

CD PLAYER

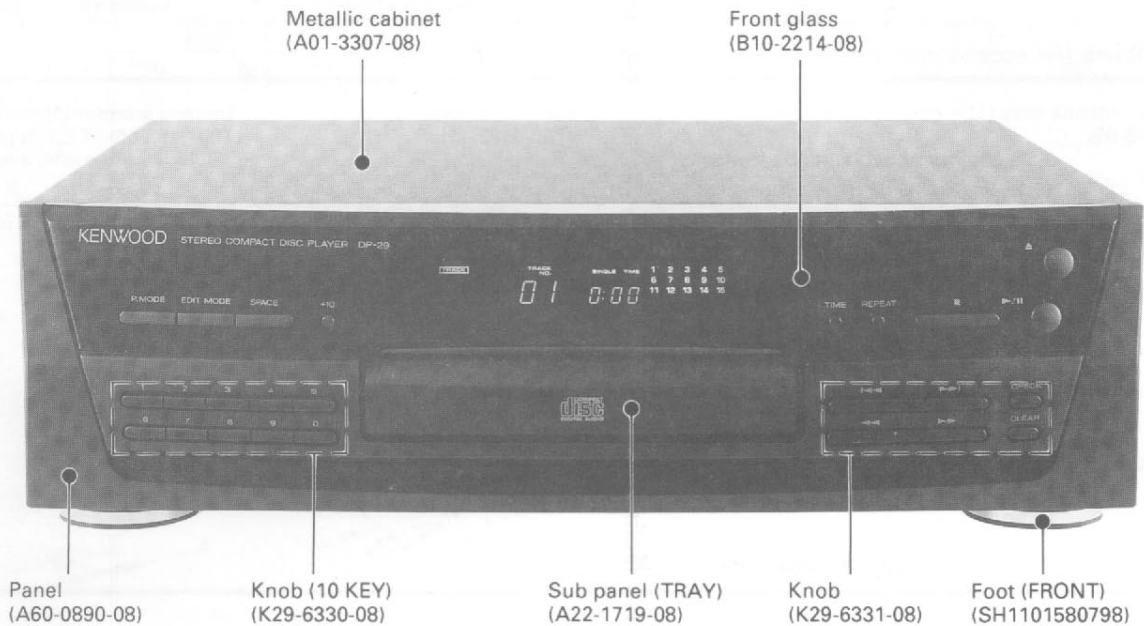
# DP-29

## SERVICE MANUAL

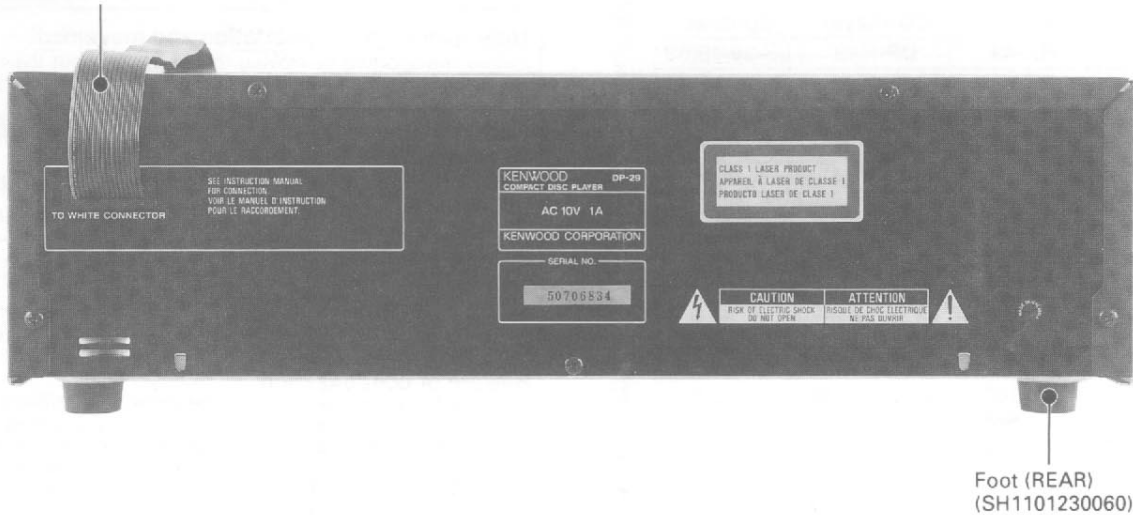
(MIDI M-29/M-49)

# KENWOOD

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B51-5107-00( N)2584



Cord with connector (15P)  
(E30-2673-05)

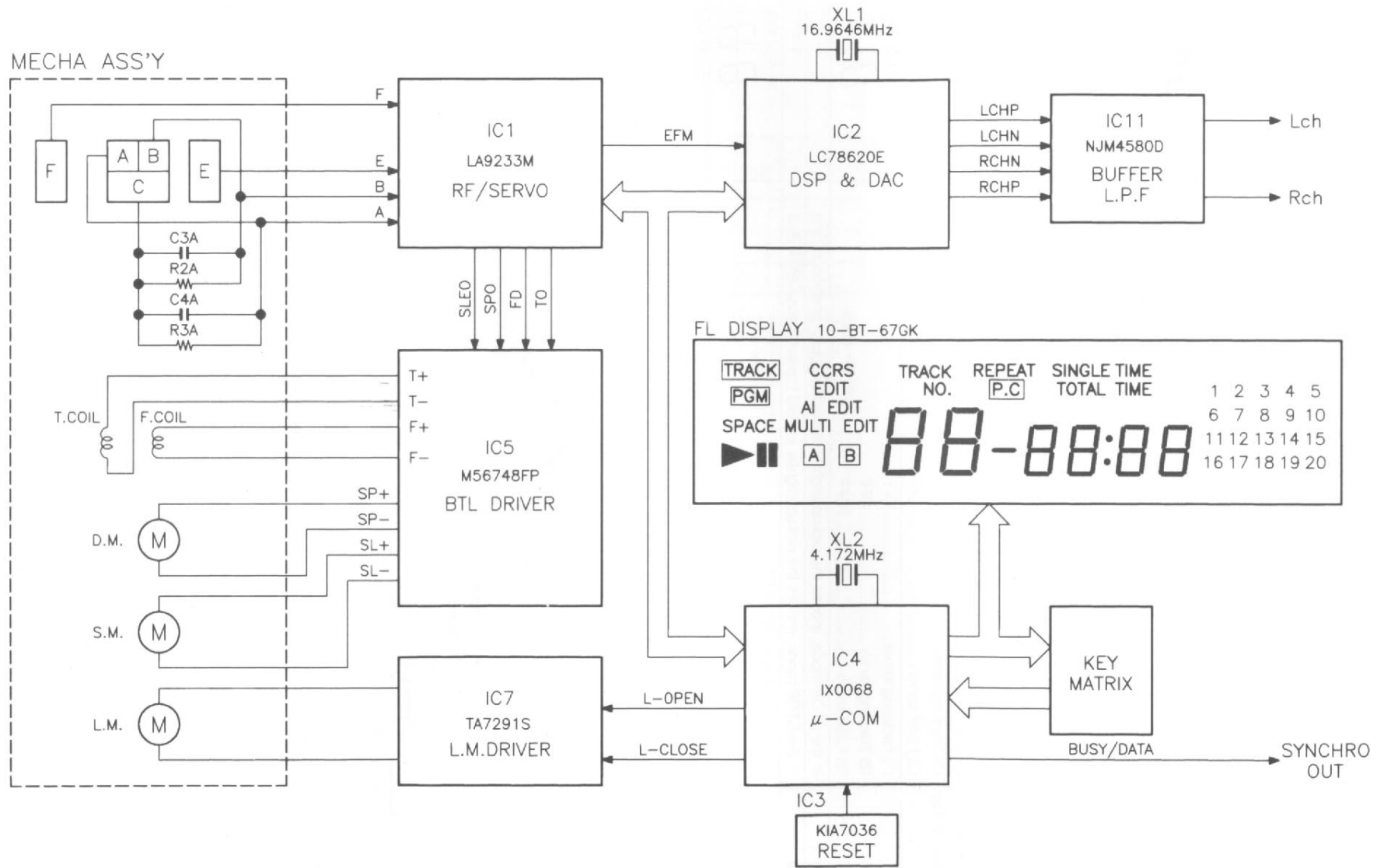


In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

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.**

**PRECAUTIONS FOR REPAIR**  
**DP-29 does not have a power supply transformer. Use RX-29, RX-49 or PS-94UA power supply to supply power.**



**BLOCK DIAGRAM**

## ADJUSTMENT

Since this CD system incorporates the following automatic adjustment function, when the pickup is replaced, it is not necessary to readjust it.

Since this CD unit does not need adjustment, the combination of PWB and laser pickup unit is not restricted.

### • Automatic adjustment item

1. Focus offset (Fig.1)
2. Tracking offset (Fig.2)
3. E/F balance (Tracking error balance) (Fig.3)
4. RF level AGC function (HF level : constant)
5. RF level automatic follow-up of the tracking gain

This automatic adjustment is performed each time a disc is changed. Therefore, each disc is played back using the optimal settings.

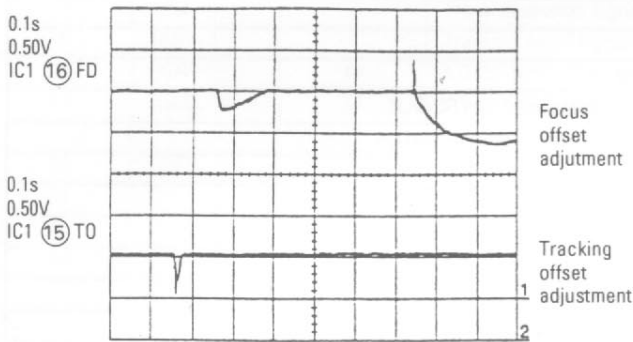


Fig.1

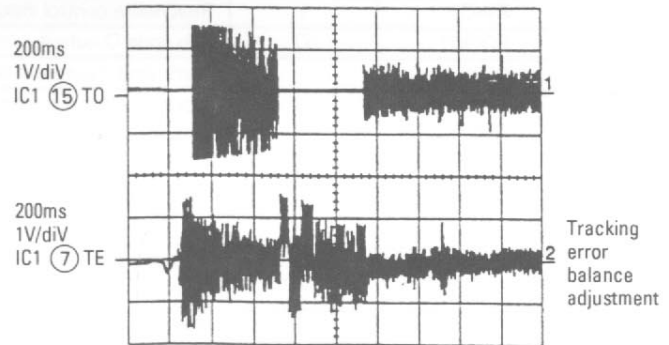


Fig.3

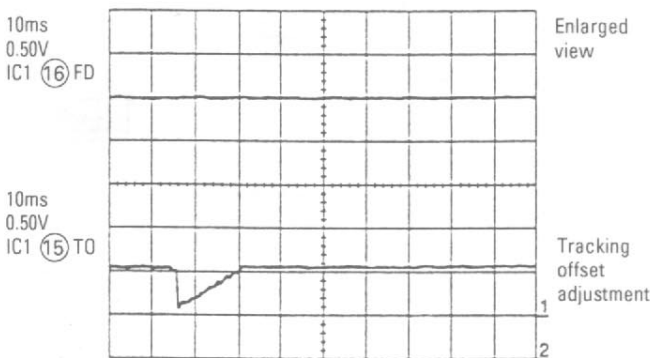


Fig.2

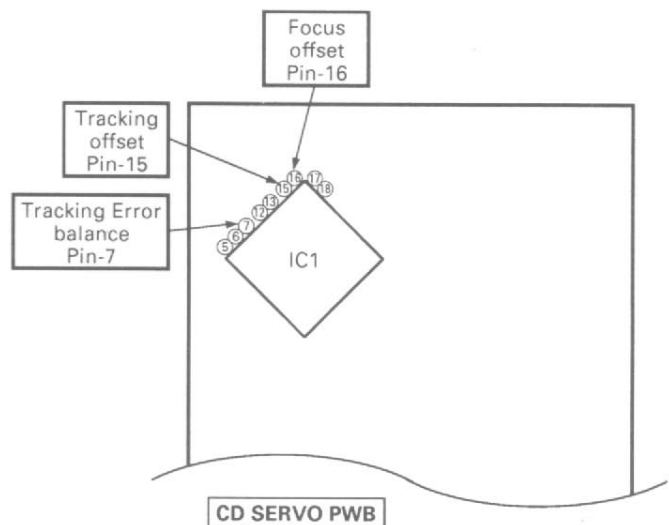


Fig.4 Checking points

## ADJUSTMENT

• The CD operating keys work.

Check the Focus-HF system.

Playback can be performed without a disc.

Yes

Does the pick-up move up and down twice?

Yes

Focus search OK.

No

Does the output waveform of IC1 (16) (FD) match that shown in Fig.2?

Yes

Check the area around IC5-CNP2.

No

Check the IC1 (50) (CLK) line, 4MHz.  
Check the microprocessor data on pins (51) (CL), (52) (DAT) and (53) (CE).

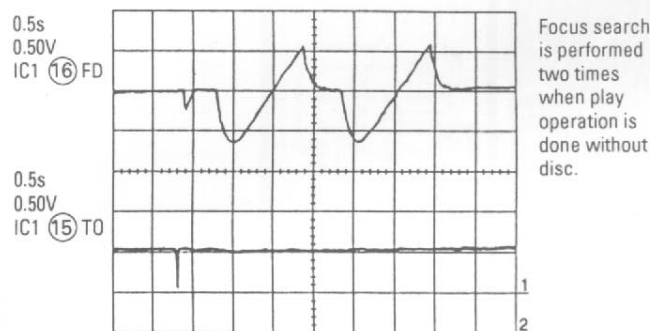


Fig.5

• Playback can only be performed when a disc is loaded.

Is the Focus servo active? (Can you hear it working?)

No

Check the laser diode driver.  
Check the area around IC1 (16)-(21) (Focus servo circuit).

Yes

Does the DRF signal change from "L" to "H"?

No

If the disc is not turning, the DRF should not change to "H".

Yes

Check the spin system.

Yes

Is HF waveform normal (See the Fig.6,7)?

No

Level is abnormal.

Yes

Check the periphery of IC1 pins 41 and 42.

Yes

Check the tracking system.

No

Waveform is unstable.

Yes

Check the spin system.

# ADJUSTMENT

HF  
 0.1V/DIV  
 0.5μsec/DIV(DC)  
 (When playing  
 back the disc)

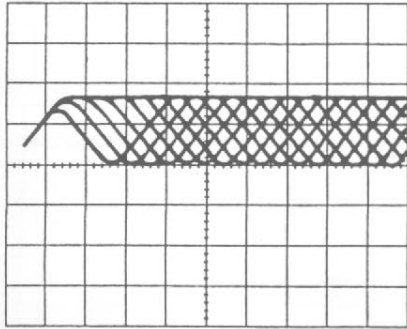
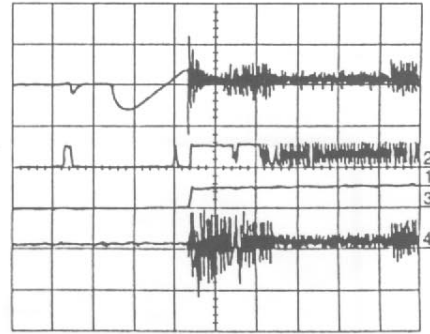


Fig.6

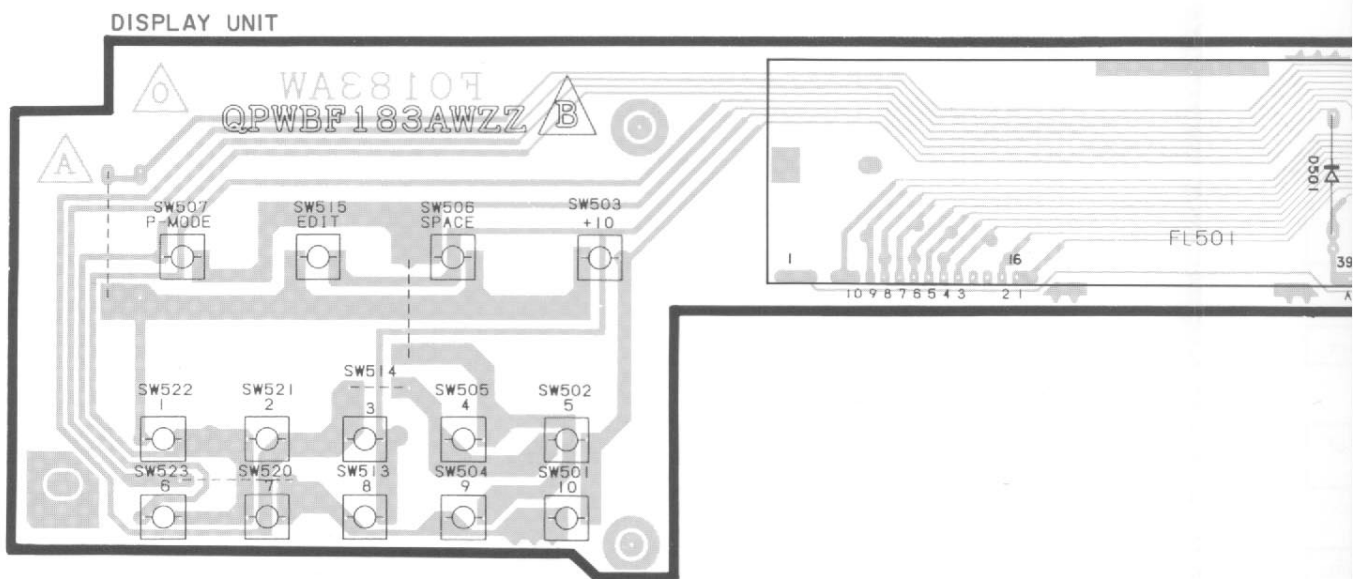
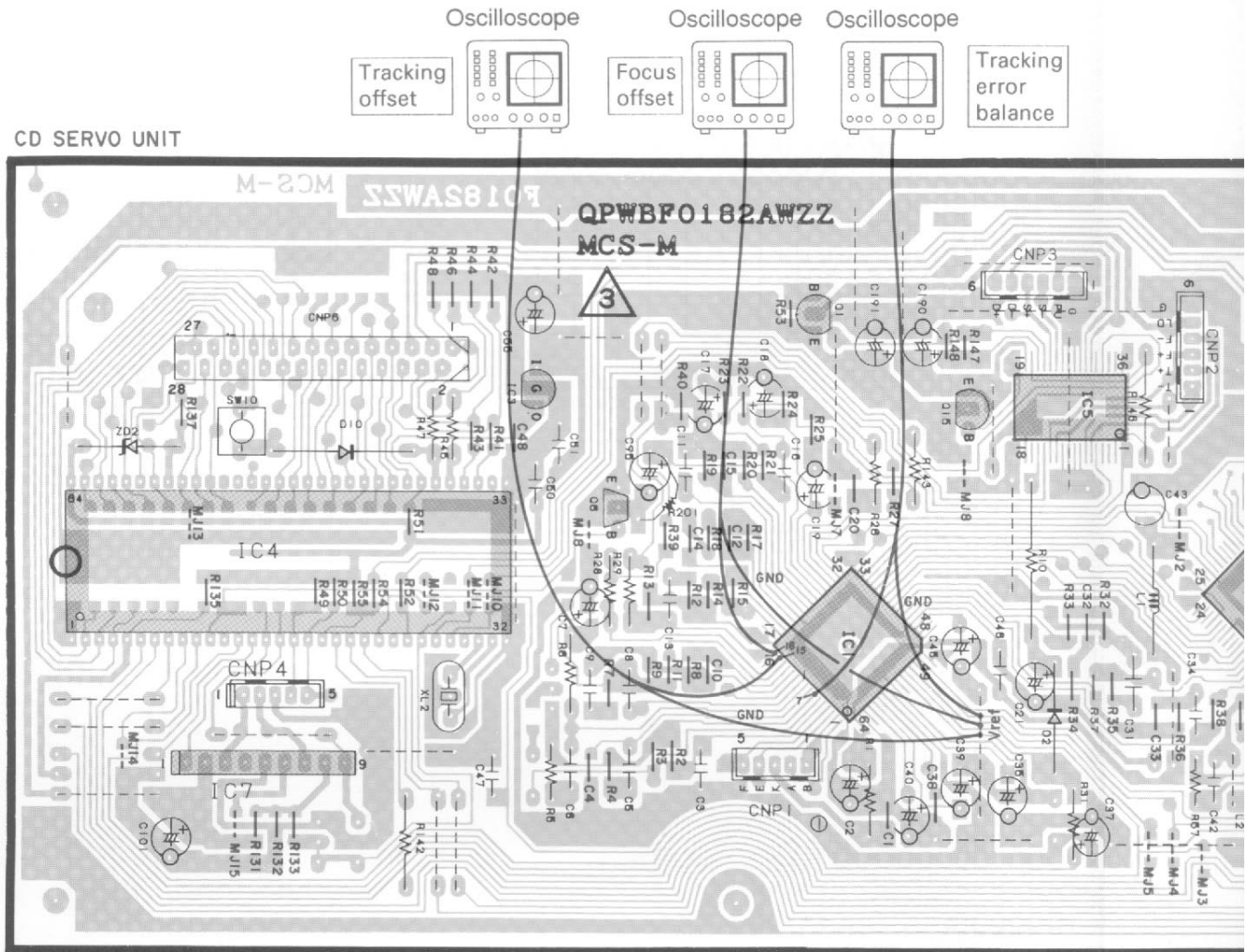
0.5s  
 1.00V  
 IC1 (16) FD  
 0.5s  
 10.0V  
 IC2 (13) CLV+  
 0.5s  
 10.0V  
 IC1 (54) DRF  
 0.5s  
 2.00V  
 IC1 (7) TE



Waveform in  
 case of normal  
 playback

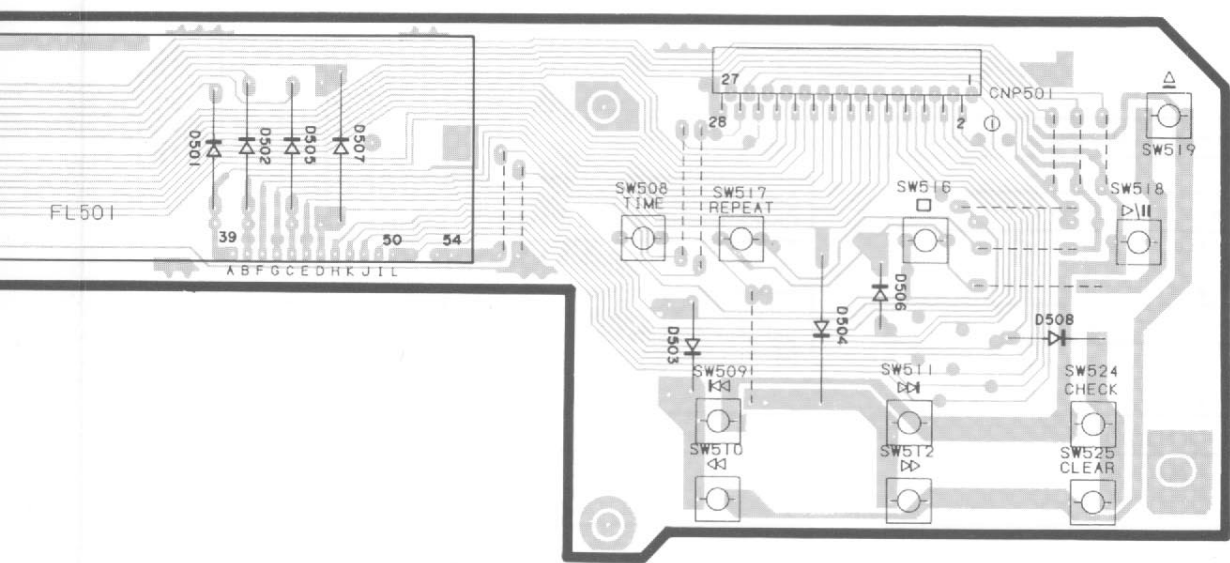
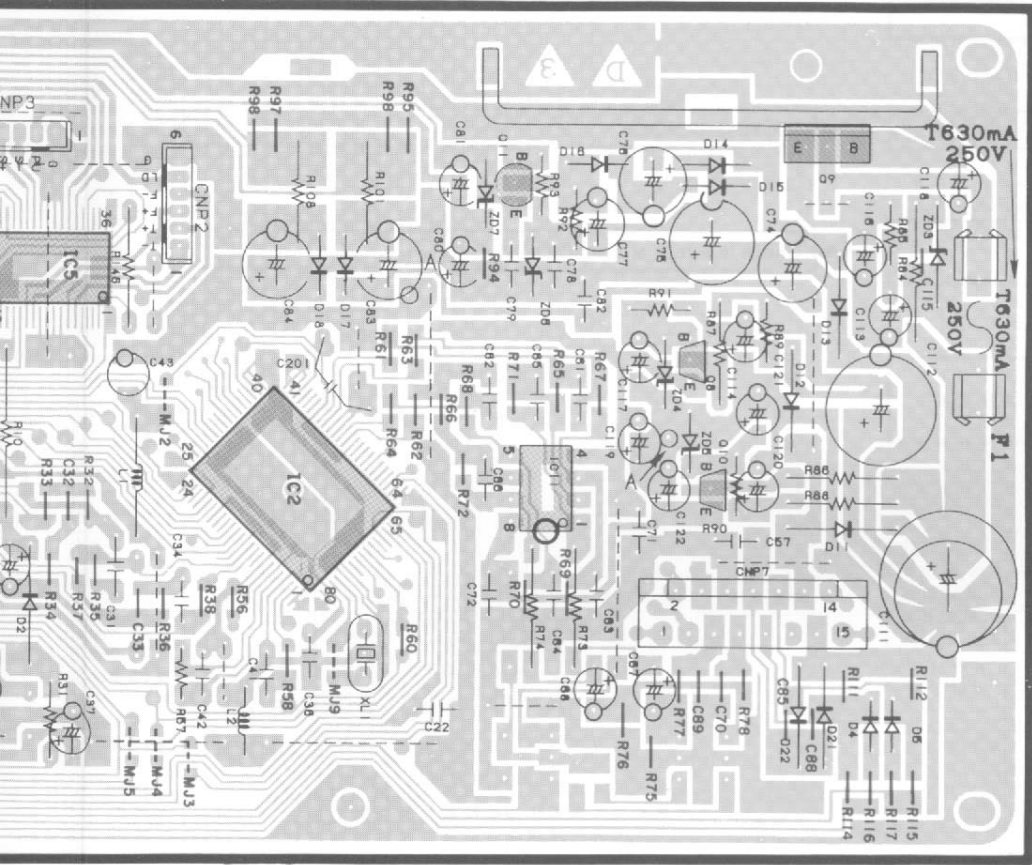
Fig.7

# PC BOARD (COMPONENT SIDE VIEW)



**CAUTION:** On CD player, if connect the test measurements to Vref terminal, it is not connected to other test measurements.

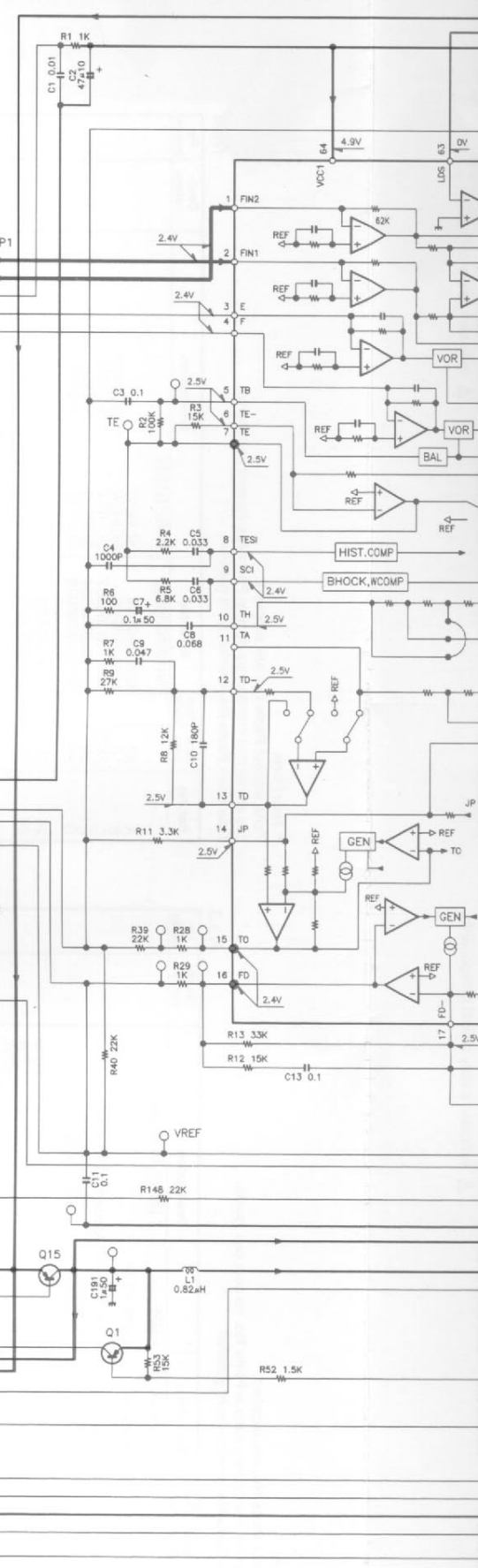
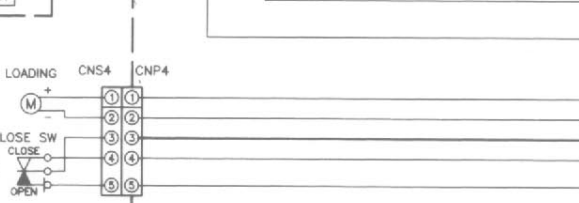
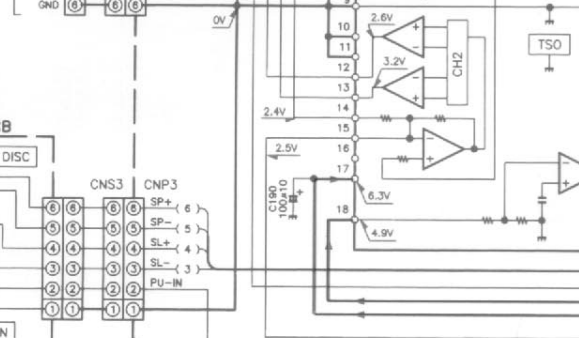
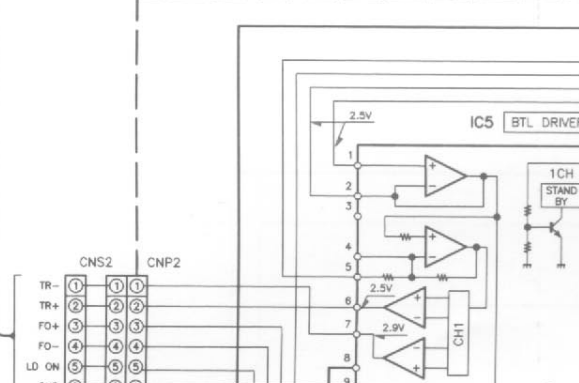
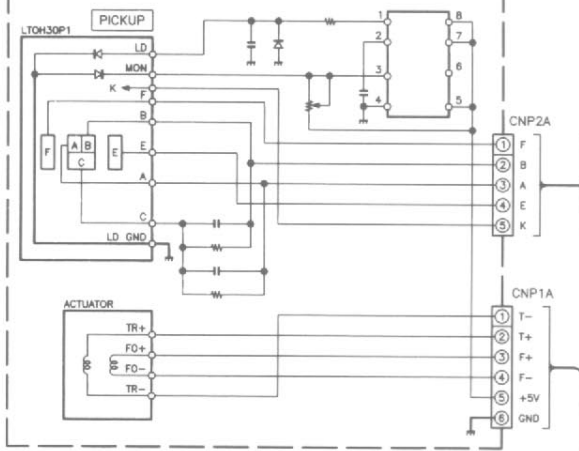
king  
nce



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

CD SERVO UNIT (PCB1)

PICKUP PCB



2

3

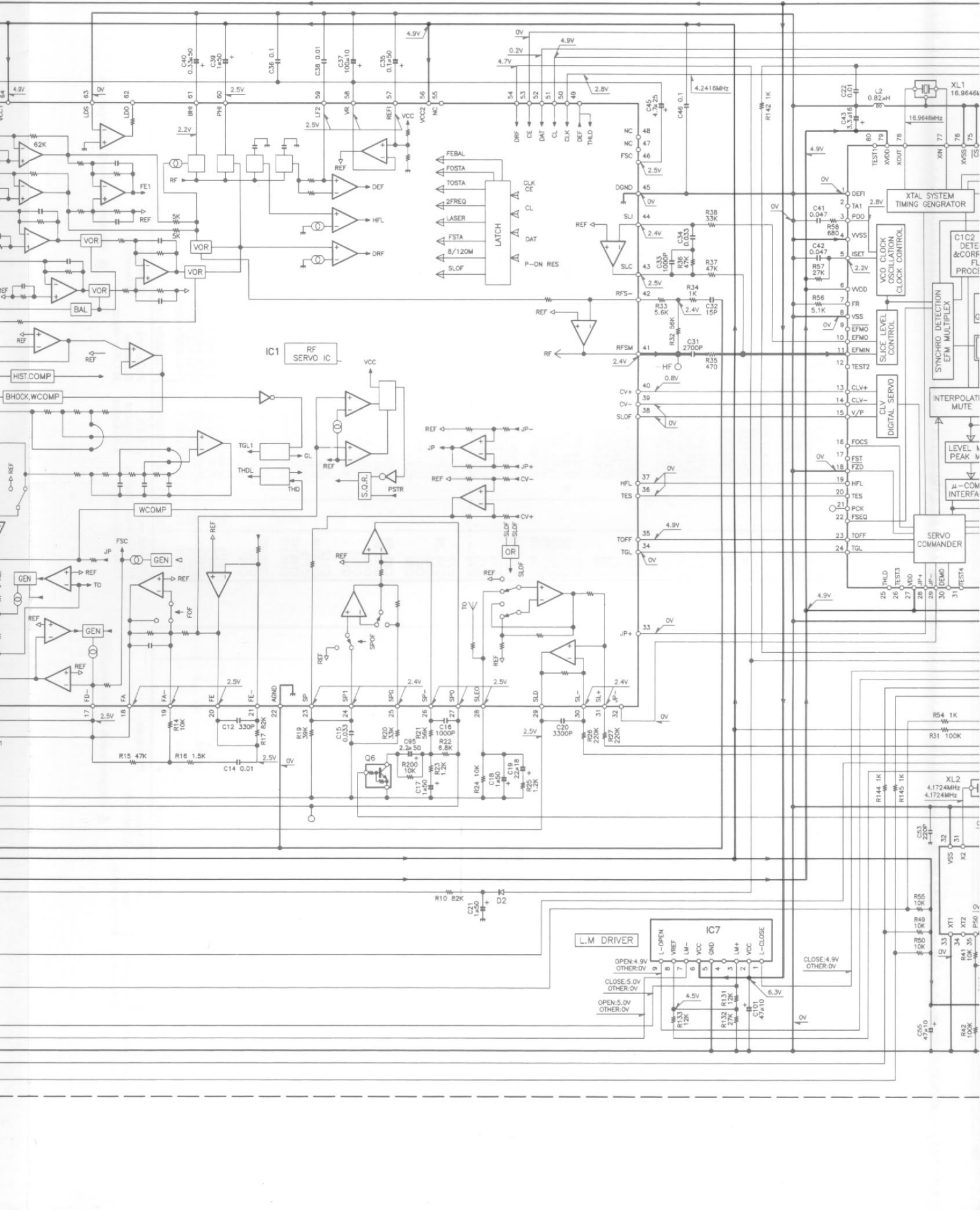
4

5

6

7





IC1 RF SERVO IC

L.M DRIVER

IC7

XTAL SYSTEM TIMING GENERATOR

VCO CLOCK OSCILLATION CONTROL

SLICE LEVEL CONTROL

DIGITAL SERVO

INTERPOLATE MUTE

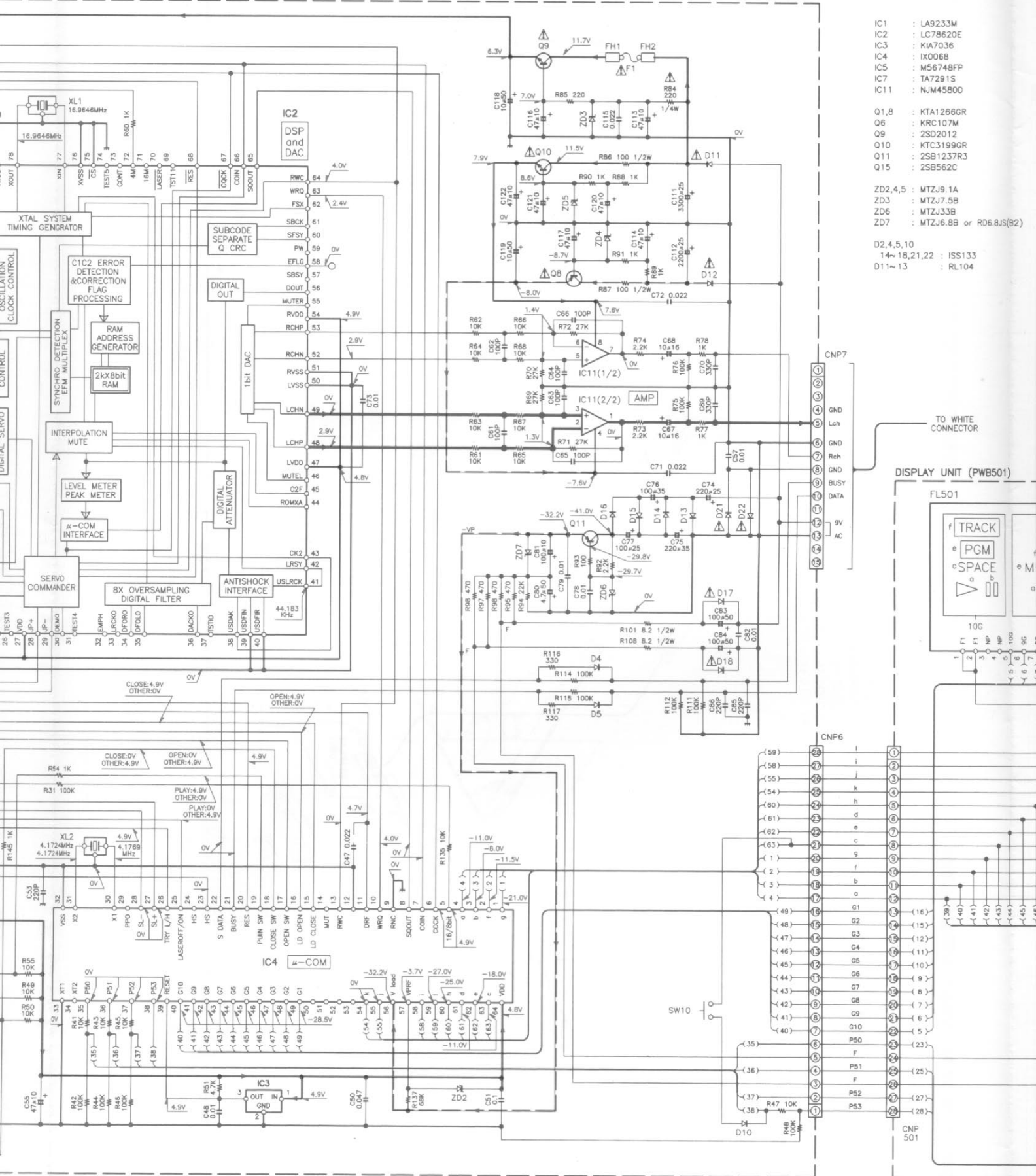
LEVEL M PEAK M

μ-COM INTERFA

SERVO COMMANDER

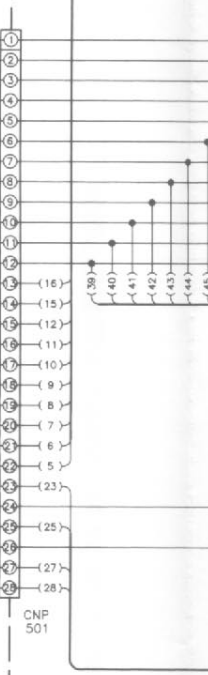
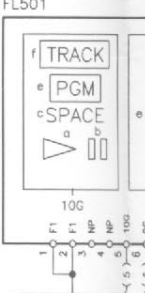
SYNCHRO DETECTION EFM MULTIPLEX

C1C2 DETE & CORR FL PROC



- IC1 : LA9233M
- IC2 : LC78620E
- IC3 : KIA7036
- IC4 : IX0068
- IC5 : M56748FP
- IC7 : TA7291S
- IC11 : NJM4580D
  
- Q1,8 : KTA1266GR
- Q6 : KRC107M
- Q9 : 2SD2012
- Q10 : KTC3199GR
- Q11 : 2SB1237R3
- Q15 : 2SB562C
  
- Z2,4,5 : MTZJ9.1A
- Z3 : MTZJ7.5B
- Z6 : MTZJ33B
- Z7 : MTZJ6.8B or R06.8J5(B2)
  
- D2,4,5,10 : ISS133
- D11-13 : RL104

DISPLAY UNIT (PWB501)



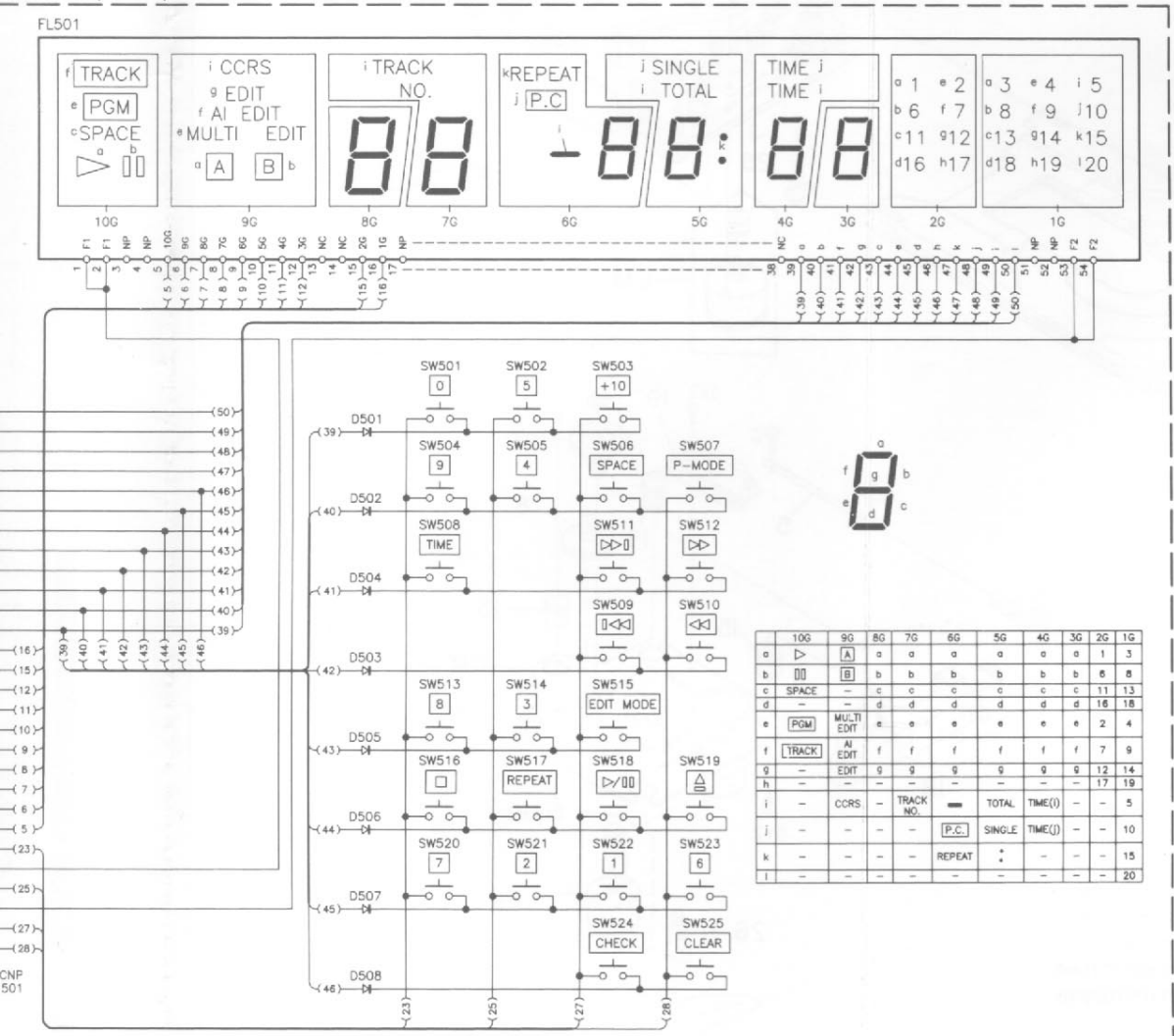
- : LA9233M
- : LC78620E
- : KIA7036
- : IX0068
- : M56748FP
- : TA7291S
- : NJM4580D
- : KTA1266GR
- : KRC107M
- : 2SD2012
- : KTC3199GR
- : 2SB1237R3
- : 2SB562C
- : MTZJ9.1A
- : MTZJ7.5B
- : MTZJ33B
- : MTZJ6.8B or RD6.8J/S(E2)



TO WHITE CONNECTOR

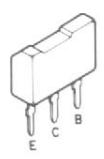
D501~508 : 1SS133  
FL501 : WK10BT6

DISPLAY UNIT (PWB501)

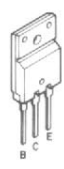


	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	>	[A]	a	a	a	a	a	a	a	1 3
b	[ ]	[B]	b	b	b	b	b	b	b	6 8
c	SPACE	-	c	c	c	c	c	c	c	11 13
d	-	-	d	d	d	d	d	d	d	16 18
e	[PGM]	MULTI EDIT	e	e	e	e	e	e	e	2 4
f	[TRACK]	AI EDIT	f	f	f	f	f	f	f	7 9
g	-	EDIT	g	g	g	g	g	g	g	12 14
h	-	-	-	-	-	-	-	-	-	17 19
i	-	CCRS	-	TRACK NO.	-	TOTAL	TIME()	-	-	5
j	-	-	-	[P.C.]	SINGLE	TIME()	-	-	-	10
k	-	-	-	-	REPEAT	*	-	-	-	15
l	-	-	-	-	-	-	-	-	-	20

2SB1237R3



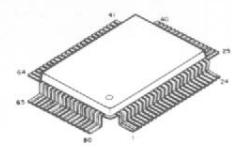
2SD2012



NJM4580D



LC78620E

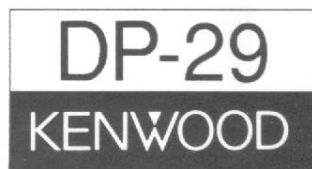


- The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during PLAY unless otherwise specified; The value shown in ( ) is the voltage measured at the moment of STOP.

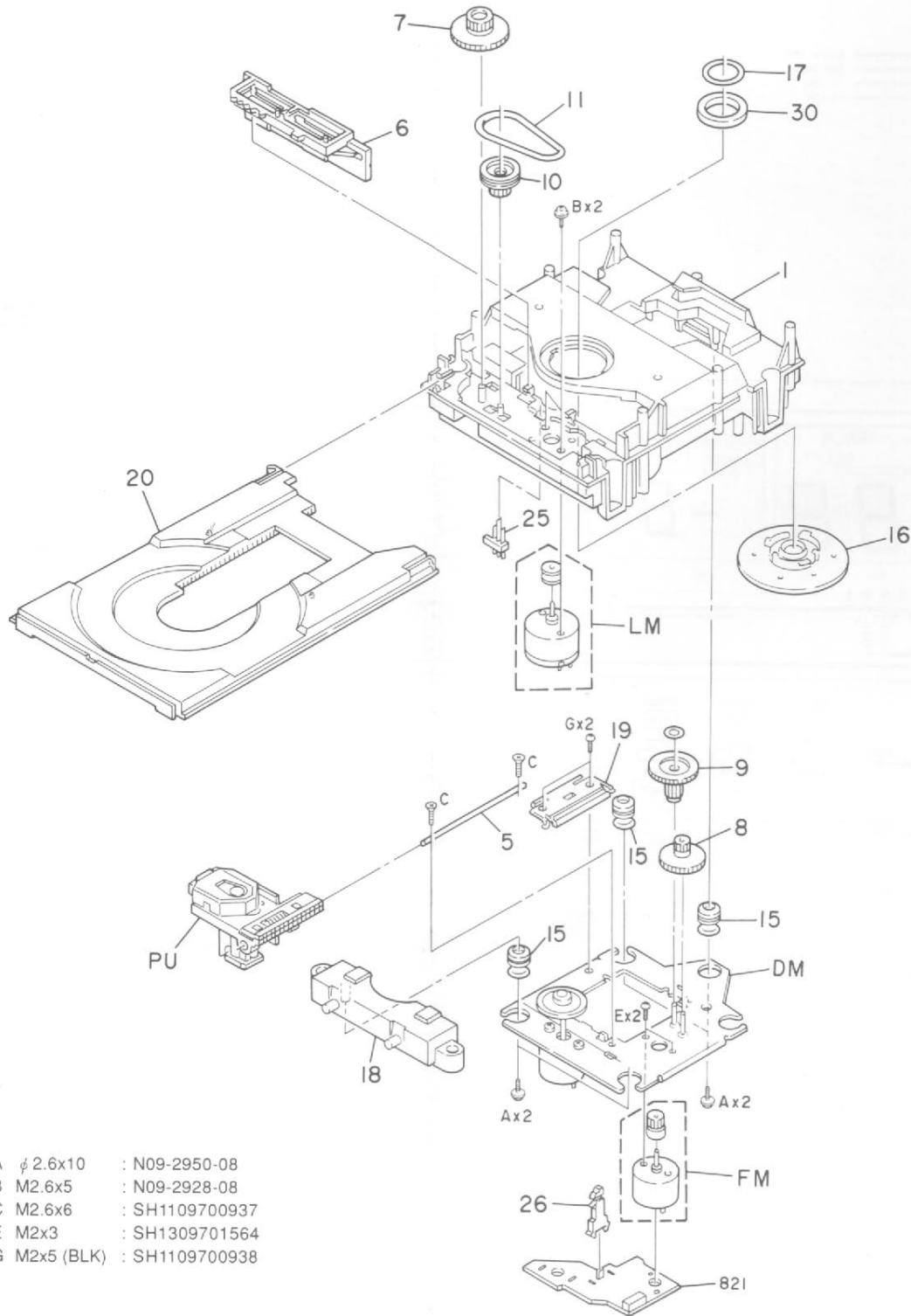
**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  
⚠ Indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse (s). To reduce the risk of electric 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.

DP-29

Y22-4332-70



**EXPLODED VIEW (MECHANISM)**



- A  $\phi$  2.6x10 : N09-2950-08
- B M2.6x5 : N09-2928-08
- C M2.6x6 : SH1109700937
- E M2x3 : SH1309701564
- G M2x5 (BLK) : SH1109700938

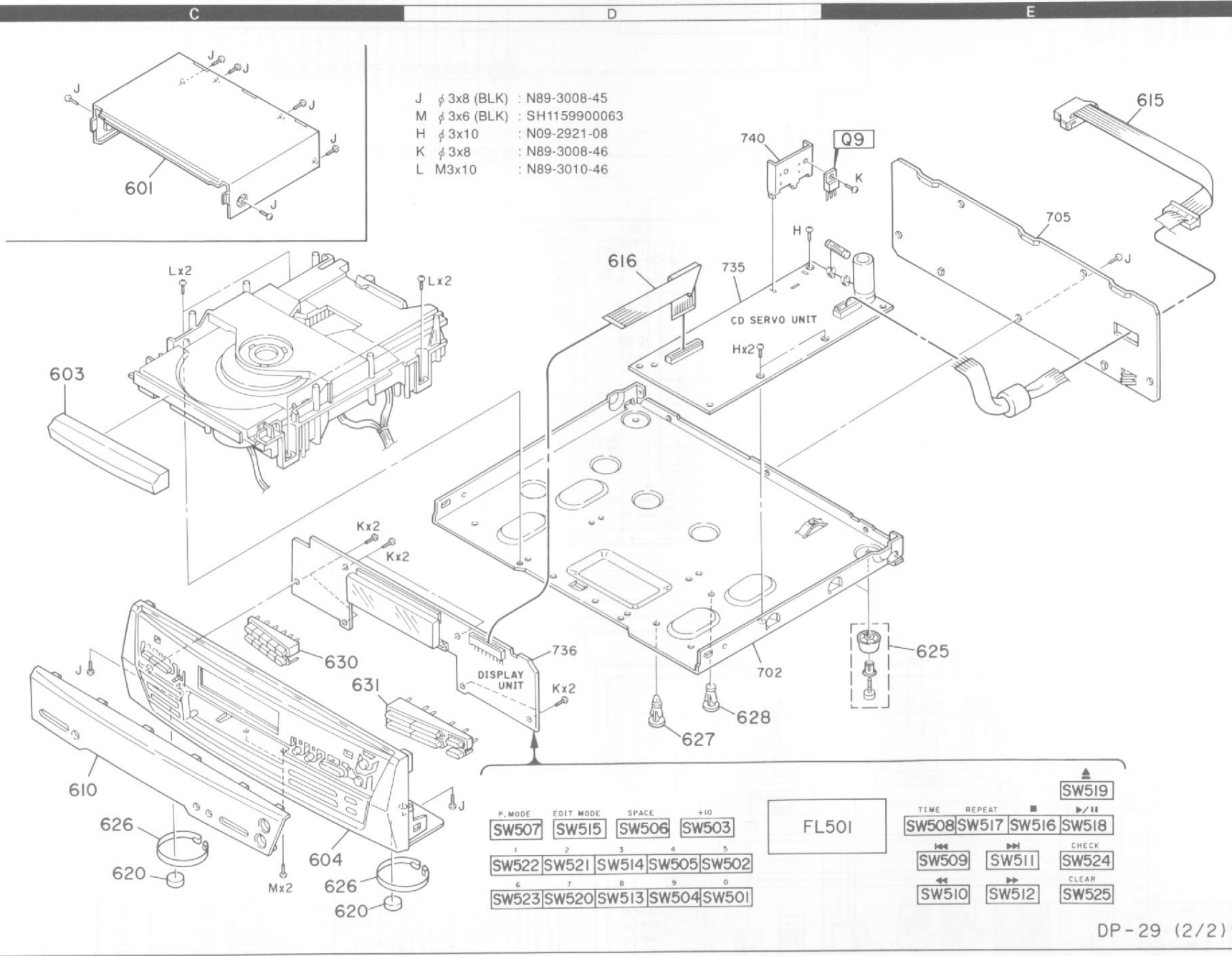
DP-29 (1/2)

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

EXPLODED VIEW (UNIT)

18

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



\* New Parts  
Parts without Parts No. are supplied.

\* New Parts  
Parts without Parts No. are supplied.

