**Radio Cassette** 

(K) . . . Black Type

Service Manua

# Portable Stereo Component System



 
 Area

 Suffix for Model No.
 Area
 Colour

 (EB)
 Great Britain
 (K)

 (EG)
 Germany and Italy

Colour

RX-DT53

\* MASH is a trademark of NTT.

# TAPE DECK: SG-20W MECHANISM SERIESTRAVERSE DECK: RAE0150Z MECHANISM SERIES

# Specifications

#### 🗖 Radio

Frequency range FM MW LW Intermediate frequency FM AM Sensitivity FM

> MW LW

### CD Player

Sampling frequency Decoding Beam source

No. of channels Frequency response S/N ratio Wow and flutter D/A converter 87.5 – 108 MHz 520 – 1610 kHz 148.5 – 285 kHz

> 10.7 MHz 459 kHz

16.5 dB/50 mW (- 3 dB limit sens.) 56 dB/m/50mW 63 dB/m/50mW

44.1 kHz 16 bit linear Semiconductor laser (wavelength 780nm) 2 channel, stereo 20 Hz – 20 kHz (+0, -2 dB) 70 dB Less than possible measurement data MASH (1 bit DAC)

### Tape Recorder

Track system Recording system Erasing system Monitor system Frequency range Normal

### 🗖 General

Power requirement AC

Battery Power output

Speakers

Jacks Input Output

Dimensions (W x H xD)

Weight

4 track, 2 channel, stereo AC bias Magnet Variable sound monitor

50 – 14,000 Hz

230 – 240V, 50 Hz Power consumption; 22W 9V (Six "D" size R20/LR20 batteries) 30 W (15 W x 2) ...PMPO 7 W (3.5 W X 2) ...RMS (max.) 2 Woofer: 12 cm 2 Tweeter: 1.5 cm

MIX MIC : 5 mV/(200 – 600  $\Omega$ ) SPEAKER: 4~8  $\Omega$ Headphones: 32  $\Omega$ 602 x 229 x 215 mm Main unit; 282 x 229 x 215 mm Speaker box; 170 x 224 x 190 mm 4.8kg without batteries

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



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PAGE

This service information is designed for experienced 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.

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## Precaution of Laser Diode

CAUTION :

N: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick up lens. Wave length : 780 nm

Maximum output radiation power from pick up : 100  $\mu$ W/VDE

Laser radiation from the pick up lens 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 pickup 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:

G: 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.

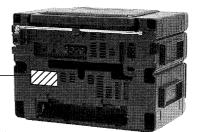
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

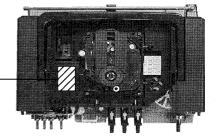
#### RQT4389ZAA



## LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

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 ÅR 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





# Caution for AC Mains Lead

### [For [EB] area.]

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 lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

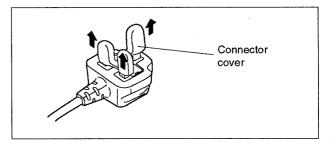
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either or these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth symbol  $\frac{1}{2}$ .

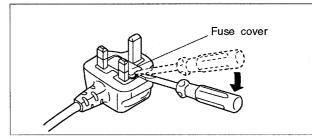
### Before use

Remove the connector cover as follows.

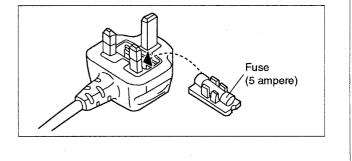


#### How to replace the fuse

1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



# 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 ie extremely sensitive to electrical shock.
- 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).
- Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

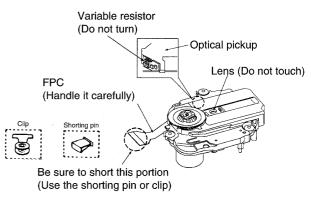
#### · Grounding for electrostatic breakdown prevention

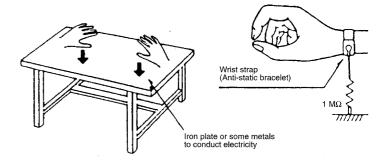
- Human body grounding Use the anti-static wrist strap to discharge the static electricity from your body.
- 2. Work table grounding

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).



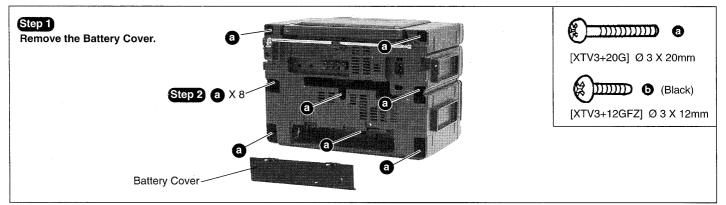


# Operation Checks and Main Component Replacement Procedures

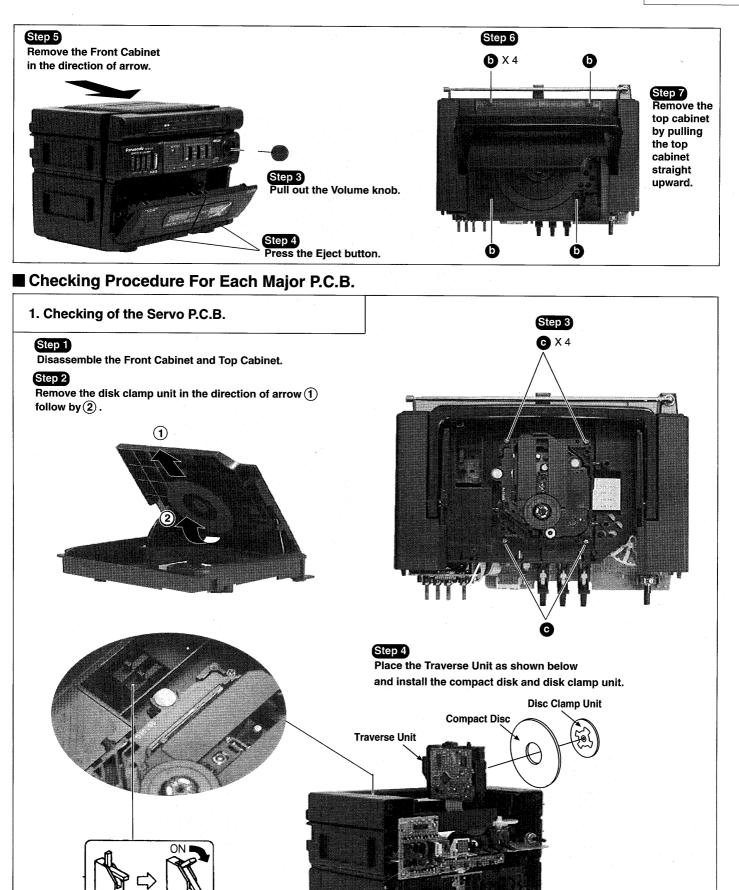
- 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- 2. For reassembly after operation checks or replacement, reverse the respective procedures.
- Special reassembly procedures are described only when required.

elect items from the following index when checks of replacement are required.	
ontents	page
assembly of the Front Cabinet and Top Cabinet	3 & 4
ecking Procedure for each major P.C.B.	
. Checking for the Servo P.C.B.	4
. Checking for the Main P.C.B.	5
B. Checking for the Power P.C.B	5
in Component Replacement Procedures	
. Replacement of Traverse Deck	6
Warning       : This product uses a laser diode. Refer to caution statement on page 2.         ACHTUNG       : • Die lasereinheit nicht zerlegen.	
<ul> <li>Die lasereinheit darf nur gegen eine vom hertsteller spezifizierte einheit ausgetauscht werd</li> </ul>	len.
	len.

## Disassembly of the Front Cabinet and Top Cabinet



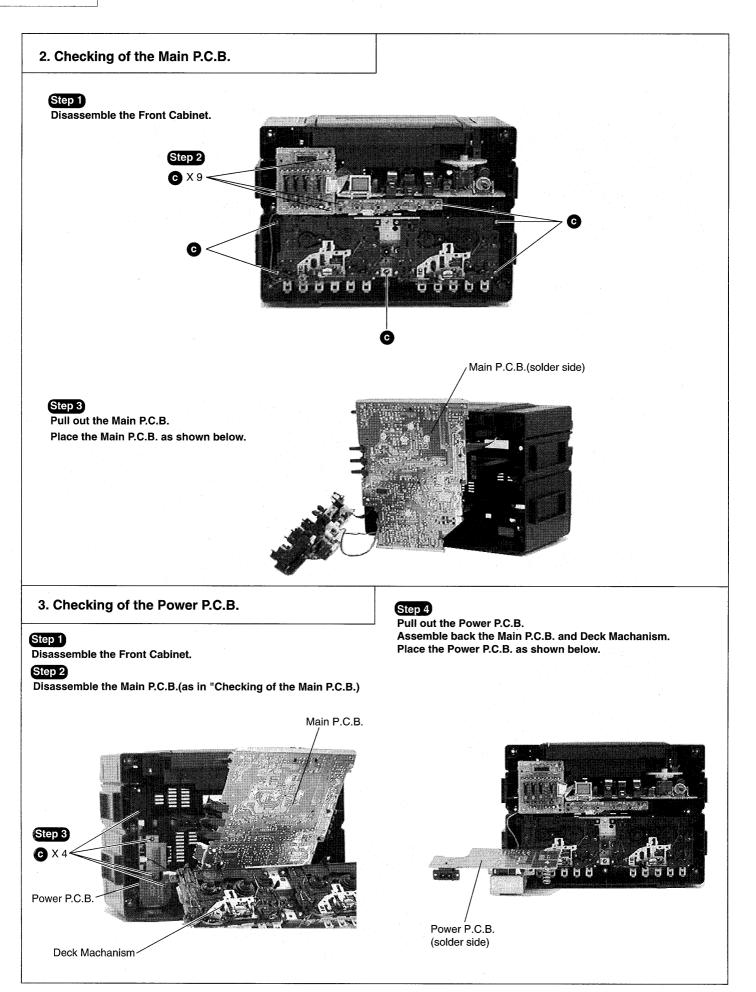
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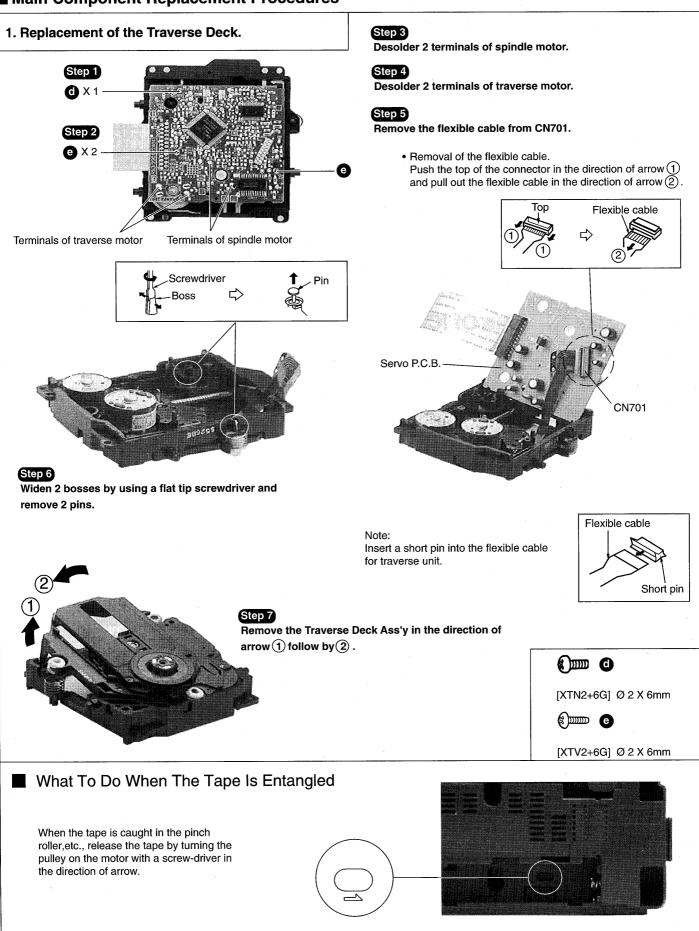
Note : Before perform checking, make sure the switch SW351, SW352 is switch to "ON" position (as shown in diagram).

— 5 —

[XTV3+12G] Ø 3 X 12mm



## Main Component Replacement Procedures



# ■ Terminal Guide of ICs, Transistors & Diodes

AN8389SE1	AN8835SBE1	MN662741RPA	UPD753204015	TA8227P	AN7317	BA1442A
24 1 100000000000000000000000000000000000	28 1 5 15 14	80 Pin	48 1 25 24	12	16 procession 18	20 mar 11 11 11 10
BA7755A	AN7205	PST600DTA	AN7330K	2SB1566E	2SC1684RTA	
1 5	19000000	123	22 mar 12 1	BCE	2SC1684STA 2SC2001LTA 2SC829BTA ECB	2SC2785FTA BA1A4MTA BN1A4MTA BN1A4MTA
2SK301QTA	2SB709S	2SJ40CDTA	RVD1SS133TA	RL154M11		
DGS	BE	S <sub>GD</sub>	Ca Cathode A Anode	A Cathode Anode	Ca Cathode A Anode	MTZJ5R6BTA MTZJ6R2BTA MTZJ7R5CTA

# Terminal Functions Of ICs

## • IC303 (UPD753204016) System Microprocessor

Pin No.	Mark	1/0	Function
1-4	C0~C3	0	LCD common signal output
5	BIAS	1	LCD bias voltage
6-8	VLC0~VLC2	I	LCD bias reference voltage
9	/FLOCK	1	CD focus lock signal input
10	/TLOCK	I	CD tracking signal input
11	SENSE	1	CD sense signal input
12	CLOSESW	I	CD close detact switch signal input
. 13	VSS		GND
14	CDRST	0	CD reset output
15	MCLK	0	CD signal process IC control signal output
16	MDATA	0	CD signal process IC data output
17	MLD	0	CD signal process IC strove signal output
18	STOPKEY	I	CD stop switch input
19	R.SKIP	I	CD R.Skip/R.Search switch input
20	F.SKIP	1	CD F.Skip/F.Search switch input
21	PLAY	1	CD play/pause switch input
22	VDD	I.	VDD (+5V)

Pin No.	Mark	I/O	Function
23	X1	Т	System clock OSC
24	X2	0	
25	IC	I	Connect to VDD (+5V)
26	RESET	1	System reset signal input
27	BLKCLK	I	CD subcode block clock signal input
28	SQCK	0	CD subcode clock output
29		—	
30	SUBQ	I	CD subcode data input
31	RESETSW	I	Reset SW (S701) signal input
32	STAT	I	CD status signal input
33	DMUTE	Ö	CD muting control signal output
34-35		_	Not used
36	MUTEA	0	AF muting control signal output
37	RECH	I	REC detact signal input
38-44			Not used
45-48	S0-S3	0	LCD segment signal output

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

Pin No.	Mark	1/0	Function
1	BCLK	0	Serial bit clock terminal (Not used, open)
2	LRCK	0	L/R discriminating signal (Not used, open)
3	SRDATA	0	Serial data (Not used, open)
4	DVDD1	1	Power supply (digital circuit) terminal
5	DVSS1	-	GND (digital circuit) terminal
6	ТΧ	0	Digital audio interface signal
7	MCLK	1.	Microprocessor command clock signal
8	MDATA	1	Microprocessor command data signal
9	MLD	.1	Microprocessor command load signal
10	SENSE	0	Sense signal output
			(OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	0	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	0	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	0	Sub-code block clock (f=75Hz)
14	SQCK	. 1	External clock signal input for sub-code Q
			register.
15	SUBQ	0	Sub-code Q code output
16	DMUTE	1	Muting input ("H" : mute)
17	STAT	0	Status signal output
			(CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	1	Reset input
19	SMCK	0	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	0	1/192-divided clock signal of crystal oscillating
			(fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	0	Traverse drive signal output
23	PC	0	Spindle motor ON signal output ("L" : ON)
24	ECM	0	Spindle motor drive signal output
			(forced mode output)
25	ECS	0	Spindle motor drive signal output
			(servo error signal output)
26	KICK	0	Kick pulse output
27	TRD	0	Tracking drive output
28	FOD	0	Focus drive output
29	VREF	1	D/A (drive) output (TVD,ECS,TRD,FOD,
			FBAL, TBAL) Reference voltage input.
30	FBAL	0	Focus balance adjustment output
		ļ	(Not used,open)
31	TBAL	0	Tracking balance adjustment output
32	FE	1	Focus error signal input (analog input)
33	TE	1.	Tracking error signal input (analog input)
34	RFENV	1	RF envelope signal input
35	VDET	1	Vibration detection signal input ("H" : detection

Pin No.	Mark	I/O	Function
36	OFT	1	Off-track signal input ("H" : off track)
37	TRCRS	Ι	Track cross signal input
38	/RFDET	1	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	0	Laser on signal output ("H" : ON)
41	TES	0	Tracking error shunt signal output ("H" : shunt)
42	PLAY	0	Play signal out ("H" : PLAY)
43	WVEL	0	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	ł	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	1/0	PLL loop filter
49	VCOF	1/O	VCO loop filter (Not used, open)
50	AVDD2	1	Power supply input (for analog circuit)
51	AVSS2		GND (for analog circuit)
52	EFM	0	EFM signal output (Not used, open)
53	PCK	0	PLL extraction clock ouput (Not used, open)
			(fPCK=4.321 MHz during normal playback)
54	PDO	0	Phase comparison signal of EFM and PCK signals
			(Not used, open)
55	SUBC	0	Sub-code serial data output (Not used, open)
56	SBCK	1	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	0	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD		Power supply input (for oscillating circuit)
61	BYTCK	0	Byte clock output (Not used, open)
62	/CLDCK	0	Clock input for sub-code serial data
			(Not used, open)
63	FCLK	0	Crystal frame clock signal output
			(fCLK=7.35kHz, double=14.7kHz)
64	IPFLAG	0	Interpolation flag output ("H" : interpolation)
			(Not used, open)
65	FLAG	0	Flag output (Not used, open)
66	CLVS	0	Spindle servo phase synchronizing signal outpu
			("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	0	Sub-code CRC checked output
			("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	0	De-emphasis ON signal output
			("H" : ON) (Not used, open)
69	RESY	0	Frame resynchronizing signal output
			(Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	1	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	Ι	Power supply input (for analog circuit)
73	OUTL	0	Left channel audio signal output
74	AVSS1	-	GND
75	OUTR	0	Right channel audio signal output
76	RSEL	1	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	1	Crystal oscillating frequency designation input

## • IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	٧O	Function
1	PDA	1	PD signal input
2	PDB	I	PD signal input
3	VCC	1	Power supply connection
4	LPD	1	Laser PD connection
5	LD	0	Power out for LD driving
6	RF	0	RF signal output
7	RFIN	1	RF signal input
8	CAGC	1	AGC loop filter connection
9	ARF	0	RF-AGC output
10	CSBRT	1	Capacitor for detection connection
11	CEA	1	Capacitor connection for HPF amplifier
12	BDO	0	BDO output ("H" : drop out)
13	LDON	1	LD APC input ("H" : ON, "L" : OFF)
14	GND		Ground connection

Pin No.	Mark	1/0	Function
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	1	Output mode switching of SUBQ terminal
		-	("H" : Q code buffer mode)
80	SSEL	1	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

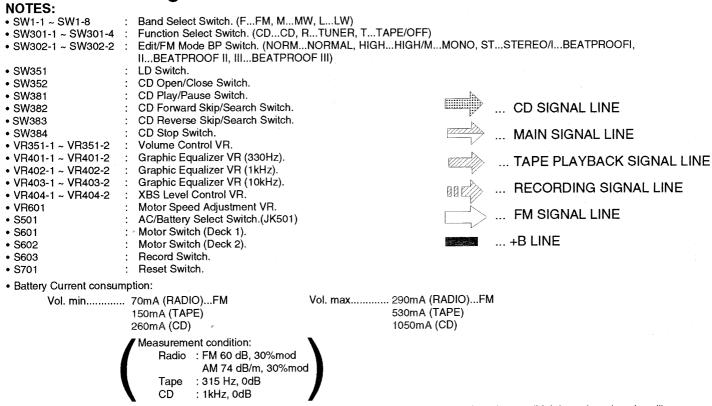
Pin No.	Mark	1/0	Function
15	/RFDET	0	NRFDET output ("L" : detection)
16	CROSS	0	CROSS output (Track cross signal output)
17	OFTR	0	Off-track output("L" : ON track, "H" : OFF track)
18	VDET	0	VDET output("H" : Vibration detected)
19	ENV	0	RF envelope detection
20	TEBPF	I	Vibration detection signal input
21	CCRS	I	Capacitor for LPF connection
22	TE	0	Tracking error signal output
23	FE	0	Focus error signal output
24	TBAL	1	Tracking balance signal input
25	FBAL	1	Focus balance signal input
26	VREF	0	Reference voltage output
27	PDE	I	PD signal input
28	PDF	1	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	1	Motor driver (4) input
4	IN3	1	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	1	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	1/0	Function
13	PVCC1	I	Power supply (1) for driver
14	PGND1		Ground connection (1) for driver
15	D1–	0	Motor driver (1) reverse-action output
16	D1+	0	Motor driver (1) forward-action output
17	D2	0	Motor driver (2) reverse-action output
18	D2+	0	Motor driver (2) forward-action output
19	D3	0	Motor driver (3) reverse-action output
20	D3+	0	Motor driver (3) forward-action output
21	D4-	0	Motor driver (4) reverse-action output
22	D4+	0	Motor driver (4) forward-action output
23	PGND2		Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

## Schematic Diagram



• 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... Tape Playback < > ... FM () ... AM <<>> ... RECORD (( )) ... CD

**CAUTION !** 

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

· Cover the parts boxes made of plastics with aluminum foil.

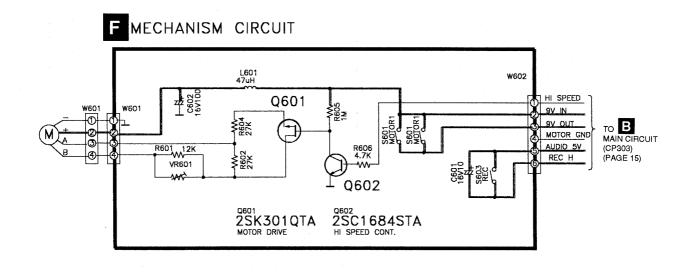
Ground the soldering iron.

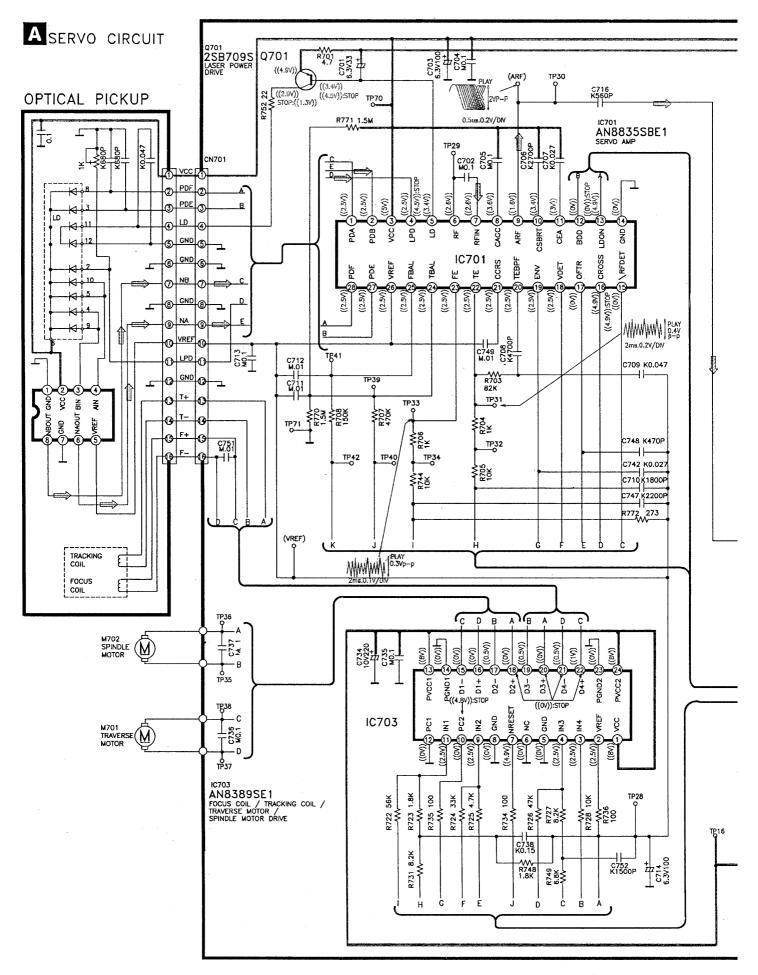
• Put a conductive mat on the work table.

• Do not touch the pins of IC or LSI with fingers directly.

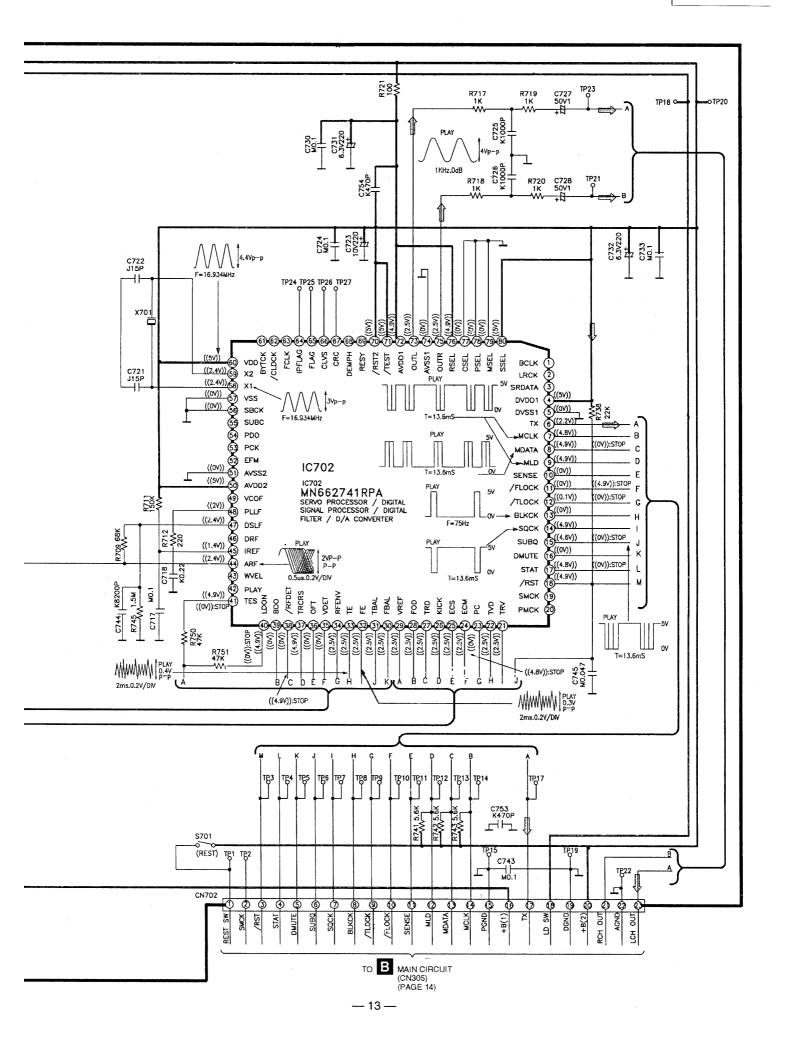
• Important safety notice : Components identified by  $\triangle$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

• This schematic diagram may be modified at anytime with the development of new technology.

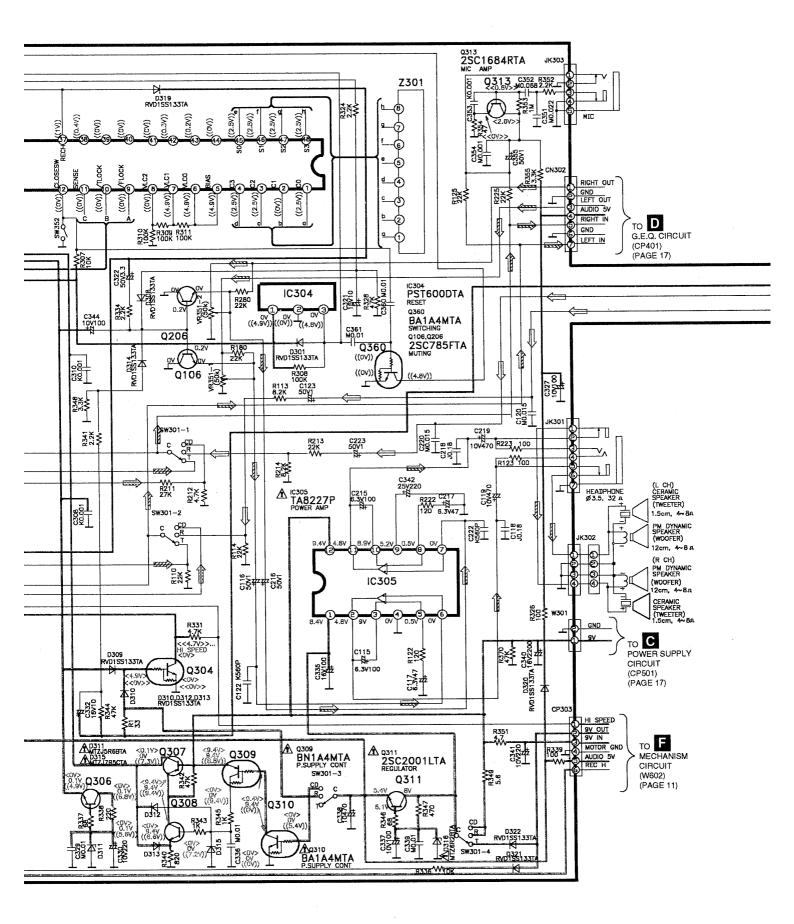


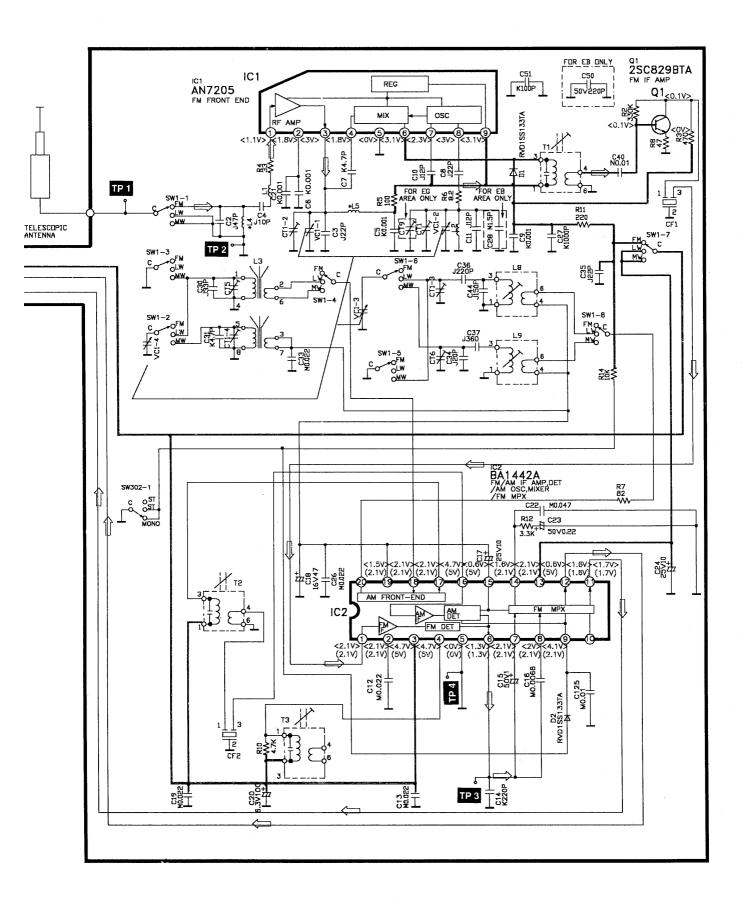


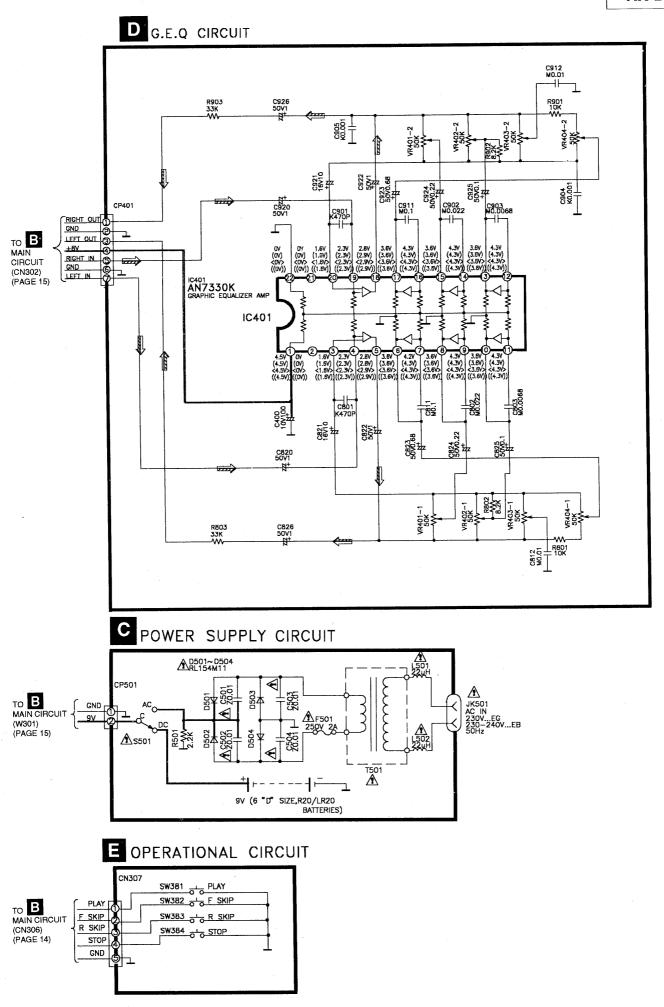
- 12 --



B MAIN CIRCUIT IC303 UPD753204016 R303 MICROPROCESSOR CN305 ACK ACK SIST SIST DMUTE SUBQ SQC V R302 56K ((V8.4 ((V8.+ (()6'1 ((\\Z'0. 4.9V)) ((V8.4 ŝ ନ୍ଥି ŝ ŝ (20) (20) Š RESE ELKQ. RSTSM STAT MUTEA DMUTE SUBG SQCK BLKCK FLQCK SENSE SENSE DESC SENSE DESC SENSE SENS 5MG IC303 Q102,Q202 2SJ40CDTA HEAD SELECT (REC:ON) SKIP C SKIP ATAC k d La ¥ ă X301 8 c ŝ (((4.8V))) ((VE.E)) ((7.2)) (((4.8V)) ((4.BV)) ((4.8V)) ((vo)) ((\0)) ((4.9V)) 3 ((4.BV)) ((4-9V)) ((4.8V) то А -to-0101,0201 2SJ40CDTA SERVO CIRCUIT HEAD SELECT (PLAY:ON) (CN702) (PAGE 13) 100 LD SW CD DGND SW351 CD 5V CD RCH C202 16V10 R208 39K ×1000 CD AGND C201 M1200P Q205 : È∰ 0<sup>v</sup> Q204 ★ 5<sup>k</sup> 0<sup>v</sup> r203 5.6k ↓ 500 c<0.8v>↓ 0<sup>v</sup> r203 <<0V> C314 10V22 ₹8ĕ 0103,0203 2SC2785FTA HEAD SELECT <-0v دة 11 × 10 11 − × 10 2.2Y 2V2>6.3V1 SPEET TH A CN306 0.6V ~<\\\\> <</0> 2022 52 <<??? 10/100 10/100 PLAY F SKIP <<4.7/> RVD15S133TA K0.031 4.7V Q202 <<0V>> Ŗ то Е 16V10 \_1.8V OPERATIONAL STOP (1 Г C221 16 ov Q201 CIRCUIT / vo <vo>> R.FILTER CND (5) 1 (CN307) (PAGE 17) PRE AMP 0.3V <<4¥>> Q101 ALC 0V <0V>> IC302 AN7317 REC/PLAY AMP 0102 REC Ŵ 1 <<0V>> <<2.125V VCV0>> C313 MQ,047<<2.1V>> V0 K<V0>> <<0.6V C107 16210< <2.2V> <<0.6V>>  $\mathbb{D}^{\mathbb{N}}$ 307 0.2V -L CH Г THE A IC302 C104 K100P Q105,Q205 2SC2785FTA MUTING (REC) PLAY HEAD <0V> Î 41 – R СН – 🕤 C105 330K Q203 1325 2XX 1016 1016 õ 6V>> :ñ¥>> <<0V>> MAN SAL 123 R109 6.8K Š MC101 MC101 M1200 0.2V <<0.6V>> 0104 C102 39K R312 18K 24 K1000P 0105 <<0v>> <<0v>; K100F P301 0104,0204 2SC2785FTA SWITCHING (HI-SPEED) Q103 C109 1 C108 0000 R107 mi r—L CH⊲ REC/PLAY D D Š₹ BA7755A R314 330K 1 A 0308 2SC2785FTA 2SC2001LTA REGULATOR REGULATOR HEAD R CH IC301 D303 RVD1SS133TA N T SUCCESS 3314 ∕₹ Q307 2SB1566E REGULATOR 2SC1684RTA BIAS OSC 0304 BA1A4MTA HI-SPEED DISABLE (CD/TUNER) 本路影 1 to. ŝ Q301,Q302,Q305 BA1A4MTA SWITCHING GND £₹₹ ≷₿₹ S 5. 4 << 0V>  $\Lambda$ :0\/>> <0V> 5<u>\*</u>\* <<2.6V>> R323 <<4.7V> R316 4.7K Q305 L301 2315 ≨∄ĝg0303 Q302 ₹ R330 4.7K C318 1330P R332 C324 220 M0.01 2 <0V> ((0.5V)) Q301 -((0.1V))-((0 HI SPEED R350 -11 ((0.1 125.2 18.8 1 <0V> ((0.5V)) C325 M0.01 ((ov)) SW302-2 ((0V))

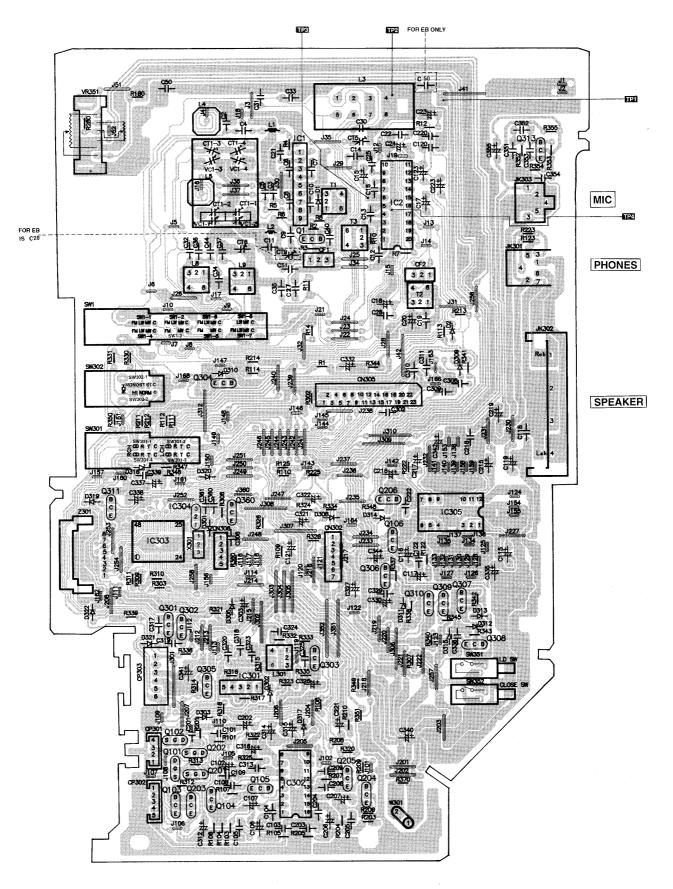




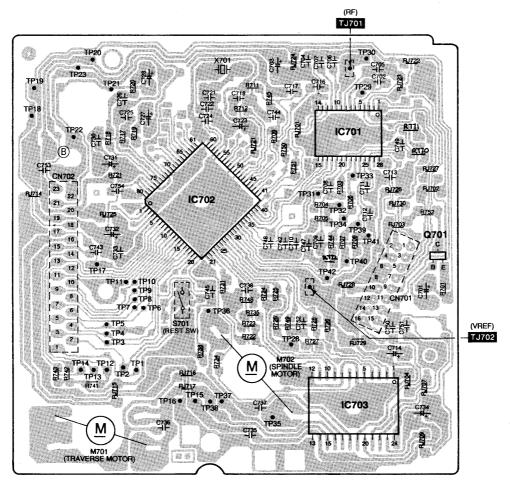


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# Printed Circuit Board MAIN P.C.B. (REPX0098D) ...EG (REPX0098G) ...EB

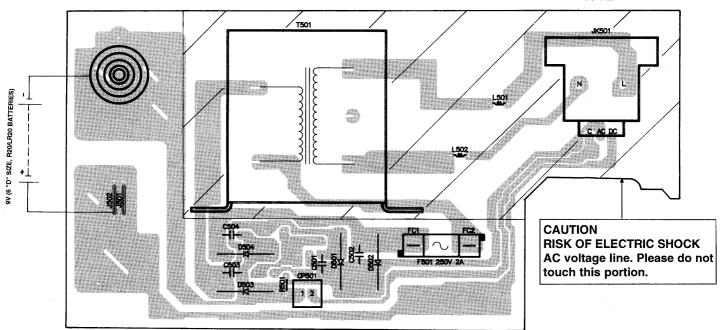


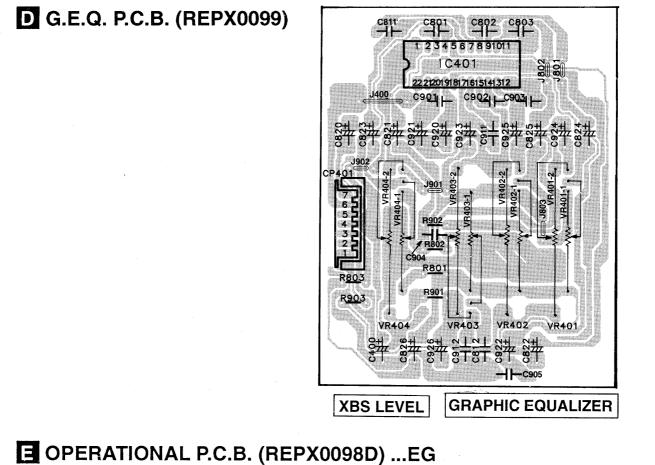
# A SERVO P.C.B. (REPX0109)



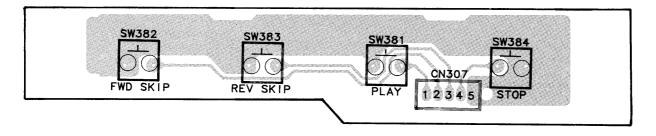
# C POWER SUPPLY P.C.B. (REPX0100C)



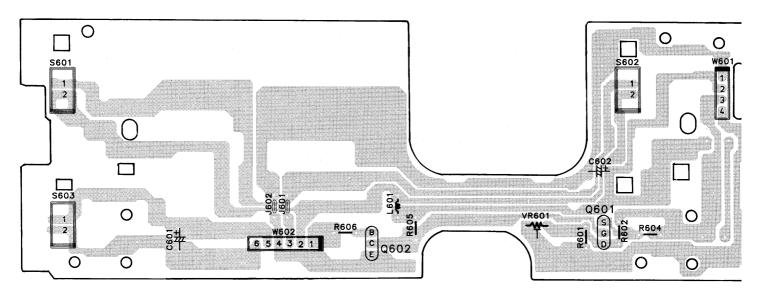




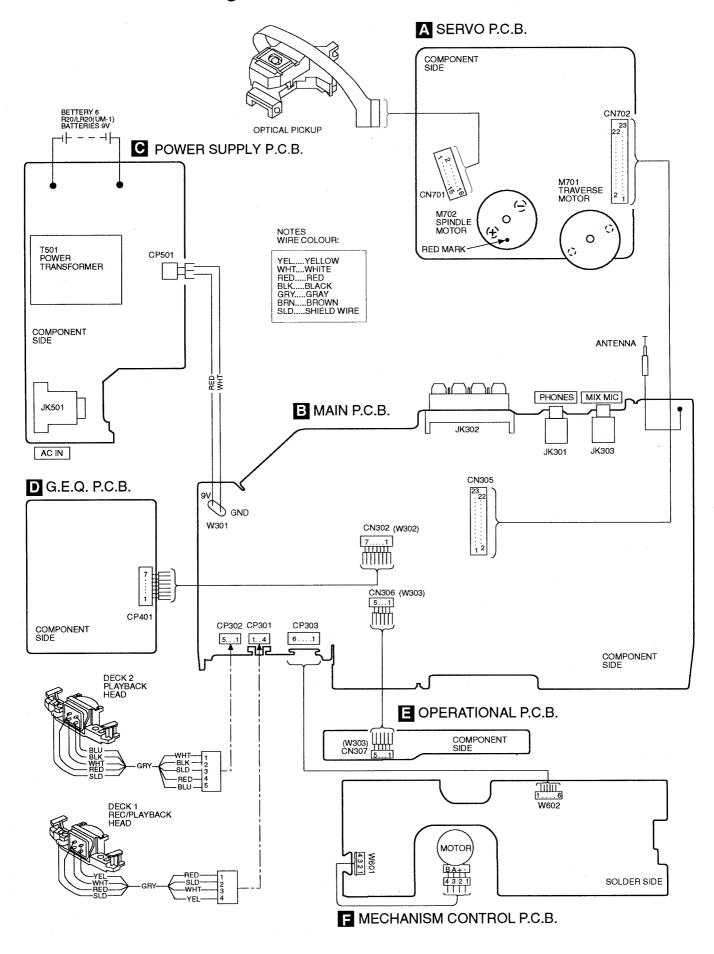
(REPX0098G) ...EB



# **F** MECHANISM CONTROL P.C.B. (REPX0062B)



## Wire Connection Diagram



## Measurements And Adjustments **TUNER SECTION**

## ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set power source voltage to 9 V DC.
- · Set volume control to maximum

- Set XBS control to minimum
- Output of signal generator should be no higher than necessary
- to obtain an output reading.
- Set band switch to AM(LW,MW) or FM • Set selector switch to RADIO

Note : LW-RF alignment should be performed before MW-RF alignment. No FM STEREO alignment is required due to Tuner IC (BA1442A) is used.

## • AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL	INDICATOR (ELECTRONIC VOLTMETER or		REMARKS	
CONNECTIONS	FREQUENCY	SETTING	OSCILLOSCOPE)	(Shown IN Fig. 1)		
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	459 kHz 30 % Mod. at 400 Hz	Point of non- interference.(on/ about 600kHz)	$\begin{array}{c} \mbox{Headphone Jack} \\ (32\Omega) \\ \mbox{Fabricate the plug as shown} \\ \mbox{in Fig.2 and then connect} \\ \mbox{the lead wires of the plug to} \\ \mbox{the measuring instrument.} \end{array}$	T2(AM IFT)	Adjust for maximum output.	

#### • MW-RF ALIGNMENT

	SIGNAL GENERATOR or SWEEP GENERATOR		INDICATOR (ELECTRONIC VOLTMETER or	ADJUSTMENT (Shown in Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY	SETTING	OSCILLOSCOPE)		
11	511 kHz (EB) 514 ± 3 kHz (EG)	Tuning capacitor fully closed.	H	L8 (MW OSC Coil)	Adjust for maximum output.
n	1650 kHz (EB) 1639 ± 5 kHz (EG)	Tuning capacitor fully opened.	11	CT6 (MW OSC Trimmer)	Adjust for maximum output.
11	550 kHz	Tune to signal	IJ	[*1] L3-1 (MW ANT Coil)	Adjust for maximum output. Adjust L3-1 by moving coil bobbin along ferrite core.
u	1500 kHz	0	u	CT1-4 (MW ANT Trimmer)	Adjust for maximum output.
[*1] Fix antenna coi	I with wax after co	ompleting alignmen	t.		

## • LW-RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		INDICATOR (ELECTRONIC VOLTMETER or	ADJUSTMENT	REMARKS	
FREQUENCY		OSCILLOSCOPE)	(Shown in Fig. 1)		
136 kHz (EB) 136 ± 3 kHz (EG)	Tuning capacitor fully closed.	· D	L9 (LW OSC Coil)	Adjust for maximum output.	
297 kHz (EB) 297 ± 5 kHz (EG)	Tuning capacitor fully opened.	ü	CT1-3 (LW OSC Trimmer)	Adjust for maximum output.	
145 kHz	Tune to signal	II	[*1] L3-2 (LW ANT Coil)	Adjust for maximum output. Adjust L3-2 by moving coil bobbin along ferrite core.	
285 kHz	- 11	II	CT5 (LW ANT Trimmer)	Adjust for maximum output.	
	ERATOR FREQUENCY 136 kHz (EB) 136 ± 3 kHz (EG) 297 kHz (EB) 297 ± 5 kHz (EG) 145 kHz	ERATORRADIO DIAL SETTINGFREQUENCYSETTING136 kHz (EB)Tuning capacitor fully closed.297 kHz (EB)Tuning capacitor fully opened.297 ± 5 kHz (EG)Tune to signal	RATOR of ERATORRADIO DIAL SETTING(ELECTRONIC VOLTMETER or OSCILLOSCOPE)136 kHz (EB) 136 ± 3 kHz (EG)Tuning capacitor fully closed."297 kHz (EB) 297 ± 5 kHz (EG)Tuning capacitor fully opened."145 kHzTune to signal"	RATOR of ERATORRADIO DIAL SETTING(ELECTRONIC VOLTMETER or OSCILLOSCOPE)ADJUSTMENT (Shown in Fig. 1)136 kHz (EB) 136 ± 3 kHz (EG)Tuning capacitor fully closed."L9 (LW OSC Coil)297 kHz (EB) 297 ± 5 kHz (EG)Tuning capacitor fully opened."CT1-3 (LW OSC 	

## • FM-IF ALIGNMENT

Connect to test point TP1 through ceramic capacitor. Negative side to test point TP2.		interference.(on/	Connect vert. amp. of scope to test point TP3 . Negative side to test point TP4 .	T1(FM 1st)	Waveform is shown in Fig. 3
. 0	н	11		T3(FM 2nd)	Waveform is shown in Fig. 4

#### FM-RF ALIGNMENT

Connect to test	86.2MHz (EB) 87.35MHz (EG) ± 50 kHz	Variable capacitor fully closed.	Headphone Jack (32Ω) Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.	L2 (FM OSC Coil)	[*2] Adjust for maximum output.							
through FM dummy antenna. Negative side to	109.2MHz (EB) 108.3MHz (EG) ± 70 kHz	Variable capacitor fully opened.	0	CT1-1 (FM OSC Trimmer)	u							
test point TP2	106MHz	Tune to signal	U	CT1-2 (FM ANT Trimmer)	u							
[*2] Three output re	[*2] Three output response will be present; proper tuning is the center frequency.											

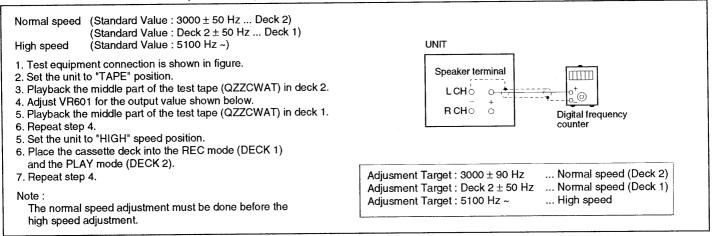
## CASSETTE DECK SECTION

#### ALIGNMENT INSTRUCTION

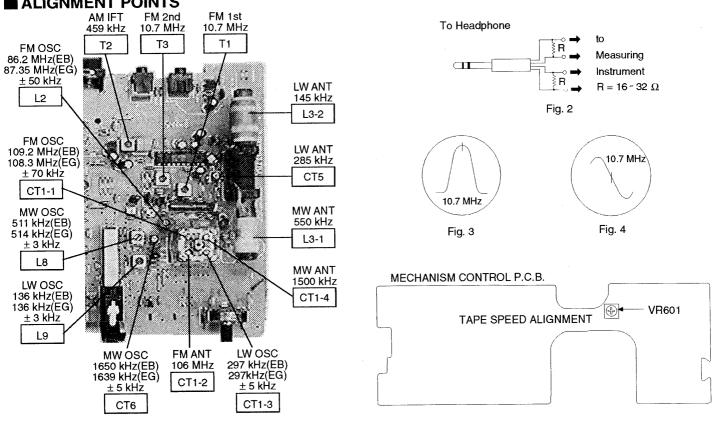
#### READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Note : Azimuth Head Alignment is not required due to Aztec Head is used in the cassette mechanism.

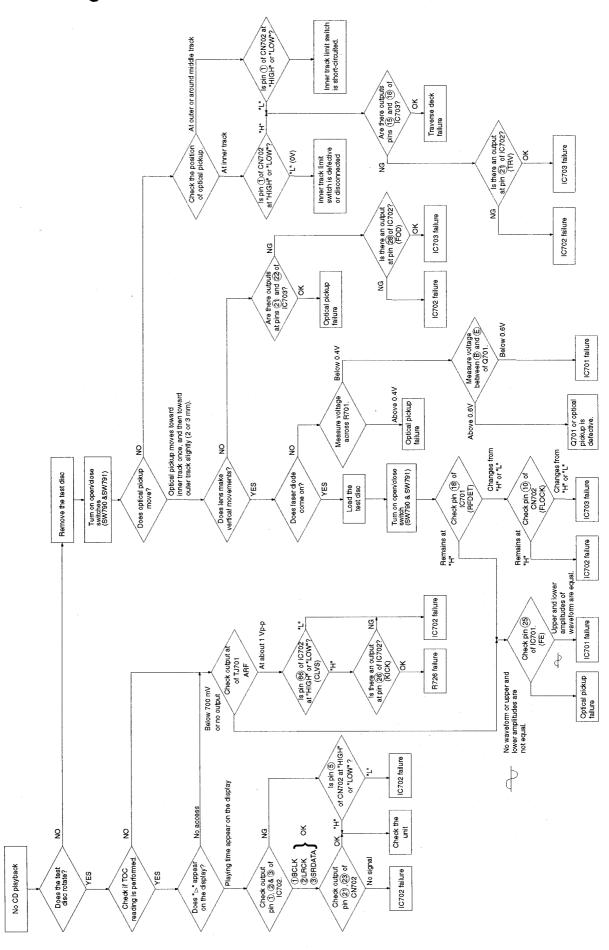
## • TAPE SPEED ALIGNMENT (DECK 1, 2)

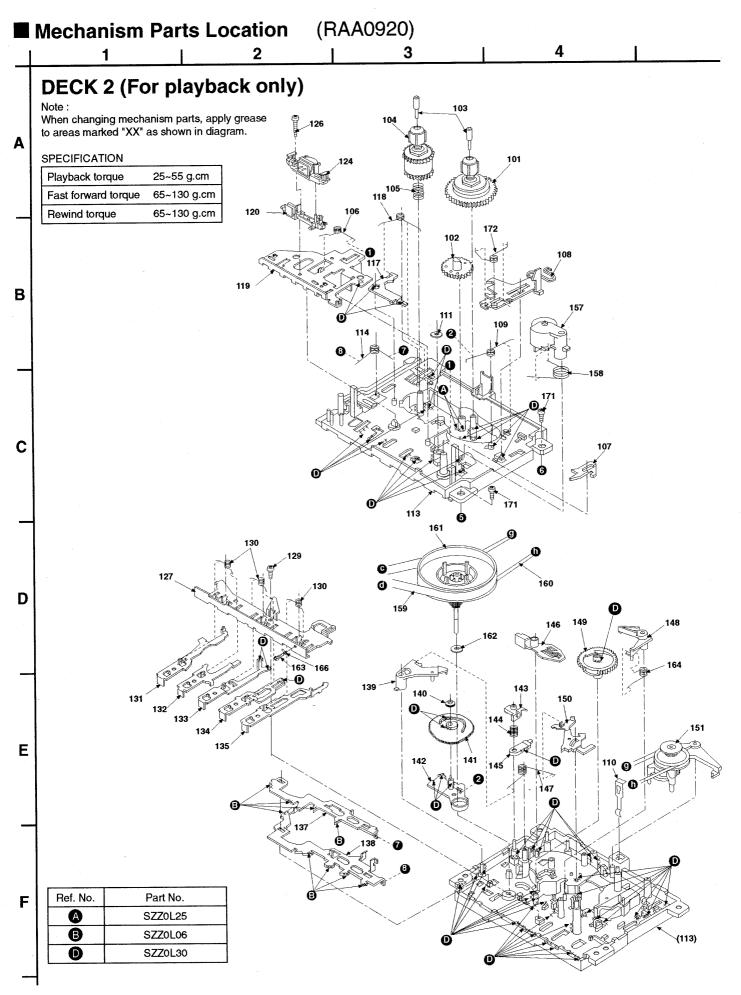


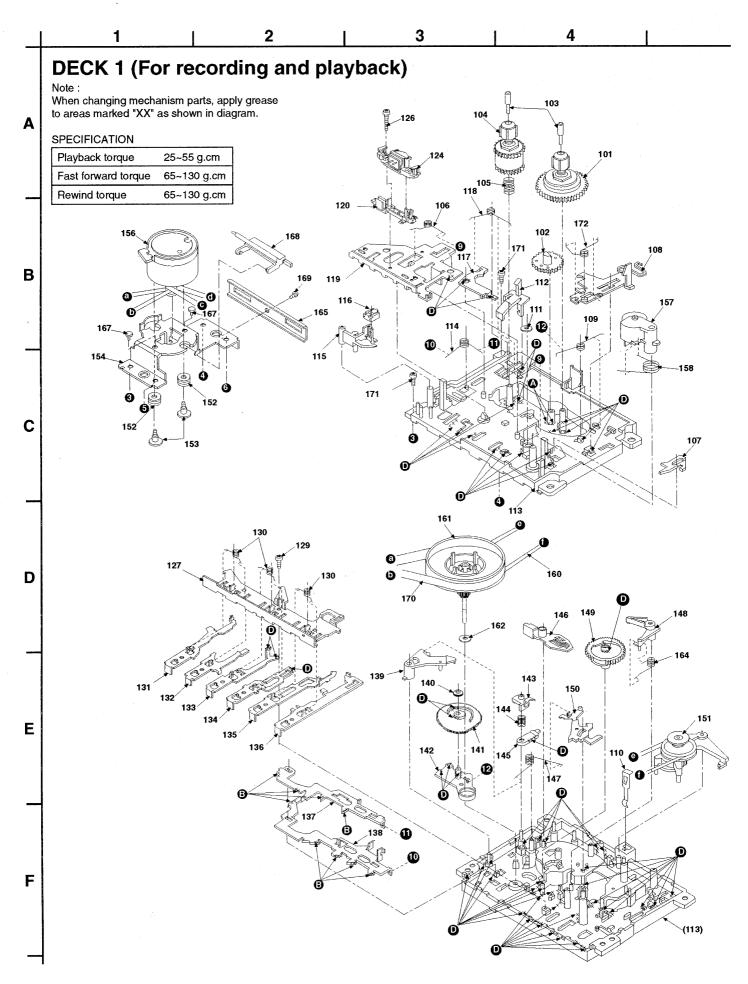
## **ALIGNMENT POINTS**



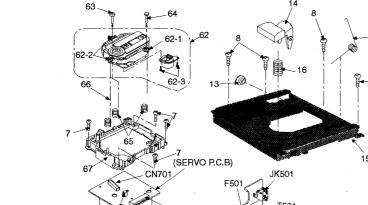
## Troubleshooting Guide



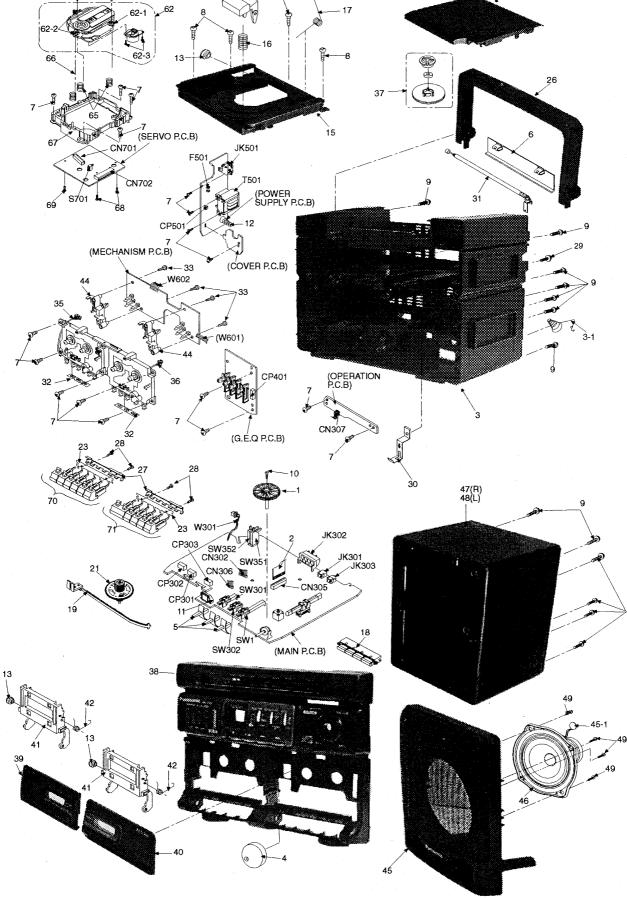




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## Cabinet Parts Location



## Mechanism Parts List

Notes : [M] in Remarks column indicates parts supplied by MESA

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK		126	XTN2+12F		[M]	150	RML0073-1	PROTECT LEVER	[M]
				127	RMA0109	BACK PLATE	[M]	151	RXP0014	RF CLUTCH ASSY	[M]
101	RXR0004	TAKE UP REEL ASSY	[M]	129	XTN2+6J	BACK PLATE SCREW		152	RMG0102	MOTOR RUB. CUSH.	[M]
102	RDG0059	FF RELAY GEAR	[M]	130	RMB0043-1	ROD OPERATION SPRING	[M]	153	RHD26002	SCREW	
103	RMS0055-1	REEL SHAFT	[M]	131	RMM0027	PAUSE ROD	[M]	154	RMA0122	MOTOR BRACKET	[M]
104	RXR0005	SUPPLY REEL ASSY	[M]	132	RMM0026	STOP ROD	[M]	156	RFKPXCT810PK	MOTOR ASSY	[M]
105	RMB0125	BACK TENSION SPRING	[M]	133	RMM0025	FF ROD	[M]	157	RXP0015	PINCH ROLLER ASSY	[M]
106	RMB0047	HEAD PANEL SPRING	[M]	134	RMM0024	REW ROD	[M]	158	RMB0049	PINCH ROLLER SPRING	[M]
107	RML0076	EJECT SELECTION LEVE	[M]	135	RMM0023	PLAY ROD	[M]	159	RDV0007	MAIN BELT	[M]
108	RMM0029	EJECT SLIDE LEVER	[M]	136	RMM0028	REC ROD	[M]	160	RDV0006-1	RF BELT	[M]
109	RMB0048-1	IDLER LEVER SPRING	[M]	137	RML0078	FUNCTION PLATE	[M]	161	RXF0012	FLYWHEEL ASSY	[M]
110	RMC0061	PACK SPRING	[M]	138	RML0077-1	LOCK PLATE	[M]	162	RHW21008	WASHER	[M]
111	RHW16009	CAPSTAN WASHER	[M]	139	RML0072	RELEASE LEVER	[M]	163	XTN2+4F	EARTH LUG SCREW	
112	RML0081-1	RECORD SAFETY LEVER	[M]	140	RMR0227	IDLER GEAR BUSH	[M]	164	RMB0044	TRIGGER SPRING	[M]
113	RFU189ZA	MECHA CHASSIS ASSY	[M]	141	RDG0057-1	IDLER GEAR	[M]	165	RMA0121	ANGLE	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]	142	RML0074	IDLER LEVER	[M]	166	RJR0033	EARTH LUG	[M]
115	RML0080	ERASE HEAD ARM	[M]	143	RMR0211-1	PAUSE BUSH	[M]	167	RMG0131	SUPPORT RUBBER CUSH	[M]
116	RBR2CY009	ERASE HEAD	[M]	144	RMB0053	PAUSE LEVER SPRING	[M]	168	RML0085	PAUSE RELEASE LEVER	[M]
117	RML0116	BRAKE ARM	[M]	145	RML0082	PAUSE LEVER	[M]	169	XTN26+3F	SCREW	[M]
118	RMB0109-1	BRAKE SRING	[M]	146	RML0071-1	SWAY LEVER	[M]	170	RDV0009	MAIN BELT B	[M]
119	RMA0696	AZTEC HEAD PANEL	[M]	147	RMB0045-1	AS SPRING	[M]	171	XTW26+6L	SCREW	
120	RMQ0384	HEAD BASE B	[M]	148	RML0075	TRIGGER LEVER	[M]	172	RME0098-2	SPRING	[M]
124	RBR4CY016-M	AZTEC HEAD	[M]	149	RDK0005	CAM GEAR	[M]				

# Replacement Parts List

Notes: \* Important safety notice:

Components identified by <u>mark have special characteristics important for safety.</u>

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
 \* The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour.)

Parts without these indications can be used for all areas.

\* [M] Indicates in the Remarks columns indicates parts supplied by MESA.

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 hertsteller spezifizierte einheit ausgetauscht werden.

							· ·				
Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		19	RFKNXDS520GC	POINTER ASS'Y	[M]	44	RMR0368	PCB CHASSIS	[M]
				21	RGXX0012-H	TUNING KNOB	[M]	45	RFKAXDS520GC	SPK. FRONT CAB ASS'Y	[M]
1	RDGX0008-W	VARICON GEAR	[M]	22	SHS3276	LEG FELT	[M]	45-1	EFBSRXDS520	TWEETER	[M]
2	REEX0022	CD FFC (WIRE)	[M]	23	RHRX0008	MECHA SEAT	[M]	46	RAS12P01-H	WOOFER	[M]
3	RFKHXDT530EB	REAR CAB ASS'Y	[M](EB)	26	RKHX0004-K	HANDLE	[M]	47	RKPX0027-K	SPEAKER REAR CAB (R)	[M]
3	RFKHXDT530EG	REAR CAB ASS'Y	[M](EG)	27	RMAX0006	ANGLE BAR	[M]	48	RKPX0028-K	SPEAKER REAR CAB (L)	[M]
3-1	RJC91006	BATT. TERMINAL	[M]	28	XTV3+8G	MECHA BUTTON SCREW		49	XTW3+10Q	WOOFER SCREW	
4	RGWX0021-K	VOLUME KNOB	[M]	29	XYN3+F8FY	R.ANTENNA SCREW		50	RGZX0020A-K	MECHA BUTT. BLOCK A	[M]
5	RGWX0022-K	SELECTOR KNOB	[M]	30	RMAX0019	ANTENNA SPRING	[M]	51	RGZX0020B-K	MECHA BUTT. BLOCK B	[M]
6	RKK2SZA-0	BATTERY COVER	[M]	31	XEARR210C-Y	R.ANTENNA	[M]	62	RAE0150Z	TRAVERSE UNIT	
7	XTV3+12G	MOUNTING SCREW		32	RMXX0004	SPACER	[M]	62-1	SHGD112	FLOATING RUBBER (A)	
8	XTV3+12GFZ	TOP CAB SCREW		33	XTN2+14GF	PCB SCREW	[M]	62-2	SHGD113-1	FLOATING RUBBER (B)	
9	XTV3+20G	CASING SCREW		34	RGKX0013-K	CD LID	[M]	62-3	SNSD38	SCREW	
10	XYN26+C6	VARICON GEAR SCREW		35	REXX0118-1	TAPE HEAD WIRE 1	[M]	63	RMS0350	FIXED PIN B	
11	RMNX0009	LCD HOLDER	[M]	36	REXX0123	TAPE HEAD WIRE 2	[M]	64	RMS0123-1	FIXED PIN A	
12	RJC511ZBS	BATTERY SPRING	[M]	37	RFKNRXDS15PA	CLAMPER ASS'Y	[M]	65	RME0109	FLOATING SPRING A	
13	RDG0183-L	DAMPER GEAR	[M]	38	RFKGXDT530EB	FRONT CAB ASS'Y	[M](EB)	66	RME0142	FLOATING SPRING B	
14	RGUX0121-K	CD EJECT BUTTON	[M]	38	RFKGXDT530EG	FRONT CAB ASS'Y	[M](EG)	67	RMR0698-K	TRAVERSE CHASSIS	
15	RKQX0005-K	TOP CAB	[M]	39	RFKLXDT530PA	CASS. LID ASS'Y(L)	[M]	68	XTV2+6G	SCREW	
16	RMB0244	CD EJECT BUTT. SPRING	[M]	40	RFKLXDT530PB	CASS. LID ASS'Y(R)	[M]	69	XTN2+6G	SCREW	
17	RMEX0003-1	CD OPEN SPRING	[M]	41	RKFX0044-K	CASS. HOLDER	[M]				
18	RGUX0120-H	CD FUNCTION BUTTON	[M]	42	RMEX0002	EJECT SPRING	[M]				

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remark
	1	INTEGRATED CIRCUITS		D319	RVD1SS133TA	DIODE		L9	RL02B108-M	MW OSC COIL	
				D320	RVD1SS133TA	DIODE		L301	RL09B17-T	AC BIAS COIL	
IC1	AN7205	IC, FM FRONT END		D321	RVD1SS133TA	DIODE		L501	RLQZB220KT-D	COIL	₼
IC2	BA1442A	IC, MPX / IF	[M]	D322	RVD1SS133TA	DIODE		L502	RLQZB220KT-D		
IC301	BA7755A	IC, ANALOG SW		D501	RL154M11	DIODE	Δ	L601	RLQZB470KT-D		
IC302	AN7317	IC, REC/PB PRE-AMP	[M]	D502	RL154M11	DIODE	Δ	T1	RL14B153-M	FM IFT	
IC303	UPD753204016	IC, MICRO-P	[M]	D503	RL154M11	DIODE	₼	T2	RLI2B458-M	AML	
IC304	PST600DTA	IC, RESET	÷	D504	RL154M11	DIODE	Δ	ТЗ	RL14B153-M	FM IFT	
IC305	TA8227P	IC, POWER AMP						T501	RTP1K1B005AX	POWER TRANSFORMER	[M]A
IC401	AN7330K	IC, GRAPHIC EQ	<u> </u>			VARIABLE RESISTORS					·
		,								COMPONENT COMBINATION	
		TRANSISTORS		VB351	EWCU1AF20B54	VR. VOLUME	[M]			· · · · · · · · · · · · · · · · · · ·	
					EWAJQDV06G54		[M]	Z301	RSL5145-L	LCD DISPLAY	[M]
Q1	2SC829BTA	TRANSISTOR			EWAJQDV06G54		[M]				1
Q101	2SJ40CDTA	TRANSISTOR			EWAJQDV06G54		[M]			CERAMIC FILTERS	
							[M]			CENAMICTIETERS	
Q102	2SJ40CDTA				EWAJSDV06G54		[ivi]	CF1	RVF107WDZT	CERAMIC FILTER	
Q103	2SC2785FTA	TRANSISTOR		V F1001	EVIND XAAUUB24	VR, MOTOR SPEED		CF1 CF2			
	2SC2785FTA								RVFSFU459B	AMCF	
Q105	2SC2785FTA		┝───┤			VARIABLE CAPACITOR					
Q106	2SC2785FTA	TRANSISTOR			D0)//D0071					OSCILLATORS	
	2SJ40CDTA	TRANSISTOR		VC1		POLY VARICON	[M]	Vca			
	2SJ40CDTA	TRANSISTOR		CT5		TRIMMER CA, ACITOR		X301	EF0EC4194T4	4.19MHZ RESONATOR	
Q203	2SC2785FTA	TRANSISTOR		СТ6		TRIMMER CAPACITOR					
Q204	2SC2785FTA	TRANSISTOR		СТ9	ECRLA010A53R	TRIMMER CAPACITOR				FUSES	
Q205	2SC2785FTA	TRANSISTOR		СТ9	ECCR1H240KC5	CERAMIC CAPACITOR	[M](EG)				<u> </u>
Q206	2SC2785FTA	TRANSISTOR						F501	XBA2C20TB0L	FUSE	[M] <u></u> ▲
Q301	BA1A4MTA	TRANSISTOR	[M]		-	SWITCHES					
Q302	BA1A4MTA	TRANSISTOR	[M]							FUSE HOLDERS	
Q303	2SC1684RTA	TRANSISTOR		S501	RJJ1SE01-1H	SW, AC IN (JK501)	₼				
Q304	BA1A4MTA	TRANSISTOR	[M]	S601	RSH1A013-21	SW, MOTOR 1	[M]	FC1	RJR0169T	FUSE CLIP	[M]
Q305	BA1A4MTA	TRANSISTOR	[M]	S602	RSH1A013-21	SW, MOTOR 2	[M]	FC2	RJR0169T	FUSE CLIP	[M]
Q306	2SC2001LTA	TRANSISTOR	[M]A	S603	RSH1A004-1	SW, REC	[M]				
Q307	2SB1566E	TRANSISTOR	[M]	SW1	RST3H001-H	SW, BAND	[M]			JACKS	
Q308	2SC2785FTA	TRANSISTOR	A	SW301	RST3D28ZA-H	SW, FUNCTION	[M]				
	BN1A4MTA	TRANSISTOR	[M]		RST3B35ZA-H	SW, B.P.	[M]	JK301	RJJ37TK01-1C	JK, HEADPHONE	
	BA1A4MTA	TRANSISTOR	[M]A	SW351	RSH1A012-U	SW, LD		JK302	RJF1098ZA-H	JK, SPEAKER	[M]
		TRANSISTOR	[M]		RSH1A012-U	SW, CD OPEN			<b>+</b>	JK, MIC	<u> </u>
	2SC1684RTA	TRANSISTOR	[]223		EVQ21405R	SW, PLAY/PAUSE				JK, AC IN	₼
	BA1A4MTA	TRANSISTOR	[M]		EVQ21405R	SW, FWD/F. SKIP					
Q601	2SK301QTA	TRANSISTOR	[M]		EVQ21405R	SW, REV/R. SKIP			-	WIRES	
	2SC1684STA	TRANSISTOR			EVQ21405R	SW, STOP					<u> </u>
0.002								W301	REXX0127	MAIN TO POWER (2P)	[M]
		DIODES				CONNECTORS			REXX0122	MECHA WIRE (6P)	[M]
	+		<u>├</u>								[[141]
D1	BVD100100TA		+	CNIDOO	RMR0316	7P WIRE HOLDER			+	<servo></servo>	+
D1					RJS1A6823						
D2		DIODE				23P FPC CONNECTOR	[] [] []		<u> </u>		
D301		DIODE			RMR0314	5P WIRE HOLDER	[M]			INTEGRATED CIRCUITS	
		DIODE			RMR0314	5P WIRE HOLDER	[M]	10701	ANIODOCODE		
		DIODE			RJP4G18ZA	4P PLUG IN			AN8835SBE1	IC, SERVO AMP.	<u> </u>
	RVD1SS133TA	DIODE			RJP5G18ZA	5P PLUG IN				IC, DIGITAL LSI	<u> </u>
	+	DIODE	ļ		RJP6G4YA	6P PLUG IN		10703	AN8389SE1	IC, COIL/MOTOR DRIVE	1
	RVD1SS133TA	DIODE			RJS1A5207	7P CONNECTOR	ļ		· · · · · · · · · · · · · · · · · · ·		ļ
D310	RVD1SS133TA	DIODE		CP501	RJP2G4YA	2P PLUG IN JACK				TRANSISTOR	ļ
D311	MTZJ5R6BTA	DIODE	₼								
D312	RVD1SS133TA	DIODE				COILS & TRANSFORMERS		Q701	2SB709S	TRANSISTOR	
D313	RVD1SS133TA	DIODE									
D314	RVD1SS133TA	DIODE		L1	RLQY30S1W	FILTER COIL	[M]			SWITCH	
D315	MTZJ7R5CTA	DIODE		L2	RLD4Y53W	FM OSC COIL	[M]				
D316	MTZJ6R2BTA	DIODE	Δ	L3	RLV6C009-0	FERRITE ANT	[M]	S701	RSM0006-P	SW, RESET	1
		1	1		1	1	<u> </u>				+

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		CONNECTORS		RJ702	ERJ8GEY0R00A	0 1/8W		RJ724	ERJ8GEY0R00A	0 1/8W	
				RJ703	ERJ8GEY0R00A	0 1/8W		RJ725	ERJ8GEY0R00A	0 1/8W	
CN701	RJU035T016-1	16 PIN FFC CONNECTOR		RJ704	ERJ8GEY0R00A	0 1/8W		RJ726	ERJ8GEY0R00A	0 1/8W	
CN702	RJS1A6723-1Q	23 PIN FFC CONNECTOR		RJ707	ERJ8GEY0R00A	0 1/8W		RJ727	ERJ8GEY0R00A	0 1/8W	
				RJ709	ERJ8GEY0R00A	0 1/8W		RJ728	ERJ8GEY0R00A	0 1/8W	
		OSCILLATOR		RJ714	ERJ8GEY0R00A	0 1/8W		RJ729	ERJ8GEY0R00A	0 1/8W	
				RJ715	ERJ8GEY0R00A	0 1/8W		RJ730	ERJ8GEY0R00A	0 1/8W	
X701	RSXZ16M9M017	CERAMIC OSC		RJ716	ERJ8GEY0R00A	0 1/8W					
				RJ717	ERJ8GEY0R00A	0 1/8W				TEST JUMPERS	
		CHIP JUMPERS		RJ721	ERJ8GEY0R00A	0 1/8W					
				RJ722	ERJ8GEY0R00A	0 1/8W		TJ701	EYF8CU	TEST JUMPER	
RJ701	ERJ8GEY0R00A	0 1/8W		RJ723	ERJ8GEY0R00A	0 1/8W		TJ702	EYF8CU	TEST JUMPER	

# Resistors & Capacitors

\* Capacitor values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads. \* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM). Notes :

\* Bracketed indications in Ref. No. columns specify the area (Refer to the first page for area).

Parts without these indications can be used for all areas.

\* [M] Indicates in the values & remarks column indicates parts supplied by MESA

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values	& Remarks	Ref No.	Part No.	Values	& Remarks	Ref No.	Part No.	Values	& Remarks
		RESISTORS	R209	ERDS2TJ682T	6.8K	1/4W	R335	ERDS2TJ4R7T	4.7	1/4W	R712	ERJ6GEYJ221V	220	1/10 <b>W</b>
			R210	ERDS2TJ223T	22K	1/4W	R336	ERDS2TJ103T	10K	1/4 <b>W</b>	R717	ERJ6GEYJ102V	1K	1/10W
R1	ERDS2TJ330T	33 1/4W	R211	ERDS2TJ273T	27K	1/4W	R337	ERDS2TJ680T	68	1/4W	R718	ERJ6GEYJ102V	1K	1/10W
R2	ERDS2TJ334T	330K 1/4W	R212	ERDS2TJ472T	4.7K	1/4W	R338	ERDS2TJ221T	220	1/4W	R719	ERJ6GEYJ102V	1K	1/10W
R3	ERDS2TJ471T	470 1/4W	R213	ERDS2TJ822T	8.2K	1/4W	R339	ERDS2TJ101T	100	1/4W	R720	ERJ6GEYJ102V	1K	1/10W
R4	ERDS2TJ330T	33 1/4W	R214	ERDS2TJ223T	22K	1/4W	R340	ERDS2TJ821T	820	1/4W	R721	ERJ6GEYJ101V	100	1/10W
R5	ERDS2TJ101T	100 1/4W	R222	ERDS2TJ121T	120	1/4W	R341	ERDS2TJ222T	2.2K	1/4W	R722	ERJ6GEYJ563V	56K	1/10W
R6	ERDS2TJ8R2T	8.2 1/4W	R223	ERDS2TJ101T	100	1/4W	R342	ERDS2TJ473T	47K	1/4W	R723	ERJ6GEYJ182V	1.8K	1/10W
R7	ERDS2TJ820T	82 1/4W	R225	ERDS2TJ223T	22K	1/4W	R343	ERDS2TJ102T	1 <b>K</b>	1/4W	R724	ERJ6GEYJ333V	33K	1/10W
R8	ERDS2TJ680T	68 1/4W	R280	ERDS2TJ223T	22K	1/4W	R344	ERDS2TJ473T	47K	1/4W	R725	ERJ6GEYJ472V	4.7K	1/10 <b>W</b>
R10	ERDS2TJ472T	4.7K 1/4W	R302	ERDS2TJ563T	56K	1/4W	R345	ERDS2TJ102T	1K	1/4W	R726	ERJ6GEYJ473V	47K	1/10W
R11	ERDS2TJ221T	220 1/4W	R303	ERDS2TJ473T	47K	1/4W	R346	ERDS2TJ680T	68	1/4W	R727	ERJ6GEYJ822V	8.2K	1/10 <b>W</b>
R12	ERDS2TJ332T	3.3K 1/4W	R307	ERDS2TJ103T	10K	1/4W	R347	ERDS2TJ471T	470	1/4W	R728	ERJ6GEYJ103V	10K	1/10W
R14	ERDS2TJ103T	10K 1/4W	R308	ERDS2TJ104T	100K	1/4W	R348	ERDS2TJ332T	3.3K	1/4W	R731	ERJ6GEYJ822V	8.2K	1/10 <b>W</b>
R101	ERDS2TJ183T	18K 1/4W	R309	ERDS2TJ104T	100K	1/4W	R349	ERDS2TJ5R6T	5.6	1/4W	R734	ERJ6GEYJ101V	100	1/10W
R103	ERDS2TJ562T	5.6K 1/4W	R310	ERDS2TJ104T	100K	1/4W	R350	ERDS2TJ103T	10K	1/4W	R735	ERJ6GEYJ101V	100	1/10W
R104	ERDS2TJ472T	4.7K 1/4W	R311	ERDS2TJ104T	100K	1/4W	R351	ERD2FCVJ4R7T	4.7	1/4W	R736	ERJ6GEYJ101V	100	1/10W
R105	ERDS2TJ390T	39 1/4W	R312	ERDS2TJ183T	18K	1/4W	R352	ERDS2TJ222T	2.2K	1/4W	R738	ERJ6GEYJ223V	22K	1/10W
R106	ERDS2TJ102T	1K 1/4W	R313	ERDS2TJ334T	330K	1/4W	R353	ERDS2TJ105T	1M	1/4W	R741	ERJ6GEYJ562V	5.6K	1/10W
R107	ERDS2TJ393T	39K 1/4W	R314	ERDS2TJ334T	330K	1/4W	R354	ERDS2TJ470T	47	1/4W	R742	ERJ6GEYJ562V	5.6K	1/10W
R108	ERDS2TJ393T	39K 1/4W	R315	ERDS2TJ221T	220	1/4W	R355	ERDS2TJ332T	3.3K	1/4W	R743	ERJ6GEYJ562V	5.6K	1/10W
R109	ERDS2TJ682T	6.8K 1/4W	R316	ERDS2TJ472T	4.7K	1/4W	R360	ERDS2TJ472T	4.7K	1/4W	R744	ERJ6GEYJ103V	10K	1/10W
R110	ERDS2TJ223T	22K 1/4W	R317	ERDS2TJ222T	2.2K	1/4W	R370	ERDS2TJ473T	47K	1/4W	R745	ERJ6GEYJ155V	1.5M	1/10W
R111	ERDS2TJ273T	27K 1/4W	R318	ERDS2TJ103T	10K	1/4W	R501	ERDS2TJ222T	2.2K	1/4W	R748	ERJ6GEYJ182V	1.8K	1/10W
R112	ERDS2TJ472T	4.7K 1/4W	R320	ERDS2TJ103T	10K	1/4W	R601	ERDS2TJ123T	12K	1/4W	R749	ERJ6GEYJ682V	6.8K	1/10W
R113	ERDS2TJ822T	8.2K 1/4W	R321	ERDS2TJ102T	1K	1/4W	R602	ERDS2TJ273T	27K	1/4W	R750	ERJ6GEYJ473V	47K	1/10W
R114	ERDS2TJ223T	22K 1/4W	R322	ERDS2TJ475T	4.7M	1/4W	R604	ERDS2TJ273T	27K	1/4W	R751	ERJ6GEYJ473V	47K	1/10W
R122	ERDS2TJ121T	120 1/4W	R323	ERDS2TJ391T	390	1/4W	R605	ERDS2TJ105T	1M	1/4W	R752	ERJ8GEYJ220V	22	1/8W
R123	ERDS2TJ101T	100 1/4W	R324	ERDS2TJ222T	2.2K	1/4W	R606	ERDS2TJ472T	4.7K	1/4W	R770	ERJ6GEYJ155V	1.5M	1/10W
R125	ERDS2TJ223T	22K 1/4W	R325	ERDS2TJ222T	2.2K	1/4W	R701	ERJ6GEYJ4R7V	4.7	1/10W	R771	ERJ6GEYJ155V	1.5M	1/10W
R180	ERDS2TJ223T	22K 1/4W	R326	ERDS2TJ101T	100	1/4W	R703	ERJ6GEYJ823	82K	1/10W	R772	ERJ6GEYJ273V	27K	1/10W
R201	ERDS2TJ183T	18K 1/4W	R328	ERDS2TJ473T	47K	1/4W	R704	ERJ6GEYJ102V	1K	1/10W	R801	ERDS2TJ103T	10K	1/4W
R203	ERDS2TJ562T	5.6K 1/4W	R329	ERD2FCVJ4R7T	4.7	1/4W	R705	ERJ6GEYJ103V	10K	1/10W	R802	ERDS2TJ822T	8.2K	1/4W
R204	ERDS2TJ472T	4.7K 1/4W	R330	ERDS2TJ472T	4.7K	1/4W	R706	ERJ6GEYJ102V	1K	1/10W	R803	ERDS2TJ333T	33K	1/4W
R205	ERDS2TJ390T	39 1/4W	R331	ERDS2TJ472T	4.7K	1/4W	R707	ERJ6GEYJ474V	470K	1/10W	R901	ERDS2TJ103T	10K	1/4W
R206	ERDS2TJ102T	1K 1/4W	R332	ERDS2TJ221T	220	1/4W	R708	ERJ6GEYJ154V	150K	1/10W	R902	ERDS2TJ822T	8.2K	1/4W
R207	ERDS2TJ393T	39K 1/4W	R333	ERDS2TJ563T	56K	1/4W	R709	ERJ6GEYJ683V	68K	1/10W	R903	ERDS2TJ333T	33K	1/4W
R208	ERDS2TJ393T	39K 1/4W	R334	ERDS2TJ222T	2.2K	1/4W	R711	ERJ6GEYJ154V	150K	1/10W		-		
	1	1		1	1		J L	L			I L	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values	& Remarks	Ref No.	Part No.	Values	& Remarks	Ref No.	Part No.	Values	& Remarks
		CAPACITORS	C201	ECBT1C122MR5	1200F	9 16V	C400	ECEA1AKA101B	100	10V	C823	ECEA1HKAR68B	0.68	50V
			C202	ECEA1CU100B	10	16V	C501	ECQV1H104JZ3	0.1	50V	C824	ECEA1HKAR22B	0.22	50V
C2	ECBT1H470J5	47P 50V	C203	ECBT1H102KB5	1000F	9 50V	C502	ECQV1H104JZ3	0.1	50V	C825	ECEA1HKA0R1B	0.1	50V
C3	ECBT1H220JC5	22P 50V	C204	ECBT1H101KB5	100P	50V	C503	ECQV1H104JZ3	0.1	50V	C826	ECEA1HKA010B	1	50V
C4	ECBT1H100J5	10P 50V	C205	ECFR1C333MR	0.033	16V	C504	ECQV1H104JZ3	0.1	50V	C901	ECBT1H471KB5	470P	50V
C5	ECBT1H102KB5	1000P 50V	C206	ECEA0JU101B	100	6.3V	C601	ECEA1CKA100B	10	16V	C902	ECBT0J223MS5	0.022	6.3V
C6	ECBT1H102KB5	1000P 50V	C207	ECEA1CU100B	10	16V	C602	ECEA1CKA101B	100	16V	C903	ECBT1C682MR5	6800F	° 16V
C7	ECBT1H4R7KC5	4.7P 50V	C208	ECBT1H101KB5	100P	50V	C701	ECEA0JKA3301	33	6.3V	C904	ECBT1H102KB5	1000F	° 50V
C8	ECBT1H220JC5	22P 50V	C209	ECBT1H102KB5	1000F	9 50V	C702	ECUZNE104MBN	0.1	25V	C905	ECBT1H102KB5	1000F	° 50V
C9	ECBT1H102KB5	1000P 50V	C215	ECEA0JU101B	100	6.3V	C703	ECEA0JKA1011	100	6.3V	C911	ECFR1C104MR	0.1	16V
C10	ECBT1H120JC5	12P 50V	C216	ECEA1HU010B	1	50V	C704	ECUZNE104MBN	0.1	25V	C912	ECFR1C103MR	0.01	16V
C11	ECBT1H220JC5	22P 50V	C217	ECEA0JKA470B	47	6.3V	C705	ECUZNE104MBN	0.1	25V	C920	ECEA1HKA010B	1	50V
C12	ECFR1C223MR	0.022 16V	C218	ECQV1H184JZ3	0.18	50V	C706	ECUV1H272KBN	2700F	° 50V	C921	ECEA1CKA100B	10	16V
C13	ECFR1C223MR	0.022 16V	C219	ECEA1AU471B	470	10V	C707	ECUV1E273KBN	0.027	25V	C922	ECEA1HKA010B	1	50V
C14	ECBT1H221KB5	220P 50V	C220	ECFR1C153MR	0.015	16V	C708	ECUV1H472KBN	4700F	° 50V	C923	ECEA1HKAR68B	0.68	50V
C15	ECEA1HKA010B	1 50V	C221	ECEA1CU100B	10	16V	C709	ECUV1C473KBN	0.047	16V	C924	ECEA1HKAR22B	0.22	50V
C16	ECBT1C682MR5	6800P 16V	C222	ECBT1H561KB5	560P	50V	C710	ECUV1H182KBN	1800F	9 50V	C925	ECEA1HKA0R1B	0.1	50V
C17	ECEA1EKA100B	10 25V	C223	ECEA1HU010B	1	50V	C711	ECUZNE104MBN	0.1	25V	C926	ECEA1HKA010B	1	50V
C18	ECEA1CKA470B	47 16V	C302	ECBT1H102KB5	1000F	9 50V	C712	ECUZNE104MBN	0.1	25V				
C19	ECFR1C223MR	0.022 16V	C303	ECEA1CU220B	22	16V	C713	ECUV1C104MBM	0.1	16V				
C20	ECEA0JKA101B	100 6.3V	C306	ECBT1H102KB5	1000F	9 50V	C714	ECEA0JKA1011	100	6.3V				
C21	ECBT1H102KB5	1000P 50V	C308	ECBT1H102KB5	1000F	9 50V	C716	ECUV1H561KBN	560P	50V				
C22	ECFR1C473MR	0.047 16V	C309	ECBT1H102KB5	1000F		C717	ECUZNE104MBN	0.1	25V				
C23	ECEA1HKAR22B	0.22 50V	C310	ECBT1H102KB5	1000F		C718	ECUV1C224KBN	0.22	16V			1	
C24	ECEA1EKA100B	10 25V	C311	ECBT1H102KB5	1000F		C721	ECUV1H150JCN	15P	50V			1	
C25	ECBT1C103MS5	0.01 16V	C312	ECEA1AU470B	47	10V	C722	ECUV1H150JCN	15P	50V			+	
C26	ECBT0J223MS5	0.022 6.3V	C313	ECFR1C473MR	0.047		C723	ECEA1AKA221I	220	10V				
C27	ECBT1H102KB5	1000P 50V	C314	ECEA1AU220B	22	10V	C724	ECUV1C104MBM	0.1	16V				
C28	ECBT1H1R5MC5	1.5P 50V(EB)	C315	ECEA1AU101B	100	10V	C725	ECUV1H102KBN	1000F	° 50V				
C30	ECBT1H330J5	33P 50V	C316	ECEA1CU100B	10	16V	C726	ECUV1H102KBN	1000	P 50V				
C31	ECBT1H4R7KC5	4.7P 50V	C317	ECBT1C103MS5	0.01	16V	C727	ECEA1HPK010I	1	50V				
C32	ECBT1H120JC5	12P 50V	C318	ECQP2A331JZT	330P	100V	C728	ECEA1HPK010I	1	50V				
C33	ECFR1C223MR	0.022 16V	C319	ECBT1C103MS5	0.01	16V	C730	ECUZNE104MBN	0.1	25V				
C34	ECBT1H200JC5	20P 50V	C320	ECQP2A151JZT	150P	100V	C731	ECEA0JKA2211	220	6.3V				
C35	ECBT1H220JC5	22P 50V	C321	ECEA1CU100B	10	16V	C732	ECEA0JKA2211	220	6.3V				
C36	ECQP2A221JZT	220P 100V	C322	ECEA1HU3R3B	3.3	50V	C733	ECUZNE104MBN	0.1	25V				
C37	ECQP1361JZT	360P 100V [M]	C323	ECQP2A182JZT	1800F	P 100V	C734	ECEA1AKA2211	220	10V				
C40	ECBT1C103NS5	0.01 16V	C324	ECBT1C103MS5	0.01	16V	C735	ECUZNE104MBN	0.1	25V			1	
C44	ECQP2A151JZT	150P 100V	C325	ECBT1C103MS5	0.01	16V	C736	ECUZNE104MBN		25V			1	
C45	ECEA1HKAR22B	0.22 50V	C326	ECEA1AU101B	100	10V	C737	ECUZNE104MBN	0.1	25V				
C50	ECBT1H221KB5	220P 50V	C327	ECEA1AU101B	100	10V	C738	ECUV1C154KBN	0.15	16V				
C51	ECBT1H101KB5	100P 50V	C329	ECBT1C103MS5	0.01	16V	C742	ECUV1E273KBN	0.027	25V				
	ECBT1C122MR5	1200P 16V	C330	ECEA1AU221B	220	10V	C743	ECUZNE104MBN	0.1	25V				
	ECEA1CU100B	10 16V	C332	ECEA1CU100B	10	16V	C744	ECUV1E822KBN		P 25V				
	ECBT1H102KB5	1000P 50V	C335	ECEA1CU101B	100	16V	C745	ECUV1C473MBN	0.047					
	ECBT1H101KB5	100P 50V	C336	ECBT1C103MS5	0.01	16V	C747	ECUV1H222KBN	2200	P 50V				
	ECFR1C333MR	0.033 16V	C337	ECEA1AU101B	100	10V	C748	ECUV1H471KBM	470P	50V				
	ECEA0JU101B	100 6.3V	C338	ECEA1AU471B	470	10V	C749	ECUZNE104MBN		25V			1	
	ECEA1CU100B	100 0.5V	C339	ECBT1C103MS5	+	16V	C751	ECUZNE104MBN		25V			+	
	ECBT1H101KB5	100 10V	C340	ECEA1CU222B	2200		C752	ECUV1H152KBN		P 50V			+	
	ECBT1H102KB5	1000P 50V	C341	ECEA1AU221B	220	10V	C753	ECUV1H471KBM	470P					
	ECEA0JU101B	100 6.3V	C342		220		C754	ECUV1H471KBN	470P				1	
	ECEA1HU010B	1 50V	C344			10V	C801	ECBT1H471KB5	+	50V		-		
	ECEA0JKA470B	47 6.3V	C351	ECFR1C223MR	0.022		C802	ECBT0J223MS5		6.3V				
	ECQV1H184JZ3	0.18 50V	C352	ECFR1C683MR	0.022		C802	ECBT1C682MR5		P 16V				
		470 10V	C352	ECBT1H102KB5		P 50V	C811	ECFR1C104MR	0.1	16V			+	
	ECERICISIME		C353			P 50V	C812	ECFR1C104MR		16V			+	
	ECFR1C153MR	0.015 16V	C354	ECEA1HU010B	1	50V	C820	ECEA1HKA010B	1	50V		+		
	ECEA1CU100B	10 16V	<b> </b>		0.01		C821	ECEATICKA100B	10	16V		+	+	
	ECBT1H561KB5	560P 50V	i	ECBT1C103MS5			C822		1	50V		+	+	
0123	ECEA1HU010B	1 50V	0361	ECBT1C103MS5	0.01	101		ECEA1HKA010B	<u> </u>	007	J L	1		

# Packing Materials & Accessories

Notes: \* Important safety notice:

Components identified by A 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 these components, be sure to use only manufacturer's specified parts shown in the parts list .
- \* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area)
- Parts without these indications can be used for all areas. \* The "(SF)" mark denotes the standard part.
- \* [M] Indicates in the Remarks columns indicates parts supplied by MESA.

Ref No.	Part No.	Part Name & Description	Remarks	Ref No. Part No.		Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS				ACCESSORIES					
P1	RPGX0265	GIFT BOX	[M](EB)	A1	RQT3560-1B	INSTR. MANUAL	[M](EB)				
P1	RPGX0241			A1	RFKSXDT530EG	INSTR. MANUAL ASS'Y	[M](EG)				
P2	RPHX0007-1	MIRAMAT SHEET	[M]	A2	VJA0733	AC-CORD	<b>▲</b> (SF)(EB)				
P3	RPNX0048	POLYFOAM	[M]	A2	RJA0019-2K	AC CORD	▲(SF)(EG)				