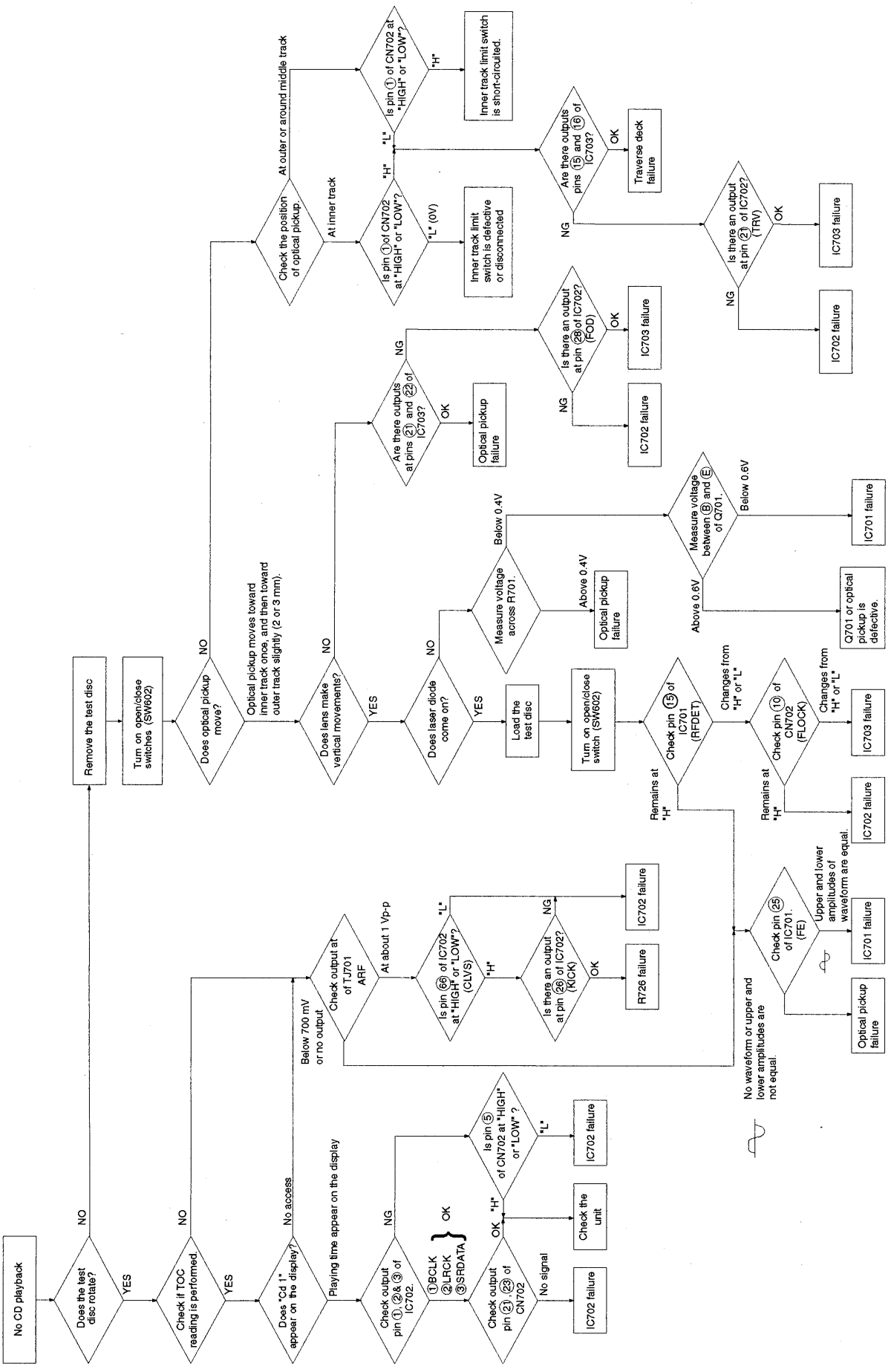
•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark : Playback << >>.....Rec { } : Tuner (( )) : CD ( ) ..... AM < > ..... FM

•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.

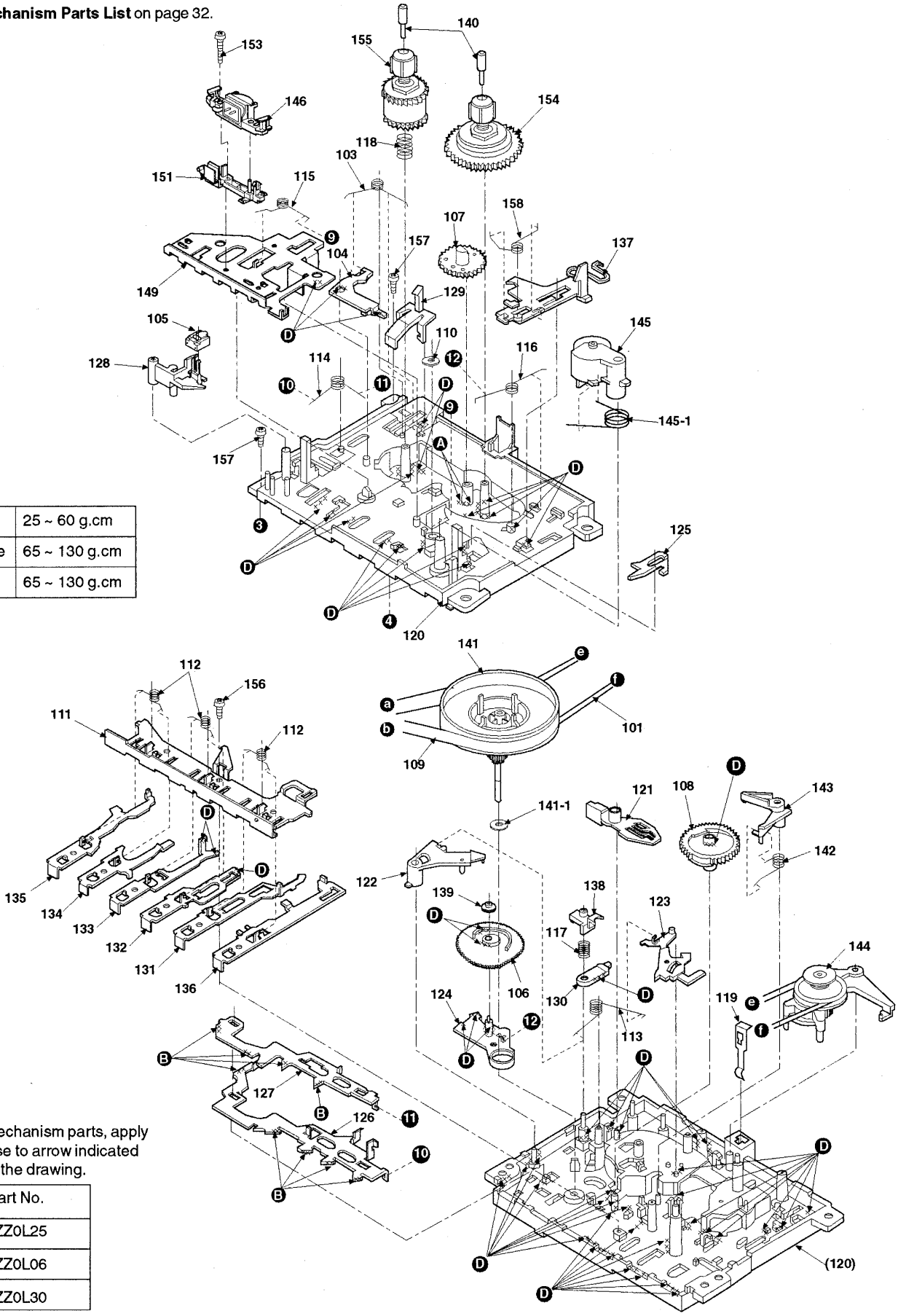
■ Troubleshooting Guide



■ Mechanism Parts Location (RAA0921)

DECK 1 (For recording and playback)

Note : Refer to **Mechanism Parts List** on page 32.



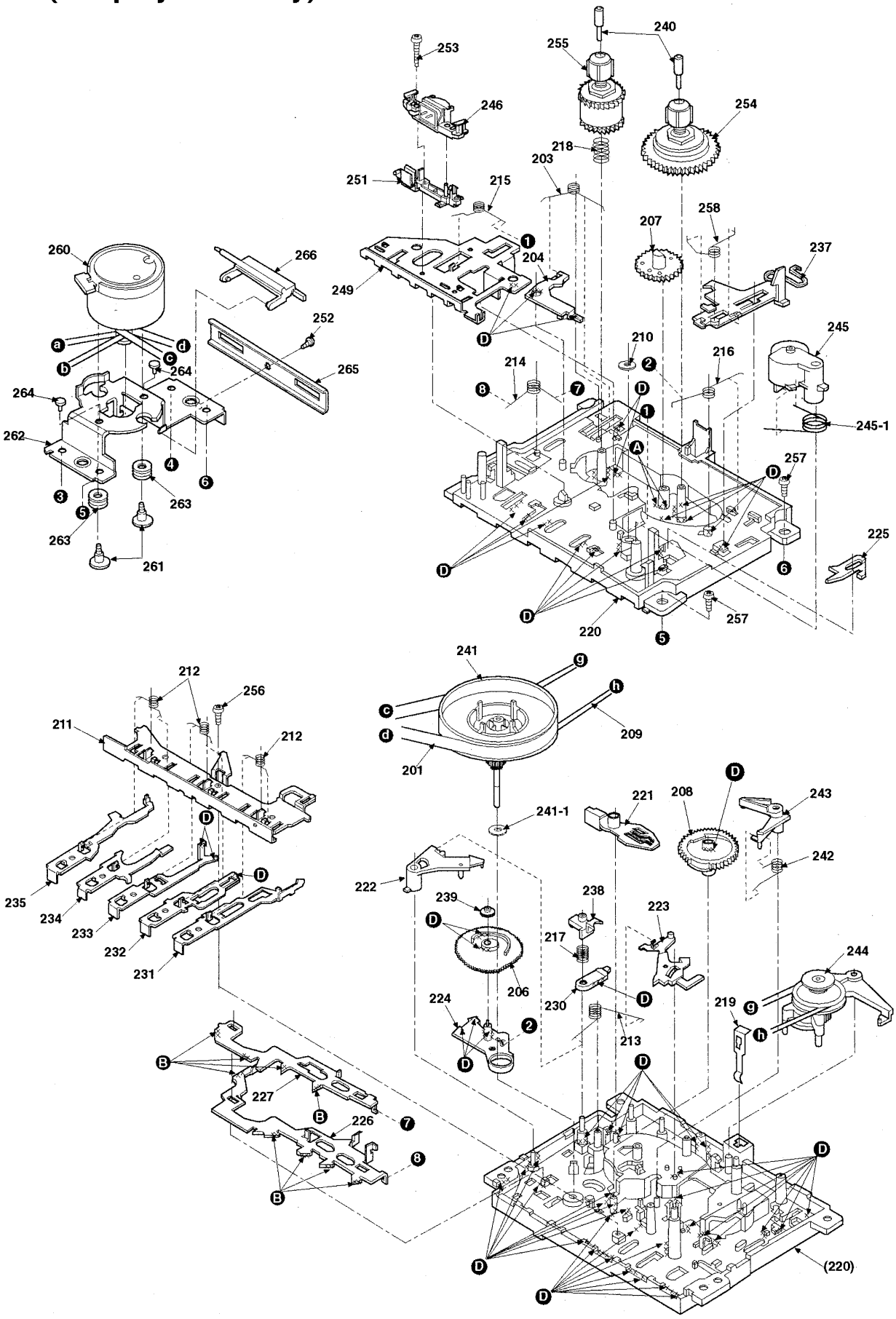
SPECIFICATION

Playback troque	25 ~ 60 g.cm
Fast forward torque	65 ~ 130 g.cm
Rewind torque	65 ~ 130 g.cm

Note:
When changing mechanism parts, apply the specified grease to arrow indicated areas as shown in the drawing.

Ref No.	Part No.
Ⓐ	SZZ0L25
Ⓑ	SZZ0L06
Ⓓ	SZZ0L30

DECK 2 (For playback only)

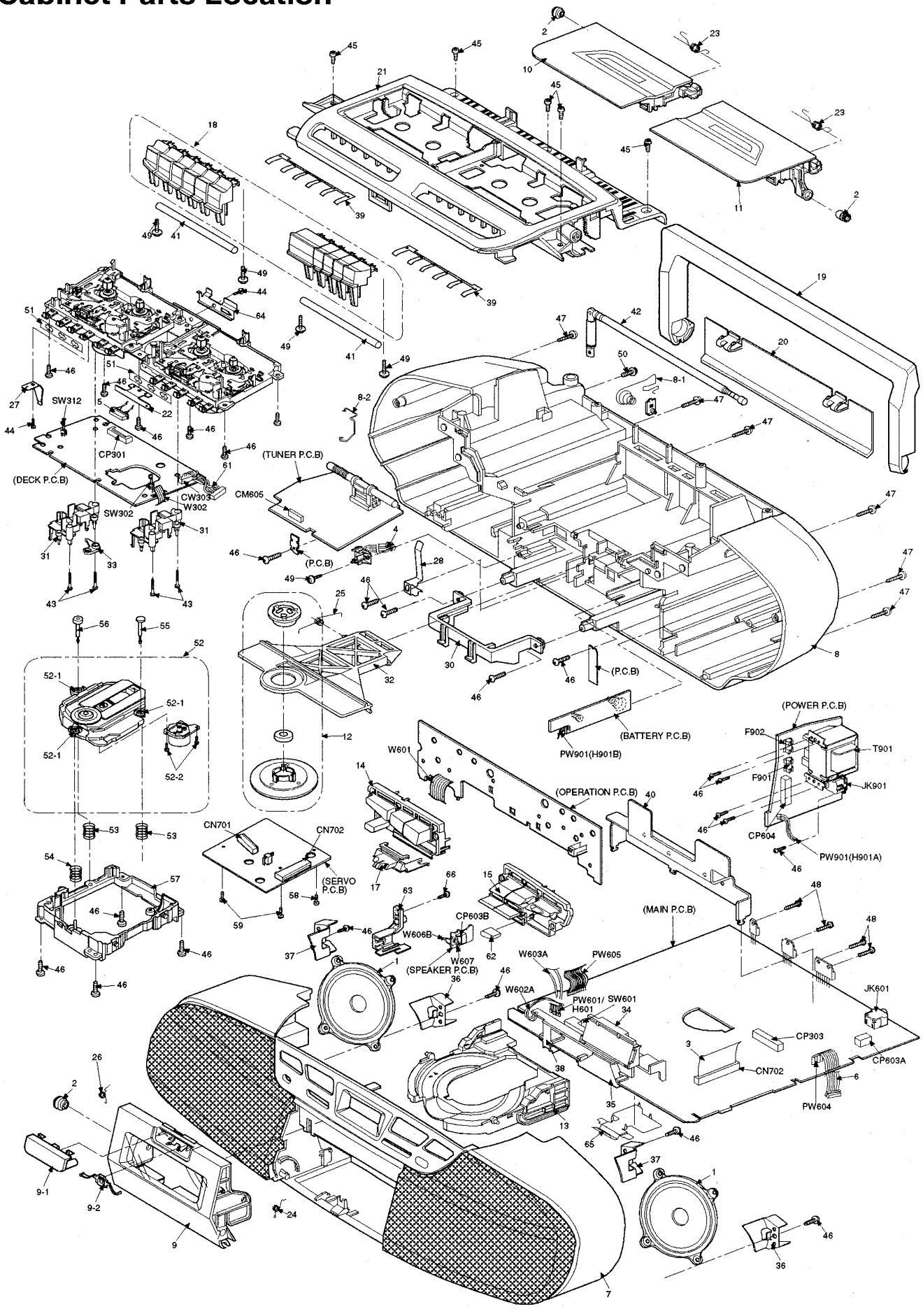


■ Mechanism Parts List

Note : • **[M]** mark in Remarks column indicates parts that are supplied by **MESA**.
• Refer to **Mechanism Parts Location** on pages 30 & 31.

Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK 1	
101	RDV0021	MAIN BELT	[M]
103	RMB0109-1	BRAKE SPRING	[M]
104	RML0116	BRAKE	[M]
105	RBR2CY009	E HEAD	[M]
106	RDG0057	IDLER GEAR	[M]
107	RDG0059	FF RELAY GEAR	[M]
108	RDK0005	CAM GEAR	[M]
109	RDV0006-1	RF BELT	[M]
110	RHW16009	CAPSTAN WASHER	[M]
111	RMA0109	BACK PLATE	[M]
112	RMB0043-1	ROD OPERATION SPRING	[M]
113	RMB0045	AS SPRING	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]
115	RMB0047	HEAD PANEL SPRING	[M]
116	RMB0048	IDLER LEVER SPRING	[M]
117	RMB0053	PAUSE LEVER SPRING	[M]
118	RMB0125	BACK TENSION SPRING	[M]
119	RMC0061	SPRING	[M]
120	RFKRCT090P-K	CHASSIS ASS'Y	[M]
121	RML0071	SWAY LEVER	[M]
122	RML0072	AS RELEASE LEVER	[M]
123	RML0073-1	AS PROTECT LEVER	[M]
124	RML0074	IDLER LEVER	[M]
125	RML0076	EJECT SELECTION LEVER	[M]
126	RML0077	LOCK PLATE	[M]
127	RML0078	FUNCTION PLATE	[M]
128	RML0080	E HEAD ARM	[M]
129	RML0081-1	LEVER	[M]
130	RML0082	PAUSE LEVER	[M]
131	RMM0023	PLAY ROD	[M]
132	RMM0024	REW ROD	[M]
133	RMM0025	FF ROD	[M]
134	RMM0026	STOP ROD	[M]
135	RMM0027	PAUSE ROD	[M]
136	RMM0028	REC ROD	[M]
137	RMM0029	EJECT SLIDE LEVER	[M]
138	RMR0211	PAUSE BUSH	[M]
139	RMR0227	IDLER GEAR BUSH	[M]
140	RMS0055	REEL SHAFT	[M]
141	RXF0012	FLYWHEEL ASS'Y	[M]
141-1	RHW21008	WASHER	[M]
142	RMB0044	TRIGGER SPRING	[M]
143	RML0075	TRIGGER LEVER	[M]
144	RXP0014	RF CLUTCH ASS'Y	[M]
145	RXP0015	PINCH ROLLER ASS'Y	[M]
145-1	RMB0049	PINCH ARM SPRING	[M]
146	RBR4CY016-M	R/P HEAD	[M]
149	RMA0696	HEAD BASE ASS'Y	[M]
151	RMQ0384	HEAD BASE	[M]
153	XTN2+14F	SCREW	[M]
154	RXR0004	TAKE UP REEL ASS'Y	[M]
155	RXR0005	SUPPLY REEL ASS'Y	[M]
156	XTN2+6J	SCREW	[M]
157	XTV26+6F	SCREW	[M]
158	RME0098-2	SPRING	[M]
		CASSETTE DECK 2	
201	RDV0009	MAIN BELT B	[M]
203	RMB0109-1	BRAKE SPRING	[M]
204	RML0116	BRAKE	[M]
206	RDG0057	IDLER GEAR	[M]
207	RDG0059	FF RELAY GEAR	[M]
208	RDK0005	CAM GEAR	[M]
209	RDV0006-1	RF BELT	[M]
210	RHW16009	CAPSTAN WASHER	[M]
211	RMA0109	BACK PLATE	[M]
212	RMB0043-1	ROD OPERATION SPRING	[M]
213	RMB0045	AS SPRING	[M]
214	RMB0046-1	LOCK PLATE SPRING	[M]
215	RMB0047	HEAD PANEL SPRING	[M]
216	RMB0048	IDLER LEVER SPRING	[M]
217	RMB0053	PAUSE LEVER SPRING	[M]
218	RMB0125	BACK TENSION SPRING	[M]
219	RMC0061	SPRING	[M]
220	RFKRCT090P-K	CHASSIS ASS'Y	[M]
221	RML0071	SWAY LEVER	[M]
222	RML0072	AS RELEASE LEVER	[M]
223	RML0073-1	AS PROTECT LEVER	[M]
224	RML0074	IDLER LEVER	[M]
225	RML0076	EJECT SELECTION LEVER	[M]
226	RML0077	LOCK PLATE	[M]
227	RML0078	FUNCTION PLATE	[M]
230	RML0082	PAUSE LEVER	[M]
231	RMM0023	PLAY ROD	[M]
232	RMM0024	REW ROD	[M]
233	RMM0025	FF ROD	[M]
234	RMM0026	STOP ROD	[M]
235	RMM0027	PAUSE ROD	[M]
237	RMM0029	EJECT SLIDE LEVER	[M]
238	RMR0211	PAUSE BUSH	[M]
239	RMR0227	IDLER GEAR BUSH	[M]
240	RMS0055	REEL SHAFT	[M]
241	RXF0012	FLYWHEEL ASS'Y	[M]
241-1	RHW21008	WASHER	[M]
242	RMB0044	TRIGGER SPRING	[M]
243	RML0075	TRIGGER LEVER	[M]
244	RXP0014	RF CLUTCH ASSY	[M]
245	RXP0015	PINCH ROLLER ASSY	[M]
245-1	RMB0049	PINCH ARM SPRING	[M]
246	RBR4CY016-M	R/P HEAD	[M]
249	RMA0696	HEAD BASE ASS'Y	[M]
251	RMQ0383	HEAD BASE	[M]
252	XTN26+3F	EARTH LUG SCREW	[M]
253	XTN2+14F	SCREW	[M]
254	RXR0004	TAKE UP REEL ASS'Y	[M]
255	RXR0005	SUPPLY REEL ASS'Y	[M]
256	XTN2+6J	SCREW	[M]
257	XTV26+6F	SCREW	[M]
258	RME0098-2	SPRING	[M]
260	RFKPXDT610PK	DC MOTOR ASS'Y	[M]
261	RHD26002	SCREW	[M]
262	RMA0122	ANGLE	[M]
263	RMG0102	RUBBER SPACE	[M]
264	RMG0131	RUBBER SPACE	[M]
265	RMA0121	ANGLE	[M]
266	RML0085	LEVER	[M]

■ Cabinet Parts Location



■ Replacement Parts List

Notes:
- Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks column specify the areas. (refer to the cover page for area.)
  Parts without these indications can be used for all areas.
- [M] indicates in Remarks column parts that are supplied by **MESA**.
- [VRD] indicates in Remarks column parts that are supplied by **Video Recorder Division**.
- The "(SF)" mark denotes the standard part.
- Remote Control Unit :
  Supply period for three years from terminal of production.
- **Warning :** This product uses a laser diode. Refer to caution statements on page 2.
  ACHTUNG : • Die lasereinheit nicht zerlegen.
  • Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	EAST10P01A6	SPEAKER	[M]
2	RDG0183-L	DAMPER GEAR	[M]
3	REE0763	CD FFC	[M]
4	REX0860	SP WIRE	[M]
5	REX0859	HEAD WIRE	[M]
6	REX0858	WIRE(7P) TO PWR PCB	[M]
7	RFKGXDS27EBK	FRONT CABINET ASS'Y	[M]
8	RFKHXDT37EBK	BACK CABINET ASS'Y	[M](EB)
8	RFKHXDT37EGK	BACK CABINET ASS'Y	[M](EG)
8	RFKHXDT37EK	BACK CABINET ASS'Y	[M](E)
8-1	RJC91008	+/–BATT. TERMINAL	[M]
8-2	RJR0172	ANTENNA TERMINAL	[M]
9	RFKLXDT37EBK	CD LID ASS'Y	[M]
9-1	RGU1464-K	CD EJECT BUTTON	[M]
9-2	RML0456	CD LOCK LEVER	[M]
10	RFKLXDT37-KB	CASS LID ASS'Y (L)	[M]
11	RFKLXDT37-KC	CASS LID ASS'Y (R)	[M]
12	RFKNRXDS15PA	DISC HOLDER ASS'Y	[M]
13	RGQ0195-K	CD TRAY	[M]
14	RGU1504-H	OPERATION BUTTON(L)	[M]
15	RGU1505-H	OPERATION BUTTON(R)	[M]
17	RGV0186-S	FUNCTION BUTTON	[M]
18	RGZ0035-K	MECHA BUTTON	[M]
19	RKH0038-K	HANDLE	[M]
20	RKK347ZB-K	BATTERY COVER	[M]
21	RKQ0210A-K1	TOP CABINET	[M]
22	RMAX0026	MECHA BRACKET	[M]
23	RMB0490	CASS. OPEN SPRING	[M]
24	RMB0491	CD OPEN SPRING (R)	[M]
25	RMB0492	CD CLAMPER SPRING	[M]
26	RMB0498	CD OPEN SPRING (L)	[M]
27	RMC0312	R/P PLATE	[M]
28	RMC0325	CD TRAY OPEN SPRING	[M]
30	RMK0337	CD SUPPORT	[M]
31	RMK0338	PCB CHASSIS	[M]
32	RML0455	CD CLAMPER HOLDER	[M]
33	RML0462	R/P LEVER	[M]
34	RMN0393	LCD HOLDER	[M]
35	RMN0394	LED HOLDER	[M]
36	RMN0397	SP. SUPPORT PLATE(1)	[M]
37	RMN0398	SP. SUPPORT PLATE(2)	[M]
38	RMN0400	LEAF SW. COVER	[M]
39	RMQ0649	MECHA BTN SUPPORT	[M]
40	RMY0185	HEAT SINK	[M]
41	SUX102	MECHA ROD	[M]
42	XEARR175EA-H	ROD ANTENNA	[M]
43	XTN2+14GF	SCREW	[M]
44	XTN2+3F	SCREW	[M]
45	XTN3+10CFZ	TOP CAB. SCREW	[M]
46	XTV3+12G	SCREW	[M]
47	XTV3+20G	REAR CAB. SCREW	[M]
48	XTV3+8F	POWER AMP IC SCREW	[M]
49	XTWS3+8T	SCREW	[M]
50	XYN3+F12FY	ROD ANTENNA SCREW	[M]
51	RMXX0004	MECHA SPACER	[M]
52	RAE0150Z	TRAVERSE UNIT	[M]
52-1	SHGD113-1	FLOATING RUBBER	[M]
52-2	XQS17+A35FZ	SCREW	[M]
53	RME0109	FLOATING SPRING A	[M]
54	RME0142	FLOATING SPRING B	[M]
55	RMS0123-1	FIXED PIN A	[M]
56	RMS0350	FIXED PIN B	[M]
57	RMR0698-K	TRAVERSE CHASSIS	[M]
58	XTN2+6G	SCREW	[M]
59	XTV2+6G	SCREW	[M]
61	REX0861	DECK TO MAIN WIRE	[M]
62	RKW0499-Q	MEGA LED WINDOW	[M]
63	RMR1061-X	CONNECTOR HOLDER	[M]
64	RMV0132	SAFETY COVER	[M]
65	RSC0470	MICON SHIELD	[M]
66	XTW3+12Q	SP. MOUNTING SCREW	[M]
		INTEGRATED CIRCUITS	
IC1	TA7358FMATEL	IC, FM RF	[M]
IC2	BU2616F-E2	IC, PLL	[M]
IC3	LA1832MLSTEL	IC, IF/MULTI	[M]
IC301	AN7317	IC,PLAYBACK/REC. AMP	[M]
IC601	SC440422CFU	IC, MICRO COM.	[M]
IC602	S-806H-Z	IC, RESET	[M]
IC603	S81250PG-T	IC, 5V REGULATOR	[M]⚠
IC604	BH3854AFS-E2	IC, SOUND PROCESSOR	[M]
IC605	AN7077Z-LDC	IC, BOOST	[M]
IC606	AN7194K-LD	IC, BTL POWER	[M]
		TRANSISTORS	
Q1	2SC2785FTA	TRANSISTOR	[M]
Q2	2SC2785FTA	TRANSISTOR	[M]
Q3	2SC2786LTA	TRANSISTOR	[M]
Q4	2SC3313BTA	TRANSISTOR	[M]
Q5	RVTDTA143XST	TRANSISTOR	[M]
Q12	2SC2785FTA	TRANSISTOR	[M]
Q101	2SC2785FTA	TRANSISTOR	[M]
Q201	2SC2785FTA	TRANSISTOR	[M]
Q301	2SC1740SRTA	TRANSISTOR	[M]
Q303	2SC1684STA	TRANSISTOR	[M]
Q304	RVTDTC143XST	TRANSISTOR	[M]
Q305	2SA1309ARTA	TRANSISTOR	[M]
Q601	2SC2785FTA	TRANSISTOR	[M]
Q602	2SC2785FTA	TRANSISTOR	[M]
Q603	RVTDTA143XST	TRANSISTOR	[M]
Q604	2SC2785FTA	TRANSISTOR	[M]
Q605	2SC2785FTA	TRANSISTOR	[M]
Q606	2SA952LTA	TRANSISTOR	[M]
Q607	2SC2785FTA	TRANSISTOR	[M]
Q608	2SB1566E	TRANSISTOR	[M]⚠
Q609	2SC2785FTA	TRANSISTOR	[M]⚠
Q610	RVTDTA143XST	TRANSISTOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
Q611	RVTDTA114YST	TRANSISTOR	[M]
Q612	RVTDTC114YST	TRANSISTOR	[M]
Q613	RVTDTA143XST	TRANSISTOR	[M]
Q614	RVTDTC114TST	TRANSISTOR	[M]
Q615	2SC2785FTA	TRANSISTOR	[M]
Q616	2SC2785FTA	TRANSISTOR	[M]
Q617	RVTDTC144EST	TRANSISTOR	[M]
Q618	RVTDTA143XST	TRANSISTOR	[M]⚠
Q619	RVTDTA143XST	TRANSISTOR	[M]
Q621	2SC2785FTA	TRANSISTOR	[M]
Q622	RVTDTC143XST	TRANSISTOR	[M]
Q623	2SC2785FTA	TRANSISTOR	[M]
Q624	2SC2001LTA	TRANSISTOR	[M]
Q625	RVTDTC144TST	TRANSISTOR	[M]
		DIODES	
D1	KV1360NT	DIODE	[M]
D3	KV1583BMTL	DIODE	[M]
D4	KV1360NT	DIODE	[M]
D8	1SS254TA	DIODE	[M]
D11	RVD1SS135TA	DIODE	[M]
D301	1SS254TA	DIODE	[M]
D302	1SS254TA	DIODE	[M]
D303	1SS254TA	DIODE	[M]
D304	1SS254TA	DIODE	[M]
D601	1SS254TA	DIODE	[M]
D602	1SS254TA	DIODE	[M]
D603	1SS254TA	DIODE	[M]
D604	1SS254TA	DIODE	[M]
D605	1SS254TA	DIODE	[M]
D606	1SS254TA	DIODE	[M]
D607	1SS254TA	DIODE	[M]
D608	1SS254TA	DIODE	[M]
D609	1SS254TA	DIODE	[M]
D610	MTZJ5R6CTA	DIODE	[M]⚠
D611	1SS254TA	DIODE	[M]
D612	1N5402BM21	DIODE	[M]
D613	1SS254TA	DIODE	[M]
D614	1SS254TA	DIODE	[M]
D615	1SS254TA	DIODE	[M]
D616	MA700TA	DIODE	[M]
D618	1SS254TA	DIODE	[M]
D619	MTZJ6R8BTA	DIODE	[M]
D620	MTZJ7R5CTA	DIODE	[M]⚠
D621	1SS254TA	DIODE	[M]
D622	SLA362MTTJ7	DIODE	[M]
D623	SLA362MTTJ7	DIODE	[M]

Ref No.	Part No.	Part Name & Description	Remarks
D624	1SS254TA	DIODE	[M]
D625	1SS254TA	DIODE	[M]
D626	1SS254TA	DIODE	[M]
D627	1SS254TA	DIODE	[M]
D629	MTZJ15BTA	DIODE	[M]⚠
D631	MA700TA	DIODE	[M]
D802	SLR342DC	DIODE	[M]
D803	SPR54MVWF	DIODE	[M]
D804	SLR342DC	DIODE	[M]
D901	1N5402BM21	DIODE	[M]⚠
D902	1N5402BM21	DIODE	[M]⚠
D903	1N5402BM21	DIODE	[M]⚠
D904	1N5402BM21	DIODE	[M]⚠
		VARIABLE RESISTORS	
VR301	EVNDCAA03B24	VR, TAPE SPEED	[M]
		TRIMMER	
CT1	RCV10AF1T-S	TRIMMER CAPACITOR	[M]
		SWITCHES	
S901	RJJ1SE01-H	SW, AC IN (JK901)	[M]⚠
SW301	RSP2F001-A	REC. SWITCH	[M]
SW302	RSH1A013-2I	SW, FF/CUE (DECK 2)	[M]
SW303	RSH1A004-1	SW, PLAY (DECK 2)	[M]
SW304	RSH1A004-1	SW, FF/REW (DECK 2)	[M]
SW312	RSH1A013-2I	SW, FF/CUE (DECK 1)	[M]
SW313	RSH1A004-1	SW, PLAY (DECK 1)	[M]
SW314	RSH1A004-1	SW, FF/REW (DECK 1)	[M]
SW601	RSS3D002-B	FUNCTION SWITCH	[M]
SW602	RSH1A037-U	LEAF SW	[M]
SW801	EVQ21405R	SW, PRESET EQ	[M]
SW802	EVQ21405R	SW, POWER BLASTER	[M]
SW803	EVQ21405R	SW, SKIP/SEARCH (–)	[M]
SW804	EVQ21405R	SW, SKIP/SEARCH (+)	[M]
SW806	EVQ21405R	SW, CD STOP/CLEAR	[M]
SW807	EVQ21405R	SW, CD PLAY/PAUSE	[M]
SW808	EVQ21405R	SW, BAND	[M]
SW809	EVQ21405R	SW, SLEEP(TUNER/CD)	[M]
SW810	EVQ21405R	SW, VOLUME –	[M]
SW811	EVQ21405R	SW, VOLUME +	[M]
		CONNECTORS	
CM605	RJS1A5210	10 PINS WIRE HOLDER	[M]

Ref No.	Part No.	Part Name & Description	Remarks
CN702	RJS1A6823-J	23P FPC CONNECTOR	[M]
CP301	RJP12G17ZA	HEAD CONNECTOR	[M]
CP303	RJP12G18ZA	CTRL TO MAIN CONN.	[M]
CP603A	RJP4G4YA	LEAF SW 4P POST	[M]
CP603B	RJT060B04	4P CONNECTOR (SP)	[M]
CP604	RJP7G4YA	7P PLUG IN CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1	RL02B012-T	COIL	[M]
L3	RLV2C032-0	F. ANT	[M]
L5	RLQZP8R2JT-Y	COIL	[M]
L8	ELEXT101KA9	AXIAL COIL	[M]
L401	RLL500050T-Y	RF CHOKE COIL	[M]
L501	RLL500050T-Y	RF CHOKE COIL	[M]
L601	RLQZP2R2KT-Y	AXIAL COIL	[M]
L608	RLQZP2R2KT-Y	AXIAL COIL	[M]
L609	RLQZP2R2KT-Y	AXIAL COIL	[M]
L610	RLQZP2R2KT-Y	AXIAL COIL	[M]
L611	RLQZP2R2KT-Y	AXIAL COIL	[M]
L612	RLQZP2R2KT-Y	AXIAL COIL	[M]
L613	RLQZP2R2KT-Y	AXIAL COIL	[M]
L614	RLQZP2R2KT-Y	AXIAL COIL	[M]
L616	RLQZP2R2KT-Y	AXIAL COIL	[M]
L617	RLQZP2R2KT-Y	AXIAL COIL	[M]
L618	RLL500050T-Y	RF CHOKE COIL	[M]
L619	RLQZP2R2KT-Y	AXIAL COIL	[M]
L620	RLQZP2R2KT-Y	AXIAL COIL	[M]
L621	RLQZP2R2KT-Y	AXIAL COIL	[M]
L622	RLQZP2R2KT-Y	AXIAL COIL	[M]
L901	RLL500050T-Y	RF CHOKE COIL	[M]
L902	RLL500050T-Y	RF CHOKE COIL	[M]
L903	RLL500050T-Y	RF CHOKE COIL	[M]
T1	RLI2Z019-T	IFT (459KHZ)	[M]
T301	RL09B17-T	COIL	[M]
T901	RTP1L1B009-X	TRANSFORMER	[M]⚠
		COMPONENT COMBINATION	
Z1	RXABPWB6AT	BAND PASS FILT	[M]
Z601	RSL5162-L	LCD	[M]
Z801	RCD12042TE	REM. CONTROL SENSOR	[M]
		CERAMIC FILTERS	
CF1	RLFFETMLA02D	CERAMIC FILTER	[M]
CF2	RLFFETMLA02D	CERAMIC FILTER	[M]
CF3	RLFDFT14AD	FM RESONATOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		OSCILLATORS	
X1	RSXZ456KM01	19KHZ OSC	[M]
X2	RSXC7M20S04T	XTAL 7.2MHZ	[M]
X601	EF0EN4194T4	CERALOCK	[M]
X602	RSXD32K7S02	32.768HKZ X'TAL	[M]
		FUSES	
F901	XBA2C50TB0	FUSE	[M]⚠
F902	XBA2C31TB0	FUSE	[M]⚠
		FUSE HOLDERS	
FH901	RJR0169T	FUSE HOLDER	[M]
FH902	RJR0169T	FUSE HOLDER	[M]
FH903	RJR0169T	FUSE HOLDER	[M]
FH904	RJR0169T	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP901	RSFMB50KT-L	FUSE PROTECTOR	[M]
		JACKS	
JK601	RJJ39T01	JK, HP	[M]
JK901	RJJ1SE01-H	JK, AC IN	[M]⚠
		PACKING MATERIALS	
P1	RPG3137	GIFT BOX	[M](EG)
P1	RPG3318	GIFT BOX	[M](E)
P1	RPG3336	GIFT BOX	[M](EB)
P2	RPH0131	MIRAMAT SHEET	[M]
P3	RPN1032	POLYFOAM	[M]
P4	RPN1057	POLYFOAM (CENTRE)	[M]
		ACCESSORIES	
A1	RAK-RX928WK	REMOTE CONTROL	[M]
A1-1	HTR0212-72PW	R/C BATTERY COVER	[M]
A2	RFKSXDT37EGK	INSTRUCTION MANUAL	[M](EG)
A2	RFKSXDT37EK	INSTRUCTION MANUAL	[M](E)
A2	RQT3619-B	INSTRUCTION MANUAL	[M](EB)
A3	RJA0019-2K	AC CORD (SF)⚠	[M](E,EG)
A3	VJA0733	AC CORD (SF)⚠	[VRD](EB)

Ref No.	Part No.	Part Name & Description	Remarks
		< SERVO P.C.B. >	
		INTEGRATED CIRCUITS	
IC701	AN8835SBE1	IC, SERVO AMP.	[M]
IC702	MN662741RPA	IC, DIGITAL LSI	[M]
IC703	AN8389SE1	IC, COIL/MOTOR DRIVE	[M]
		TRANSISTOR	
Q701	2SB709S	TRANSISTOR	[M]
		SWITCH	
S701	RSM0006-P	SW, RESET	[M]
		CONNECTORS	
CN701	RJU035T016-1	16P FFC CONNECTOR	[M]
CN702	RJS1A6723-1Q	23P FFC CONNECTOR	[M]
		OSCILLATOR	
X701	RSXZ16M9M01T	CERAMIC OSC	[M]

Ref No.	Part No.	Part Name & Description	Remarks

■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• The parenthesized indications in the Remarks column specify the areas. (refer to the cover page for area.)
Parts without these indications can be used for all areas.
• [M] indicates in Remarks column parts that are supplied by **MESA**.
• Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R1	ERDS2TJ104T	100K 1/4W[M]
R2	ERDS2TJ332T	3.3K 1/4W[M]
R3	ERDS2TJ104T	100K 1/4W[M]
R4	ERDS2TJ103T	10K 1/4W[M]
R5	ERDS2TJ103T	10K 1/4W[M]
R6	ERDS2TJ152T	1.5K 1/4W[M]
R7	ERDS2TJ330T	33 1/4W[M]
R8	ERDS2TJ104T	100K 1/4W[M]
R9	ERDS2TJ471T	470 1/4W[M]
R10	ERDS2TJ102T	1K 1/4W[M]
R11	ERDS2TJ103T	10K 1/4W[M]
R12	ERDS2TJ223T	22K 1/4W[M]
R13	ERDS2TJ153T	15K 1/4W[M]
R14	ERDS2TJ103T	10K 1/4W[M]
R15	ERDS2TJ223T	22K 1/4W[M]
R16	ERDS2TJ105T	1M 1/4W[M]
R17	ERDS2TJ103T	10K 1/4W[M]
R18	ERDS2TJ223T	22K 1/4W[M]
R19	ERDS2TJ101T	100 1/4W[M]
R20	ERDS2TJ151T	150 1/4W[M]
R21	ERDS2TJ104T	100K 1/4W[M]
R22	ERDS2TJ331T	330 1/4W[M]
R24	ERDS2TJ471T	470 1/4W[M]
R25	ERDS2TJ104T	100K 1/4W[M]
R26	ERDS2TJ102T	1K 1/4W[M]
R27	ERDS2TJ102T	1K 1/4W[M]
R28	ERDS2TJ334T	330K 1/4W[M]
R29	ERDS2TJ331T	330 1/4W[M]
R30	ERDS2TJ822T	8.2K 1/4W[M]
R31	ERDS2TJ472T	4.7K 1/4W[M]
R41	ERDS2TJ301T	300 1/4W[M]
R47	ERDS2TJ332T	3.3K 1/4W[M]
R49	ERDS2TJ103T	10K 1/4W[M]
R52	ERDS2TJ223T	22K 1/4W[M]
R59	ERDS2TJ471T	470 1/4W[M]
R61	ERDS2TJ103T	10K 1/4W[M]
R62	ERDS2TJ471T	470 1/4W[M]
R64	ERDS2TJ332T	3.3K 1/4W[M]
R65	ERDS2TJ470T	47 1/4W[M]
R66	ERDS2TJ332T	3.3K 1/4W[M]
R101	ERDS2TJ183T	18K 1/4W[M]
R102	ERDS2TJ330T	33 1/4W[M]
R103	ERDS2TJ472T	4.7K 1/4W[M]
R105	ERDS2TJ682T	6.8K 1/4W[M]
R106	ERDS2TJ103T	10K 1/4W[M]
R107	ERDS2TJ272T	2.7K 1/4W[M]
R201	ERDS2TJ183T	18K 1/4W[M]
R202	ERDS2TJ330T	33 1/4W[M]
R203	ERDS2TJ472T	4.7K 1/4W[M]
R205	ERDS2TJ682T	6.8K 1/4W[M]
R206	ERDS2TJ103T	10K 1/4W[M]
R207	ERDS2TJ272T	2.7K 1/4W[M]
R301	ERDS2TJ272T	2.7K 1/4W[M]
R303	ERDS2TJ221T	220 1/4W[M]
R304	ERDS2TJ100T	10 1/4W[M]
R305	ERDS2TJ563T	56K 1/4W[M]
R306	ERDS2TJ681T	680 1/4W[M]
R307	ERDS2TJ222T	2.2K 1/4W[M]
R308	ERDS2TJ475T	4.7M 1/4W[M]
R309	ERDS2TJ101T	100 1/4W[M]
R310	ERDS2TJ153T	15K 1/4W[M]
R311	ERDS2TJ473T	47K 1/4W[M]
R312	ERDS2TJ153T	15K 1/4W[M]
R316	ERDS2TJ123T	12K 1/4W[M]
R317	ERDS2TJ123T	12K 1/4W[M]
R318	ERDS2TJ473T	47K 1/4W[M]
R401	ERDS2TJ152T	1.5K 1/4W[M]
R402	ERDS2TJ392T	3.9K 1/4W[M]
R403	ERDS2TJ682T	6.8K 1/4W[M]
R404	ERDS2TJ152T	1.5K 1/4W[M]
R405	ERDS2TJ472T	4.7K 1/4W[M]
R406	ERDS2TJ822T	8.2K 1/4W[M]
R407	ERDS2TJ682T	6.8K 1/4W[M]
R408	ERDS2TJ822T	8.2K 1/4W[M]
R411	ERDS2TJ2R2T	2.2 1/4W[M]
R414	ERDS2TJ2R2T	2.2 1/4W[M]
R416	ERDS2TJ181T	180 1/4W[M]
R417	ERDS2TJ223T	22K 1/4W[M]
R418	ERDS2TJ103T	10K 1/4W[M]
R501	ERDS2TJ152T	1.5K 1/4W[M]
R502	ERDS2TJ392T	3.9K 1/4W[M]
R503	ERDS2TJ682T	6.8K 1/4W[M]
R504	ERDS2TJ152T	1.5K 1/4W[M]
R505	ERDS2TJ472T	4.7K 1/4W[M]
R506	ERDS2TJ822T	8.2K 1/4W[M]
R507	ERDS2TJ682T	6.8K 1/4W[M]
R508	ERDS2TJ822T	8.2K 1/4W[M]
R511	ERDS2TJ2R2T	2.2 1/4W[M]
R514	ERDS2TJ2R2T	2.2 1/4W[M]
R516	ERDS2TJ181T	180 1/4W[M]
R517	ERDS2TJ223T	22K 1/4W[M]
R518	ERDS2TJ103T	10K 1/4W[M]
R601	ERDS2TJ224T	220K 1/4W[M]
R602	ERDS2TJ224T	220K 1/4W[M]
R603	ERDS2TJ224T	220K 1/4W[M]
R604	ERDS2TJ223T	22K 1/4W[M]
R605	ERDS2TJ823T	82K 1/4W[M]
R606	ERDS2TJ823T	82K 1/4W[M]
R607	ERDS2TJ104T	100K 1/4W[M]
R608	ERDS2TJ334T	330K 1/4W[M]
R609	ERDS2TJ106T	10M 1/4W[M]
R610	ERDS2TJ104T	100K 1/4W[M]
R611	ERDS2TJ472T	4.7K 1/4W[M]
R612	ERDS2TJ472T	4.7K 1/4W[M]
R613	ERDS2TJ224T	220K 1/4W[M]
R614	ERDS2TJ104T	100K 1/4W[M]
R615	ERDS2TJ104T	100K 1/4W[M]
R616	ERDS2TJ104T	100K 1/4W[M]
R617	ERDS2TJ224T	220K 1/4W[M]
R618	ERDS1FVJ2R7T	2.7 ⚠ 1/2W[M]
R619	ERDS2TJ153T	15K 1/4W[M]
R620	ERDS2TJ153T	15K 1/4W[M]
R621	ERDS2TJ153T	15K 1/4W[M]
R622	ERDS2TJ681T	680 1/4W[M]
R623	ERDS2TJ152T	1.5K 1/4W[M]
R624	ERDS2TJ392T	3.9K 1/4W[M]
R625	ERDS2TJ392T	3.9K 1/4W[M]
R626	ERDS2TJ103T	10K 1/4W[M]
R627	ERDS2TJ563T	56K 1/4W[M]
R628	ERDS2TJ223T	22K 1/4W[M]
R629	ERDS2TJ103T	10K 1/4W[M]
R630	ERDS2TJ474T	470K 1/4W[M]
R631	ERDS2TJ564T	560K 1/4W[M]
R632	ERDS2TJ471T	470 1/4W[M]
R633	ERDS2TJ101T	100 1/4W[M]
R634	ERDS2TJ1R0T	1 1/4W[M]
R635	ERDS2TJ182T	1.8K 1/4W[M]
R636	ERDS2TJ392T	3.9K 1/4W[M]
R637	ERDS2TJ224T	220K 1/4W[M]
R638	ERDS2TJ102T	1K 1/4W[M]
R639	ERDS2TJ154T	150K 1/4W[M]
R640	ERDS2TJ224T	220K 1/4W[M]
R641	ERDS2TJ153T	15K 1/4W[M]
R642	ERDS2TJ153T	15K 1/4W[M]
R643	ERDS2TJ103T	10K 1/4W[M]
R644	ERDS2TJ151T	150 1/4W[M]
R645	ERDS2TJ122T	1.2K 1/4W[M]
R646	ERDS2TJ331T	330 1/4W[M]
R647	ERDS2TJ103T	10K 1/4W[M]
R648	ERDS2TJ1R2T	1.2 1/4W[M]
R649	ERDS2TJ1R2T	1.2 1/4W[M]
R650	ERDS2TJ471T	470 1/4W[M]
R651	ERDS2TJ122T	1.2K 1/4W[M]
R652	ERDS2TJ471T	470 1/4W[M]
R653	ERDS2TJ271T	270 1/4W[M]
R654	ERDS2TJ103T	10K 1/4W[M]
R655	ERDS2TJ103T	10K 1/4W[M]
R656	ERDS2TJ103T	10K 1/4W[M]
R657	ERDS2TJ223T	22K 1/4W[M]
R658	ERDS2TJ153T	15K 1/4W[M]
R659	ERDS2TJ103T	10K 1/4W[M]
R660	ERDS2TJ102T	1K 1/4W[M]
R661	ERDS2TJ124T	120K 1/4W[M]
R662	ERDS2TJ123T	12K 1/4W[M]
R663	ERDS2TJ103T	10K 1/4W[M]
R664	ERDS2TJ103T	10K 1/4W[M]
R665	ERDS2TJ1R2T	1.2 1/4W[M]
R666	ERDS2TJ473T	47K 1/4W[M]

Ref No.	Part No.	Values & Remarks
R667	ERDS2TJ563T	56K 1/4W[M]
R668	ERDS2TJ472T	4.7K 1/4W[M]
R669	ERDS2TJ271T	270 1/4W[M]
R670	ERDS2TJ472T	4.7K 1/4W[M]
R671	ERDS2TJ101T	100 1/4W[M]
R672	ERDS2TJ105T	1M 1/4W[M]
R673	ERDS2TJ224T	220K 1/4W[M]
R674	ERDS2TJ224T	220K 1/4W[M]
R675	ERDS2TJ393T	39K 1/4W[M]
R676	ERDS2TJ224T	220K 1/4W[M]
R677	ERDS2TJ332T	3.3K 1/4W[M]
R678	ERDS2TJ563T	56K 1/4W[M]
R679	ERDS2TJ823T	82K 1/4W[M]
R681	ERDS2TJ101T	100 1/4W[M]
R682	ERDS2TJ823T	82K 1/4W[M]
R683	ERDS2TJ104T	100K 1/4W[M]
R684	ERDS2TJ151T	150 1/4W[M]
R686	ERDS2TJ152T	1.5K 1/4W[M]
R687	ERDS2TJ272T	2.7K 1/4W[M]
R688	ERDS2TJ221T	220 1/4W[M]
R690	ERDS2TJ270T	27 1/4W[M]
R691	ERDS2TJ103T	10K 1/4W[M]
R692	ERDS2TJ103T	10K 1/4W[M]
R693	ERDS2TJ153T	15K 1/4W[M]
R694	ERDS2TJ101T	100 1/4W[M]
R695	ERDS2TJ472T	4.7K 1/4W[M]
R696	ERDS2TJ124T	120K 1/4W[M]
R697	ERDS2TJ102T	1K 1/4W[M]
R698	ERDS2TJ332T	3.3K 1/4W[M]
R699	ERDS2TJ224T	220K 1/4W[M]
R801	ERDS2TJ153T	15K 1/4W[M]
R802	ERDS2TJ103T	10K 1/4W[M]
R803	ERDS2TJ153T	15K 1/4W[M]
R804	ERDS2TJ333T	33K 1/4W[M]
R806	ERDS2TJ152T	1.5K 1/4W[M]
R807	ERDS2TJ222T	2.2K 1/4W[M]
R808	ERDS2TJ682T	6.8K 1/4W[M]
R809	ERDS2TJ562T	5.6K 1/4W[M]
R810	ERDS2TJ822T	8.2K 1/4W[M]
R811	ERDS2TJ153T	15K 1/4W[M]
R812	ERDS2TJ102T	1K 1/4W[M]
R813	ERDS2TJ181T	180 1/4W[M]
R814	ERDS2TJ151T	150 1/4W[M]
R815	ERDS2TJ151T	150 1/4W[M]
R816	ERDS2TJ473T	47K 1/4W[M]
R817	ERDS2TJ473T	47K 1/4W[M]
R818	ERDS2TJ270T	27 1/4W[M]
R819	ERDS2TJ472T	4.7K 1/4W[M]

Ref No.	Part No.	Values & Remarks
R820	ERDS2TJ152T	1.5K 1/4W[M]
R821	ERDS2TJ473T	47K 1/4W[M]
R901	ERDS2TJ271T	270 1/4W[M]
R902	ERDS2TJ683T	68K 1/4W[M]
R903	ERDS2TJ272T	2.7K 1/4W[M]
	CAPACITORS	
C3	ECFR1C473MR	0.047 16V [M]
C4	RCBS1H102KBY	1000P 50V [M]
C5	ECBT1H2R2KC5	2.2P 50V [M]
C6	RCBS1H102KBY	1000P 50V [M]
C9	ECEA1HKN010B	1 50V [M]
C10	ECBT1C332MR5	3300P 16V [M]
C11	ECEA1AKA101B	100 10V [M]
C12	ECFR1C223MR	0.022 16V [M]
C13	ECFR1C103MR	0.01 16V [M]
C14	ECBT1C103MS5	0.01 16V [M]
C15	ECBT1H3R9KC5	3.9P 50V [M]
C16	RCBS1H102KBY	1000P 50V [M]
C17	RCBS1H102KBY	1000P 50V [M]
C18	ECBT1H200JC5	20P 50V [M]
C19	ECBT1H220JC5	22P 50V [M]
C20	RCBS1H102KBY	1000P 50V [M]
C21	ECEA1AKA101B	100 10V [M]
C22	RCBS1H102KBY	1000P 50V [M]
C23	RCBS1H102KBY	1000P 50V [M]
C24	RCBS1H102KBY	1000P 50V [M]
C25	ECBT1H150JC5	15P 50V [M]
C26	ECBT1H6R8KC5	6.8P 50V [M]
C27	ECBT1H4R7KC5	4.7P 50V [M]
C28	RCBS1H102KBY	1000P 50V [M]
C29	RCBS1H102KBY	1000P 50V [M]
C31	RCBS1H102KBY	1000P 50V [M]
C32	ECBT1H101KB5	100P 50V [M]
C33	ECBT1H101KB5	100P 50V [M]
C34	ECBT1H680J5	68P 50V [M]
C35	ECBT1H1R5MC5	1.5P 50V [M]
C36	RCBS1H102KBY	1000P 50V [M]
C37	RCBS1H102KBY	1000P 50V [M]
C38	ECBT1H331KB5	330P 50V [M]
C39	ECBT1C103MS5	0.01 16V [M]
C40	ECBT1C103MS5	0.01 16V [M]
C44	ECEA1AU101B	100 10V [M]
C47	ECFR1C223MR	0.022 16V [M]
C48	ECEA0JU101B	100 6.3V [M]
C51	ECEA1HKA010B	1 50V [M]
C52	ECFR1C473MR	0.047 16V [M]

Ref No.	Part No.	Values & Remarks
C60	ECEA1AKA220B	22 10V [M]
C61	ECBT1C332MR5	3300P 16V [M]
C62	RCBS1H102KBY	1000P 50V [M]
C63	ECBT1H681KB5	680P 50V [M]
C67	ECFR1C223MR	0.022 16V [M]
C68	ECEA1HKA010B	1 50V [M]
C69	ECFR1C183MR	0.018 16V [M]
C70	ECFR1C183MR	0.018 16V [M]
C71	ECEA1HKA2R2B	2.2 50V [M]
C72	ECEA1HKA010B	1 50V [M]
C74	ECBT1H471KB5	470P 50V [M]
C75	ECEA1HKA010B	1 50V [M]
C76	ECEA1HKA010B	1 50V [M]
C77	ECEA1HKA010B	1 50V [M]
C80	ECBT1H331KB5	330P 50V [M]
C81	ECBT1H331KB5	330P 50V [M]
C82	ECBT1H150JC5	15P 50V [M]
C83	ECBT1H331KB5	330P 50V [M]
C84	ECBT1C103MS5	0.01 16V [M]
C85	ECBT1C103MS5	0.01 16V [M]
C86	ECBT1H331KB5	330P 50V [M]
C87	ECBT1C103MS5	0.01 16V [M]
C88	ECBT1C103MS5	0.01 16V [M]
C89	ECBT1H101KB5	100P 50V [M]
C102	ECBT1C122MR5	1200P 16V [M]
C103	ECBT1H102KB5	1000P 50V [M]
C104	ECEA1CKA100B	10 16V [M]
C105	ECBT1H102KB5	1000P 50V [M]
C106	ECEA0JKA101B	100 6.3V [M]
C107	ECFR1C273MR	0.027 16V [M]
C108	ECBT1H471KB5	470P 50V [M]
C109	ECEA1HKA010B	1 50V [M]
C110	ECBT1C332MR5	3300P 16V [M]
C202	ECBT1C122MR5	1200P 16V [M]
C203	ECBT1H102KB5	1000P 50V [M]
C204	ECEA1CKA100B	10 16V [M]
C205	ECBT1H102KB5	1000P 50V [M]
C206	ECEA0JKA101B	100 6.3V [M]
C207	ECFR1C273MR	0.027 16V [M]
C208	ECBT1H471KB5	470P 50V [M]
C209	ECEA1HKA010B	1 50V [M]
C210	ECBT1C332MR5	3300P 16V [M]
C301	ECQP2A151JZT	150P 100V[M]
C302	ECBT1C103MS5	0.01 16V [M]
C305	ECQP1102JZT	1000P 100V[M]
C306	ECEA1AU101B	100 10V [M]
C307	ECBT1C822MS5	8200P 16V [M]
C308	ECBT1C103MS5	0.01 16V [M]

Ref No.	Part No.	Values & Remarks
C309	ECFR1C473MR	0.047 16V [M]
C310	ECEA1CKA100B	10 16V [M]
C311	ECEA1AKA220B	22 10V [M]
C312	ECEA1AKA101B	100 10V [M]
C317	ECEA1EKA470B	47 25V [M]
C318	ECEA1AKA330B	33 10V [M]
C401	ECEA1HKA3R3B	3.3 50V [M]
C402	ECEA1CKA100B	10 16V [M]
C403	ECFR1C683MR	0.068 16V [M]
C404	ECFR1C473MR	0.047 16V [M]
C405	ECBT0J223MS5	0.022 6.3V [M]
C406	ECEA1HKAR22B	0.22 50V [M]
C407	ECEA1CU100B	10 16V [M]
C408	ECBT1H221KB5	220P 50V [M]
C411	ECBT1H471KB5	470P 50V [M]
C413	ECBT1H102KB5	1000P 50V [M]
C414	ECQV1H224JZ3	0.22 50V [M]
C415	ECQV1H224JZ3	0.22 50V [M]
C501	ECEA1HKA3R3B	3.3 50V [M]
C502	ECEA1CKA100B	10 16V [M]
C503	ECFR1C683MR	0.068 16V [M]
C504	ECFR1C473MR	0.047 16V [M]
C505	ECBT0J223MS5	0.022 6.3V [M]
C506	ECEA1HKAR22B	0.22 50V [M]
C507	ECEA1CU100B	10 16V [M]
C508	ECBT1H221KB5	220P 50V [M]
C511	ECBT1H471KB5	470P 50V [M]
C513	ECBT1H102KB5	1000P 50V [M]
C514	ECQV1H224JZ3	0.22 50V [M]
C515	ECQV1H224JZ3	0.22 50V [M]
C601	ECEA1CKA100B	10 16V [M]
C602	ECBT1C103MS5	0.01 16V [M]
C603	ECBT1H561KB5	560P 50V [M]
C604	ECBT1C103MS5	0.01 16V [M]
C605	ECBT1H180JC5	18P 50V [M]
C606	ECBT1H220JC5	22P 50V [M]
C607	ECBT1C103MS5	0.01 16V [M]
C608	ECEA0JKA101B	100 6.3V [M]
C609	ECBT1H471KB5	470P 50V [M]
C610	ECEA1HKA010B	1 50V [M]
C611	ECBT1H102KB5	1000P 50V [M]
C612	ECBT1H102KB5	1000P 50V [M]
C613	ECBT1H820KB5	82P 50V [M]
C614	ECBT1H680J5	68P 50V [M]
C615	ECBT1H101KB5	100P 50V [M]
C616	ECBT1H820KB5	82P 50V [M]
C618	ECBT1H561KB5	560P 50V [M]
C619	ECBT1H561KB5	560P 50V [M]

Ref No.	Part No.	Values & Remarks
C620	ECBT1H561KB5	560P 50V [M]
C621	ECBT1H561KB5	560P 50V [M]
C622	ECBT1H221KB5	220P 50V [M]
C623	ECBT1H221KB5	220P 50V [M]
C624	ECA1VM332E	3300 ⚠ 35V [M]
C625	ECA1EM332E	3300 ⚠ 25V [M]
C626	ECEA1CKA100B	10 16V [M]
C628	ECEA1CKA100B	10 16V [M]
C629	ECQV1H105JZ3	10 50V [M]
C630	ECEA1CKA100B	10 16V [M]
C631	ECEA1CKA100B	10 16V [M]
C632	ECFR1C104MR	0.1 16V [M]
C633	ECEA1EU100B	10 25V [M]
C634	ECEA1EU101B	100 25V [M]
C635	ECQV1H224JZ3	0.22 50V [M]
C636	ECEA1HKA010B	1 50V [M]
C637	ECEA1EU330B	33 25V [M]
C638	ECEA1CU100B	10 16V [M]
C639	ECEA1CU100B	10 16V [M]
C640	ECEA1AKA101B	100 10V [M]
C641	ECBT1H471KB5	470P 50V [M]
C642	ECEA0JU101B	100 6.3V [M]
C643	ECEA1CKA100B	10 16V [M]
C644	ECEA1HKA010B	1 50V [M]
C645	ECBT1H101KB5	100P 50V [M]
C646	ECEA1EU101B	100 25V [M]
C647	ECFR1C104MR	0.1 16V [M]
C648	ECEA1CKA100B	10 16V [M]
C649	ECBT1H102KB5	1000P 50V [M]
C650	ECBT1C103MS5	0.01 16V [M]
C651	ECBT1H330J5	33P 50V [M]
C652	ECBT1H330J5	33P 50V [M]
C653	ECBT1H330J5	33P 50V [M]
C654	ECEA1CU101B	100 16V [M]
C655	ECEA0JU331B	330 6.3V [M]
C656	ECQV1H224JZ3	0.22 50V [M]
C657	ECBT1H101KB5	100P 50V [M]
C658	ECBT1H101KB5	100P 50V [M]
C659	ECBT1H101KB5	100P 50V [M]
C901	ECKR1H103ZF5	0.01 50V [M]
C902	ECKR1H103ZF5	0.01 50V [M]
C903	ECKR1H103ZF5	0.01 50V [M]
C904	ECKR1H103ZF5	0.01 50V [M]
C906	ECBT1C103MS5	0.01 16V [M]

Ref No.	Part No.	Values & Remarks
	<SERVO P.C.B.>	
	RESISTORS	
R701	ERJ6GEYJ4R7V	4.7 1/10W[M]
R703	ERJ6GEYJ823	82K 1/10W[M]
R704	ERJ6GEYJ102V	1K 1/10W[M]
R705	ERJ6GEYJ103V	10K 1/10W[M]
R706	ERJ6GEYJ102V	1K 1/10W[M]
R707	ERJ6GEYJ474V	470K 1/10W[M]
R708	ERJ6GEYJ154V	150K 1/10W[M]
R709	ERJ6GEYJ683V	68K 1/10W[M]
R711	ERJ6GEYJ154V	150K 1/10W[M]
R712	ERJ6GEYJ221V	220 1/10W[M]
R717	ERJ6GEYJ102V	1K 1/10W[M]
R718	ERJ6GEYJ102V	1K 1/10W[M]
R719	ERJ6GEYJ102V	1K 1/10W[M]
R720	ERJ6GEYJ102V	1K 1/10W[M]
R721	ERJ6GEYJ101V	100 1/10W[M]
R722	ERJ6GEYJ563V	56K 1/10W[M]
R723	ERJ6GEYJ182V	1.8K 1/10W[M]
R724	ERJ6GEYJ333V	33K 1/10W[M]
R725	ERJ6GEYJ472V	4.7K 1/10W[M]
R726	ERJ6GEYJ473V	47K 1/10W[M]
R727	ERJ6GEYJ822V	8.2K 1/10W[M]
R728	ERJ6GEYJ103V	10K 1/10W[M]
R731	ERJ6GEYJ822V	8.2K 1/10W[M]
R734	ERJ6GEYJ101V	100 1/10W[M]
R735	ERJ6GEYJ101V	100 1/10W[M]
R736	ERJ6GEYJ101V	100 1/10W[M]
R738	ERJ6GEYJ223V	22K 1/10W[M]
R741	ERJ6GEYJ562V	5.6K 1/10W[M]
R742	ERJ6GEYJ562V	5.6K 1/10W[M]
R743	ERJ6GEYJ562V	5.6K 1/10W[M]
R744	ERJ6GEYJ103V	10K 1/10W[M]
R745	ERJ6GEYJ155V	1.5M 1/10W[M]
R748	ERJ6GEYJ182V	1.8K 1/10W[M]
R749	ERJ6GEYJ682V	6.8K 1/10W[M]
R750	ERJ6GEYJ473V	47K 1/10W[M]
R751	ERJ6GEYJ473V	47K 1/10W[M]
R752	ERJ8GEYJ220V	22 1/8W [M]
R770	ERJ6GEYJ155V	1.5M 1/10W[M]
R771	ERJ6GEYJ155V	1.5M 1/10W[M]
R772	ERJ6GEYJ273V	27K 1/10W[M]

Ref No.	Part No.	Values & Remarks
	CAPACITORS	
C701	ECEA0JKA330I	33 6.3V [M]
C702	ECUZNE104MBN	0.1 25V [M]
C703	ECEA0JKA101I	100 6.3V [M]
C704	ECUZNE104MBN	0.1 25V [M]
C705	ECUZNE104MBN	0.1 25V [M]
C706	ECUV1H272KBN	2700P 50V [M]
C707	ECUV1E273KBN	0.027 25V [M]
C708	ECUV1H472KBN	4700P 50V [M]
C709	ECUV1C473KBN	0.047 16V [M]
C710	ECUV1H182KBN	1800P 50V [M]
C711	ECUZNE104MBN	0.1 25V [M]
C712	ECUZNE104MBN	0.1 25V [M]
C713	ECUV1C104MBM	0.1 16V [M]
C714	ECEA0JKA101I	100 6.3V [M]
C716	ECUV1H561KBN	560P 50V [M]
C717	ECUZNE104MBN	0.1 25V [M]
C718	ECUV1C224KBN	0.22 16V [M]
C721	ECUV1H150JCN	15P 50V [M]
C722	ECUV1H150JCN	15P 50V [M]
C723	ECEA1AKA221I	220 10V [M]
C724	ECUV1C104MBM	0.1 16V [M]
C725	ECUV1H102KBN	1000P 50V [M]
C726	ECUV1H102KBN	1000P 50V [M]
C727	ECEA1HPK010I	1 50V [M]
C728	ECEA1HPK010I	1 50V [M]
C730	ECUZNE104MBN	0.1 25V [M]
C731	ECEA0JKA221I	220 6.3V [M]
C732	ECEA0JKA221I	220 6.3V [M]
C733	ECUZNE104MBN	0.1 25V [M]
C734	ECEA1AKA221I	220 10V [M]
C735	ECUZNE104MBN	0.1 25V [M]
C736	ECUZNE104MBN	0.1 25V [M]
C737	ECUZNE104MBN	0.1 25V [M]
C738	ECUV1C154KBN	0.15 16V [M]
C742	ECUV1E273KBN	0.027 25V [M]
C743	ECUZNE104MBN	0.1 25V [M]
C744	ECUV1E822KBN	8200P 25V [M]
C745	ECUV1C473MBN	0.047 16V [M]
C747	ECUV1H222KBN	2200P 50V [M]
C748	ECUV1H471KBM	470P 50V [M]
C749	ECUZNE104MBN	0.1 25V [M]
C751	ECUZNE104MBN	0.1 25V [M]
C752	ECUV1H152KBN	1500P 50V [M]
C753	ECUV1H471KBM	470P 50V [M]
C754	ECUV1H471KBN	470P 50V [M]

Ref No.	Part No.	Values & Remarks
	CHIP JUMPERS	
RJ701	ERJ8GEY0R00A	0 1/8W[M]
RJ702	ERJ8GEY0R00A	0 1/8W[M]
RJ703	ERJ8GEY0R00A	0 1/8W[M]
RJ704	ERJ8GEY0R00A	0 1/8W[M]
RJ707	ERJ8GEY0R00A	0 1/8W[M]
RJ709	ERJ8GEY0R00A	0 1/8W[M]
RJ714	ERJ8GEY0R00A	0 1/8W[M]
RJ715	ERJ8GEY0R00A	0 1/8W[M]
RJ716	ERJ8GEY0R00A	0 1/8W[M]
RJ717	ERJ8GEY0R00A	0 1/8W[M]
RJ721	ERJ8GEY0R00A	0 1/8W[M]
RJ722	ERJ8GEY0R00A	0 1/8W[M]
RJ723	ERJ8GEY0R00A	0 1/8W[M]
RJ724	ERJ8GEY0R00A	0 1/8W[M]
RJ725	ERJ8GEY0R00A	0 1/8W[M]
RJ726	ERJ8GEY0R00A	0 1/8W[M]
RJ727	ERJ8GEY0R00A	0 1/8W[M]
RJ728	ERJ8GEY0R00A	0 1/8W[M]
RJ729	ERJ8GEY0R00A	0 1/8W[M]
RJ730	ERJ8GEY0R00A	0 1/8W[M]
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER[M]
TJ702	EYF8CU	TEST JUMPER[M]

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