COMPACT DISC PLAYER

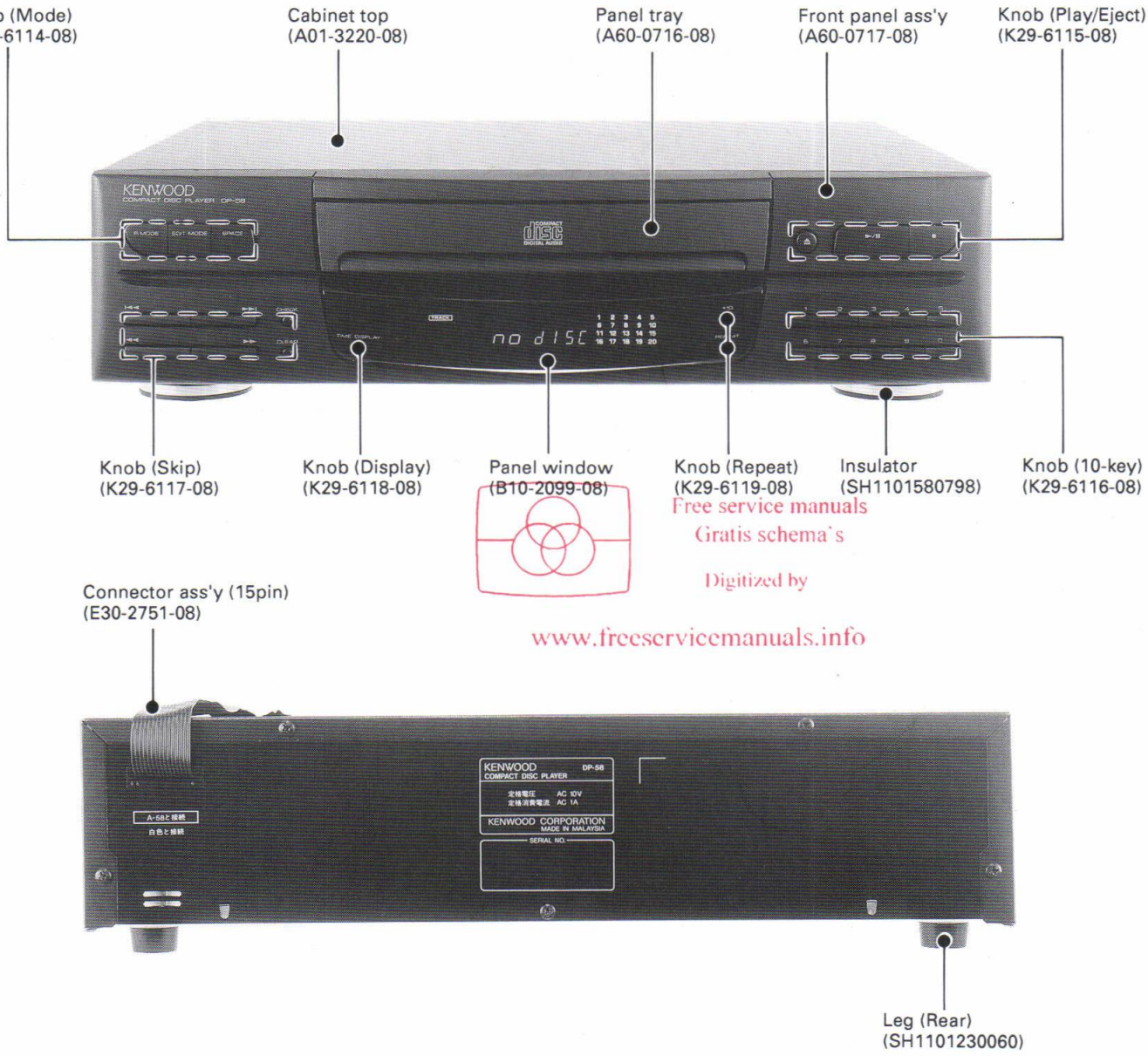
DP-58

SERVICE MANUAL

(MIDI M-58/M-767)

KENWOOD

B51-4948-00 (N) 2192



In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR 1040. 10, Chapter 1, Subchapter J.

DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

Refer to DP-470 service manual (B51-4794-00), if need semiconductor description in detail.
When doing repair of DP-58 be sure to have the custmer bring the A-58 or use power supply jig PS-93UA or PS-94UA.

CONTENTS/ACCESSORIES

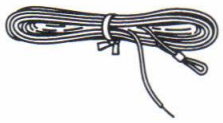
CONTENTS

ACCESSORIES

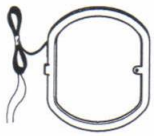
System configuration (*Speaker cords are packed with the Speakers. All other accessories are packed with the Amp/GE unit.*)

System name	AMP / GE	TUNER	CD PLAYER	CASSETTE DECK	Speakers
MIDI M-58	A-58	T-58L	**DP-58**	X-58	LS-58
MIDI M-767	A-58	T-58	**DP-58**	X-58	S-58

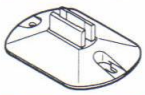
- FM indoor antenna 1
  (T90-0182-15)



- AM loop antenna ass'y
  (T90-0195-05)



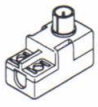
Loop antenna stand
(J19-3645-05)



- AC plug adaptor 1
  (E03-0115-05)
  M-767 only

Except for U.K., Europe and Australia. For the unit with a European AC plug in areas other than Europe.

- Antenna adaptor 1
  (T90-0198-05)
  M-58 only



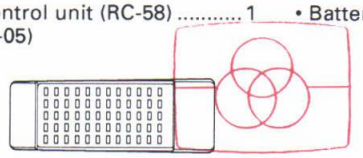
For U.K. and Europe.

- Speaker cords 2
  (818. 05. 011) **LS-58**
  (E31-5479-08) **S-58**

For U.K. and Europe.

- Power cord 1
  (E30-2778-05) **Y**
  (E30-2779-05) **M,E,G**
  (E30-2780-05) **X**
  (E30-2781-05) **T**

- Remote control unit (RC-58) 1
  (A70-0986-05)



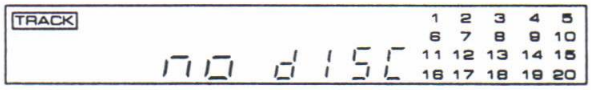
- Batteries 2

Battery cover
(A09-0106-08)

Note related to transportation and movement :

Before transporting or moving the CD PLAYER, carry out the following operation.

1. Turn the POWER switch ON but do not load a disc.
2. Wait a few seconds and verify that the display shown appears.
3. Turn the POWER switch OFF.



PS-93UA or PS-94UA

Model : PS-93UA or PS-94UA

Power supply for the audio model UD series.
Audio signal lines in 15P and 19P flat cable are connected to RCA connectors.

Explanation of the function

① **POWER SWITCH**
This switch should be turned on when using the 15 pin PRE CD DECK ③, the 19 pin PRE CD DECK ⑤ and 4 pin power supply ⑦.

② **15 PIN POWER AMP**
Connect to a system which require the 15 pin flat cable for connection, when check the power amp. section.
AC power source is not output from the terminal.
The signals are input and output to the RCA terminals and SYNC terminal on the front panel.
(ex : A-711, A-722, A-A7, B-992, B-A9, etc)

③ **15 PIN PRE CD DECK**
Connect to a system which require the 15 pin flat cable for connection, when check the functions except power section AMP.
The AC power are supplied to the pin No.12, 13 for 9V and the pin No.14, 15 for 16V from the terminal.
The signal flow are same as 15 pin power AMP terminal.
(ex : DP-711, DP-722, DP-A7, C-922, X-711, X-722, X-A7, etc)

④ **19 PIN POWER AMP**
Connect to a system which require the 19 pin flat cable for connection, when check the power AMP section.
The AC power is not supplied in the terminal.
The signals are input and output to the RCA terminal on the front of panel.
(ex : A-B7, A-B3, B-B9, A-E5, A-E7, B-E9, etc)

⑤ **19 PIN PRE CD DECK**
Connect to a system which require the 19 pin flat cable for connection, when check the component except power AMP. This terminal have the 4 system AC power supplies which is located to the pin No.13 to pin No.19.
(ex : X-B9, X-B5, X-B3, C-B9, DP-B5, DP-MB5, X-E5, X-ME5, X-E7, X-ME7, DP-E9, X-E9, C-E9, etc)

⑥ **SYNC TERMINAL**
Connect to the SYNCHRO CHECK JIG KSJ-0816. It can be controlled the system code 8 bit or 16 bit to the test set.

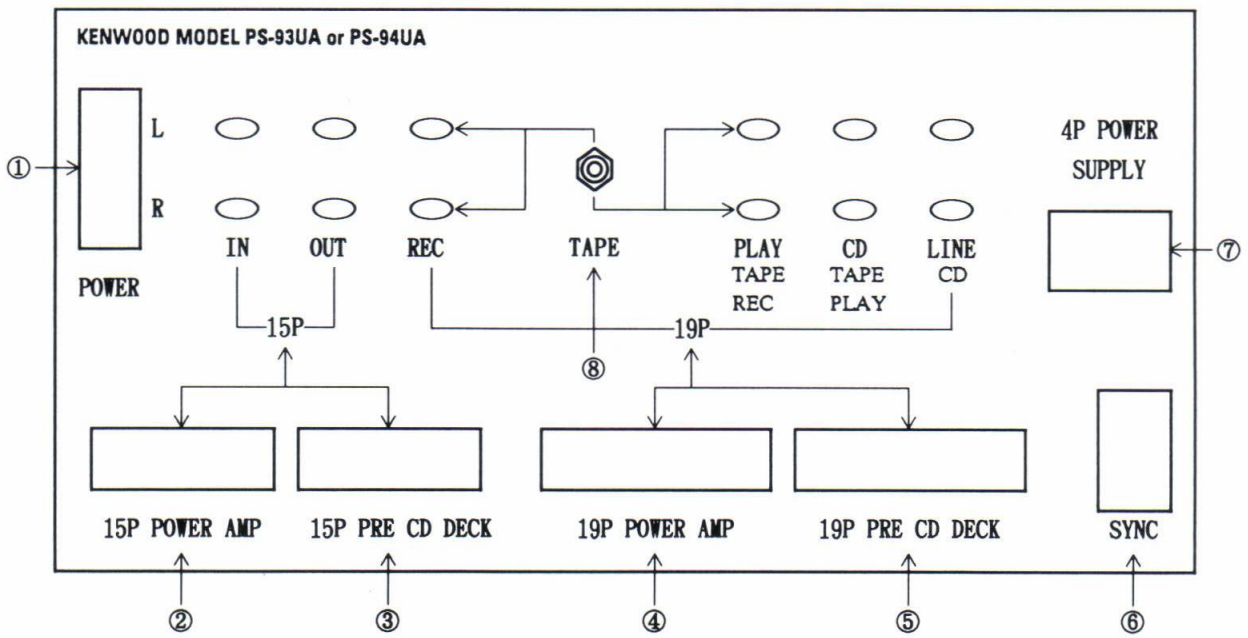
⑦ **4 PIN POWER SUPPLY**
Output terminal for AC 9V and AC16V.
It can be used supply the AC power to DECK, CD, TUNER for MIDI system.

⑧ **TAPE SWITCH**
The signal for deck of 19 pin terminal are share a well with the REC and PLAY.
So, please change the TAPE SW when DECK mode is PLAY or STOP then turn to the play, when DECK mode is REC or REC pause then turn to the REC.
(ex : X-B9, X-B5, X-B3, X-E9)

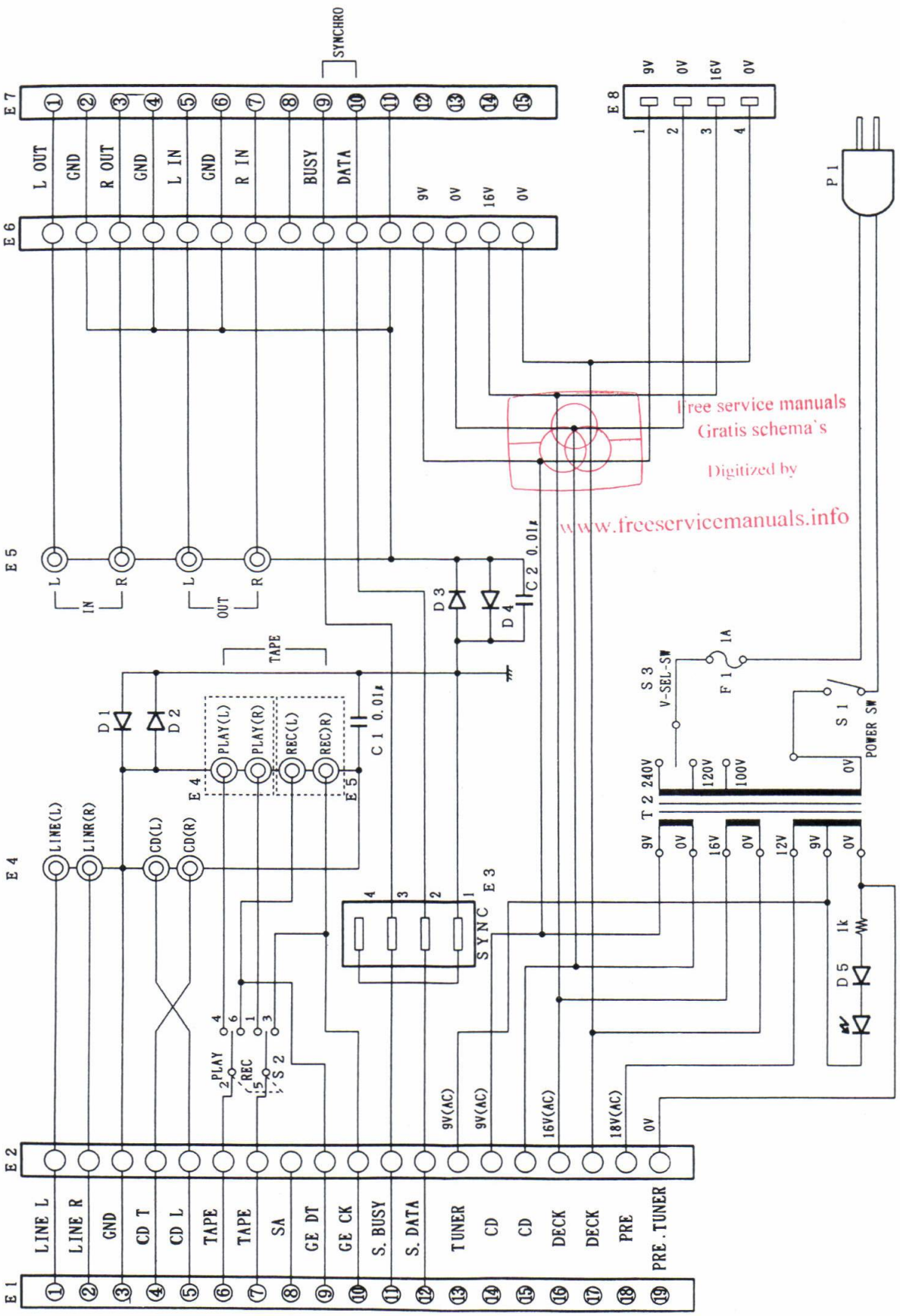
Note

For limited power supply's capacity, maximum connection is only one sets.
Do not connect a set together both with the 15 pin terminal and 19 pin terminal.

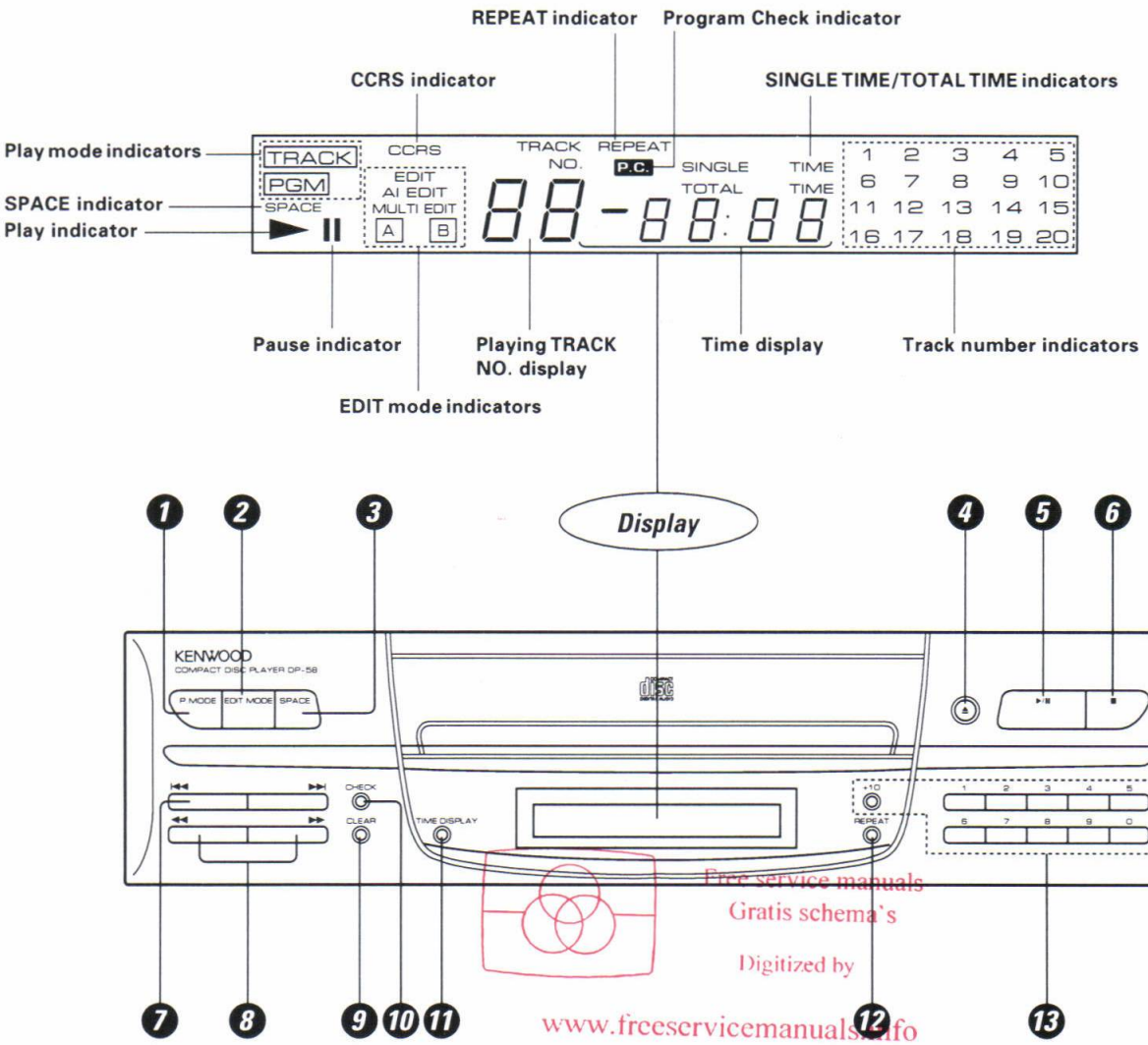
* In/output signals will shift as specified in the caution label when A-E5, A-E7, X-E5, X-ME5, X-E7, and X-ME7.
PLAY → TAPE REC
CD → TAPE PLAY
LINE → CD



PS-93UA or PS-94UA



CONTROLS/CAUTION



❶ **P.MODE key**
Press to switch between the TRACK mode and PGM mode.

❷ **EDIT MODE key**
Press to select the edit recording mode.

❸ **SPACE key**
When this key is pressed during recording in PGM mode, a non-recorded blank of about 4 seconds is created between recorded tracks.

❹ **Tray open/close key (⏏)**

❺ **Play/pause key (▶/⏸)**

❻ **Stop key (■)**

❼ **Skip keys (⏮,⏭)**
Press to skip to the beginning of another track.

❽ **Search keys (◀◀,▶▶)**
Press to move the played position of disc at high speed.

❾ **CLEAR key**

❿ **CHECK key**
Press to check the program contents.

⓫ **TIME DISPLAY key**
Press to switch the time display mode.

⓬ **REPEAT key**
Press for repeated playback.

⓭ **Numeric keys (0 to 9, +10)**

CAUTION

Beware of condensation

When water vapor comes into contact with the surface of cold material, water drops are produced.
If condensation occurs, correct operation may not be possible, or the unit may not function correctly.
This is not a malfunction, however, and the unit should be dried.
(To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

Be especially careful in the following conditions :

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

REMOTE CONTROL OPERATION

Super woofer operation keys
For use when operating the super woofer (optional).
S.W.POWER key, S.W.VOL. key

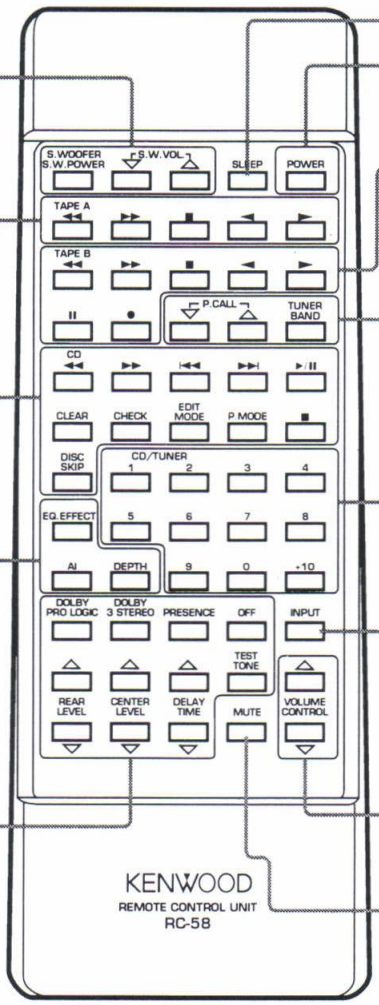
TAPE A operation keys
These keys perform the same operations as the corresponding keys on the cassette deck, However, operations requiring simultaneous pressing of two keys are not possible.

CD player operation keys
◀◀ and ▶▶ keys, I◀◀ and ▶▶I keys, ▶/II key, ■ key, P.MODE key, EDIT MODE key, CHECK key, CLEAR key, *DISC SKIP key

*The DISC SKIP key is for use with the M-58M or M-868M system.

Equalizer operation keys
EQ.EFFECT key, AI key, DEPTH key

Surround and presense effect-related keys
DOLBY PRO LOGIC key, DOLBY 3 STEREO key, PRESENCE key, OFF key, TEST TONE key, REAR LEVEL keys, CENTER LEVEL keys, DELAY TIME keys



SLEEP timer key

POWER key

TAPE B operation keys
These keys perform the same operations as the corresponding keys on the cassette deck, However, operations requiring simultaneous pressing of two keys are not possible.

Tuner operation keys
BAND key, P.CALL keys (▽,△)

Numeric keys
Function as the numeric keys of the CD player when the CD input is selected.
Function as the numeric keys of the tuner when the TUNER input is selected.

Input selector key
INPUT key: Press to select the component to be played.

VOLUME CONTROL keys
Press to adjust the volume. The volume level is displayed on the graphic equalizer unit while these keys are operated.

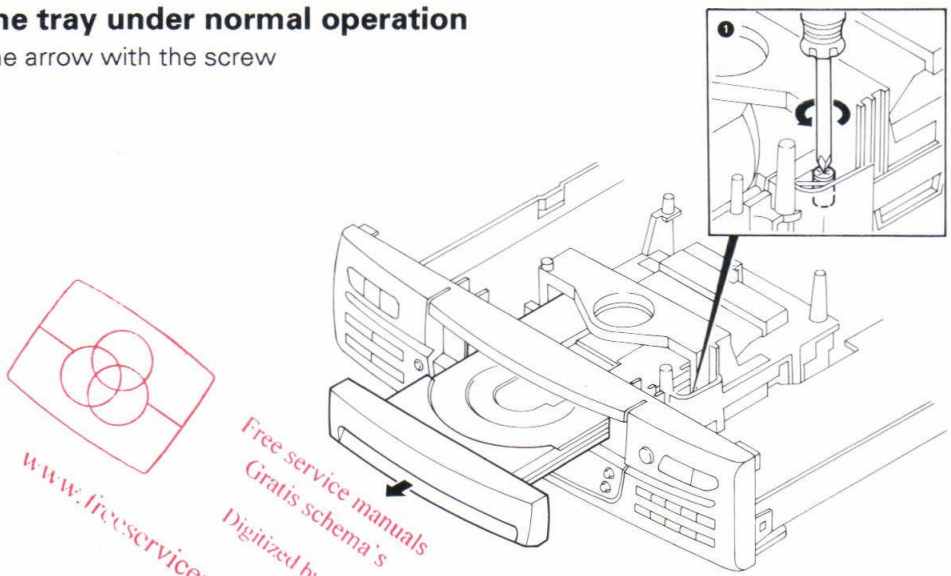
MUTE key
Press to mute the sound temporarily.

Model: RC-58
Infrared ray system

DISASSEMBLY FOR REPAIR

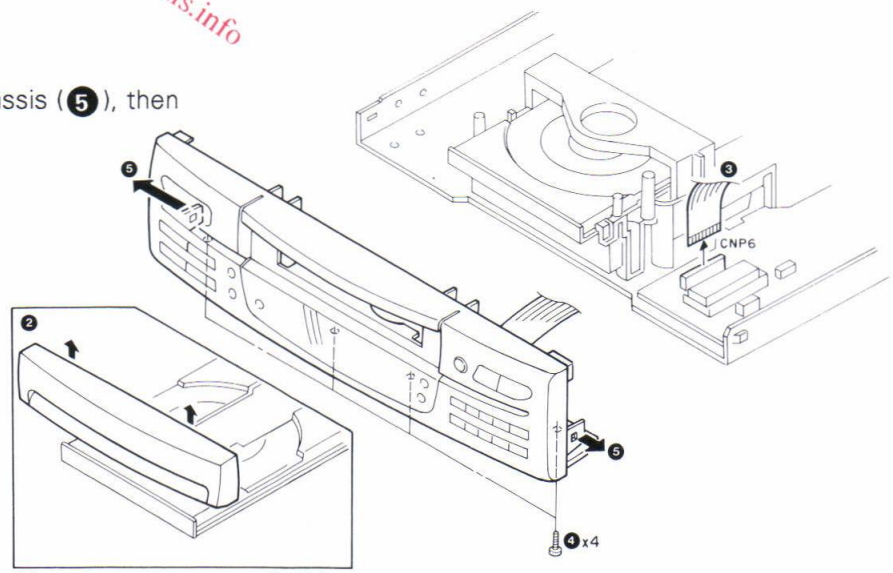
When not coming out the tray under normal operation

1. Turn the shaft of motor to the arrow with the screw driver (❶).



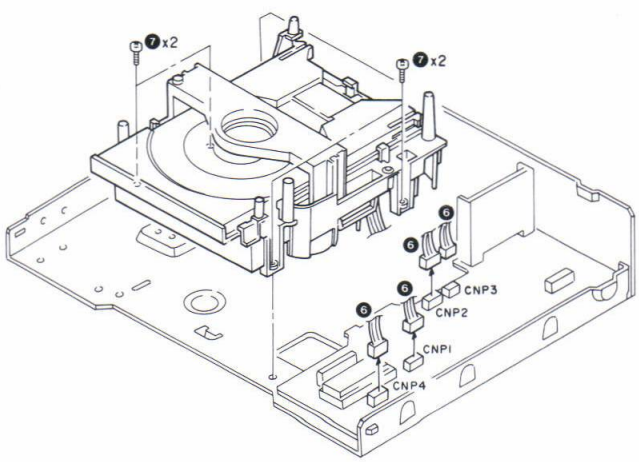
Removing the front panel

1. Remove the tray panel (❷).
2. Disconnect the flexible cord (❸).
3. Remove the 4 screws (❹).
4. Remove the panel-catches from chassis (❺), then remove the front panel.



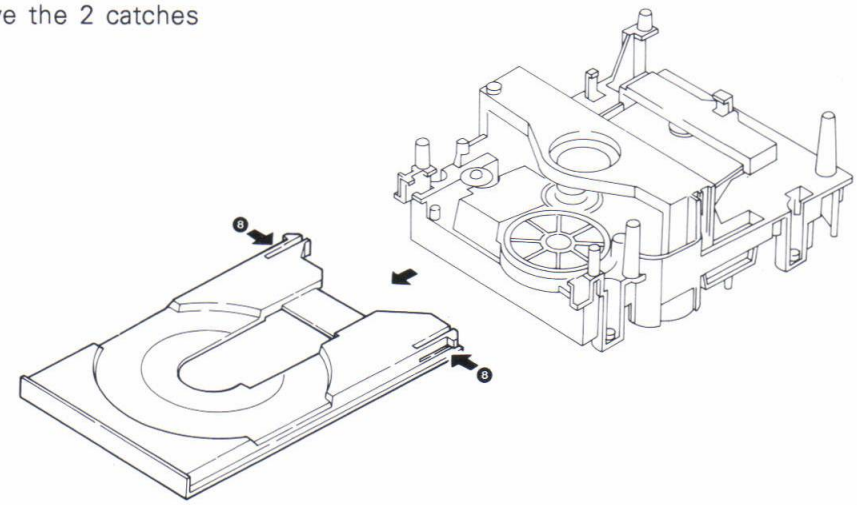
Removing the mechanism ass'y and the tray

1. Disconnect the 4 connectors (❻).
2. Remove the 4 screws (❼), then remove the mechanism ass'y.



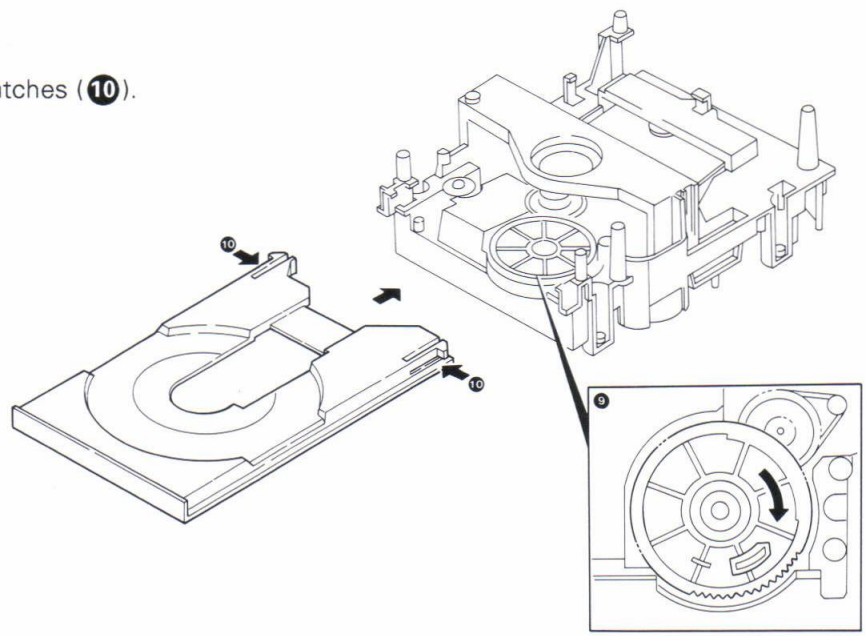
DISASSEMBLY FOR REPAIR

3. Slide the tray front-wards, remove the 2 catches (8), then remove the tray.



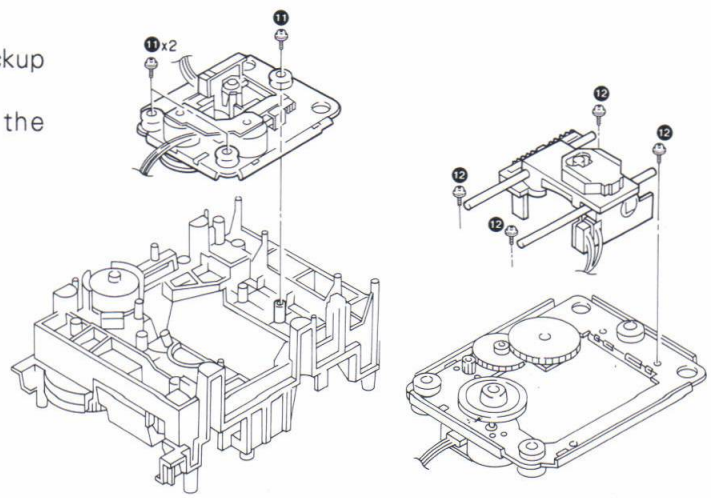
How to mount the tray

1. Turn the gear fully clockwise (9).
2. Insert the tray while pressing the 2 catches (10).

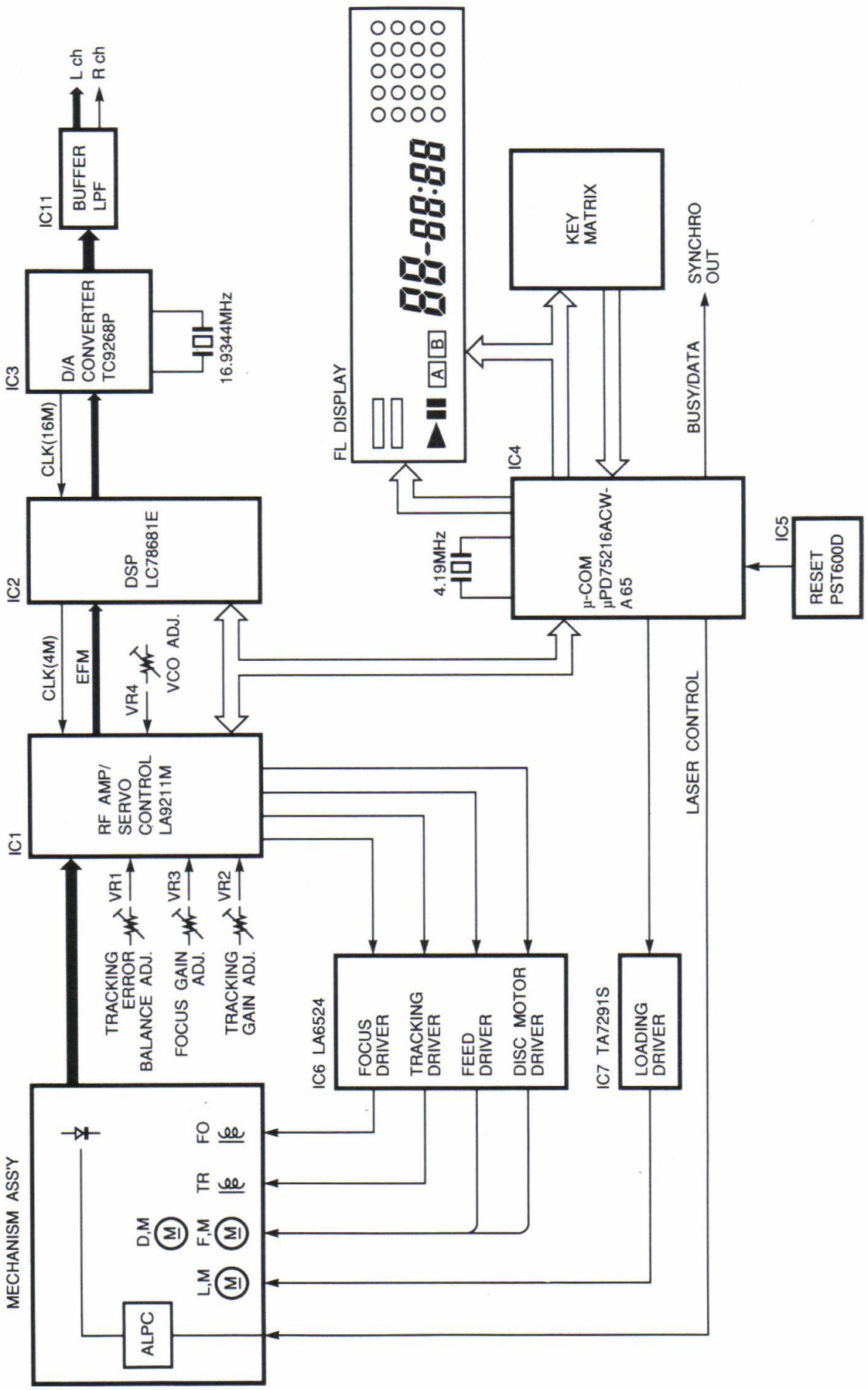


Removing the pickup

1. Remove the 3 screws (11), then remove the pickup mechanism ass'y.
2. Remove the 4 screws (12), then remove the pickup.



BLOCK DIAGRAM

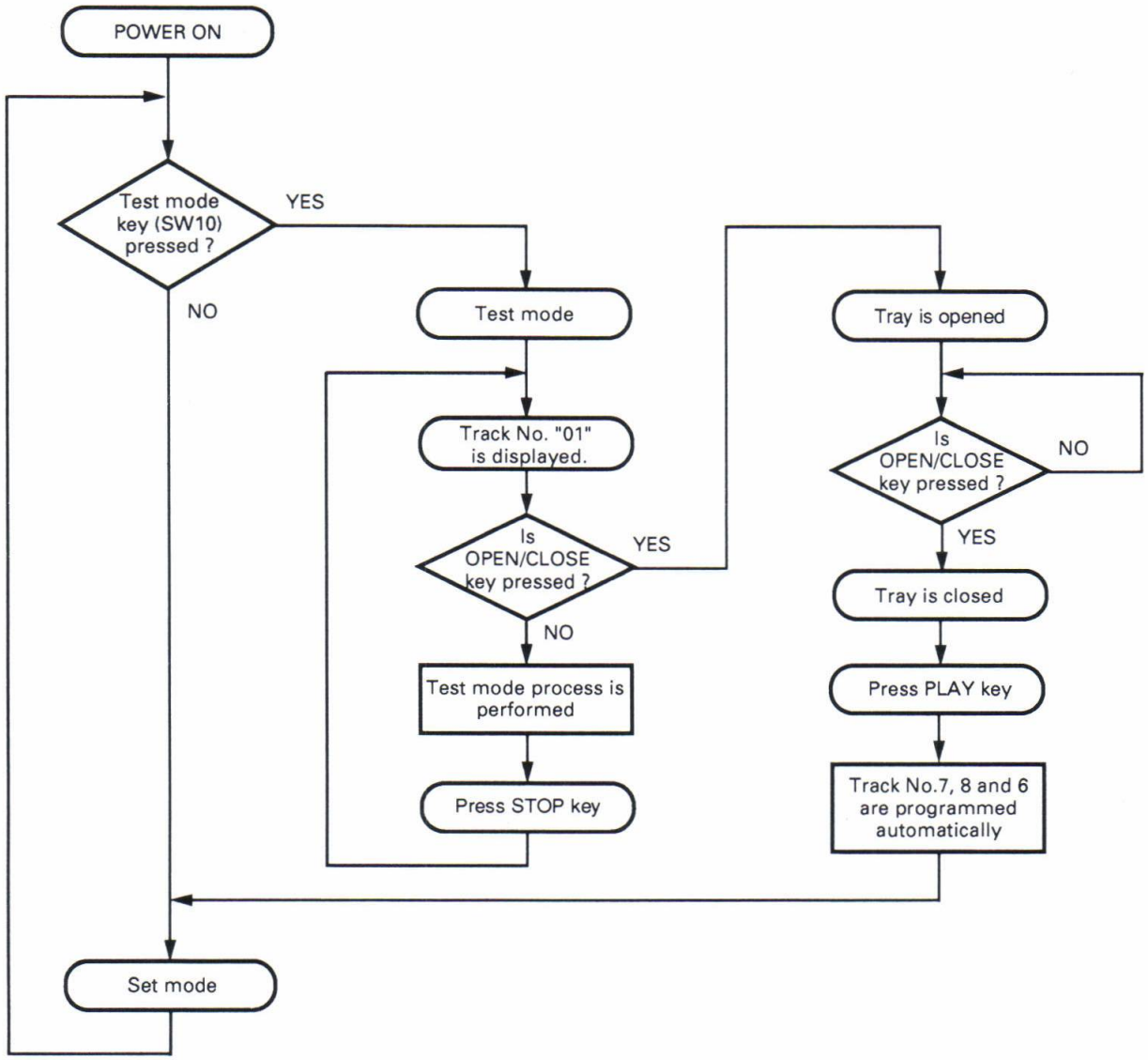


CIRCUIT DESCRIPTION

Test Mode

Setting the test mode

This microprocessor built in this unit can be put to TEST MODE (SW10).



CIRCUIT DESCRIPTION

Key and functions valid in test mode

No.	Input key	Function	Track No. display
1	PLAY	(1) Focusing servo ..... ON (2) Tracking servo ..... ON (3) Feed vervo ..... ON	TRACK NO. 05 ↓ Displayed for a few seconds after completion (1), (2) and (3). ↓ Disc Track No. is displayed.
2	CHECK or Number "0" key	(1) Focusing servo ..... ON (2) Tracking servo ..... OFF (3) Feed servo ..... OFF	TRACK NO 03
3	STOP	(1) Focusing servo ..... OFF (2) Tracking servo ..... OFF (3) Feed servo ..... OFF	TRACK NO. 01
4	▶▶	In the STOP mode, moves the pickup slightly toward the outer position of disc. When feed servo is ON, sets the track gain to "H".	-
5	◀◀	In the STOP mode, moves the pickup slightly toward the inner position of disc. When feed servo is ON, sets the track gain to "L".	-
6	UP ▶▶|	Turns all FL display lamps ON.	TRACK NO. 88
7	DOWN |◀◀	Turns all FL display lamps OFF. "TRACK NO." is lighted.	TRACK NO 88
8	+10	Playback Track No.1 under High-speed mode (If not open tray, SPACE key function is available.)	-
9	SPACE	Set playback mode to High-speed or Normal.	-
10	P. MODE	Track No. 7,8, and 6 (High-speed) are programmed and playback from Track No.7. The test mode is canceled.	-
11	OPEN/CLOSE	When the tray is opened then closed. Track No. 7, 8, and 6 are programmed and set is in STOP mode. The test mode is canceled.	TRACK NO. 00
12	Numeric key (1 ~ 9)	Jumps tracks as shown below.	-
13	REPEAT	(1) Tray ..... Opened (2) Laser ..... ON The REPEAT function is canceled when the tray is closed by pressing the tray. "REPEAT" figures is lighted.	TRACK NO. 02

Key	1	2	3	4	5
Number of tracks	1	4	128	512	1000
Direction	Outer				
Key	6	7	8	9	
Number of tracks	1	4	128	512	
Direction	Inner				

REPEAT mode : Press "REPEAT" key → Press "OPEN/CLOSE" key → Press "REPEAT" key...

ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	VCO	Test disc Type 4	Connect the frequency counter to "VCO" and GND.	Short-circuit pins TEST and turn the power on to enter the test mode. Press the STOP key. Then, confirm that the display is "01"	VR4	4.24MHz±15kHz	(a)
2	TRACKING ERROR BALANCE	Test disc Type 4	Connect the oscilloscope to "T.ER".	Press the OPEN/CLOSE key to open the tray. Reset to TEST mode Then, press the CHECK key. Confirm that the display is "03".	VR1	Symmetry between upper and lower patterns, or DC=0±0.05V	(b)
3	FOCUS GAIN	Test disc Type 4 Apply signal of 1kHz, 0.5Vrms to R61(F.P.- F.E.).	Connect a LPF to R61 (F.P.- F.E.) ,to which connect two AC voltmeters.	Press the PLAY key Confirm that the display is "05".	VR3	Two VTVMs should read the same value.	(c)
4	TRACKING GAIN	Test disc Type 4 Apply signal of 1kHz, 0.5Vrms to R63(T.P.- T.E.).	Connect a LPF to R63 (T.P.- T.E.) ,to which connect two AC voltmeters.	Press the PLAY key Confirm that the display is "05".	VR2	Two VTVMs should read the same value.	(d)
5	H.F. LEVEL CONFIRMATION	Test disc Type 4	Connect the oscilloscope to "H.F.".	Press the PLAY key Confirm that the display is "05".	—	1.5Vp-p ~ 2.5Vp-p	(e)

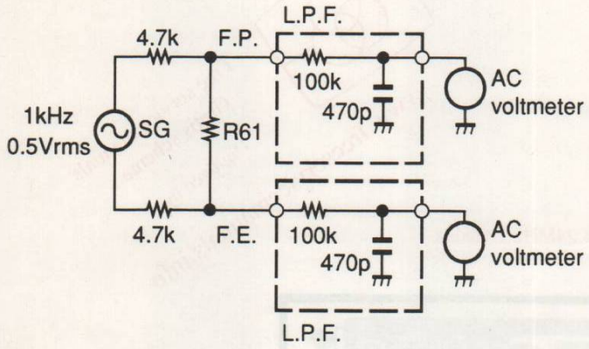
(NOTE) Type 4 disc : SONY YEDS-18 TEST DISC or equivalent.
Adjustment procedures are in TEST MODE.

CAUTION

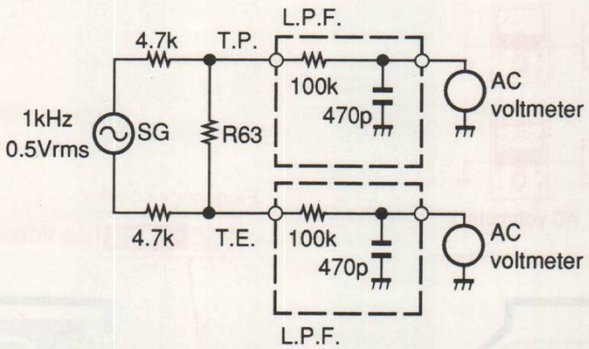
On portable CD player and CD player, if connect the test measurements to Vc (standard voltage) terminal, it is not connected to other test measurements.

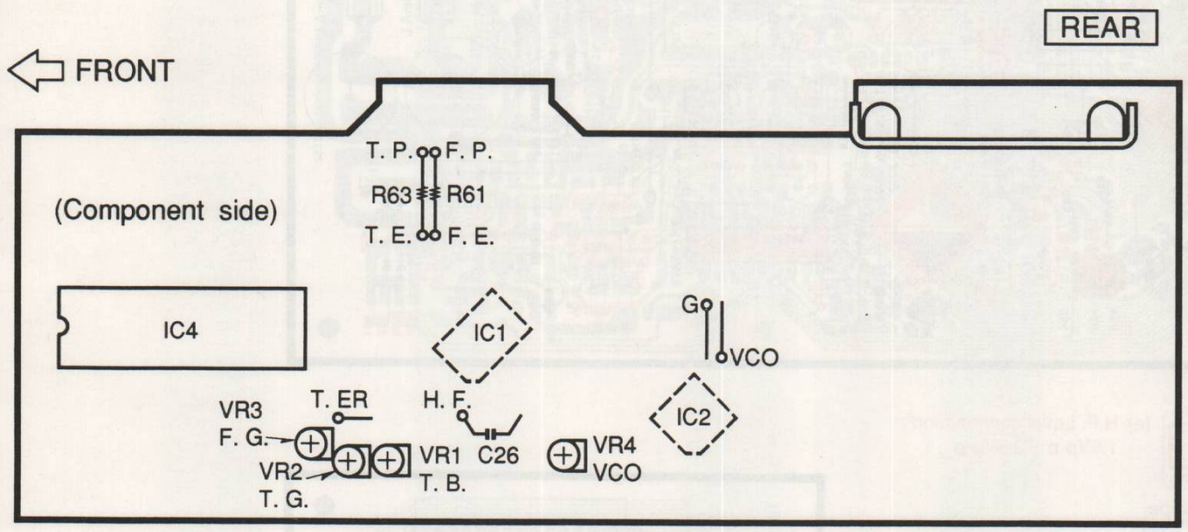
ADJUSTMENT

(c) Focus gain



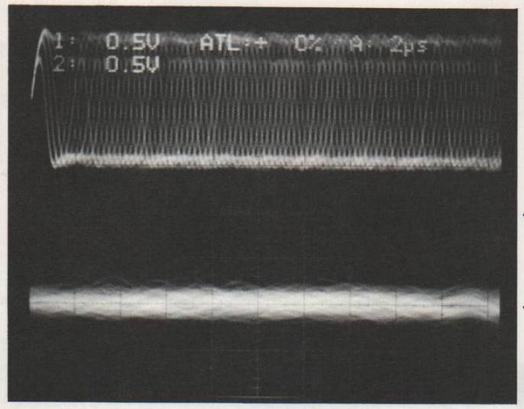
(d) Tracking gain





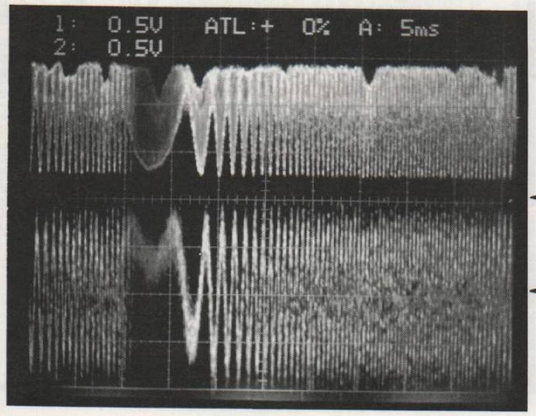
ADJUSTMENT

RF level, TE waveform



- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 18µs after RF signal, in the form of a projection.

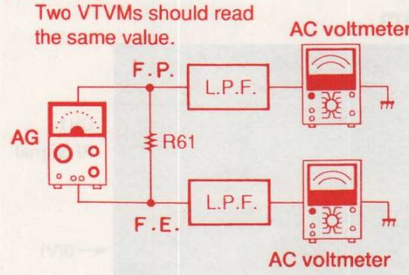
(b) Tracking error balance



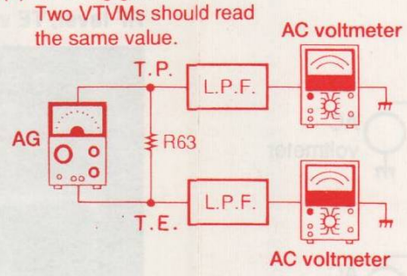
- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 4)
- Adjust T.Error so that the waveform is symmetrical above and below 0V. (VR 1)

PC BOARD (COMPONENT SIDE VIEW)

(c) Focus gain :
Two VTVMs should read the same value.



(d) Tracking gain :
Two VTVMs should read the same value.

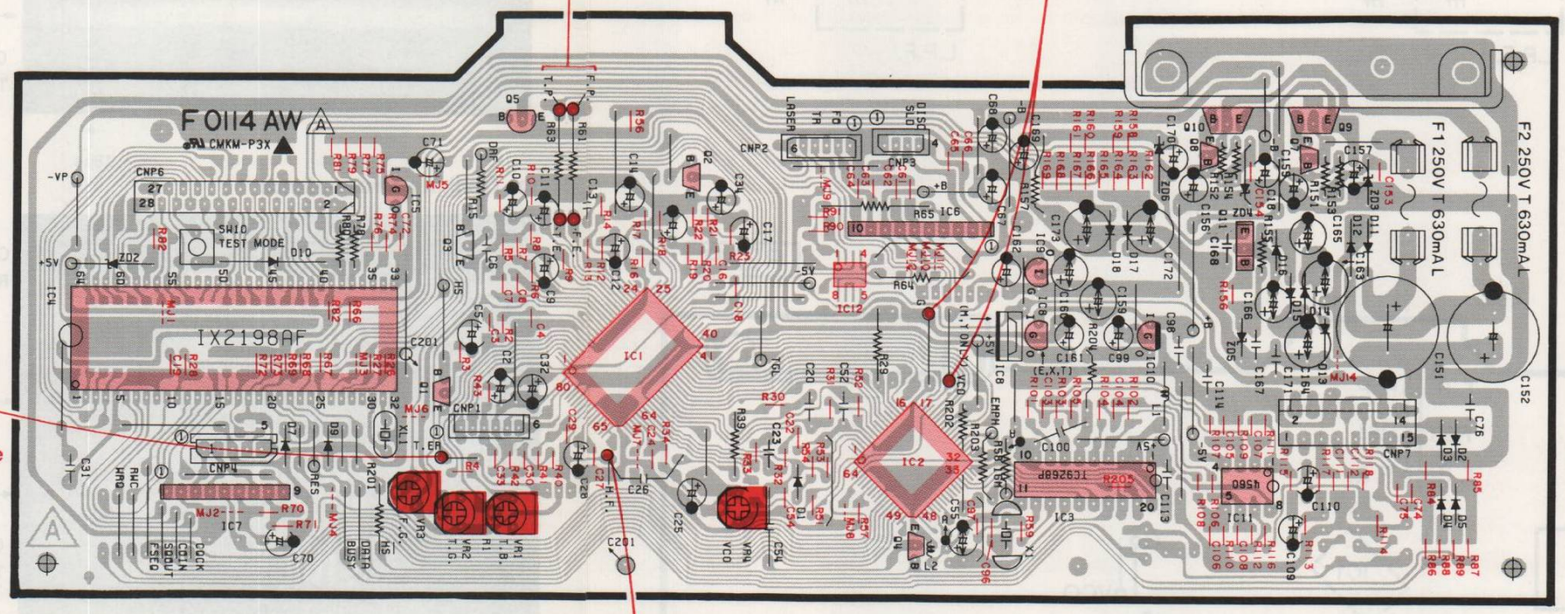


Frequency counter

(a) VCO : 4.24MHz±15kHz

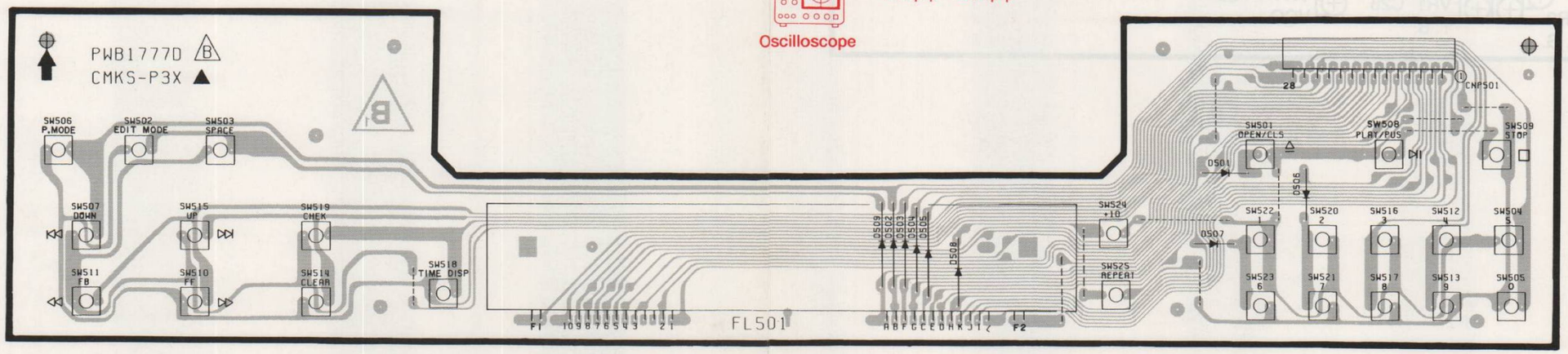
(b) Tracking error balance :
Symmetry between upper and lower patterns,
or
DC=0±0.05V

Oscilloscope

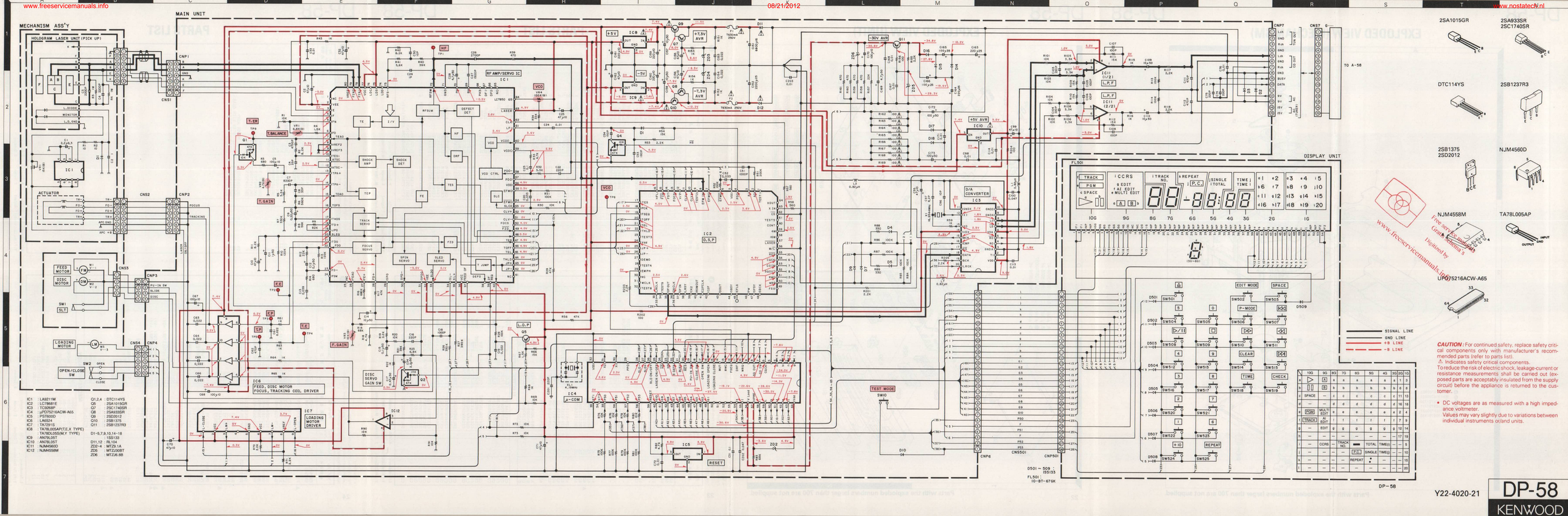


(e) H.F. Level confirmation :
1.5Vp-p ~ 2.5Vp-p

Oscilloscope



Refer to the schematic diagram for the values of resistors and capacitors.



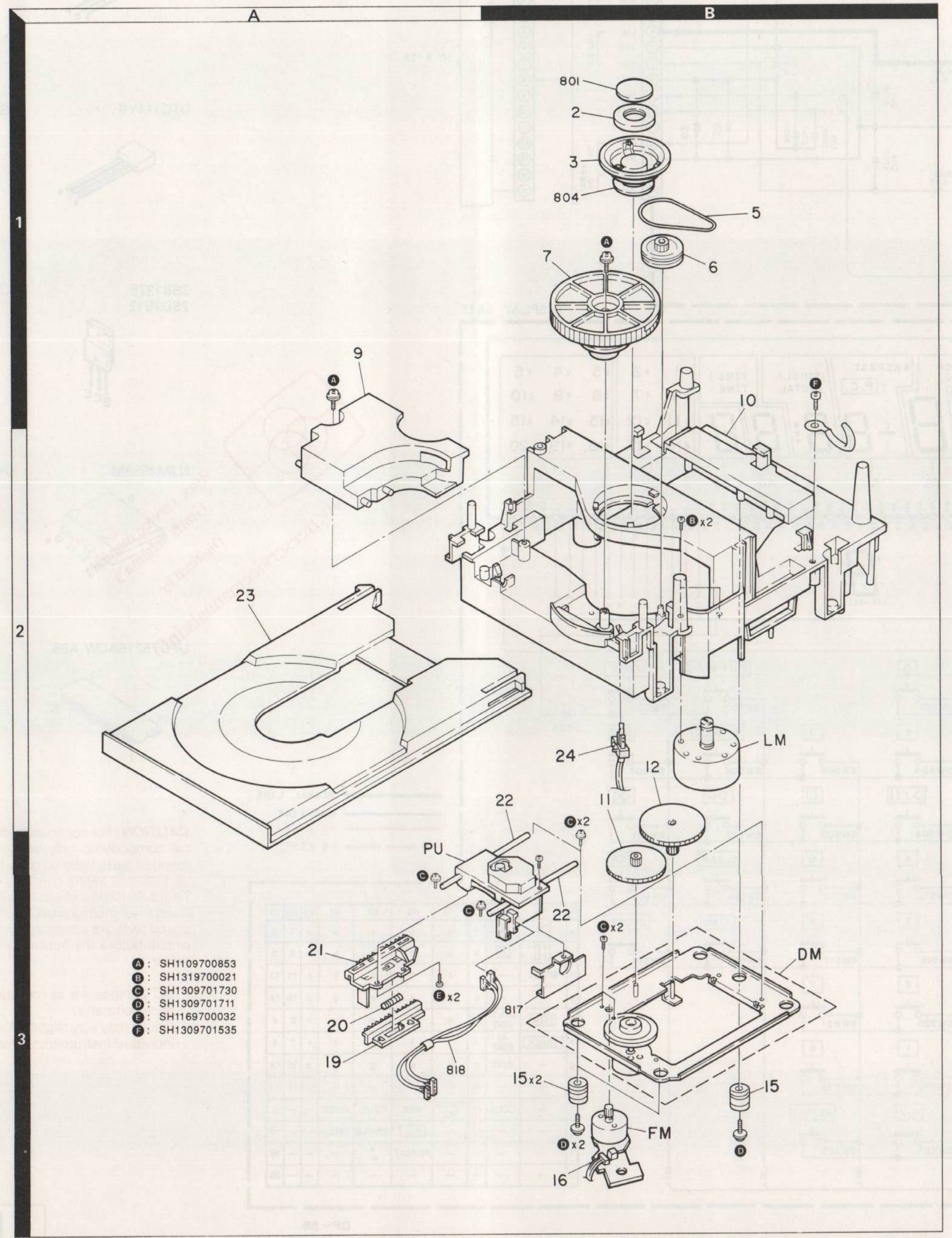
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).
⚠ Indicates safety critical components.
To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter.
  Values may vary slightly due to variations between individual instruments or/and units.

Y22-4020-21

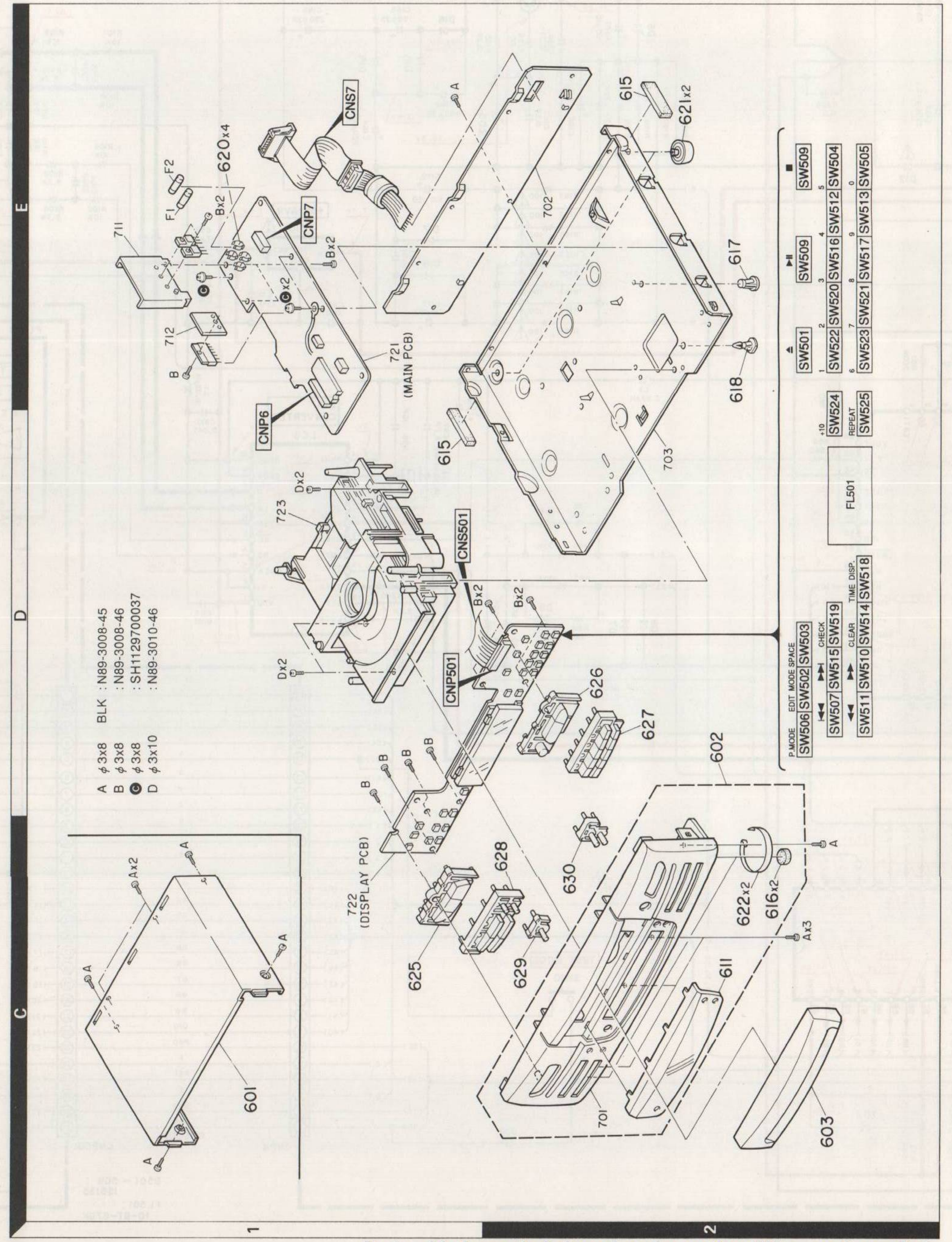
DP-58
KENWOOD

EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
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❶

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
				DP-58		
601	1C	*	A01-3220-08	CABINET TOP		
602	2D	*	A60-0717-08	FRONT PANEL ASSY		
603	2C	*	A60-0716-08	PANEL TRAY		
611	2C	*	B10-2099-08	PANEL WINDOW		
-			B46-0310-03	WARRANTY CARD	E	
615	1D,2E	*	G10-0199-08	CUSHION CHASSIS		
616	2C	*	SH1103260268	CUSHION		
-		*	H10-7015-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-7016-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H50-1290-08	ITEM CARTON CASE	M	
-		*	H50-1291-08	ITEM CARTON CASE	ETXY	
-			SH1109020633	PAD		
-			SH1109060121	PROTECTION BAG(UNIT)		
617	2E		SH1104130267	SPACER PWB		
618	2E		SH1102140449	BRACKET PWB		
Δ 620	1E		SH1105160005	FUSE HOLDER		
621	2E		SH1101230060	LEG(REAR)		
622	2C		SH1101580798	INSULATOR		
625	1C	*	K29-6114-08	KNOB(MODE)		
626	2D	*	K29-6115-08	KNOB(PLAY/EJECT)		
627	2D	*	K29-6116-08	KNOB(10-key)		
628	2C	*	K29-6117-08	KNOB(SKIP)		
629	2C	*	K29-6118-08	KNOB(DISPLAY)		
630	2D	*	K29-6119-08	KNOB(REPEAT)		
A			N89-3008-45	SCREW 3X8		
B			N89-3008-46	SCREW 3X8		
C			SH1129700037	SCREW 3X8		
D			N89-3010-46	SCREW 3X10		
				ELECTRIC PARTS		
C2			CE04KW1A470M	ELECTRO 47UF 10WV		
C3			SH1305900678	CYLND CHIP C 4700PF K		
C4			CC41DSL1H330J	CYLND CHIP C 33PF J		
C5			CE04KW1A101M	ELECTRO 100UF 10WV		
C7			SH1105950092	CYLND CHIP C 8200PF K		
C8			CC41DSL1H330J	CYLND CHIP C 33PF J		
C9			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C10			CE04KW1A470M	ELECTRO 47UF 10WV		
C11			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C12			CE04KW1H0R1M	ELECTRO 0.1UF 50WV		
C13			SH1305900642	CERAMIC 0.039UF K		
C14			CE04KW1H100M	ELECTRO 10UF 50WV		
C15			CE04KW1H0R1M	ELECTRO 0.1UF 50WV		
C16			CK73FB1H221K	CHIP C 220PF K		
C17			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C18			CK73FB1H102K	CHIP C 1000PF K		
C19			SH1305900673	CYLND CHIP C 0.022UF M		
C20			SH1305900664	CERAMIC 0.033UF K		
C22			CK73FB1H221K	CHIP C 220PF K		
C23			SH1425900032	CERAMIC 0.1UF K		
C24			SH1305900718	CYLND CHIP C 0.010UF K		

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❷

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C25			CE04KW1A470M	ELECTRO 47UF 10WV		
C26			SH1115900271	CERAMIC 2700PF K		
C27			SH1305900674	CERAMIC 1500PF K		
C28			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C29			CC41DSL1H1R0C	CYLND CHIP C 1.0PF C		
C30			CC41DSL1H100D	CYLND CHIP C 10PF D		
C31			CF92FV1H104J	MF 0.10UF J		
C32			CE04KW1A470M	ELECTRO 47UF 10WV		
C33			SH1305900718	CYLND CHIP C 0.010UF K		
C34			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C51			CK73FB1H102K	CHIP C 1000PF K		
C52			SH1305900664	CERAMIC 0.033UF K		
C53			CK73FB1H181K	CHIP C 180PF K		
C54			CK45FB1H151K	CERAMIC 150PF K		
C55			CE04KW1A470M	ELECTRO 47UF 10WV		
C61			SH1305900673	CYLND CHIP C 0.022UF K		
C62			CK73FB1H471K	CHIP C 470PF K		
C63 -66			SH1305900689	CERAMIC 0.022UF 25WV		
C67 ,68			CE04KW1A101M	ELECTRO 100UF 10WV		
C70 ,71			CE04KW1A470M	ELECTRO 47UF 10WV		
C72			SH1305900718	CYLND CHIP C 0.010UF K		
C74 ,75			CK73FB1H221K	CHIP C 220PF K		
C76			CK45FF1H103Z	CERAMIC 0.010UF Z		
C96			CC41DSL1H100J	CYLND CHIP C 10PF J		
C97			CC41DSL1H8R2D	CYLND CHIP C 8.2PF D		
C98			CK45FF1H103Z	CERAMIC 0.010UF Z		
C99			CE04KW1A470M	ELECTRO 47UF 10WV		
C100			CK45FF1H473Z	CERAMIC 0.047UF Z		
C103,104			CK73FB1H221K	CHIP C 220PF K		
C105-108			CK73FB1H101K	CHIP C 100PF K		
C109,110			CE04KW1H100M	ELECTRO 10UF 50WV		
C111,112			CK73FB1H471K	CHIP C 470PF K		
C113,114			CK45FF1H103Z	CERAMIC 0.010UF Z		
C151			CE04KW1C682M	ELECTRO 6800UF 16WV		
C152			CE04KW1E222M	ELECTRO 2200UF 25WV		
C153,154			SH1305900689	CERAMIC 0.022UF 25WV		
C155,156			CE04KW1A470M	ELECTRO 47UF 10WV		
C157,158			CE04KW1H100M	ELECTRO 10UF 50WV		
C159-161			CE04KW1A221M	ELECTRO 220UF 10WV		
C162			CE04KW1A470M	ELECTRO 47UF 10WV		
C163			CE04KW1E221M	ELECTRO 220UF 25WV		
C164			CE04KW1V221M	ELECTRO 220UF 35WV		
C165			CE04KW1V101M	ELECTRO 100UF 35WV		
C166			CE04KW1E101M	ELECTRO 100UF 25WV		
C167,168			CK45FF1H103Z	CERAMIC 0.010UF Z		
C169			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C170			CE04KW1A101M	ELECTRO 100UF 10WV		
C171			CK45FF1H103Z	CERAMIC 0.010UF Z		
C172,173			CE04KW1H101M	ELECTRO 100UF 50WV		
C202			CK45FF1H473Z	CERAMIC 0.047UF Z		
C203			CK45FF1H103Z	CERAMIC 0.010UF Z		
CNP6	1E		E40-4168-05	PLUG(28pin)		
CNP7	1E		SH1105100685	PLUG(15pin)		
CNS7	1E		E30-2751-08	CONNECTOR ASSY(15pin)		

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❸

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CNP501	2D		E40-4208-05	PLUG(28pin)		
CNS501	1D		E35-0791-08	CONNECTOR ASSY(28pin)		
Δ F1 ,2			F05-6313-05	FUSE(250V T630mA)		
L1 ,2			L40-8281-17	COIL 8.2MH		
L7			L40-8281-17	COIL 8.2MH		
X1		*	L77-2132-08	CRYSTAL REZONATOR(16.9344MHz)		
XL1			L78-0267-05	REZONATOR(4.19MHz)		
VR1			R12-2048-08	TRIMMING POT.6.8K<T.BALANCE>		
VR2			R12-1619-05	TRIMMING POT.4.7K<T.GAIN>		
VR3			R12-3685-05	TRIMMING POT.10K<F.GAIN>		
VR4			R12-5651-05	TRIMMING POT.100K<VCO>		
SW10			SH1305301218	TACT SWITCH(TEST MODE)		
SW501-525			SH1305301218	TACT SWITCH(EJECT etc.)		
D1 -5			1SS133	DIODE		
D7			1SS133	DIODE		
D9 ,10			1SS133	DIODE		
Δ D11 -13			RL104AT	DIODE		
D14 -18			1SS133	DIODE		
D501-509			1SS133	DIODE		
FL501			10-BT-67GK	INDICATOR TUBE		
IC1			LA9211M	IC(RF AMP/SERVO)		
IC2			LC78681E	IC(D.S.P.)		
IC3			TC9268P	IC(D/A CONVERTOR)		
IC4			UPD75216ACW-A65	IC(MICROPROCESSOR)		
IC5			PST600D	IC(RESET)		
IC6			LA6524	IC(DRIVER)		
IC7			TA7291S	IC(BRIDGE DRIVER)		
Δ IC8			TA78L005AP	IC(VOLTAGE REGULATOR/ +5V)		
Δ IC9			AN79L05T	IC(VOLTAGE REGULATOR/ -5V)		
Δ IC10			AN78L05T	IC(VOLTAGE REGULATOR/ +5V)		
IC11			NJM4560D	IC(OP AMP X2)		
IC12			NJM4558M	IC(OP AMP X2)		
Q1 ,2			DTC114YS	DIGITAL TRANSISTOR		
Q4			DTC114YS	DIGITAL TRANSISTOR		
Q5			2SA1015GR	TRANSISTOR		
Q7			2SC1740SR	TRANSISTOR		
Q8			2SA933SR	TRANSISTOR		
Δ Q9			2SD2012	TRANSISTOR		
Δ Q10			2SB1375	TRANSISTOR		
Q11			2SB1237R3	TRANSISTOR		
ZD2 -4			MTZ9.1A	ZENER DIODE		
ZD5			MTZJ30BT	ZENER DIODE		
ZD6			MTZJ6.8B	ZENER DIODE		
				MECHANISM ASS'Y		
2	1B		SH1313730001	MAGNET		
3	1B		T50-1067-08	BRACKET MAGNET		
5	1B		D16-0362-08	BELT DRIVE		
6	1B		D15-0364-08	PULLEY DRIVE		
7	1B		SH1102810098	GEAR PINION		
9	1A		SH1102480607	SHIFT LEVER		
10	1B		A11-1021-08	CHASSIS LOADING		
11	2B		SH1302810228	GEAR(MIDDLE)		
12	2B		SH1302810229	GEAR(DRIVE)		

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15	3B		SH1303260448	CUSHION		
16	2B		SH1305301248	PUSH SWITCH(SLT)		
19	3A		SH1302810232	GEAR(RACK MOVE)		
20	3A		SH1252580244	SPRING(RACK)		
21	3A		SH1302810231	GEAR(RACK FIX)		
22	3B		SH1302900394	SHAFT(GUIDE)		
23	2A		SH1102140395	DISC TRAY		
24	2B		S74-0027-08	SWITCH(OPEN/CLOSE)		
A			SH1109700853	SCREW		
B			SH1319700021	SCREW		
C			SH1309701730	SCREW		
D			SH1309701711	SCREW		
E			SH1169700032	SCREW		
F			SH1309701535	SCREW		
DM	3B		SH1106300200	DISC MOTOR ASSY		
FM	3B		SH1306300458	SLIDE MOTOR WITH GEAR		
LM	2B		SH1106300198	MOTOR WITH PULLEY		
PU	3A		T25-0032-08	PICKUP		

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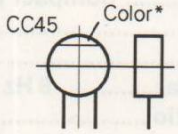
PARTS LIST

CAPACITORS

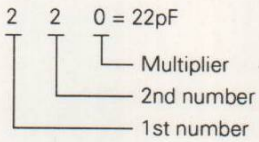
CC 45 TH 1H 220 J
1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc.
2 = Shape ... round, square, ect.
3 = Temp. coefficient
4 = Voltage rating
5 = Value
6 = Tolerance



• Capacitor value

010 = 1pF
100 = 10pF
101 = 100pF
102 = 1000pF = 0.001μF
103 = 0.01μF



• Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	–80	–150	–220	–330	–470	–750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = –470 ± 60ppm/°C

• Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 –20	+80 –20	+100 –0	More than 10μF – 10 ~ +50 Less than 4.7μF –10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

• Voltage rating

2nd word / 1st word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	–
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	–
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	–

• Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7
(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z
1 2 3 4 5 6 7
(Chip) (B, F)

Refer to the table above.
1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Voltage rating
6 = Value
7 = Tolerance

Dimension (Chip capacitors)

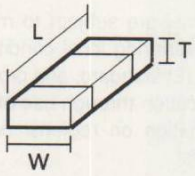
Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

• Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J
1 2 3 4 5 6 7
(Chip) (B,F)

Dimension



Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1

• Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
1 2 3 4 5 6 7

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Rating wattage
6 = Value
7 = Tolerance

Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

SPECIFICATIONS

System	Compact disc digital audio system
Laser	Semiconductor laser
Playing rotation	200 rpm ~ 500 rpm (CLV)
Frequency response	8 Hz ~ 20 kHz, +1.0 dB, – 1.0 dB
Signal to noise ratio	More than 94 dB
Dynamic range	More than 92 dB
Total harmonic distortion	Less than 0.005 % (at 1 kHz)
Channel separation	More than 83 dB (at 1 kHz)
Wow & Flutter	Unmeasurable Limit

[General]

Dimensions	W: 360 mm(14-3 / 16″)
	H: 94 mm(3-11 / 16″)
	D: 310 mm(12-3 / 16″)
Weight (net)	2.6 kg (5.7 lb)

KENWOOD follows a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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