

HITACHI

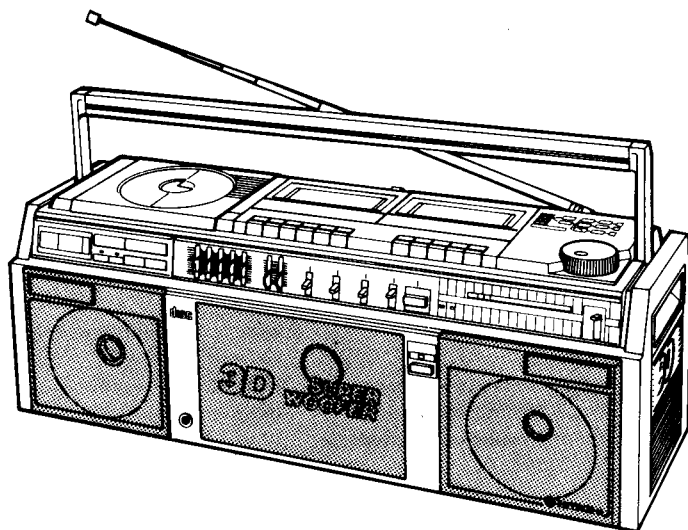
SERVICE MANUAL

TY**No. 510E**

CX-W800

(H,HC,E,E(BS),W,AU)

TAPE1 : TN-21SC-579(PLAY)
TAPE2 : TN-21SC-578(REC/PLAY)



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CAUTION

Invisible laser radiation when open interlocks failed or defeated. AVOID DIRECT EXPOSURE TO BEAM.

VARNING

När apparaten öppnats och skyddsanordningen eller satts ur funktion förekommer osynlig laserstrålning. UNDVIK DIREKT BESTRÅLNING.

ADVARSEL

Når apparaten åbnes og beskyttelsesanordningen ikke virker eller sættes un af funktion, forekommer der usynlig laserstråling. UNDGÅ DIREKTE BESTRÅLING.

ADVARSEL

Når denne delen er åpen som følge av at låsen er utkopleet eller ikke fungerer, eksisterer det usynlig laserstråling. UNNGÅ Å BLI UTSATT FOR DIREKTE BESTRÅLING!

VAROITUS

Laite lähettää näkymätöntä lasersäteilyä, kun se avataan ja kun sisäiset turvalukot eivät toimi. VARO JOUTUMASTA ALTTIIKSI SÄTEILYLLE.

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safely related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with Δ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

CD PLAYER INCORPORATED.
HIGH PERFORMANCE PORTABLE CREATIVE SOUND SYSTEM

July 1986

TOYOKAWA WORKS

SPECIFICATIONS

● GENERAL SPECIFICATIONS

Power Supply:	AC: 240 V 50 Hz [For E(BS), AU] AC: 220 V 50 Hz [For E] AC 120 V, 60 Hz [For H, HC] AC 110 – 120V/200 – 220V/230 – 240V 50/60 Hz [For W] DC: 12 V ["D" cell (IEC R20) x 8 or equivalent]
Power (mains) Consumption:	75 W [For E, E(BS), W, AU] 50W [For HC] 35W [For H]
Speakers:	16 cm 8 ohms, 12 cm 4 ohms x 2 Coaxial tweeter x 2
Output:	100 W PMP (AC operation) 31 W (8 W x 2 + 15 W) (AC 10% THD)
Dimensions:	620 (W) x 231 (H) x 216 (D) mm
Weight:	8.5 kg (with batteries)

● RADIO SECTION

Circuit System:	FM/SW/MW/LW 4 band superheterodyne [For E, E(BS)] FM/SW2/SW1/MW 4 band superheterodyne [For H, HC, W, AU]
Tuning Range:	FM 87.5 to 108 MHz [For E, E(BS)] FM 88 to 108 MHz [For H, HC, W, AU] SW 6.0 to 18.0 MHz SW2 7.0 to 22.0 MHz [For H, HC, W, AU] SW1 2.3 to 7.0 MHz [For H, HC, W, AU] MW 530 to 1605 kHz LW 150 to 285 kHz [For E, E(BS)]
Antenna (Aerials):	FM/SW/SW2: Telescopic antenna (aerial) SW1/MW(AM)/LW: Built-in ferrite-core antenna (aerial)

Specifications are subject to change for performance improvement without notice

DISASSEMBLY

1. How to replace the parts.

- (1) **Front case (Fig. 1)**
Remove eight screws ① and pull to the arrow direction.
- (2) **Top case (Fig. 2)**
Remove two screws ②, four screw ③ and three screws ④.
Then pull to the arrow direction.
- (3) **Cassette chassis (Fig. 3)**
Remove eight screws ⑤ and four connectors.
- (4) **Unit Mechanism (Fig. 3)**
Remove four screws ⑥, four screws ⑦ and remove the Base plate. Then remove four screws ⑧, the Flexible P.W.B. and two connectors ⑨.

2. How to remove the P.W.B.s.

- (1) **CD switch P.W.B. (Fig. 3, 4)**
Remove one screws ⑩ (Fig. 4) and two connectors ⑪ (Fig. 3).
- (2) **Main P.W.B. (Fig. 4)**
Remove six screws ⑩ and one screw ⑪ and seven connectors. Then open four claws to the arrow direction.
- (3) **CD display P.W.B. (Fig. 5)**
Remove four connectors and open three claws to the arrow direction.

● TAPE RECORDER SECTION

Recording System:	AC bias
Erasing System:	AC erase
Playback Frequency	
Response:	NORMAL 40 to 13,000 Hz CrO ₂ 40 to 14,000 Hz METAL 40 to 15,000 Hz
Input Sensitivity and Impedance:	Phono/Line Phono 8 mV 47 kohms Line 500 mV 82 kohms Mic 7 mV 3.3 kohms
Output:	Line Out: 500 mV
Load Impedance:	Headphones: 8 to 300 ohms

● CD PLAYER SECTION

Playing Time:	Approx. 60 minutes/one side
Diameter:	120 mm
Sampling Frequency:	44.1 kHz
Quantization Number:	16 bit linear/channel
Frequency Response:	20 to 20,000 Hz

(4) PX P.W.B. (Fig. 3, 6)

Remove four screws ⑥ and four screws ⑧. Then remove two connectors ⑨, the Flexible P.W.B., two connectors ⑩ (Fig. 3) and two connectors ⑪ (Fig. 6).

(5) Power supply P.W.B. (Fig. 6)

Remove two screws ⑫, two screws ⑬ and three connectors.

(6) 3D indicator P.W.B. and 3D switch P.W.B. (Fig. 5)

Remove three screws ⑭.

(7) Graphic equalizer unit (Fig. 5)

Remove two screws ⑮.

(8) Headphones P.W.B. (Fig. 5)

Remove one screw ⑯.

3. How to remove Power transformer (Fig. 6)

Pull out the Reinforcing plate and remove it. Then remove four screws ⑰.

Note) During assembly, exercise care to prevent lead wires from being tight and caught in the cabinet.

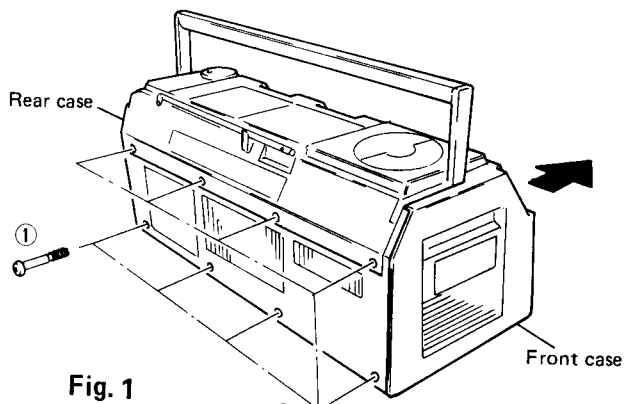


Fig. 1

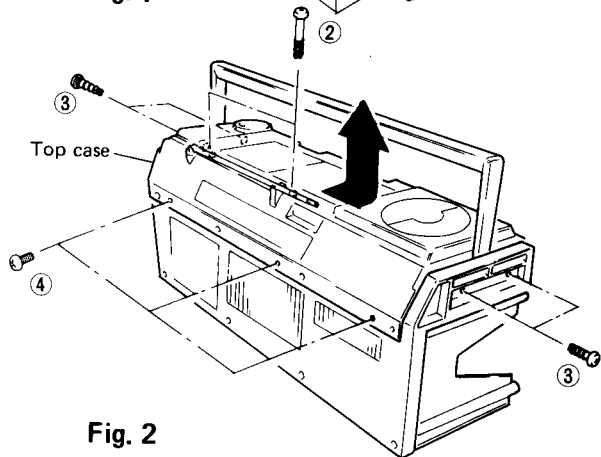


Fig. 2

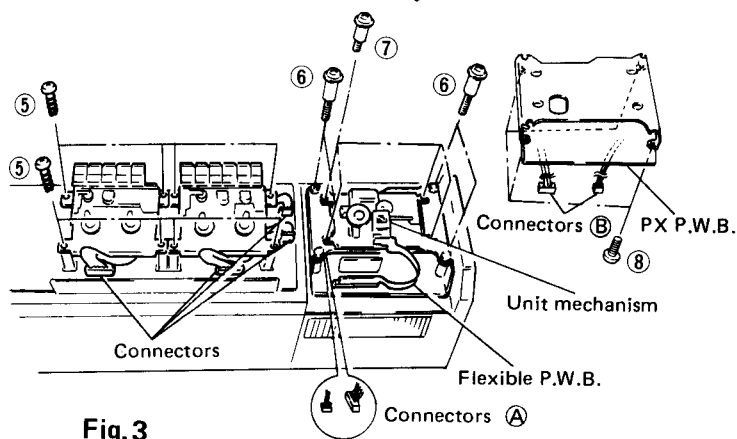


Fig. 3

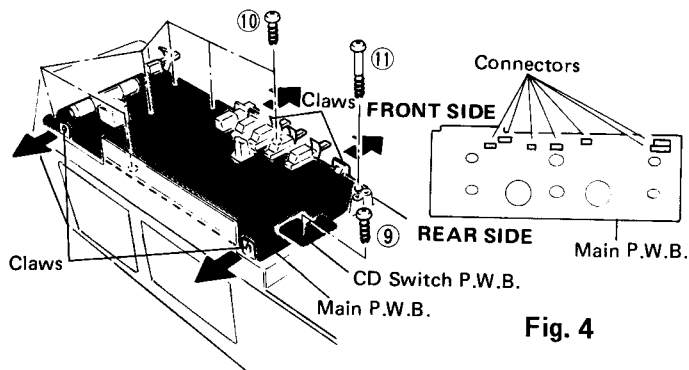


Fig. 4

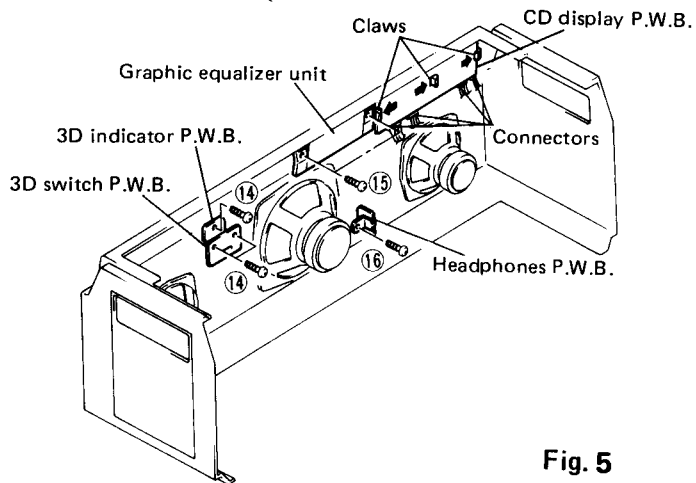


Fig. 5

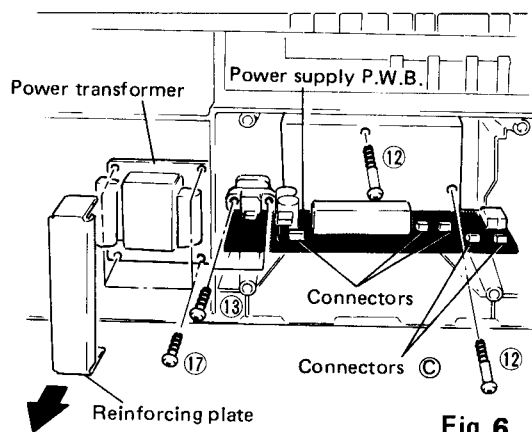


Fig. 6

DIAL COARD STRINGING

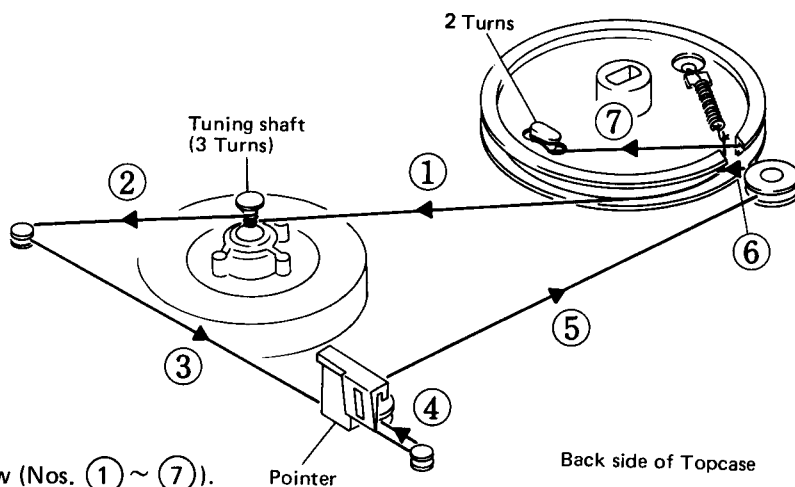
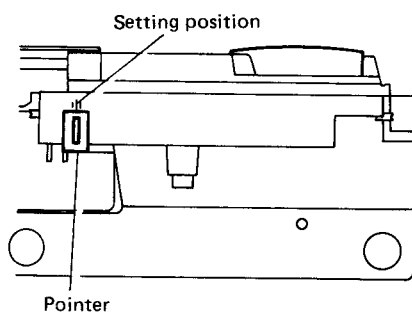


Fig. 7

Stringing method

1. Turn the dial pulley fully counterclockwise.
2. String the dial cord in the direction of the arrow (Nos. ① ~ ⑦).
3. Set the pointer to setting position.

ADJUSTMENT

1. RADIO SECTION

● Adjustment point

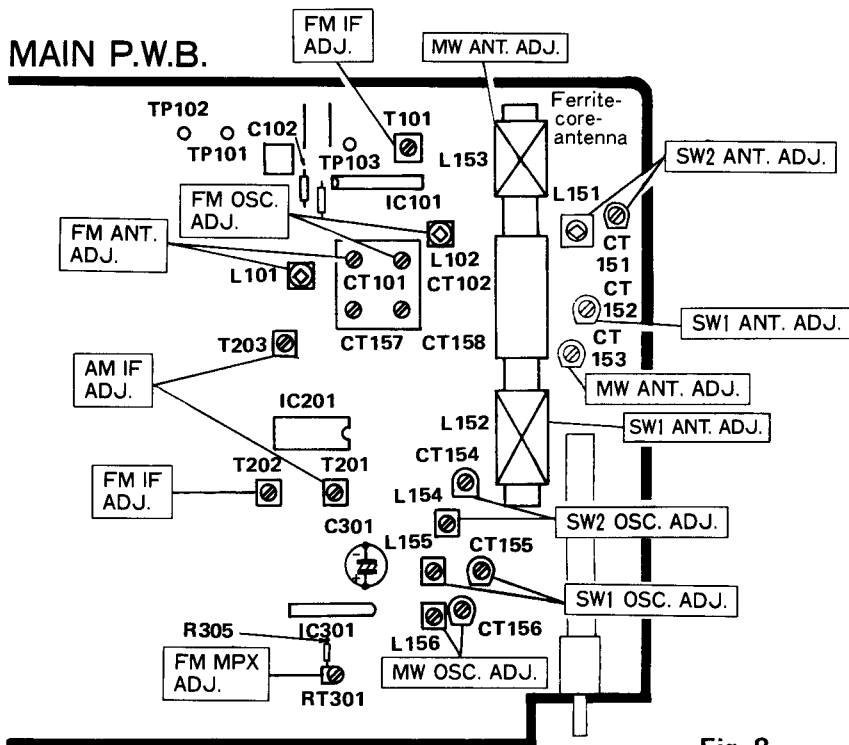


Fig. 8

AM section for W, AU, H, HC (FM/SW2/SW1/MW 4-band)

Step	Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	(1) AM IF	● Genescope (455 kHz)	Ferrite-core antenna	C301	455 kHz	Highest	T201 T203	(Note 1)
					Repeat steps (1)			
2	(1) SW2 OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	TP101 (+) TP102 (-) (through SW dummy antenna) (Note 2)	C301	6.7 MHz	Lowest	L154	Max.
					23 MHz	Highest	CT154	
					Repeat steps (1) and (2)			
3	(1) SW2 ANT. (Tracking)	● VTVM ● Oscilloscope		C301	8 MHz	8 MHz	L151	Max.
					20 MHz	20 MHz	CT151	
					Repeat steps (1) and (2)			
4	(1) SW1 OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite-core antenna (Note 3)	C301	2.2 MHz	Lowest	L155	Max.
					7.3 MHz	Highest	CT155	
					Repeat steps (1) and (2)			
5	(1) SW1 ANT. (Tracking)	● VTVM ● Oscilloscope		C301	2.7 MHz	2.7 MHz	L152	Max.
					6.3 MHz	6.3 MHz	CT152	
					Repeat steps (1) and (2)			
6	(1) MW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite-core antenna (Note 3)	C301	515 kHz	Lowest	L156	Max.
					1,650 kHz	Highest	CT156	
					Repeat steps (1) and (2)			
7	(1) MW ANT. (Tracking)	● VTVM ● Oscilloscope		C301	600 kHz	600 kHz	L153	Max.
					1,400 kHz	1,400 kHz	CT153	
					Repeat steps (1) and (2)			

● Adjustment point

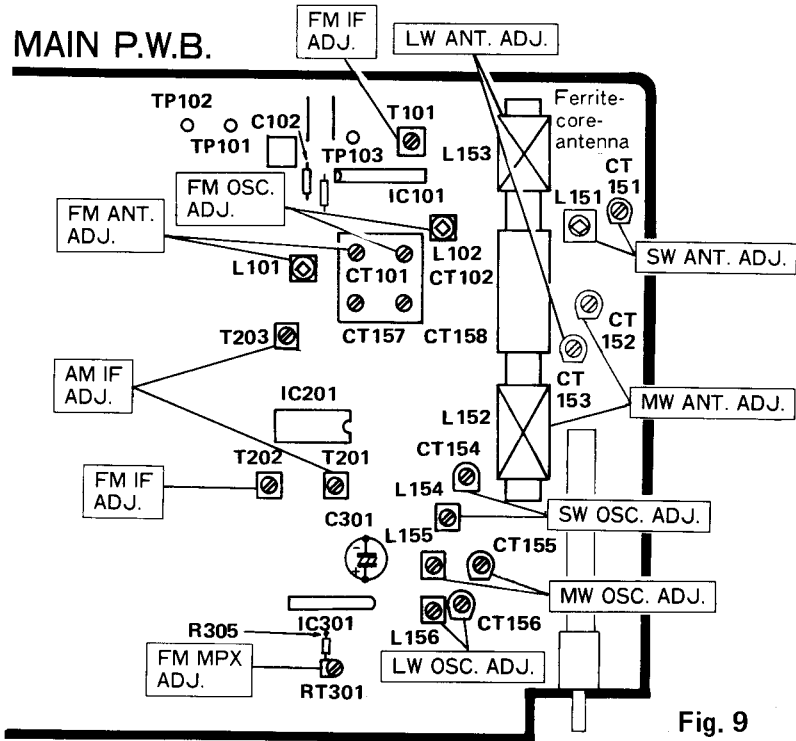


Fig. 9

AM section for E, E(BS) (FM/SW/MW/LW 4-band)

Step	Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	(1) AM IF	● Genescope (465 kHz)	Ferrite-core antenna	C301	465 kHz	Highest	T201 T203	(Note 1)
2	(1) (2) (3) SW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	TP101 (+) TP102 (-) (through SW dummy antenna) (Note 2)	C301	5.8 MHz	Lowest	L154	Max.
					18.5 MHz	Highest	CT154	
					Repeat steps (1) and (2)			
3	(1) (2) (3) SW ANT. (Tracking)	● VTVM ● Oscilloscope		C301	6.5 MHz	6.5 MHz	L151	Max.
					16 MHz	16 MHz	CT151	
					Repeat steps (1) and (2)			
4	(1) (2) (3) MW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite-core antenna (Note 3)	C301	515 kHz	Lowest	L155	Max.
					1,650 kHz	Highest	CT155	
					Repeat steps (1) and (2)			
5	(1) (2) (3) MW ANT. (Tracking)	● VTVM ● Oscilloscope		C301	600 kHz	600 kHz	L152	Max.
					1,400 kHz	1,400 kHz	CT152	
					Repeat steps (1) and (2)			
6	(1) (2) (3) LW OSC. (Covering)	● AM signal generator (400 Hz, 30% mod.)	Ferrite-core antenna (Note 3)	C301	145 kHz	Lowest	L156	Max.
					290 kHz	Highest	CT156	
					Repeat steps (1) and (2)			
7	(1) (2) (3) LW ANT. (Tracking)	● VTVM (RIF switch:B) ● Oscilloscope		C301	160 kHz	160 kHz	L153	Max.
					270 kHz	270 kHz	CT153	
					Repeat steps (1) and (2)			

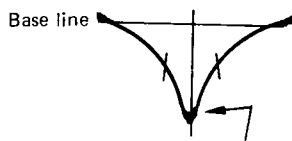
FM section

*() For W. Germany

Step	Adjustment Item	Measuring Instrument and Connection			Genescope or Signal Generator Frequency	Dial Pointer Position	Adjust	Reading
		Measuring Instrument	Input Terminal	Output Terminal				
1	(1) FM IF	● Genescope (10.7 MHz) (MODE select switch : MONO)	IC101	C301	10.7 MHz	Highest	T101	(Note 4)
	(2) S-Curve						T202	(Note 5)
Turn T202 fully counterclockwise								
2	(1) FM OSC (Covering)	● FM signal generator (400 Hz, 30% dev.) ● Oscilloscope ● VTVM (MODE select switch: MONO)	TP101 (+) TP102 (-) (through FM dummy antenna) (Note 6)	C301	87 MHz *(87.5 MHz)	Lowest	L102	Max.
	(2)				109 MHz *(108 MHz)	Highest	CT102	
	(3)				Repeat steps (1) and (2)			
3	(1) FM ANT (Tracking)	● Oscilloscope ● VTVM (MODE select switch: MONO)	TP101 (+) TP102 (-) (through FM dummy antenna) (Note 6)	C301	90 MHz	90 MHz	L101	Max.
	(2)				106 MHz	106 MHz	CT101	
	(3)				Repeat steps (1) and (2)			
4	(1) FM MPX (Multiplex)	● Frequency counter (MODE select switch: STEREO)	Connect a 3.3μF/50V electrolytic capacitor between the NO. 1 pin of IC301 and GND	R305	—	—	RT301	38 kHz ± 50 Hz (Note 7)

Note:

1. Feed in a weak signal from the genescope. Adjust T201, T203 for maximum gain and the waveform of Fig. 10.



Adjust the genescope output so that there is a little noise riding on the leading edge.

Fig. 10

2. SW dummy antenna shows Fig. 11.

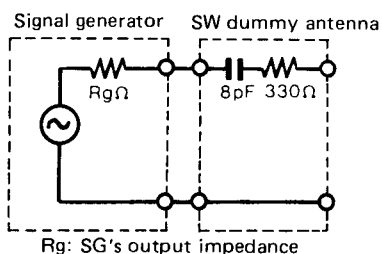


Fig. 11

3. Connect AM signal generator to loop antenna, bring near to ferrite antenna.

4. Feed in a weak signal to IC101 from the genescope. Adjust T101 for maximum gain and the waveform indicated in Fig. 12. If the center of the waveform cannot be lined up on the marker, adjust the right/left balance.

Adjust the genescope output so that there is a little noise riding on the leading edge.

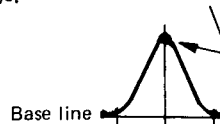


Fig. 12

5. Use the T202 core to from the S-curve shown in Fig. 13. Adjust the symmetry of A and B about point C for linearity.

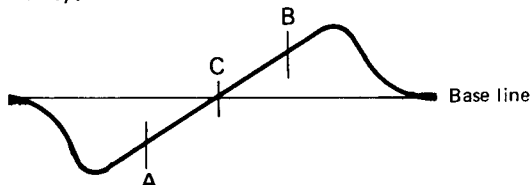


Fig. 13

6. FM dummy antenna shows Fig. 14.

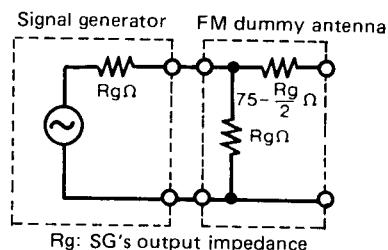


Fig. 14

7. Connect the frequency counter to R305 and connect a 220kΩ resistor parallel with the frequency counter. (MODE select switch: STEREO)

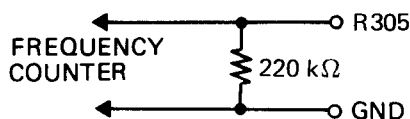


Fig. 15

2. TAPE RECORDER SECTION

• Adjustment point

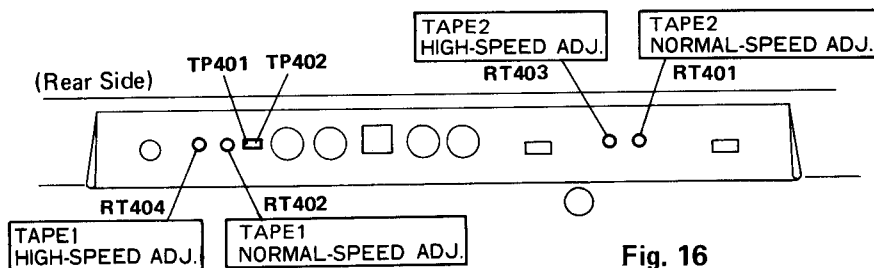


Fig. 16

Make the following adjustments after opening the cassette doors and cleaning the heads, pressure rollers, and capstans with a head cleaning stick moistened in alcohol.

Note: Upright the unit and make adjustment from the rear surface.

1. Tape Speed Adjustment

*Be sure to make adjustment in order of Normal-speed to High-speed.

(1) Normal-Speed

Adjustment tape	Adjustment value	Adjustment point
Tape speed adjustment tape	3,000 Hz ±20 Hz	RT402 (TAPE 1) RT401 (TAPE 2)

Adjustment Procedure

Connect the frequency counter to the LINE OUT terminals and playback adjustment tape for TAPE 1 and TAPE 2. Adjust so that the speed of TAPE 1 and TAPE 2 are equal. Make adjustment at the middle of tape after applying heat-run for 20 minutes or more.

(2) High-Speed

Adjustment tape	Adjustment value	Adjustment point
Tape speed adjustment tape	6,000 Hz ±40 Hz	RT404 (TAPE 1) RT403 (TAPE 2)

Adjustment Procedure

With the shorting across TP401 and TP402, and playback adjustment tape for TAPE 1 and TAPE 2 and adjust their speed.

2. Azimuth Adjustment of Record/Playback Head

Adjustment tape	Adjustment value	Adjustment point
Azimuth alignment tape (10 kHz)	Maximum output	Azimuth adjustment screw (A)

Adjustment Procedure

Connect the electronic voltmeter to the LINE OUT terminals, playback the alignment tape, and make adjustment. If the maximum values of both channels differ, set to the maximum value of L channel and check that the difference between the maximum values of both channels is within -2 dB. If the difference is larger, make readjustment. After the adjustment, fix the screw with Screw Lock.

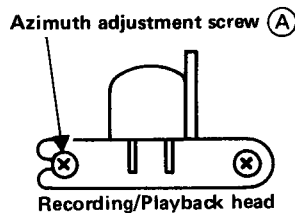
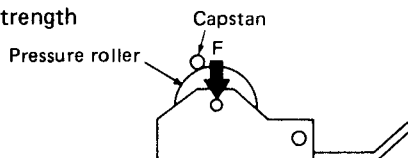


Fig. 17

3. Cassette Chassis Checking and Adjustment

No.	Inspection Item	Reference Value	Remarks
1.	Pressure roller compression strength	300 - 500 g	(Note 1) Tension gage
2.	Playback torque	30 - 60 g	Cassetpack system Torque meter
3.	FF/REW torque	more than 50 g·cm	Cassetpack system Torque meter
4.	Take up back-tension	2.0 - 6.0 g·cm	Cassetpack system Torque meter
5.	Tape drive force	more than 120 g	
6.	Axial play of flywheel	0.05 - 0.5 mm	

Note 1 Pressure roller compression strength



3. CD PLAYER SECTION

1. Checking the object lens (Fig. 18)

Take care not to dirty the objective lens of the lens actuator. When the unit is not used for a long time, the lens sometimes becomes dirty. Clean the lens with a cotton swab.

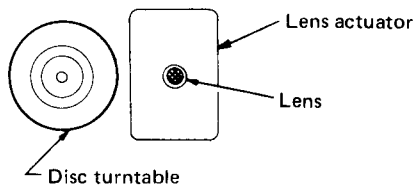


Fig. 18

2. Checking the laser

The laser unit operates on 40 – 80 mA current. If the laser operation current in the circuit exceeds 100 mA, the laser may be defective.

3. Precautions on repair service

(1) Semiconductor laser (Fig. 19)

The semiconductor laser requires more attention to electrostatic breakdown or surge current. Be very careful not to touch the terminals of the semiconductor laser and those of the flexible P.W.B. by hand or with a tool.

The current – light intensity characteristic became sharp abruptly after passing the threshold value as shown in Fig. 19. The threshold current value is a little different in each laser unit. Therefore, when setting the laser beam amount after replacing the unit mechanism, be sure to turn the control variable resistor R905 fully counterclockwise to set it off once, and then increase the level to the specified value.

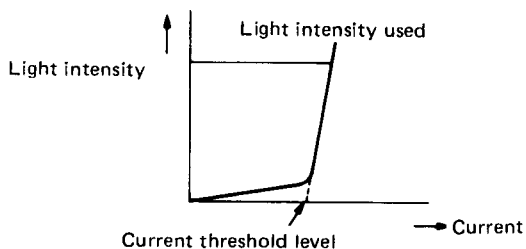


Fig. 19

(2) Notes on handling the unit mechanism (Fig. 20)

When handling the pick-up mechanism or unit mechanism, use the ground ring as shown in Fig. 20.

(The ground ring can be made using normal lead wire.)

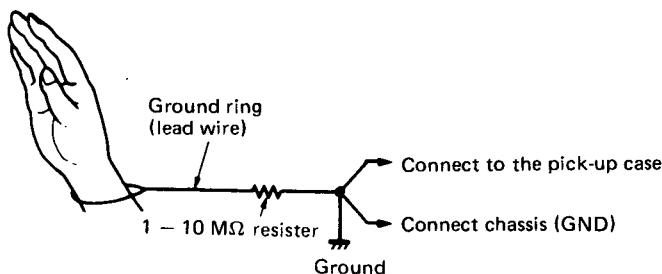


Fig. 20

(3) Precaution in replacing parts.

- [1] Protective sheets are stuck to the service parts of the unit mechanism. Never remove these sheets prior to the completion of assembly.
- [2] If the lead terminals of the slide motor are overheated due to soldering etc., it may cause a fault in the slide motor. Therefore, be sure to unsolder the leads on the P.W.B. side during replacement.
- [3] When installing the unit mechanism, apply one drop of alcohol to the grommets to facilitate unit mechanism installation. Fully tighten the screws. If the screws are loose, the disc tracking performance may be degraded. (Fig. 21)

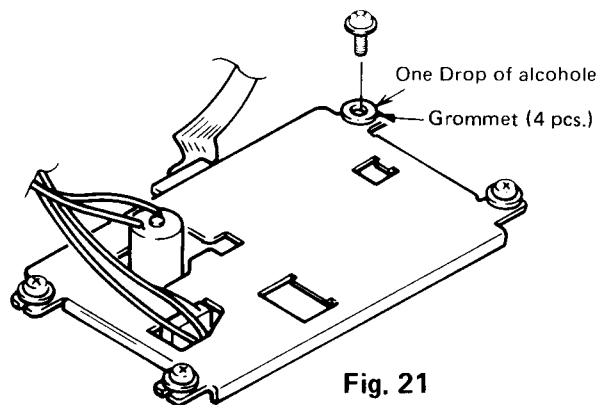


Fig. 21

- [4] When installing the DC motor assembly, take care not to damage the worm gear. After installation, check the play between the worm gear and send gear. If there is no play move the DC motor assembly outward. (Fig. 22)

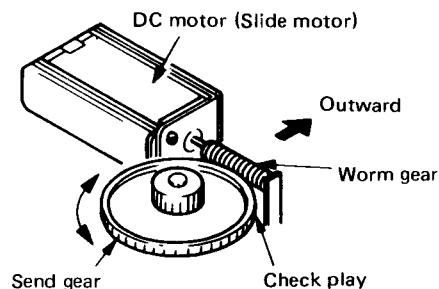


Fig. 22

- [5] When replacing the DC motor (disc motor), turntable, or center pin, proceed as follows.
 - 1) Remove the turntable fixing screw (hex. hole set screw). Apply the soldering iron to the turntable fixing screw hole for about 1 minute and pull out the center pin in the direction of arrow A (vertical to the unit plate).
 - 2) When installing the turntable, adjust its height with the height adjusting jig. At this time, take care not to apply excessive force to the DC motor shaft.
 - 3) When replacing the DC motor, take care not to apply excessive force in the direction of arrow B. Doing so may deform unit plate C, resulting in deteriorated eye pattern. (Fig. 24)

- 4) Press in the center pin into the DC motor shaft so that the shaft tip is aligned with the center pin tip. (Fig. 24)

Note: Once the center pin is removed, do not reuse it.

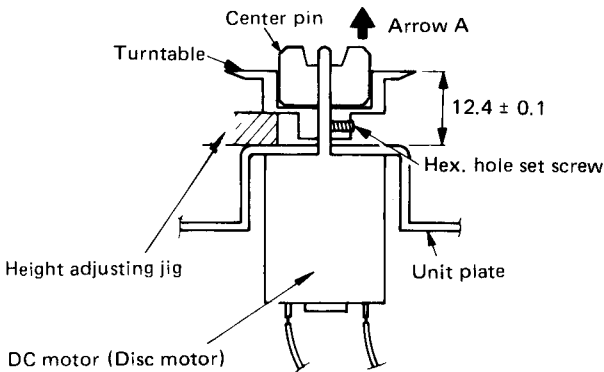


Fig. 23

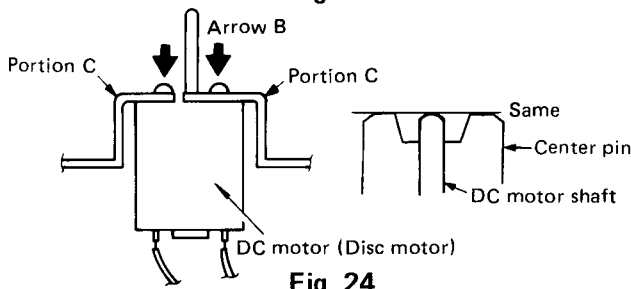


Fig. 24

4. ADJUSTING THE PLAYER

When you have made the following work (1) or (2), be sure to perform adjustment 1 – 4.

- (1) Disassembly of the unit mechanism and replacement of parts.
- (2) Replacement of parts of the pickup part.

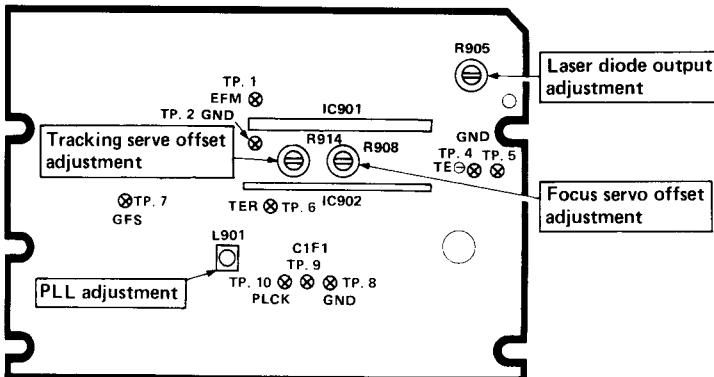
■ **Adjustment of circuit**

Preset each control before making adjustment after replacing the pickup parts.

● **Presetting**

Adjustment	Circuit No.	Preset position
Laser diode output	R905	Center
Focus servo offset	R908	Center
Tracking servo offset	R914	Center

Adjustment should be made in the following sequence.



4. Checking the actuator

Check the resistance values of the actuator coils.

They are normal if the resistance values meet the following values.

Focus coil: 30 ohms

Tracking coil: 10 ohms

If any coil is open or short circuited, the actuator may be defective. Check that the lens moves with 1.5V battery. (Fig. 25)

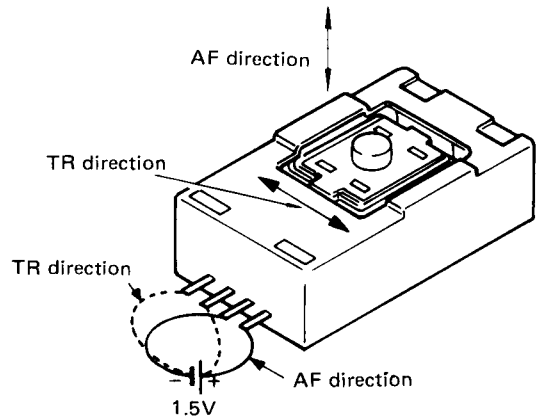


Fig. 25

1. Adjustment of laser diode output

Do not perform this adjustment except when the pickup mechanism or laser circuit is replaced.

(1) **Instrument to be used**

- Oscilloscope.

(2) **Adjusting procedure**

- [1] Connect the oscilloscope to TP.1 (EFM) and TP.2 (GND). (Fig. 26)
- [2] Load a disc in the player, and set the player to play mode.
- [3] Adjust R905 so that the EFM signal level becomes $1.3V \pm 40mV$.

Note: (Fig. 27)

However if the signal level is in range of 1.1V – 1.5V, it is normal and no adjustment is necessary.

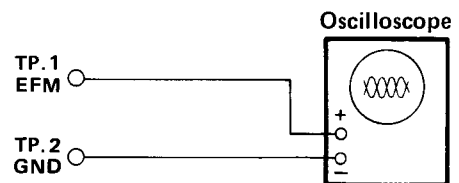


Fig. 26

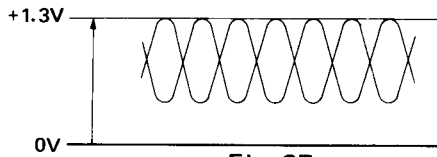


Fig. 27

2. Adjustment of focus servo offset

(1) Instrument to be used

- Oscilloscope
- DC Voltmeter

(2) Adjusting procedure

- [1] Set the player to stop mode.
- [2] Connect the oscilloscope to TP.1 (EFM) and TP.2 (GND).
- [3] Connect the DC voltmeter as shown in Fig.28
- [4] Load a disc in the player, and set the player to play mode.
- [5] Adjust R908 so that the EFM signal amplitude becomes maximum.
- [6] After adjustment, check that the center voltage of the R908 is 2 – 3 V with a DC voltmeter.
- [7] If the center voltage is not within the specified value, readjust as follows.

Less than 2V: Set to 2V.
More than 3V: Set to 3V.

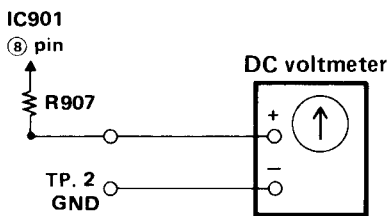


Fig. 28

3. Adjustment of tracking servo offset

(1) Instrument to be used

DC voltmeter

(2) Adjusting procedure

- [1] Connect the DC voltmeter to TP.6 (TER). (Fig. 29)
- [2] Put the set in stop mode.
- [3] Adjust R914 so that the DC voltmeter indicates +10 mV ± 2 mV.

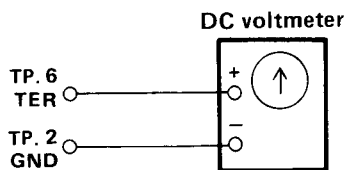


Fig. 29

4. Adjusting PLL

Do not make adjustment except when any parts in the PLL block has been replaced.

(1) Instrument to be used

- Frequency counter
- Oscilloscope

(2) Adjusting preparation

Connect the above instruments as shown in Fig. 30.

(3) Adjusting procedure

- [1] Preset L901 so that the frequency at TP.10 (PLCK) is $4,500 \pm 50$ kHz with the set stopped.
- [2] Put the set in play mode. Turn L901 clockwise (in the core entering direction) until the level of TP.7 (GFS) goes low. Then, turn L901 counterclockwise (in the core pulling direction) and find the position where the level goes high.
- [3] Put the set in stop mode and read the frequency (f_1) of TP.10 (PLCK).
- [4] Put the set in play mode. Turn L901 counterclockwise until the level of TP.7 (GFS) goes low. Then, turn L901 clockwise and find the position where the level goes high.
- [5] Put the set in stop mode and read the frequency (f_2) at TP.10 (PLCK).
- [6] Adjust L901 so that the frequency at TP.10 is $(f_1 + f_2) \times 1/2$.

(4) checking of operation

After making adjustments [1] through [6] above and put the set in play mode. Check that the frequency at TP. 10 (PLCK) is $4,321.8$ kHz \pm 400 Hz. Ascertain that the waveform at TP. 7 (GFS) exactly as shown in Fig. 31. The level at TP. 7 (GFS) may happen to below.

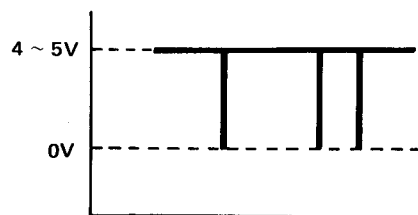


Fig. 31

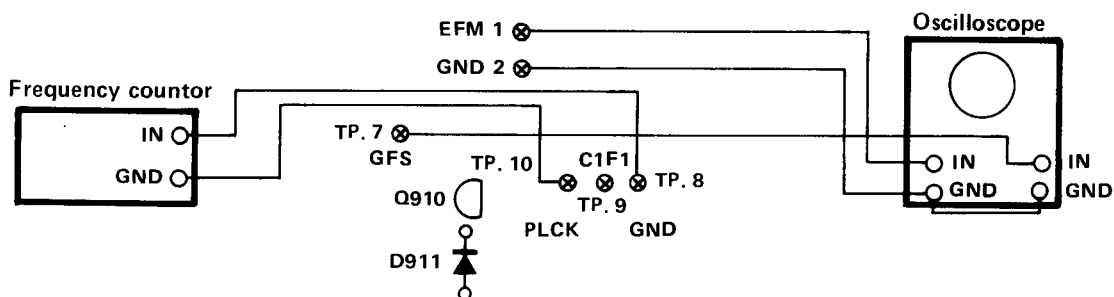


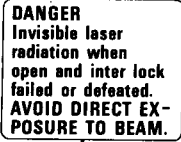
Fig. 30

LASER CAUTION LABELS

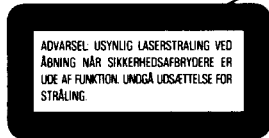
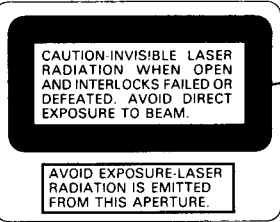
For Canada



For U.S.A.

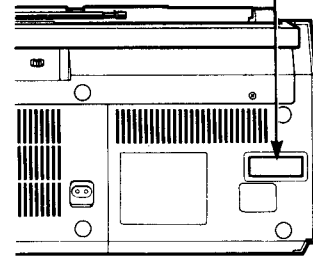
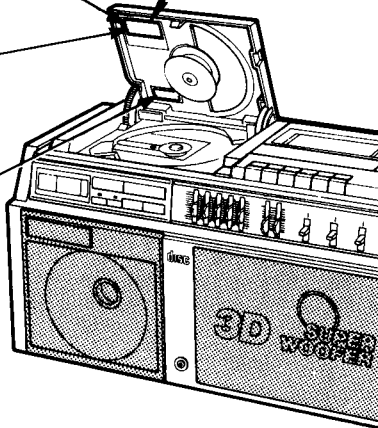


Except U.S.A. and Canada



For Europe to the exclusion of U.K.

Except U.S.A. and Canada



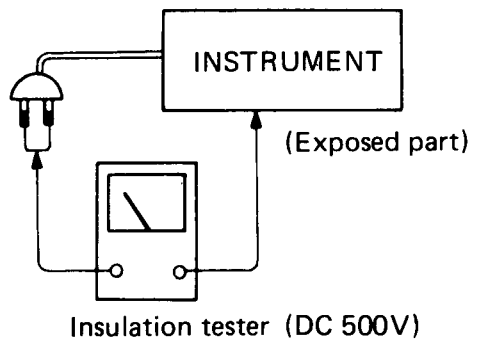
Inside of the set is a laser component emitting a laser radiation over the limit for laser class 1.

Inuti apparaten finns en laserkomponent som avger laserstrålning över gränsen för laser klass 1.

Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

● **Checking method**

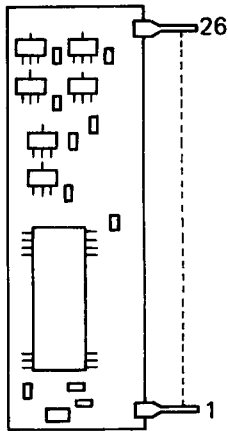
Power (Operate) switch is set to ON.
 Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the LINE OUT terminal of rear plate and check that the resistance value is 500 kohms or more.



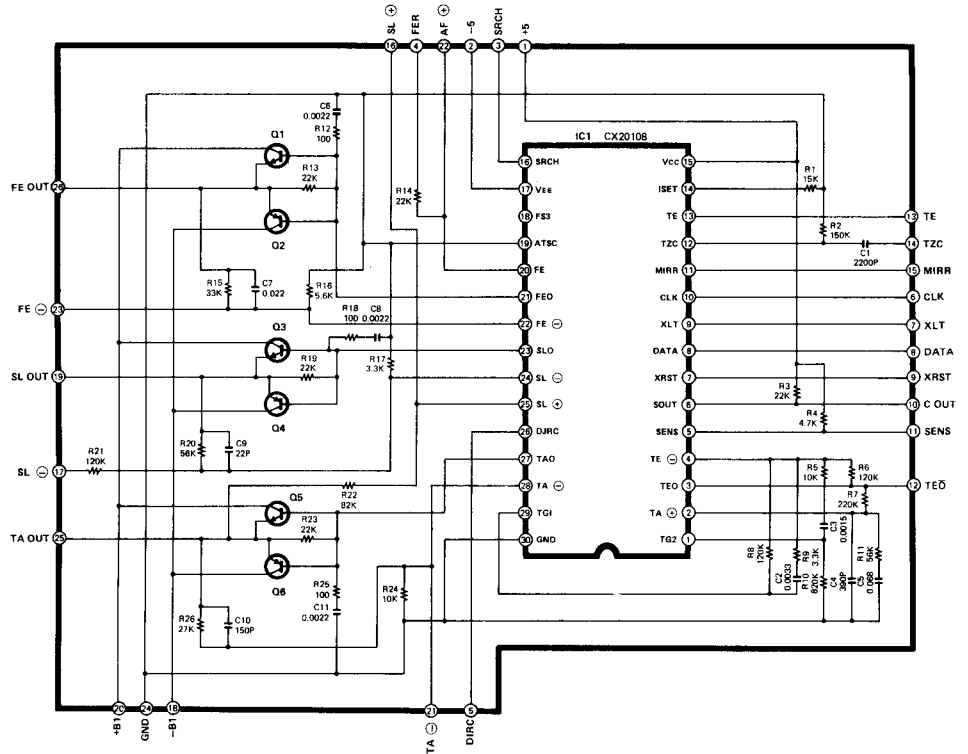
DESCRIPTION OF NEW PARTS

TM5060 (IC902) Pick up servo driver IC for CD player

(1) External view



(2) Block diagram

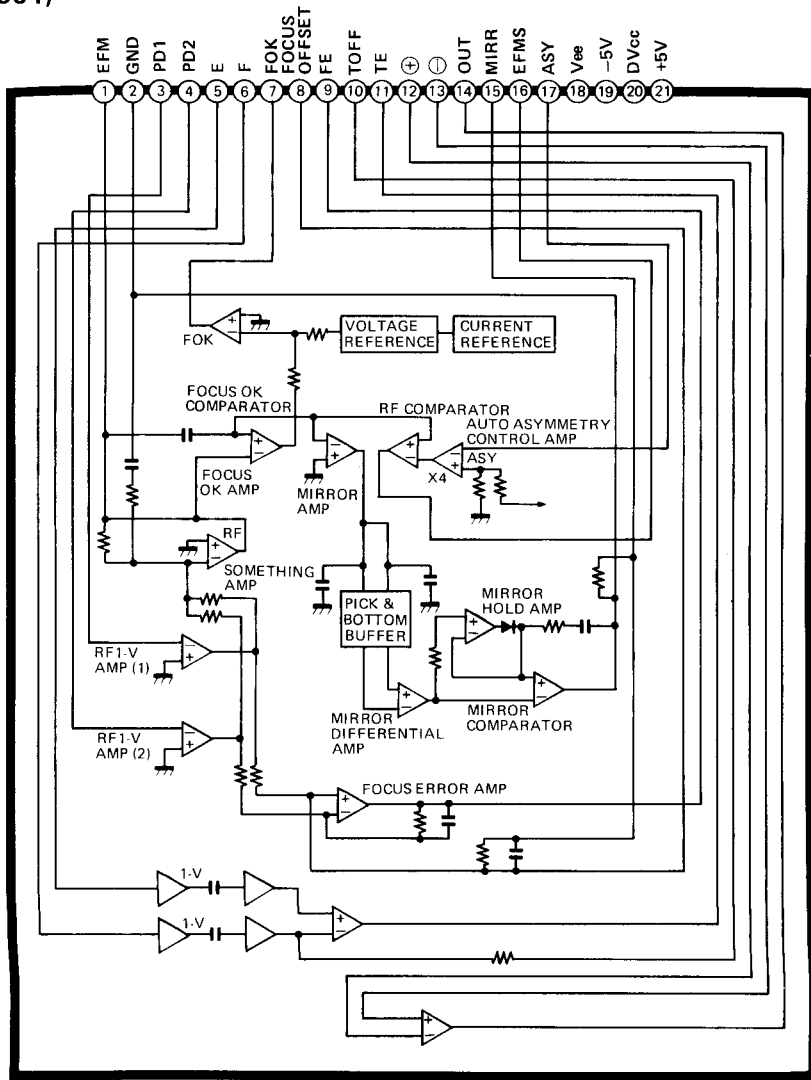


(3) Pin Functions

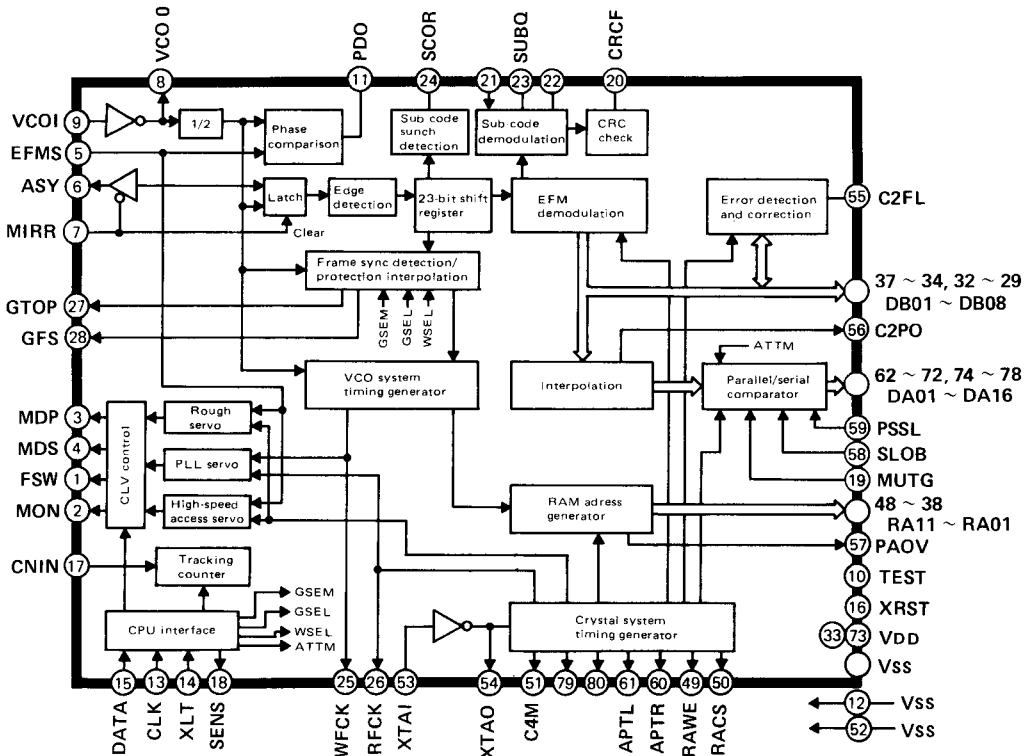
Pin No.	Pin symbol	Input/Output	Function
1	+5V	—	+5V
2	-5V	—	-5V
3	SRCH	Input	Focus up/down capacitor pin
4	FE	Input	Focus error input
5	DIRC	Input	Direct control pin used in 1-track jump
6	CLK	Input	Serial transmission clock from microprocessor to this IC
7	XLT	Input	Latch input internal serial shift register from microprocessor to this IC decoded and transmitted to each latch.
8	DATA	Input	Serial data transmission from microprocessor to this IC
9	XRST	Input	Internal registers all cleared with this IC's Reset input set to low
10	C OUT	Output	Track No. counting signal output in fast access mode
11	SENS	Output	Servo IC internal output according to the address from microprocessor to this IC
12	TE \bar{O}	Output	Tracking operation amplifier 1 output
13	TE	Input	Tracking operation amplifier 1 input
14	TZC	Output	Tracking zero cross signal output
15	MIRR	Input	Mirror signal input from preamplifier IC
16	SL \oplus	Input	Slide amplifier non-reversed input
17	SL \ominus	Input	Slide amplifier reversed input
18	-10V	—	-10V
19	SL OUT	Output	Slide amplifier output
20	+10V	—	+10V
21	TA \ominus	Input	Tracking amplifier 2 non-reversed input
22	FE	Input	Focus error input
23	FE \ominus	Input	Focus error amplifier non-reversed input
24	GND	—	GND
25	TA OUT	Output	Tracking amplifier 2 output
26	FE OUT	Output	Focus error amplifier output

IC INTERNAL BLOCK DIAGRAM

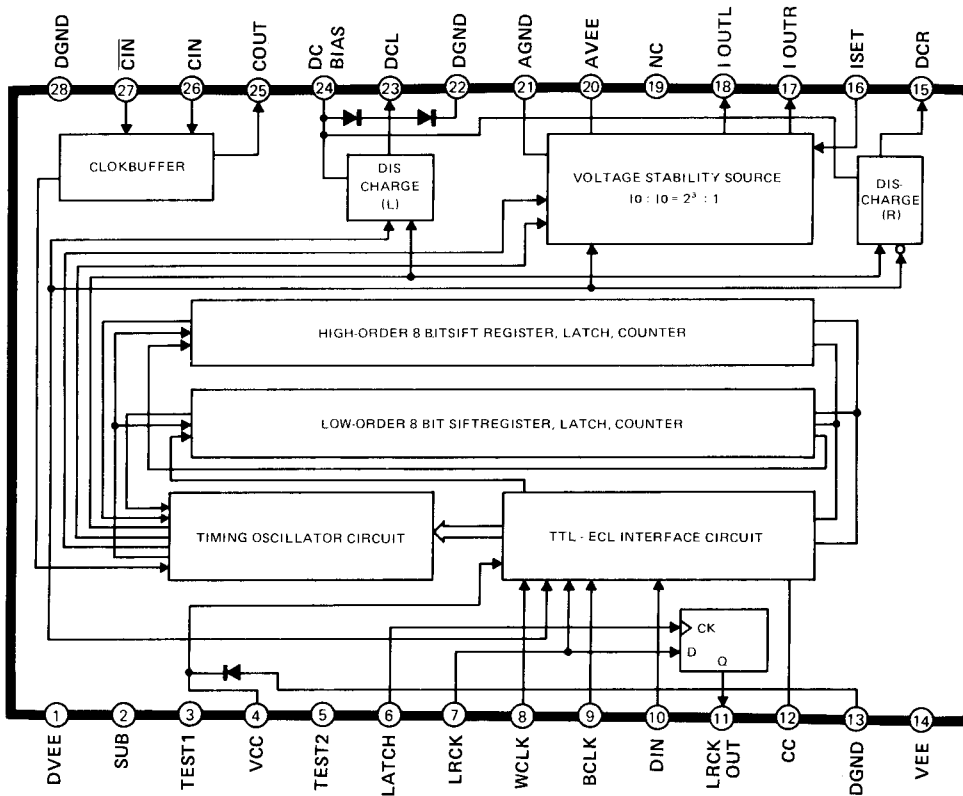
TM5050 (IC901)



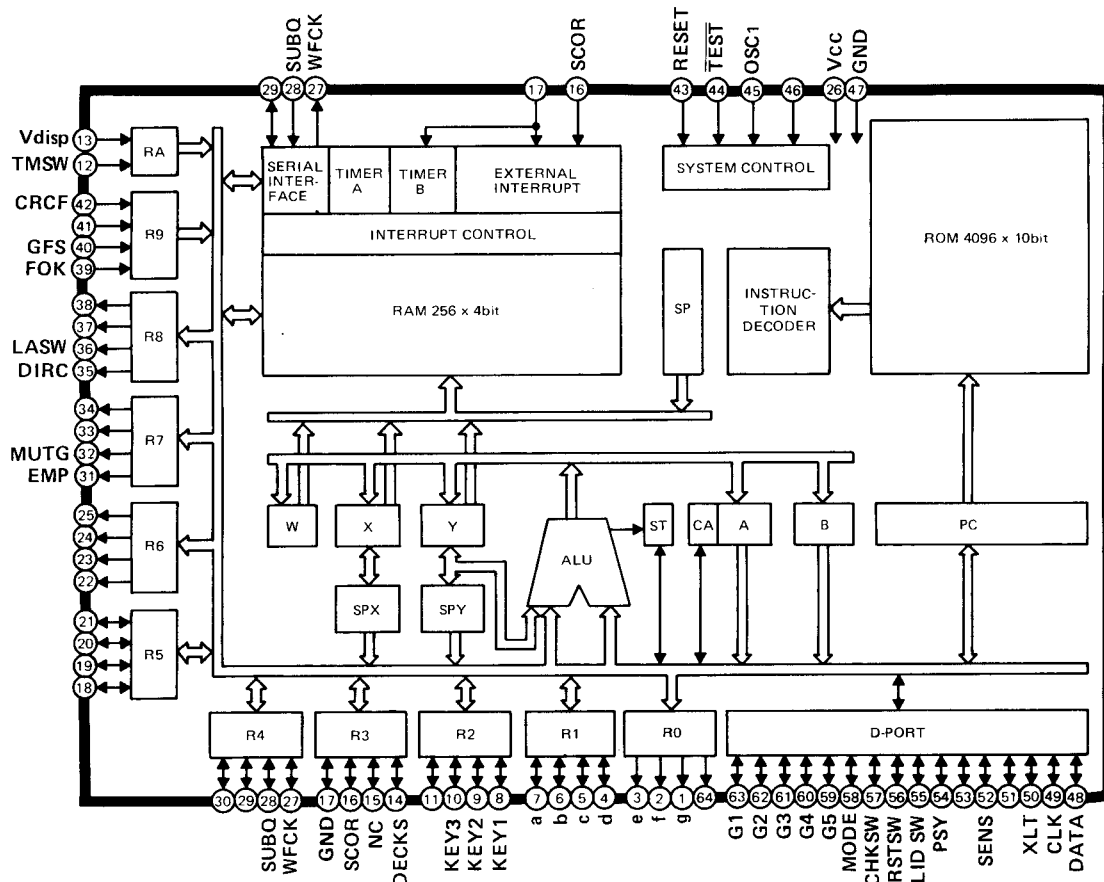
CX23035 (IC906)



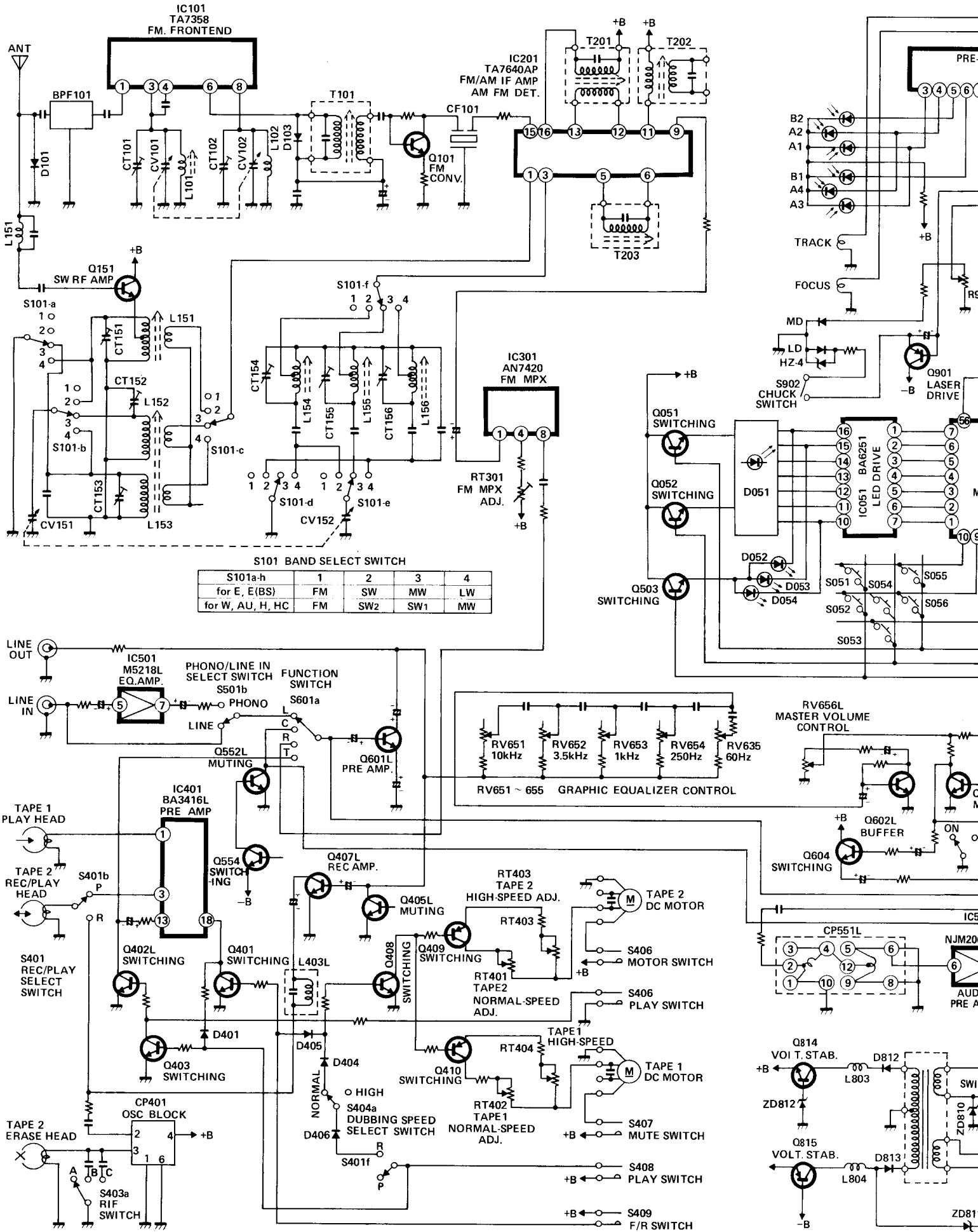
CX20133 (IC908)



HD614042FD91 (IC905)

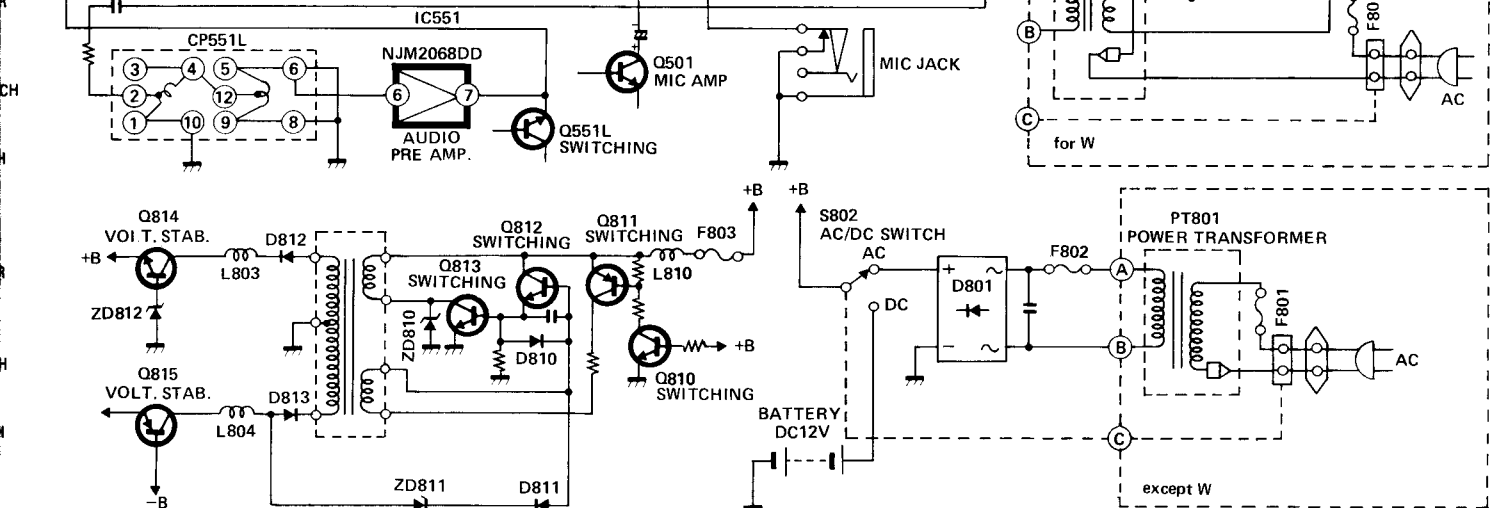
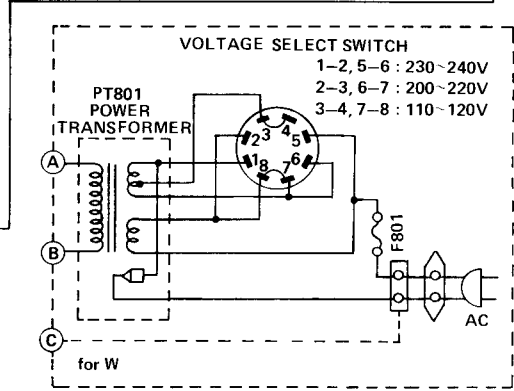
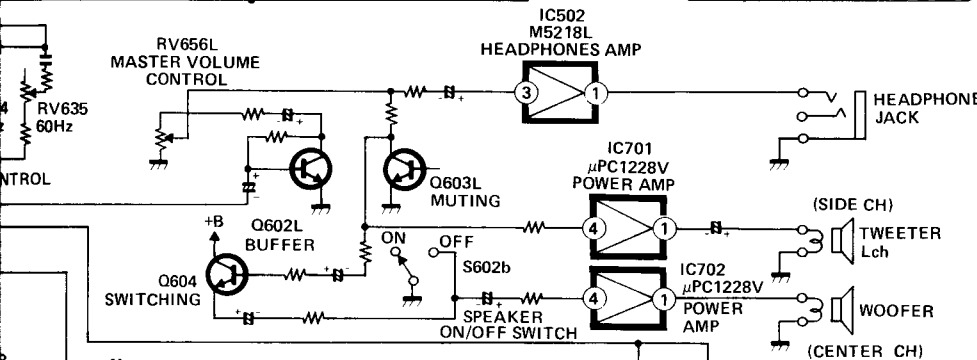
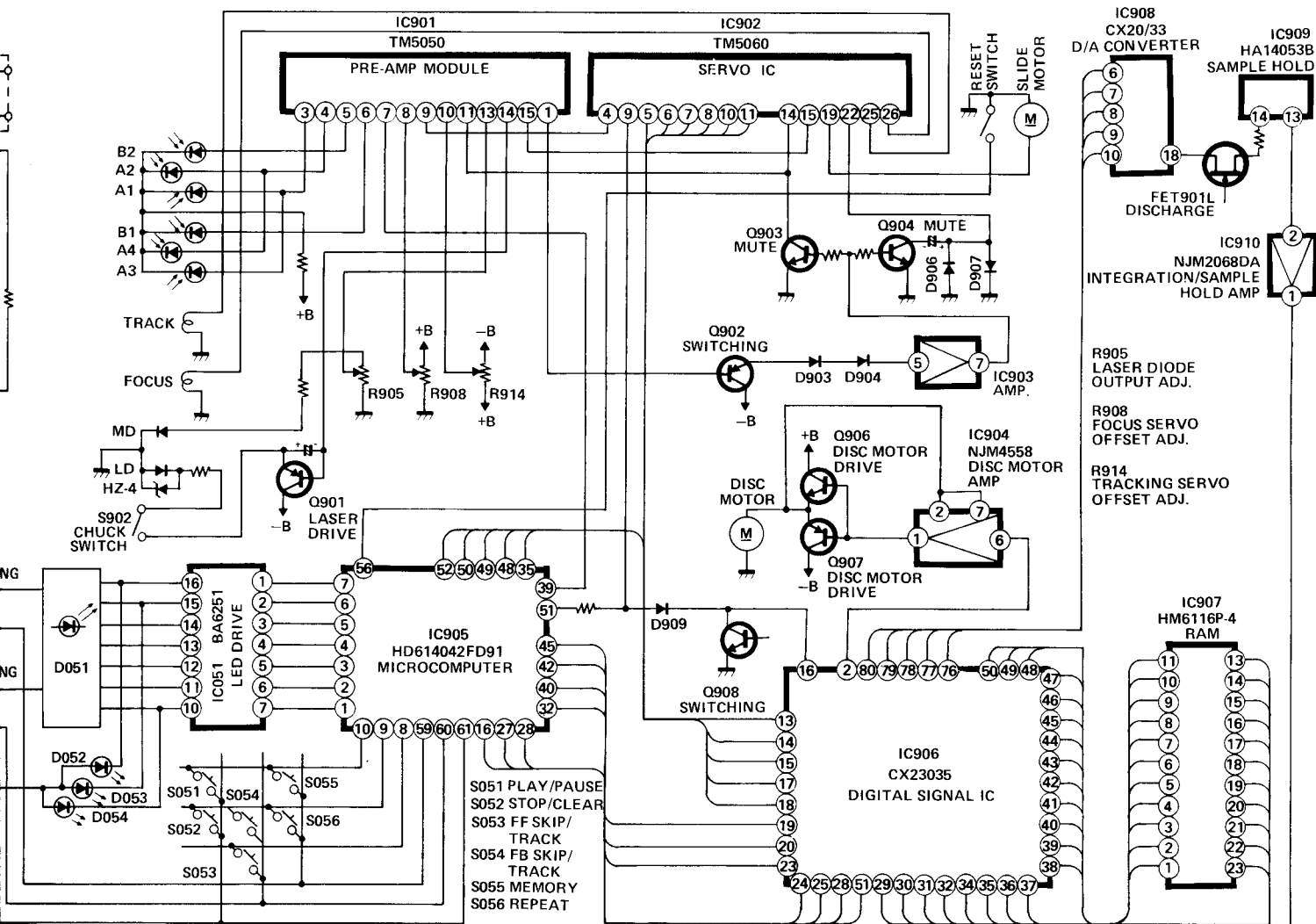


BLOCK DIAGRAM

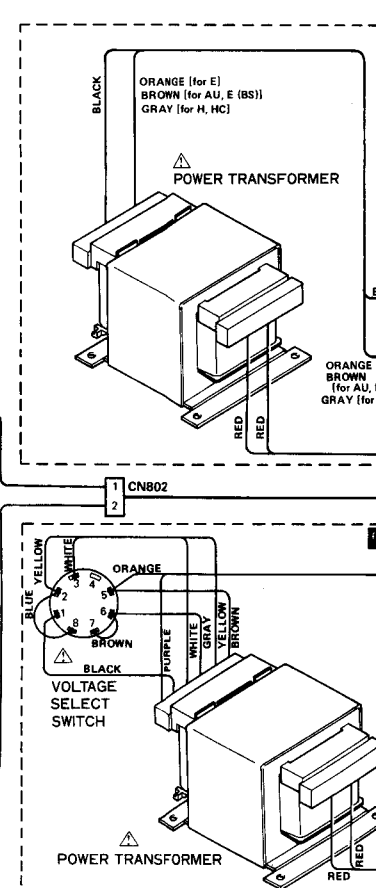
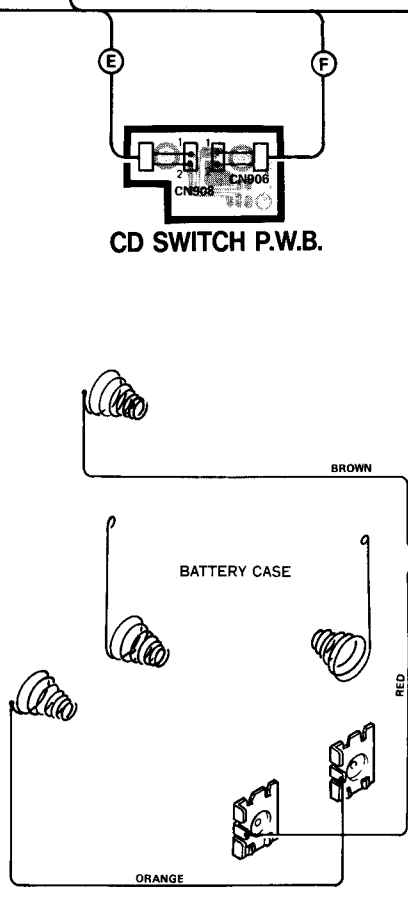
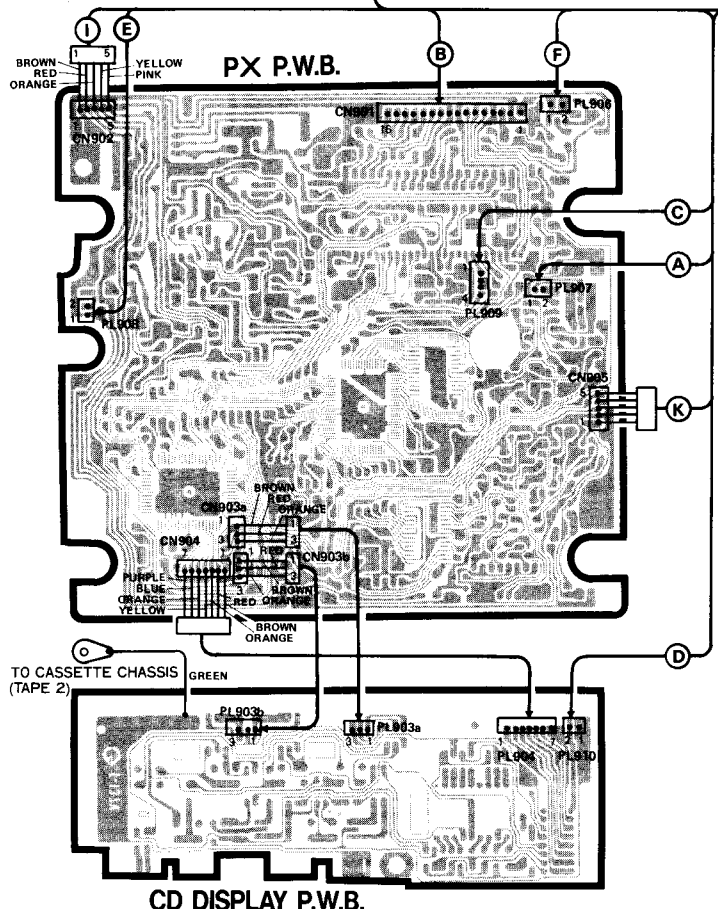
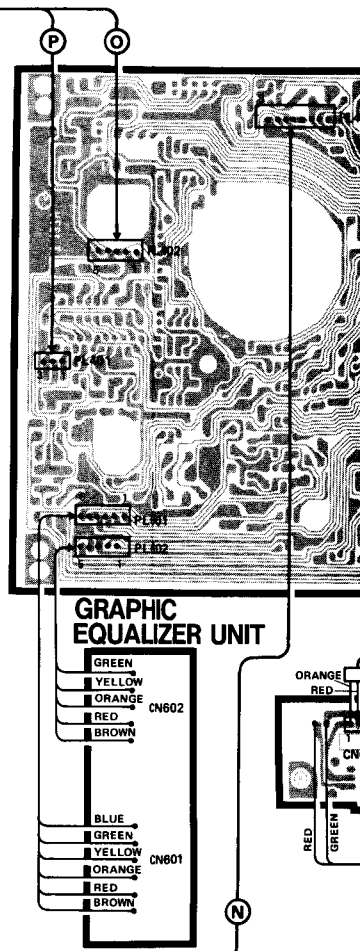
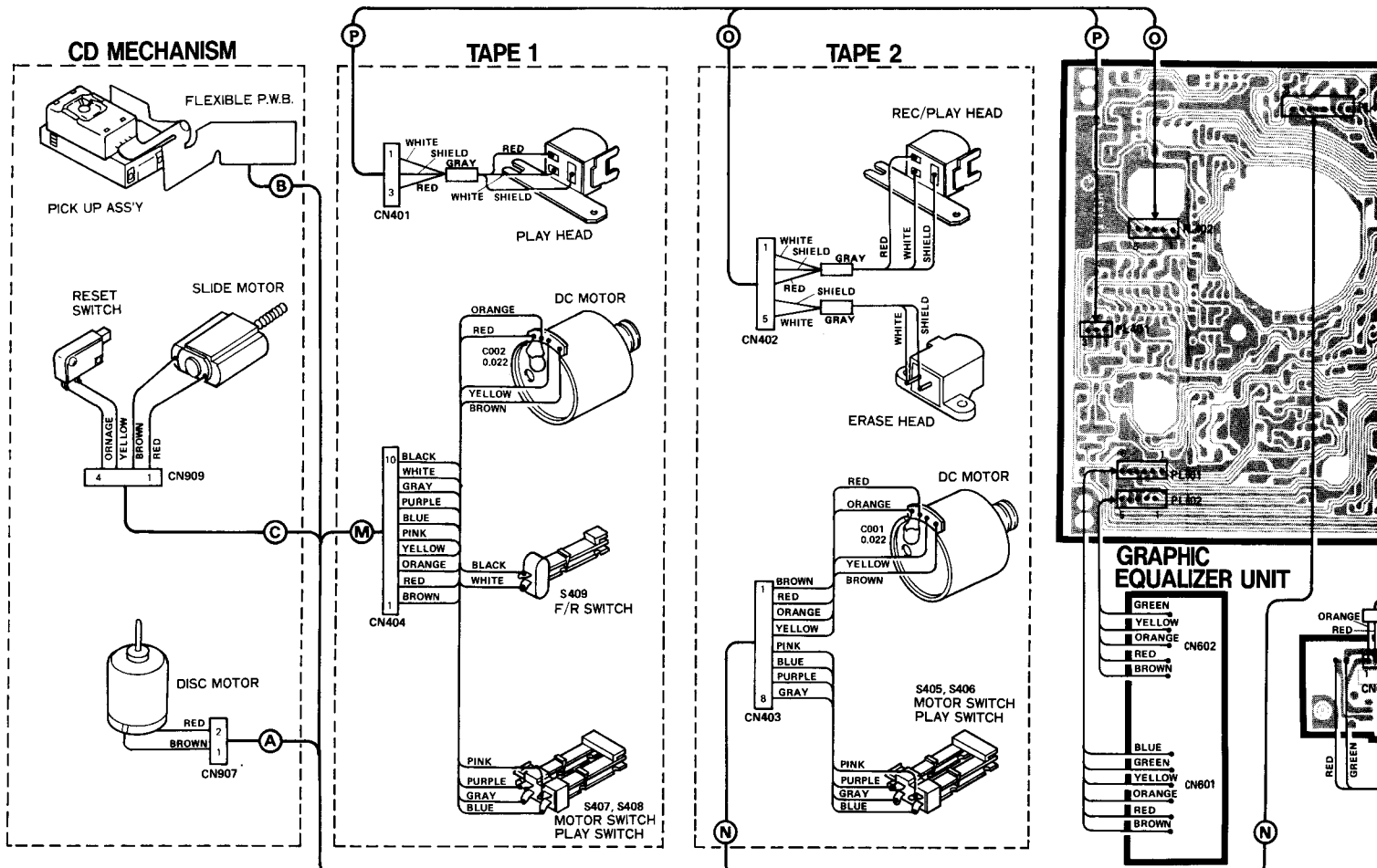


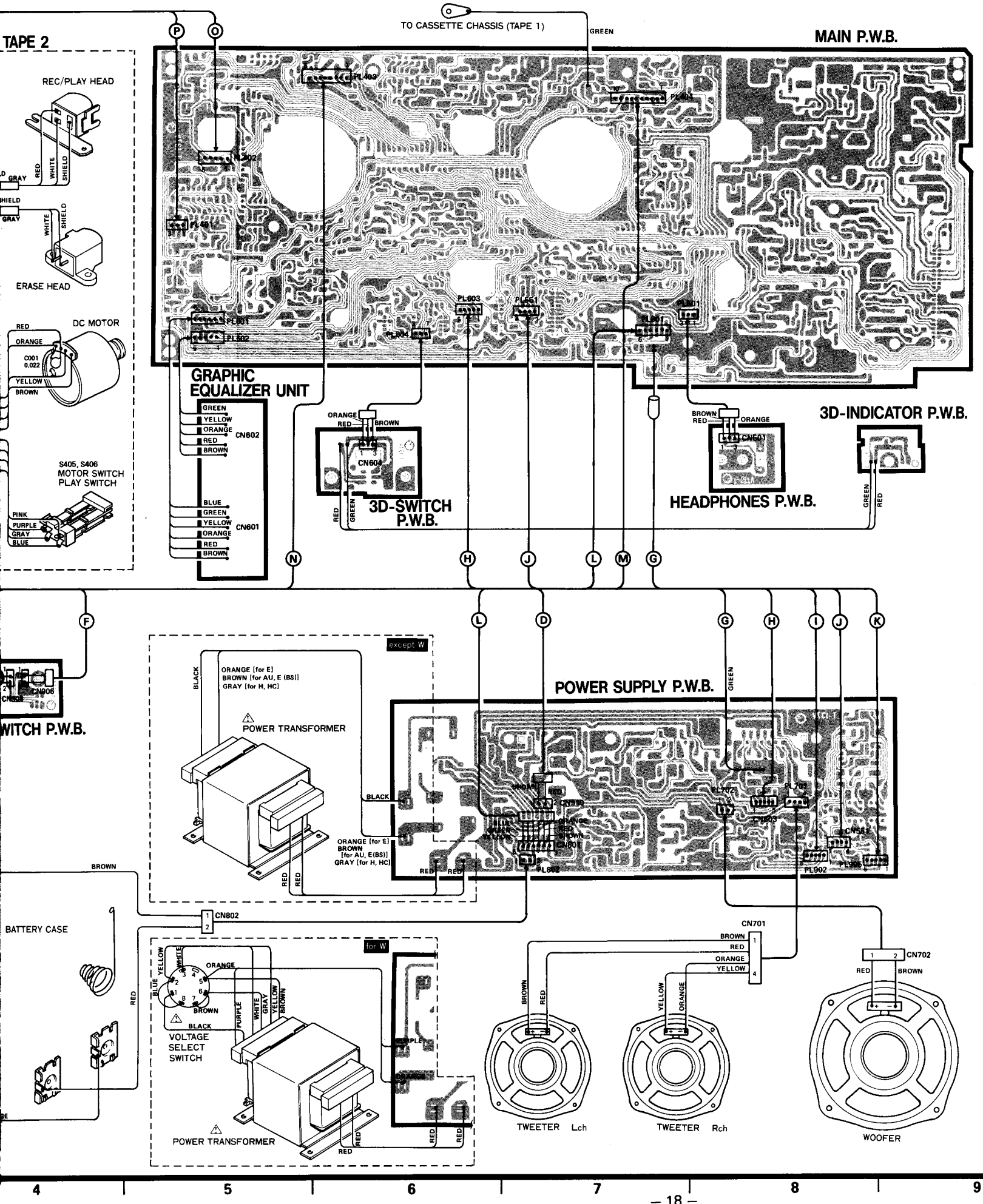
S101 BAND SELECT SWITCH

S101a-h	1	2	3	4
for E, E(BS)	FM	SW	MW	LW
for W, AU, H, HC	FM	SW2	SW1	MW



WIRING DIAGRAM





IC101

Pin No.	VOLTAGE		Pin No.	VOLTAGE	
	AM	FM		AM	FM
1	0.8	6	5.3		
2	1.6	7	4.5		
3	5.3	8	5.2		
4	1.6	9	5.3		
5	0				

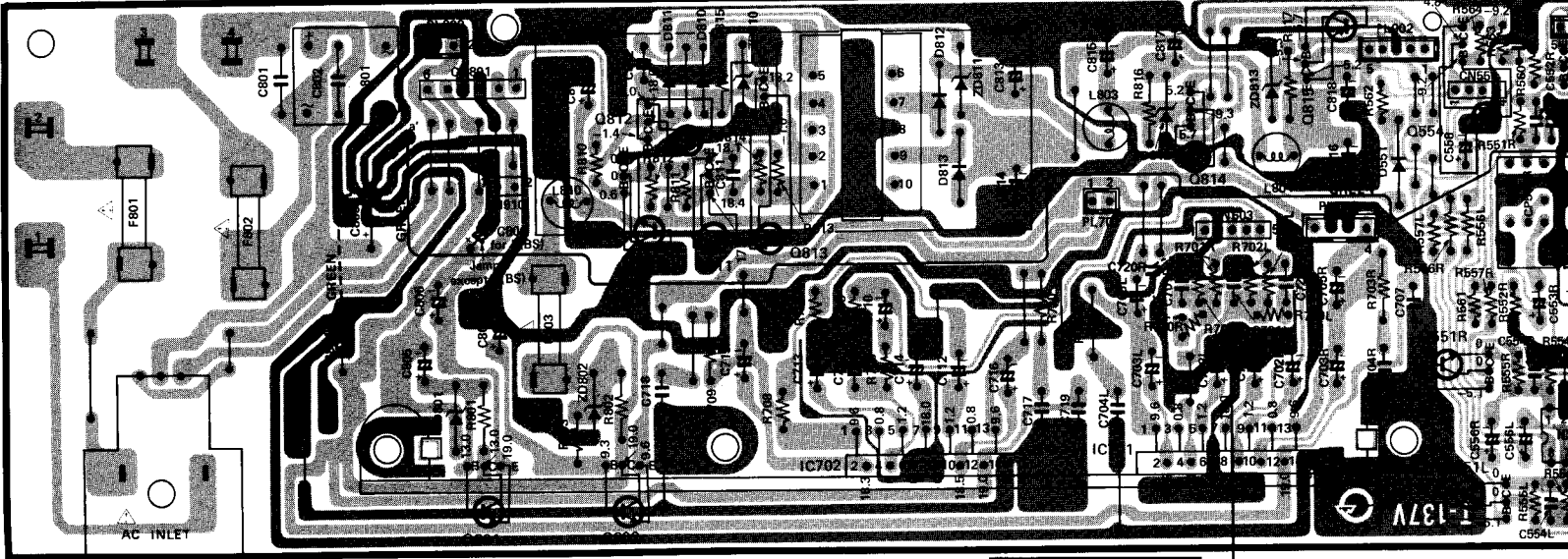
IC201

Pin No.	VOLTAGE		Pin No.	VOLTAGE		Pin No.	VOLTAGE		Pin No.	VOLTAGE	
	AM	FM		AM	FM		AM	FM		AM	FM
1	1.5	0.3	6	0.9		11	6.1	5.8	16	6.1	5.8
2	1.5	0	7	1.5		12	1.4				
3	2.2	0	8	0		13	1.4				
4	2.3	0	9	1.3		14	1.4				
5	0.9		10	6.1	5.8	15	1.4				

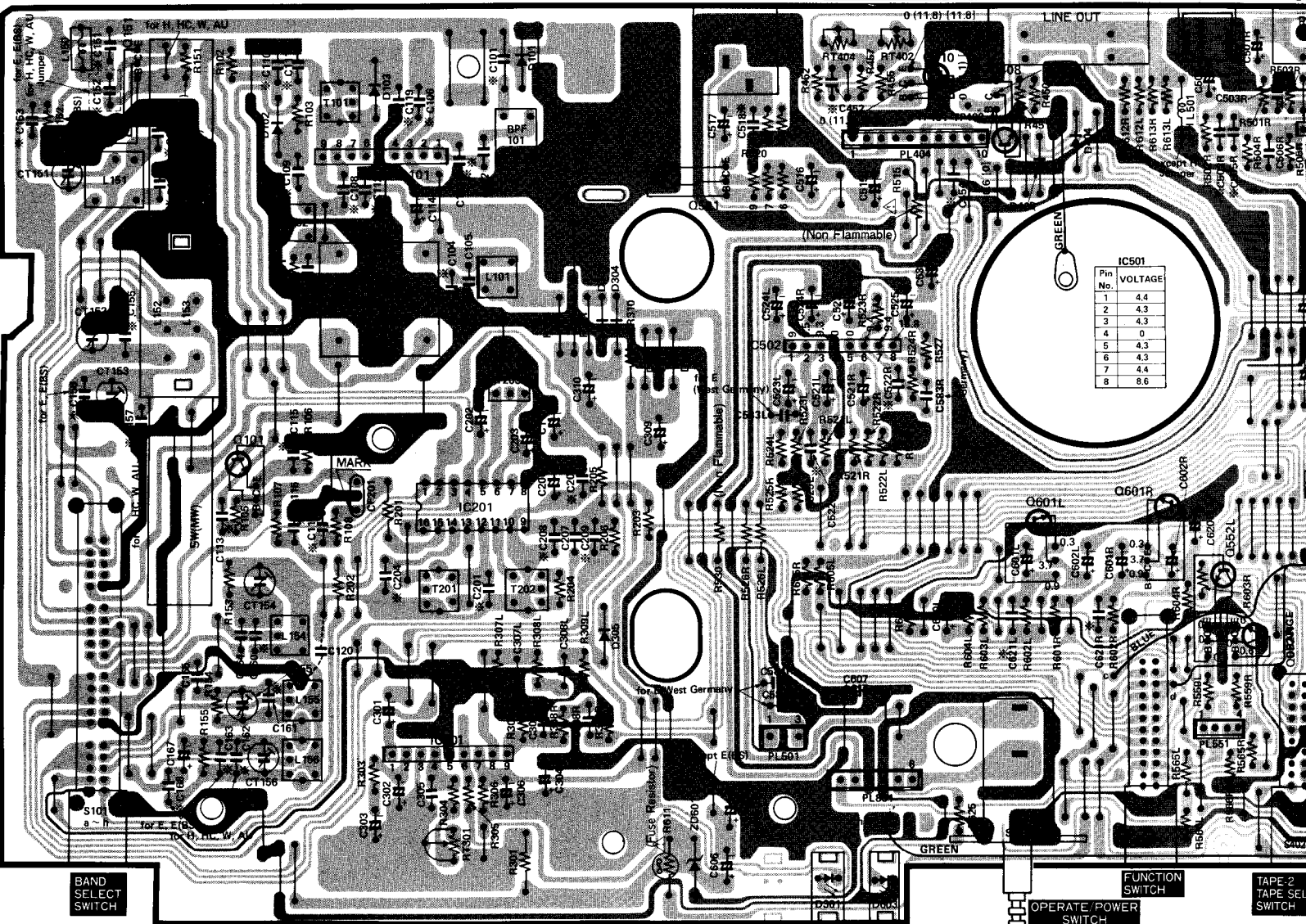
IC301

Pin No.	VOLTAGE		Pin No.	VOLTAGE	
	AM	FM		AM	FM
1	3.3	6	5.2		
2	5.1	7	MONO		
3	6.5				
4	4.8	8	3.3		
5	0	9	3.3		

POWER SUPPLY P.W.B.



MAIN P.W.B.



IC501

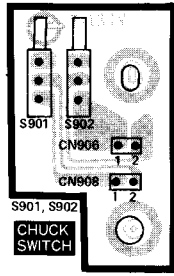
Pin No.	VOLTAGE
1	4.4
2	4.3
3	4.3
4	0
5	4.3
6	4.3
7	4.4
8	8.6

*: Axial lead cylindrical ceramic capacitor

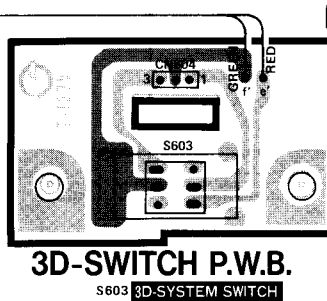
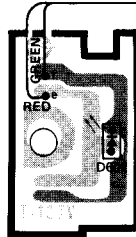
IC301			
Pin No.	Pin	VOLTAGE	
		AM	FM
1	11	5.1	5.8
2	12	1.4	5.8
3	13	1.4	5.8
4	14	1.4	5.8
5	15	1.4	5.8

Pin No.	Pin	VOLTAGE	
		AM	FM
1	3	3.3	5.2
2	5	5.1	7
3	7	6.5	8.6
4	8	4.8	3.3
5	9	0	3.3

CD SWITCH P.W.B.

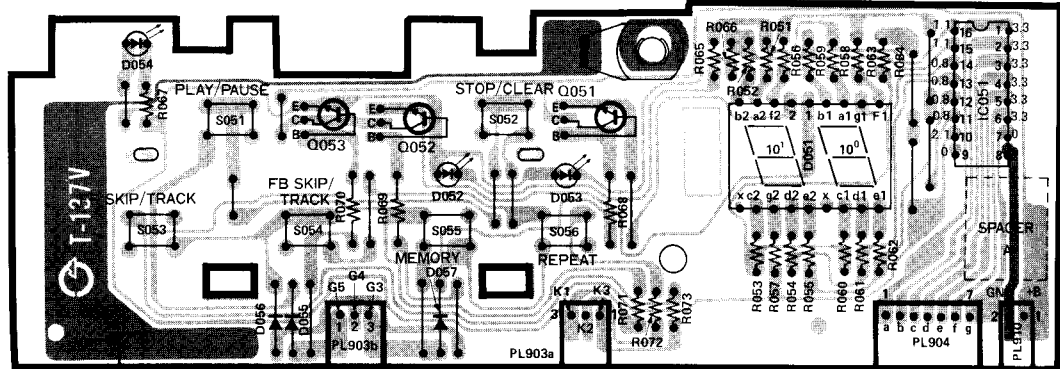
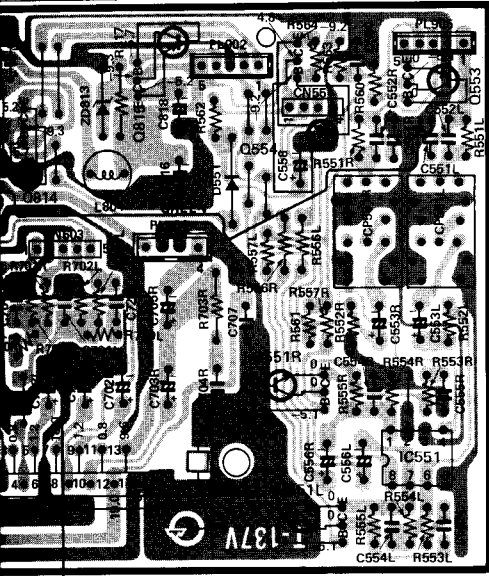
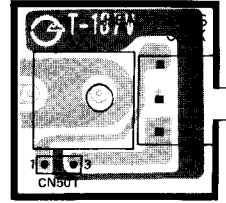


3D-INDICATOR P.W.B.

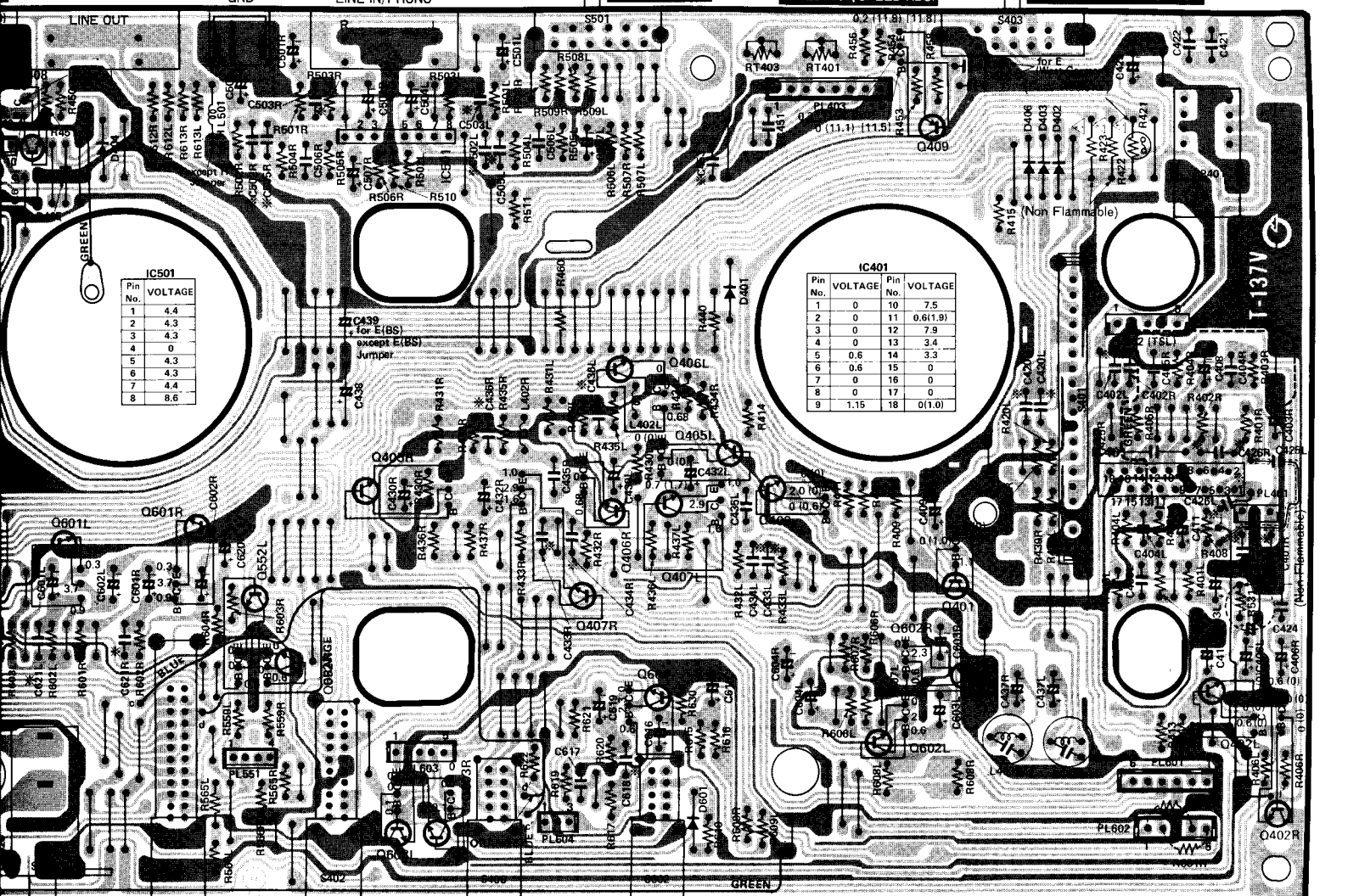


3D-SWITCH P.W.B.

HEADPHONES P.W.B.



CD DISPLAY P.W.B.



IC501	
Pin No.	VOLTAGE
1	4.4
2	4.3
3	4.3
4	0
5	4.3
6	4.3
7	4.4
8	8.6

IC401			
Pin No.	VOLTAGE	Pin No.	VOLTAGE
2	0	11	0.6(1.9)
3	0	12	7.9
4	0	13	3.4
5	0.6	14	3.3
6	0.6	15	0
7	0	16	0
8	0	17	0
9	1.15	18	0(1.0)



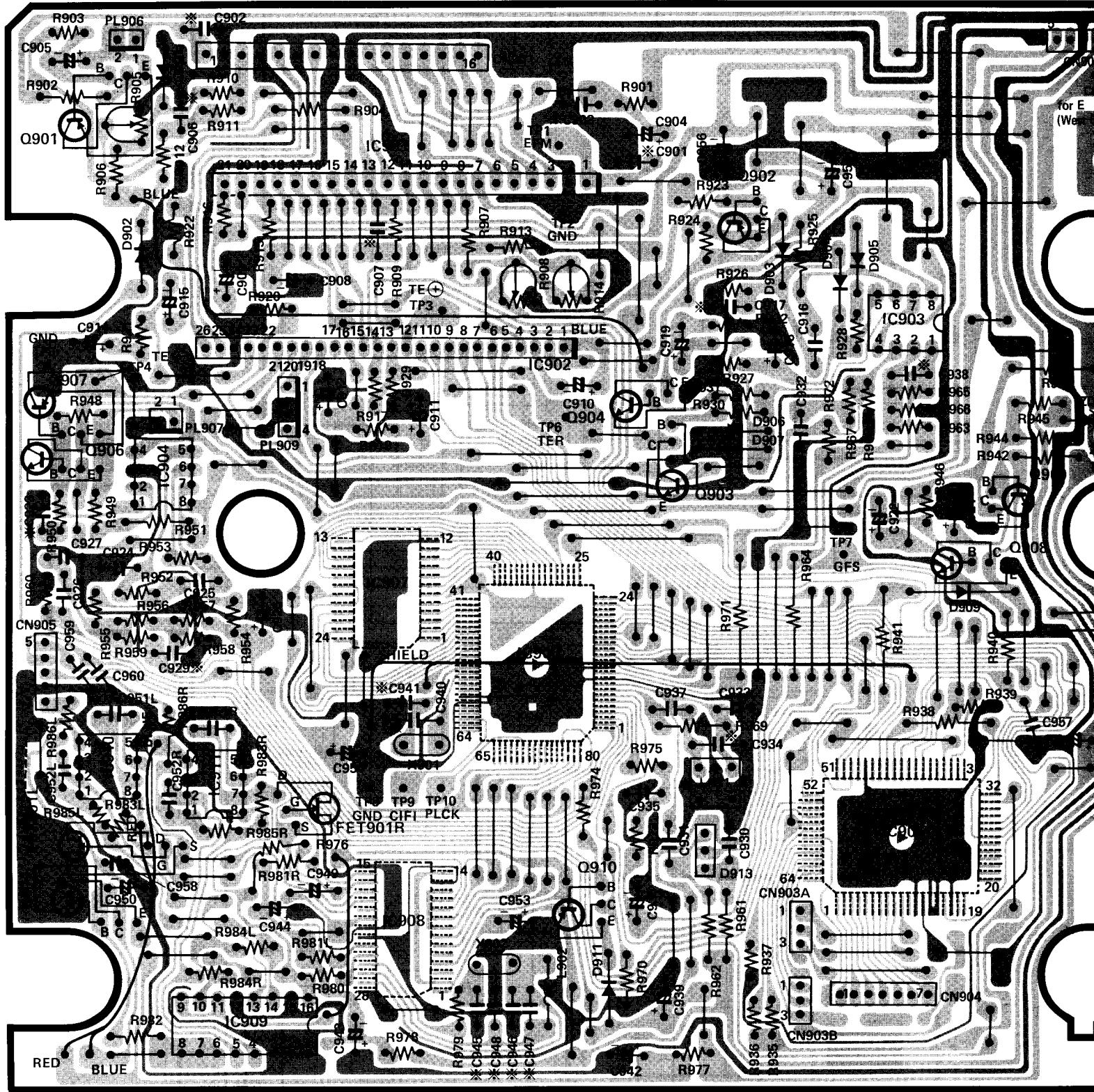
[■ : Earth, ■ : Others] ※ : Axial lead cylindrical ceramic capacitor

PX P.W.B.

R905
LASER DIODE
OUTPUT ADJ.

R908
FOCUS SERVO
OFFSET ADJ.

R914
TRACKING SERVO
OFFSET ADJ.



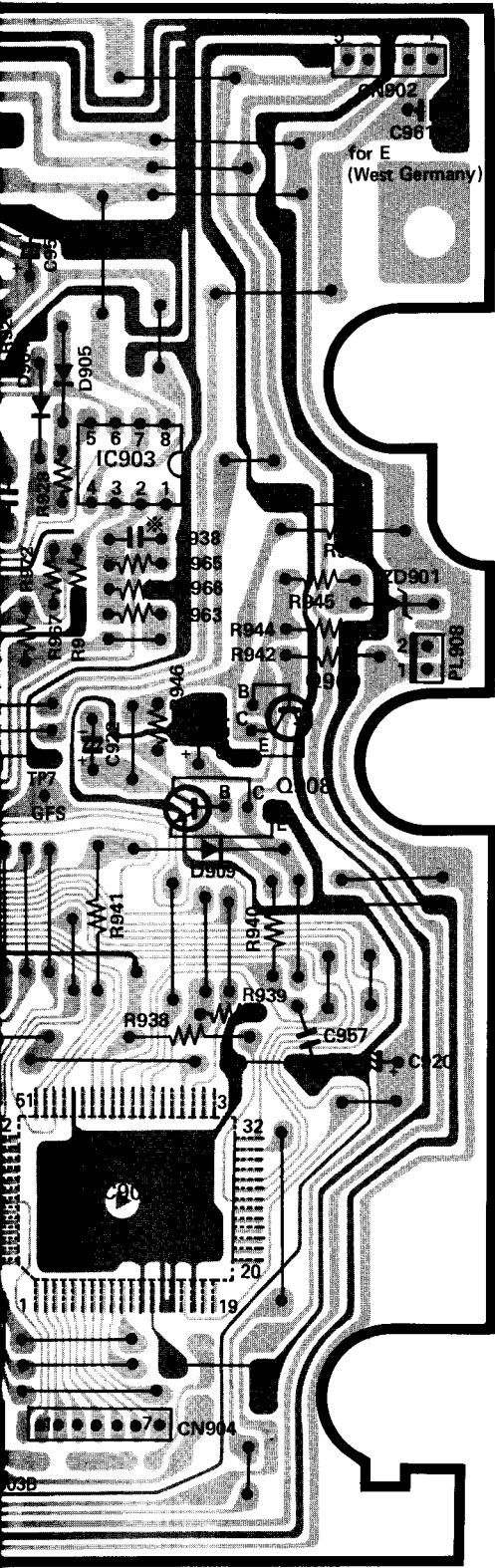
	Q901	Q902	Q903	Q904	Q906	Q907	Q908	Q909	Q910	Q911
E	0.5	0.6	0	0	0	0	0	0	4.6	-4.4
C	-10.0	-5.0	0	0	10.0	-10.0	5.0		4.6	-5.0
B	4.8	0			0	0	0	0.8	4.0	-5.0

	FET901L	FET901R
S	0	0
D	1.4	0
G	-3.3	-3.4

Pin No.	IC903		IC904	
	voltage		voltage	
1	0	0		
2	2.6	0		
3	2.6	0		
4	-5.0	-10.0		
5	0	0		
6	0.7	0		
7	-4.0	0		
8	5.0	10.0		

Pin No.	IC910		IC911	
	voltage		voltage	
1	0	0		
2	0	0		
3	0	0		
4	-5.0	-5.0		
5	0	0		
6	0	0		
7	1.4	0		
8	5.0	5.0		

IC909			
Pin No.	voltage	Pin No.	voltage
1	0	9	0.7
2	0	10	-4.4
3	0	11	0.7
4	0	12	0
5	0	13	0
6	-5.0	14	0
7	-5.0	15	0
8	-5.0	16	5.0



IC905

Pin No.	voltage	Pin No.	voltage	Pin No.	voltage	Pin No.	voltage
1	0.8	17		33		49	5.0
2	0.8	18		34		50	5.0
3	0.8	19		35	5.0	51	5.0
4	0.8	20		36	5.0	52	5.0
5	0.8	21		37		53	-10.0
6	0.8	22		38		54	
7	0.8	23		39	0	55	5.0
8	0	24		40	0	56	5.0
9	0	25		41		57	5.0
10	0	26	5.0	42	0	58	
11		27	0	43	0	59	0.5
12	0	28	0	44	5.0	60	0.5
13	0	29		45	2.5	61	0.5
14	0	30		46		62	
15	0	31	0	47	0	63	
16	0	32	5.0	48	5.0	64	

IC906

Pin No.	voltage	Pin No.	voltage	Pin No.	voltage	Pin No.	voltage
1	0	21		41	2.5	61	
2	0	22		42	2.5	62	4.0
3	0	23	0	43	2.5	63	
4	0	24	0	44	2.5	64	
5	4.4	25	2.5	45	2.5	65	
6		26		46	2.5	66	
7	4.6	27		47	2.5	67	
8	2.5	28	0	48	2.5	68	
9	2.5	29	2.5	49	2.5	69	
10	0	30	2.5	50	2.5	70	2.2
11	2.5	31	2.5	51	2.5	71	
12	0	32	2.5	52	0	72	
13	5.0	33	5.0	53		73	5.0
14	5.0	34	2.5	54		74	
15	5.0	35	2.5	55		75	
16	5.0	36	2.5	56		76	2.5
17	5.0	37	2.5	57		77	2.5
18	5.0	38	2.5	58	0	78	0
19	5.0	39	2.5	59	0	79	2.5
20	0	40	2.5	60		80	2.5

IC907

Pin No.	voltage	Pin No.	voltage
1	2.5	13	2.5
2	2.5	14	2.5
3	2.5	15	2.5
4	2.5	16	2.5
5	2.5	17	2.5
6	2.5	18	2.5
7	2.5	19	2.5
8	2.5	20	2.5
9	2.5	21	2.5
10	2.5	22	2.5
11	2.5	23	2.5
12	0	24	5.0

IC908

Pin No.	voltage	Pin No.	voltage
1	-5.0	15	-3.4
2	-5.0	16	-3.5
3	0	17	0
4	5.0	18	0
5	-5.0	19	
6	2.5	20	-5.0
7	2.5	21	0
8	2.5	22	0
9	2.5	23	-3.3
10	0	24	1.4
11	3.0	25	-1.0
12	2.5	26	-1.3
13	0	27	-1.3
14	-5.0	28	0

IC901

Pin No.	voltage	Pin No.	voltage
1	0	12	0
2	0	13	0
3	0	14	4.8
4	0	15	0
5	0	16	4.4
6	0	17	0
7	0	18	-5.0
8	0	19	-5.0
9	0	20	5.0
10	0	21	5.0
11	0		

IC902

Pin No.	voltage	Pin No.	voltage
1	5.0	14	0
2	-5.0	15	0
3	0	16	0
4	0	17	0
5	5.0	18	-10.0
6	5.0	19	0
7	5.0	20	10.0
8	5.0	21	0
9	5.0	22	0
10	5.0	23	0
11	5.0	24	0
12	0	25	0
13	0	26	0

IC911

Pin No.	voltage
0	
0	
0	
-5.0	
0	
0	
0	
5.0	

IC909

Pin No.	voltage	Pin No.	voltage
1	0	9	0.7
2	0	10	-4.4
3	0	11	0.7
4	0	12	0
5	0	13	0
6	-5.0	14	0
7	-5.0	15	0
8	-5.0	16	5.0

NJM072
NJM2068DD
NJM4558DM

8 7 6 5
1 2 3 4

BA6251
HD14053BP
TA7640AP

16 ~ 9
1 ~ 8

HM6116FP-4

24 ~ 13
1 ~ 12

CX20133

28 ~ 15
1 ~ 14

AN7420
TA7358P

1 ~ 9

M5218L

1 ~ 8

TM5050

1 ~ 21

TM5060

1 ~ 26

μPC1288C

2 4 6 8 10 12 14
13 5 7 9 11 13

BA3416AL

4 8 12 16
2 6 10 14 18

1 5 9 13 17
3 7 11 15

CX23035

40 ~ 25

41 ~ 24
64 ~ 1

65 ~ 80

HD61404FD91

51 ~ 33
52 ~ 32
64 ~ 20
1 ~ 19

2SC2603EF

E C B

2SA844C
2SA933(R)
2SC460C
2SC1740LN(S)
2SD1468

E C B

2SD1266(P)

B C E

2SB514ALE
2SB514AL(D/E)
2SC2562
2SD330(E)
2SD330(D/E)

B C E

2SB562B

E C B

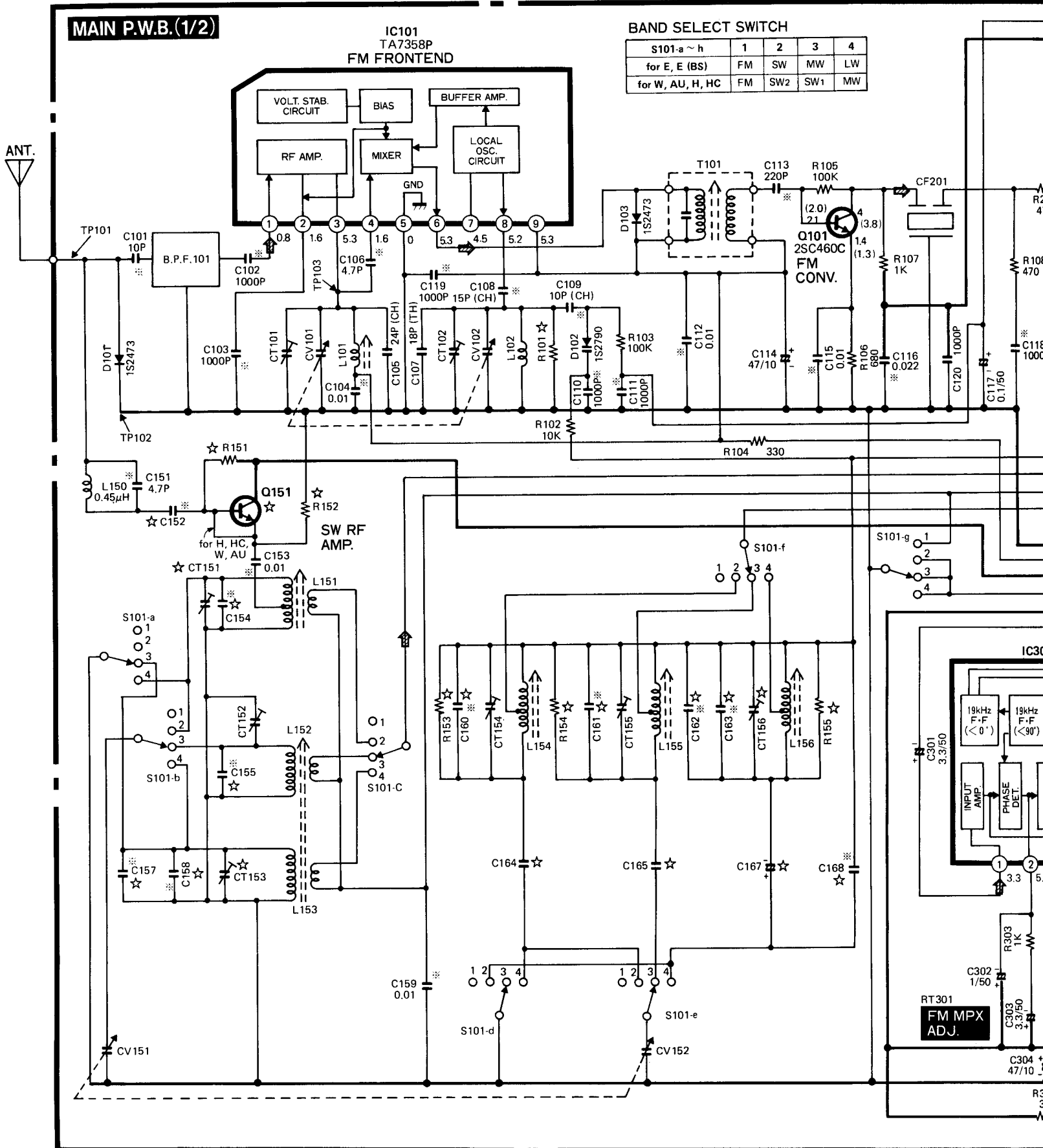
1S2076
1S2473
1S2790
HZ3A2
HZ-6(B)
HZ-7-B2
HZ9C
HZ-11A-1
HZ12C-1
KV1260
RD39EB

K A
K A
K A

ERB12-01
SIS-4M

K A
K A

S4VB20



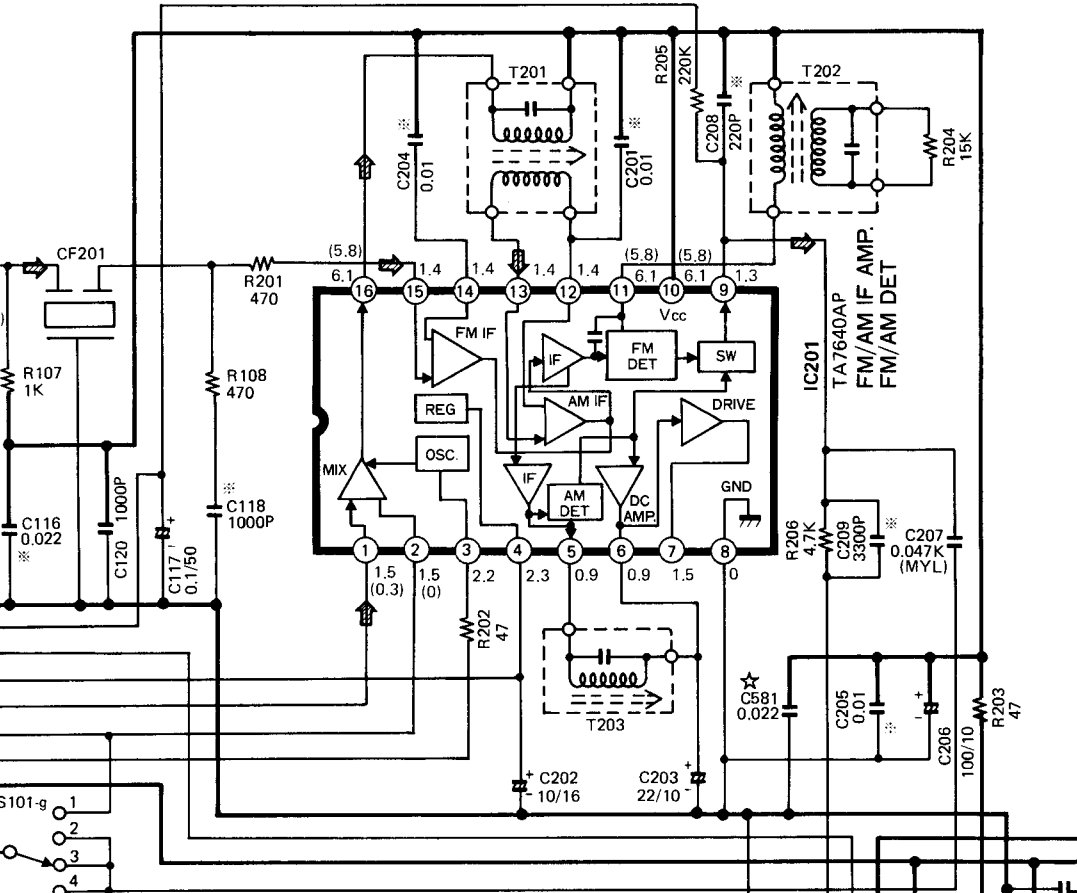
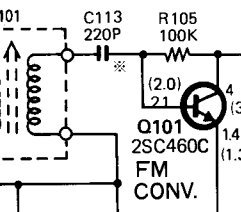
BAND SELECT SWITCH

S101-a ~ h	1	2	3	4
for E, E (BS)	FM	SW	MW	LW
for W, AU, H, HC	FM	SW2	SW1	MW

★ No.	C152	C154	C155	C157	C158	C160	C161	C162	C163	C164	C165	C167	C168	C307L, R	C581	C582	R101	R151
for E, E (BS)	0.01μ	10P	6.8P	—	33P	15P	18P	—	39P	0.01μ(MYL)	360P(APS)	220P(STY)	100P	0.015μ	—	—	3.3K	220K
for W, AU,	—	2.2P	2.7P	10P(CH)	—	6.8P(RH)	8.2P(CH)	15P(CH)	—	3900P(APS)	1500P(APS)	360P(APS)	—	0.015μ	—	—	3.3K	—
for H, HC	—	2.2P	2.7P	10P(CH)	—	6.8P(RH)	8.2P(CH)	15P(CH)	—	3900P(APS)	1500P(APS)	360P(APS)	—	0.022μ	—	—	3.3K	—
for E(West Germany)	0.01μ	10P	6.8P	—	33P	15P	18P	—	39P	0.01μ(MYL)	360P(APS)	220P(STY)	100P	0.015μ	0.022μ	0.022μ	2.2K	220K

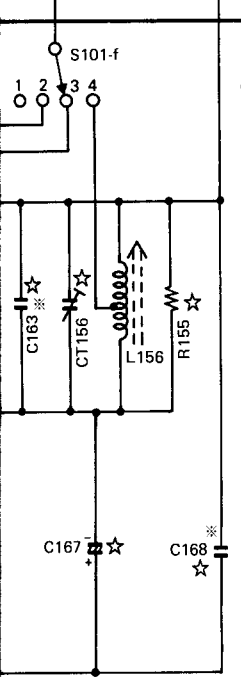
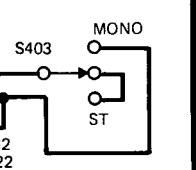
SELECT SWITCH

	1	2	3	4
FM	SW	MW	LW	
HC	FM	SW2	SW1	MW



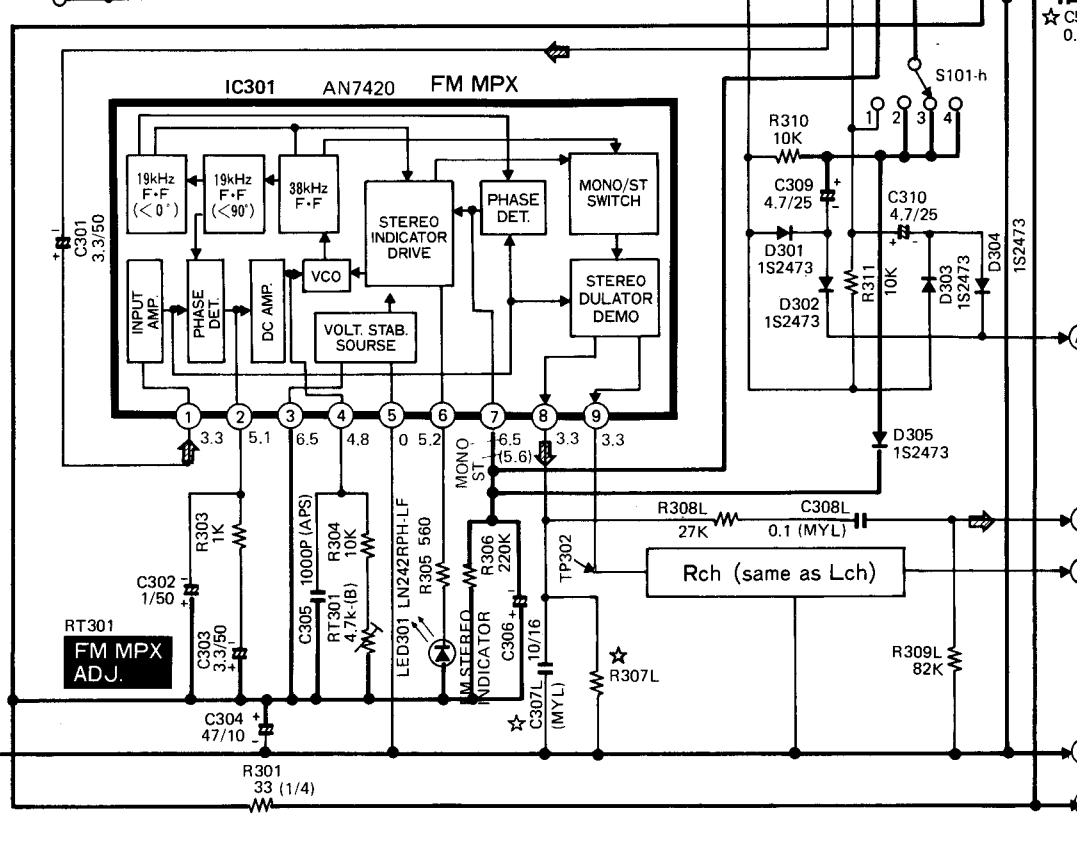
SIGNAL CURRENT
☆: for RADIO SIGNAL

S403
RIF/MODE SELECT SWITCH



VOLTAGES
NO SIGNAL : AM
() : FM

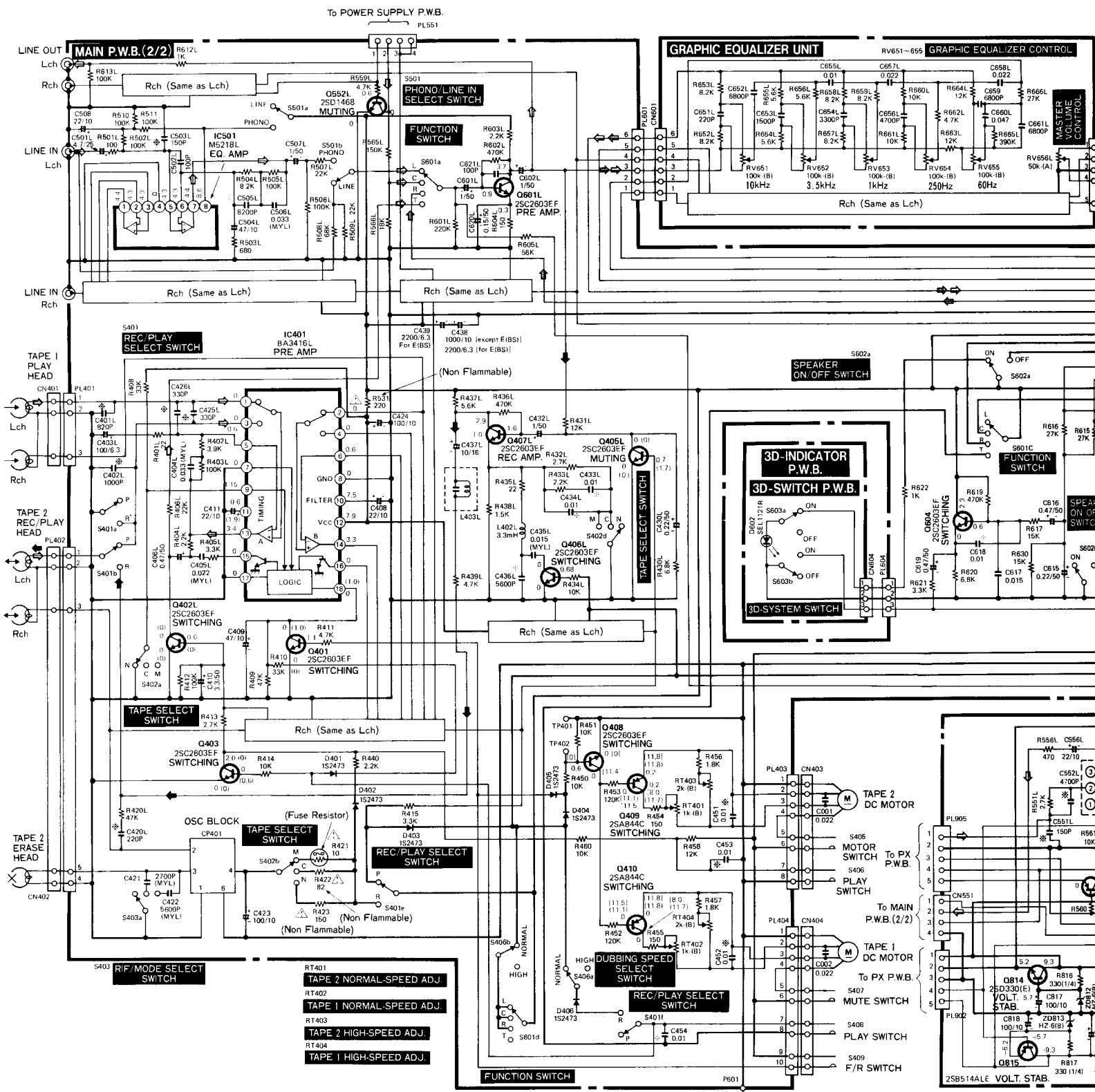
To MAIN P.W.B. (2/2)



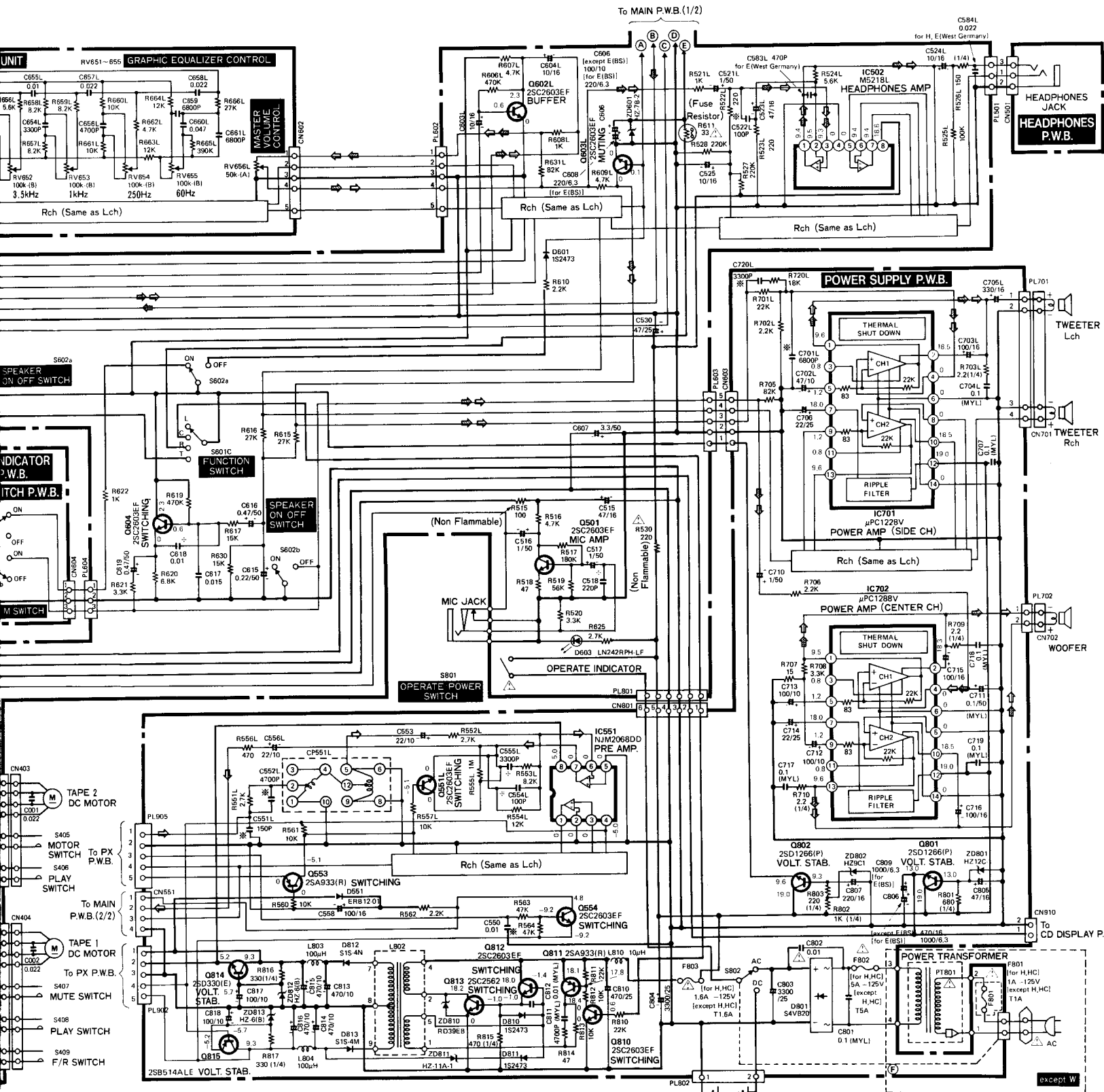
C167	C168	C307L, R	C581	C582	R101	R151	R152	R153	R154	R155	R307L, R	Q151	CT151	CT153	CT156
220P (STY)	100P	0.015μ	-	-	3.3K	220K	100	15K	4.7K	56K	3.3K	2SC460	7P	20P	20P
360P (APS)	-	0.015μ	-	-	3.3K	-	-	22K	10K	4.7K	3.3K	-	-	7P	7P
360P (APS)	-	0.022μ	-	-	3.3K	-	-	22K	10K	4.7K	3.9K	-	-	7P	7P
220P(STY)	100P	0.015μ	0.022μ	0.022μ	2.2K	220K	100	15K	4.7K	56K	3.3K	2SC460	7P	20P	20P

[█ : +B, █ : -B]

*: Axial lead cylindrical ceramic capacitor

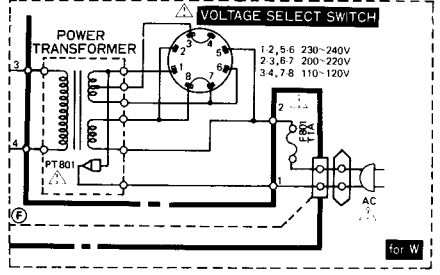


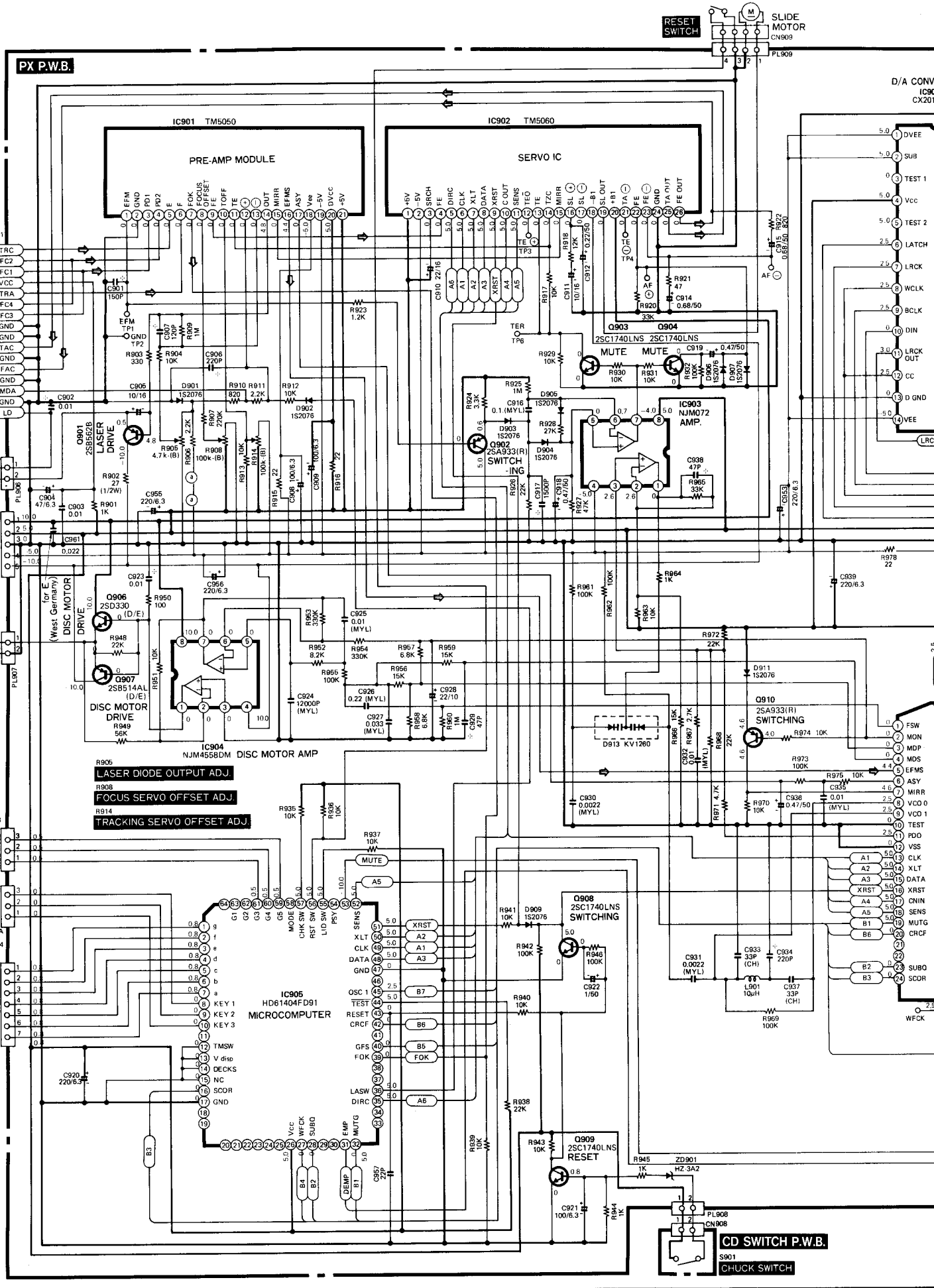
VOLTAGES
 NO INDICATED : TAPE · CD FUNCTION
 () : NORMAL-SPEED DUBBING
 () : HIGH-SPEED DUBBING



VOLTAGES
 NO INDICATED : TAPE · CD FUNCTION
 () : NORMAL-SPEED DUBBING
 () : HIGH-SPEED DUBBING

SIGNAL CURRENT
 ⇨ for PLAYING SIGNAL
 ⇩ for RECORDING SIGNAL
 ⇨ for RADIO SIGNAL





To PICK UP
TRACK
FOCUS
MD
LD
H2.4
S902
CD SWITCH P.W.B.
CHUCK SWITCH

To POWER SUPPLY P.W.B.

DISC MOTOR
CN907
PL907

for E (West Germany)
DISC MOTOR DRIVE
Q906
2SD330
D(E)

DISC MOTOR DRIVE
Q907
2SB144L
D(E)

To CD DISPLAY P.W.B.

To CD DISPLAY P.W.B.

RESET SWITCH
SLIDE MOTOR
CN909
PL909

D/A CONVERTER
IC908
CX2013

5.0 DVEE
5.0 SUB
5.0 TEST 1
5.0 VCC
5.0 TEST 2
2.5 LATCH
2.5 LRCK
2.5 WCLK
2.5 BCLK
3.0 LRCK OUT
2.5 CC
5.0 D GND
5.0 DVEE
LRCK

FSW
MON
MDP
MDS
EFMS
ASY
MIRR
VCO 0
VCO 1
VCO 2
TEST
VDD
VSS
CLK
XLT
DATA
XRST
CNIN
SENS
MUTG
CRCF

7 FSW
2 MON
6 MDP
4 MDS
4 EFMS
4 ASY
4 MIRR
2 VCO 0
2 VCO 1
2 VCO 2
2 TEST
2 VDD
2 VSS
50 CLK
50 XLT
50 DATA
50 XRST
50 CNIN
50 SENS
50 MUTG
50 CRCF

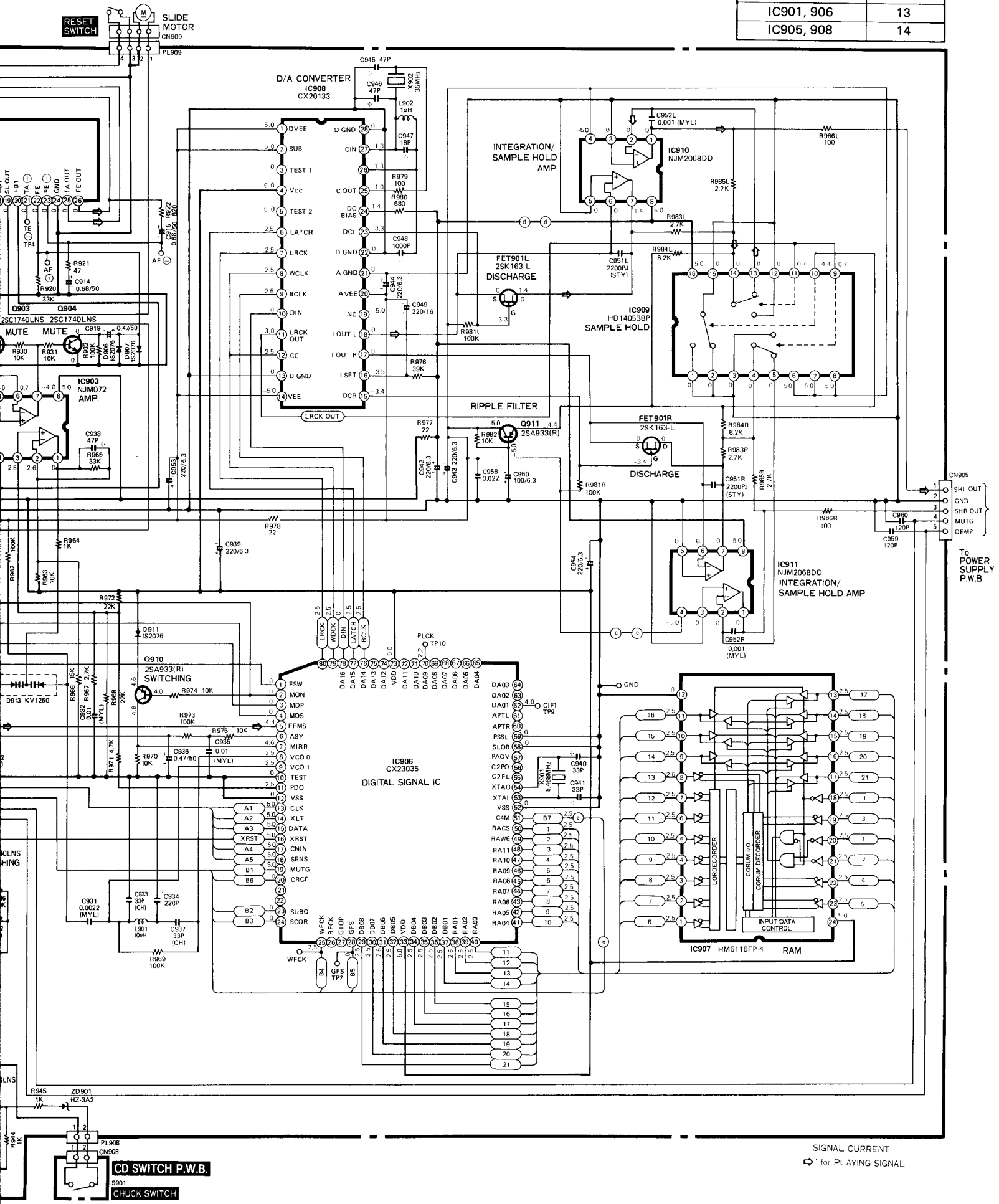
23 SUBO
24 SCOR
25 WFCR

CD SWITCH P.W.B.
S901
CHUCK SWITCH

ceramic capacitor

Refer to circuit page 12, 13, 14.

Symbol No.	Page
IC902	12
IC901, 906	13
IC905, 908	14

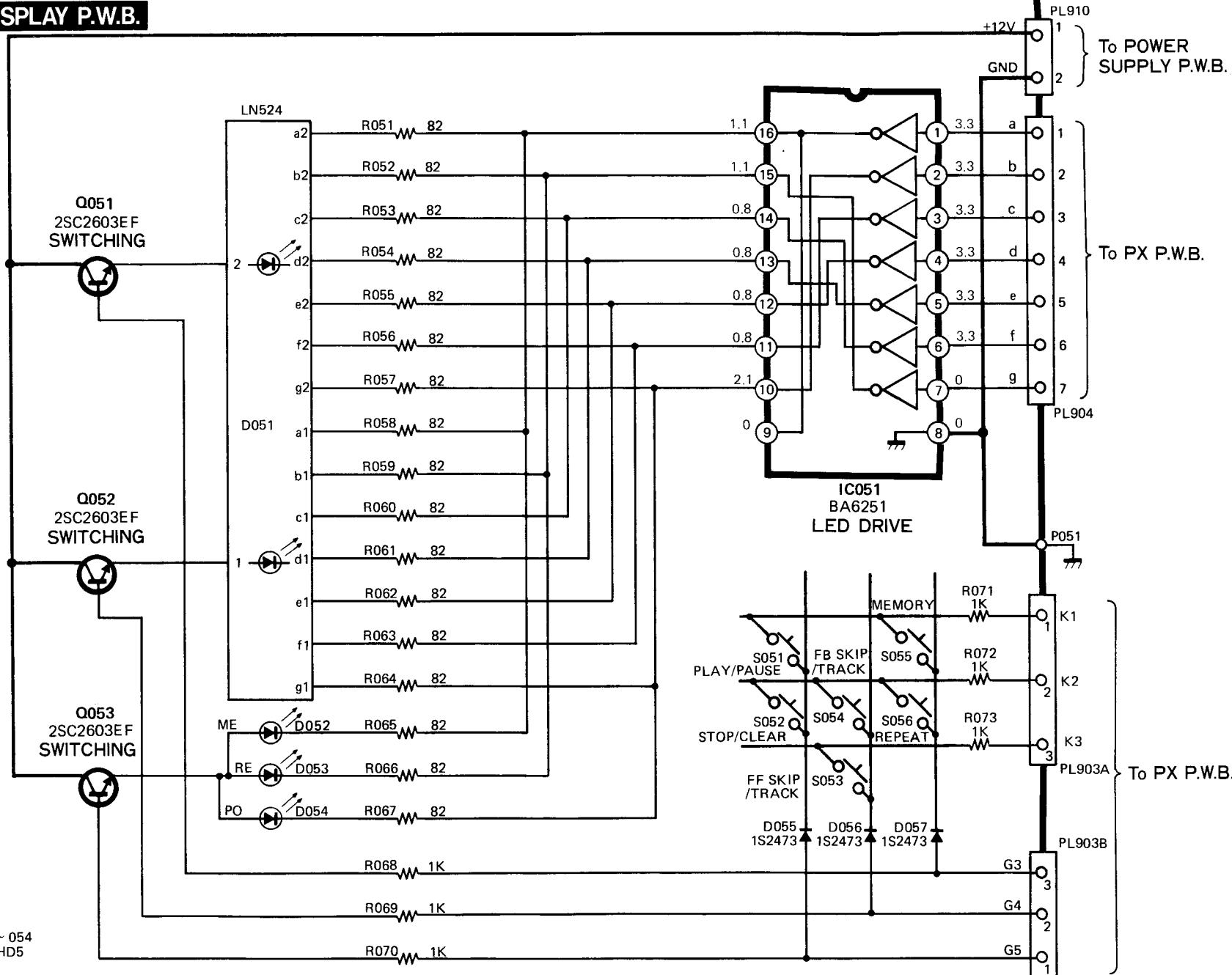


CD SWITCH P.W.B.

S901
CHUCK SWITCH

SIGNAL CURRENT
⇨ for PLAYING SIGNAL

CD DISPLAY P.W.B.



D052 ~ 054
GL-3HD5

[: +B]

A

B

C

D

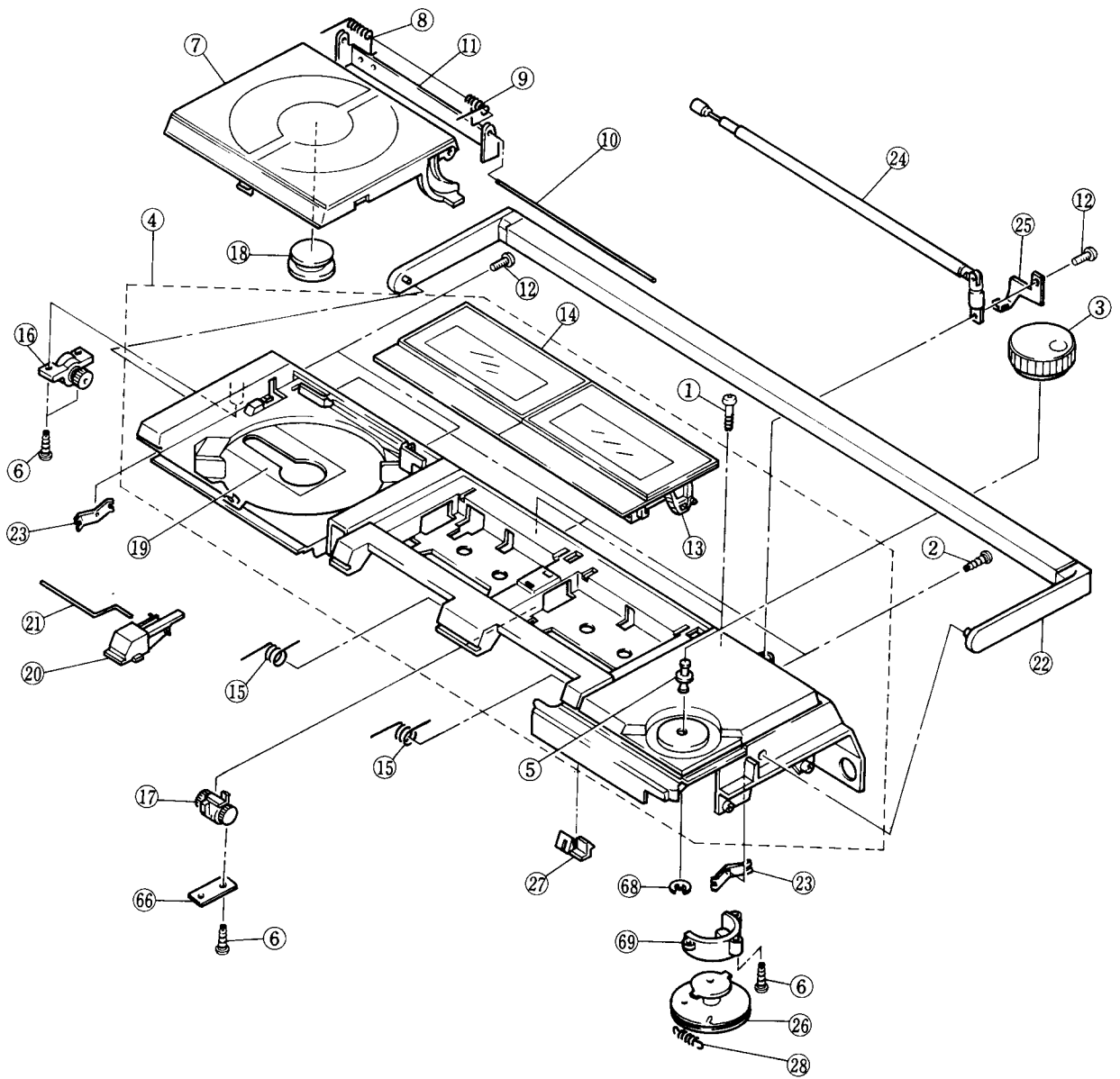
E

CX-W800

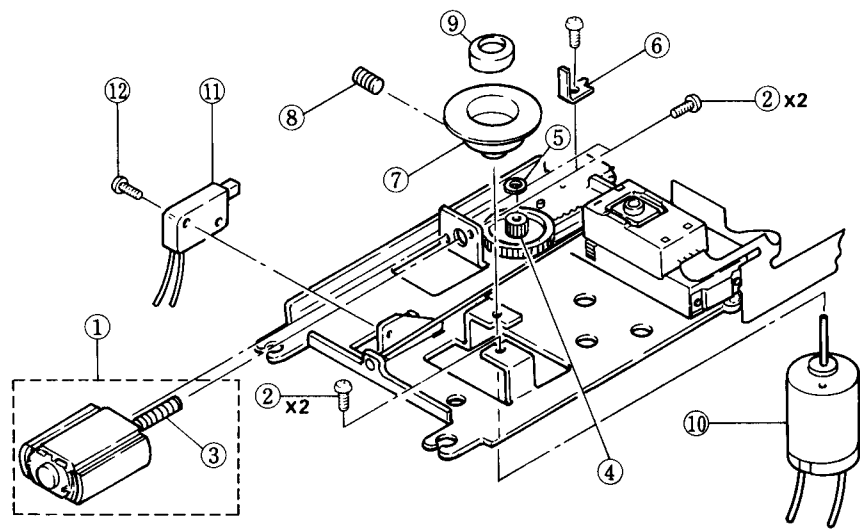
EXPLODED VIEW (Cabinet)

• Nos. are reference Nos. of parts list.

Cabinet

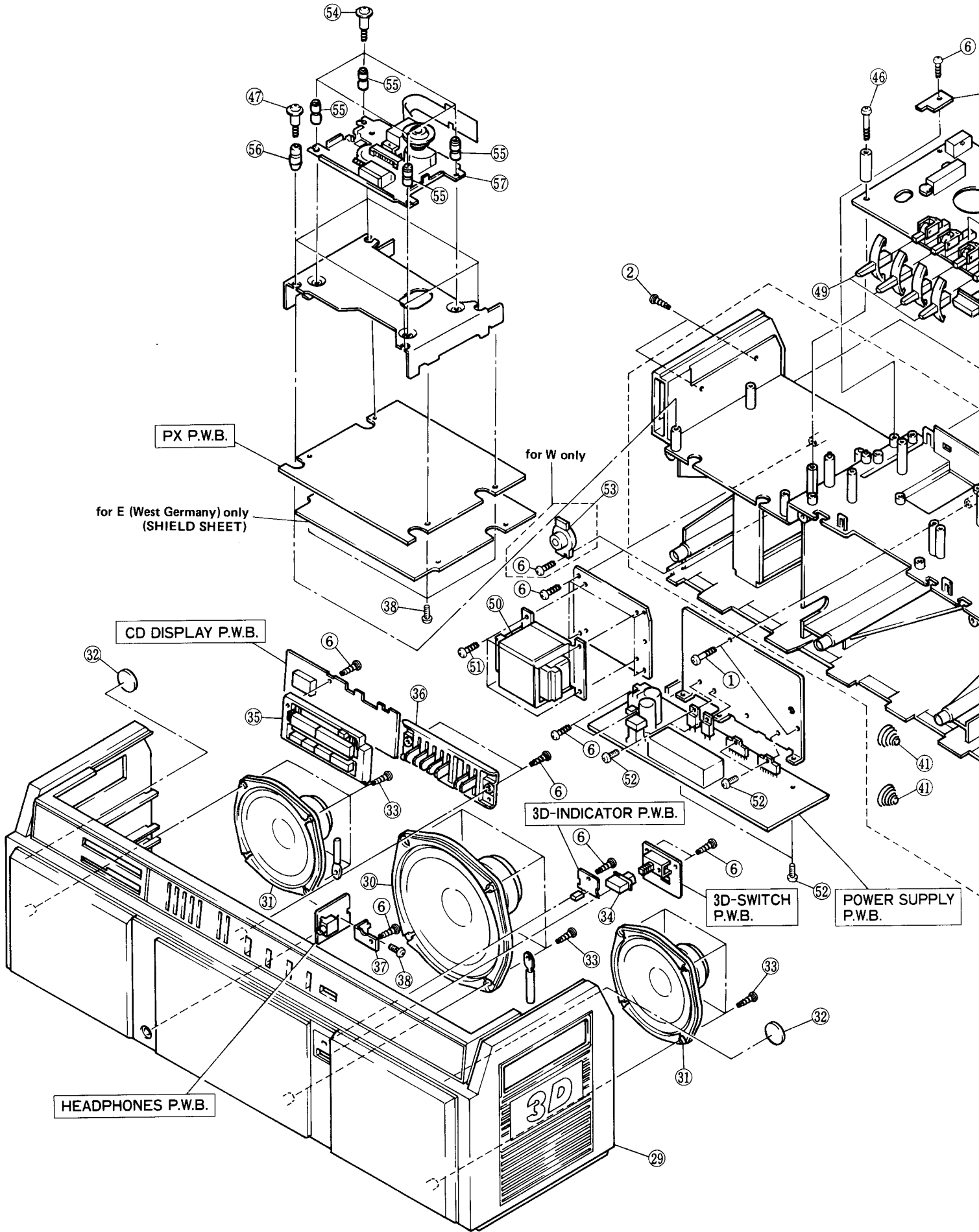


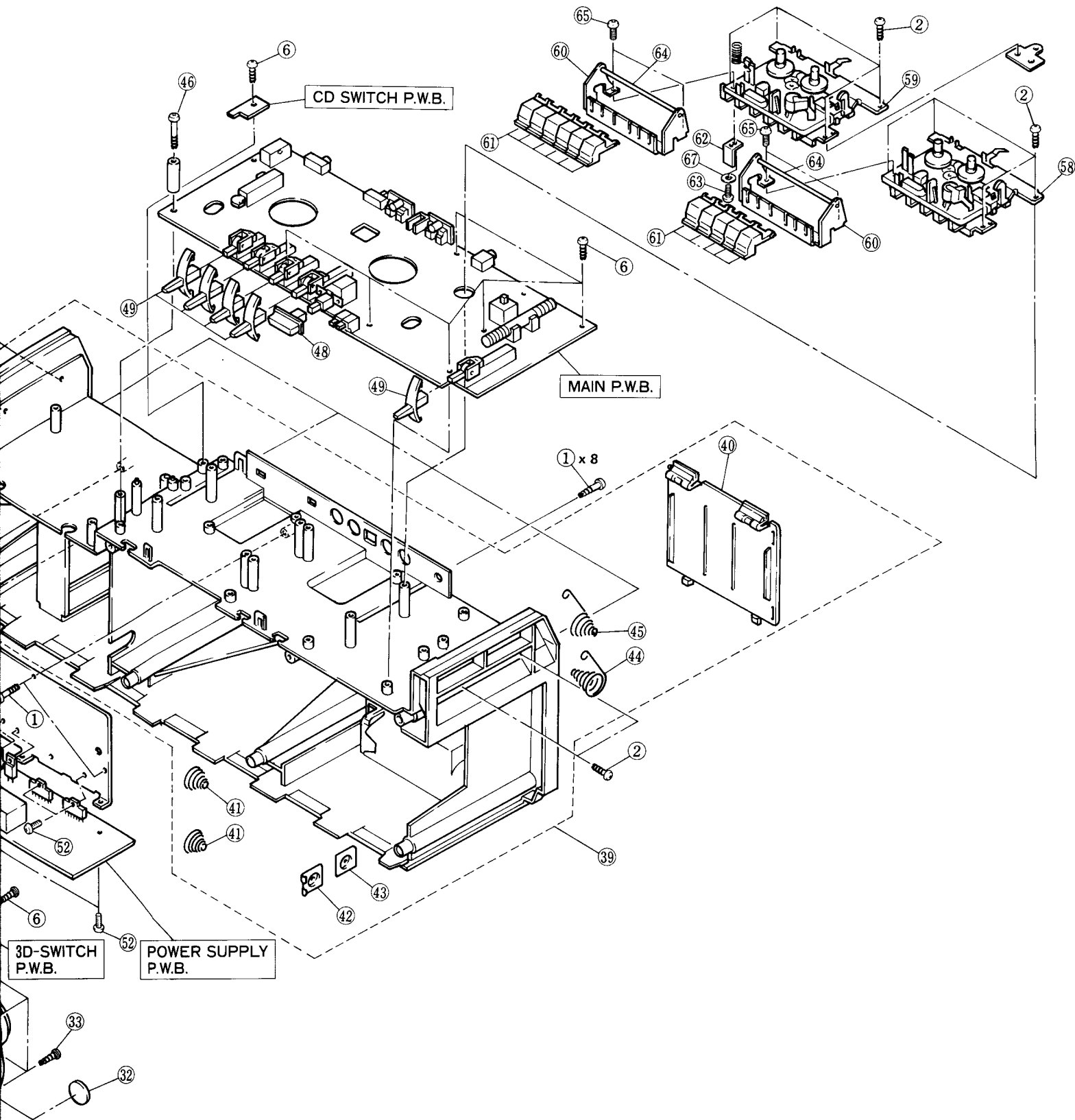
Unit Mechanism



(Cabinet)

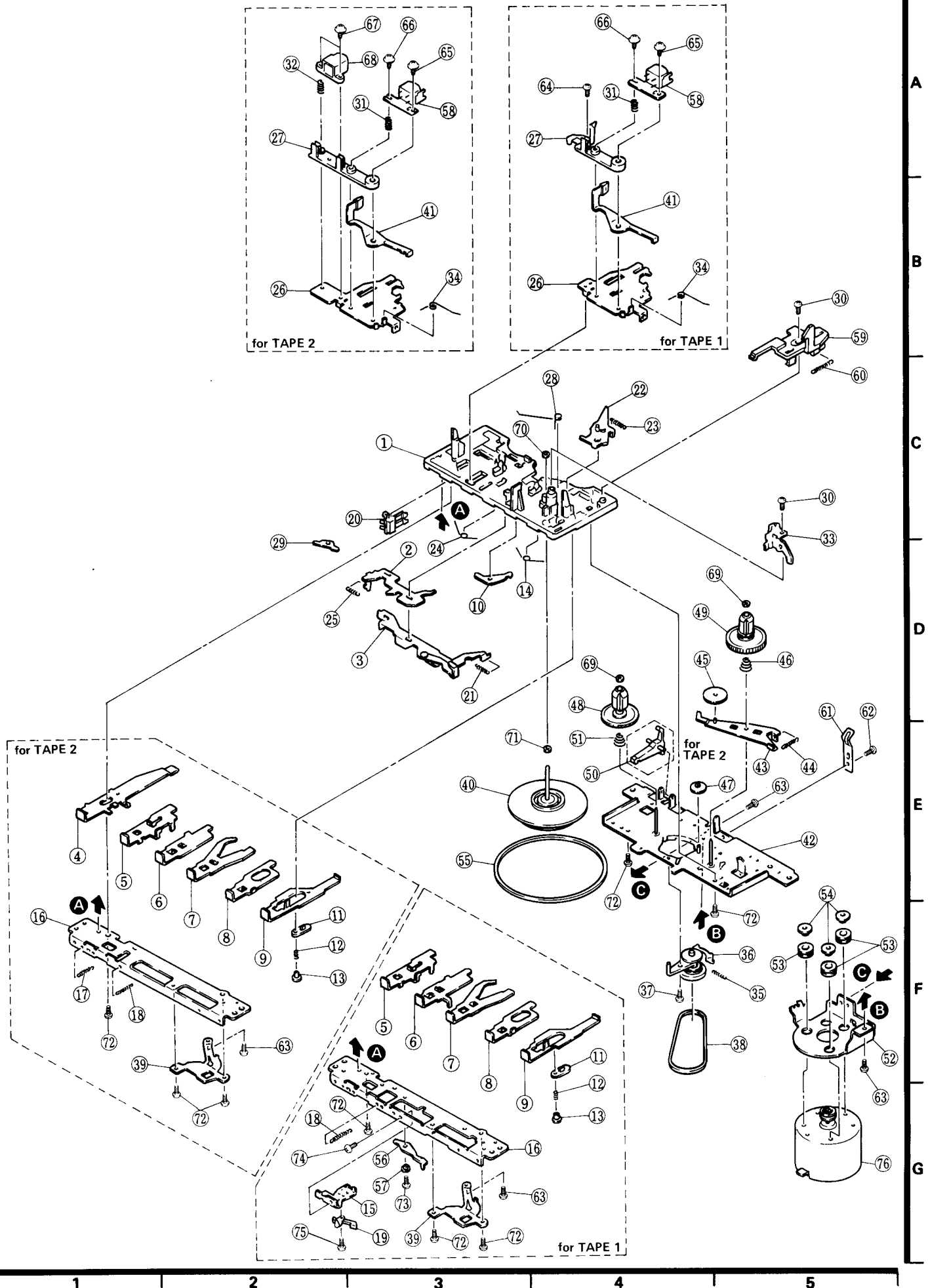
• Nos. are reference Nos. of parts list.





(Cassette Chassis)

• Nos. are reference Nos. of parts list.



SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
CAPACITORS								
C001	1244173	CD 0.22 μ F \pm 20%	C167	0279327	MF 360PF \pm 5% [for H, HC, W, AU]	C503LR	0240035	CC 150PF \pm 10%
C002	1244173	CD 0.22 μ F \pm 20%	C168	0240033	CC 100PF \pm 10% [for E, E(BS)]	C504LR	0252325	EL 47 μ F \pm 10%
C101	0230612	CC 10PF \pm 5%	C201	0240061	CC 0.01 μ F \pm 30%	C505LR	0240060	CC 8200PF \pm 30%
C102	0240045	CC 1000PF \pm 10%	C202	0252521	EL 10 μ F \pm 20%	C506LR	0275014	MF 0.033 μ F \pm 10%
C103	0240045	CC 1000PF \pm 10%	C203	0252322	EL 22 μ F \pm 20%	C507LR	02528112	EL 1 μ F \pm 20%
C104	0240061	CC 0.01 μ F \pm 30%	C204	0240061	CC 0.01 μ F \pm 30%	C508	02523222	EL 22 μ F \pm 20%
C105	1246449	CD 24PF \pm 5%	C205	0240061	CC 0.01 μ F \pm 30%	C515	02525252	EL 47 μ F \pm 20%
C106	0230608	CC 4.7PF \pm 10%	C206	02523312	EL 100 μ F \pm 20%	C516	02528112	EL 1 μ F \pm 20%
C107	1248336	CD 18PF \pm 5%	C207	0275015	MF 0.047 μ F \pm 10%	C517	02528112	EL 1 μ F \pm 20%
C108	0230656	CC 15PF \pm 5%	C208	0240037	CC 220PF \pm 10%	C518	0240037	CC 220PF \pm 10%
C109	0230652	CC 10PF \pm 5%	C209	0240055	CC 3300PF \pm 20%	C521LR	02528112	EL 1 μ F \pm 20%
C110	0240045	CC 1000PF \pm 10%	C301	02528132	EL 3.3 μ F \pm 20%	C522LR	0240033	CC 100PF \pm 10%
C111	0240045	CC 1000PF \pm 10%	C302	02528112	EL 1 μ F \pm 20%	C523LR	02525252	EL 47 μ F \pm 20%
C112	0240061	CC 0.01 μ F \pm 30%	C303	02528132	EL 3.3 μ F \pm 20%	C524LR	0252521	EL 10 μ F \pm 20%
C113	0240037	CC 220PF \pm 10%	C304	0252325	EL 47 μ F \pm 20%	C525	0252521	EL 10 μ F \pm 20%
C114	0252325	EL 47 μ F \pm 20%	C305	02684462	ST 1000PF \pm 5%	C530	02526252	EL 47 μ F \pm 20%
C115	0240061	CC 0.01 μ F \pm 30%	C306	0252521	EL 10 μ F \pm 20%	C550	0240061	CC 0.01 μ F \pm 30%
C116	0240066	CC 0.022 μ F \pm 80% -20%	C307LR	02750122	MF 0.015 μ F \pm 10% [for E, E(BS), W, AU]	C551LR	0240035	CC 150PF \pm 10%
C117	0252801	EL 0.1 μ F \pm 20%	C307LR	02750132	MF 0.022 μ F \pm 10% [for H, HC]	C552LR	0240057	CC 4700PF \pm 30%
C118	0240045	CC 1000PF \pm 10%	C308LR	0276011	MF 0.1 μ F \pm 10%	C553LR	02523222	EL 22 μ F \pm 20%
C119	0240045	CC 1000PF \pm 10%	C309	0252615	EL 4.7 μ F \pm 20%	C554LR	0240033	CC 100PF \pm 10%
C120	02097312	CD 1000PF \pm 10%	C310	0252615	EL 4.7 μ F \pm 20%	C555LR	0240055	CC 3300PF \pm 20%
C151	0230608	CC 4.7PF \pm 10%	C401LR	0240044	CC 820PF \pm 10%	C556LR	02523222	EL 22 μ F \pm 20%
C152	0240061	CC 0.01 μ F \pm 30% [for E, E(BS)]	C402LR	0240045	CC 1000PF \pm 10%	C558	0252531	EL 100 μ F \pm 20%
C153	0240061	CC 0.01 μ F \pm 30%	C403LR	02522312	EL 100 μ F \pm 20%	C581	02441732	CD 0.022 μ F \pm 80% -20% [for E(West German)]
C154	0230612	CC 10PF \pm 5% [for E, E(BS)]	C404LR	0275014	MF 0.033 μ F \pm 10%	C582	02441732	CD 0.022 μ F \pm 80% -20% [for E(West German)]
C155	0230610	CC 6.8PF \pm 10% [for E, E(BS)]	C405LR	02750132	MF 0.022 μ F \pm 10%	C583LR	02497232	CD 470PF \pm 10% [for E(West German)]
C155	0230605	CC 2.7PF \pm 10% [for H, HC, W, AU]	C406LR	0252805	EL 0.47 μ F \pm 20%	C584LR	02441732	CD 0.02 μ F \pm 80% -20% [for E (West German), H]
C157	0230652	CC 10PF \pm 5% [for H, HC, W, AU]	C408	02523222	EL 22 μ F \pm 20%	C601LR	02528112	EL 1 μ F \pm 20%
C158	0230624	CC 33PF \pm 5% [for E, E(BS)]	C409	0252325	EL 47 μ F \pm 10%	C602LR	02528112	EL 1 μ F \pm 20%
C159	0240061	CC 0.01 μ F \pm 30%	C410	02528132	EL 3.3 μ F \pm 10%	C603LR	0252521	EL 10 μ F \pm 20%
C160	0230656	CC 15PF \pm 5% [for E, E(BS)]	C411	02523222	EL 22 μ F \pm 20%	C604LR	0252521	EL 10 μ F \pm 20%
C160	0230680	CC 6.8PF \pm 10% [for H, HC, W, AU]	C420LR	0240037	CC 220PF \pm 10%	C606	0252331	EL 100 μ F \pm 10% [except E(BS)]
C161	0230658	CC 18PF \pm 5% [for E, E(BS)]	C421	0274033	MF 2700PF \pm 10%	C606	0252403	EL 220 μ F \pm 20% [for E(BS)]
C161	0230651	CC 8.2PF \pm 10% [for H, HC, W, AU]	C422	02740352	MF 5600PF \pm 10%	C607	02528132	EL 3.3 μ F \pm 20%
C162	0230656	CC 15PF \pm 5% [for H, HC, W, AU]	C423	02523312	EL 100 μ F \pm 10%	C608	0252403	EL 220 μ F \pm 20% [for E(BS)]
C163	0230626	CC 39PF \pm 5% [for E, E(BS)]	C424	02523312	EL 100 μ F \pm 10%	C615	0252802	EL 0.22 μ F \pm 20%
C164	02750112	MF 0.01 μ F \pm 10% [for E, E(BS)]	C425LR	0240039	CC 330PF \pm 10%	C616	0252805	EL 0.47 μ F \pm 20%
C164	0268443	MF 3900PF \pm 5% [for H, HC, W, AU]	C426LR	0240039	CC 330PF \pm 10%	C617	1275012	MF 0.015 μ F \pm 10%
C165	0279327	MF 360PF \pm 5% [for E, E(BS)]	C430LR	0252802	EL 0.22 μ F \pm 20%	C618	0240061	CC 0.01 μ F \pm 30%
C165	0268442	PP 1500PF \pm 5% [for H, HC, W, AU]	C432LR	02528112	EL 1 μ F \pm 20%	C619	0252805	EL 0.47 μ F \pm 20%
C167	0228319	MF 220PF \pm 5% [for E, E(BS)]	C433LR	0240061	CC 0.01 μ F \pm 30%	C620LR	0252804	EL 0.15 μ F \pm 20%
			C434LR	0240061	CC 0.01 μ F \pm 30%	C621LR	0240033	CC 100PF \pm 10%
			C435LR	02750122	MF 0.015 μ F \pm 10%	C701LR	0240059	CC 6800PF \pm 30%
			C436LR	0240058	CC 5600PF \pm 30%	C702LR	0252325	EL 47 μ F \pm 10%
			C437LR	0252521	EL 10 μ F \pm 20%	C703LR	0252531	EL 100 μ F \pm 20%
			C438	0252341	EL 1000 μ F \pm 20% [except E(BS)]	C704LR	02760112	MF 0.1 μ F \pm 10%
			C438	0252407	EL 2200 μ F \pm 20% [for E(BS)]	C705LR	1252533	EL 330 μ F \pm 20%
			C439	0252407	EL 2200 μ F \pm 20% [for E(BS)]	C706	02526222	EL 22 μ F \pm 10%
			C451	0240061	CC 0.01 μ F \pm 30%	C707	02760112	MF 0.1 μ F \pm 10%
			C452	0240061	CC 0.01 μ F \pm 30%	C710	02528112	EL 1 μ F \pm 20%
			C453	0240061	CC 0.01 μ F \pm 30%	C711	0252801	EL 0.1 μ F \pm 20%
			C454	0240061	CC 0.01 μ F \pm 30%	C712	02523312	EL 100 μ F \pm 10%
			C501LR	0252615	EL 4.7 μ F \pm 10%	C713	02523312	EL 100 μ F \pm 10%
			C502LR	0240033	CC 100PF \pm 10%	C714	02526222	EL 22 μ F \pm 10%

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION	
C715	0252531	EL 100 μ F $\pm 20\%$	C937	1246452	CD 33PF $\pm 5\%$	R151	0113671	CF 220k Ω $\pm 5\%$	
C716	0252531	EL 100 μ F $\pm 20\%$	C938	0230628	CC 47PF $\pm 5\%$			[for E, E(BS)]	
C717	02760112	MF 0.1 μ F $\pm 10\%$	C939	1252403	EL 220 μ F $\pm 20\%$	R152	0113591	CF 100 Ω $\pm 5\%$	
C718	02760112	MF 0.1 μ F $\pm 10\%$						[for E, E(BS)]	
C719	02760112	MF 0.1 μ F $\pm 10\%$	C940	0230624	CC 33PF $\pm 5\%$	R153	0113643	CF 15k Ω $\pm 5\%$	
C720LR	0240055	CC 3300PF $\pm 20\%$	C941	0230624	CC 33PF $\pm 5\%$			[for E, E(BS)]	
C801	1276511	MF 0.1 μ F $\pm 10\%$	C942	1252403	EL 220 μ F $\pm 20\%$	R153	0113647	CF 22k Ω $\pm 5\%$	
C802	0245408	CD 0.01 μ F $\pm 20\%$	C943	0252403	EL 220 μ F $\pm 20\%$			[for H, HC, W, AU]	
C803	1252499	EL 3300 μ F $\pm 20\%$	C944	0252403	EL 220 μ F $\pm 20\%$	R154	0113631	CF 4.7k Ω $\pm 5\%$	
C804	1252499	EL 3300 μ F $\pm 20\%$	C945	0230628	CC 47PF $\pm 5\%$			[for E, E(BS)]	
C805	02525252	EL 47 μ F $\pm 20\%$	C946	0230628	CC 47PF $\pm 5\%$	R154	0113639	CF 10k Ω $\pm 5\%$	
C806	1252535	EL 470 μ F $\pm 20\%$	C947	0230618	CC 18PF $\pm 20\%$			[for H, HC, W, AU]	
		[except E(BS)]	C948	0240045	CC 1000PF $\pm 10\%$	R155	0113657	CF 56k Ω $\pm 5\%$	
C806	1252418	EL 1000 μ F $\pm 20\%$	C949	1252427	EL 220 μ F $\pm 20\%$			[for E, E(BS)]	
		[for E(BS)]	C950	1252402	EL 100 μ F $\pm 20\%$	R155	0113631	CF 4.7k Ω $\pm 5\%$	
C807	1252427	EL 220 μ F $\pm 20\%$	C951LR	0228343	MF 2200PF $\pm 5\%$			[for H, HC, W, AU]	
C809	1252418	EL 1000 μ F $\pm 20\%$	C952L	02740112	MF 0.001 μ F $\pm 10\%$	R201	0113607	CF 470 Ω $\pm 5\%$	
		[for E(BS)]	C952R	1274011	MF 0.001 μ F $\pm 10\%$	R202	0113583	CF 47 Ω $\pm 5\%$	
C810	1252635	EL 470 μ F $\pm 20\%$	C953	0252403	EL 220 μ F $\pm 20\%$	R203	0113583	CF 47 Ω $\pm 5\%$	
C811	0274015	MF 4700PF $\pm 10\%$	C954	1252403	EL 220 μ F $\pm 20\%$	R204	0113643	CF 15k Ω $\pm 5\%$	
C812	02750112	MF 0.01 μ F $\pm 10\%$	C955	0252403	EL 220 μ F $\pm 20\%$	R205	0113671	CF 220k Ω $\pm 5\%$	
C813	1252335	EL 470 μ F $\pm 20\%$	C956	0252403	EL 220 μ F $\pm 20\%$	R206	0113631	CF 4.7k Ω $\pm 5\%$	
C814	1252335	EL 470 μ F $\pm 20\%$	C957	02486682	CD 22PF $\pm 5\%$	R301	0129543	CF 33 Ω $\pm 5\%$	
C815	1255335	EL 470 μ F $\pm 20\%$	C958	02441732	CD 0.022 μ F $\pm 80\%$ -20%	R303	0113615	CF 1k Ω $\pm 5\%$	
C816	1252335	EL 470 μ F $\pm 20\%$	C959	02486682	CD 120PF $\pm 5\%$	R304	0113639	CF 10k Ω $\pm 5\%$	
C817	02523312	EL 100 μ F $\pm 10\%$	C960	0248668	CD 120PF $\pm 5\%$	R305	0113609	CF 560 Ω $\pm 5\%$	
C818	02523312	EL 100 μ F $\pm 10\%$	C961	02441732	CD 0.022 μ F $\pm 80\%$ -20%	R306	0113671	CF 220k Ω $\pm 5\%$	
C901	0240035	CC 150PF $\pm 10\%$			[for E(West Germany)]	R307LR	0113627	CF 3.3k Ω $\pm 5\%$	
C902	0240061	CC 0.01 μ F $\pm 30\%$	RESISTORS				R307LR	0113629	CF 3.9k Ω $\pm 5\%$
C903	0240061	CC 0.01 μ F $\pm 30\%$	R051	0113589	CF 82 Ω $\pm 5\%$			[for E, E(BS), W, AU]	
C904	02522252	EL 47 μ F $\pm 20\%$	R052	0113589	CF 82 Ω $\pm 5\%$	R308LR	0113649	CF 27k Ω $\pm 5\%$	
C905	1252521	EL 10 μ F $\pm 20\%$	R053	0113589	CF 82 Ω $\pm 5\%$	R309LR	0113661	CF 82k Ω $\pm 5\%$	
C906	0240037	CC 220PF $\pm 10\%$	R054	0113589	CF 82 Ω $\pm 5\%$	R310	0113639	CF 10k Ω $\pm 5\%$	
C907	0240034	CC 120PF $\pm 10\%$	R055	0113589	CF 82 Ω $\pm 5\%$	R311	0113639	CF 10k Ω $\pm 5\%$	
C908	0252402	EL 100 μ F $\pm 20\%$	R056	0113589	CF 82 Ω $\pm 5\%$	R401LR	0113575	CF 22 Ω $\pm 5\%$	
C909	0252402	EL 100 μ F $\pm 20\%$	R057	0113589	CF 82 Ω $\pm 5\%$	R402LR	0113629	CF 3.9k Ω $\pm 5\%$	
C910	02525222	EL 22 μ F $\pm 20\%$	R058	0113589	CF 82 Ω $\pm 5\%$	R403LR	0113663	CF 100k Ω $\pm 5\%$	
C911	0252521	EL 10 μ F $\pm 20\%$	R059	0113589	CF 82 Ω $\pm 5\%$	R404LR	0113623	CF 2.2k Ω $\pm 5\%$	
C912	0252802	EL 0.22 μ F $\pm 20\%$	R060	0113589	CF 82 Ω $\pm 5\%$	R405LR	0113627	CF 3.3k Ω $\pm 5\%$	
C914	02528072	EL 0.68 μ F $\pm 20\%$	R061	0113589	CF 82 Ω $\pm 5\%$	R406LR	0113647	CF 22k Ω $\pm 5\%$	
C915	02528072	EL 0.68 μ F $\pm 20\%$	R062	0113589	CF 82 Ω $\pm 5\%$	R408	0113651	CF 33k Ω $\pm 5\%$	
C916	02760112	MF 0.1 μ F $\pm 10\%$	R063	0113589	CF 82 Ω $\pm 5\%$	R409	0113655	CF 47k Ω $\pm 5\%$	
C917	0240051	CC 1500PF $\pm 20\%$	R064	0113589	CF 82 Ω $\pm 5\%$	R410	0113651	CF 33k Ω $\pm 5\%$	
C918	0252805	EL 0.47 μ F $\pm 20\%$	R065	0113589	CF 82 Ω $\pm 5\%$	R411	0113631	CF 4.7k Ω $\pm 5\%$	
C919	0252805	EL 0.47 μ F $\pm 20\%$	R066	0113589	CF 82 Ω $\pm 5\%$	R412	0113663	CF 100k Ω $\pm 5\%$	
C920	0252403	EL 220 μ F $\pm 20\%$	R067	0113589	CF 82 Ω $\pm 5\%$	R413	0113625	CF 2.7k Ω $\pm 5\%$	
C921	0252402	EL 100 μ F $\pm 20\%$	R068	0113615	CF 1k Ω $\pm 5\%$	R414	0113639	CF 10k Ω $\pm 5\%$	
C922	02528112	EL 1 μ F $\pm 20\%$	R069	0113615	CF 1k Ω $\pm 5\%$	R415	0113627	CF 3.3k Ω $\pm 5\%$	
C923	0240061	CC 0.01 μ F $\pm 30\%$	R070	0113615	CF 1k Ω $\pm 5\%$	R420LR	0113655	CF 4.7k Ω $\pm 5\%$	
C924	0275031	MF 12000PF $\pm 10\%$	R071	0113615	CF 1k Ω $\pm 5\%$	R421	1110601	FR 10 Ω $\pm 5\%$	
C925	1275011	MF 0.01 μ F $\pm 10\%$	R072	0113615	CF 1k Ω $\pm 5\%$	R422	1123620	NF 82 Ω $\pm 5\%$	
C926	1276013	MF 0.22 μ F $\pm 10\%$	R073	0113615	CF 1k Ω $\pm 5\%$	R423	1123623	NF 150 Ω $\pm 5\%$	
C927	1275014	MF 0.033 μ F $\pm 10\%$	R101	0113627	CF 3.3k Ω $\pm 5\%$	R430LR	0113635	CF 6.8k Ω $\pm 5\%$	
C928	02523222	EL 22 μ F $\pm 20\%$	R102	0113639	CF 10k Ω $\pm 5\%$	R431LR	0113643	CF 15k Ω $\pm 5\%$	
C929	0230628	CC 47PF $\pm 5\%$	R103	0113663	CF 100k Ω $\pm 5\%$	R432LR	0113625	CF 2.7k Ω $\pm 5\%$	
C930	0274013	MF 0.0022 μ F $\pm 10\%$	R104	0113603	CF 330 Ω $\pm 5\%$	R433LR	0113623	CF 2.2k Ω $\pm 5\%$	
C931	0274013	MF 0.0022 μ F $\pm 10\%$	R105	0113663	CF 100k Ω $\pm 5\%$	R434LR	0113639	CF 10k Ω $\pm 5\%$	
C932	02750112	MF 0.01 μ F $\pm 10\%$	R106	0113611	CF 680 Ω $\pm 5\%$	R435LR	0113575	CF 22 Ω $\pm 5\%$	
C933	1246452	CD 33PF $\pm 5\%$	R107	0113615	CF 1k Ω $\pm 5\%$	R436LR	0113679	CF 470k Ω $\pm 5\%$	
C934	0240037	CC 220PF $\pm 10\%$	R108	0113607	CF 470 Ω $\pm 5\%$	R437LR	0113633	CF 5.6k Ω $\pm 5\%$	
C935	02750112	MF 0.01 μ F $\pm 10\%$				R438LR	0113619	CF 1.5k Ω $\pm 5\%$	
C936	0252805	EL 0.47 μ F $\pm 20\%$							

SYMBOL NO.	PART NO.	DESCRIPTION			SYMBOL NO.	PART NO.	DESCRIPTION			SYMBOL NO.	PART NO.	DESCRIPTION					
R439LR	0113631	CF	4.7k Ω	\pm 5%	1/6P	R609LR	0113631	CF	4.7k Ω	\pm 5%	1/6P	R931	0113639	CF	10k Ω	\pm 5%	1/6P
R440	0113623	CF	2.2k Ω	\pm 5%	1/6P	R610	0113623	CF	2.2k Ω	\pm 5%	1/6P	R932	0113663	CF	100k Ω	\pm 5%	1/6P
R450	0113639	CF	10k Ω	\pm 5%	1/6P	Δ R611	1110607	FR	33 Ω	\pm 5%	RN1/4B	R935	0113639	CF	10k Ω	\pm 5%	1/6P
R451	0113639	CF	10k Ω	\pm 5%	1/6P	R612LR	0113615	CF	1k Ω	\pm 5%	1/6P	R936	0113639	CF	10k Ω	\pm 5%	1/6P
R452	0113665	CF	120k Ω	\pm 5%	1/6P	R613LR	0113663	CF	100k Ω	\pm 5%	1/6P	R937	0113639	CF	10k Ω	\pm 5%	1/6P
R453	0113665	CF	120k Ω	\pm 5%	1/6P	R615	0113649	CF	27k Ω	\pm 5%	1/6P	R938	0113647	CF	22k Ω	\pm 5%	1/6P
R454	0113595	CF	150 Ω	\pm 5%	1/6P	R616	0113649	CF	27k Ω	\pm 5%	1/6P	R939	0129894	CF	10k Ω	\pm 5%	1/4P
R455	0113595	CF	150 Ω	\pm 5%	1/6P	R617	0113643	CF	15k Ω	\pm 5%	1/6P	R940	0113639	CF	10k Ω	\pm 5%	1/6P
R456	0113621	CF	1.8k Ω	\pm 5%	1/6P	R619	0113679	CF	470k Ω	\pm 5%	1/6P	R941	0113639	CF	10k Ω	\pm 5%	1/6P
R457	0113621	CF	1.8k Ω	\pm 5%	1/6P	R620	0113635	CF	6.8k Ω	\pm 5%	1/6P	R942	0113663	CF	100k Ω	\pm 5%	1/6P
R458	0113641	CF	12k Ω	\pm 5%	1/6P	R621	0113627	CF	3.3k Ω	\pm 5%	1/6P	R943	0113639	CF	10k Ω	\pm 5%	1/6P
R460	0113639	CF	10k Ω	\pm 5%	1/6P	R622	0113615	CF	1k Ω	\pm 5%	1/6P	R944	0113615	CF	1k Ω	\pm 5%	1/6P
R501LR	0113591	CF	100 Ω	\pm 5%	1/6P	R625	0113625	CF	2.7k Ω	\pm 5%	1/6P	R945	0113615	CF	1k Ω	\pm 5%	1/6P
R502LR	0113663	CF	100k Ω	\pm 5%	1/6P	R630	0113643	CF	15k Ω	\pm 5%	1/6P	R946	0113663	CF	100k Ω	\pm 5%	1/6P
R503LR	0113611	CF	680 Ω	\pm 5%	1/6P	R631LR	0113661	CF	82k Ω	\pm 5%	1/6P	R948	0113647	CF	22k Ω	\pm 5%	1/6P
R504LR	0113637	CF	8.2k Ω	\pm 5%	1/6P	R701LR	0113647	CF	22k Ω	\pm 5%	1/6P	R949	0113657	CF	56k Ω	\pm 5%	1/6P
R505LR	0113663	CF	100k Ω	\pm 5%	1/6P	R702LR	0113623	CF	2.2k Ω	\pm 5%	1/6P	R950	0113591	CF	100 Ω	\pm 5%	1/6P
R506LR	0113663	CF	100k Ω	\pm 5%	1/6P	R703LR	0129509	CF	2.2 Ω	\pm 5%	1/4P	R951	0113639	CF	10k Ω	\pm 5%	1/6P
R507LR	0113647	CF	22k Ω	\pm 5%	1/6P	R705	0113661	CF	82k Ω	\pm 5%	1/6P	R952	0113637	CF	8.2k Ω	\pm 5%	1/6P
R508LR	0113659	CF	68k Ω	\pm 5%	1/6P	R706	0113623	CF	2.2k Ω	\pm 5%	1/6P	R953	0113675	CF	330k Ω	\pm 5%	1/6P
R509LR	0113647	CF	22k Ω	\pm 5%	1/6P	R707	0113571	CF	15 Ω	\pm 5%	1/6P	R954	0113675	CF	330k Ω	\pm 5%	1/6P
R510	0113663	CF	100k Ω	\pm 5%	1/6P	R708	0113627	CF	3.3k Ω	\pm 5%	1/6P	R955	0113663	CF	100k Ω	\pm 5%	1/6P
R511	0113663	CF	100k Ω	\pm 5%	1/6P	R709	0129509	CF	2.2 Ω	\pm 5%	1/4P	R956	0113643	CF	15k Ω	\pm 5%	1/6P
Δ R515	1123621	NF	100 Ω	\pm 5%	1/4P	R710	0129509	CF	2.2 Ω	\pm 5%	1/4P	R957	0113635	CF	6.8k Ω	\pm 5%	1/6P
R516	0113631	CF	4.7k Ω	\pm 5%	1/6P	R720LR	0113645	CF	18k Ω	\pm 5%	1/6P	R958	0113635	CF	6.8k Ω	\pm 5%	1/6P
R517	0113669	CF	180k Ω	\pm 5%	1/6P	R801	0129581	CF	680 Ω	\pm 5%	1/4P	R959	0113643	CF	15k Ω	\pm 5%	1/6P
R518	0113583	CF	47 Ω	\pm 5%	1/6P	R802	0129601	CF	1k Ω	\pm 5%	1/4P	R960	01136872	CF	1M Ω	\pm 5%	1/6P
R519	0113657	CF	56k Ω	\pm 5%	1/6P	R803	0129569	CF	220 Ω	\pm 5%	1/4P	R961	0113663	CF	100k Ω	\pm 5%	1/6P
R520	0113627	CF	3.3k Ω	\pm 5%	1/6P	R810	0113647	CF	22k Ω	\pm 5%	1/6P	R962	0113663	CF	100k Ω	\pm 5%	1/6P
R521LR	0113615	CF	1k Ω	\pm 5%	1/6P	R811	0113647	CF	22k Ω	\pm 5%	1/6P	R963	0113639	CF	10k Ω	\pm 5%	1/6P
R522LR	0113671	CF	220k Ω	\pm 5%	1/6P	R812	0113639	CF	10k Ω	\pm 5%	1/6P	R964	0113615	CF	1k Ω	\pm 5%	1/6P
R523LR	0113599	CF	220 Ω	\pm 5%	1/6P	R813	0113639	CF	10k Ω	\pm 5%	1/6P	R965	0113651	CF	33k Ω	\pm 5%	1/6P
R524LR	0113633	CF	5.6k Ω	\pm 5%	1/6P	R814	0113583	CF	47 Ω	\pm 5%	1/6P	R966	0113643	CF	15k Ω	\pm 5%	1/6P
R525LR	0113663	CF	100k Ω	\pm 5%	1/6P	R815	0129577	CF	470 Ω	\pm 5%	1/4P	R967	0113625	CF	2.7k Ω	\pm 5%	1/6P
R526LR	0129565	CF	150 Ω	\pm 5%	1/4P	R816	0129573	CF	330 Ω	\pm 5%	1/4P	R968	0113647	CF	22k Ω	\pm 5%	1/6P
R527	0113671	CF	220k Ω	\pm 5%	1/6P	R817	0129573	CF	330 Ω	\pm 5%	1/4P	R969	0113663	CF	100k Ω	\pm 5%	1/6P
R528	0113671	CF	220k Ω	\pm 5%	1/6P	R901	0113615	CF	1k Ω	\pm 5%	1/6P	R970	0113639	CF	10k Ω	\pm 5%	1/6P
Δ R530	1123625	NF	220 Ω	\pm 5%	1/4P	R902	01132222	CF	27 Ω	\pm 5%	1/2P	R971	0113631	CF	4.7k Ω	\pm 5%	1/6P
Δ R531	1123625	NF	220 Ω	\pm 5%	1/4P	R903	0113603	CF	330 Ω	\pm 5%	1/6P	R972	0113647	CF	22k Ω	\pm 5%	1/6P
R551LR	0113625	CF	2.7k Ω	\pm 5%	1/6P	R904	0113639	CF	10k Ω	\pm 5%	1/6P	R973	0113663	CF	100k Ω	\pm 5%	1/6P
R552LR	0113625	CF	2.7k Ω	\pm 5%	1/6P	R906	0113623	CF	2.2k Ω	\pm 5%	1/6P	R974	0113639	CF	10k Ω	\pm 5%	1/6P
R553LR	0113637	CF	8.2k Ω	\pm 5%	1/6P	R907	0113671	CF	220k Ω	\pm 5%	1/6P	R975	0113639	CF	10k Ω	\pm 5%	1/6P
R554LR	0113641	CF	12k Ω	\pm 5%	1/6P	R909	01136872	CF	1M Ω	\pm 5%	1/6P	R976	0129908	CF	39k Ω	\pm 5%	1/4P
R555LR	01136872	CF	1M Ω	\pm 5%	1/6P	R910	0113613	CF	820 Ω	\pm 5%	1/6P	R977	0113575	CF	22 Ω	\pm 5%	1/6P
R556LR	0113607	CF	470 Ω	\pm 5%	1/6P	R911	0113623	CF	2.2k Ω	\pm 5%	1/6P	R978	0113575	CF	22 Ω	\pm 5%	1/6P
R557LR	0113639	CF	10k Ω	\pm 5%	1/6P	R912	0113639	CF	10k Ω	\pm 5%	1/6P	R979	0113591	CF	100 Ω	\pm 5%	1/6P
R559LR	0113631	CF	4.7k Ω	\pm 5%	1/6P	R913	0113639	CF	10k Ω	\pm 5%	1/6P	R980	0113611	CF	680 Ω	\pm 5%	1/6P
R560	0113639	CF	10k Ω	\pm 5%	1/6P	R915	0113575	CF	22 Ω	\pm 5%	1/6P	R981LR	0113663	CF	100k Ω	\pm 5%	1/6P
R561	0113639	CF	10k Ω	\pm 5%	1/6P	R916	0113575	CF	22 Ω	\pm 5%	1/6P	R982	0113639	CF	10k Ω	\pm 5%	1/6P
R562	0113623	CF	2.2k Ω	\pm 5%	1/6P	R917	0113639	CF	10k Ω	\pm 5%	1/6P	R983L	0129880	CF	2.7k Ω	\pm 5%	1/4P
R563	0113655	CF	47k Ω	\pm 5%	1/6P	R918	0113641	CF	12k Ω	\pm 5%	1/6P	R983R	0113625	CF	2.7k Ω	\pm 5%	1/6P
R564	0113655	CF	47k Ω	\pm 5%	1/6P	R920	0113651	CF	33k Ω	\pm 5%	1/6P	R984LR	0113637	CF	8.2k Ω	\pm 5%	1/6P
R565LR	0113667	CF	150k Ω	\pm 5%	1/6P	R921	0113573	CF	47 Ω	\pm 5%	1/6P	R985L	0129880	CF	2.7k Ω	\pm 5%	1/4P
R566LR	0113645	CF	18k Ω	\pm 5%	1/6P	R922	0113613	CF	820 Ω	\pm 5%	1/6P	R985R	0113625	CF	2.7k Ω	\pm 5%	1/6P
R601LR	0113671	CF	220k Ω	\pm 5%	1/6P	R923	0113617	CF	1.2k Ω	\pm 5%	1/6P	R986LR	0129846	CF	100 Ω	\pm 5%	1/4P
R602LR	0113679	CF	470k Ω	\pm 5%	1/6P	R924	0113627	CF	3.3k Ω	\pm 5%	1/6P						
R603LR	0113623	CF	2.2k Ω	\pm 5%	1/6P	R925	01136872	CF	1M Ω	\pm 5%	1/6P						
R604LR	0113595	CF	150 Ω	\pm 5%	1/6P	R926	0113647	CF	22k Ω	\pm 5%	1/6P						
R605LR	0113657	CF	56k Ω	\pm 5%	1/6P	R927	0113655	CF	47k Ω	\pm 5%	1/6P						

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
ICs and TRANSISTORS			Q908	2328652	2SC1740LN(S)	RT402	0158922	1k Ω -(B) (NORMAL SPEED ADJ.)
IC051	2387611	BA6251	Q909	2328652	2SC1740LN(S)	RT403	0158923	2k Ω -(B) (HIGH SPEED ADJ.)
IC101	2398201	TA7358P	Q910	2329582	2SA933(R)	RT404	0158923	2k Ω -(B) (HIGH SPEED ADJ.)
IC201	2289511	TA7640AP	Q911	2329582	2SA933(R)			
IC301	2397521	AN7420	DIODES			R905	0158977	4.7k Ω -(B) (LASER DIODE OUTPUT ADJ.)
IC401	2301051	BA3416AL	D055	2337601	1S2473	R908	0158973	100k Ω -(B) (FOCUS SERVO OFFSET ADJ.)
IC501	2387302	M5218L	D056	2337601	1S2473	R914	0158973	100k Ω -(B) (TRACKING SERVO OFFSET ADJ.)
IC502	2387302	M5218L	D057	2337601	1S2473	COILS and TRANSFORMERS		
IC551	2300761	NJM2068DD	D101	2337601	1S2473	L101	2135262	FM RF coil
IC701	2300871	μ PC1288V	D102	2338031	1S2790	L102	2135248	FM OSC coil
IC702	2300871	μ PC1288V	D103	2337601	1S2473	L150	2135641	Coil
IC901	2377631	TM5050	D301	2337601	1S2473	L151	2137662	SW ANT coil [for E, E(BS)]
IC902	2377671	TM5060	D302	2337601	1S2473	L151	2137663	SW ANT coil [for H, HC, W, AU]
IC903	23002212	NJM072	D303	2337601	1S2473	L152	2758262	Ferrite antenna LM100 [for E, E(BS)]
IC904	2367222	NJM4558DM	D304	2337601	1S2473	L152	2758253	Ferrite antenna MS100 [for H, HC, W, AU]
IC905	2389300	HD61404FD91	D305	2337601	1S2473	L153	2758262	Ferrite antenna LN100 [for E, E(BS)]
IC906	23001912	CX23035	D401	2337601	1S2473	L153	2758253	Ferrite antenna MS100 [for H, HC, W, AU]
IC907	2387441	HM6116FP-4	D402	2337601	1S2473	L154	2137671	SW OSC coil [for E, E(BS)]
IC908	2300591	CX20133	D403	2337601	1S2473	L154	2137672	SW OSC coil [for H, HC, W, AU]
IC909	2387481	HD14053BP	D404	2337601	1S2473	L155	2137711	MW OSC coil [for E, E(BS)]
IC910	2300761	NJM2068DD	D405	2337601	1S2473	L155	2137713	SW OSC coil [for H, HC, W, AU]
IC911	2300761	NJM2068DD	D406	2337601	1S2473	L156	2137712	LW OSC coil [for E, E(BS)]
FET901LR	2329721	2SK163-L	D551	2337762	ERB12-01	L156	2137711	MW OSC coil [for H, HC, W, AU]
Q051	2329553	2SC2603EF	D601	2337601	1S2473	L402LR	2227991	Choke coil 3.3mH
Q052	2329553	2SC2603EF	D801	2337461	S4VB20	L403LR	2135626	Trap coil
Q053	2329553	2SC2603EF	D810	2337601	1S2473	L501	2227912	Choke coil [for H]
Q101	2329323	2SC460C	D811	2337601	1S2473	L802	2267031	Oscillator transformer
Q151	2329323	2SC460C [for E, E(BS)]	D812	2398471	S1S-4M	L803	2228162	Choke coil 100 μ H
Q401	2329553	2SC2603EF	D813	2398471	S1S-4M	L804	2228162	Choke coil 100 μ H
Q402LR	2329553	2SC2603EF	D901	2337011	1S2076	L810	2228161	Choke coil 10 μ H
Q403	2329553	2SC2603EF	D902	2337011	1S2076	L901	2137231	Choke coil 10 μ H
Q405LR	2329553	2SC2603EF	D903	2337011	1S2076	L902	2227907	Choke coil 1 μ H
Q406LR	2329553	2SC2603EF	D904	2337011	1S2076	T101	2135651	FM IF transformer
Q407LR	2329553	2SC2603EF	D905	2337011	1S2076	T201	2154952	AM IF transformer
Q408	2329553	2SC2603EF	D906	2337011	1S2076	T202	2154964	FM IF transformer
Q409	2328081	2SA844C	D907	2337011	1S2076	T203	2154951	AM IF transformer
Q410	2328081	2SA844C	D909	2337011	1S2076	MISCELLANEOUS		
Q501	2329553	2SC2603EF	D911	2337011	1S2076	CT151	0282202	Variable capacitor
Q551LR	2329553	2SC2603EF	D913	2397321	KV1260	CT152	0283125	Trimmer capacitor [for E, E(BS)]
Q552LR	2317971	2SD1468	ZD601	2337545	HZ-7B-2	CT153	0283127	Trimmer capacitor [for E, E(BS)]
Q553	2329582	2SA933(R)	ZD801	2337567	HZ12C-1			
Q554	2329553	2SC2603EF	ZD802	2337527	HZ9C1			
Q601LR	2329553	2SC2603EF	ZD810	2338578	RD39EB			
Q602LR	2329553	2SC2603EF	ZD811	2337551	HZ-11A-1			
Q603LR	2329553	2SC2603EF	ZD812	2337514	HZ-6(B)			
Q604	2329553	2SC2603EF	ZD813	2337514	HZ-6(B)			
Q801	2317803	2SD1266(P)	ZD901	2337612	HZ-3A2			
Q802	2317803	2SD1266(P)	D051	2398431	LN524			
Q810	2329553	2SC2603EF	D052	2339391	GL-3HD5			
Q811	2329582	2SA933(R)	D053	2339391	GL-3HD5			
Q812	2329553	2SC2603EF	D054	2339391	GL-3HD5			
Q813	2328181	2SC2562	D301	2397611	LN242RPH-LF			
Q814	2317738	2SD330(E)	D602	2397621	SEL1121R			
Q815	2328963	2SB514ALE	D603	2397611	LN242RPH-LF			
Q901	2327992	2SB562B	VARIABLE RESISTORS					
Q902	2329582	2SA933(R)	RT301	0158977	4.7k Ω -(B) (FM MPX ADJ.)			
Q903	2328652	2SC1740LN(S)	RT401	0158922	1k Ω -(B) (NORMAL SPEED ADJ.)			
Q904	2328652	2SC1740LN(S)						
Q906	2317739	2SD330(D/E)						
Q907	2328969	2SB514AL(D/E)						

SYMBOL No.	PART No.	DESCRIPTION
CT153	0283125	Trimmer capacitor [for H, HC, W, AU]
CT154	0283125	Trimmer capacitor
CT155	0283125	Trimmer capacitor
CT156	0283127	Trimmer capacitor [for E, E(BS)]
CT156	0283125	Trimmer capacitor [for H, HC, W, AU]
CP401	2137071	Coil
CP551LR	2137221	Low pass filter
BPF101	2136871	FM filter
CF201	2135321	Ceramic filter
X901	2780031	Crystal oscillator
X902	2780041	Crystal oscillator
	2678731	Mic jack
	2678601	2P pin jack
	2679382	Headphones jack
	2659271	2P socket [for E, E(BS)]
	2659272	2P socket [for H, HC, W, AU]
S051	2639682	Tact switch (PLAY/PAUSE)
S052	2639682	Tact switch (STOP/CLEAR)
S053	2639682	Tact switch (FF SKIP/TRACK)
S054	2639682	Tact switch (FB SKIP/TRACK)
S055	2639682	Tact switch (MEMORY)
S056	2639682	Tact switch (REPEAT)
S101	2628481	Lever switch (BAND SELECT)
S401	2628322	Slide switch (REC/PLAY SELECT)
S402	2628001	Lever switch (TAPE SELECT)
S403	2627951	Slide switch (RIF/MODE SELECT)
S406	2628005	Lever switch (DUBBING SPEED SELECT)
S501	2627961	Slide switch (PHONO/LINE IN SELECT)
S601	2628009	Lever switch (FUNCTION)
S602	2628005	Lever switch (SPEAKER ON/OFF)
S603	2600048	1 key push switch (3D SYSTEM)
△S801	2600151	Push switch (OPERATE/POWER)
S901	2639151	Push switch (CHUCK)
S902	2639151	Push switch (CHUCK)
△F801	2727895	Fuse 1A [for H, HC]
△F801	2727742	Fuse T1A [for E(BS)]
△F801	2727191	Fuse T1A [for E, W, AU]
△F802	2727896	Fuse 5A [for H, HC]
△F802	2727749	Fuse T5A [for E(BS)]
△F802	2727583	Fuse T5A [for E, W, AU]
△F803	2727891	Fuse 1.6A [for H, HC]
△F803	2727744	Fuse T1.6A [for E(BS)]

SYMBOL No.	PART No.	DESCRIPTION
△F803	2727194	Fuse T1.6A [for E, W, AU]
	86914082	3 φ x 8 BT bind head screw (IC701, IC702, Q801, Q802, other)
	3950521	LED holder (D301, D601)

Unit Mechanism

SYMBOL No.	PART No.	DESCRIPTION
1	4028052	DC motor ass'y (slide motor)
2	8711103	2 φ x 3 pan head screw (DC motor)
3	3800341	Worm gear
4	3976432	Send gear
5	4418005	PS washer
6	4463701	Spring
7	4588991	Turn table
8	4561993	3 φ screw (turn table)
9	4594912	Centor pin (B)
10	2523881	DC motor (disc motor)
11	2638901	Switch (reset switch)
12	4578285	2.6 φ x 10 DT bind head screw (switch)

Cabinet

SYMBOL No.	PART No.	DESCRIPTION
1	4577816	3 φ x 20 BT screw (front case, rear case, top case, radiation plate)
2	86994102	3 φ x 10 BT bind head screw (top case, cassette mecha)
3	3307121	Tuning knob
4	4040561	Top case ass'y
5	4594881	Tuning shaft
6	86914102	3 φ x 10 BT bind head screw (pulley holder, oil damper, switch P.W.B., other)

SYMBOL No.	PART No.	DESCRIPTION
7	3907081	CD lid
8	3368803	CD lid spring L
9	3368804	CD lid spring R
10	3368821	CD door wire
11	4468801	Shaft holder
12	4567432	3 φ x 8 tapping bind head screw (shaft holder, telescopic antenna)
13	3907071	Cassette lid (TAPE 1)
14	3907072	Cassette lid (TAPE 2)
15	3368931	Eject spring
16	3902912	Oil damper
17	3907261	Damper W
18	4040453	Clamper
19	4468911	PU cover
20	3307102	Open button
21	3368831	Open wire
22	3907033	Handle
23	3367332	Handle spring
24	2757742	Telescopic antenna
25	4468791	Antenna bracket
26	3801841	Pully (80 φ)
27	3901831	Pointer
28	3340321	Spring
29	3907091	Front case [for E, E(BS)]
	3907092	Front case [for W, AU]
	3907095	Front case [for H]
	3907094	Front case [for HC]
30	2403792	Speaker 16cm (woofer)
31	2403781	Speaker 12cm (tweeter)
32	4469351	TW mirror
33	4578972	3 φ x 10 BT flange screw (speaker)
34	3307142	Operate button (3D system)
35	3307181	CD button (CD operate)
36	2377681	Volume ass'y (G/E Unit)
37	4468751	PH bracket
38	4567411	3 φ x 6 DT bind head screw (PH bracket, other)
39	4040591	Rear case ass'y [for E]
	4040592	Rear case ass'y [for E(BS)]
	4040593	Rear case ass'y [for W]
	4040594	Rear case ass'y [for AU]
	4040595	Rear case ass'y [for H]
	4040596	Rear case ass'y [for HC]
40	3801911	Battery, lid
41	3362601	Spring A
42	4436663	Terminal
43	4436664	Terminal
44	3367062	Spring
45	3367063	Spring

Cassette Chassis

SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION	SYMBOL No.	PART No.	DESCRIPTION
	46 4577819	3 ϕ x 35 BT screw (main P.W.B.)		1 4818991	Main base ass'y		38 4820227	Belt
	47 4594961	Frote screw (unit mechanism ass'y)		2 4818992	Switch plate		39 4831610	Metal guide
	48 3307141	Operate button (operate/power)		3 4832411	Push button actuator ass'y		40 4820231	Flywheel ass'y
	49 3307131	Lever knob (band select, function, tape select, dubbing speed select, speaker)		4 4823651	REC button lever (for TAPE 2)		41 4832412	Sensing plate ass'y
\triangle	50 2249401	Power transformer [for E]		5 4823661	PLAY button lever		42 4819575	Reel P.W.B. ass'y
\triangle	2249402	Power transformer [for E(BS), AU]		6 4832451	RWD button lever (for TAPE 1)		43 4832415	Take up gear plate ass'y
\triangle	2249403	Power transformer [for W]		4823671	RWD button lever (for TAPE 2)		44 4819020	TG plate spring
\triangle	2249404	Power transformer [for H, HC]		7 4832452	FF button lever (for TAPE 1)		45 4832416	Take up roller gear
	51 4567422	4 ϕ x 8 bind head screw (power transformer)		4823681	FF button lever (for TAPE 2)		46 4819037	Spring
	52 86914082	3 ϕ x 8 BT bind head screw (radiation plate)		8 4823691	STOP button lever		47 4832417	FF gear
\triangle	53 2618053	Voltage switch [for W] (voltage selector)		9 4823701	PAUSE button lever		48 4819033	Supply reel ass'y
	54 4584941	Suspention screw (unit mechanism ass'y)		10 4818990	RWD lever		49 4819034	Take-up reel ass'y
	55 4691873	Frote rubber		11 4819131	PAUSE lever		50 4832421	Record safety lever (for TAPE 2)
	56 4691874	Frote rubber		12 4819132	PAUSE lever spring		51 4819032	Spring
	57 4028149	Unit mechanism ass'y		13 4819133	PAUSE stopper		52 4823711	Motor bracket
	58 2588901	TN-21SC-579 mechanism ass'y (TAPE 1)		14 4820214	Button lever spring		53 4819039	Motor rubber
	59 2588891	TN-21SC-580 mechanism ass'y (TAPE 2)		15 4832461	FR SW bracket (for TAPE 1)		54 4819533	Motor collar screw (motor)
	60 4468871	Button holder 2		16 4832482	Sub plate (for TAPE 1)		55 4823721	Main belt
	61 3307111	Cassette button C		4820215	Sub chassis (for TAPE 2)		56 4832481	RC lever A (for TAPE 1)
	62 4468771	Record spring		17 4819007	Button lever spring (for TAPE 2)		57 4819048	M.T.A. collar (for TAPE 1)
	63 8711103	2 ϕ x 3 pan head screw (record spring)		18 4819100	Button lever spring		58 4819587	R/P head (for TAPE 1)
	64 4832441	Button lever shaft		19 4832102	Leaf switch (tape select switch) (for TAPE 1)		4819050	R/P head (for TAPE 2)
	65 4819072	2 ϕ x 7 screw (button holder 2)		20 4832091	Leaf switch (play switch, motor switch)		59 4819043	Eject slide lever
	66 4473271	Damper holder		21 4819008	Actuator spring		60 4819044	Eject slide lever spring
	67 88131112	Washer (2 ϕ x 4.4 x 0.5)		22 4819009	Auto lever		61 4819036	Pack spring
	68 4418013	E ring		23 4819000	Auto lever spring		62 4819063	2 ϕ x 3 tapping screw (pack spring)
	69 3801851	Pulley holder		24 4820217	PLAY button lever spring		63 4819068	2 ϕ x 4 tapping screw (reel P.W.B. ass'y, metal guide)
for ACCESSORIES				25 4820218	Switch actuator spring		64 4819069	2 ϕ x 6 screw (head base) (for TAPE 1)
\triangle	2705941	Power cord [for E]		26 4820219	Head panel (for TAPE 1)		65 4819060	2 ϕ x 7 screw (R/P head)
\triangle	2717901	AC power cord [for E(BS)]		4831614	Head panel (for TAPE 2)		66 4819600	Azimuth screw (R/P head)
\triangle	2798522	Power cord [for W]		27 4819014	Head base (for TAPE 1)		67 4831622	2 ϕ x 8 screw (erase head) (for TAPE 2)
\triangle	2704542	Power cord [for AU]		4819528	Head base (for TAPE 2)		68 4819541	Erase head
\triangle	2711251	AC power cord [for H, HC]		28 4820221	Head panel spring		69 4819077	Washer (1.2 ϕ x 3 x 0.4)
\triangle	2668091	Siemens plug [for W]		29 4819006	PR stopper		70 4819078	Washer (1.55 ϕ x 3.8 x 0.5)
				30 4819045	Screw (pressure roller arm, eject slide lever)		71 4832432	P washer cut (2.05 ϕ x 4 x 0.5)
				31 4819017	Spring		72 4832431	2 ϕ x 4 P tapping bind screw (sub chassis, sub plate, reel P.W.B. ass'y)
				32 4831615	EH spring (for TAPE 2)		73 4819202	2 ϕ x 4.5 camera screw (RC lever C) (for TAPE 1)
				33 4820222	Pressure roller arm ass'y		74 4832471	2 ϕ x 2.5 screw (sub plate) (for TAPE 1)
				34 4820223	Pressure roller arm spring		75 4832472	1.7 ϕ x 4.5 screw (leaf switch) (for TAPE 1)
				35 4820225	RF pulley arm spring		76 4832401	Motor
				36 4832413	RF pulley arm			
				37 4832414	RF collar arm screw (RF pulley arm)			

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