

STEREO AUDIO SYSTEM

# UD-300

## SERVICE MANUAL

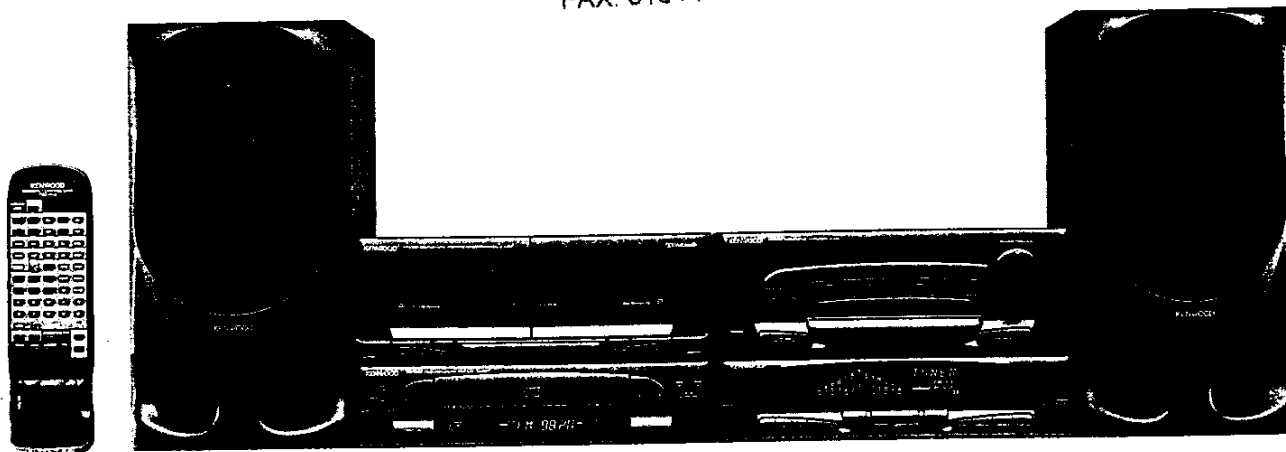
(A-A3/X-A3/LS-A3)

# KENWOOD

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### Precautions when performing repairs.

- (1) If you want to power on X-A3 without A-A3 need power supply jig (RM-90PS). Power-on procedure is written on page 25 (USE TEST MODE).
- (2) Do not look directly at the laser beam while repairing the CD Player.

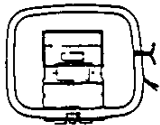
# UD-300

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## ACCESSORIES

- AM loop antenna ... 1



(T90-0174-05)

- FM indoor antenna ... 1



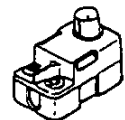
(T90-0175-05)

- AC plug adaptor ... 1  
(Except for some areas)



(E03-0115-05)M

- Antenna adaptor ... 1  
(75 (1)/300 (1))  
(Except for some areas)



(T90-0185-05)T,E

- Remote control unit ... 1



(X94-1010-11)

BATTERY COVER

(A09-0128-03)

- Batteries (R06/AA) ... 2



### INSTRUCTION MANUAL

860-0751-00 (ENGLISH) E	860-0755-00 (ITA) E
860-0752-00 (FRE) P,E	860-0756-00 (CHI) M
860-0753-00 (GER) E	860-0757-00 (SPA) M,E
860-0754-00 (JAP) E	860-0758-00 (ARA) M

Antenna holder



(J19-2815-04)

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# UD-300

## AMPLIFIER (A-A3)

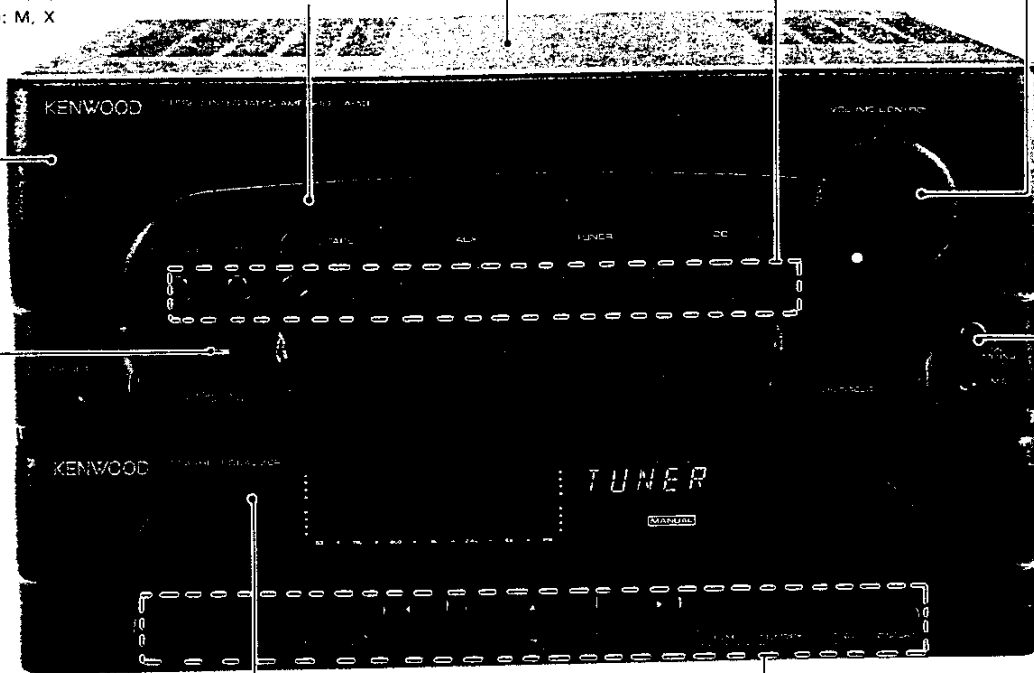
Panel assy\*  
 (A60-0180-02): K, P, T, E  
 (A60-0181-02): M, X

Dressing plate  
 (803-2764-04)

Metallic cabinet  
 (A01-2922-01)

Knob  
 (K29-4351-02)

Knob  
 (K29-4538-04)



Indicator  
 (B12-0190-04)

Front glass  
 (B10-1906-03)

Knob  
 (K29-4352-02)

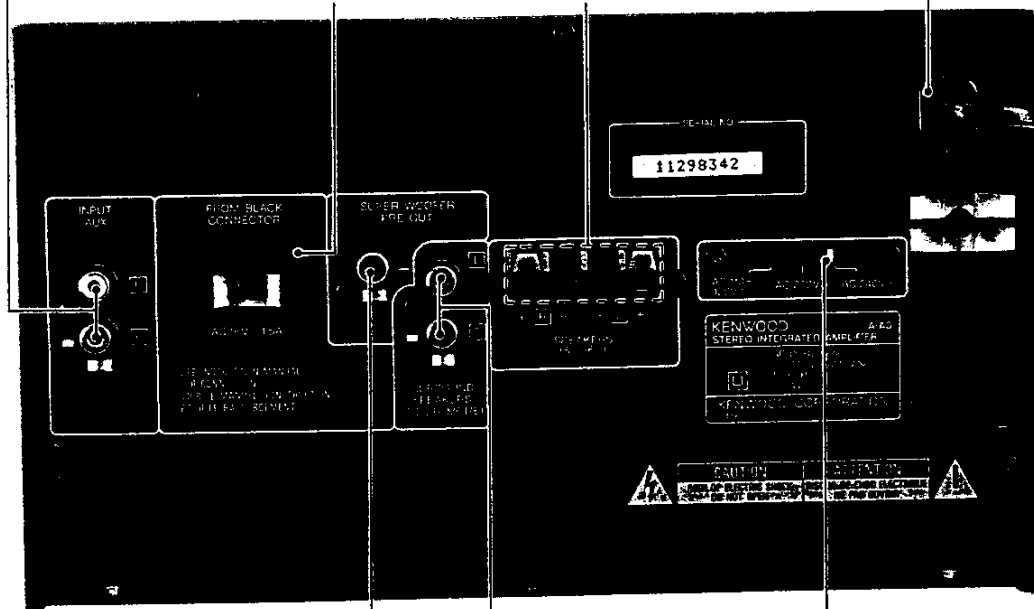
Knob  
 (K29-4357-04)

Phone jack  
 (E63-0040-05)

Rectangular receptacle  
 (E08-1509-05)

Lock terminal board  
 (E70-0013-05)

Power cord bushing  
 (J42-0083-05)



Phone jack  
 (E13-0138-05)

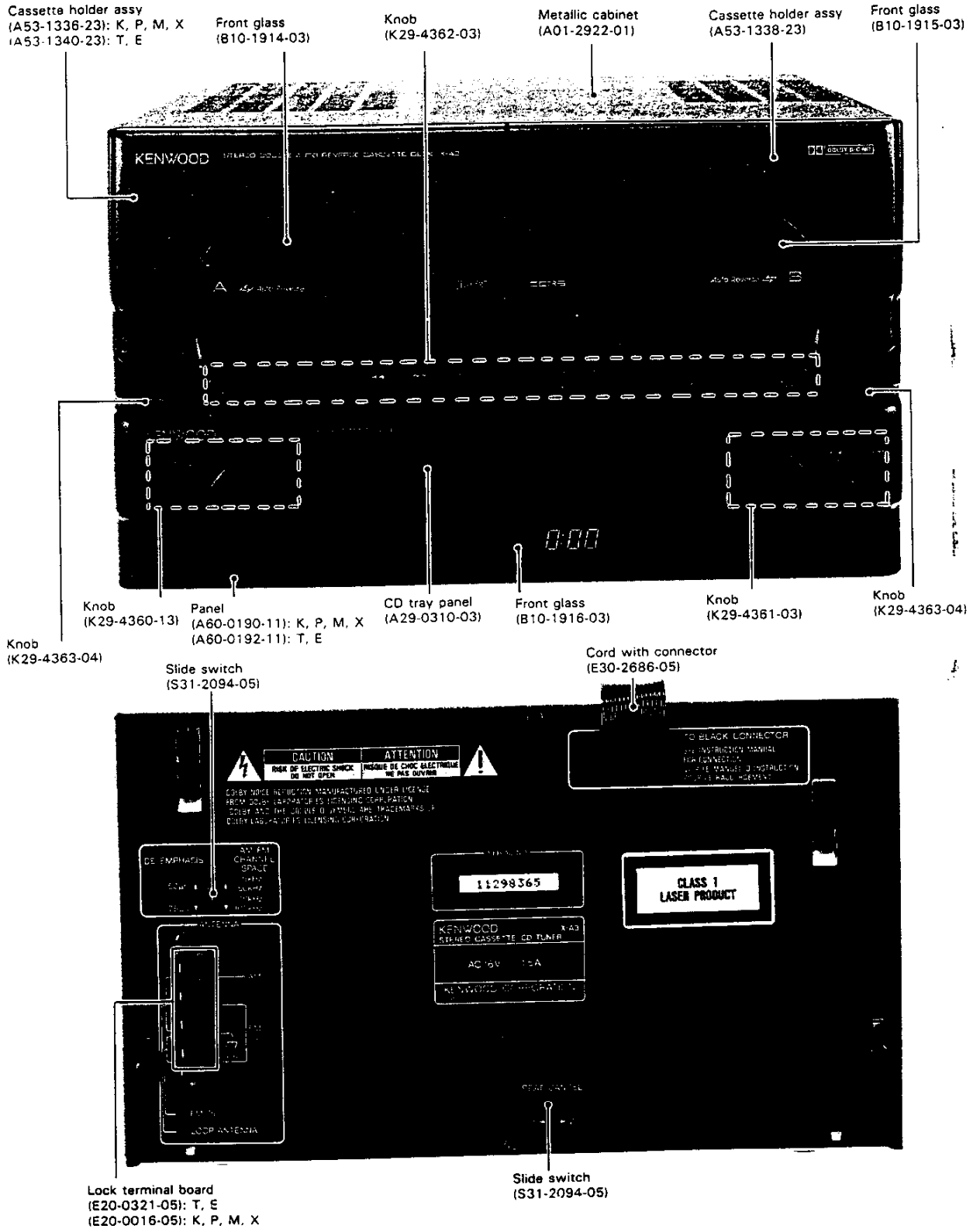
Phone jack  
 (E63-0041-05)

Slide switch  
 (S31-2322-05)

AC power cord\*  
 (E30-)

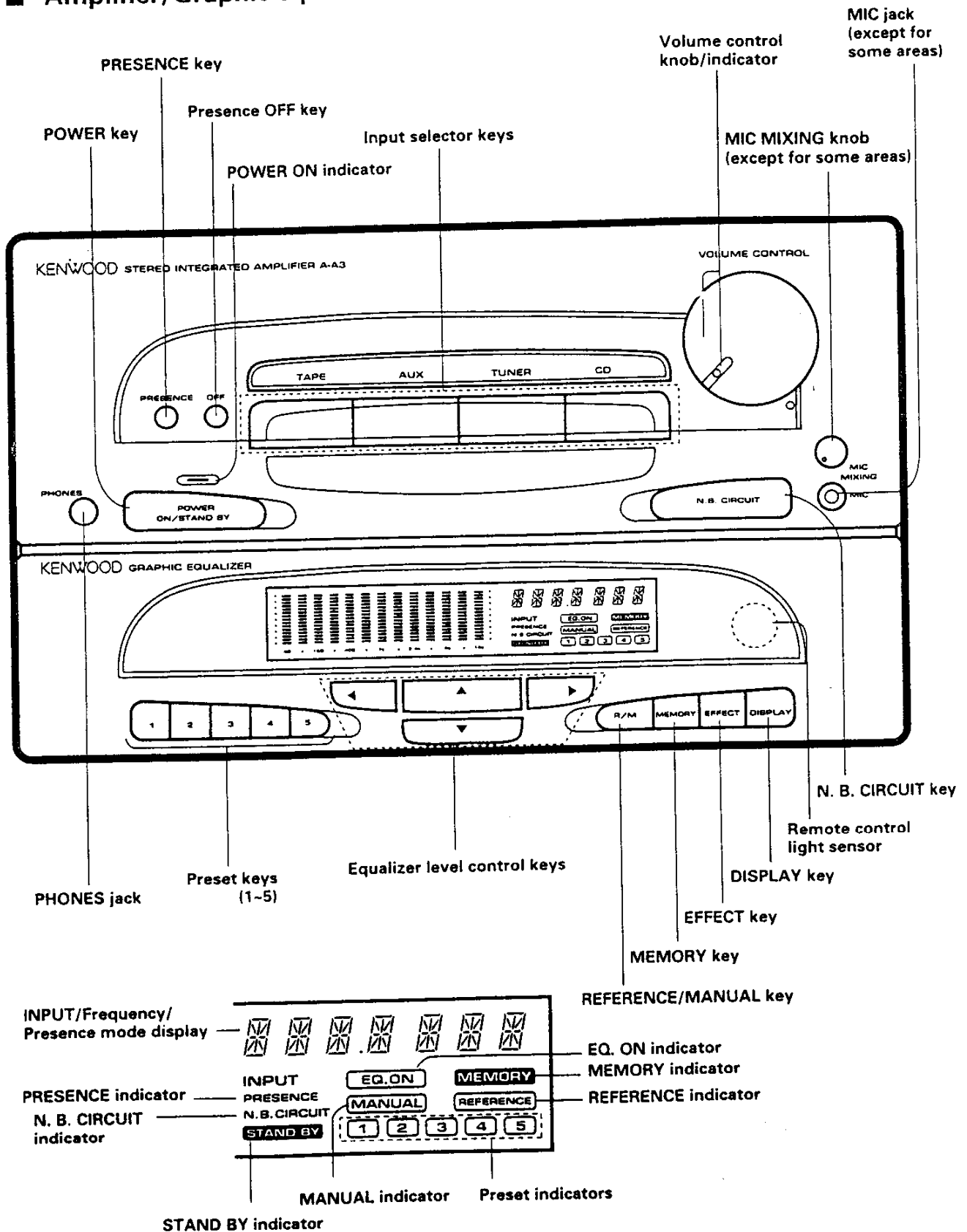
# UD-300

## CD TUNER (X-A3)



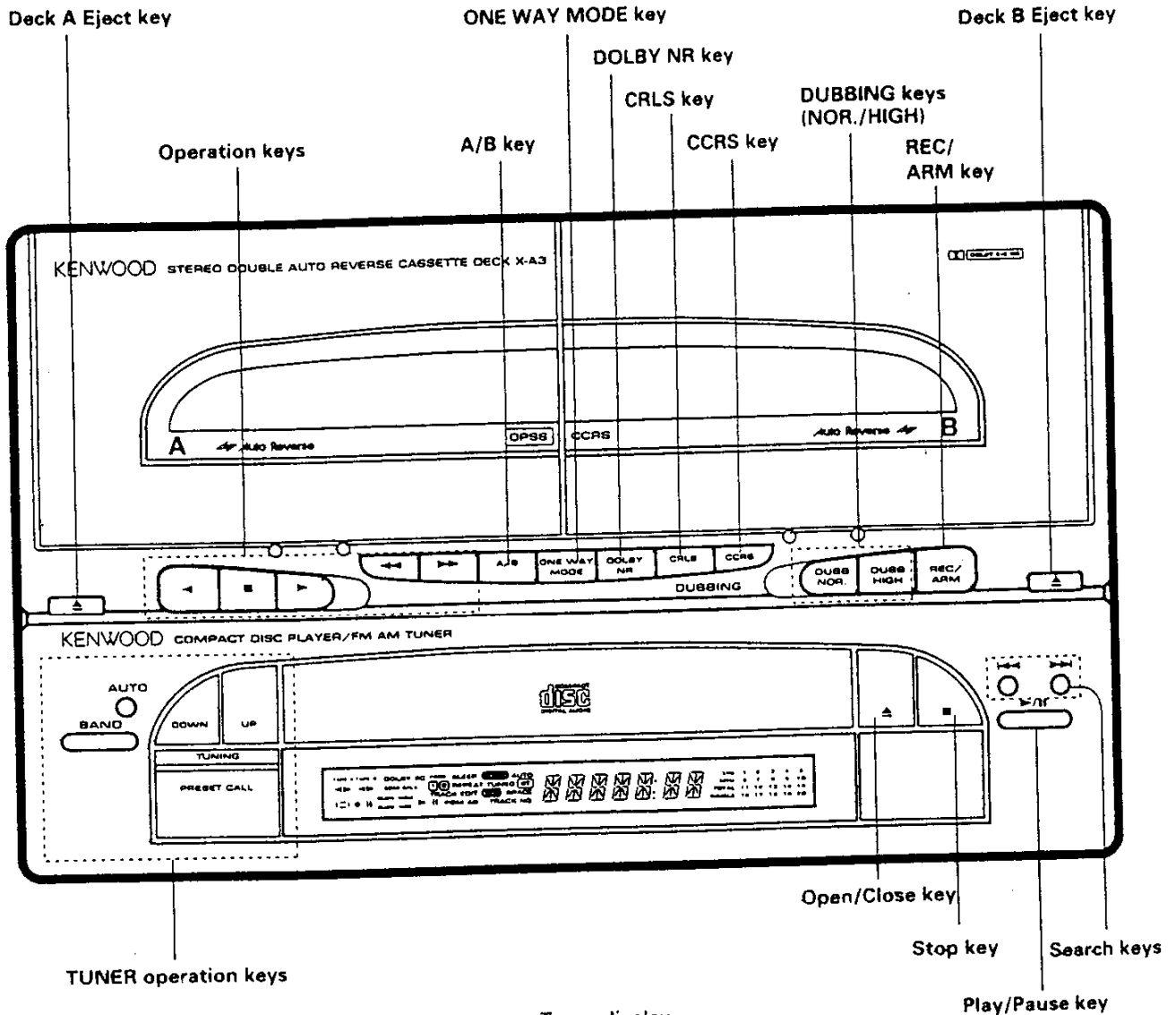
# CONTROLS & INDICATORS

## ■ Amplifier/Graphic equalizer unit

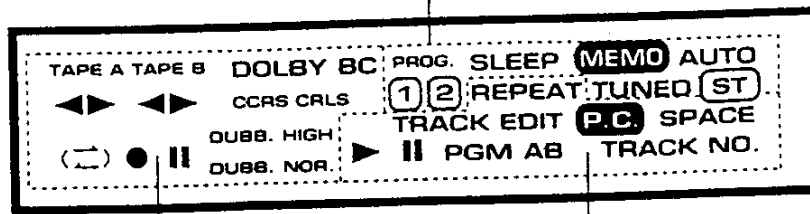


# CONTROLS & INDICATORS

## ■ Cassette deck/CD player/tuner unit



Open/Close key  
Stop key  
Search keys  
Play/Pause key

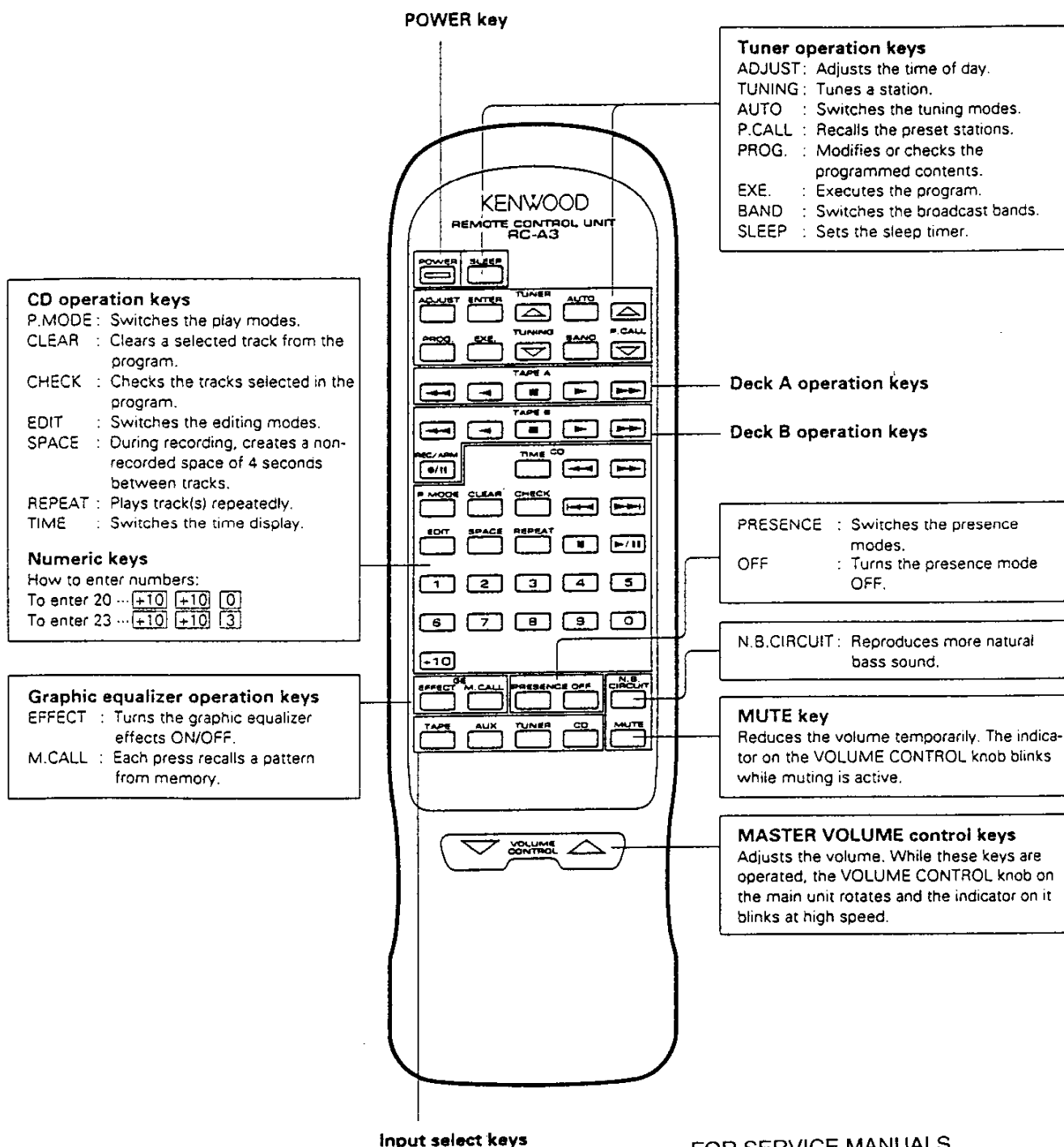


**Cassette deck display**  
 DECK A play indicators  
 DECK B play indicators  
 DOLBY B/C indicators  
 CCRS indicator  
 CRLS indicator  
 DUBB. HIGH indicator  
 DUBB. NOR. indicator  
 Rec/Pause indicator  
 Direction indicator

**CD player display**  
 REPEAT indicator  
 TRACK indicator  
 PGM A/B indicators  
 Play/pause indicators  
 EDIT indicator  
 P.C. (Program check) indicator  
 SPACE indicator  
 TRACK NO. indicator

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## REMOTE CONTROLLER



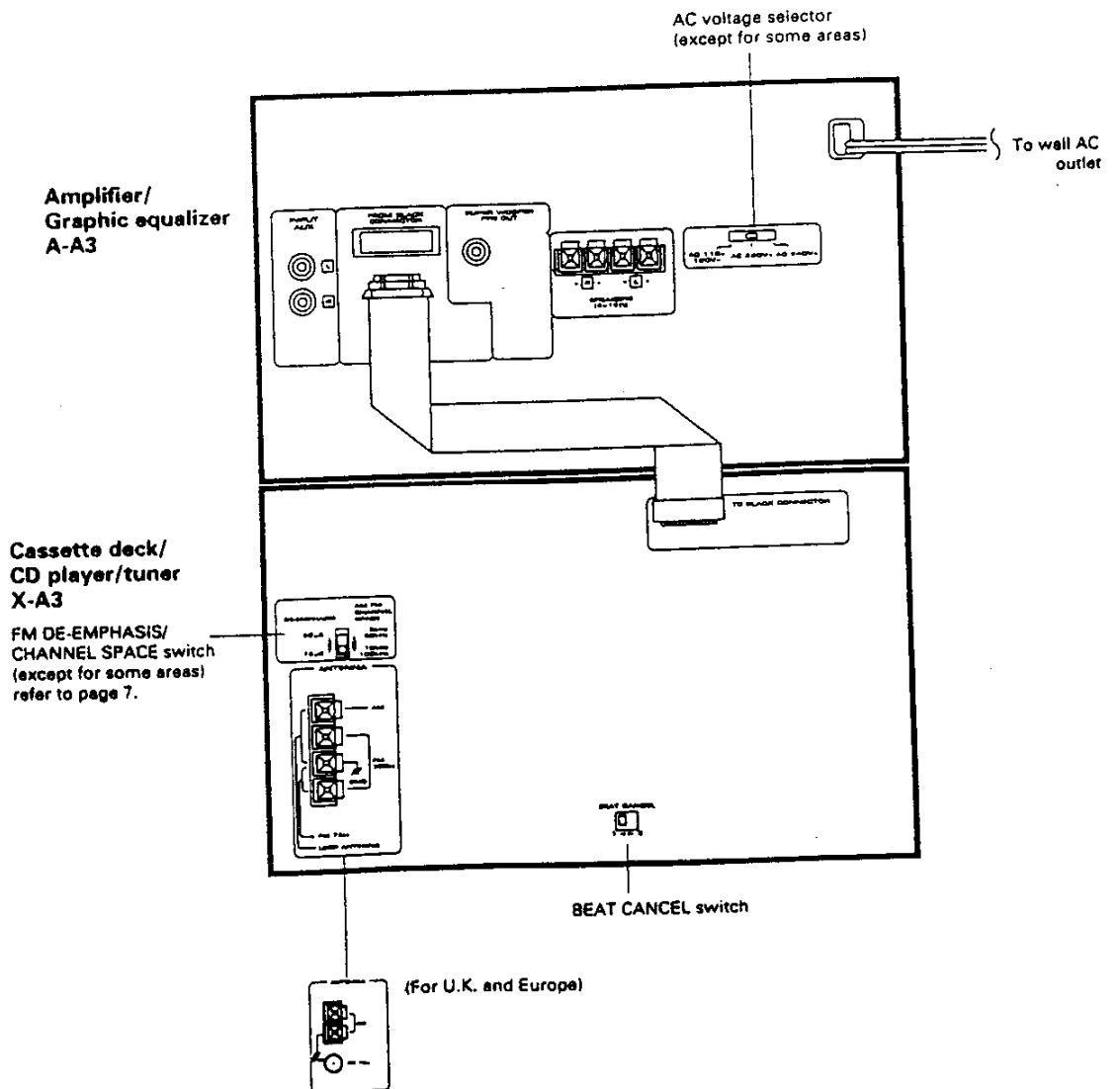
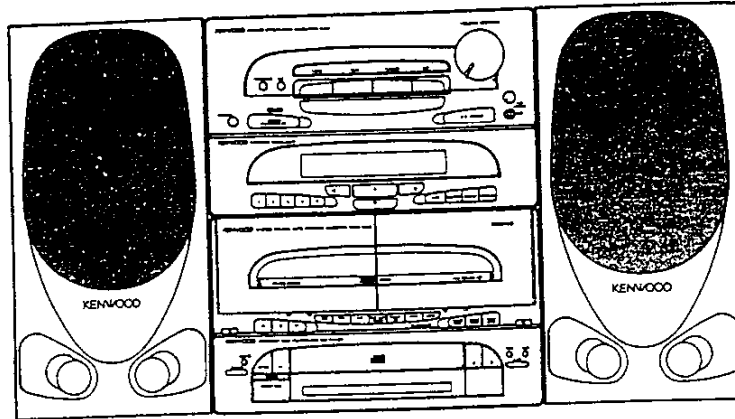
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# SYSTEM CONNECTIONS

Do not plug in the power cord until all connections are completed.

- When stacking components, follow the indicated order in the connections diagram.
- When connecting the related system components, refer also to the instruction manuals of the related components.

## Vertical installation





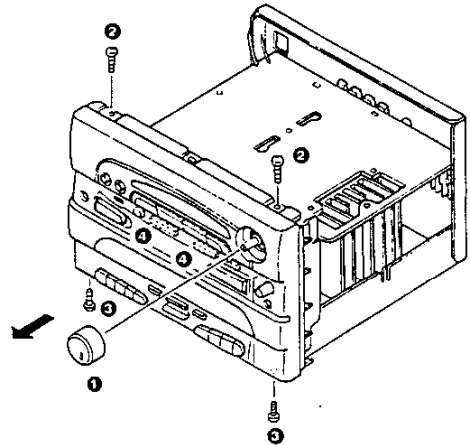
# DISASSEMBLY FOR REPAIR

(Remove the metallic cabinet from the body beforehand)

(A-A3)

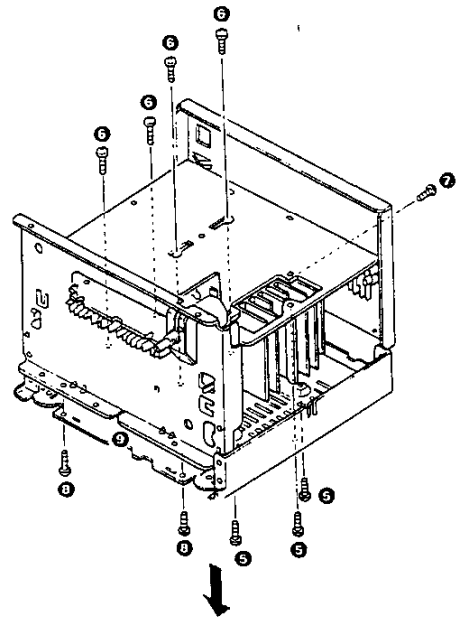
① Removing the front panel ass'y.

- 1) Remove volume knob ①.
- 2) Remove 2 screws ②.
- 3) Remove 2 screws ③.
- 4) Pull out front panel ass'y frontwards with care of connectors ④.



② Removing the chassis of bottom board.

- 5) Remove 3 screws ⑤.
- 6) Remove 4 screws ⑥ of the transformer.
- 7) Remove 1 screw ⑦.
- 8) Remove 2 screws ⑧.
- 9) Remove the chassis of bottom board ⑨.

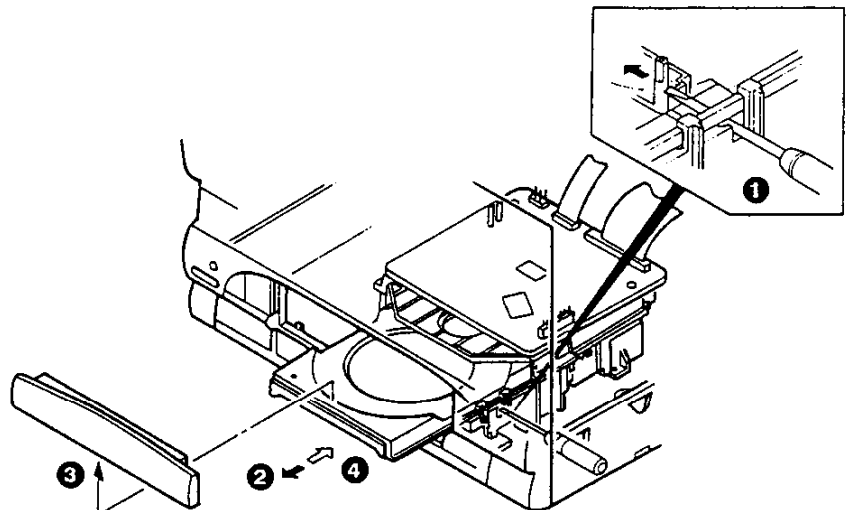


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(X-A3)

① Removing the front panel ass'y.

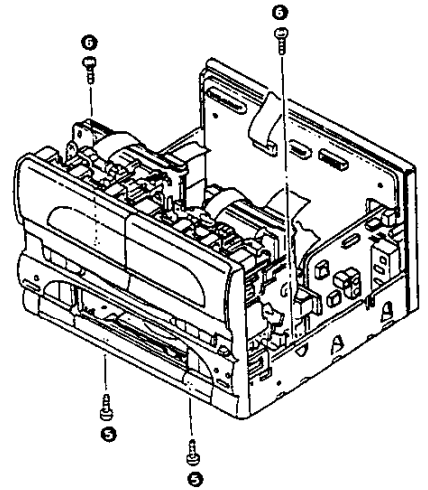
- 1) Insert the driver to push the slider, into the rightside hole of mechanism ass'y (①).
- 2) Pull out the tray (②).
- 3) Remove the tray panel (③).
- 4) Push the tray backwards (④).



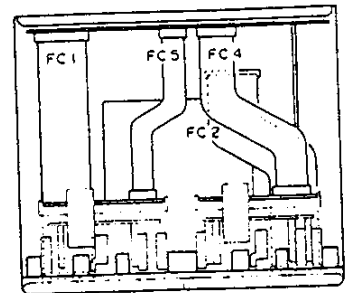
## DISASSEMBLY FOR REPAIR

- 5) Remove 2 screws ⑤.
- 6) Remove 2 screws ⑥.

7) Remove flat cables (FC1~4) from connector.

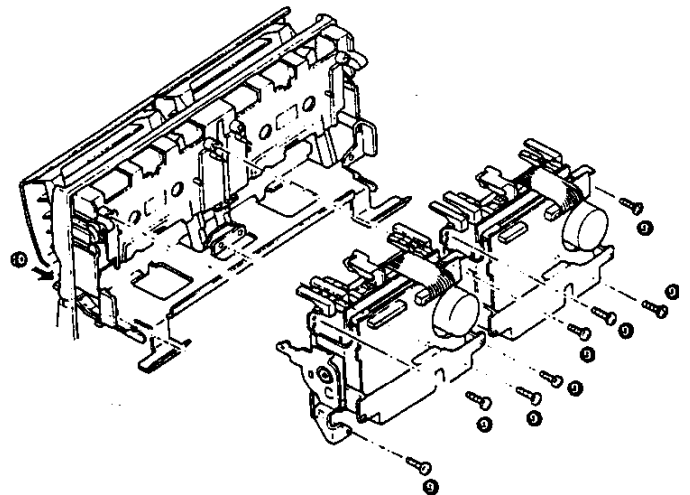
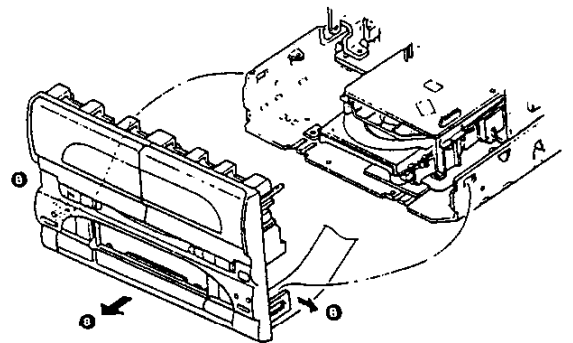


8) Remove both side of catchers and panel ③.



### ② Removing the cassette mechanism.

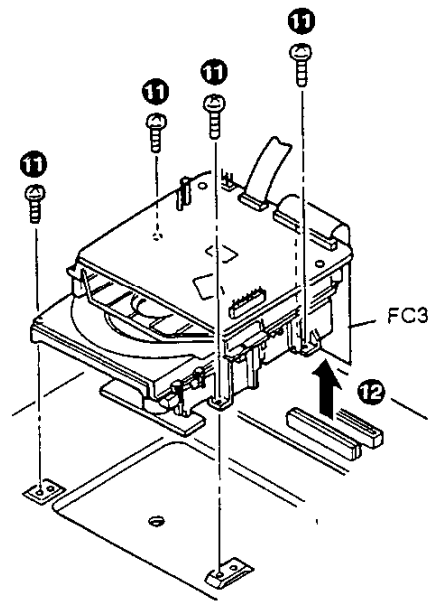
- 9) Remove 8 screws ⑨.
- 10) Push eject knob and remove mechanism ass'y ⑩.



# DISASSEMBLY FOR REPAIR

## ③ Removing the CD mechanism.

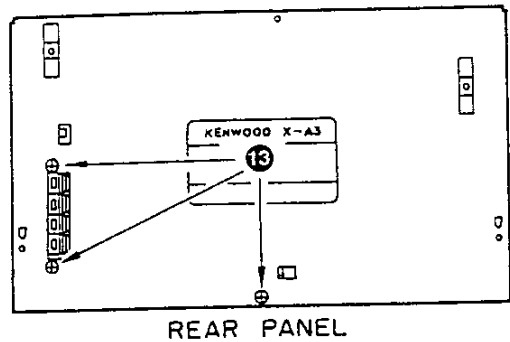
- 11) Remove 4 screws ⑪.
- 12) Remove FC3. ⑫.



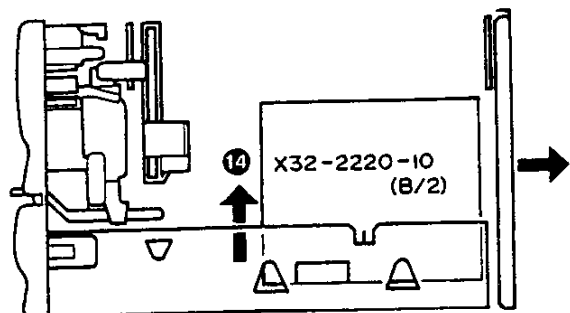
## ④ Removing the tuner PCB.

- 13) Remove 2 screws ⑬.

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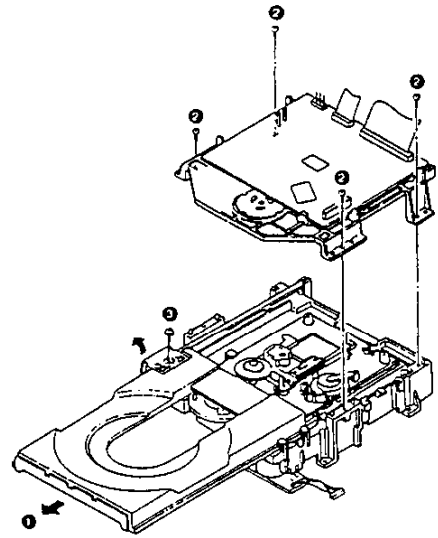
- 14) Remove the tuner PCB from connector. ⑭.



## DISASSEMBLY FOR REPAIR

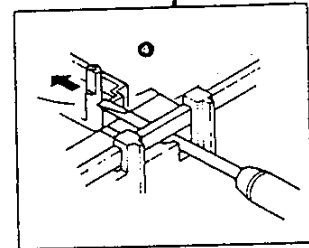
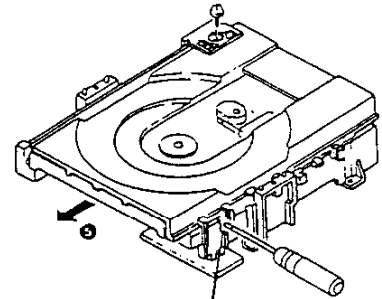
## 1) How to Remove Tray

1. Turn the power switch to OFF when the tray is open condition (1).
2. Remove the screws (2) and clamber ass'y.
3. Remove the screw (3) and guide. And then remove the tray.



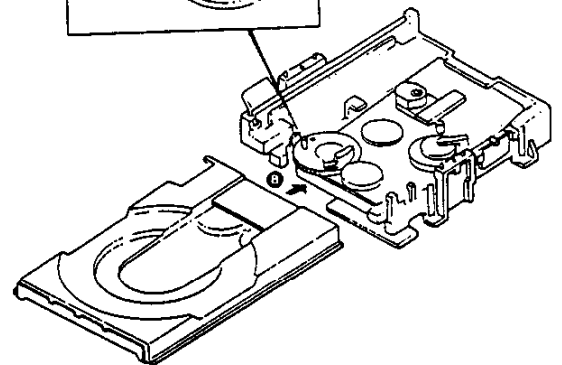
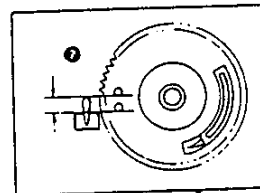
## 2) How to Remove the Tray When Power Switch is OFF or Tray Not Come Out

1. Insert the driver to the right-side hole of mechanism ass'y (4).
2. Tray can be pulled out (5).



## 3) How to Mount the Tray

1. Meet the mark on the gear with that of mechanism chassis (7).
2. Insert the tray to both-side guide on chassis (8).
3. Mount the guide on the chassis with screw (9).

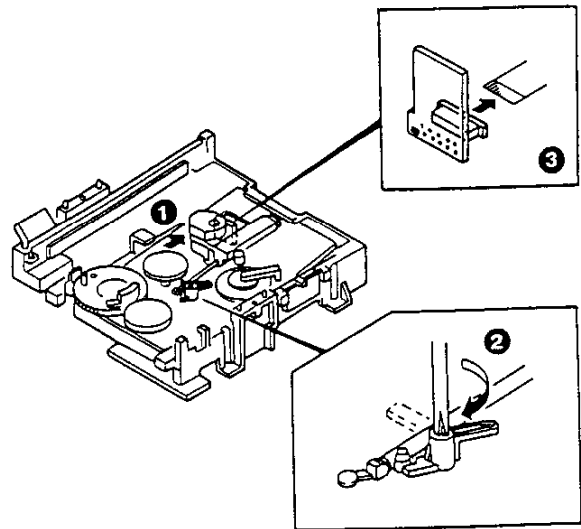


# DISASSEMBLY FOR REPAIR

## 4) How to Replace the Pickup

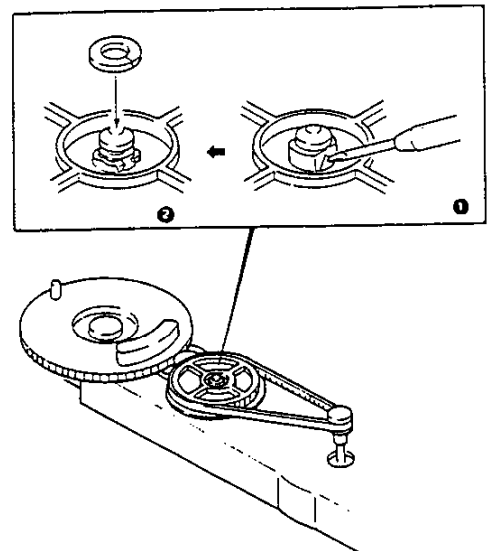
1. Remove the clamber ass'y and pull out the tray.
2. Move the pickup to center position of its all travel (❶), and turn the stopper to clockwise (❷).
3. Remove the flexible and pickup (❸).

Note :When mounting the pickup, in the reverse order of disassembly.



## 5) How to Replace the Loading Gear

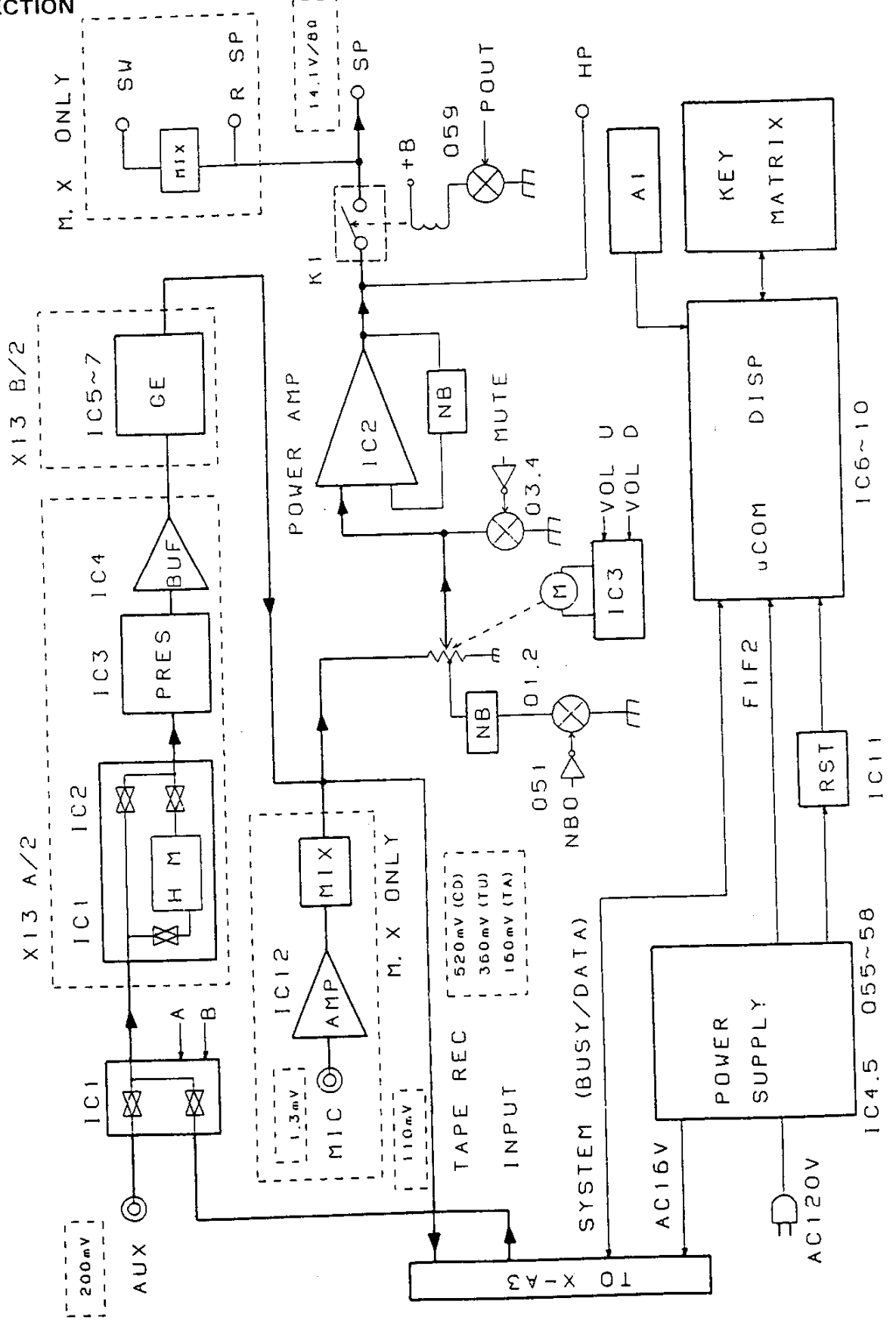
1. Spread the hole of gear shaft (❶).
2. When gear is broken, use the cut washer (❷) (parts no. N19-1179-05)



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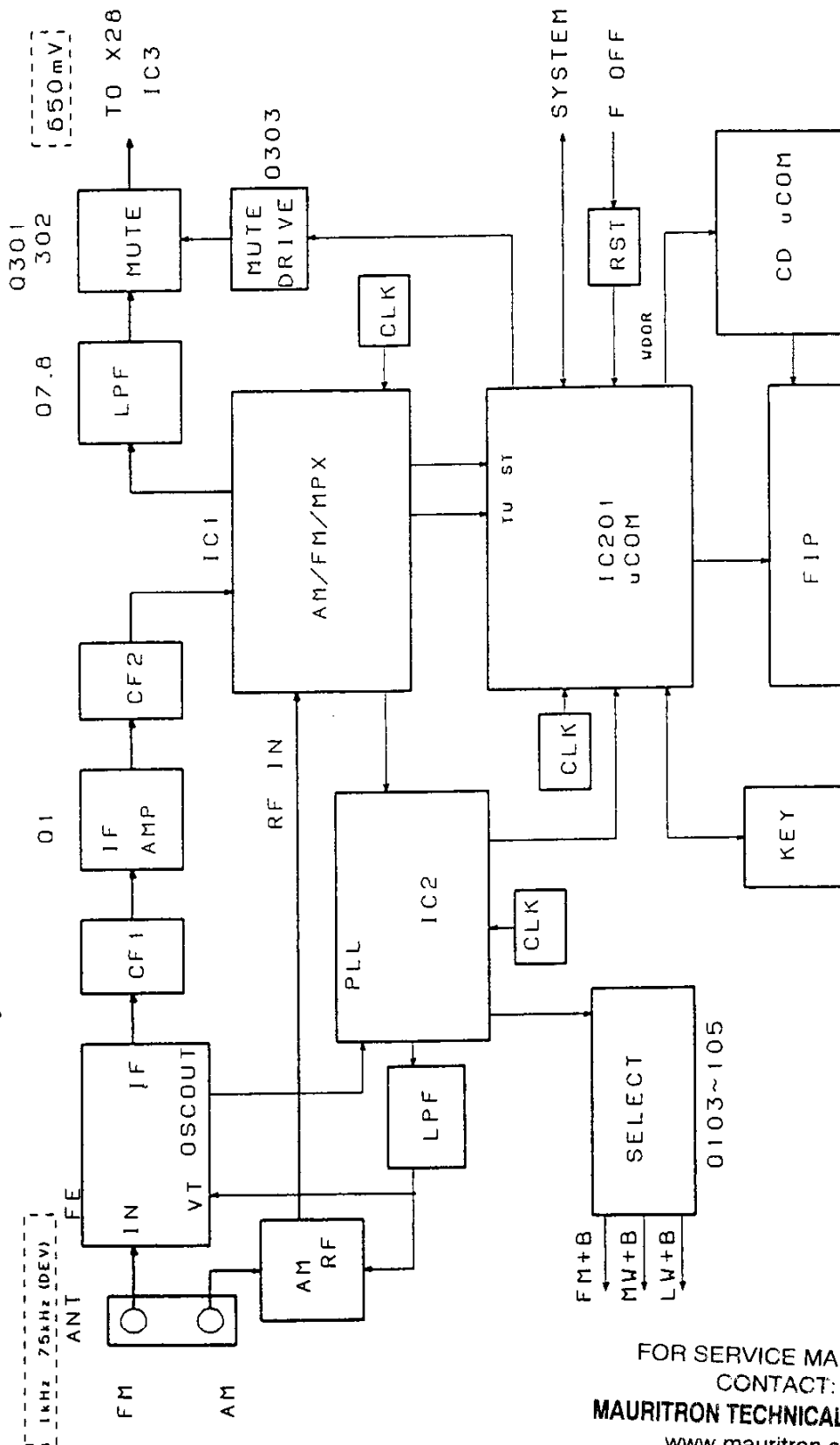
BLOCK DIAGRAM

AMP SECTION



# BLOCK DIAGRAM

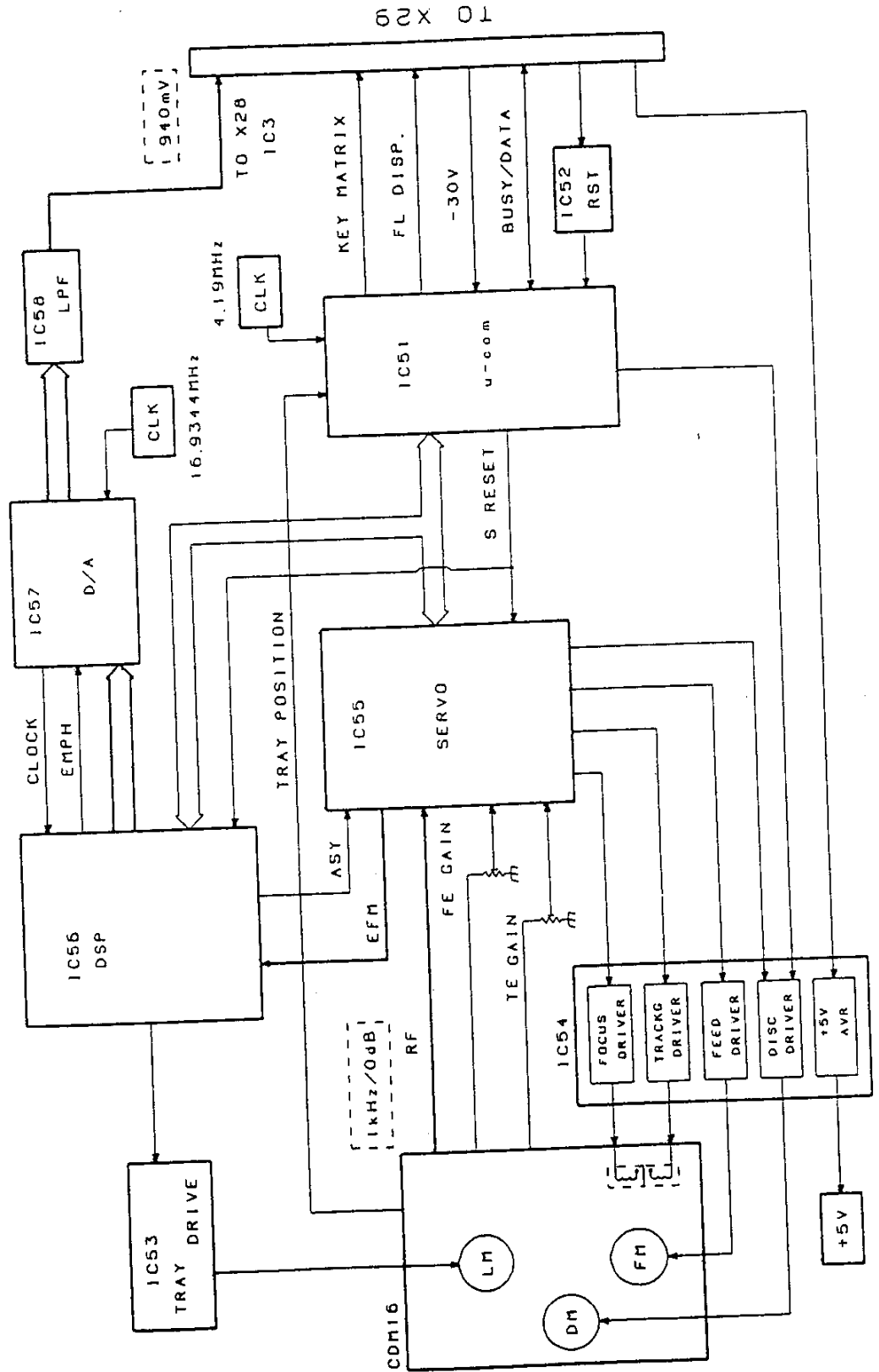
## TUNER SECTION



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# BLOCK DIAGRAM

## CD SECTION

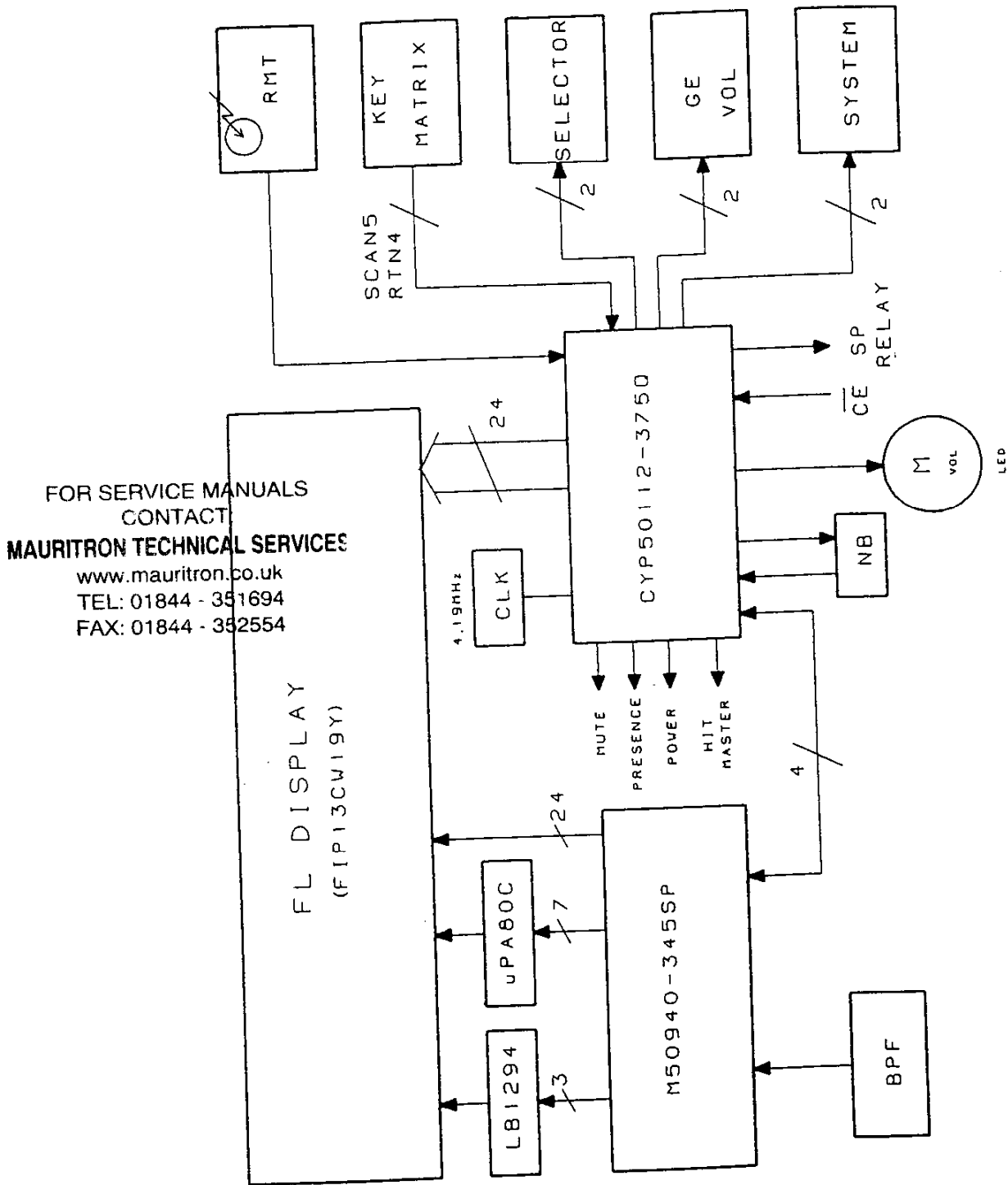






# CIRCUIT DIAGRAM

Terminal connection diagram (A-A3)



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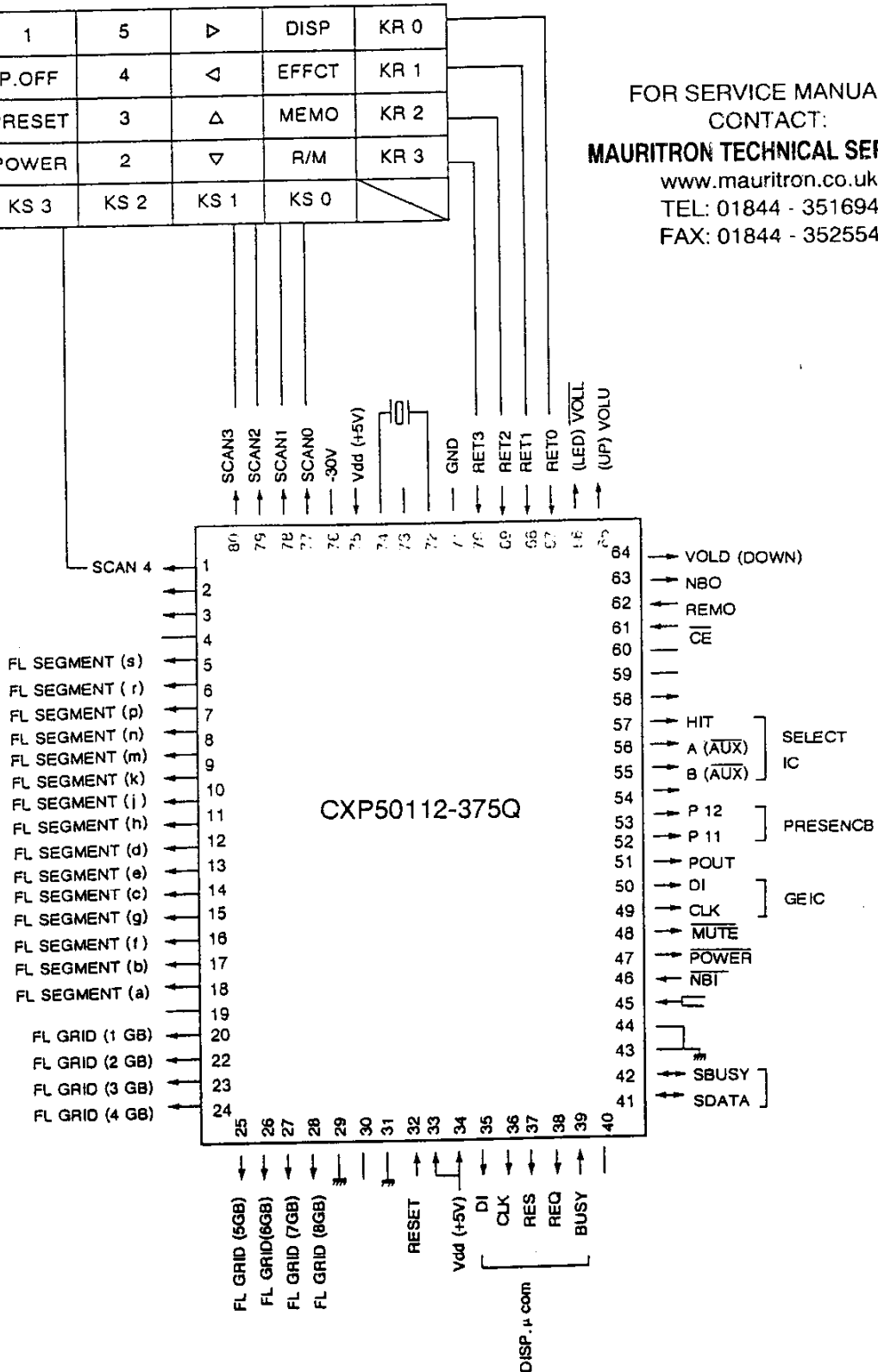
# CIRCUIT DIAGRAM

Microprocessor: (CXP50112-375Q or CXP50112-388Q)

Pin connection

CD	1	5	▷	DISP	KR 0
TUNER	P.OFF	4	◁	EFFECT	KR 1
TAPE	PRESET	3	△	MEMO	KR 2
AUX	POWER	2	▽	R/M	KR 3
KS 4	KS 3	KS 2	KS 1	KS 0	

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## CIRCUIT DESCRIPTION

### PIN DESCRIPTIONS (CXP50112-375Q or CXP50112-388Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	SCAN4
2	PG1	—	NC
3	PG2	—	NC
4	PG3	—	NC
5	PK0	O	FL SEGMENT (s)
6	PK1	O	FL SEGMENT (r)
7	PK2	O	FL SEGMENT (p)
8	PK3	O	FL SEGMENT (n)
9	PJ0	O	FL SEGMENT (m)
10	PJ1	O	FL SEGMENT (k)
11	PJ2	O	FL SEGMENT (j)
12	PJ3	O	FL SEGMENT (h)
13	T15	O	FL SEGMENT (d)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (c)
16	T12	O	FL SEGMENT (g)
17	T11	O	FL SEGMENT (f)
18	T10	O	FL SEGMENT (b)
19	T9	O	FL SEGMENT (a)
20	T8	—	NC
21	T7	O	FL GRID (1GB)
22	T6	O	FL GRID (2GB)
23	T5	O	FL GRID (3GB)
24	T4	O	FL GRID (4GB)
25	T3	O	FL GRID (5GB)
26	T2	O	FL GRID (6GB)
27	T1	O	FL GRID (7GB)
28	T0	O	FL GRID (8GB)
29	INT	—	GND
30	TX	—	NC
31	TEX	—	GND
32	RES	I	RESET
33	NC	—	NC
34	Vdd	—	Vdd (+5V)
35	PIO	O	DI (for DISP $\mu$ -com)
36	PI1	O	CLK (for DISP $\mu$ -com)
37	PI2	O	RES (for DISP $\mu$ -com)
38	PI3	O	REQ (for DISP $\mu$ -com)
39	PB0	I	BUSY (for DISP $\mu$ -com)
40	PB1	—	NC
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION		
43	$\overline{EC}$	—	GND		
44	PX0	—	GND		
45	PX1	—	NC		
46	PX2	I	$\overline{NBI}$ H: OFF L: ON		
47	PA0	O	POWER H: OFF L: ON		
48	PA1	O	MUTE		
49	PA2	O	CLK (for GE IC)		
50	PA3	O	DI (for GE IC)		
51	PF0	O	POUT (for SP RELAY) H: ON L: OFF		
52	PF1	O	PI1		
53	PF2	O	PI2		
			P.MODE	PI1	PI2
			ARENA	I	I
			STADIUM	I	I
			JAZZ	I	O
HIT	I	O			
OFF	O	O			
54	PF3	—	NC		
55	PE0	O	AUX		
56	PE1	O	$\overline{AUX}$		
57	PE2	O	HIT.M H: ON		
58	PE3	—	NC		
59	PY0	—	NC		
60	PY1	—	NC		
61	PY2	I	$\overline{CE}$ (BACK UP: L)		
62	PY3	I	REMO		
63	PD0	O	NBO		
64	PD1	O	VOLD		
65	PD2	O	VOLU		
66	PD3	O	VOLL		
67	PC0	I	RETO		
68	PC1	I	RET1		
69	PC2	I	RET2		
70	PC3	I	RET3		
71	Vss	—	Vss GND		
72	XTAL	—	XTAL		
73	NC	—	NC		
74	EXTAL	—	EXTAL		
75	Vdd	—	Vref (+5V)		
76	Vfdp	—	Vfdp (-30V)		
77	SCAN0	O	S0		
78	SCAN1	O	S1		
79	SCAN2	O	S2		
80	SCAN3	O	S3		

# CIRCUIT DESCRIPTION

## Initial condition

INPUT SELECTOR	TUNER
PRESENCE MODE	OFF
EFFECT	OFF
MANU/REFER	MANU
N.B	OFF
GE	FLAT (0dB)

## Test mode

### 1) Operation

Insert the AC plug into the wall outlet while holding down the selector "CD" key.

### 2) Cancel

Power OFF.

### 3) Content

#### a) Indicators lighting test.

All the indicators are turned ON at first, and they are returned to the normal indication when any key is pressed.

Set the contents of memories M1~M5 as follows.

M1,4 -12dB

M2,5 0dB

M3 +12dB

In all the range of frequency, the EQ level "UP" key is used to set three points of +12dB, 0dB and -12dB.

#### b) Motor volume test

Sets the contents of EQ level control keys, "▶", "◀",

"◀" and "▼" as follows.

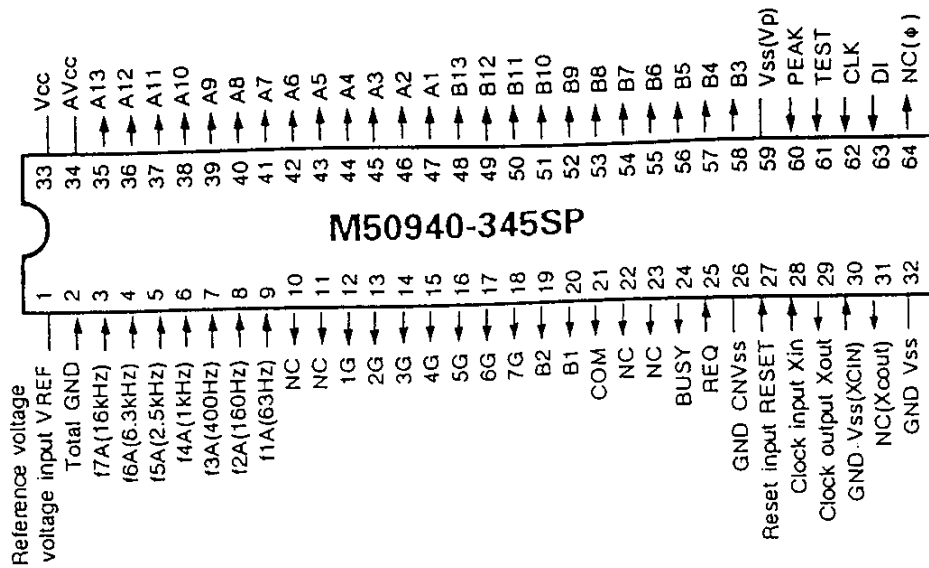
- ▶ .....Volume up.
- ◀ .....Volume down.
- ▼ .....Volume stop.

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# CIRCUIT DESCRIPTION

GE microprocessor : M50940-345SP

Pin connection

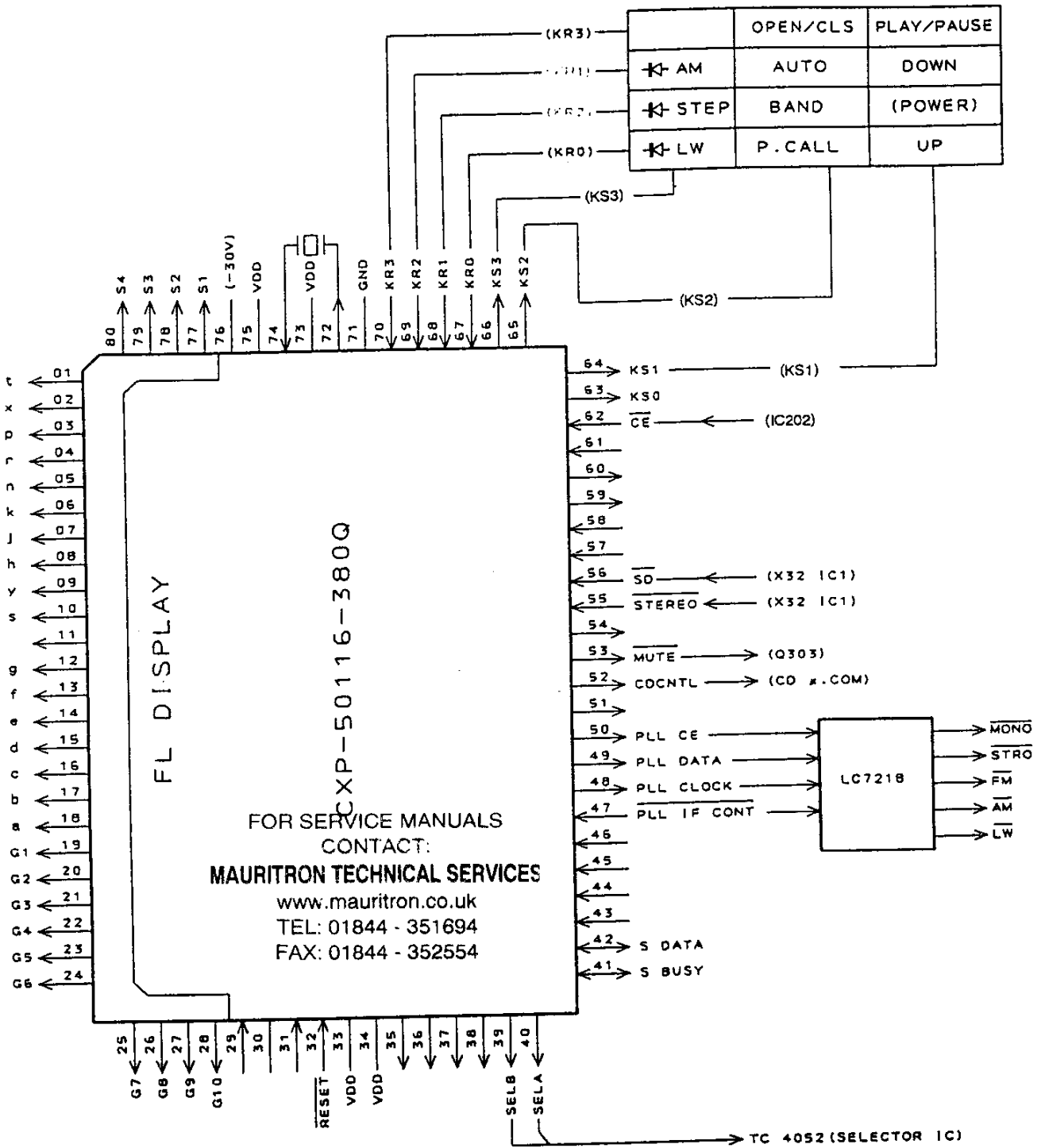


Pin function

Pin No.	Pin name	I/O	Name	Description
1	VREF	-	VREF	Reference voltage input for A/D converter.
2	IN7	I	Total	Not used (GND).
3-9	IN6-0	I	f7A-f1A	f7A-f1A (16k, 6.3k, 2.5k, 1k, 400, 160, 63Hz) level analog input.
10, 11	P47, 46		-	Not used (Open).
12-18	P45-40, 37		1GB-7GB	FL grid drive (1GB-7GB).
19-21	P34-36		B2, B1, COM	FL segment drive
22, 23	P32, 33	O	-	Not used (Open).
24	P31		BUSY	BUSY signal output pin for communicating to main microprocessor.
25	P30	I	REQ	REQ signal input pin for communicating to main microprocessor.
26	CNVss	-	-	Connect the GND.
27	RESET	I	RESET	Reset pin (H: Normal, L: Reset).
28	XIN	O	-	Oscillator connect pin (4MHz).
29	XOUT		-	Not used (GND).
30	XCIN		-	Not used (Open).
31	XCOUT		-	GND pin.
32	Vss		-	Not used (Open).
33	-	O	-	Not used (Open).
34	R3	I	DI	DATA signal input pin for communicating to main microprocessor.
35	R2		CLK	CLOCK signal input pin for communicating to main microprocessor.
36	R1		TEST	Test mode setting pin (H: Test, L: Normal). Not Used.
37	RO		PEAK	Peak hold detection (H: Without, L: With). Not Used.
38	VP	-	-	Connect the -30V.
39-49	P17-P05	O	B3-B13	FI segment drive (16B-26B), (H: ON, L: OFF).
50-62	P04-P00 P27-P20		A1-A13	FL segment drive (1B-13B), (H: ON, L: OFF).
63, 64	AVcc, Vcc	-	-	Power supply pin (+5V).

# CIRCUIT DIAGRAM

L DISPLAY (CXP50116-380Q)



## CIRCUIT DESCRIPTION

Pin descriptions (CXP50116-380Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	FL SEGMENT (t)
2	PG1	O	FL SEGMENT (x)
3	PG2	O	FL SEGMENT (p)
4	PG3	O	FL SEGMENT (r)
5	PK0	O	FL SEGMENT (n)
6	PK1	O	FL SEGMENT (k)
7	PK2	O	FL SEGMENT (j)
8	PK3	O	FL SEGMENT (h)
9	PJ0	O	FL SEGMENT (y)
10	PJ1	O	FL SEGMENT (s)
11	PJ2	O	FL SEGMENT (m)
12	PJ3	O	FL SEGMENT (g)
13	T15	O	FL SEGMENT (f)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (d)
16	T12	O	FL SEGMENT (c)
17	T11	O	FL SEGMENT (b)
18	T10	O	FL SEGMENT (a)
19	T9	O	FL GRID (1G)
20	T8	O	FL GRID (2G)
21	T7	O	FL GRID (3G)
22	T6	O	FL GRID (4G)
23	T5	O	FL GRID (5G)
24	T4	O	FL GRID (6G)
25	T3	O	FL GRID (7G)
26	T2	O	FL GRID (8G)
27	T1	O	FL GRID (9G)
28	T0	O	FL GRID (10G)
29	INT	I	GND
30	TX	O	NC
31	TEX	I	GND
32	RES	I	RESET
33	NC	-	Vdd
34	Vdd	-	Vdd (+5V)
35	PIO	I	GND
36	PI1	I	GND
37	PI2	I	GND
38	PI3	I	GND
39	PB0	O	SEL B
40	PB1	O	SEL A

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY
43	EC	I	GND
44	PX0	I	GND
45	PX1	I	GND
46	PX2	I	GND
47	PA0	I	PLL IF
48	PA1	O	PLL CK
49	PA2	O	PLL DT
50	PA3	O	PLL CE
51	PF0	O	GND
52	PF1	O	CDCNTL L: TUNER H: CD
53	PF2	O	MUTE L: ON H: OFF
54	PF3	O	POWER L: OFF H: ON
55	PE0	I	STEREO L: MONO H: ST
56	PE1	I	SD L: TUNED
57	PE2	I	GND
58	PE3	I	GND
59	PY0	O	-
60	PY1	O	-
61	PY2	I	CE (BACK UP: L)
62	PY3	I	GND
63	PDO	O	GND
64	PD1	O	KS1
65	PD2	O	KS2
66	PD3	O	KS3
67	PC0	I	KR0
68	PC1	I	KR1
69	PC2	I	KR2
70	PC3	I	KR3
71	Vss	-	Vss GND
72	XTAL	O	XTAL
73	NC	-	NC
74	EXTAL	I	EXTAL
75	Vdd	-	Vref (+5V)
76	Vfdp	-	Vfdp (-30V)
77	SCAN0	O	FL SEGMENT (S1)
78	SCAN1	O	FL SEGMENT (S2)
79	SCAN2	O	FL SEGMENT (S3)
80	SCAN3	O	FL SEGMENT (S4)



# CIRCUIT DESCRIPTION

## Test mode (without A-A3)

### Setting of tuner test mode

#### (1) Method

While pressing "DOWN" key, turn the AC ON.

#### (2) Contents

Power ON

FL all lit

Selector TUNER

Test frequency setting (table 1)

TYPE	OTHER T, E TYPE		T, E TYPE	
	NARROW	WIDE	LW/MW	MW
1	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz
2	FM108.0MHz	FM108.0MHz	FM108.0MHz	FM108.0MHz
3	AM 630KHz	AM 630KHz	AM 630KHz	AM 630KHz
4	AM 990KHz	AM 990KHz	AM 990KHz	AM 990KHz
5	AM 1440KHz	AM 1440KHz	AM 1440KHz	AM 1440KHz
6	AM 1610KHz	AM 1610KHz	AM 1602KHz	AM 1602KHz
7	FM 87.5MHz	AM 1700KHz	LW 162KHz	FM 87.5MHz
8	FM 87.5MHz	FM 87.5MHz	LW 216KHz	FM 87.5MHz
9	FM 87.5MHz	FM 87.5MHz	LW 270KHz	FM 87.5MHz
10	FM 89.1MHz	FM 89.1KHz	FM 89.1MHz	FM 89.1MHz
11	FM 87.5MHz	FM 87.5MHz	LW 279KHz	FM 87.5MHz
12	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz
13	FM106.0MHz	FM106.0MHz	FM 106.0KHz	FM 106.0KHz
14	AM 530KHz	AM 530KHz	AM 531KHz	AM 531KHz
15	FM 87.5MHz	FM 87.5MHz	LW 153KHz	FM 87.5MHz
16	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
17	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
18	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
19	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
20	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz

### Setting of deck test mode.

#### (1) Method

While pressing "UP" key, turn the AC ON.

#### (2) Contents

Power ON

Selector DECK

### Setting of CD test mode.

#### (1) Method

While pressing "PLAY/PAUSE" key, turn the AC ON.

Then just short-circuiting the TP7 and TP8.

#### (2) Contents

Power ON.

Selector CD

### Setting of initial conditions (reset)

#### (1) Method

While pressing "P.CALL" key, turn the AC ON.

#### (2) Contents

Clears all the memory and returns to the initial conditions.

However, the test frequency in newly memorized in the preset memory at this time.

### Conditions by destination

TYPE	Diode SW				BAND	f range	Channel space	IF	RF
	3	2	1	0					
M	0	1	0	0	FM	87.5 - 108.0MHz	100kHz	10.7MHz	50kHz
					AM	530 - 1610kHz	10kHz	450kHz	10kHz
K.P	0	1	1	0	FM	87.5 - 108.0MHz	100kHz	10.7MHz	50kHz
					AM	530 - 1700kHz	10kHz	450kHz	10kHz
M.X	0	0	0	0	FM	87.5 - 108.0MHz	50kHz	10.7MHz	50kHz
					AM	531 - 1602kHz	9kHz	450kHz	9kHz
T.E	0	0	0	1	FM	87.5 - 108.0MHz	50kHz	10.7MHz	50kHz
					MW	531 - 1602kHz	9kHz	450kHz	9kHz
					LW	153 - 279kHz	9kHz	450kHz	9kHz

1. With diode

D0 → D212

0. Without diode

D1 → D213

D2 → D214/D216

D3 -

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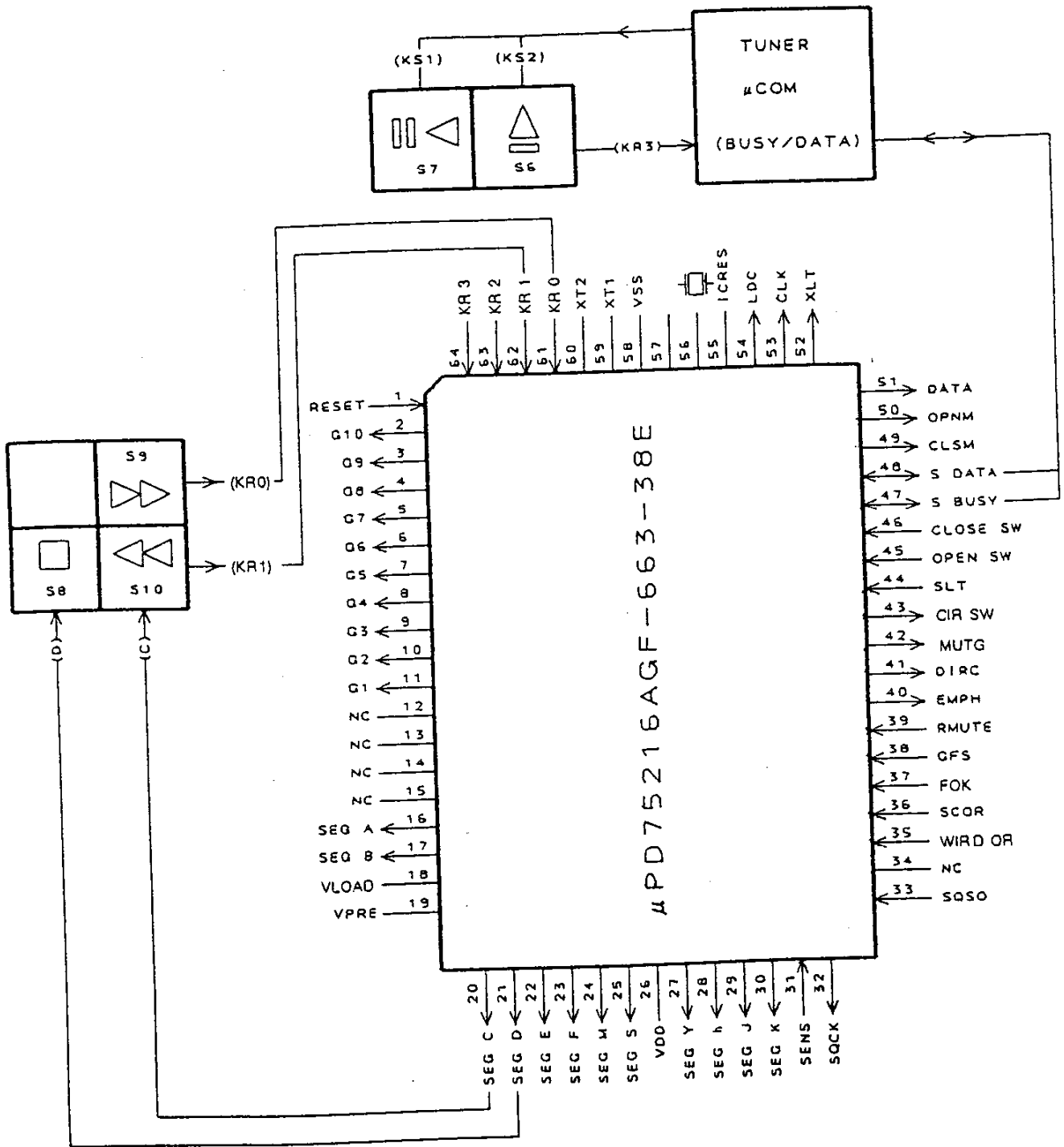
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# CIRCUIT DIAGRAM

CD: Microprocessor ( $\mu$ PD75216AGF-663-38E)

Pin connection



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# CIRCUIT DESCRIPTION

## Pin description

NO	PIN NAME	I/O	NAME	FUNCTION
1	RESET	I	RESET	Reset input (ACTIVE:L)
2~11	T0~T9	O	G10~G1	FL digit control terminals
3~15	T10~T13	—	NC	
16	T14	O	SEG A	
17	T15	O	SEG B	
18	VLOAD	I	V <sub>LOAD</sub>	FL driver negative power supply -30V
19	VPRE	I	V <sub>PRE</sub>	FL predriver power supply -5V
20~25	S9~S4	O	SEG C,D,E,F,M,S	C and D also used for key scan SIGNAL
26	VDD	I		+5V
27~30	S3~S0	O	SEG Y,R,J,K	—
31	INT4	I	SENS	Signal detection terminal for sense signal from processor and servo IC
32	SCK	O	SQCK	Q data read clock input terminal
33	SO	I	SQSO	Q data input terminal
34	SI	I		NC
35	INT0	I	WIRD OR	Display select
36	INT1	I	SCOR	Sub-code frame sync detection signal input
37	INT2	I	FOK	FOK signal from RF amp focus OK:H
38	T10	I	GFS	Frame sync signal input H:Frame sync
39	P20	O	R MUTE	Analog mute control ACTIVE:L
40	P21	O	EMPH	Not use
41	P22	O	DIRC	Dirc terminal of servo IC
42	P23	O	MUTG	Not use
43	P30	O	CIRSW	+5V ON/OFF control for CD
44	P31	I	SLTSW	SLED LIMIT switch INNER:L
45	P32	I	OPEN SW	TRAY OPEN switch OPEN:L
46	P33	I	CLOSE SW	TRAY CLOSE switch CLOSE:L
47	P60	I/O	SBUSY	—
48	P61	I/O	SDATA	—
49	P62	O	CLSM	TRAY motor close ACTIVE: H
50	P63	O	OPNM	TRAY motor open ACTIVE: H
51	P40	O	DATA	Signal processor and servo IC control DATA
52	P41	O	XLT	Signal processor and servo IC control LATCH
53	P42	O	CLK	Signal processor and servo IC control CLOCK
54	P43	O	LDC	Laser ON/OFF signal output ACTIVE:H
55	PR0	O	ICRES	
56	X1	I	—	Systemclock terminal
57	X2	O	—	Systemclock terminal
58	Vss	—	—	GND
59	XT1	—	—	GND
60	XT2	—	—	NC
61~64	P50~P53	I	KR0~KR3	—

# CIRCUIT DESCRIPTION

## Test Mode

### Setting the Test Mode

This microprocessor built in this unit can be put to TEST MODE by just short-circuiting the test pins (# 7 and # 8).

The TEST MODE can be also initiated with short-circuiting the test pins when tray is OPEN. If unit is in test mode, TRACK No. displays "05".

### 1-2. 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 servo ..... ON	TRACK NO. 05 ↓ Displayed for a few seconds after completion (1), (2) and (3). ↓ Disc Track No. is displayed.
2	UP ⏮	(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	DOWN ⏭	Track No. 7, 8, and 6 (High-speed) are programmed and playback from Track No. 7. The test mode is cancelled.	-
5	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 cancelled.	TRACK NO. 07

### INITIAL SET-UP

SYSTEM ..... OFF  
LDC ..... LOW  
CIRSW ..... LOW  
ICRESET ..... LOW  
DSP IC ..... DEAD

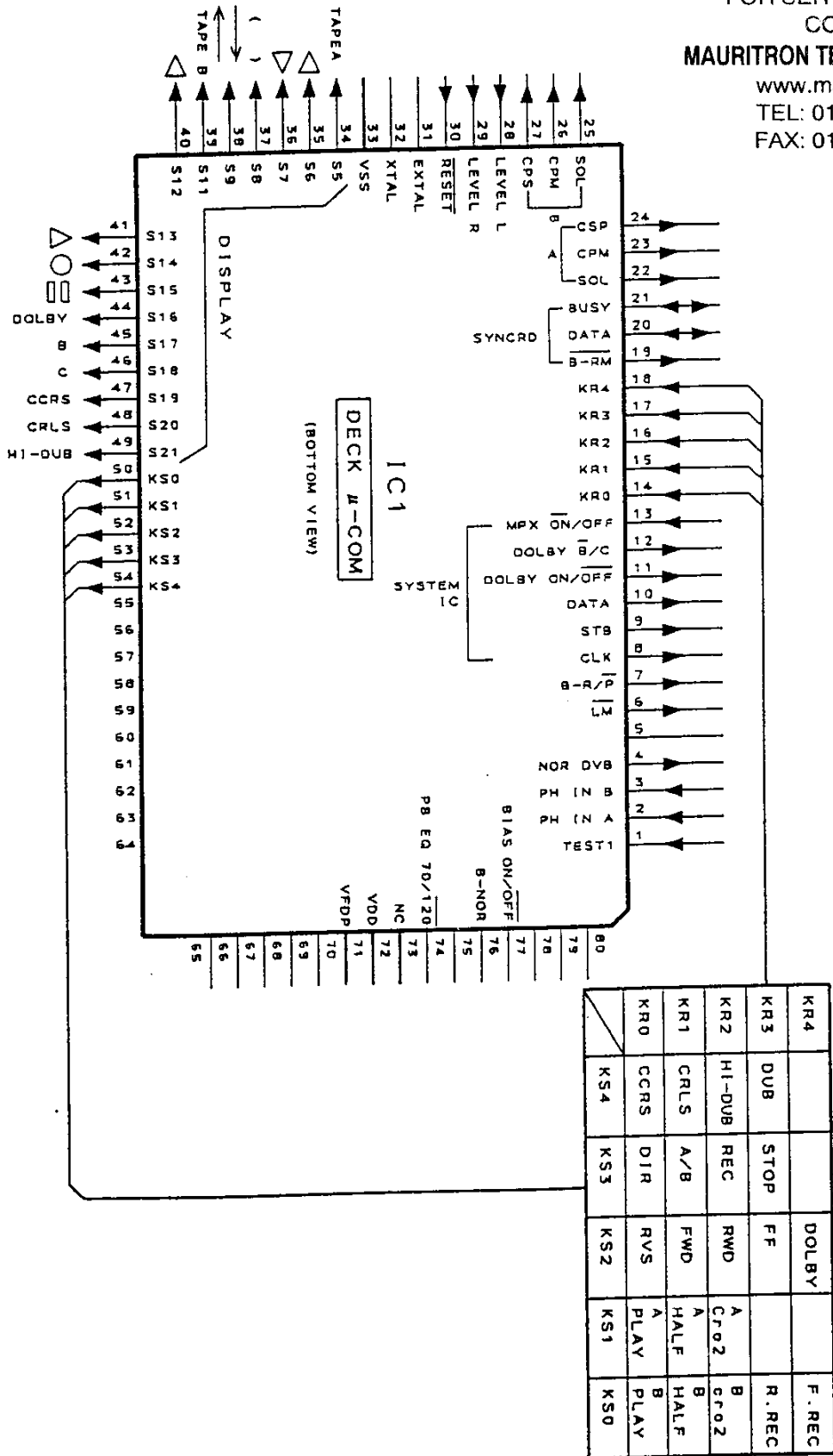
WIRD OR ..... LOW (TUNER)  
DIRC ..... HIGH  
TIME ..... SINGLE INCS  
MODE ..... TRACK  
REPEAT ..... OFF

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# CIRCUIT DIAGRAM

DECK-Microprocessor

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## CIRCUIT DESCRIPTION

PIN No	NAME	I/O	SYMBOL/FUNCTION
1	PE3	I	TEST 1
2	PE4	I	PHA
3	PE5	I	PHB
4	PE6	O	NOR DUBB [DISPLAY]
5	PE7	O	NC
6	PB0	O	LM
7	PB1	O	$\bar{R}/B$
8	PB2	O	CLK
9	PB3	O	DATA
10	PB4	O	STB
11	PB5	O	DOL NO/OFF
12	PB6	O	DOL $\bar{B}/C$
13	PB7	O	MPX ON/OFF
14	PC0	I	KR0
15	PC1	I	KR1
16	PC2	I	KR2
17	PC3	I	KR3
18	PC4	I	KR4
19	PC5	O	$\bar{R}M$
20	PC6	I/O	DATA
21	PC7	I/O	BUSY
22	PA0	O	SOL
23	PA1	O	CAP
24	PA2	O	SP
25	PA3	O	SOL
26	PA4	O	CAP
27	PA5	O	SP
28	PA6	I	L LEVEL INPUT
29	PA7	I	R LEVEL INPUT
30	RST	I	$\bar{R}ESET$
31	EXTAL	—	—
32	XTAL	—	—
33	V <sub>ss</sub>	—	GND

SYSTEM IC CONTROL

A MECHA.

B MECHA.

PIN No	NAME	I/O	SYMBOL/FUNCTION
34	PD0	O	TAPE A
35	PD1	O	◀
36	PD2	O	▶
37	PD3	O	( )
38	PD4	O	≡
39	PD5	O	TAPE B
40	PD6	O	◀
41	PD7	O	▶
42	PF0	O	REC ○
43	PF1	O	
44	PF2	O	DOLBY
45	PF3	O	B
46	PF4	O	C
47	PF5	O	CCRS
48	PF6	O	CRLS
49	PF7	O	HIGH-DUBB
50	S16	O	KS0
51	S17	O	KS1
52	S18	O	KS2
53	S19	O	KS3
54	S20	O	KS4
55			NC
60			NC
70			NC
71	VFDP	I	- 30V
72	V <sub>DD</sub>	I	+ 5V
73			NC
74	PG0	O	PSEQ 70/120
75	PG1		NC
76	PG2	O	BIAS NOR/CrO <sub>2</sub>
77	PG3	O	BIAS ON/OFF
78	PE0	I	PULL UP
79	PE1	I	PULL UP
80	PE2	I	$\bar{T}EST 2$

DISPLAY CONTROL

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# CIRCUIT DESCRIPTION

## Test mode

### 1) Method

TEST 1 : While pressing "STOP" key, turn the AC ON.

TEST 2 : While pressing "one way mode" key, turn the AC ON.

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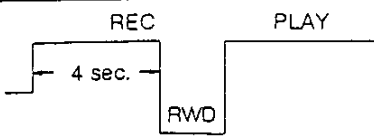
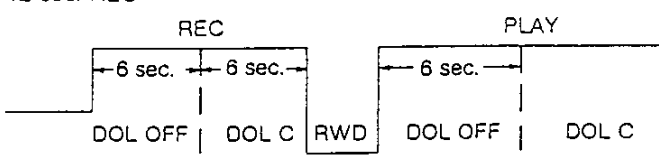
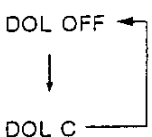
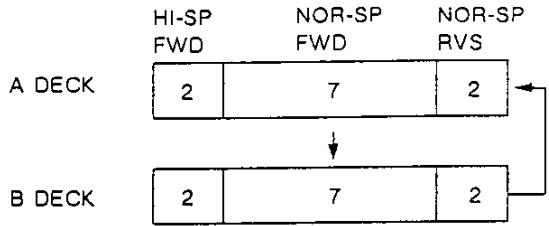
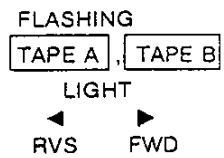
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### 2) Cancellation

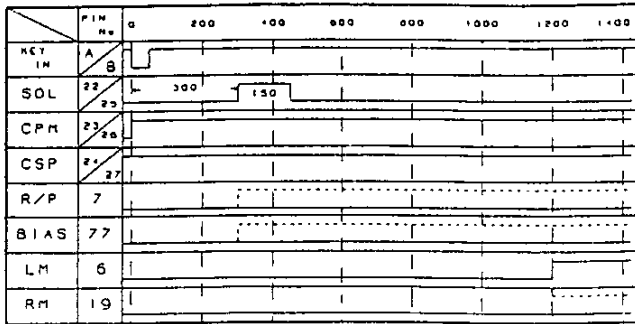
Power OFF

### 3) Operation

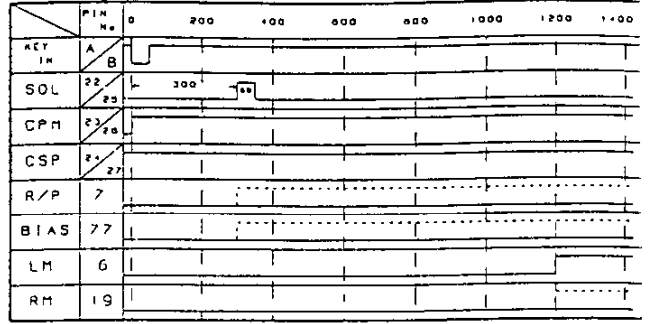
	NO	KEY	OPERATION	DISPLAY
TEST1	1	REC	4 sec. REC 	
	2	CCRS	12 sec. REC 	
	3	CRLS	A,B MECHA CHECK.(PLAY MODE) 	
	4		REEL PULS CHECK. REC INHIBIT SW CHECK.(B DECK)	
TEST2	5	CCRS	INPUT LEVEL ATTENUATION. PRESSING THE "CCRS" KEY DURING IN REC MODE.	

## CIRCUIT DESCRIPTION

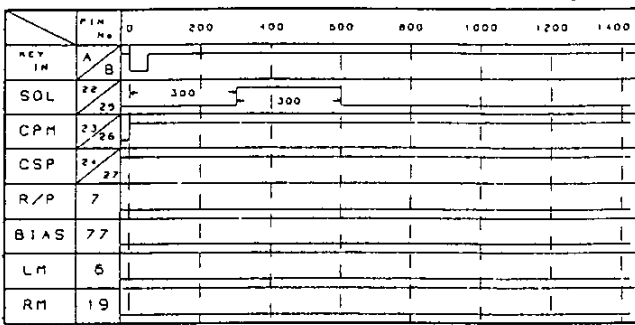
STOP TO FWD PLAY/REC(-----) UNIT #5



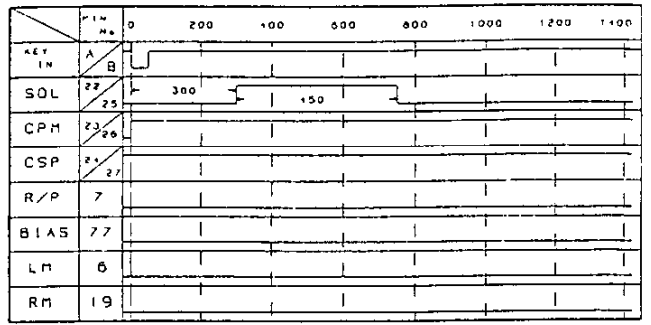
STOP TO RVS PLAY/REC(-----) UNIT #5



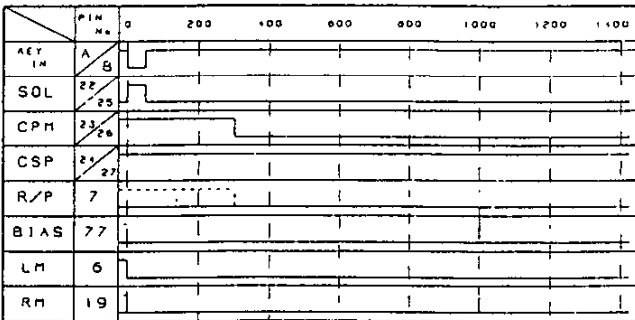
STOP TO FF UNIT #5



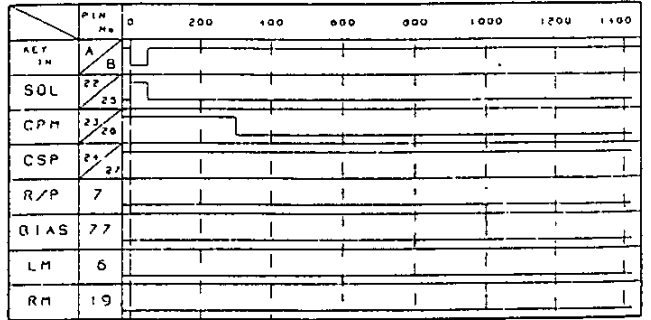
STOP TO RWD, UNIT #5



PLAY/REC(-----) TO STOP UNIT #5



FF/RWD/CUE/RVW TO STOP UNIT #5

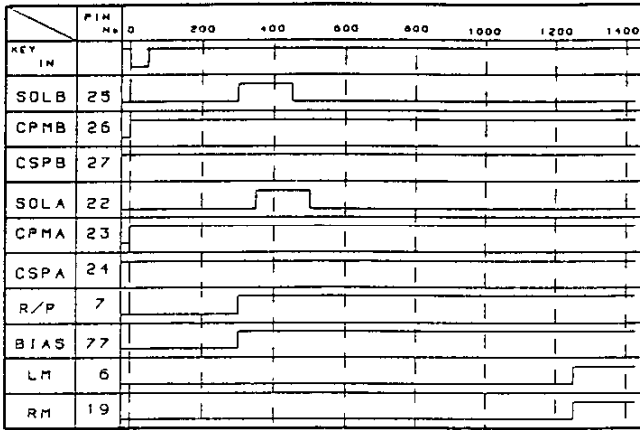


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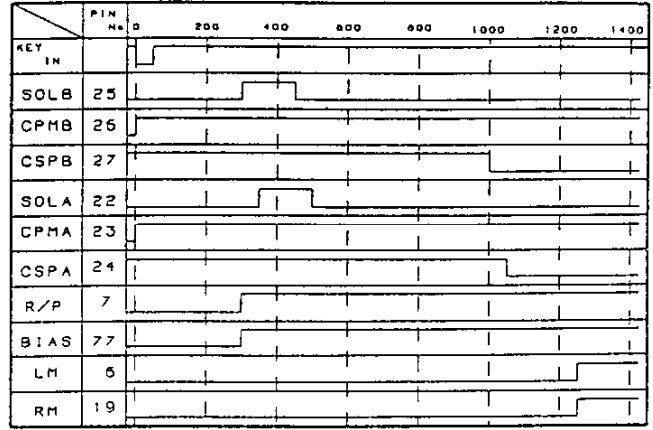
# CIRCUIT DESCRIPTION

STOP TO NOR DUBBING



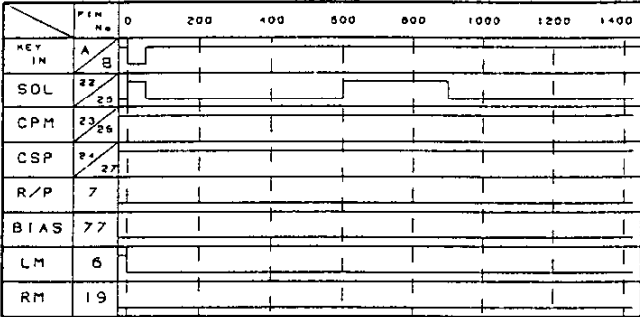
STOP TO HI DUBBING

UNIT -6



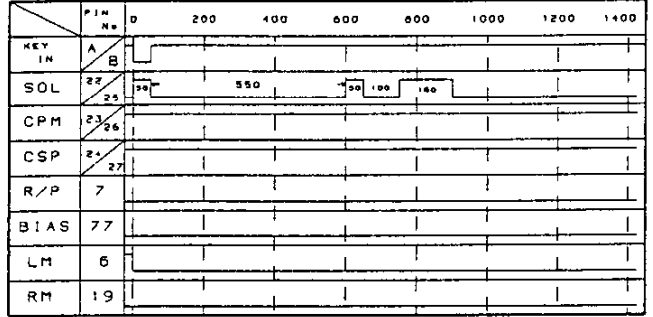
FWD PLAY TO CUE

UNIT -5



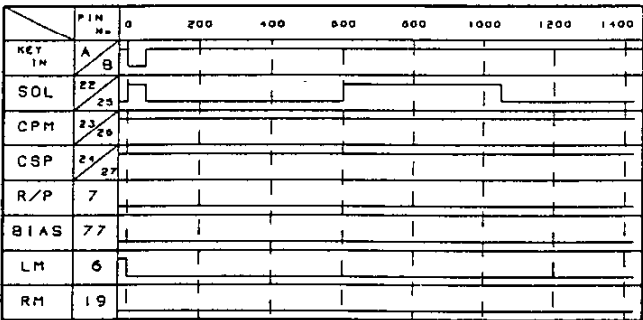
RVS PLAY TO CUE

UNIT -5



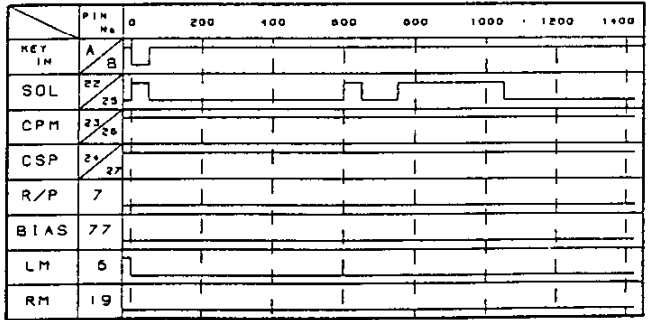
FWD PLAY TO REVEW

UNIT -5



RVS PLAY TO REVEW

UNIT -5

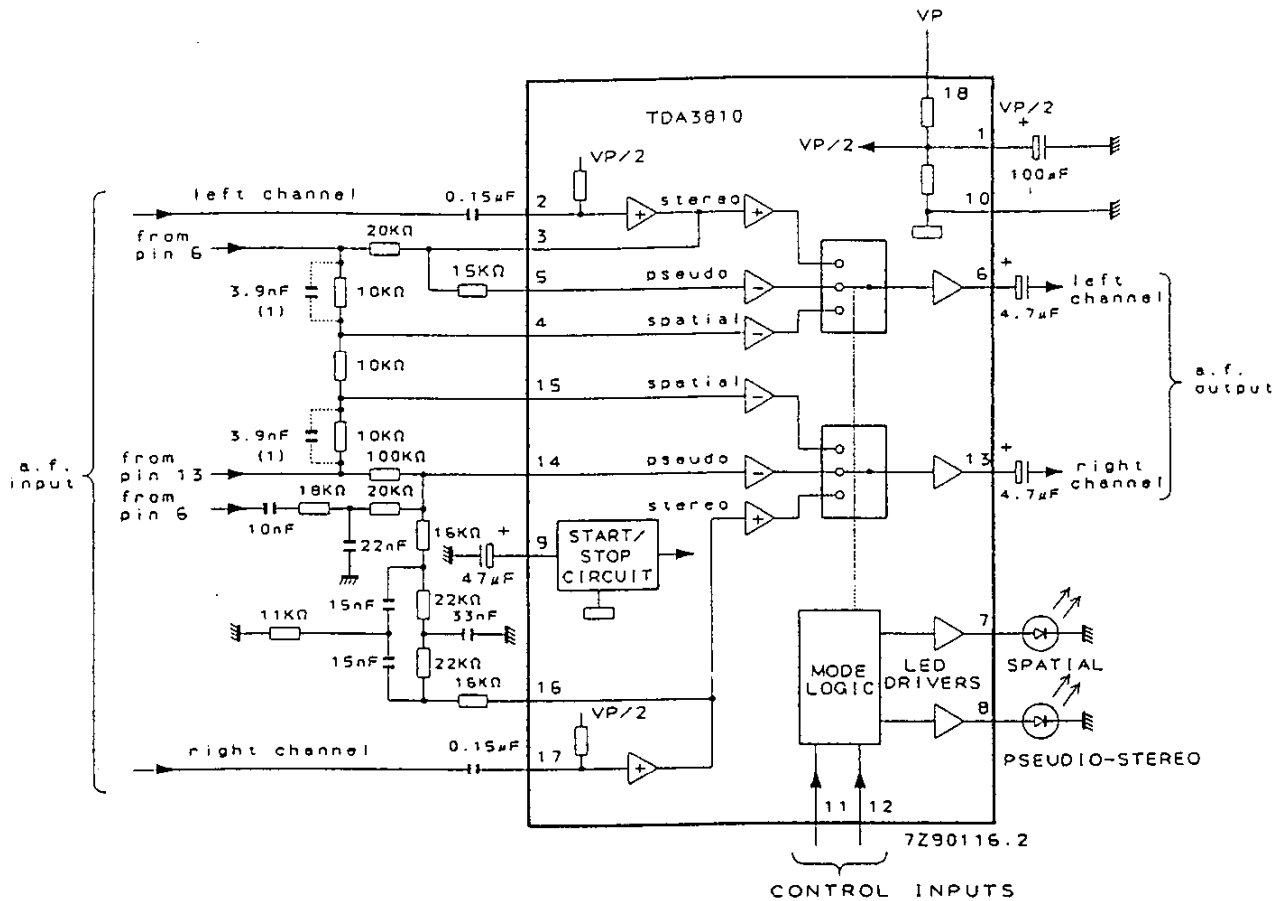


## CIRCUIT DESCRIPTION

The TDA3810 integrated circuit provides spatial, stereo and pseudo-stereo sound for radio and television equipment.

### Features

- Three switched functions: Spatial (widened stereo image)
  - Stereo
  - Pseudo-stereo (artificial stereo from a mono source)
- Offset compensated operational amplifiers to reduce switch noise
- LED driver outputs to facilitate indicator of selected operating mode
- Start/stop circuit to reduce switch noise and to prevent LED-flicker
- TTL-compatible control inputs



Truth table

Mode	Control input state		LED Spatial pin 7	LED Pseudo pin 8
	pin 11	pin 12		
Mono pseudo-stereo	HIGH	LOW	off	on
Spatial stereo	HIGH	HIGH	on	off
Stereo	LOW	X	off	off

MODE	PIN 11	PIN 12
ARENA	1	1
STADILIM	1	1
JAZZ	1	0
HIT-MASTER	1	0
OFF	0	0

LOW = 0 to 0,8 V (the less positive voltage)

HIGH = 2V to 5,5 V (the more positive voltage)

X = don't care

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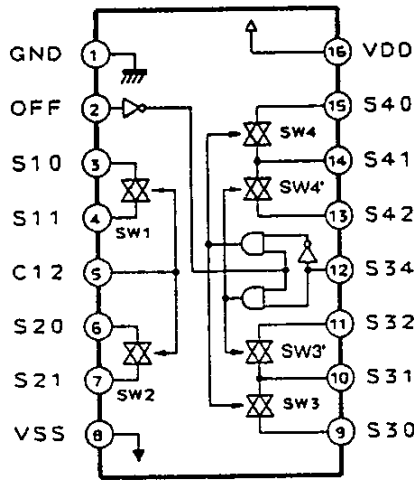
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# CIRCUIT DESCRIPTION

## TC9215P (SELECTOR)



Pin No.	Pin name	Function
1	GND	GND
2	OFF	Switch (3) (4) off input
3	S10	Switch (1) IO
4	S11	
5	C12	Switch (1) (2) control
6	S20	Switch (2) IO
7	S21	
8	VSS	Power supply (-)
9	S30	Switch (3) IO
10	S31	
11	S32	
12	C34	Switch (3) (4) control

13	B42	Switch (4) IO
14	B41	
15	B40	Power supply (+)
16	VDD	

Truth value table

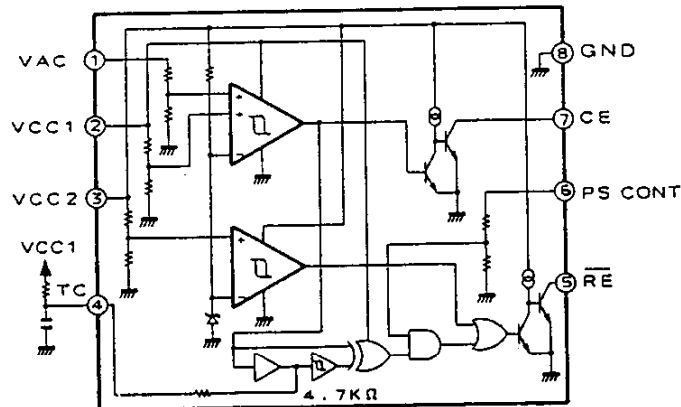
C12	SW1, SW2
H	ON
L	OFF

OFF	C34	B30-B31 B40-B41	B31-B32 B41-B42
L	L	ON	OFF
	H	OFF	ON
H	*	OFF	OFF

(\* H or L)

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## PST620D (RESET IC)



PIN NO.	PIN NAME	FUNCTION
1	V AC	Holds +2.0V detection voltage , conducts rapid power failure detection by monitoring the primary side of the AC power supply (which is the original source of all power ) and the stabilizing power supply.
2	V CC1	+5V main power supply
3	V CC2	Backup power supply (connected to backup condensor)
4	T C	Pulse sharper pulse width setting pin (connect to condensor and resistor)
5	R E	Reset output
6	P S CONT	Pulse sharper output ON-OFF switch Hi: OFF Lo: ON
7	C E	Chip enable signal output
8	GND	GND (earth)

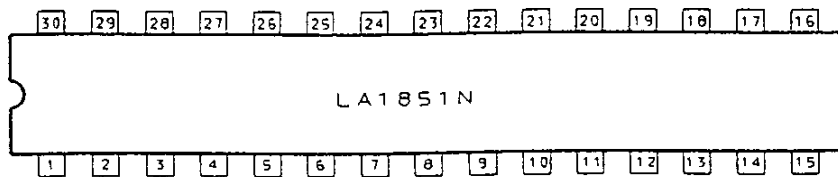
## CIRCUIT DESCRIPTION

### FM, AM, MPX system IC: LA1851N

- Function
- FM: IF amplifier, Quadrant latch detector, IF count buffer, S meter output, Tu indicator (variable sensitivity)
  - AM: RF amplifier, mixer, oscillator, oscillator buffer, IF amplifier, detector, AGC, IF count buffer, Tu indicator (variable sensitivity)
  - MPX: PLL decoder, ST indicator, VCO stop mute, separation control, VCO nonadjust, forced monaural (VCO stop)

#### Salient features

- FM, AM tuner and MPX in a single chip
- MPX made nonadjusting
- Electronic synchronization compatible IF count buffer output (FM/AM)
- ST separation control
- Forced monaural, VCO stop



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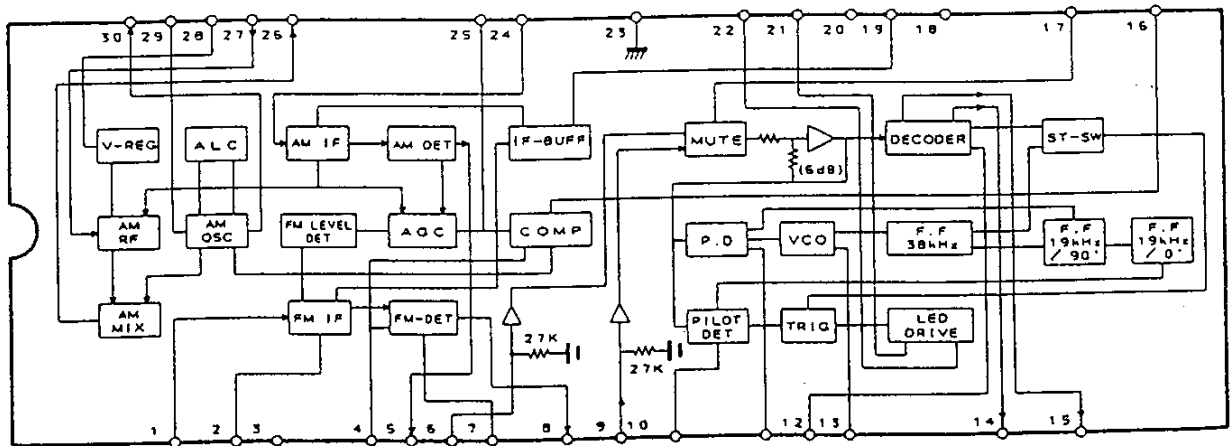
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## CIRCUIT DESCRIPTION

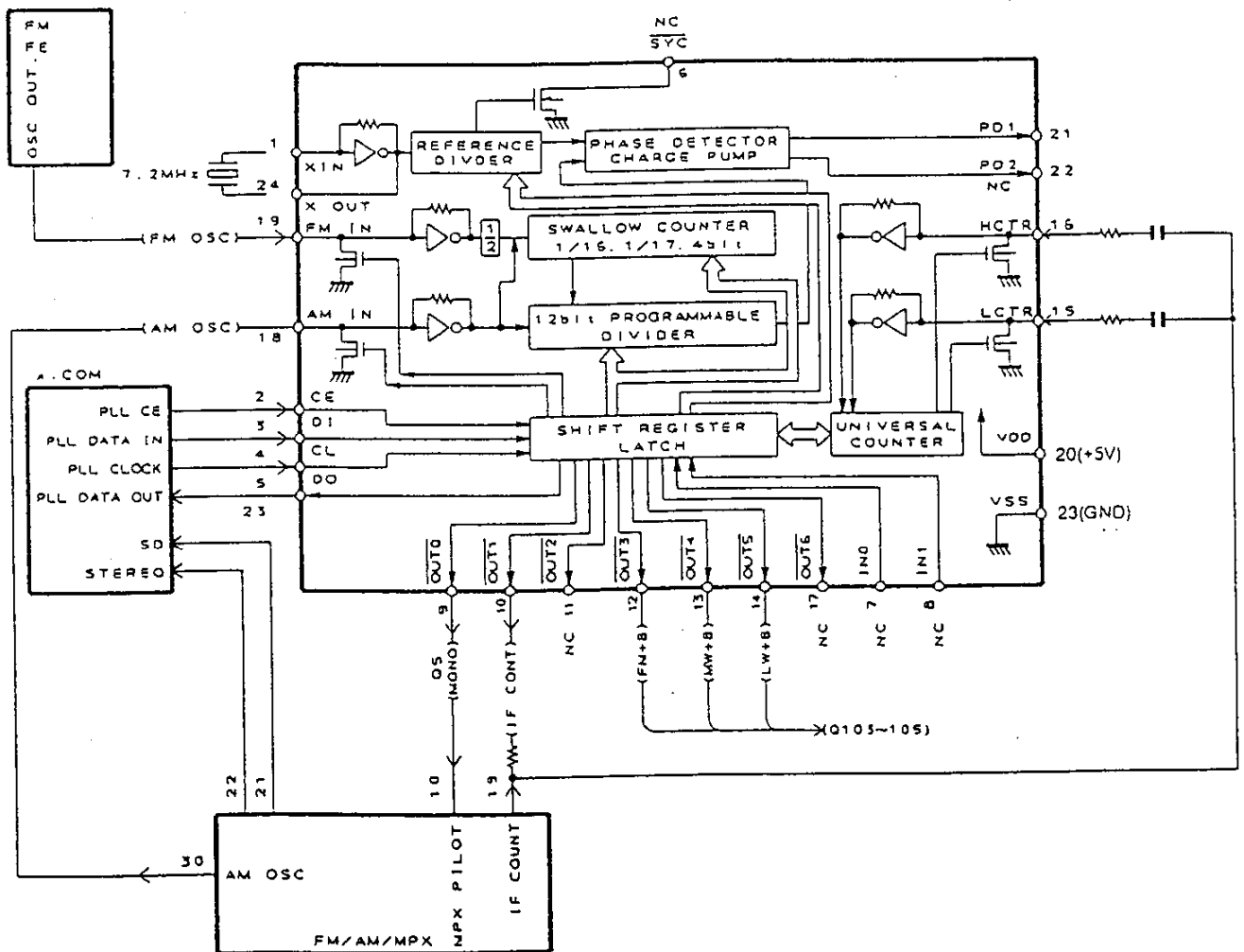
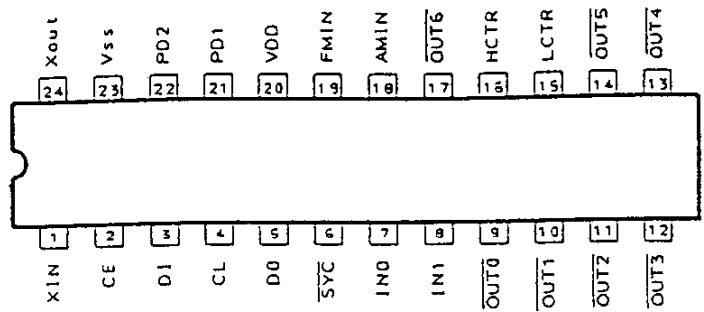
## Pin description

Pin No.	Function	Remark
1	FM IF input	Input impedance:330Ω
2	FM IF bias	—
3	Vcc	—
4	FM AFC output	When FM AFC is detuned,the ST LED goes off and the forced monaural mode is set
5	AM demodulation output	
6	MPX AM DET input	MPX section,AM demodulation input. Input impedance:27kΩ
7	FM discrimination output	
8	FM demodulation output	Output impedance:5kΩ
9	MPX FM DET input	MPX selection. FM demodulation input. Input impedance
10	MPX Pilot synchronism detection filter	MPX VCO stops by shorting the voltage at pin 10 to the VCC line at pin 3. A 3.3 kΩ current limiting resistor is required.
11	MPX PLL loop filter	—
12	MPX separation control	—
13	MPX VCO	Ceramic oscillator
14	MPX L-ch output	—
15	MPX R-ch output	—
16	AM SD ADJ	—
17	MPX AF muting drive	V <sub>HI</sub> (≥ 1.5V) : Mute ON V <sub>LO</sub> (< 1.5V) : Mute OFF
18	AM/FM change	V <sub>HI</sub> (≥ 1.5V) : FM V <sub>LO</sub> (< 1.5V) : AM
19	AM/FM IF count output SW combined use	V <sub>HI</sub> (≥ 1.5V) : IF CNT ON V <sub>LO</sub> (< 1.5V) : IF CNT OFF
20	TU/ST LED	V <sub>HI</sub> (≥ 1.5V):LED forced off (Forced monaural mode) V <sub>LO</sub> (< 1.5V):Normal
21	AM/FM TU LED	—
22	MPX ST LED	—
23	AM/FM MPX GND	—
24	AM IF input	Input impedance:2kΩ
25	AM AGC output FM S meter output	—
26	AM MIXER output	—
27	AM RF input	—
28	V Reg	V <sub>reg</sub> =2.3V
29	AM OSC	—
30	AM OSC buffer output FM SD ADJ combined use	—

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## CIRCUIT DESCRIPTION

PLL IC: LC7218



# CIRCUIT DESCRIPTION

## Servo Signal Processor : CXA1372Q (IC2)

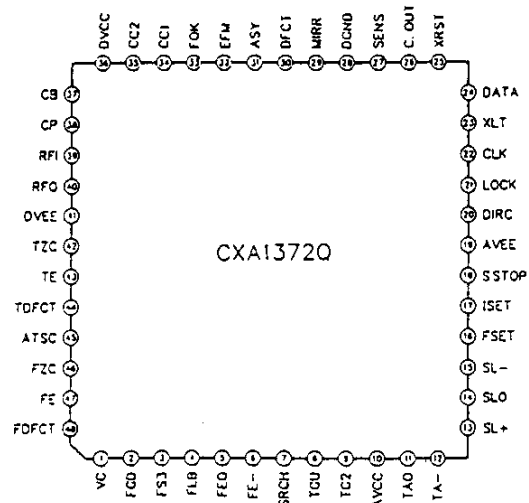
### Outline

CXA1372Q is a bipolar IC developed to be used for processing the RF signal (Focus OK, mirror, defect, comparator of EFM) and servo control.

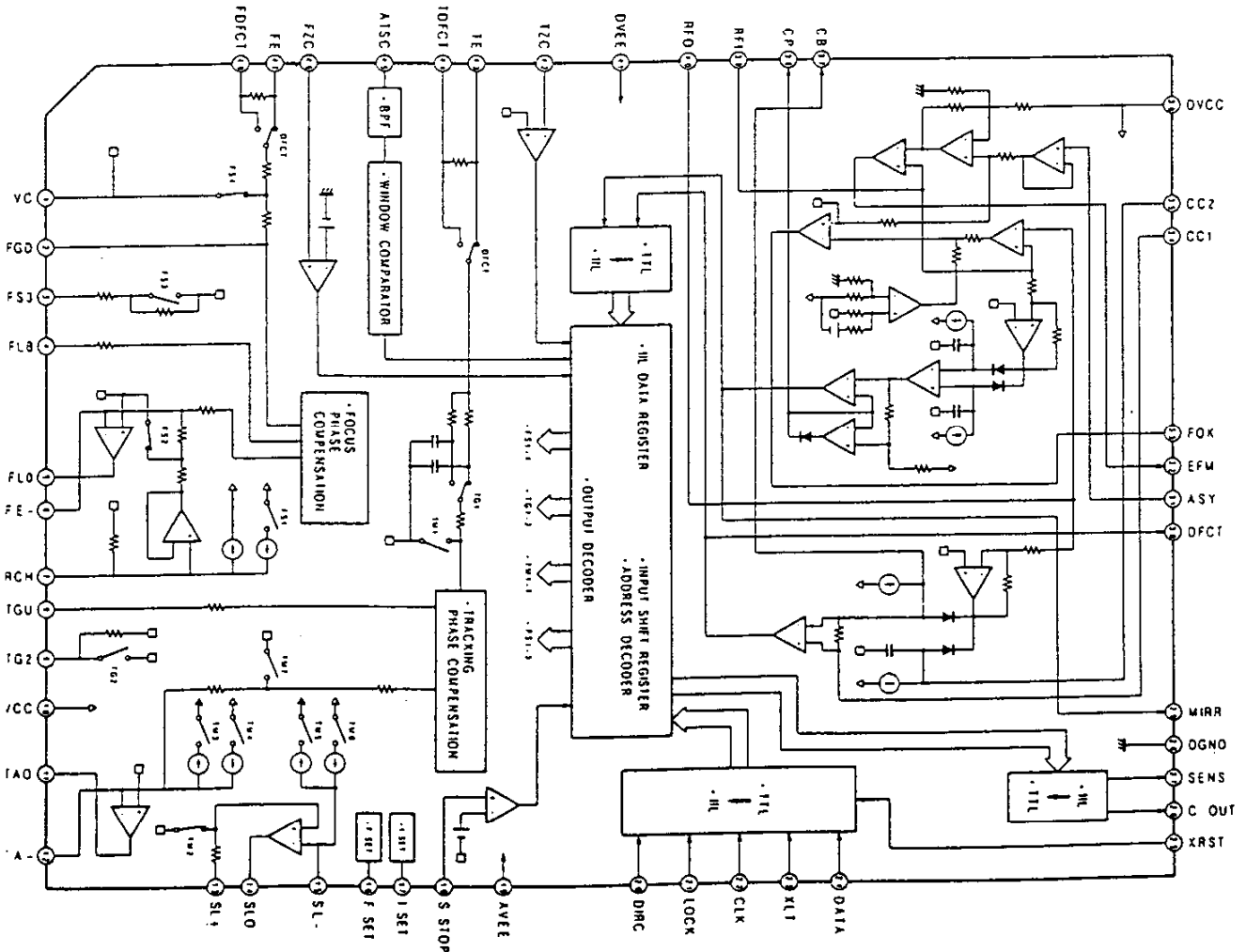
### Functions

- Auto asymmetry control
- Focus OK detection circuit
- Mirror detection circuit
- Defect detection and countermeasure circuit
- EFM comparator
- Focus servo control
- Tracking servo control
- Thread servo control

### Pin connections



### Block diagram



## CIRCUIT DESCRIPTION

## Pin functions

Pin No.	Pin name	I/O	Function
1	VC	I	Middle-point voltage input terminal. When two power sources are used : GND, when single power source is used : (Vcc+GND)/2.
2	FGD	I	When lowering the high-band gain of the focus servo, insert a capacitor between this terminal and terminal No. 3.
3	FS3	I	Change the high-band gain of the focus servo by turning FS3 on and off.
4	FLB	I	Outside terminal of time constant for raising the low-band of the focus servo.
5	FEO	O	Focus drive output.
6	FE-	I	Inverted input terminal of focus amplifier.
7	SRCH	I	Outside terminal of time constant for making focus search waveform.
8	TGU	I	Outside terminal of time constant for changing high-band gain of tracking.
9	TG2	I	Outside terminal of time constant for changing high-band gain of tracking.
10	AVCC		
11	TAO	O	Tracking drive output.
12	TA-	I	Inverted input terminal of tracking amplifier.
13	SL+	I	Non-inverted input terminal of thread amplifier.
14	SLO	O	Thread drive output.
15	SL-	I	Inverted input terminal of thread amplifier.
16	FSET	I	Terminal for setting the peak for phase compensation of focus tracking
17	ISET	I	Current for determining the height of the focus search track jump thread kick is applied.
18	SSTOP	I	Terminal for ON/OFF detecting signal of limit switch for detecting the most inside line of disc.
19	AVEE		
20	DIRC	I	Used to jump over one track. 47kΩ pull-up resistor is inserted.
21	LOCK	I	When "L", thread runaway-preventive circuit operates. 47kΩ pull-up resistor is inserted.
22	CLK	I	Clock input for transferring the serial data from CPU (having no pull-up resistors).
23	XLT	I	Latch input from CPU (having no pull-up resistors).
24	DATA	I	Serial data input from CPU (having no pull-up resistors).
25	XRST	I	Reset when reset input terminal is at "L" (having no pull-up resistors).
26	C. OUT	O	Signal output for counting tracks.
27	SENS	O	Outputs FZC, AS, TZC, SSTOP, etc. on receipt of command from CPU.
28	DGND		
29	MIRR	O	Output terminal of MIRR comparator. (DC voltage : Load of 10kΩ connected)
30	DFCT	O	Output terminal of DEFECT comparator. (DC voltage : Load 10kΩ connected)
31	ASY	I	Input terminal of auto asymmetry control.
32	EFM	O	Output terminal of EFM comparator. (DC voltage : Load of 10kΩ connected)
33	FOK	O	Output terminal of focus OK comparator. (DC voltage : Load of 10kΩ connected)
34	CC1	I	DEFECT bottom hold output terminal.
35	CC2	O	Terminal in which DEFECT bottom hold output is input after capacitive coupling.
36	DVCC		
37	CB	I	Terminal to which DEFECT bottom hold capacitor is connected.
38	CP	I	Terminal for connecting MIRR hold comparator. Non-inverted input terminal of MIRR comparator.
39	RFI	I	Terminal in which output of RF summing amplifier is input after capacitive coupling.
40	RFO	O	Output terminal of RF summing amplifier. Check point of eye pattern.
41	DVEE		
42	TZC	I	Input terminal of tracking zero cross comparator.
43	TE	I	Input terminal of tracking error.
44	DFCT	I	Terminal for connecting the capacitor for time constant in case of defect.
45	ATSC	I	Input terminal of window comparator for detecting ATSC.
46	FZC	I	Terminal for inputting the focus zero cross comparator.
47	FE	I	Input terminal of focus error.
48	DFCT	I	Terminal for connecting capacitor for time constant in case of defect.

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## CIRCUIT DESCRIPTION

## Digital Signal Processor : CXD2500AQ (IC6)

## Outline

The CXD2500AQ is a digital signal processing LSI for a compact disc player, which has the following functions.

- A wide frame jitter margin realized by 32-KRAM ( $\pm 28$  frames)
- Bit clocks for strobing EFM signal are generated by the digital PLL, and the capture range is  $\pm 150\text{kHz}$  minimum
- Demodulation of EFM data
- Protection and reinforcement of EFM frame sync signal
- Strong error correction by refined super strategy. C1 : Double correction, C2 : Quadruple correction
- Double-speed replay and variable pitch replay
- Reduction of noise generation at track jumps
- Auto zero cross muting
- Demodulation of sub-code and detection of errors in sub-code Q data

- Digital spindle servo (Having over-sampling filter)
- 16-bit traverse counter
- CPU interface by serial bus
- A built-in servo auto sequencer
- Output for digital audio interface
- Built-in digital level meter and peak meter
- Applicable to bilingual system

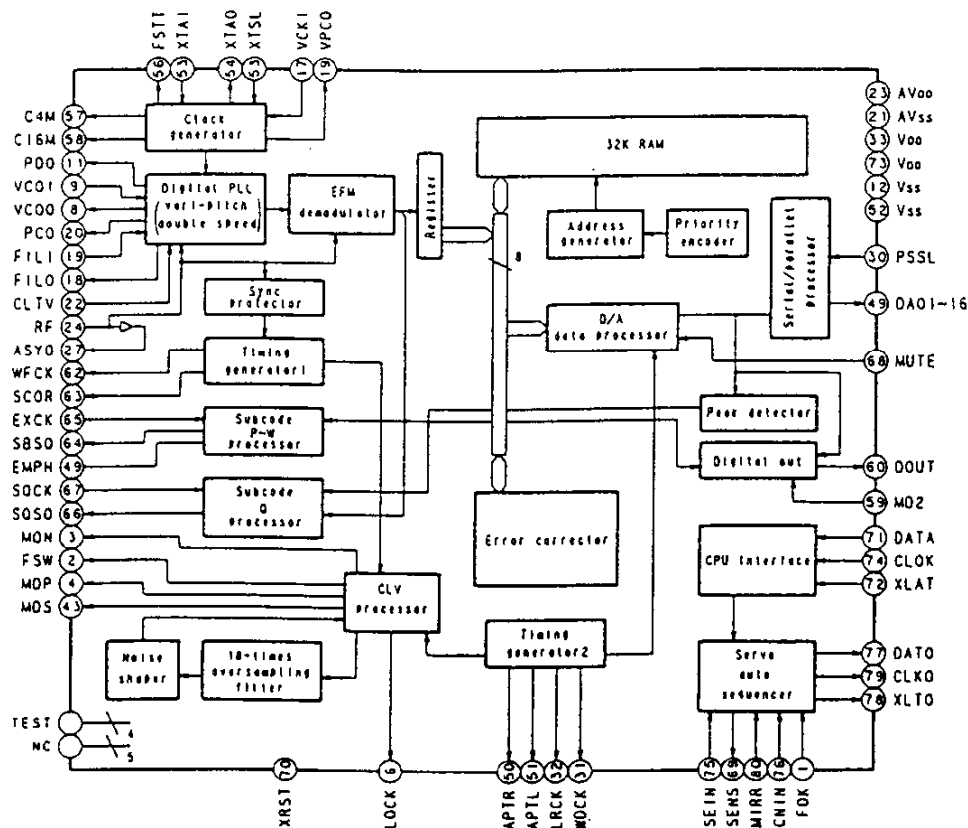
## Features

- One chip of this LSI can process all the digital signals used for replay
- Integration level can be heightened because of the built-in RAM

## Structure

Silicon gate CMOS

## Block diagram



## CIRCUIT DESCRIPTION

## Pin functions

Pin No.	Pin name	I/O	Function
1	FOK	I	Focus OK input terminal. Used for SENS output and servo auto sequencer.
2	FSW	O	Output for changing output filter of spindle motor.
3	MON	O	ON/OFF control output of spindle motor.
4	MDP	O	Servo control of spindle motor.
5	MDS	O	Servo control of spindle motor.
6	LOCK	O	Outputs "H", when GFS is sampled at 460Hz and it is "H". Output "L", if "L" is detected eight times continuously.
7	NC	-	Not used.
8	VCOO	O	Oscillation circuit output for analog EFM PLL.
9	VCOI	I	Oscillation circuit input for analog EFM PLL. $f_{lock} = 8.6436\text{MHz}$
10	TEST	I	Test terminal, normally grounded.
11	PDO	O	Charge pump output for analog EFM PLL.
12	Vss	-	GND.
13-15	NC	-	Not used.
16	VPCO	O	PLL charge pump output for variable pitch.
17	VCKI	I	Clock input $f_{center} = 16.9344\text{MHz}$ from outside VCO for variable pitch.
18	FILO	O	Filter output for master PLL (Slave = Digital PLL).
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output for master PLL.
21	AVss	-	Analog GND.
22	CLTV	I	VCO control voltage input for master.
23	AVDD	-	Analog power source (+5V).
24	RF	I	EFM signal input.
25	TEST2	I	Used for grounding.
26	TEST3	I	Used for grounding.
27	ASYO	O	EFM full swing output ("L" = Vss, "H" = VDD).
28	TEST4	I	Used for grounding.
29	NC	-	Not used.
30	PSSL	I	Audio data output mode changing input. Set to "L" for serial output and "H" for parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock $f = 2 F_s$
32	LRCK	O	D/A interface for 48-bit slot. LR clock $f = F_s$
33	VDD	-	Source voltage (+5V).
34	DA16	O	Outputs DA16 (MSB) when PSSL = 1. Outputs serial data of 48-bit slot when PSSL = 0. (2s' COMP, MSB first)
35	DA15	O	Outputs DA15 when PSSL = 1. Outputs bit clock of 48-bit slot when PSSL = 0.
36	DA14	O	Outputs DA14 when PSSL = 1. Outputs serial data of 64-bit slot when PSSL = 0. (2s' COMP, LSB first)
37	DA13	O	Outputs DA13 when PSSL = 1. Outputs bit clock of 64-bit slot when PSSL = 0.
38	DA12	O	Outputs DA12 when PSSL = 1. Outputs LR clock of 64-bit slot when PSSL = 0.
39	DA11	O	Outputs DA11 when PSSL = 1. Outputs GTOP when PSSL = 0.
40	DA10	O	Outputs DA10 when PSSL = 1. Outputs XUGF when PSSL = 0.
41	DA09	O	Outputs DA09 when PSSL = 1. Outputs XPLCK when PSSL = 0.
42	DA08	O	Outputs DA08 when PSSL = 1. Outputs GFS when PSSL = 0.
43	DA07	O	Outputs DA07 when PSSL = 1. Outputs RFCK when PSSL = 0.
44	DA06	O	Outputs DA06 when PSSL = 1. Outputs C2P0 when PSSL = 0.
45	DA05	O	Outputs DA05 when PSSL = 1. Outputs XRAOF when PSSL = 0.
46	DA04	O	Outputs DA04 when PSSL = 1. Outputs MNT3 when PSSL = 0.
47	DA03	O	Outputs DA03 when PSSL = 1. Outputs MNT2 when PSSL = 0.
48	DA02	O	Outputs DA02 when PSSL = 1. Outputs MNT1 when PSSL = 0.
49	DA01	O	Outputs DA01 when PSSL = 1. Outputs MNT0 when PSSL = 0.

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## CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Function
50	APTR	O	Control output for correcting aperture. Set to "H" when Rch.
51	APTL	O	Control output for correcting aperture. Set to "H" when Lch.
52	V <sub>SS</sub>	-	GND.
53	XTAI	I	X'tal oscillation circuit input of 16.9344MHz, or input of 33.8688MHz.
54	XTAO	O	X'tal oscillation circuit output of 16.9344MHz.
55	XTSL	I	X'tal selection input terminal. Set to "L" when x'tal is 16.9344MHz, and to "H" when 33.8688MHz.
56	FSTT	O	2/3 division output of terminals 53 and 54. Does not vary as pitch varies.
57	C4M	O	4.2336MHz output. Varies as pitch varies.
58	C16M	O	16.9344MHz output. Varies as pitch varies.
59	MD2	I	Digital-out ON/OFF control. Turns on when "H", and off when "L".
60	DOUT	O	Digital-out output terminal.
61	EMPH	O	Outputs "H" when playing disc has emphasis, and "L" when the latter does not.
62	WFCK	O	WFCK (Write Frame Clock) output.
63	SCOR	O	Outputs "H" when sub-code sync S0 or S1 is detected.
64	SBSO	O	Serial output of Sub P - W.
65	EXCK	I	Clock input for SBSO read out.
66	SQSO	O	Sub Q 80-bit and PCM peak, and level data 16-bit output.
67	SQCK	I	Clock input for SQSO read out.
68	MUTE	I	Mutes when "H", and resets when "L".
69	SENS	-	Outputs SENS to CPU.
70	XRST	I	Resets system when "L".
71	DATA	I	Inputs serial data from CPU.
72	XLAT	I	Latches serial data when latch input from CPU falls.
73	V <sub>DD</sub>	-	Power supply (+5V).
74	CLOK	I	Serial data transfer clock input from CPU.
75	SEIN	I	Input SENS from SSP.
76	CNIN	I	Inputs signals for counting number of track jumps.
77	DATO	O	Outputs serial data to SSP.
78	XLTO	O	Outputs serial data latch to SSP, and latches at fall.
79	CLKO	O	Outputs serial data transfer clock to SSP.
80	MIRR	I	Inputs mirror signal. Auto sequencer uses this for jumping 128 or more tracks.

## Notes

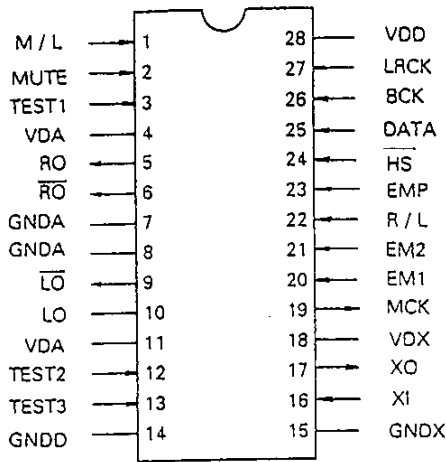
- The 64-bit slot is 2's compliment output of LSB first, and the 48-bit slot is 2's compliment output of MSB first.
- GTOP is used to monitor the protective condition of the frame sync. ("H" : Sync protective window is released.)
- XUGF is the frame sync obtained from the EFM signal, which is a negative pulse. This is the signal before the protection of sync.
- XPLCK is the inverted clock of EFM PLL. PLL is so made that the falling edge will be matched to the change point of the EFM signal.
- The GFS becomes "H" when the frame sync is matched to the internal protection timing.
- RFCK is a signal having the period of 136 $\mu$  obtained by the accuracy of X'tal.
- C2P0 is a signal indicating the error condition of data.
- XRAOF is a signal generated when 32 KRAM exceeds the jitter margin of  $\pm 28F$ .

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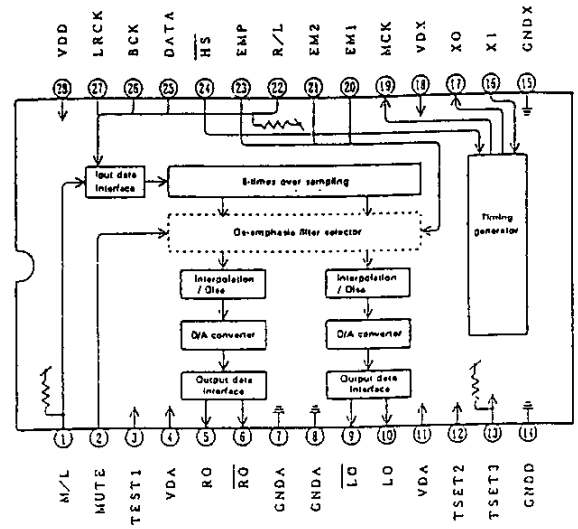
## CIRCUIT DESCRIPTION

### Converter with Digital Filter : TC9237N (IC7)

#### Terminal connection diagram



#### Block diagram



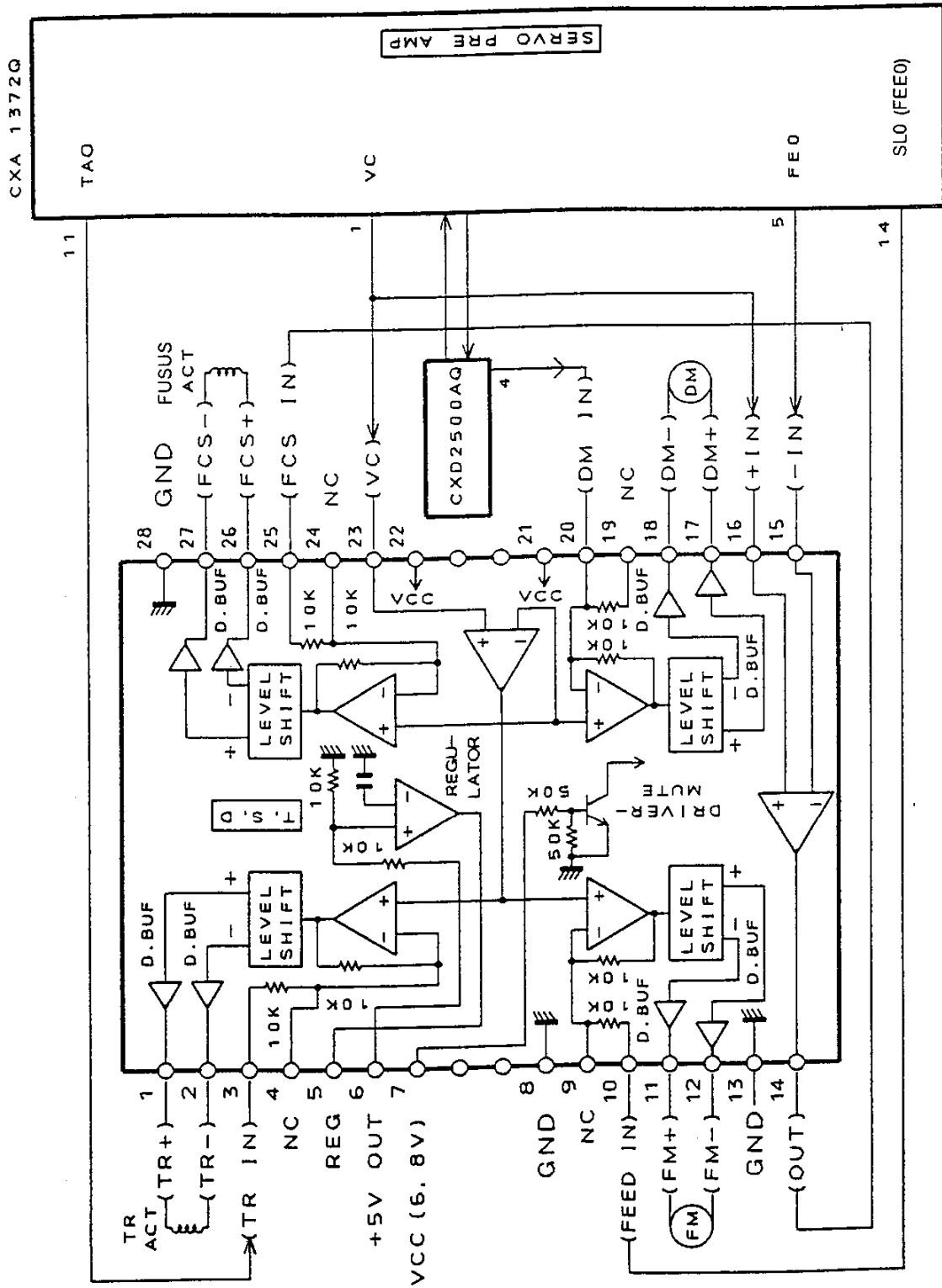
#### Explanation of terminals

Pin No.	Pin name	I/O	Function
1	M/L	I	Selection of MSB first or LSB first. H = MSB, L = LSB.
2	MUTE	I	Muting control. H = Mute ON
3	TEST1	I	Test terminal (connect to H level).
4	VDA	-	Power supply for analog circuit (R-ch).
5	RO	O	R-ch data output.
6	RO-bar	O	Inverted R-ch output.
7	GNDA	-	Ground for analog circuit (R-ch).
8	GNDA	-	Ground for analog circuit (L-ch).
9	LO-bar	O	Inverted L-ch data output.
10	LO	O	L-ch data output.
11	VDA	-	Power supply for analog circuit (L-ch).
12	TEST2	I	Test terminal (connect to L level).
13	TEST3	I	Test terminal (connect to H level or open circuit).
14	GND	-	Ground for logic.
15	GNDX	-	Ground for oscillation.
16	XI	I	Generation of clock freq (384fs).
17	XO	O	Generation of clock freq (384fs).
18	VDX	-	Power supply for oscillation.
19	MCK	O	Clock output of system (384fs).
20, 21	EM1, 2	I	De-emphasis filter selector.
			EM1    L    L    H    H
			EM2    L    H    H    L
			Mode    44.1kHz    32kHz    48kHz
22	R/L	I	R/L-ch data selector.
			R/L    LRCK
			LOW    HIGH
			LOW    R-ch data    L-ch data.
			HIGH    L-ch data    R-ch data.
23	EMP	I	De-emphasis filter ON / OFF selector (H = ON, L = OFF).
24	HS	I	Normal or Double speed selector (H = Normal, L = Double).
25	DATA	I	Data input.
26	BCK	I	Bit clock input.
27	LRCK	I	LR clock input.
28	VDD	-	Power supply for logic.

# CIRCUIT DESCRIPTION

## Power Driver for CD Player:BA6296FP

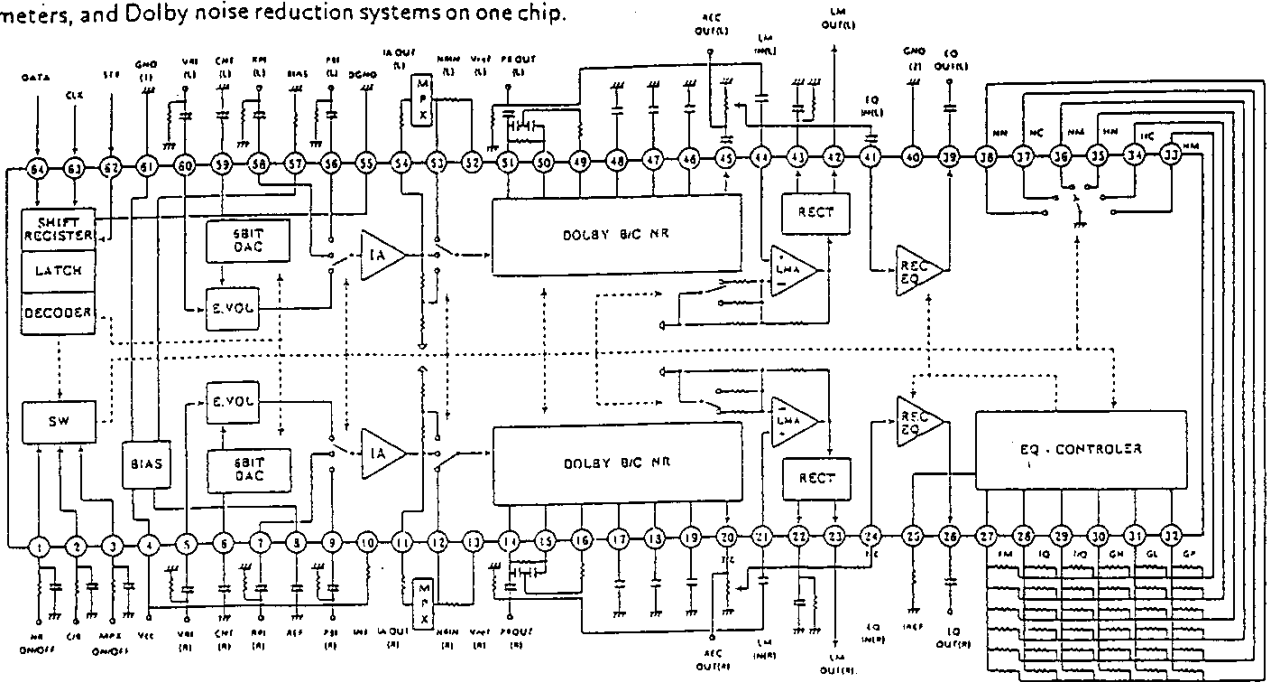
BA6296FP is 4ch BTL driver to drive the actuator and motor of CD player.



# CIRCUIT DESCRIPTION

Audio Signal Processing System IC for Cassette Deck (HA12157NT)

The HA12157NT is an audio signal processing LSI chip integrates potentiometers, recording equalizers, level meters, and Dolby noise reduction systems on one chip.



Pin No.	Name	Function
1	NR ON/OFF	Mode Control input
2	C/B	
3	MPX ON/OFF	
4	VCC	Power Supply
5	VRI	Volume input
60	CNT	DAC output Volume control input
6	CNT	DAC output Volume control input
59	RPI	
7	RPI	Recording input
58	REF	Ripple filter
8	REF	Ripple filter
9	PBI	
56	PBI	Playback input
10	INJ	Injection current input for I <sub>L</sub>
11	IA OUT	Input amplifier output
54	IA OUT	Input amplifier output
12	NR IN	
53	NR IN	Noise reduction processor input
13	VREF	Reference voltage buffer output
52	VREF	Reference voltage buffer output
14	PB OUT	
51	PB OUT	Playback (Decode) output
15	SS1	Spectral skewing amplifier input
50	SS1	Spectral skewing amplifier input
16	SS2	
49	SS2	Spectral skewing amplifier output
17	CCR	Current controlled resistor output
48	CCR	Current controlled resistor output
18	HLS DET	
47	HLS DET	
19	LLS DET	Time constant pin for rectifier
46	LLS DET	

Pin No.	Name	Function
20	REC OUT	Recording (Encode) output
45	REC OUT	
21	LM IN	Level meter input
44	LM IN	Time constant pin for level meter
22	LM D	
43	LM D	Level meter output
23	LM OUT	Level meter output
42	LM OUT	
24	EQ IN	Equalizer input
41	EQ IN	EQ reference current input
25	IREF	
26	EQ OUT	Equalizer output
39	EQ OUT	
27	FM	EQ parameter current input
28	fQ	
29	f/Q	
30	GH	
31	GL	
32	GP	
33	HM	
34	HC	
35	HN	
36	NM	
37	NC	Ground
38	NN	
40	GND	Ground
61	GND	
55	D GND	Digital (Logic) ground
57	BIAS	Dolby NR reference current input
62	STB	Mode control input
63	CLK	
64	DATA	

# CIRCUIT DESCRIPTION

## Operating Mode Control

Electronic switches are used in the HA12157. Noise reduction ON/OFF, C/B, and Multiplex ON/OFF signals controlled by parallel data (DC voltage) and a switch controlled by serial data are provided in the operating mode.

## Control Using Parallel Data

Dolby noise reduction and multiplex filter are controlled by the input signal at pins ①, ②, and ③.

Pin No.	Lo	Hi
①	NR-OFF	NR-ON
②	B-NR	C-NR
③	MPX-ON	MPX-OFF

## Serial Data Format

An 8-bit shift register is used as the serial data format. The shift register fetches CLK and DATA signals only when the STB signal is high, then latches data at the falling edge of the STB signal.

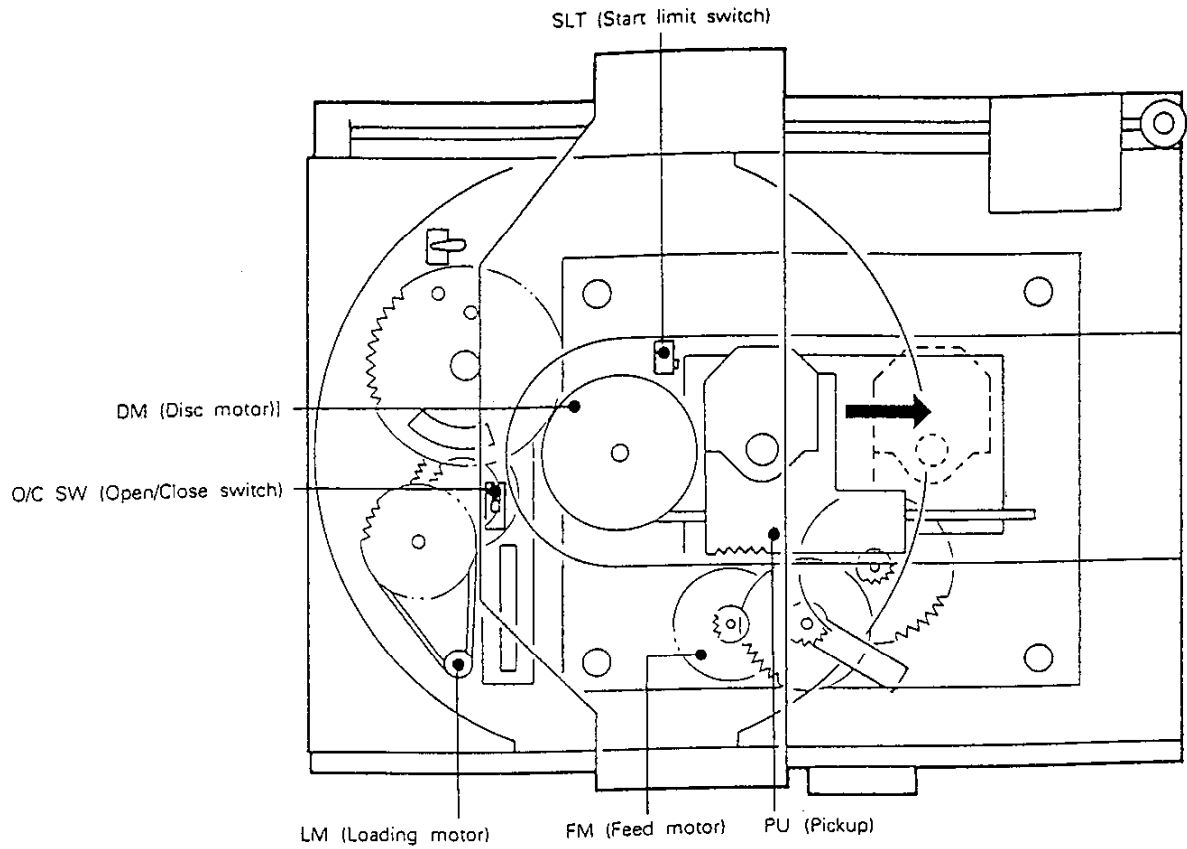
bit No.	Control register				Volume register																																																																												
	0	TAPE SELECT 1	H L	<table border="1"> <tr> <td>TS 1</td> <td>H</td> <td>L</td> </tr> <tr> <td>TS 2</td> <td>METAL</td> <td>NORMAL</td> </tr> </table>	TS 1	H	L	TS 2	METAL	NORMAL	DAC 0	<table border="1"> <thead> <tr> <th colspan="6">bit No.</th> <th>Gain</th> </tr> <tr> <th>5</th> <th>4</th> <th>3</th> <th>2</th> <th>1</th> <th>0</th> <th></th> </tr> </thead> <tbody> <tr> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>High</td> </tr> <tr> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> <td>▲</td> </tr> <tr> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> <td>L</td> <td></td> </tr> <tr> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> <td>H</td> <td></td> </tr> <tr> <td colspan="7" style="text-align:center">~~~~~</td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>L</td> <td>H</td> <td>▼</td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>L</td> <td>Low</td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>Mute</td> </tr> </tbody> </table> <p>Enters the muting state when all bits are set high.</p>	bit No.						Gain	5	4	3	2	1	0		L	L	L	L	L	L	High	L	L	L	L	L	H	▲	L	L	L	L	H	L		L	L	L	L	H	H		~~~~~							H	H	H	H	L	H	▼	H	H	H	H	H	L	Low	H	H	H	H	H	H
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1	TAPE SELECT 2	H L	<table border="1"> <tr> <td>H</td> <td>METAL</td> <td>NORMAL</td> </tr> <tr> <td>L</td> <td>CrO<sub>2</sub></td> <td>NORMAL</td> </tr> </table>	H	METAL	NORMAL	L	CrO <sub>2</sub>	NORMAL	DAC 1																																																																							
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L	CrO <sub>2</sub>	NORMAL																																																																															
2	TAPE SPEED	H L	Twice normal speed selection Normal speed selection	DAC 2																																																																													
3	METER SENSITIVITY	H L	Meter sensitivity improved by 20 dB Meter sensitivity normal	DAC 3																																																																													
4	INPUT SELECT 1	H L	<table border="1"> <tr> <td>IS 1</td> <td>H</td> <td>L</td> </tr> <tr> <td>IS 2</td> <td>PBI</td> <td>VRI</td> </tr> </table>	IS 1	H	L	IS 2	PBI	VRI	DAC 4																																																																							
IS 1	H	L																																																																															
IS 2	PBI	VRI																																																																															
5	INPUT SELECT 2	H L	<table border="1"> <tr> <td>H</td> <td>RPI</td> <td>VRI</td> </tr> <tr> <td>L</td> <td></td> <td></td> </tr> </table>	H	RPI	VRI	L			DAC 5																																																																							
H	RPI	VRI																																																																															
L																																																																																	
6	REC/PB	H L	Playback mode selection Recording mode selection	R/L SELECT	H R-channel register selection L L-channel register selection																																																																												
7	REGISTER SELECT	H	Control register selection	REGISTER SELECT	L Volume register selection																																																																												

\* Whether to control the condition or volume control is judged by the content of bit 7.

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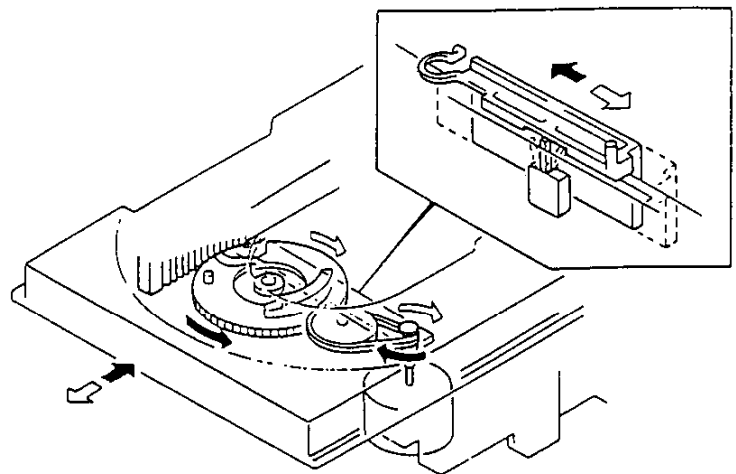
## MECHANISM DESCRIPTION



### 1. OPEN/CLOSE Function

By the rotation of the loading motor, Gear is rotate and the tray starts OPEN/CLOSE operation. The OPEN/CLOSE operation stops when the side gear travels or open /close switch comes ON.

→ OPEN  
 ⇨ CLOSE



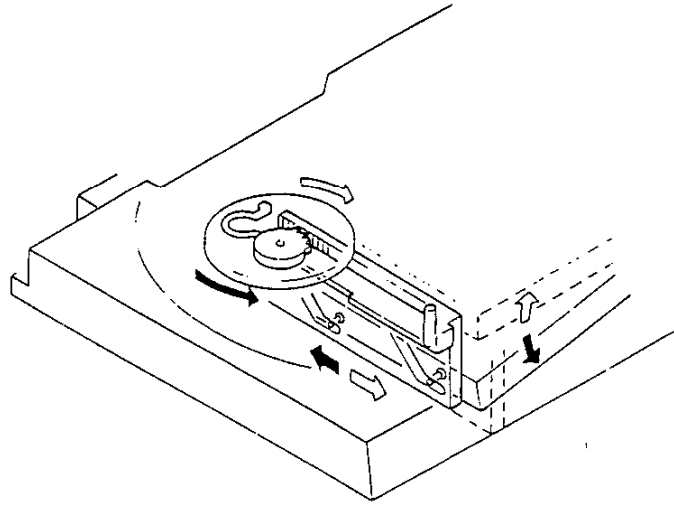


## MECHANISM DESCRIPTION

### 2. Pickup Chassis Traveling

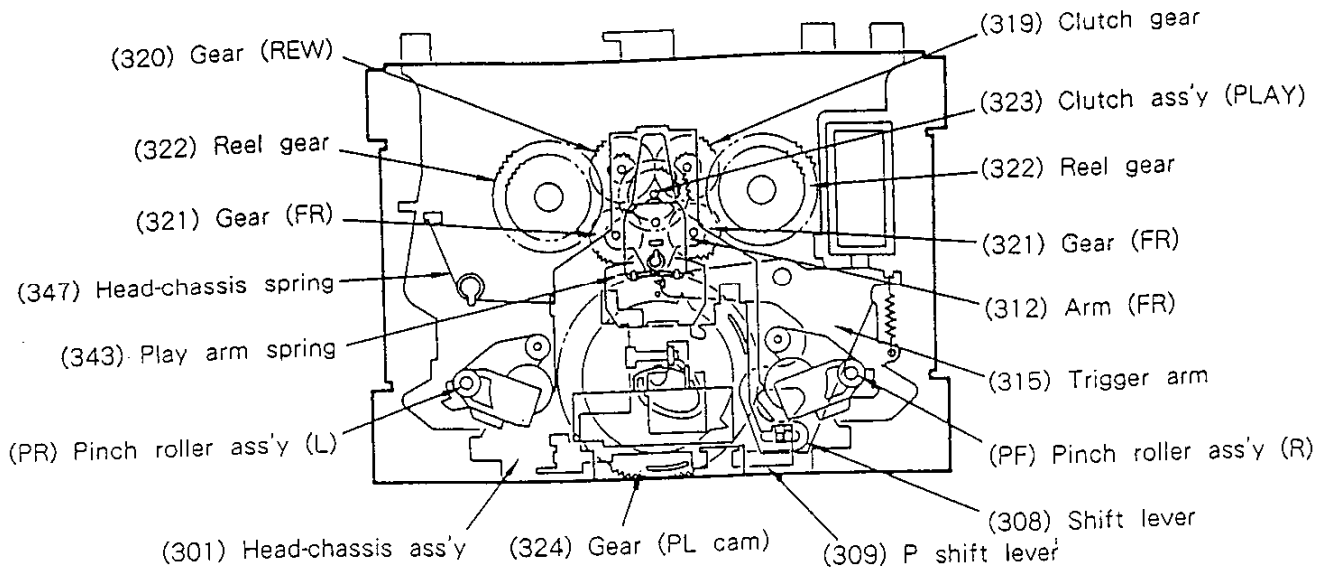
Accompanied with the OPEN/CLOSE operation, the slider-gear moves by rotation of gear.

→ OPEN  
⇌ CLOSE

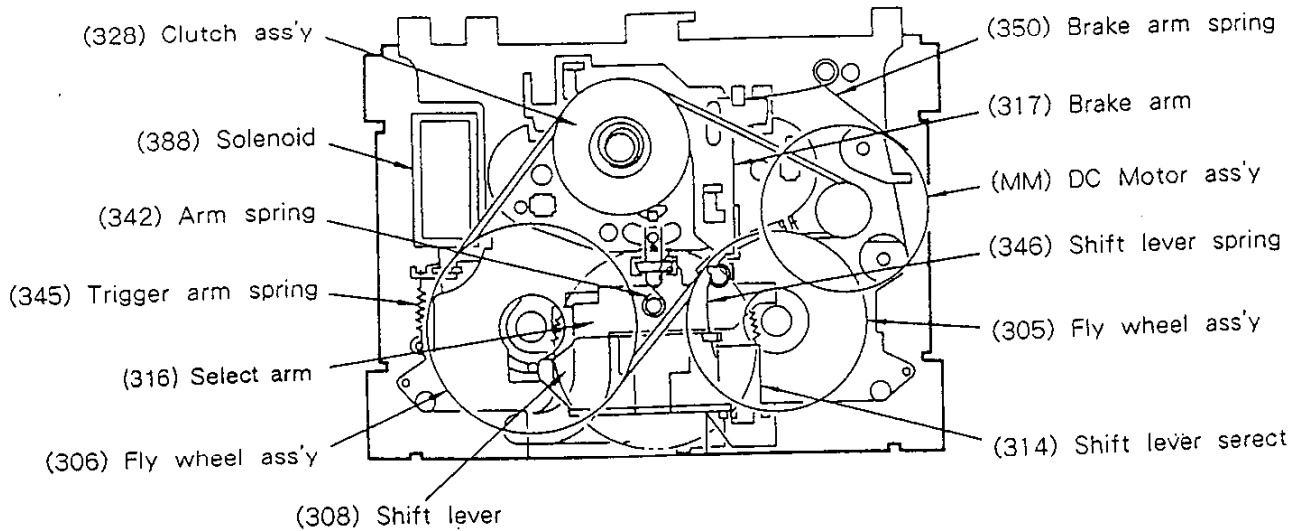


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## MECHANISM DESCRIPTION

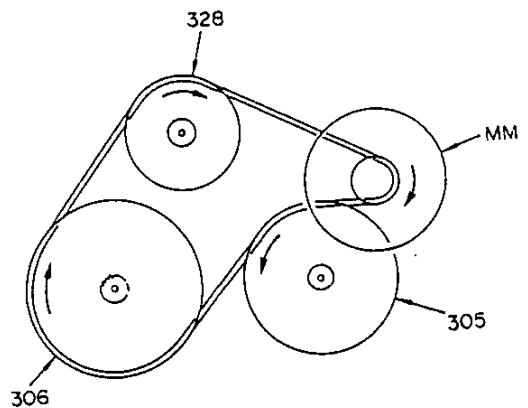


Parts Layout (Front perspective)



Parts Layout (Rear perspective)

Driving power	: 130g-cm more
Take up torque	: 35-75g-cm
FF/REW torque	: 70-160g-cm
Back tension torque	: 1.5-6g-cm



Transmission of Rotation

## MECHANISM DESCRIPTION

STOP → FWD PLAY / REC (The head is in the forward – transport position when the drive stops.)

- 1 Press the key. The CPM starts running.
- 2 After about 300 ms, the solenoid is energized for 150 ms, and the boss (A) of the trigger arm (315) disengages from the stop lever (B) of the play cam gear (314).

Fig. 1

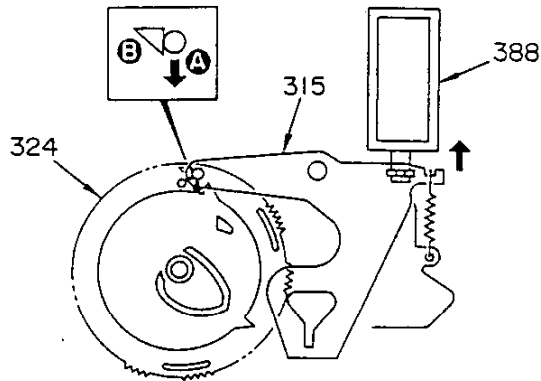


Fig. 1

- 4 Since the entrance of the inner track of the cam gear (324) passes when the solenoid is energized for 150 ms, the boss (A) of the shift lever selector (314) moves along the outer track, and the P shift lever (309) remains stationary.

Fig. 3

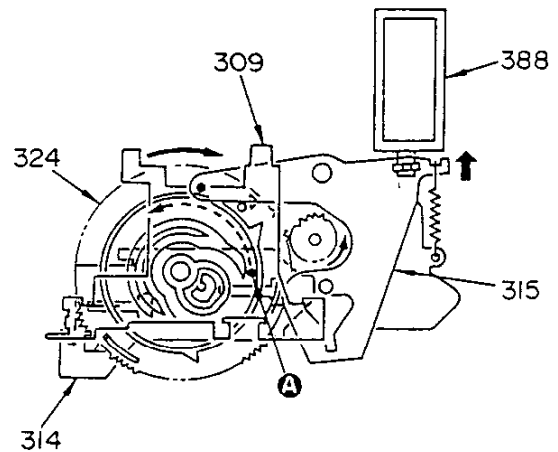


Fig. 3

- 3 The head chassis assembly (301) is pushed down by the spring (347), so the cam gear (324) rotates slightly, the FW (R) gear engages with the cam gear, and the gears start rotating.

Fig. 2

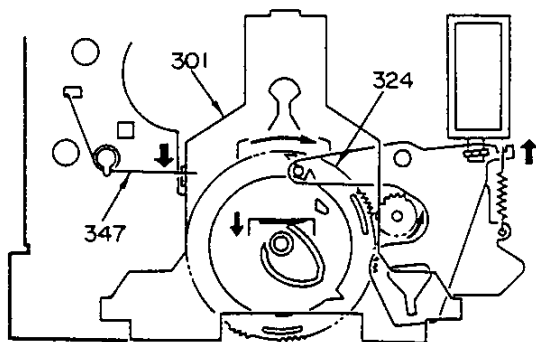


Fig. 2

- 5 The shift lever is lifted by the cam of the play cam gear, and the head chassis assembly is raised.

Fig. 4

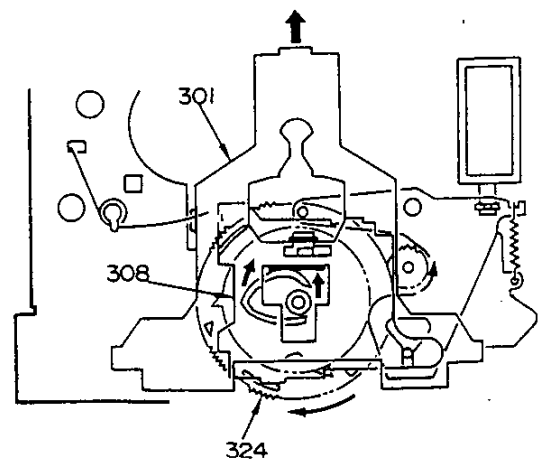


Fig. 4

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## MECHANISM DESCRIPTION

6 The play arm spring is pushed by the projection (A) of the P shift lever (309), the play arm tilts along the inner surface of the head chassis, the clutch gear (323), play clutchgear, and hub engage, and the hub starts rotating.

Fig. 5

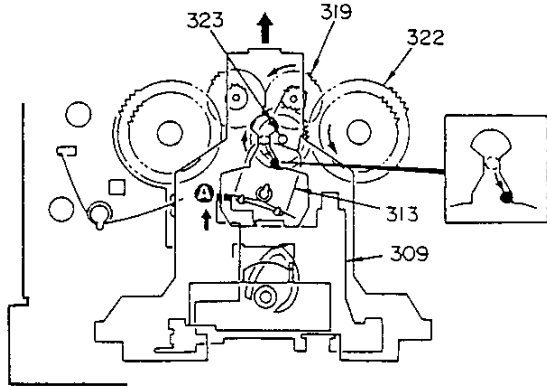


Fig. 5

7 The brake arm (317) is lifted by the bent part (A) of the shift lever (308) to release the brake from the hub.

Fig. 6

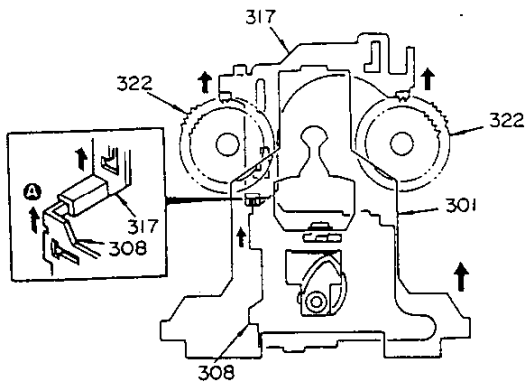


Fig. 6

8 The forward – transport pinch roller (PR) is raised by the bent part (A) of the P shift lever (309), and the pinch roller contacts the capstan.

Fig. 7

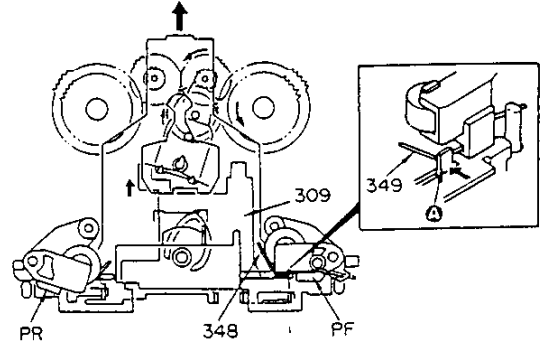


Fig. 7

STOP → RVS PLAY / REC

- 1 Press the key.
- 2 After about 300 ms, the solenoid is energized for 50 ms, then deenergized.
- 3 Since the solenoid is deenergized immediately after the play cam gear starts turning, the boss (A) of the shift lever selector (314), pushed by the trigger arm boss (B), passes along the inner track of the play cam gear, so the play shift lever also moves, and the head is rotated into the reverse – transport position by the return gear.

Fig. 8

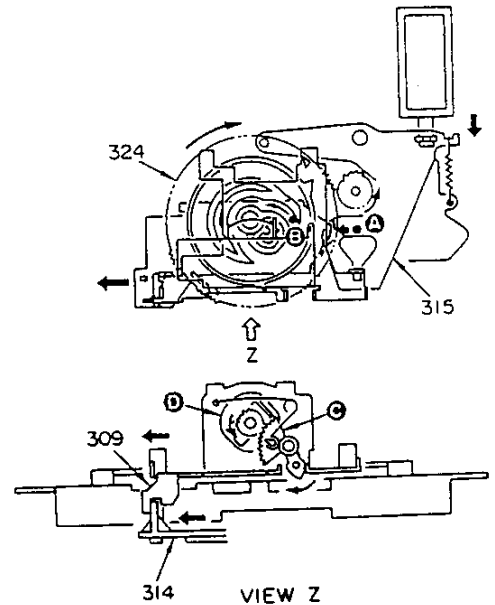


Fig. 8

# MECHANISM DESCRIPTION

4 The rotating play cam gear lifts the shift lever (308), raising the head chassis assembly.

Fig. 9

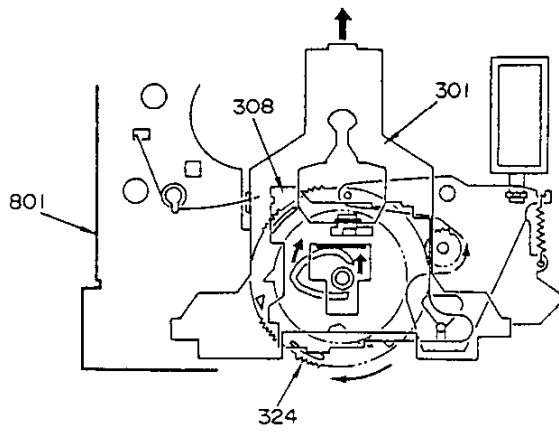


Fig. 9

5 The play arm spring pushed by the projection (A) of the P shift lever (309), the play arm tilts along the inner surface of the head chassis, the REW gear (320), play clutch gear, and hub engage, and the hub starts rotating.

Fig. 10

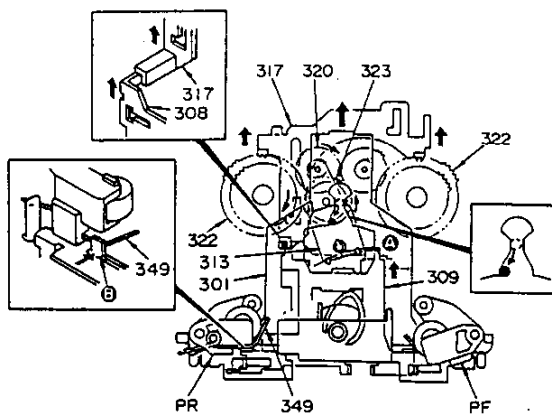


Fig. 10

6 The brake arm (317) is lifted by the shift lever to release the brake from the hub.

7 The spring of the reverse – transport pinch roller (PR) is lifted by the bent part (B) of the P shift lever (309), and the pinch roller contacts the capstan.

STOP → FF

1 Press the ►► key.

2 After 300 ms, the solenoid is energized for 300 ms, the selector arm (316) is held by the concave part of the trigger arm (315), and the head chassis assembly starts rising.

Fig. 11

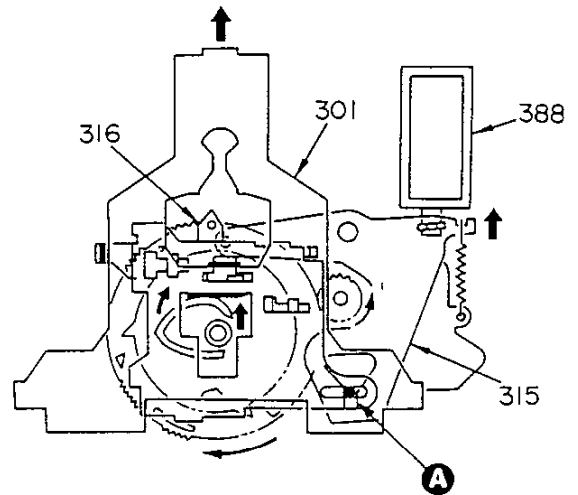


Fig. 11

3 The boss (A) of the selector arm (316) enters the holder on the mechanism base, and is lifted further.

Fig. 12

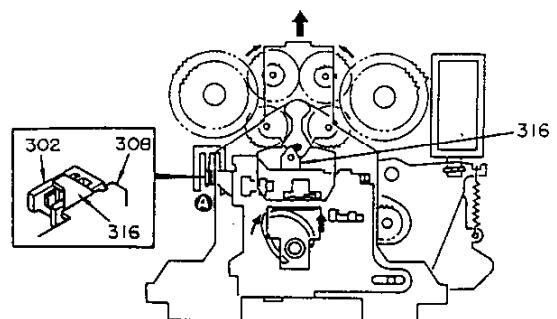


Fig. 12

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## MECHANISM DESCRIPTION

- 4 The projection of the selector arm touches the boss (A) of the FR arm (312), the selector arm rises and tilts, the FR gear (321), clutch gear, and hub gear engage, and the forward – transport take – up hub starts rotating.

Fig. 13

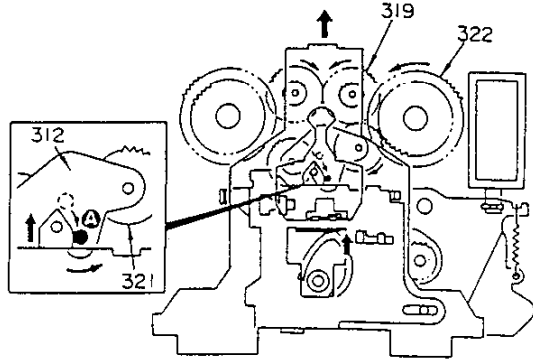


Fig. 13

- 5 When the shift lever is raised to its limit by the play cam gear cam, the selector arm hole and head chassis assembly boss (A) are positioned as shown in the figure below. The pinch roller does not touch the capstan, and fast – forwarding takes place.

Fig. 14

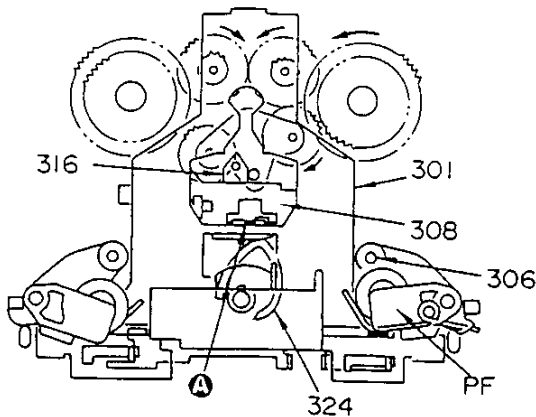


Fig. 14

### STOP → RWD

- 1 Press the ◀ key.
- 2 After 300 ms, the solenoid is energized for 450 ms, the select arm (316) is held by the concave part of the trigger arm, and the head chassis assembly starts rising.
- 3 Since the selector arm is held, the projection touches the FR arm boss, the FR arm tilts, the FR gear (321), REW gear, and hub gear engage, and the RWD hub starts rotating.

Fig. 15

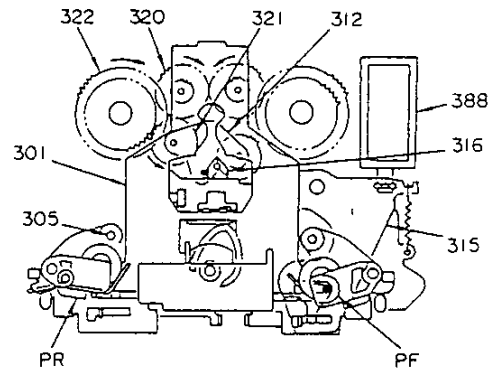


Fig. 15

- 4 The pinch roller does not touch the capstan, as in the fast forward operation, and rewinding takes place.

### F PLAY → CUE / RWD

- 1 The solenoid is energized for 50 ms during forward play to stop operation.
- 2 The solenoid is energized for 300 ms to fast – forward (CUE).  
The solenoid is energized for 50 ms to rewind (RWD).

### R. PLAY → RWD

- 1 The solenoid is energized for 50 ms during reverse play to stop operation.
- 2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.
- 3 The solenoid is deenergized for 100 ms, then reenergized for 150 ms to fast – forward.

### RVS PLAY → CUE

- 1 The solenoid is energized for 50 ms during reverse play to stop operation.
- 2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.
- 3 The solenoid is deenergized for 100 ms, then reenergized for 300 ms to rewind.

# MECHANISM DESCRIPTIO

## Assembly procedure

1 Install the brake arm and its spring the clutch arm spring, and the shift lever selector , and its spring on the mechanism chassis.

Fig. 1

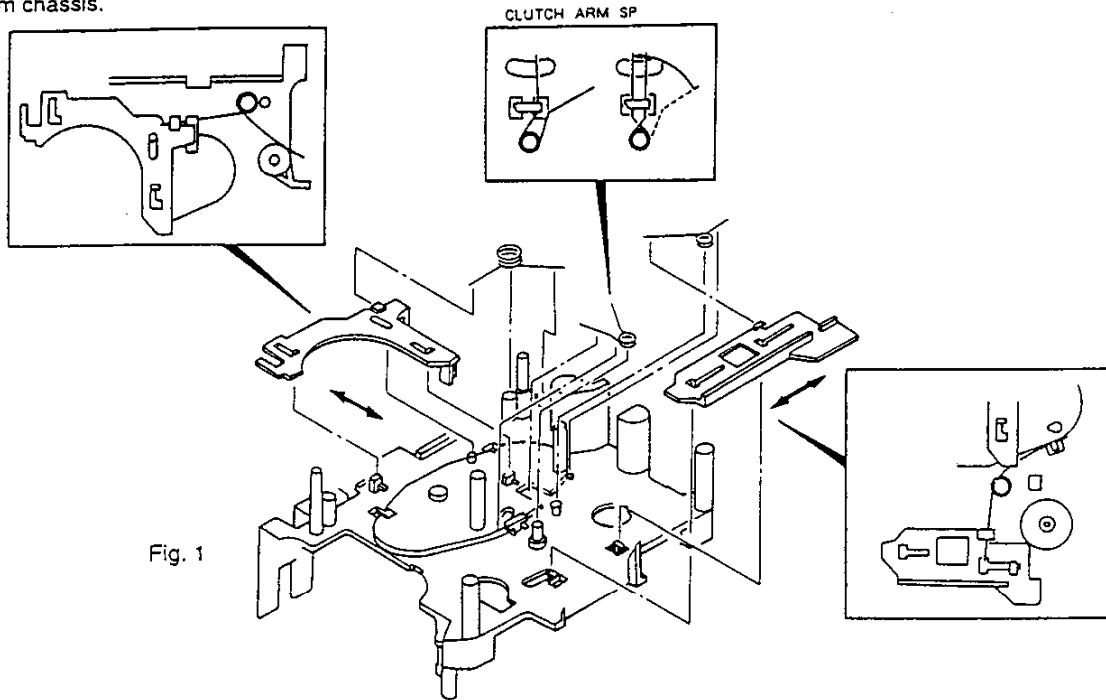
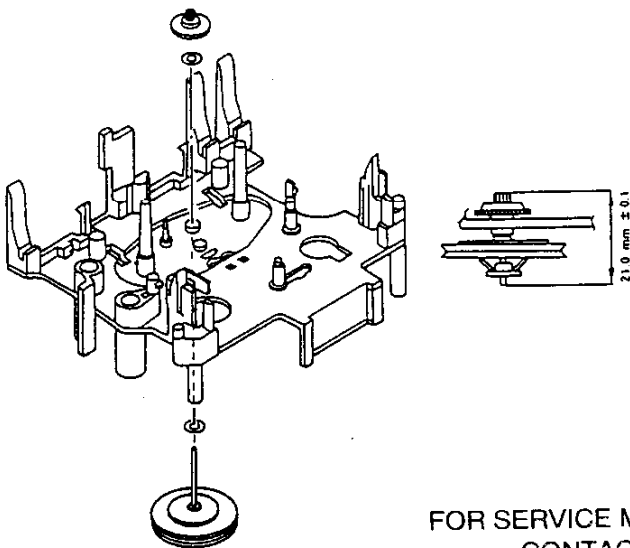


Fig. 1

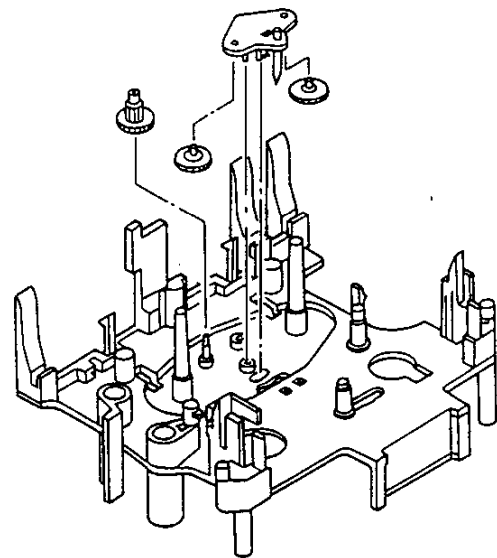
2 Install the clutch assembly on the mechanism chassis.

Fig. 2



3 Install the FR arm, FR gear, and REW gear on the mechanism chassis.

Fig. 3



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## MECHANISM DESCRIPTION

4 Install the hub assemblies (left and right).  
Fig. 4

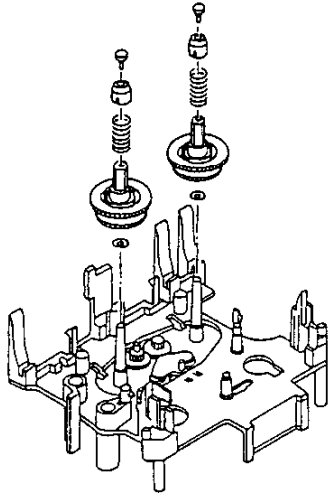


Fig. 4

5 Install the play cam gear and the trigger arm and its spring on the mechanism chassis.  
Fig. 5

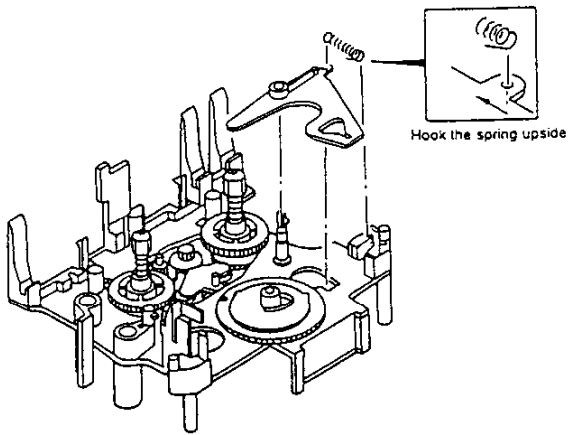


Fig. 5

6 Install the shift assembly and its spring on the chassis.  
Fig. 6

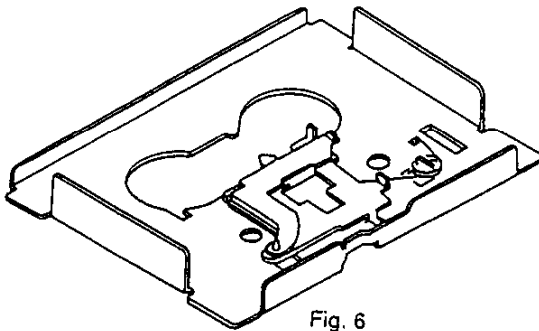


Fig. 6

7 Install the chassis on the mechanism chassis.  
Fig. 7

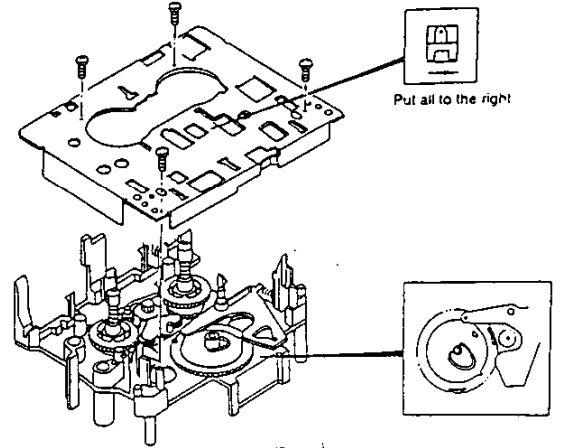


Fig. 7

8 Install the housings (left and right) on the chassis.  
Fig. 8

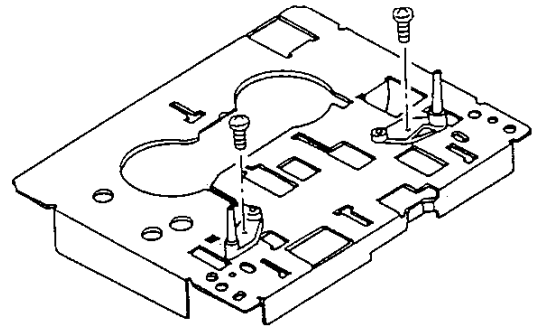


Fig. 8

9 Install the solenoid on the mechanism chassis.  
Fig. 9

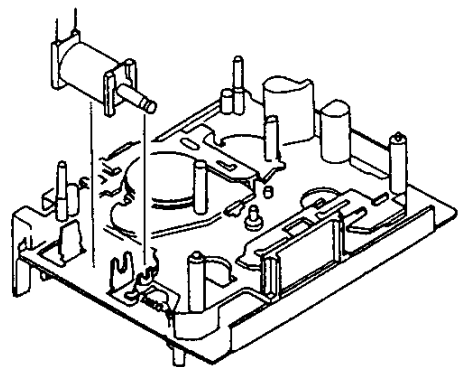


Fig. 9

10 Install the flywheels (left and right).



# MECHANISM DESCRIPTION

11 Install the play arm, play clutch assembly, and the head chassis and its spring on the chassis, and install the cassette guide.

Fig. 10

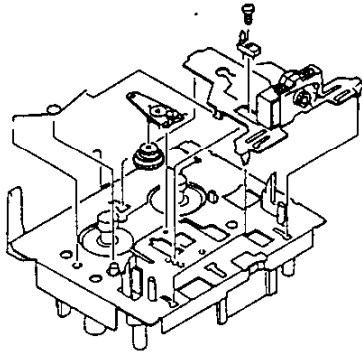


Fig. 10

12 Install the pinch rollers (left and right).

Fig. 11

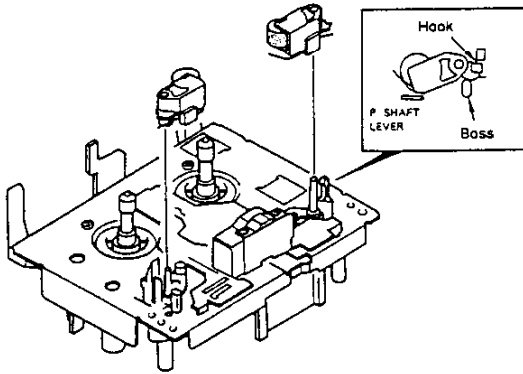


Fig. 11

13 Install the interlock and its spring.

Fig. 12

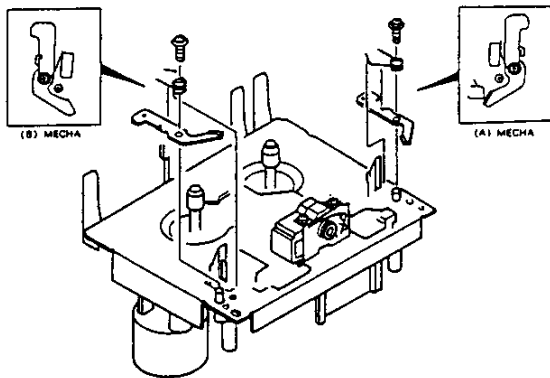


Fig. 12

14 Install the belt temporarily

Fig. 13

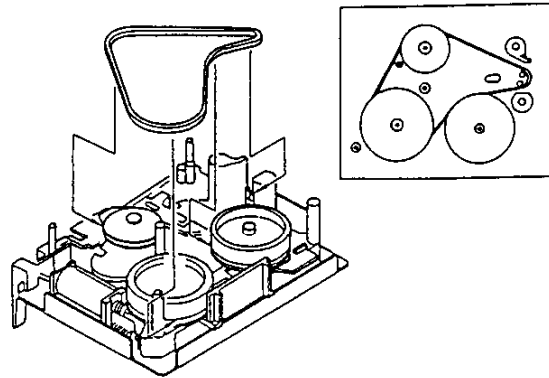


Fig. 13

15 Install the PCB.

16 Install the CPM and belt.

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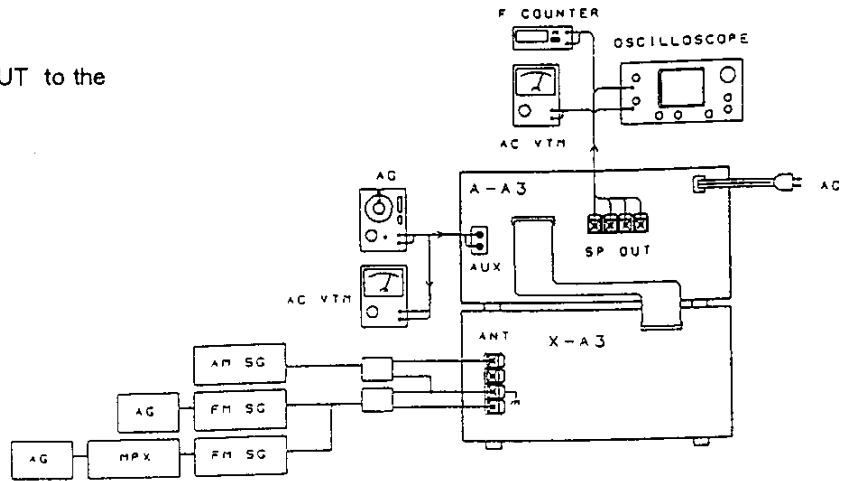
# UD-300

## ADJUSTMENT

### Preparation for adjustment

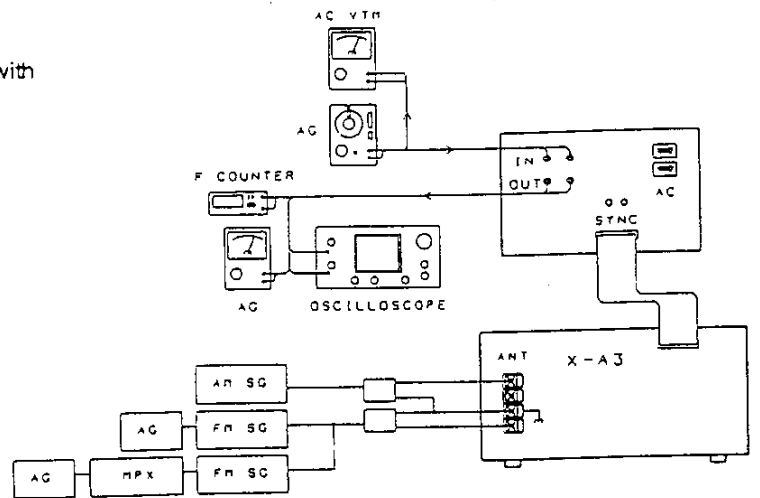
(1) When using the A-A3.

Apply the signal generator (AG) OUTPUT to the AUX INPUT of the A-A3.



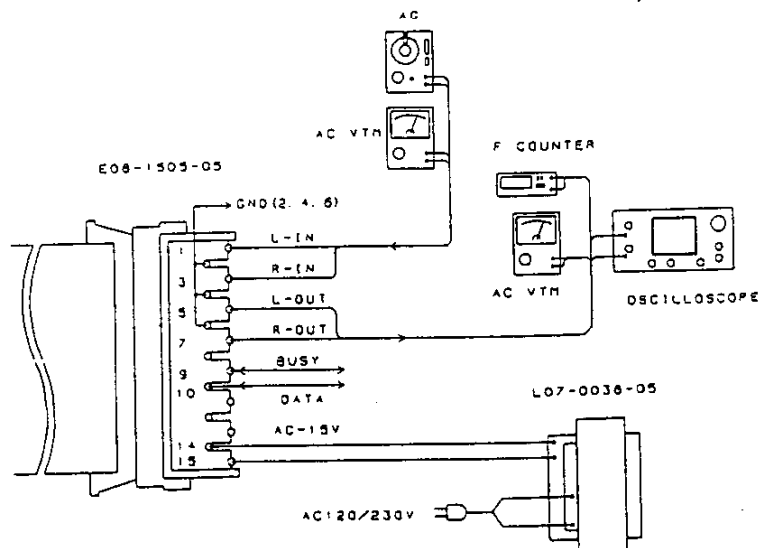
(2) When RM-90PS is used

Use the PLAY/REC socket in the same way as with the normal deck.



(3) Apply 15VAC and each signal with a 15-pin connector.

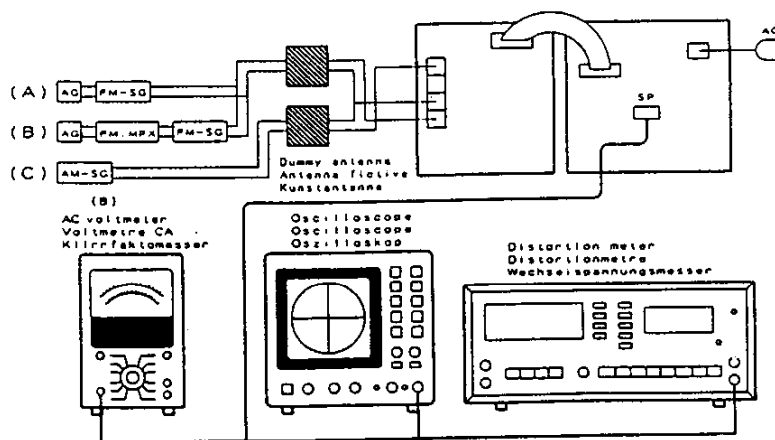
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# ADJUSTMENT

X-A3 . A3L

No	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		SELECTOR:FM					
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ± 75kHz dev (M,X type) 1kHz, ± 40kHz dev (E,T type) 60dB μ (ANT input)	Connect a DC voltmeter between TP3 and TP4. (X05-)	MONO 98.0MHz	L3	0V	(a)
2	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ± 68.25kHz dev Pilot: ± 7.5kHz dev (M,X type) 1kHz, ± 40kHz dev Pilot: ± 6kHz dev (E,T type) 60dB μ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	L1 IFT (W02-)	Minimum distortion	
3	SEPARATION (E,T type only)	(C) 98.0MHz 1kHz, ± 40kHz dev Pilot: ± 6kHz dev Selector:L or R 60dB μ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	VR3 (X05-)	Minimum crosstalk	
4	TUNING LEVEL	(A) 98.0MHz 1kHz, ± 75kHz dev (M,X type) 1kHz, ± 45kHz dev (E,T type) 14dB μ (ANT input) 75 Ω 18dB μ (ANT input) 300 Ω	(B) or P58 (1-3)	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where ED1(TUNED) goes on.	
AM(MW) SECTION		SELECTOR:AM(MW)					
(1)	TUNING LEVEL	(D) 990kHz 400Hz, 30% mod 26dB μ (ANT input)	(B) or P58 (1-3)	990kHz	(X05-) VR2	Adjust VR2 and stop at the point where ED1(TUNED) goes on.	



## REGLAGE

X-A3 . A3L

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION FM		SELECTEUR:FM					
1	DISCRIMINATEUR	(A) 98,0MHz 1kHz, $\pm$ 75kHz dV (Type M, X) 1kHz, $\pm$ 40kHz dV (Type E, T) 60dB $\mu$ (Entrée ANT)	Connecter un voltmètre CC entre TP3 et TP4. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	DISTORSION (STEREO)	(C) 98,0MHz 1kHz, $\pm$ 68,25kHz dV Pilote: $\pm$ 7,5kHz dV (Type M, X) 1kHz, $\pm$ 40kHz dV Pilote: $\pm$ 6kHz dV (Type E, T) 60dB $\mu$ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Distorsion minimum	
3	SEPARATION (Type E, T seulement)	(C) 98,0MHz 1kHz, $\pm$ 40kHz dV Pilote: $\pm$ 5kHz dV Sélecteur: G ou D 60dB $\mu$ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Diaphonie minimum	
4	NIVEAU D'ACCORD	(A) 98,0MHz 1kHz, $\pm$ 75kHz dV (Type M, X) 1kHz, $\pm$ 45kHz dV (Type E, T) 14dB $\mu$ (Entrée ANT) 75 $\Omega$ 18dB $\mu$ (Entrée ANT) 300 $\Omega$	(B) où P58 (1-3)	AUTO ou MONO 98,0MHz	VR1 (X05-)	Régler VR1 et arrêter au point où ED1 (ACCORDE) s'allume.	
SECTION AM(OM)		SELECTEUR:AM(OM)					
(1)	NIVEAU D'ACCORD	(D) 990kHz 400Hz, 30% mod 26dB $\mu$ (Entrée ANT)	(B) où P58 (1-3)	990kHz	(X05-) VR2	Ajuster VR2 et arrêter au point où ED1 (ACCORDE) s'allume.	

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## ABGLEICH

## X-A3 . A3L

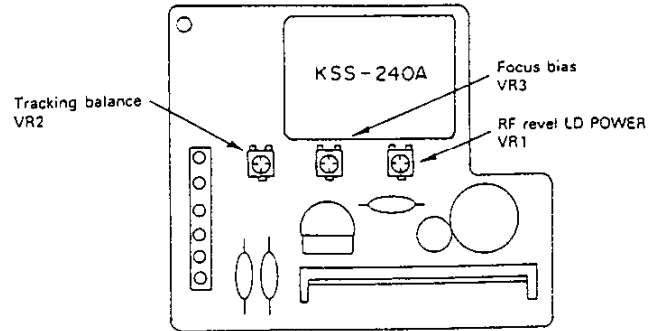
Nr.	GEGENSTAND	EINGANGSEIN- STELLUNG	AUSGANGSEIN- STELLUNG	TUNER-EIN- STELLUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-TEIL		WÄHLER:FM					
1	DEMODULATOR	(A) 98,0MHz 1kHz, $\pm$ 75kHz Abw. (M-, X-Typ) 1kHz, $\pm$ 40kHz Abw. (E-, T-Typ) 60dB $\mu$ (ANT-Eingang)	Einen Gleichspan- nungsmesser zwis- chen TP3 und TP4 schließen. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	VERZERRUNG (STEREO)	(C) 98,0MHz 1kHz, $\pm$ 68,25kHz Abw. Pilot: $\pm$ 7,5kHz Abw. (M-, X-Typ) 1kHz, $\pm$ 40kHz Abw. Pilot: $\pm$ 6kHz Abw. (E-, T-Typ) 60dB $\mu$ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Minimale Verzerrungen	
3	TRENNUNG (Nur E-, T-Typ)	(C) 98,0MHz 1kHz, $\pm$ 40kHz Abw. Pilot: $\pm$ 6kHz Abw. Wähler: L oder R 60dB $\mu$ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Minimales Übersprechen	
4	ABSTIMMPEGEL	(A) 98,0MHz 1kHz, $\pm$ 75kHz Abw. (M-, X-Typ) 1kHz, $\pm$ 45kHz Abw. (E-, T-Typ) 14dB $\mu$ (ANT-Eingang) 75 $\Omega$ 18dB $\mu$ (ANT-Eingang) 300 $\Omega$	(B) oder P58 (1-3)	AUTO oder MONO 98,0MHz	VR1 (X05-)	VR1 auf die Position einstellen, in der ED1(TUNED) aufleuchtet	
AM-(MW-) TELL		WÄHLER:AM(MW)					
(1)	ABSTIMMPEGEL	(D) 990kHz 400Hz, 30% Mod 26dB $\mu$ (ANT-Eingang)	(B) oder P58 (1-3)	990kHz	(X05-) VR2	VR2 auf die Position einstellen, in der ED1(TUNED) aufleuchtet.	

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## ADJUSTMENT

### CAUTION

Pickup (KSS-240A) is adjustment free in repairing, please don't disassemble and adjust it.



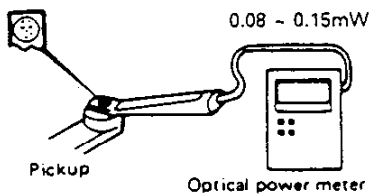
No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	LASER POWER ※	-	Apply the sensor section of the optical power meter on the pickup lens.	Short-circuit pins TEST and enter the test mode.  Press the play key to check that the LD emits light.  Then, confirm that the display is "05"	-	On the power from 0.08 to 0.15mW, when the diffraction grating is correctly aligned with the RF level of 1.5Vp-p or more and the TE (servo open) level of 1.5Vp-p or more, the pickup is acceptable.	(a)
2	FOCUS GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 2 and 3.	Connect a LPF to CN3 pin 2-3, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	FOCUS GAIN VR2	Two VTVMs should read the same value.	(b)
3	TRACKING GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 5 and 6.	Connect a LPF to CN3 pin 5-6, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	TRACKING GAIN VR1	Two VTVMs should read the should value.	(b)

(NOTE) Type 4 disc : SONY YEDS-18 TEST DISC or equivalent.

LPF: around 47kohms-390pF or so.

Adjustment procedures are in TEST MODE.

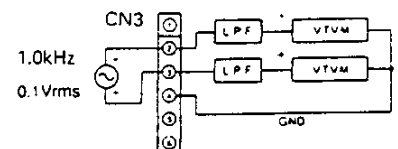
### (a) Laser Power



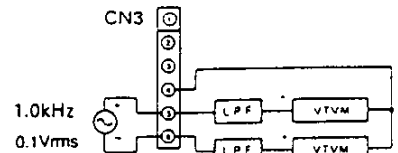
※ HAVE TO TAKE AWAY THE SUB-CHASSIS( ) AND PCB( ) FROM CD MECHA ASSY.

### (b) Focus Gain and Tracking Gain

Focus gain :



Tracking gain :



## REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU LECTEUR	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
1	ALIMENTATION LASER ※	—	Appliquer la section de capteur du compteur d'alimentation optique sur l'optique de lecture.	Court-circuiter les broches TEST et passer dans le mode d'essai. Appuyer sur la touche de lecture pour vérifier que le LD émet de la lumière. Ensuite, vérifier que l'affichage est "05".	—	Sur l'alimentation de 0,08 à 0,15mV lorsque la grille de diffraction est correctement alignée avec le niveau RF de 1,5Vc-c ou plus et le niveau TE (servo ouvert) de 1,5Vc-c ou plus, la lecture est acceptable.	(c)
2	GAIN DE FOCUS	Disque d'essai Type 4 Appliquer un signal de 1,0kHz, 0,1Vrms aux broches CN3 2 et 3.	Connecter un LPF aux broches CN3 2 et 3 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05".	GAIN DE FOCUS VR2	Deux VTVM doivent indiquer la même valeur.	(b)
3	GAIN D'ALIGNEMENT	Disque d'essai Type 4 Appliquer un signal de 1,0kHz, 0,1 Vrms aux broches CN3 5 et 6.	Connecter un LPF aux broches CN3 5 et 6 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05".	GAIN D'ALIGNEMENT VR1	Deux VTVM doivent indiquer la même valeur.	(b)

(NOTE) Disque type 4: DISQUE D'ESSAI SONY YEDS-18 ou équivalent.

LPF: environ 47 kohms + 390 pF à peu près.

Les procédures de réglage se font dans le MODE D'ESSAI.

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## ABGLEICH

Nr.	GEGENSTAND	EINGANGSEIN- STELLUNG	AUSGANGSEIN- STELLUNG	PLAYER-EIN- STELLUNG	ABGLEICH- PUNKT	ABGLEICHEN FÜR	ABB.
1	LASER-LEISTUNG ※	—	Den Sensorabschnitt des Optikleistungsme- ters am Abtaster ansetzen.	TEST-Pins Kurzsch- ließen und auf Test-Modus schalten. Die Wiedergabe- taste drücken, um sicherzustellen, daß LD Licht ausstrahlt. Dann sicherstellen, daß "05" angezeigt wird.	—	Wenn das optische Gitter richtig auf den HF-Pegel von 1,5Vss oder höher und den TE-Pegel(Servo auf) von 1,5Vss oder höher abgeglichen ist, ist der Abtaster bei einer Leistung zwischen 0,08 und 0,15 W in Ordnung.	(a)
2	FOKUSVER- STÄRKUNG	Test-Disc Typ 4 Ein Signal mit 1,0kHz, 0,1Vrms CN3-Pin 2 und 3 zuführen.	LPF an CN3-Pin 2-3 anschließen, woran ein Oszilloskop oder zwei Wechselspan- nungsmesser anges- chlossen werden.	Die PLAY-Taste drücken. Sicherstellen, daß "05" angezeigt ist.	FOKUSVER- STÄRKUNG VR2	Zwei VTVMs sollen denselben Wert anzeigen.	(b)
3	TRACKING- VERSTÄRKUNG	Test-Disc Typ 4 Ein signal mit 1,0kHz, 0,1 Vrms CN3-Pin 5 und 6 zuführen.	LPF an CN3-Pin 5-6 anschließen, woran ein Oszilloskop oder zwei Wechselspan- nungsmesser angeschlossen werden.	Die PLAY-Taste drücken. Sicherstellen, daß "05" angezeigt ist.	TRACKING- VERSTÄRKUNG VR1	Zwei VTVMs sollen den Sollwert anzeigen.	(b)

(HINWEIS)

Disc Typ 4: SONY YEDS-18-TEST-DISC oder gleichwertige.

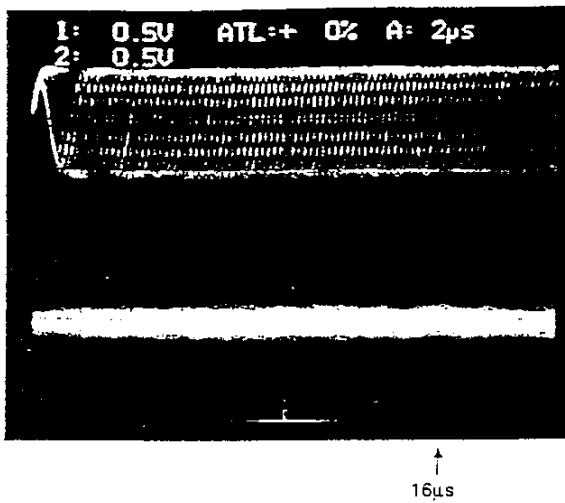
LPF: ca. 47K $\Omega$ m+390 pF.

Einstellungen erfolgen im TEST-MODUS.

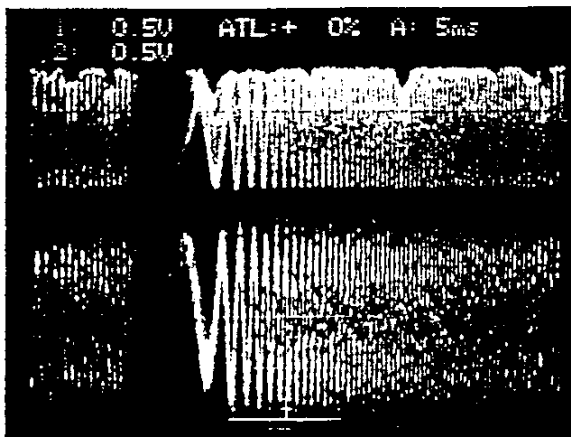
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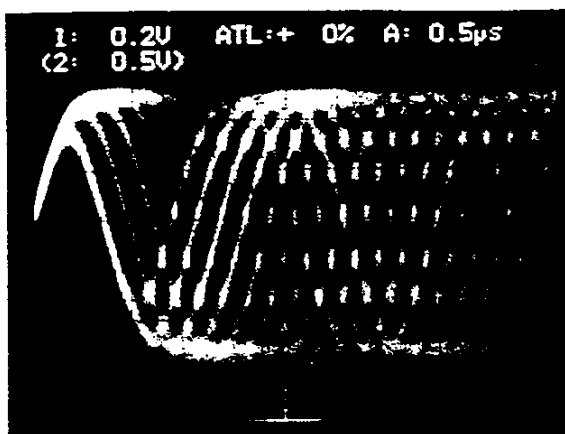
## ADJUSTMENT



- 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. 16µs after RF signal, in the form of a projection.



- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 4)



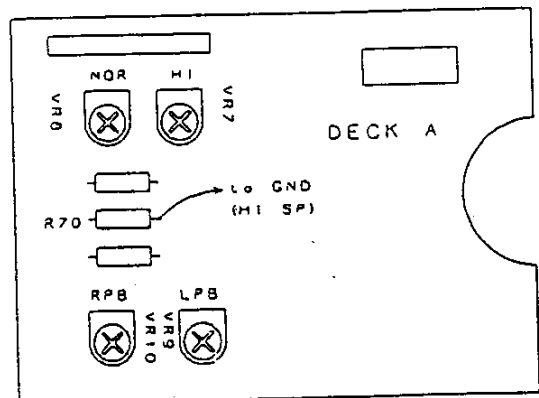
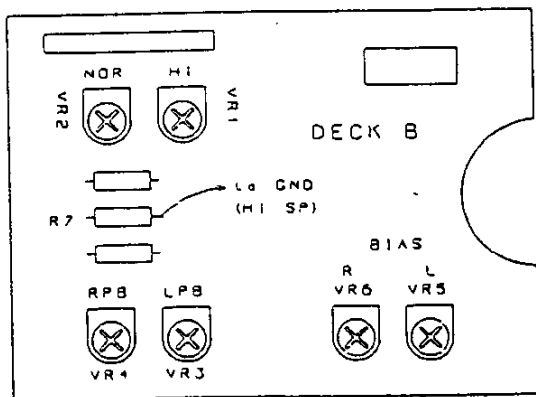
- RF signal in test mode (PLAY).

## ADJUSTMENT

### CSSSETTE DECK

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE TAPE DECK SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION		TAPE:NORMAL,	DOLBY:OFF,	INPUT:LINE,OR AUX			
I REC/PLAY HEAD							
[1]	DEMAGNETIZATION	—	—	POWER:OFF	REC/PLAY head	Demagnetize the REC/PLAY head with a head demagnetizer.	
[2]	CLEANING	—	—	PLAY	REC/PLAY head erase head, capstan, pinch roller.	Clean the REC/PLAY head erase head, capstan and pinch roller using a cotton swab slightly damped with alcohol.	
[3]	AZIMUTH	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimuth adjustment screw	Maximum output.	
II PC board adjustment(X28-2450)							
<1>	TAPE SPEED (HI SPEED)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connect R70 and GND (DECK A) or R7 and GND (DECK B) PLAY	DECK A : VR 7 DECK B : VR 1	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
<2>	TAPE SPEED (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Disconnect. PLAY.	DECK A : VR8 DECK B : VR2	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
<3>	PLAYBACK ** LEVEL	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Output level : -5.0dBm	
		MTT-256 SCC1727 315Hz (-4dB)			B VR3 (L) VR4 (R)	Output level : -9.0dBm	
<4>	BIAS CURRENT **	(A) 1kHz, -28dBm 10kHz, -28dBm (-28dBm=30mV)	P58 (1~3)	Adjust AG output so that the SPEAKER output becomes -28dBm at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	VR 5 (L) VR 6 (R)	Record 1kHz and 10kHz in alternation and adjust the variable resistors which control the bias current so that the same playback level is obtained.	

\*\* Set VOLUME knob to the condition NB:MIN, GE EFFECT:OFF, AUX input:200mV, speaker output 200mV/8Ω.



## REGLAGE

## MAGNETOPHONE A CASSETTE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU MAGNETOPHONE A CASSETTE	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MAGNETOPHONE A CASSETTE BANDE:NORMAL DOLBY:OFF INPUT:LINE OU AUX							
1.TETE D'ENREGISTREMENT/LECTURE							
[1]	DEMAGNETISATION	—	—	ALIMENTATION COUPEE	Tête d'enregistrement/lecture	Démagnétiser la tête d'enregistrement/lecture avec l'effaceur de tête.	
[2]	NETTOYAGE	—	—	PLAY	Tête d'enregistrement/lecture, tête d'effacement, cabestan, galet presseur	Nettoyer la tête d'enregistrement/lecture, la tête d'effacement, le cabestan et le galet presseur avec un coton-tige légèrement trempé de l'alcool.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Vis d'ajustement de l'azimut	Puissance maximum	
Ajustement de la plaquette de circuits imprimés(X28-2450)							
<1>	VITESSE DE LA BANDE (GRANDE VITESSE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connecter R70 et GND(PLATINE A) ou R7 et GND (PLATINE B) PLAY	PLATINE A:VR7 PLATINE B:VR1	Ajuster la vitesse de la bande pour qu'un signal de 3kHz soit produit au centre de la bande.	
<2>	VITESSE DE LA BANDE(NORMALE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Déconnecté. PLAY.	PLATINE A:VR8 PLATINE B:VR2	Ajuster la vitesse de la bande de sorte qu'un signal de 3kHz soit produit au centre de la bande.	
<3>	NIVEAU DE LECTURE**	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R) B VR3 (L) VR4 (R)	Niveau de sortie:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4dB)				Niveau de sortie:-9,0dBm	
<4>	COURANT DE POLARISATION**	(A) 1kHz,-28dBm 10kHz,-28dBm (-28dBm=30mV)	P58 (1~3)	Ajuster la sortie de AG de sorte que a sortie de HAUT-PARLEUR deviennent -28 dBm à 1kHz, puis enregistrer et reproduire un signal de 1kHz et 10kHz alternativement.	VR 5 (L) VR 6 (R)	Enregistrer alternativement 1kHz et 10kHz et ajuster les résistances variables qui contrôlent le courant de polarisation de sorte que le même niveau de lecture soit obtenu.	

\*\* Régler le bouton VOLUME à la condition. NB:MIN GE EFFECT:OFF, entrée AUX:200mV, sortie haut-parleur 200 mV/8Ω

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## ABGLEICH

## CASSETTENECK

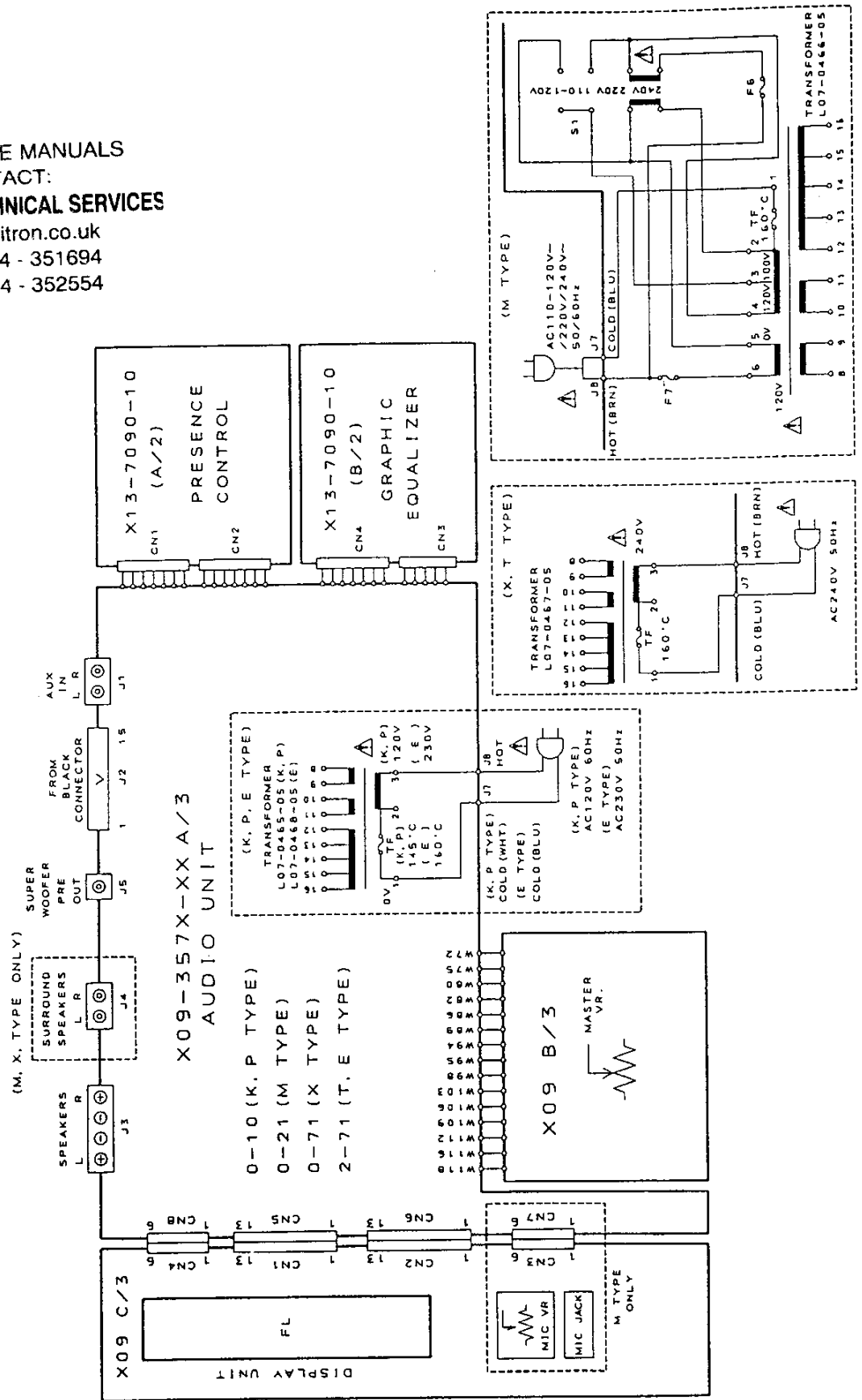
Nr.	GEGENSTAND	EINGANGSEIN- STELLUNG	AUSGANGS- EINSTEL- LUNG	CASSETTEN- DECK-EINSTEL- LUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
CASSETTENECK-TEIL BAND:NORMAL, DOLBY:OFF, EINGANG:LINE ODER AUX							
1.AUFNAHME/WIEDERGABEKOPF							
[1]	ENTMAGNETISI- ERUNG	—	—	POWER:OFF	Aufnahme/ Wiedergabekopf (REC/PLAY)	Den REC/PLAY-Kopf mit einem Tonkopf-Entmagnetisi- erer entmagnetisieren.	
[2]	REINIGUNG	—	—	PLAY	REC/PLAY- Kopf, Löschkopf, Tonwelle und Andruckrolle.	REC/PLAY- Kopf, Löschkopf, Tonwelle und Andruckrolle mit einem leicht mit Alkohol angefeuchteten Wattestäbchen reinigen.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimet-Ein- stellschraube	Höchstleistung.	
II Platinen-Einstellung(X28-2450)							
<1>	BANDGESCHWIN- DIGKEIT (SCHNELL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	R70 und GND (DECK A) oder R7 und GND(DECK B) verbinden PLAY	DECK A:VR7 DECK B:VR1	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz- Signal in der Mitte des Bands erzeugt wird.	
<2>	BANDGESCHWIN- DIGKEIT (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Abtrennen. PLAY.	DECK A:VR8 DECK B:VR2	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz- Signal in der Mitte des Bands erzeugt wird.	
<3>	WIEDERGA- BEPEGEL**	MTT-258U TCC-160 315Hz (0 dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Ausgangspegel:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4 dB)			B VR3 (L) VR4 (R)	Ausgangspegel:-9,0dBm	
<4>	VORMAGNETISI- ERUNGSSTROM**	(A) 1kHz, -28dBm 10kHz, -28dBm (-28dBm=30mV)	P58 (1~3)	Den AG-Ausgang so einstellen, daß der SPEAKER-Ausgang bei 1kHz -28 dBm wird, dann ab- wechselnd ein Signal mit 1kHz und 10kHz aufzeichnen und reproduzieren.	VR 5 (L) VR 6 (R)	Abwechselnd 1kHz und 10kHz aufzeichnen und die Vormagnetisierungsstrom- Stellwiderstände so einstellen, daß derselbe Wiederga- bepegel erhalten wird.	

\*\* Den VOLUME-Knopf entsprechend einstellen NB.MIN, GE EFFECT:OFF, AUX-Eingang:200mv, Lautsprecher-Ausgang 200mV/8Ω

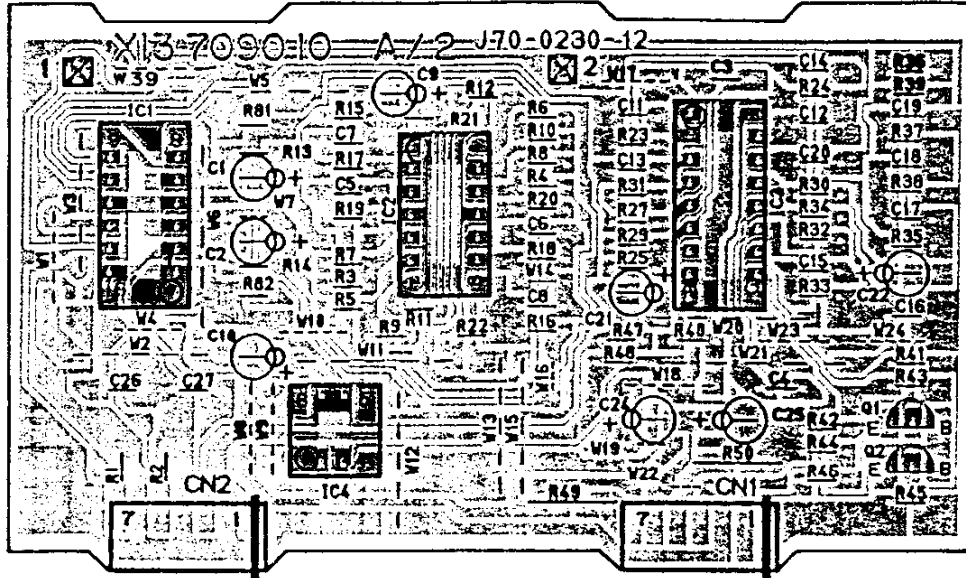
## WIRING DIAGRAM

A-A3

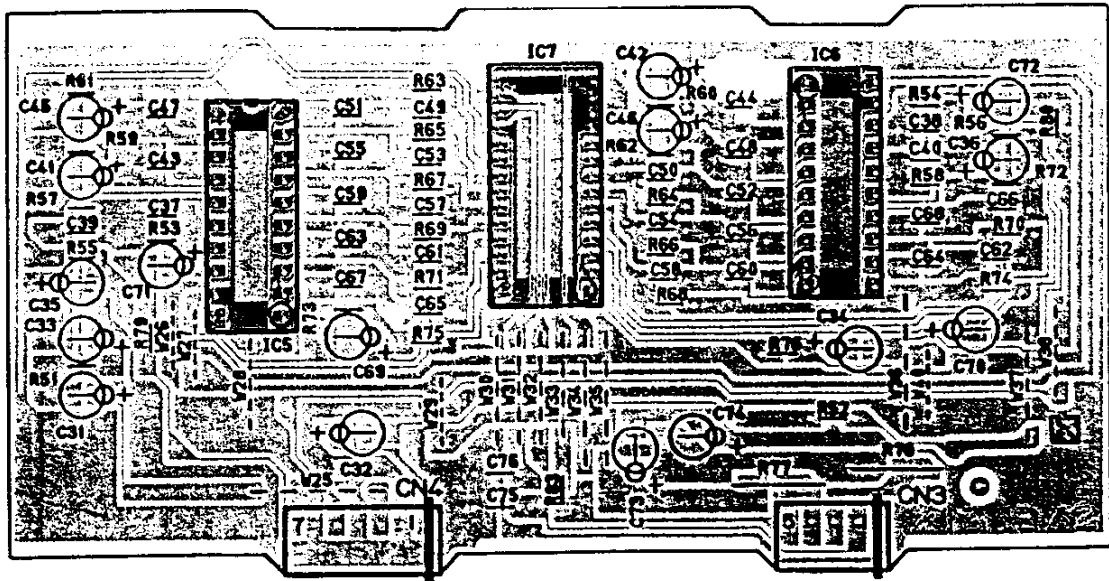
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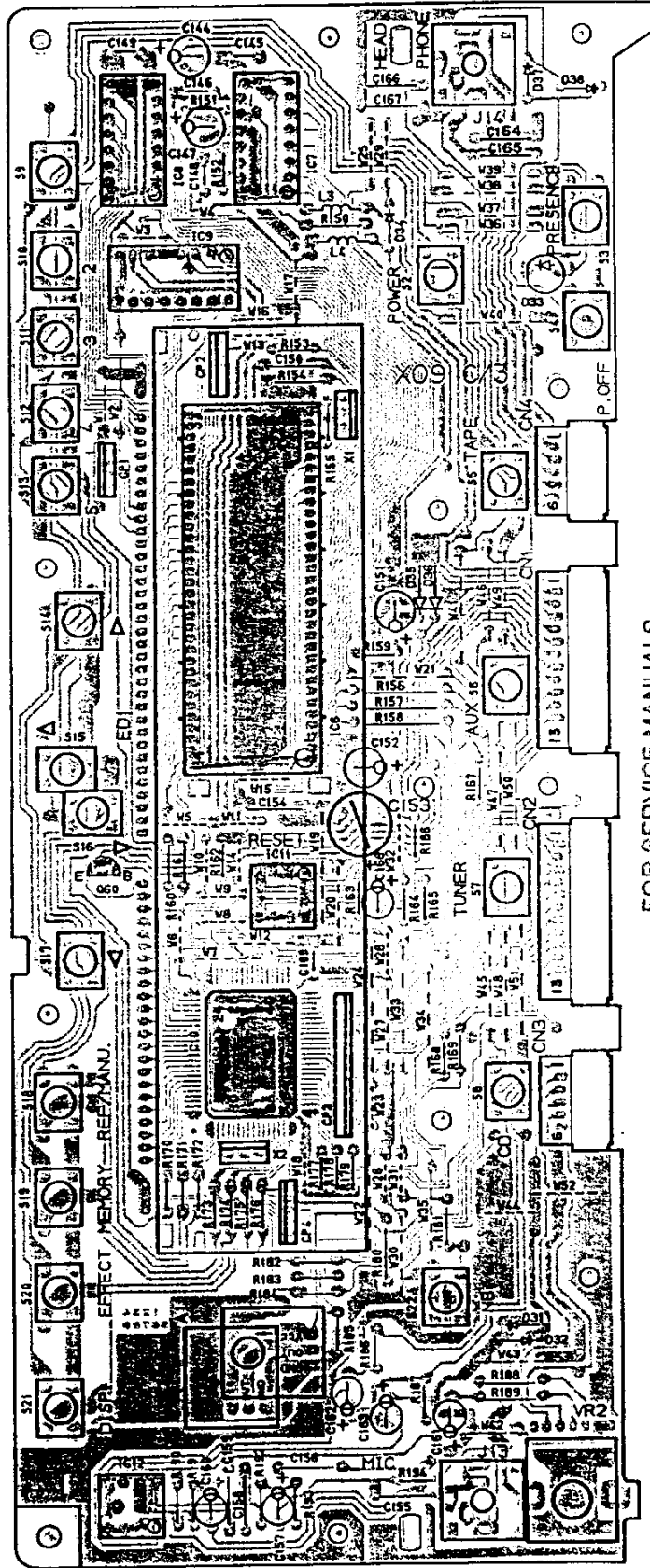
A B C D E  
**PC BOARD (Component side view)**



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# PC BOARD (Component side view)



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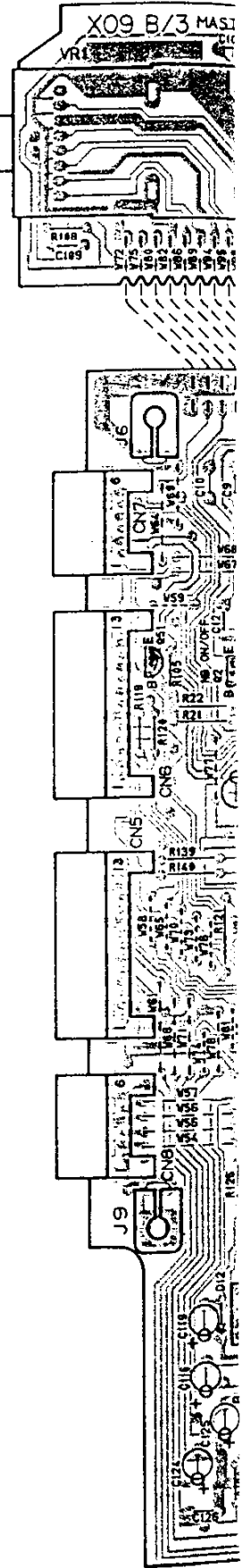
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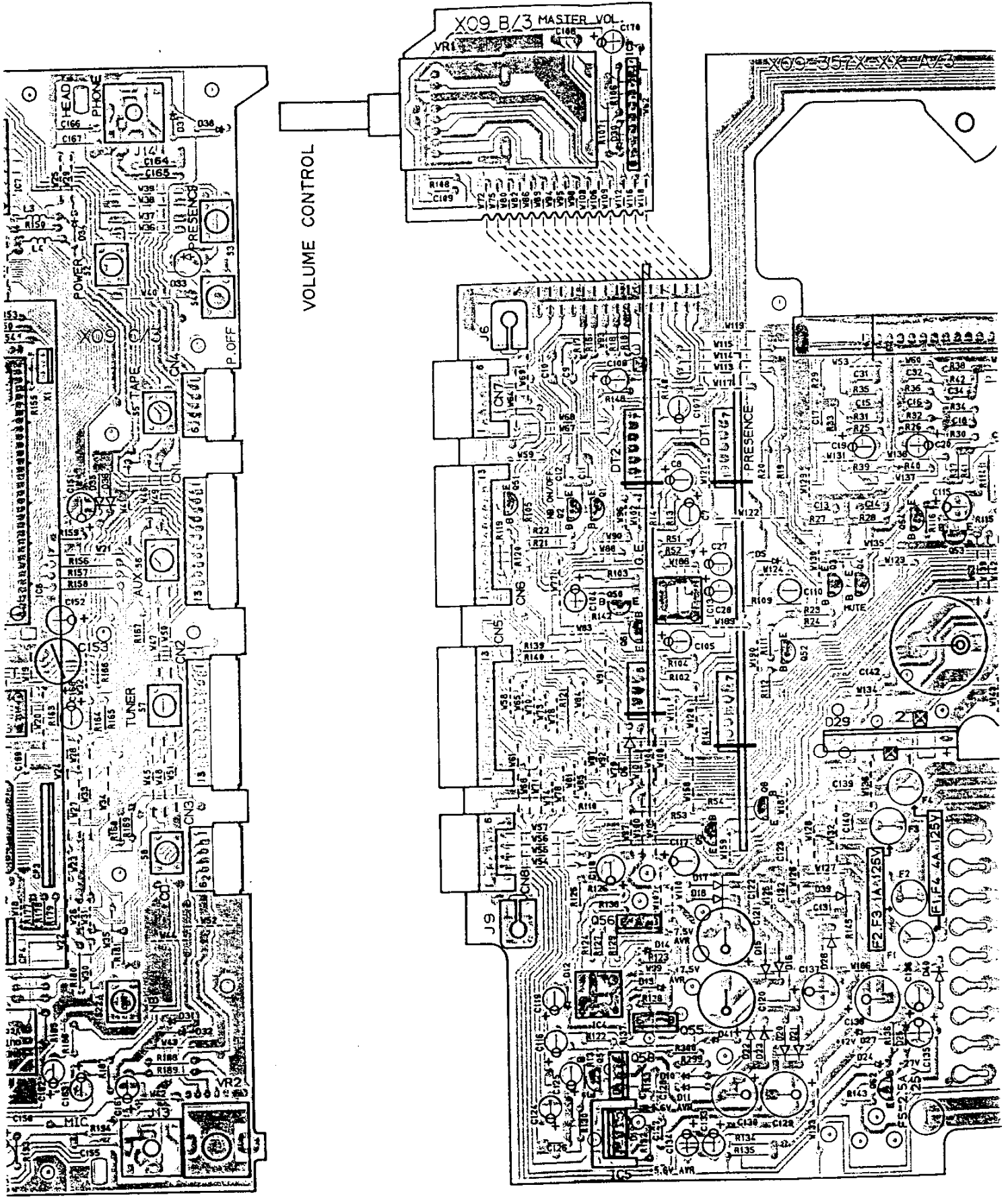
FAX: 01844 - 352554

VOLUME CONTROL



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

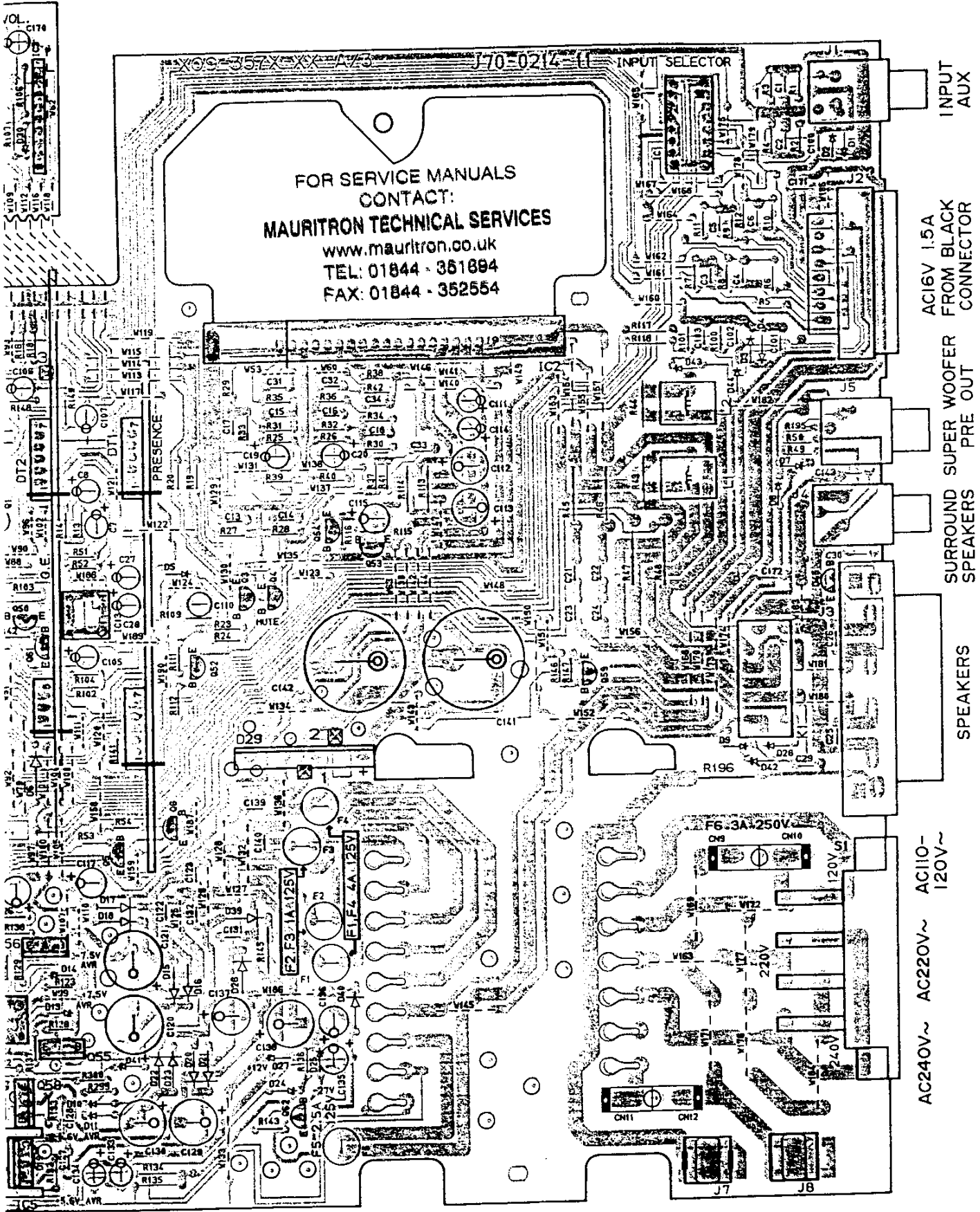
ent side view)



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



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INPUT  
AUX

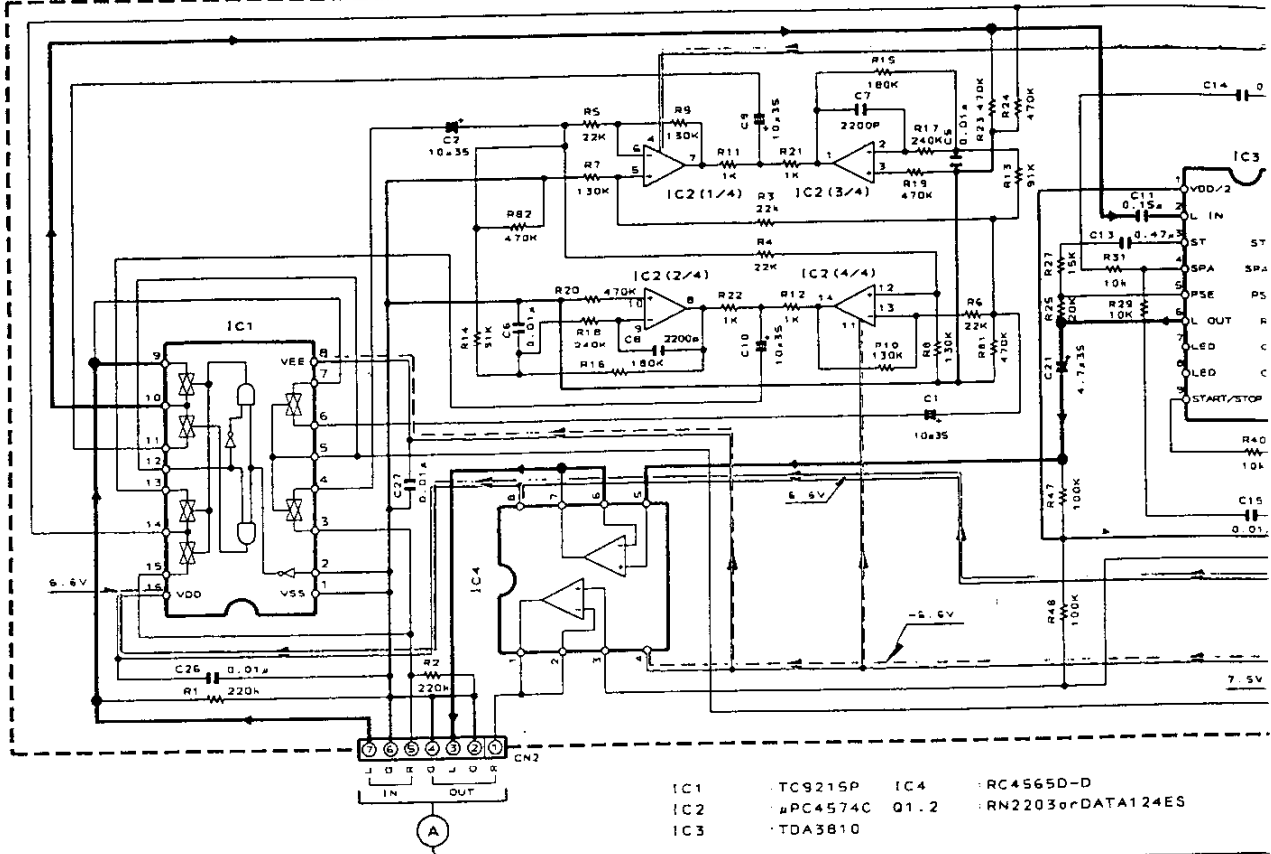
AC16V 1.5A  
FROM BLACK  
CONNECTOR

SURROUND SUPER WOOFER  
PRE OUT  
SPEAKERS

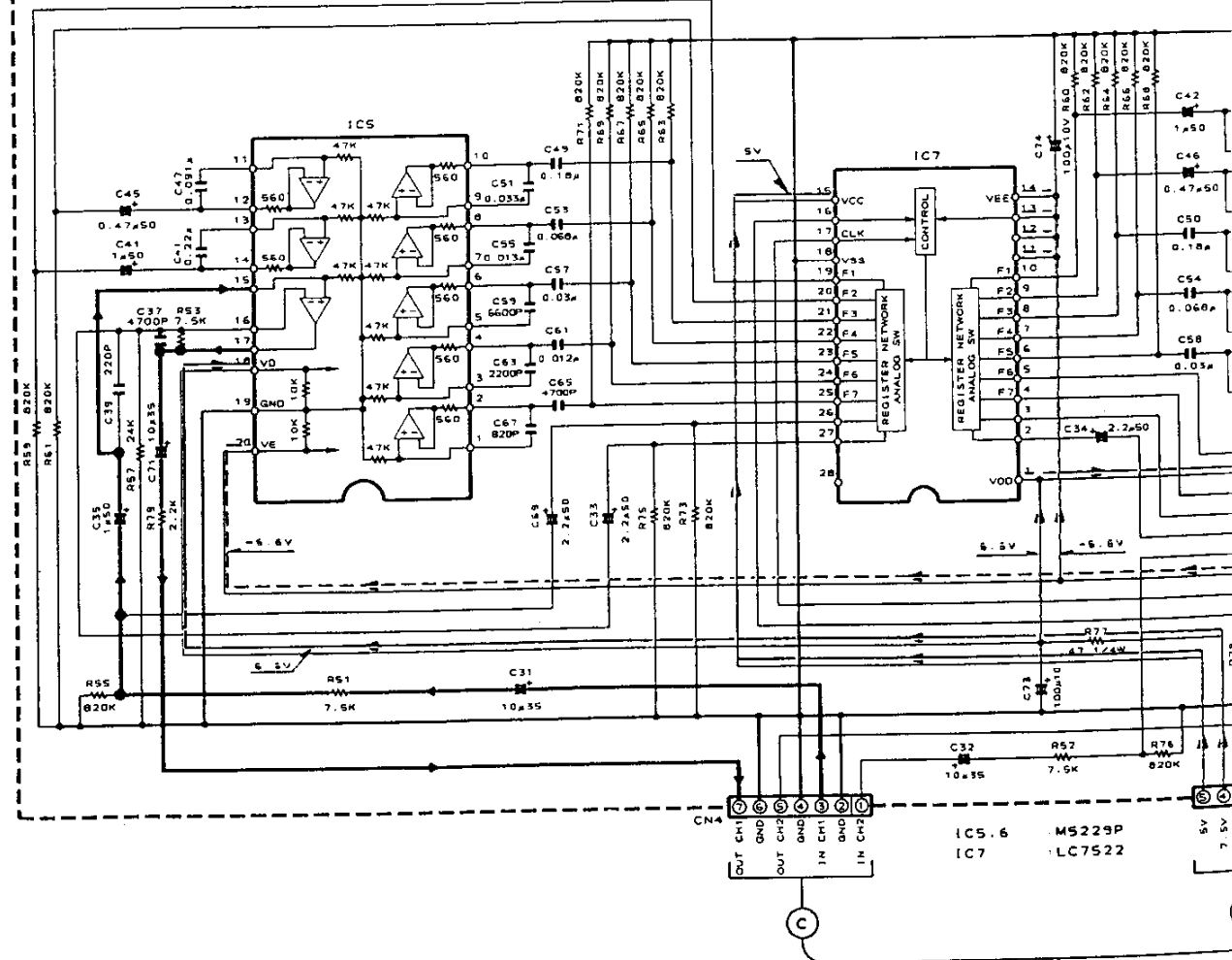
SPEAKERS

AC240V~ AC220V~  
AC110-  
120V~

A B C D E  
**X13-7090-10 A/2 PRESENCE CONTROL**

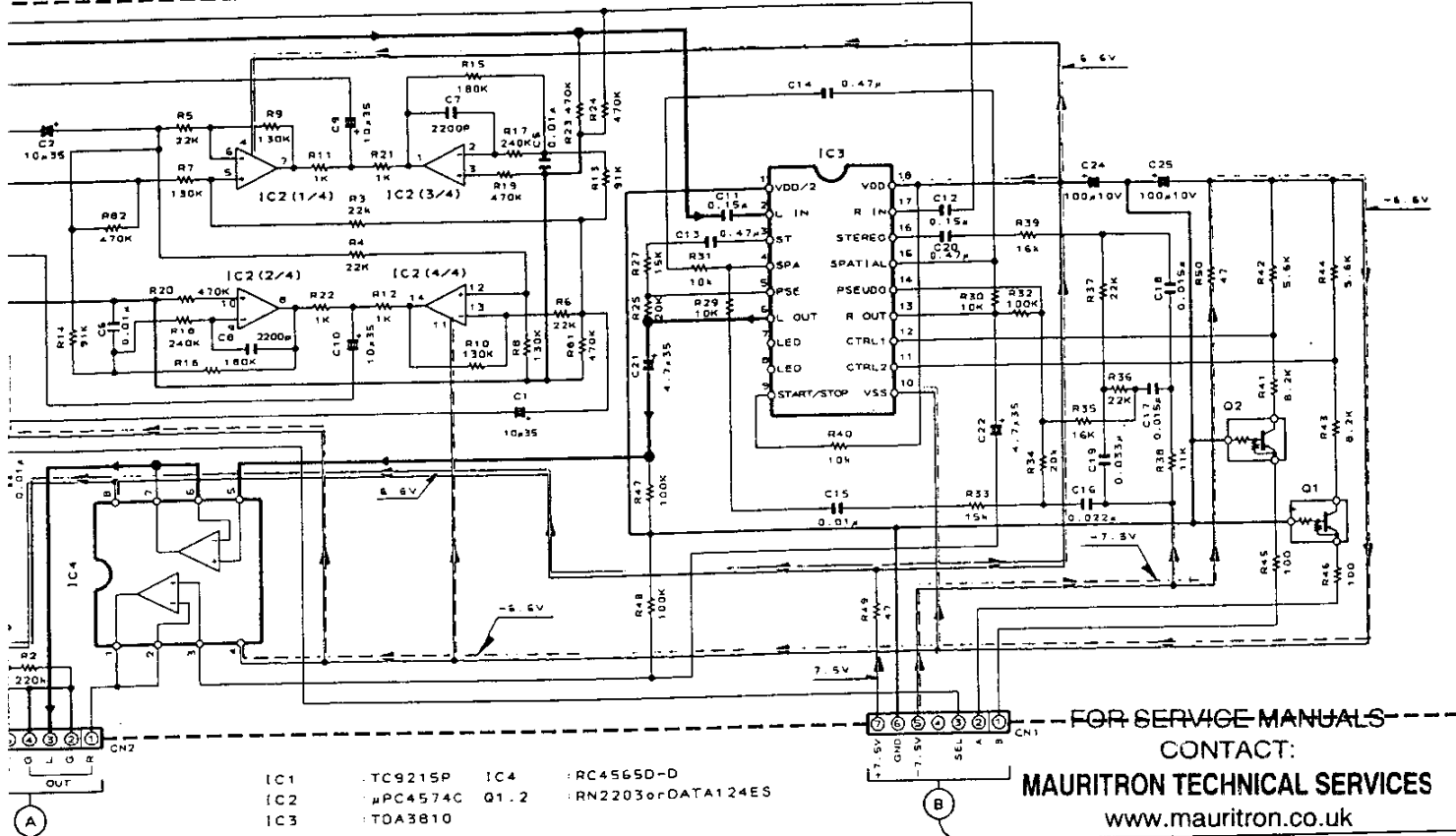


4  
**X13-7090-10 B/2 GRAPHIC EQUALIZER**



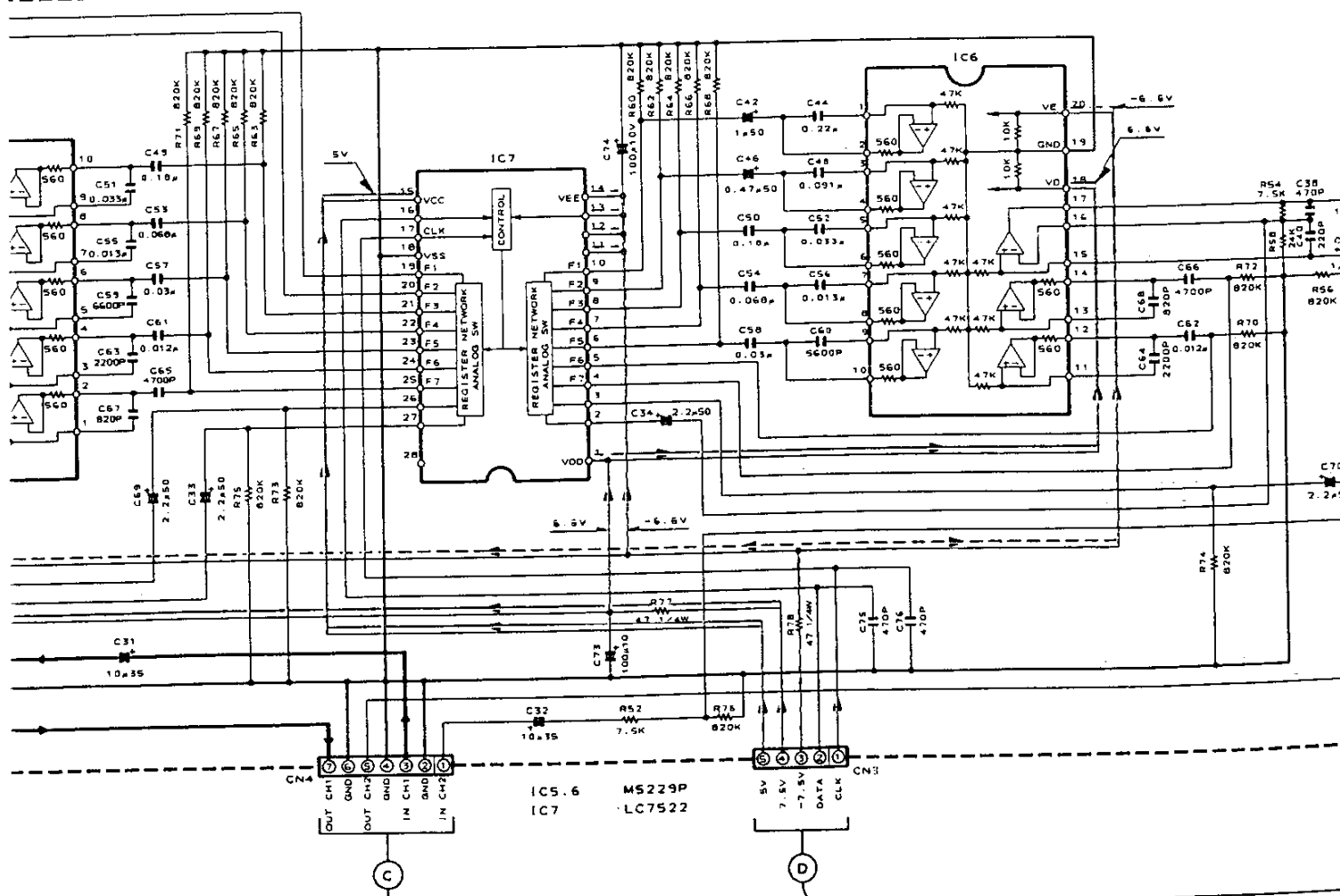
73

CE CONTROL

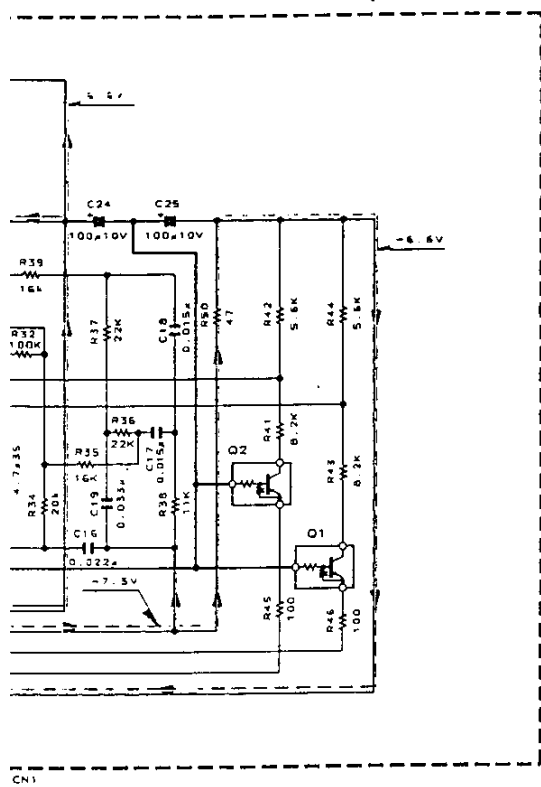


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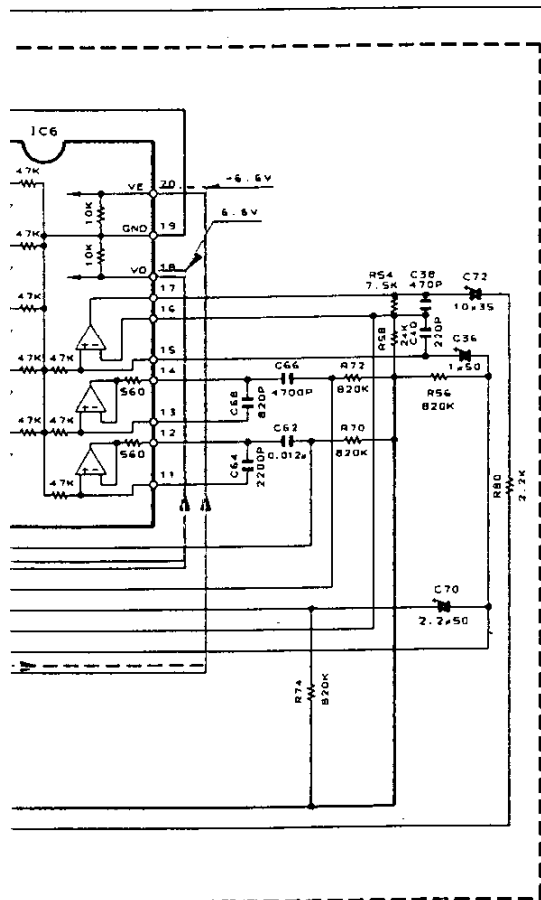
C EQUALIZER



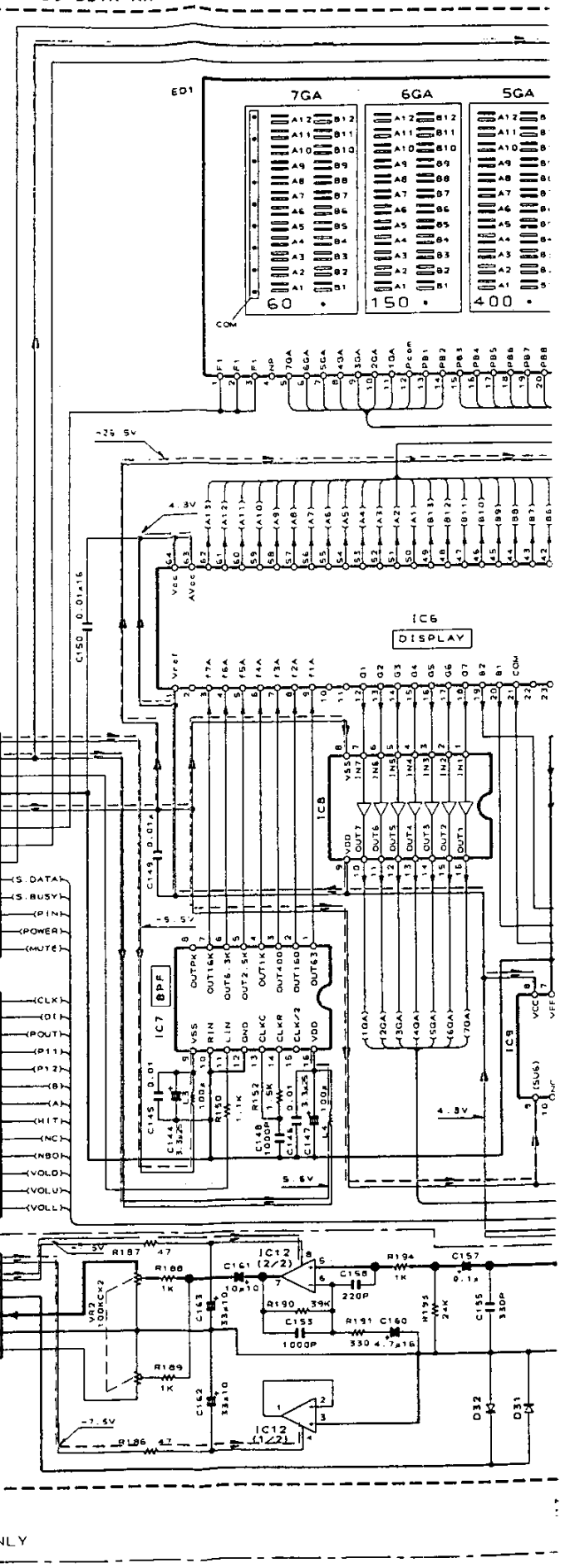
X09-357X-XX C/3



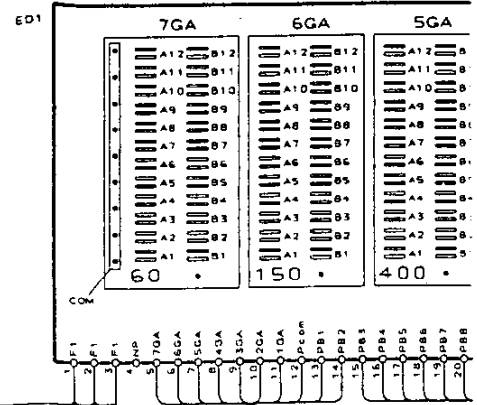
- X09-357X-XX C/3
- IC6 M50940-24SSP
  - IC7 XR-10910CP
  - IC8 PA80C
  - IC9 BLB1294
  - IC10 CXP50112-3750
  - IC11 PST6200
  - IC12 NJM4565C-0
- Q60
- D31, 32 1SS133
  - 34-36 or HSS104
  - D33 B30-1291-05 (9)
- ED1 FIP13CW19Y



- IC6
- VE 20
  - GND 19
  - VO 18
  - 17
  - 16
  - 15
  - 14
  - 13
  - 12
  - 11
- RS4 7.5K
- C38 470P
- C72 10x35
- C36
- C66 4700P
- R72 820K
- R54 820K
- R70 820K
- C62 0.012u
- C64 2200P
- C68 820P
- C74 1.5u
- C75 2.2x50
- R74 820K
- R80 2.2K

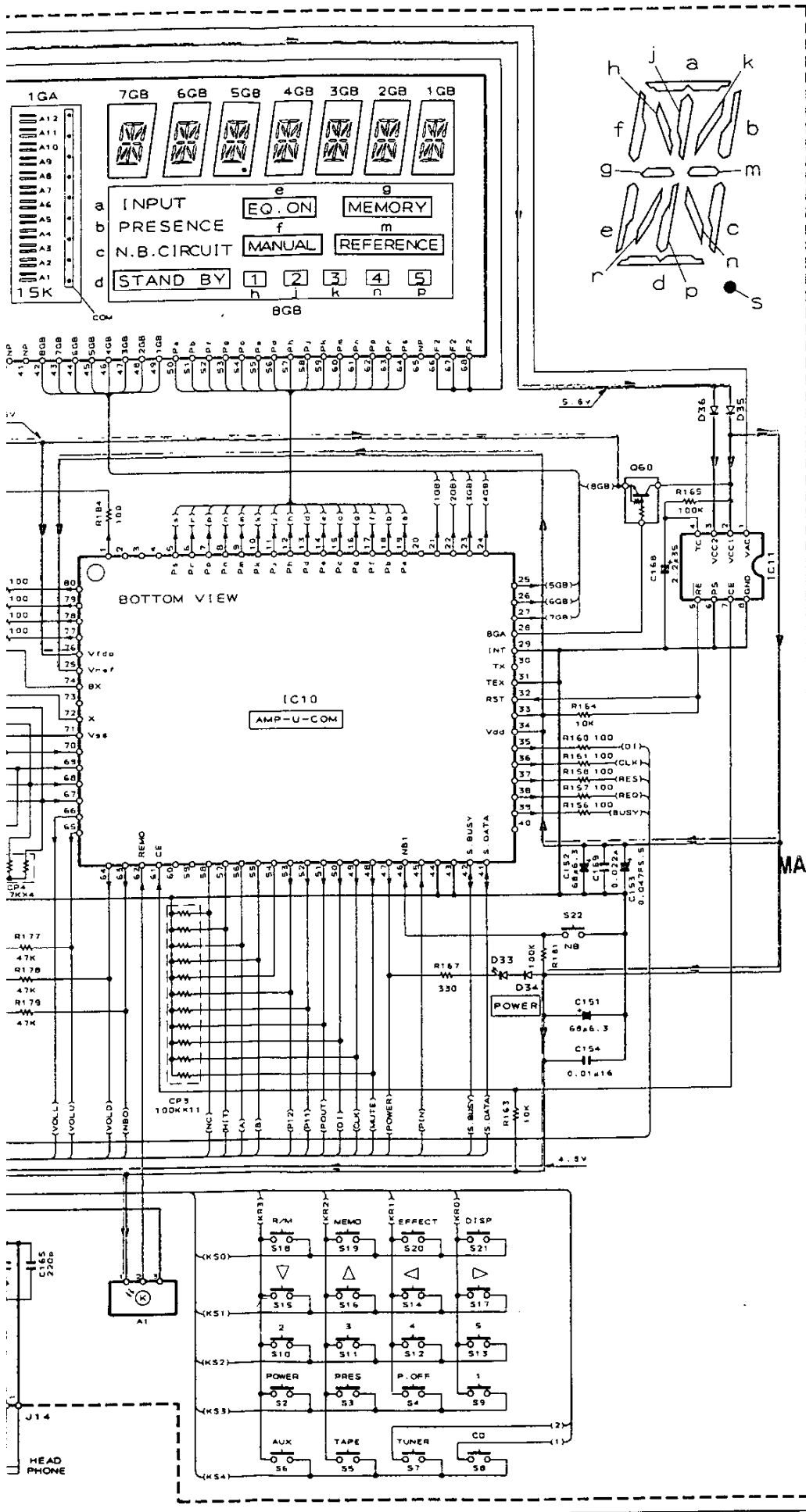


M.X ONLY



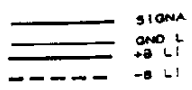
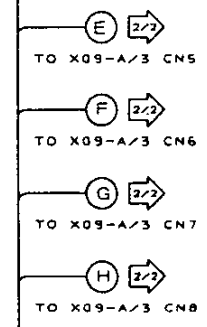
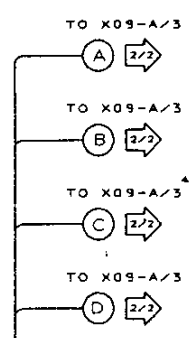
- CN1
- 5.5V
  - +5.5V
  - GND
  - 30V
  - F1
  - F2
  - VAC
  - S.DAT
  - S.BUSV
  - PIN
  - POWER
  - MUTE
- CN2
- CLK
  - DI
  - POUT
  - PFI
  - PFI2
  - B
  - A
  - HIT
  - NC
  - NBO
  - VOL
  - VOLU
  - VOLL
- CN3
- 7.5V
  - +7.5V
  - GND
  - L
  - R

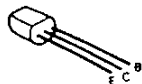




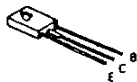
2SA954  
2SA992  
2SA999

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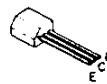




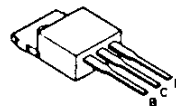
2SA954 2SC1845 2SC3246  
2SA992 2SC2003 2SC3940A  
2SA999 2SC2878 2SD1302



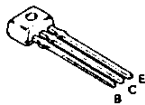
2SB772



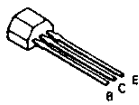
RN1203



2SD1266



2SA1175  
2SC2785



DTA124ES RN2203  
DTA143TS 2SA933S  
DTC124ES 2SC1740S



2SA1037K 2SC2413K  
2SC2412K 2SC3115



2SB941  
2SC3944A  
2SD2061

TO X09-A/3



TO X09-A/3



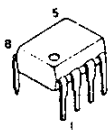
TO X09-A/3



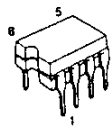
TO X09-A/3



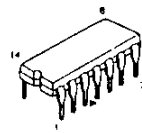
DTC144TFF



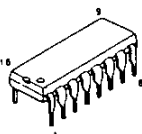
NJM4558D



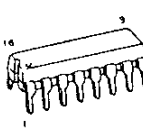
NJM4565D  
NJM4565-D  
PST620DDB



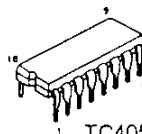
UPC4574C



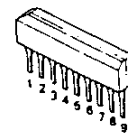
XRU4052B



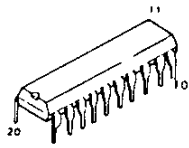
LB1294



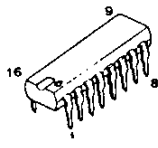
TC4052BP  
TC9215P  
UPA80C



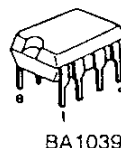
TA8125S  
TA8409S  
TD62554S



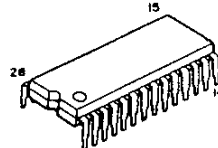
M5229P



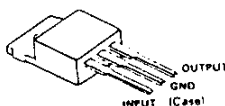
XR-1091ECP



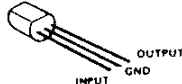
BA10393  
RC4565D



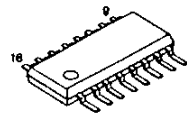
LC7522



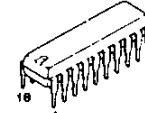
UPC7805HF



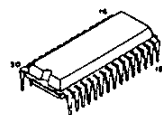
PST529D



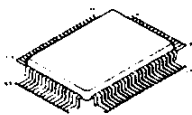
TA2009F



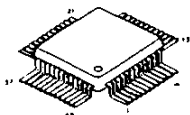
TDA3810



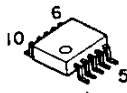
LA1851N



CXD2500AQ



CXA1372Q



TA8409F

TO X09-A/3 CN5



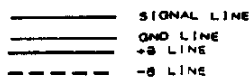
TO X09-A/3 CN6



TO X09-A/3 CN7



TO X09-A/3 CN8



**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.

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Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

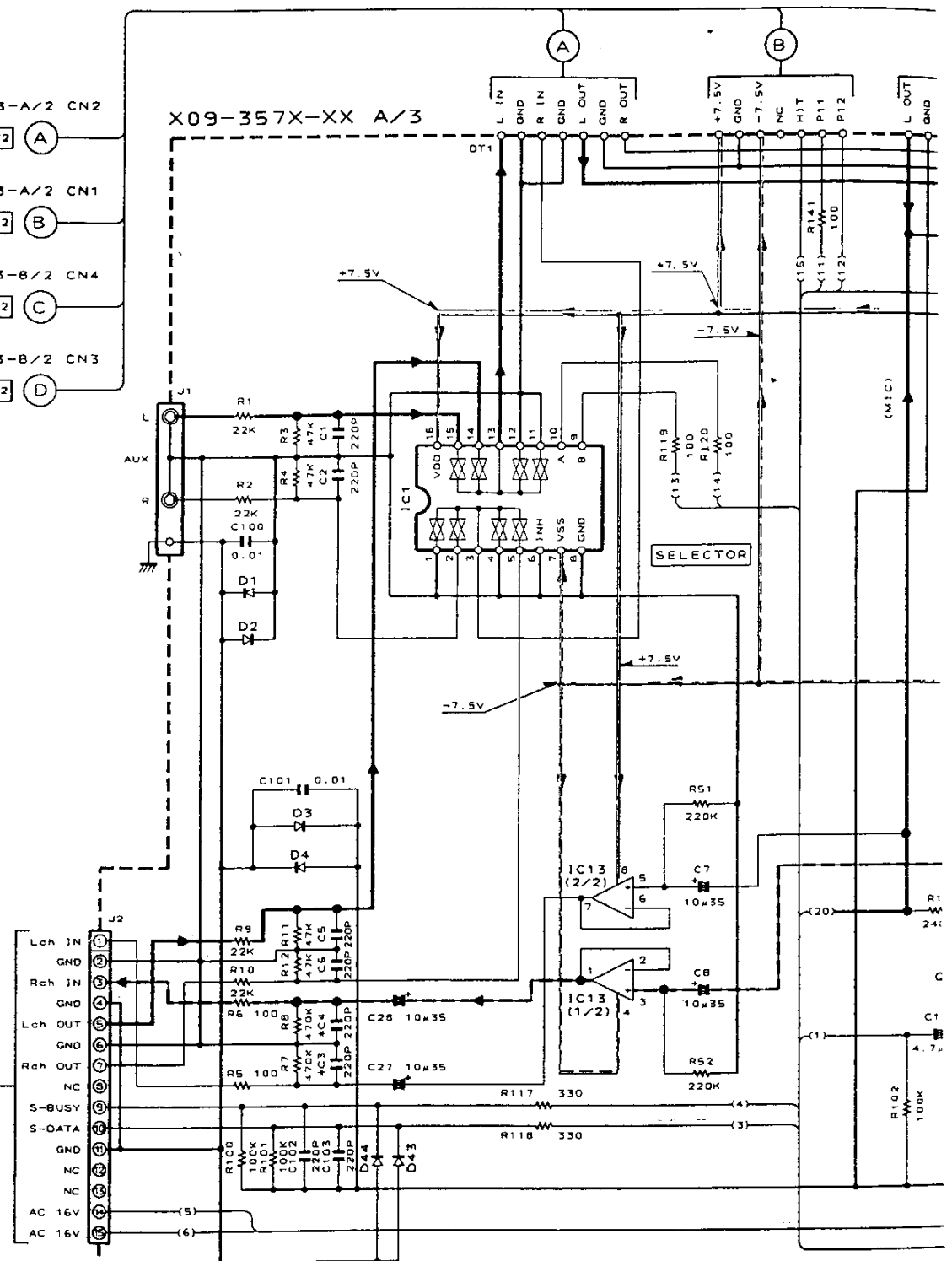
2  
3  
4  
5  
6  
7  
97

TO X13-A/2 CN2 (A)  
TO X13-A/2 CN1 (B)  
TO X13-B/2 CN4 (C)  
TO X13-B/2 CN3 (D)

TO X-A3 CN6

TO X13 CN5 (E)  
TO X13 CN4 (F)  
TO X13 CN1 (G)  
TO X13 CN2 (H)

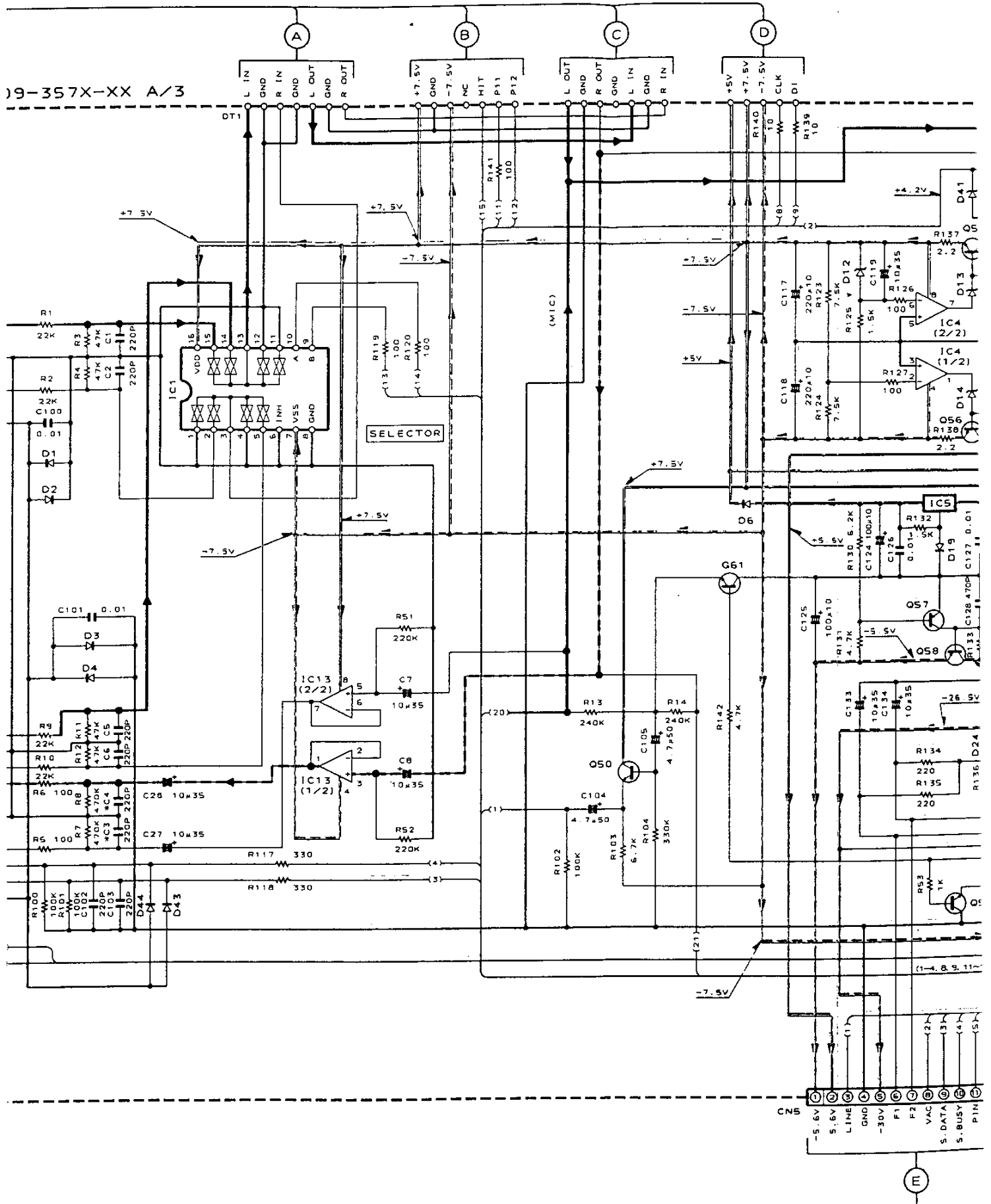
### X09-357X-XX A/3



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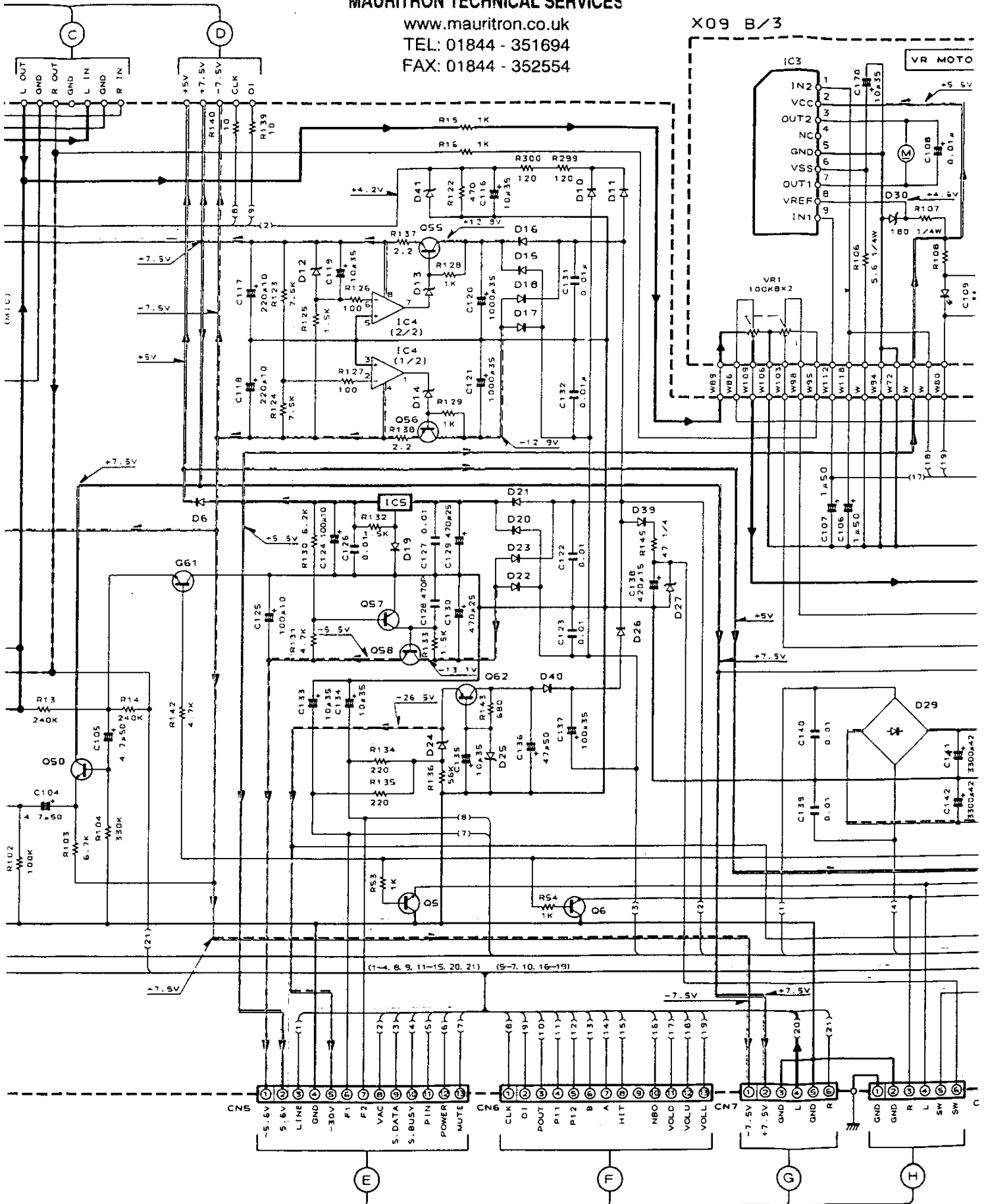
19-357X-XX A/3



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IC3	PIN	①	⑨
MODE		1	0
CCW		1	0
CW		0	1

X09 B/3

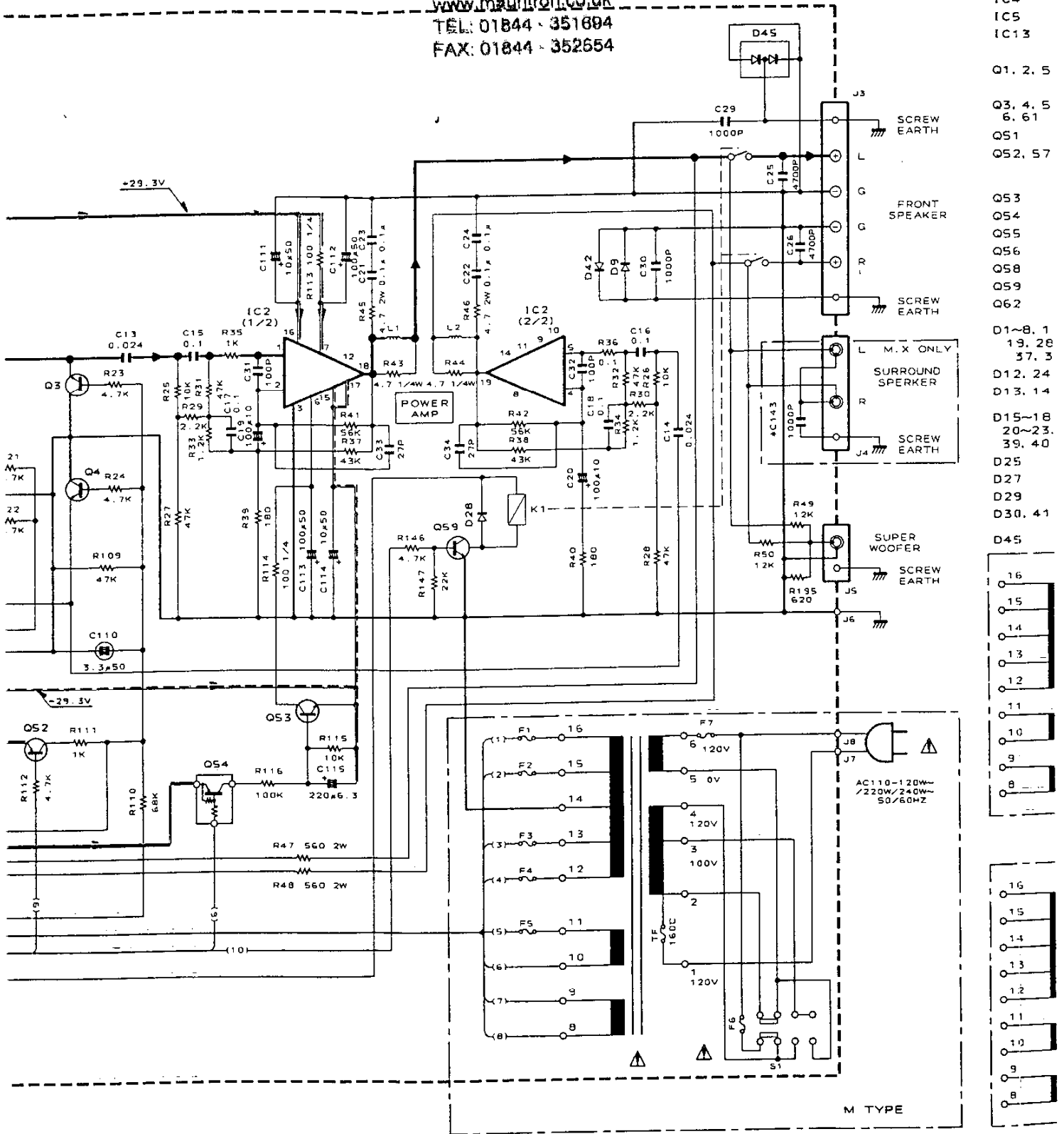




Y	ABB.	UNIT NAME	AREF. NO	*C3, 4
	K P	X09-3570-10		NO
IA	X	X09-3570-71		
AS	M	X09-3370-21		YES
T E		X09-3572-71		

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IC1  
IC2

IC3  
IC4  
IC5  
IC13

Q1, 2, 5

Q3, 4, 5  
6, 61

Q51  
Q52, 57

Q53

Q54

Q55

Q56

Q58

Q59

Q62

D1~8, 1  
13, 28  
37, 3

D12, 24

D13, 14

D15~18  
20~23,  
39, 40

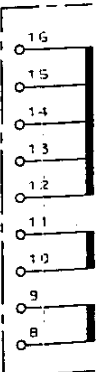
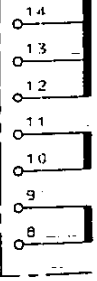
D25

D27

D29

D30, 41

D45



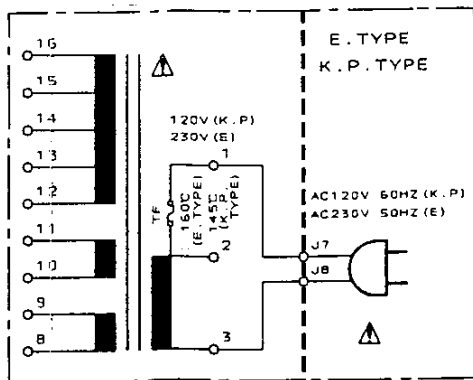
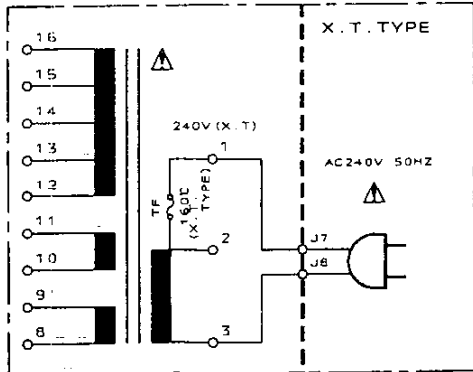
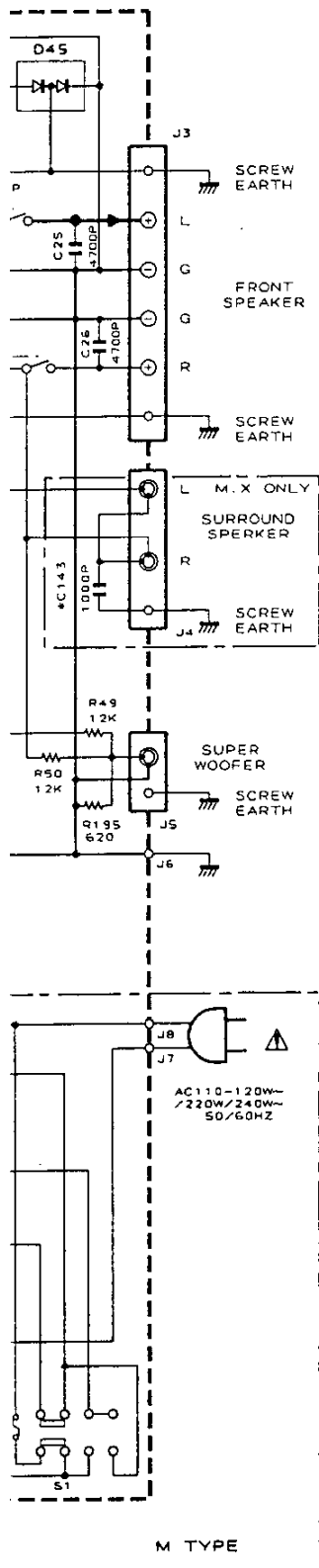
IC1 : TC4052BP  
 IC2 : STK4140MK2 (K)  
       : STK4140MK5 (E)  
       : STK4150MK2 (M, X)  
 IC3 : TA8409S  
 IC4 : NJM45580  
 IC5 : MPC7805HF  
 IC13 : NJM45650-0

Q1, 2, 50 : 2SC1740S (Q, X)  
            : or 2SC278S (F, E)  
 Q3, 4, 5, 6, 61 : 2SC2878 (B)  
 Q51 :  
 Q52, 57 : DTC124ES or RN1203  
           : 2SA933S (Q, R) or  
           : 2SA117S (F, E)  
 Q53 : 2SC1845 (F, E)  
 Q54 : DAT124ES or RN2203  
 Q55 : 2SD1266 (Q, P)  
 Q56 : 2SB941 (Q, P)  
 Q58 : 2SB772 (Q, P)  
 Q59 : 2SC2003 (L, K)  
 Q62 : 2SA992 (F, E)

D1~8, 10, 11, 13, 28, 31, 37, 38 : 1SS133 or HSS104  
 D12, 24 : RD7.5JS (B) or HZS7.5S (B)  
 D13, 14 : RD8.2ES (B2) or  
           : HZS8.2N (B2)  
 D15~18, 20~23, 26, 39, 40 : 1SR139-100  
 D25 : RD30ES (B) or HZS30N (B)  
 D27 : RD13ES (B2) or HZS13N (B2)  
 D29 : D5SBA20F03  
 D30, 41 : RD4.7ES (B2) or  
           : HZS4.7N (B2)  
 D45 : MA177

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————— SIGNAL LINE  
 ——— GND LINE  
 - - - - - +B LINE  
 - - - - - -B LINE



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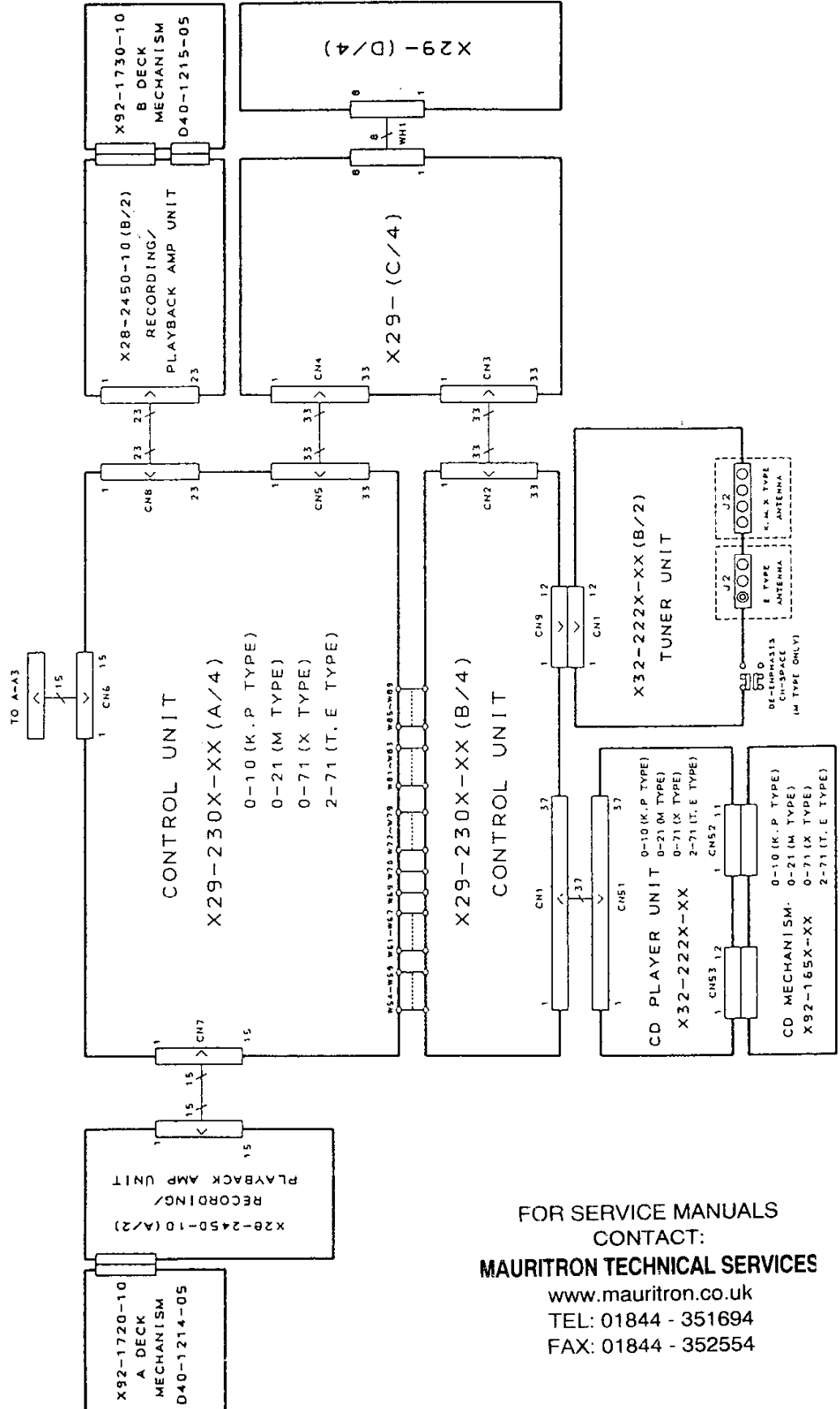
A-A3 2/2

Y08-4550-10

**UD-300**  
**KENWOOD**

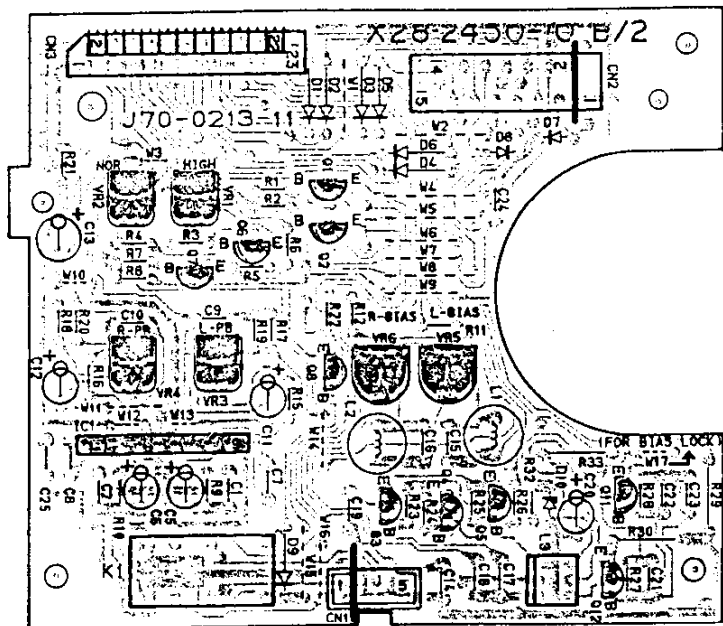
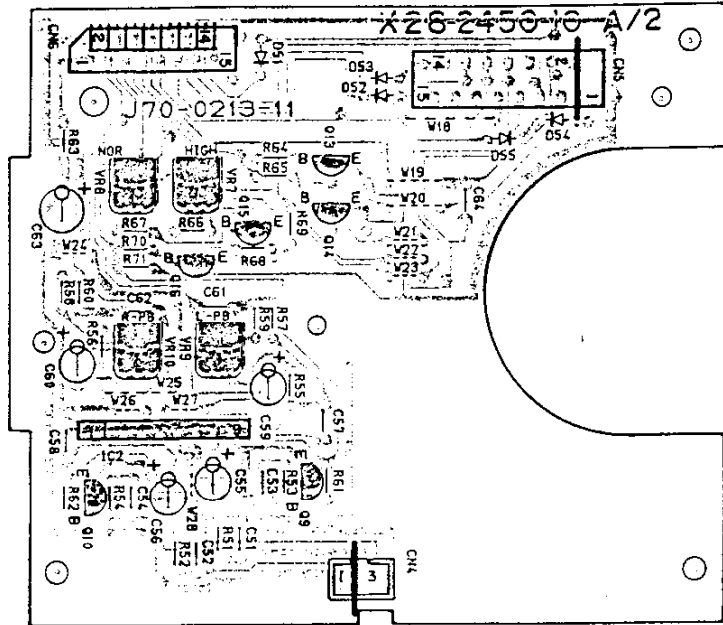
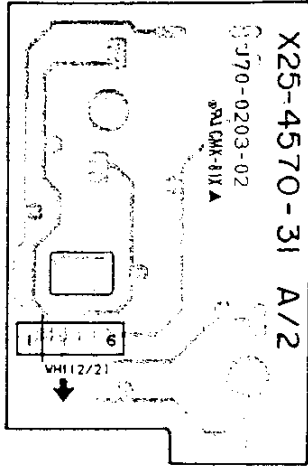
## WIRING DIAGRAM

X-A3

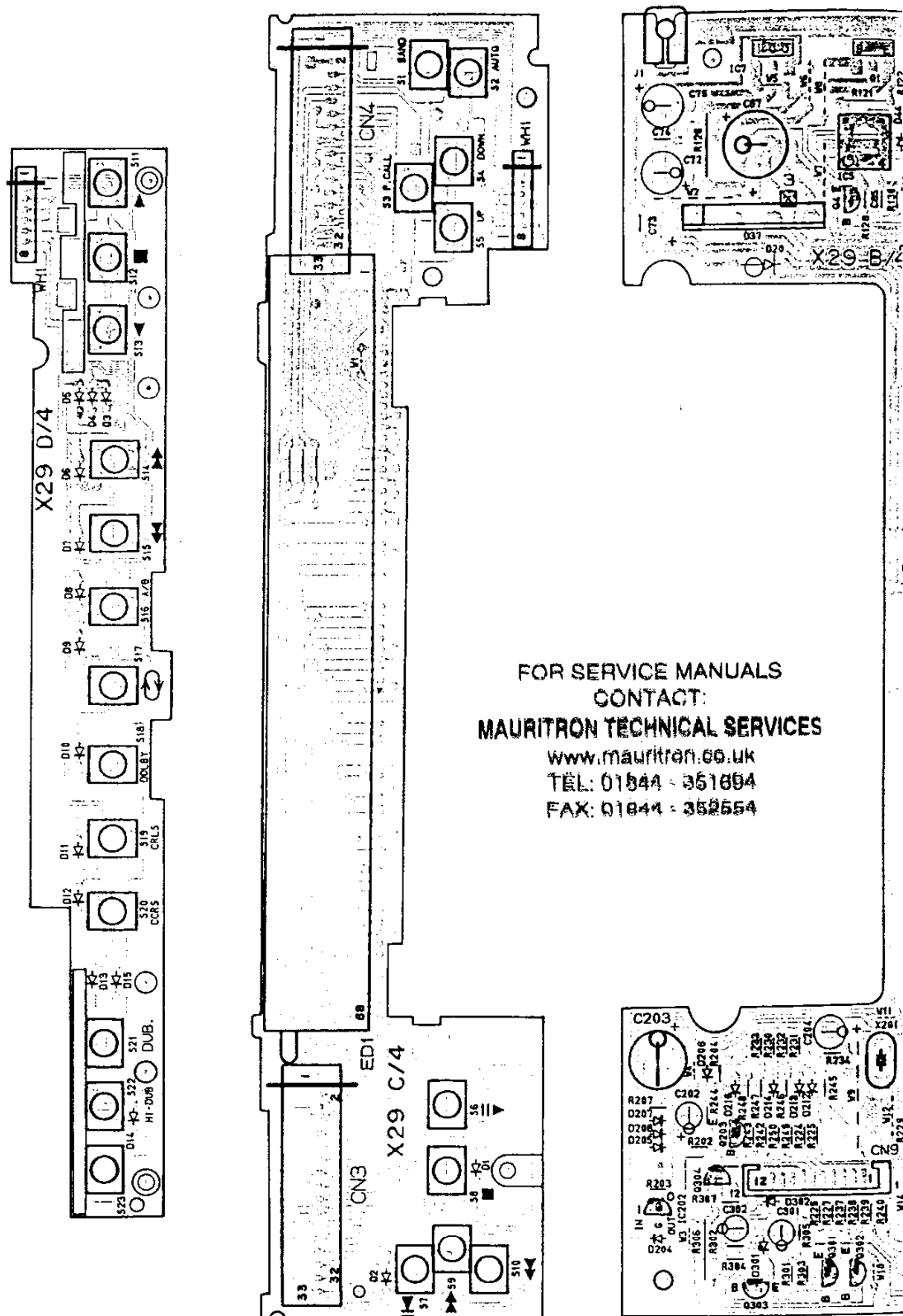


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# PC BOARD (Component side view)

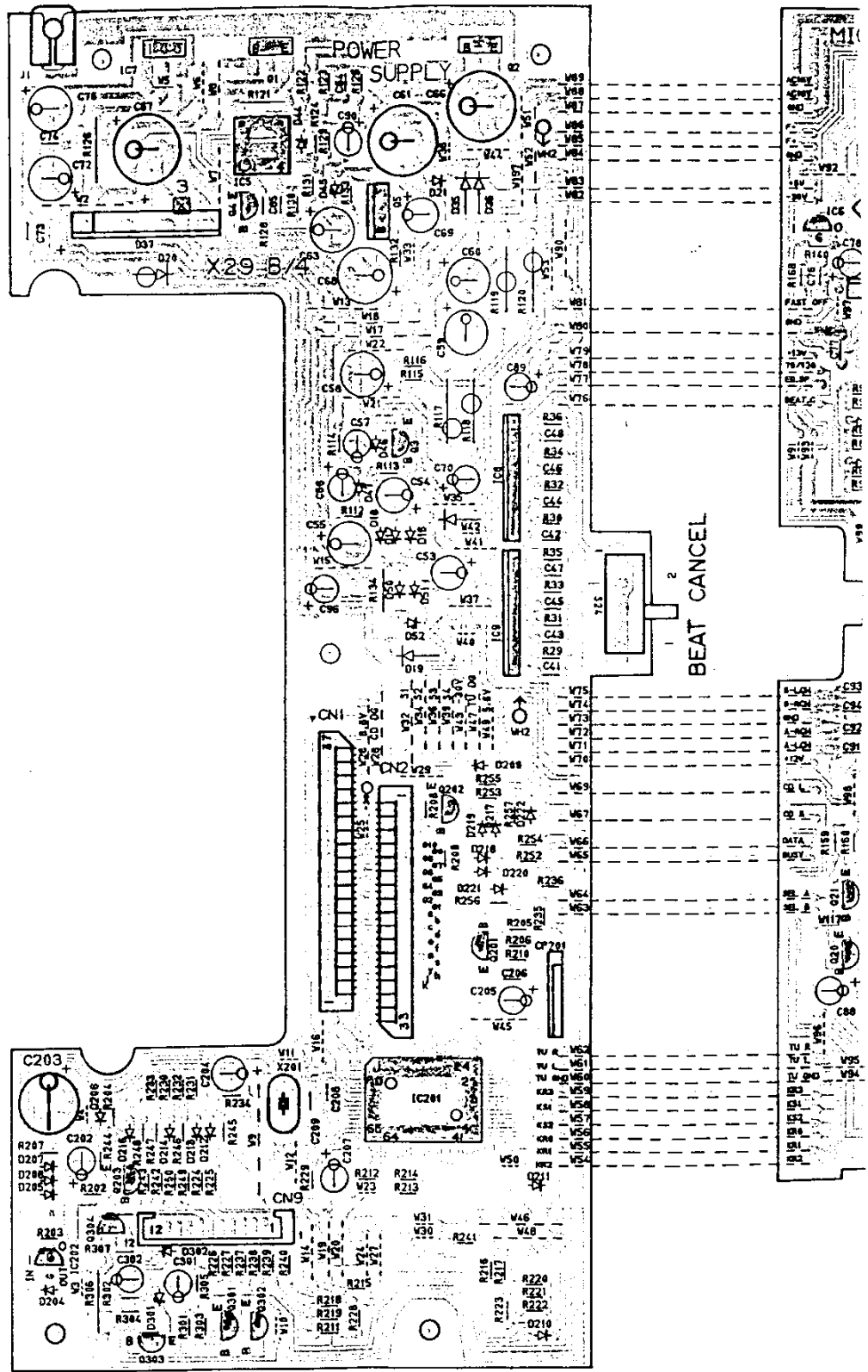
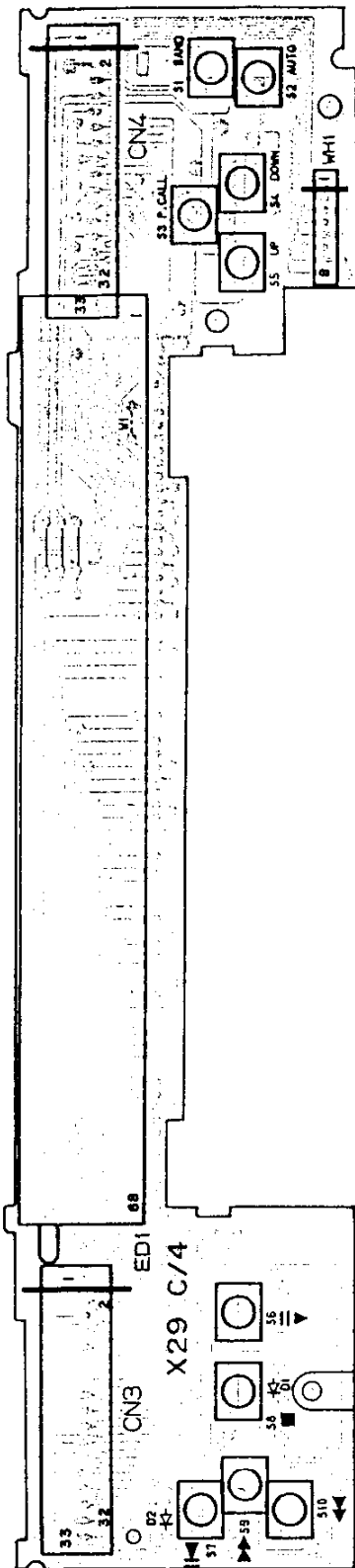


# PC BOARD (Component side view)





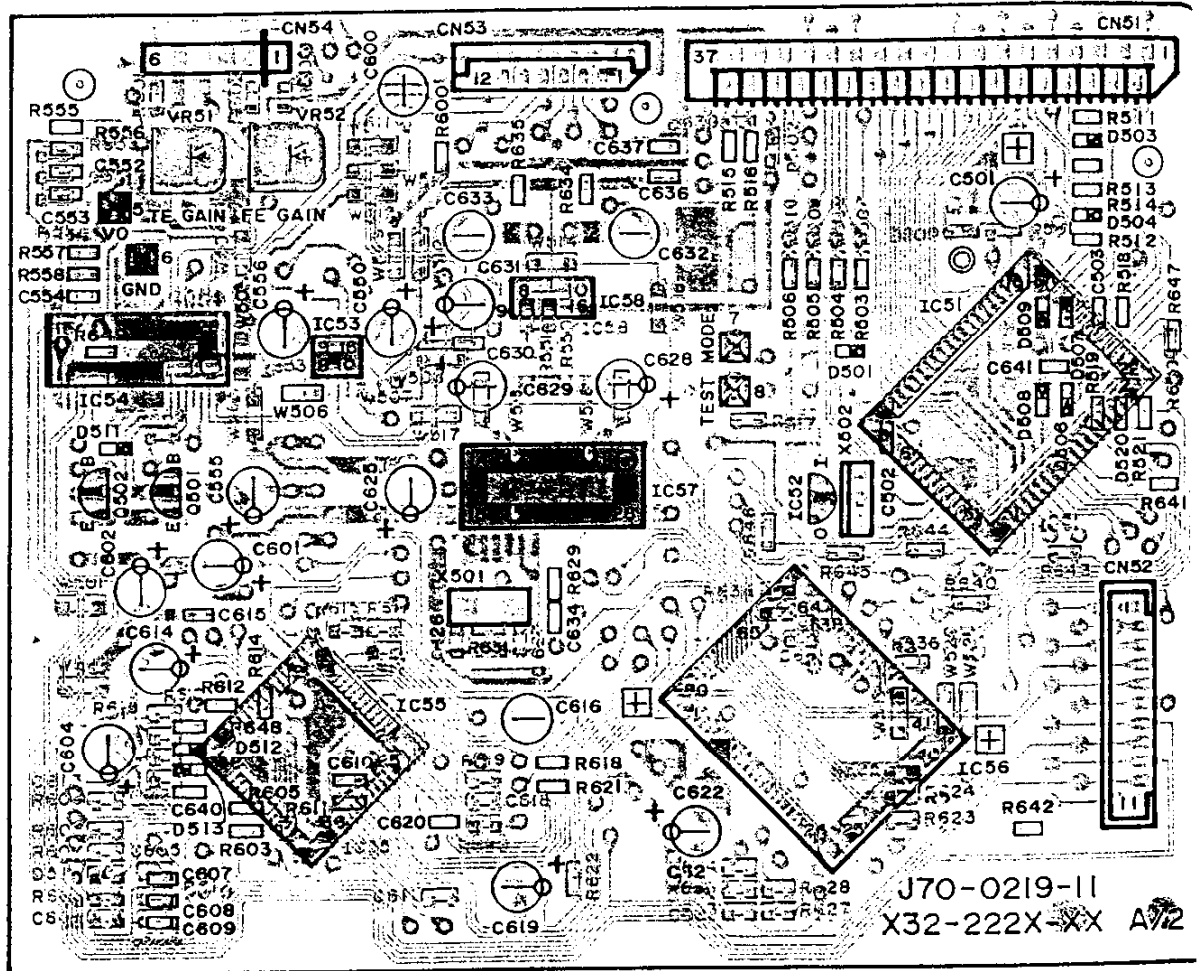
G H I J K L  
 Component side view)



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



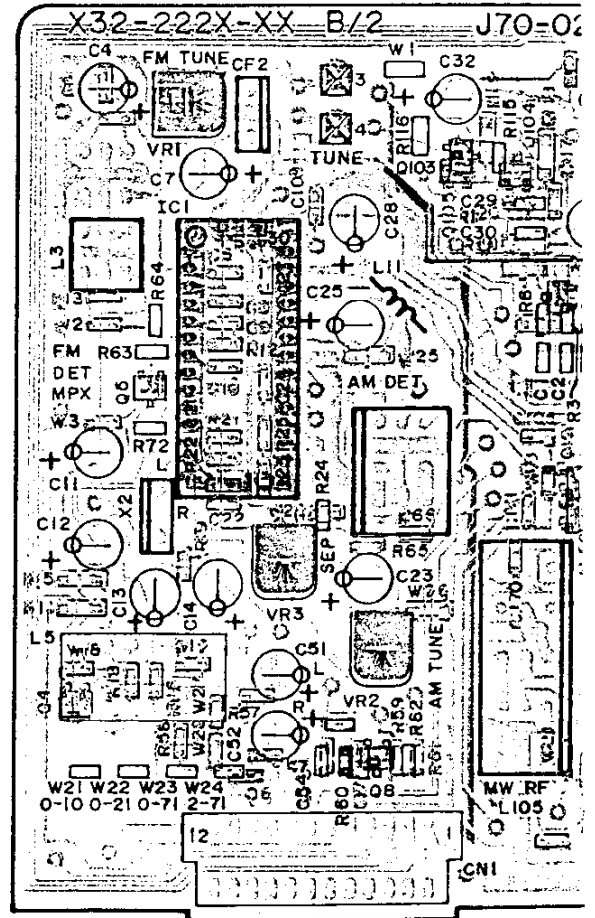
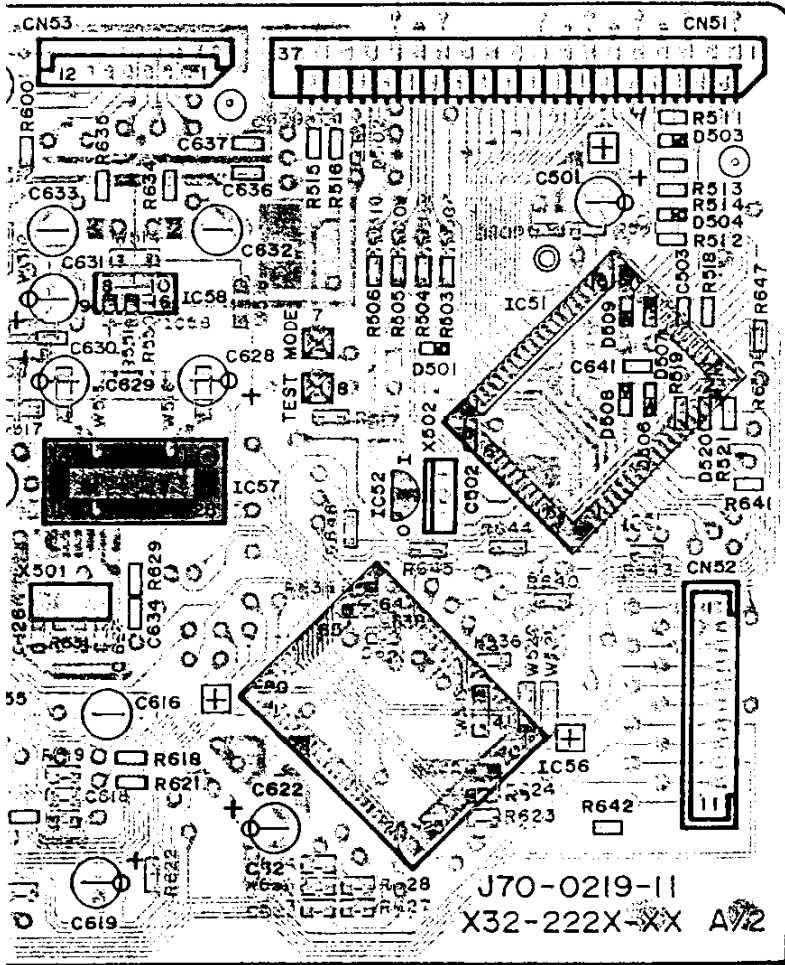
# PC BOARD (Component side view)



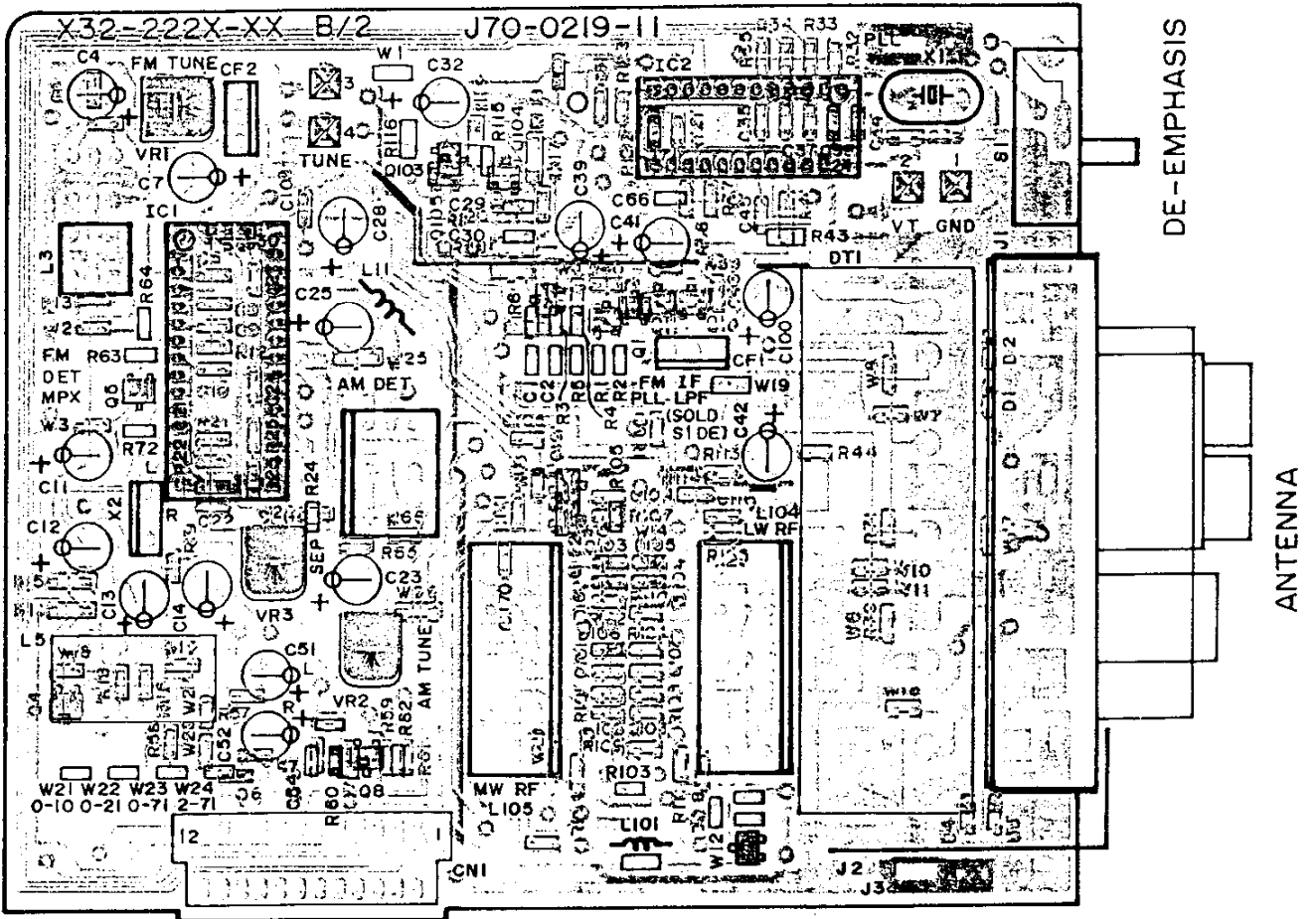
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Refer to the schematic diagram for the values of resistors and capacitors.

side view)

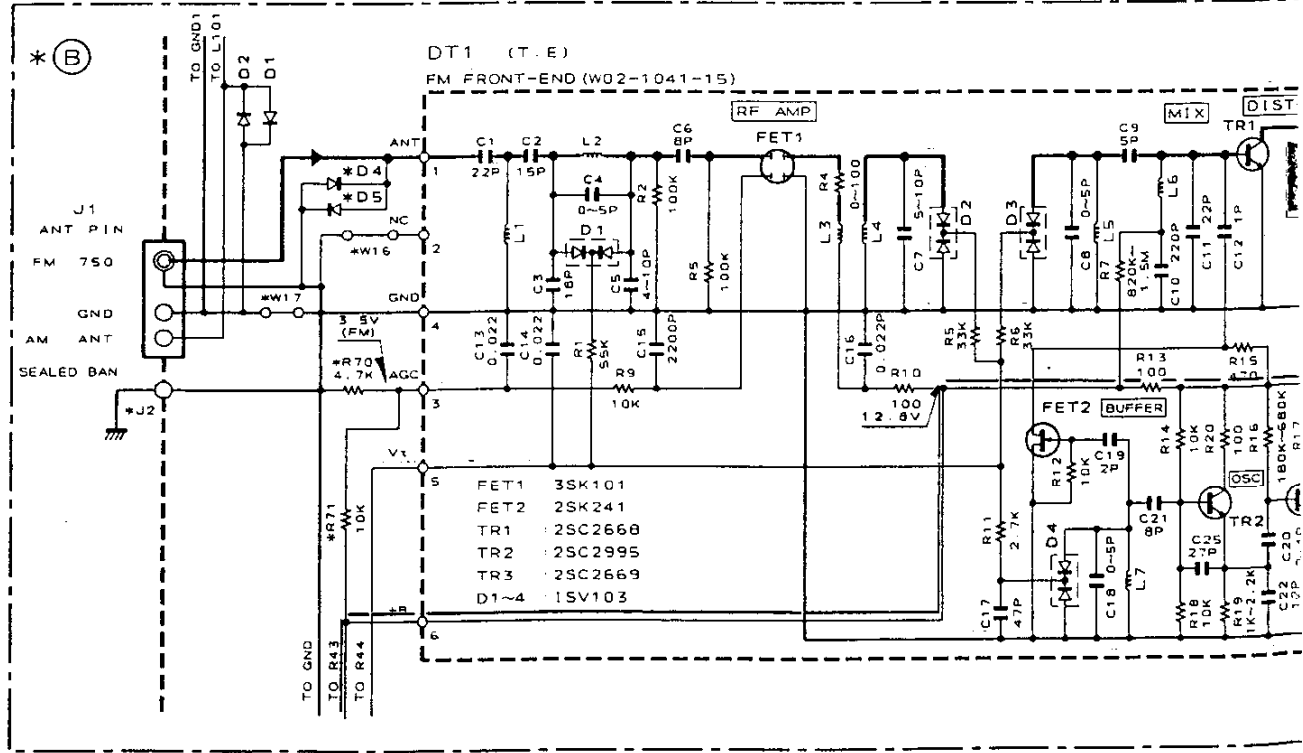
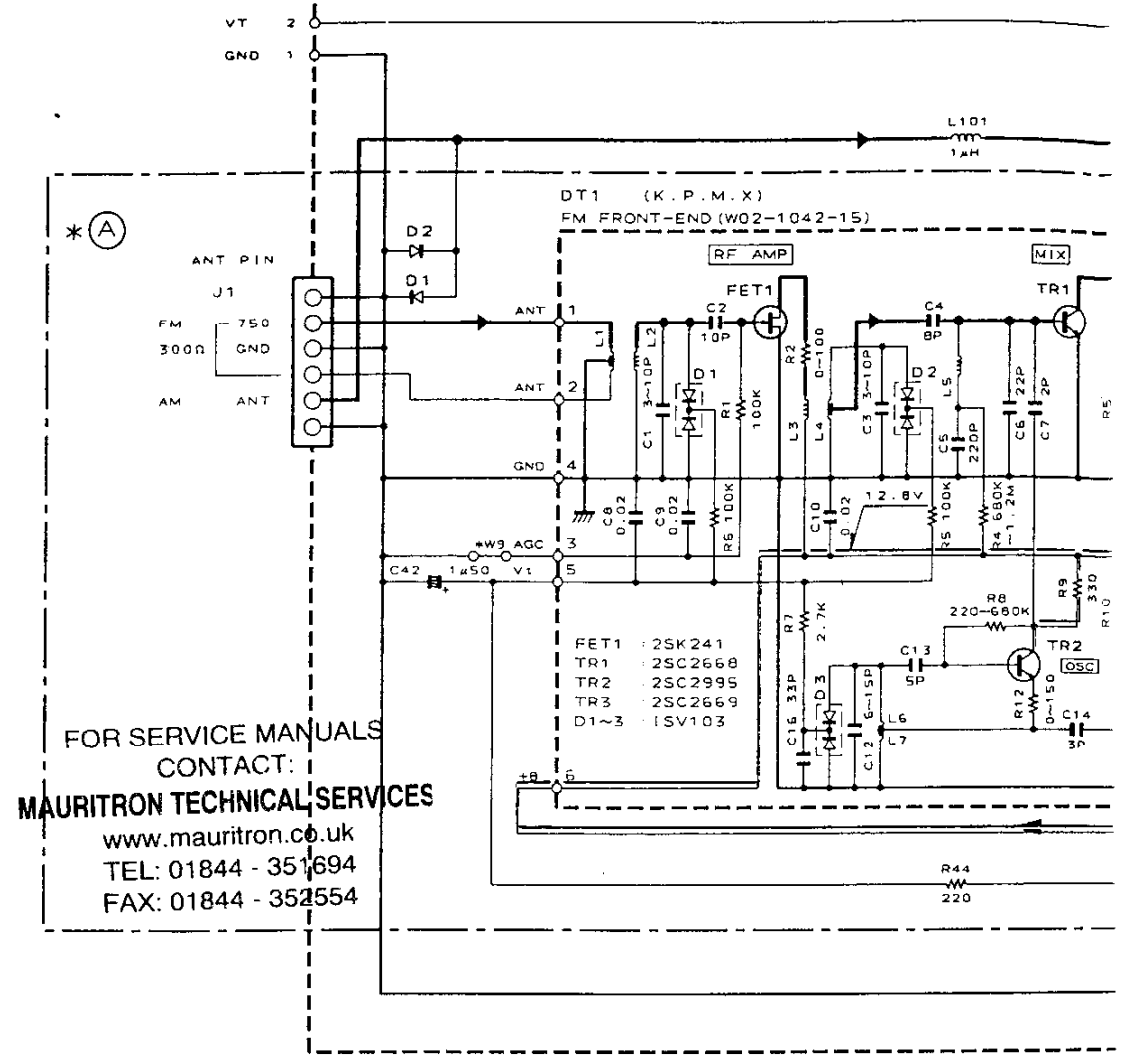


Refer to the schematic diagram for the values of resistors and capacitors.



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X32-222X-XX B/2

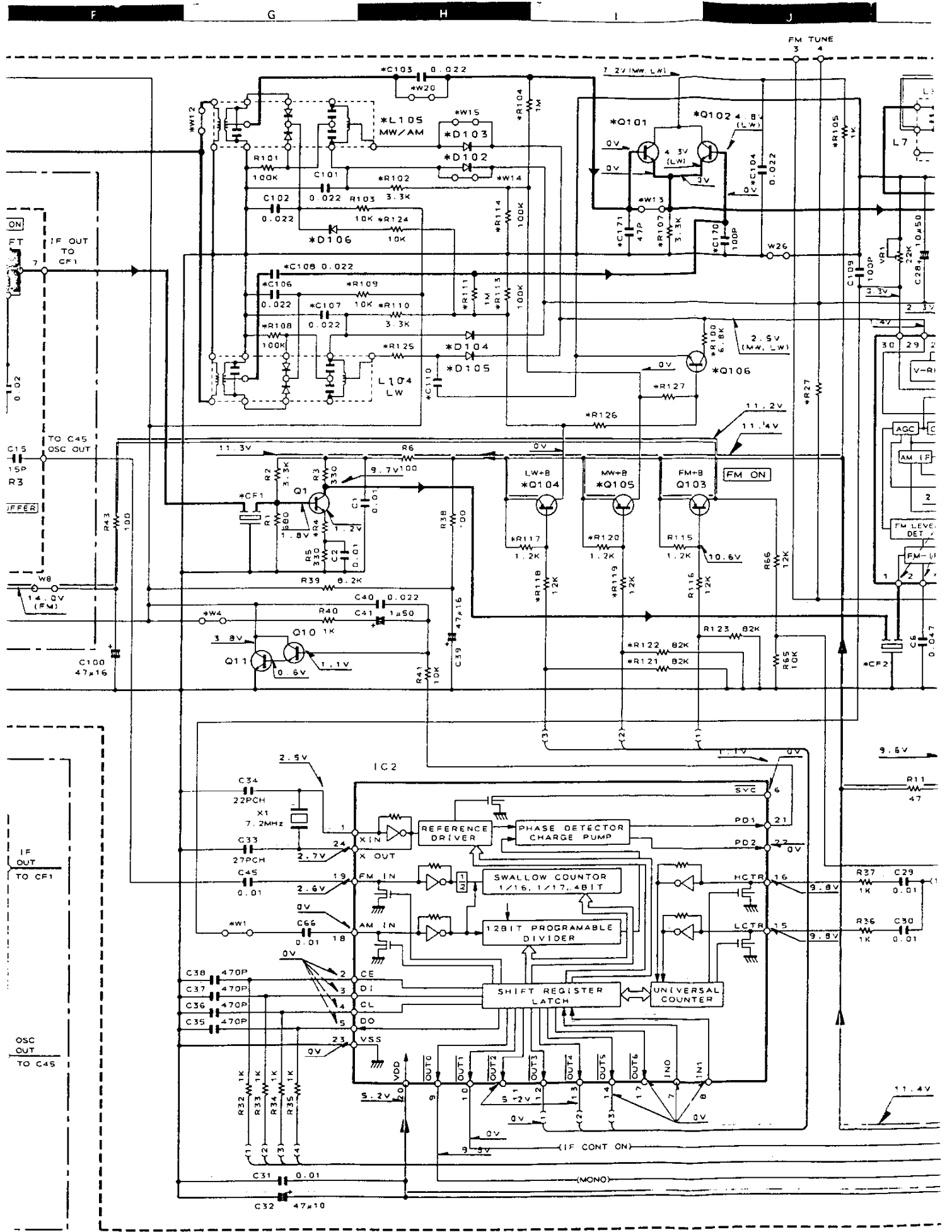


2

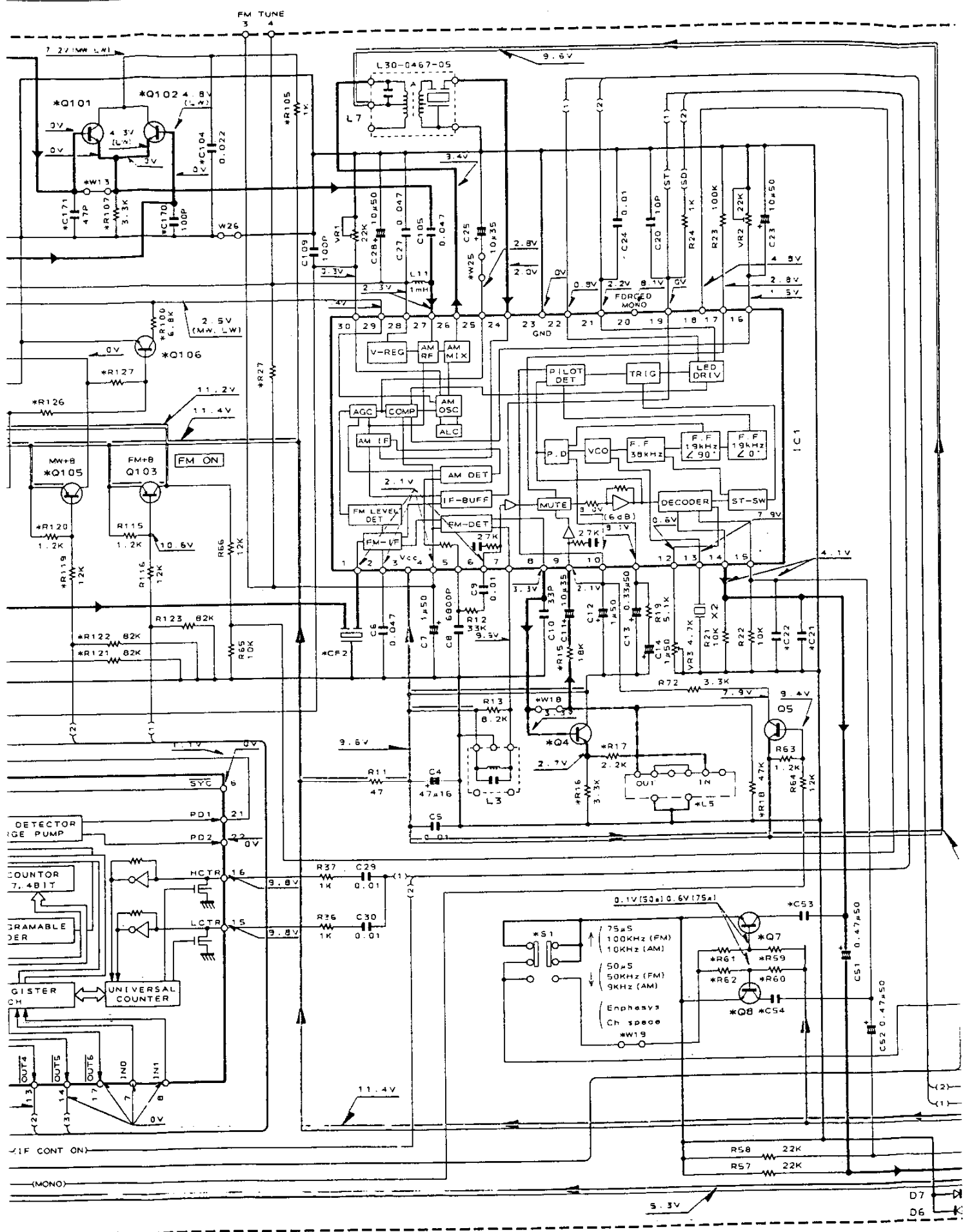
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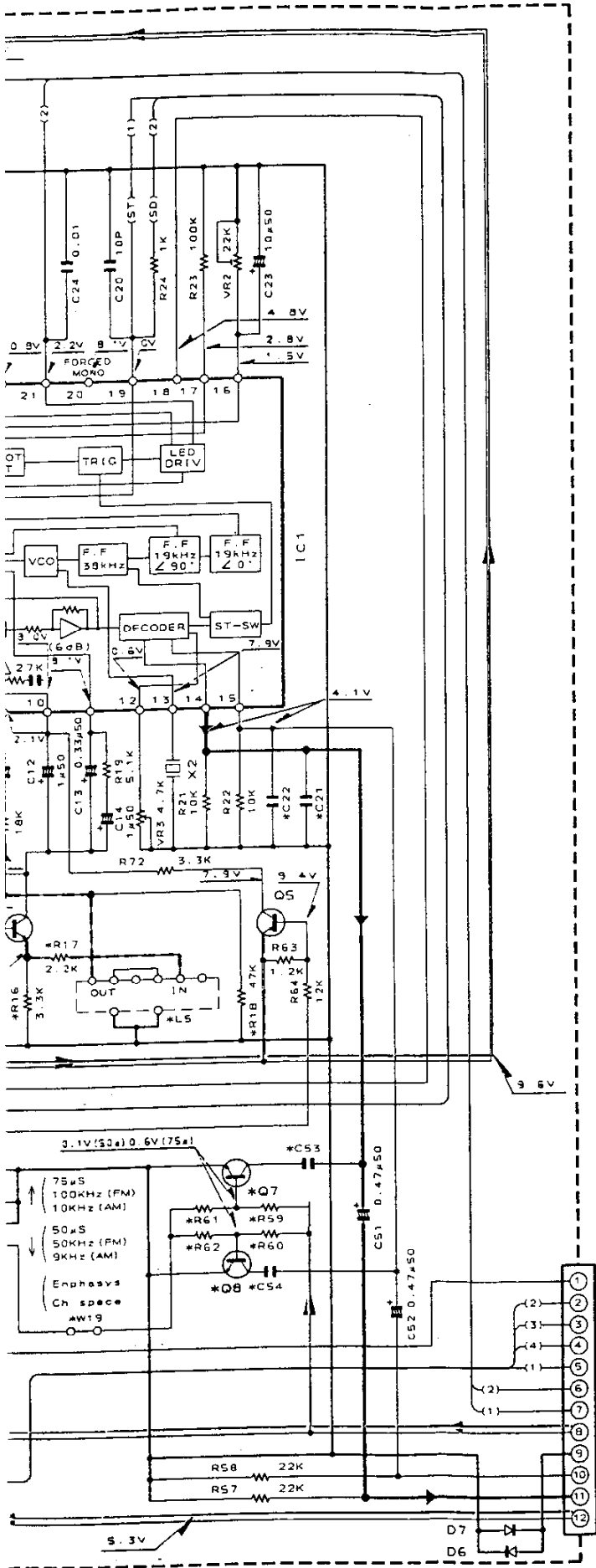








D7  
D6



- IC1 : LA1851N
- IC2 : LC7218
- Q5, 103~105 : 2SA1037K
- Q4, 7, 8, 11, 12, 2SC2412K  
14, 15, 101, 102
- Q1 : 2SC2413K
- Q10 : 2SC3115 (D27, D28)
- Q13 : 2SK425 (X16, X17)
- D3 : RDS .1ES (B2) or  
HZS5 .1N (B2)
- D1, 2, 4, 5 : MA110
- 102~105

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X32-222	0-10	
	K.P	
(A)	YES	
(B)	NO	
C21, 22	0.012	6
C53, 54	NO	3
C103	NO	
C106, 107, 108	NO	
C110	NO	
C170	NO	
C171	NO	
CF1, 2 (L72-)	0531	
D4, 5	NO	
D102	NO	
D103	NO	
W20	YES	
W14	YES	
W15	YES	
W9	YES	
D104	NO	
D105	NO	
D106	NO	
J2 (F10-)	NO	
L5 (L79-)	NO	
L104 (L39-)	NO	
L105 (L39-)	0192	
Q4	NO	
Q7, 8	NO	
Q101, 102	NO	
Q104, 105	NO	
Q106	NO	
R4	33	
R15 (1/8W)	18K	
R16	NO	
R17	NO	
R18	NO	
R27 (1/8W)	8.2K	
R59, 60	NO	
R61, 62	NO	
R70	NO	
R71	NO	
R100	NO	
R102	NO	
R104	NO	
R105	NO	
R107	NO	
R108	NO	
R109	NO	
R110	NO	
R111	NO	
R113	NO	
R114	NO	
R117	NO	
R118 (1/8W)	NO	
R119 (1/8W)	NO	
R120	NO	
R121	NO	
R122	NO	
R124	NO	
R125	NO	
R126, 127	NO	
S1 (S31-)	NO	
W12	YES	
W13	YES	
W16	NO	
W17	NO	
W18	YES	
W19	NO	
W21	YES	
W22	NO	
W23	NO	
W24	NO	

- CN1
- CH SPACE
- PLL DATA IN
- PLL CLOCK
- PLL DATA OUT
- PLL CE
- TUNED
- STEREO
- TUNER +11V
- TU GND
- TU R CH
- TU L CH
- +5V

28)  
7)

X 32-222	0-10	0-21	0-71	2-71
	K . P	M	X	T . E
(A)	YES	YES	YES	NO
(B)	NO	NO	NO	YES
C 21. 22	0. 012	8200P	8200P	8200P
C 53. 54	NO	3900P	NO	NO
C 103	NO	NO	NO	0. 022
C 106. 107. 108	NO	NO	NO	0. 022
C 110	NO	NO	NO	10P
C 170	NO	NO	NO	100P
C 171	NO	NO	NO	47P
CF 1. 2 (L 72-)	0531	0531	0531	0536
D 4. 5	NO	NO	NO	YES
D 102	NO	NO	NO	YES
D 103	NO	NO	NO	YES
W 20	YES	YES	YES	NO
W 14	YES	YES	YES	NO
W 15	YES	YES	YES	NO
W 9	YES	YES	YES	NO
D 104	NO	NO	NO	YES
D 105	NO	NO	NO	YES
D 106	NO	NO	NO	YES
J 2 (F 10-)	NO	NO	NO	0759
L 5 (L 79-)	NO	NO	NO	0125
L 104 (L 39-)	NO	NO	NO	1307
L 105 (L 39-)	0192	0192	0192	1306
Q 4	NO	NO	NO	YES
Q 7. 8	NO	YES	NO	NO
Q 101. 102	NO	NO	NO	YES
Q 104. 105	NO	NO	NO	YES
Q 106	NO	NO	NO	YES
R 4	33	33	33	10
R 15 (1/8W)	18K	18K	18K	15K
R 16	NO	NO	NO	3. 3K
R 17	NO	NO	NO	2. 2K
R 18	NO	NO	NO	47K
R 27 (1/8W)	8. 2K	27K	27K	27K
R 59. 60	NO	47K	NO	NO
R 61. 62	NO	560	NO	NO
R 70	NO	NO	NO	YES
R 71	NO	NO	NO	10K
R 100	NO	NO	NO	6. 8K
R 102	NO	NO	NO	3. 3K
R 104	NO	NO	NO	1M
R 105	NO	NO	NO	1K
R 107	NO	NO	NO	3. 3K
R 108	NO	NO	NO	100K
R 109	NO	NO	NO	10K
R 110	NO	NO	NO	3. 3K
R 111	NO	NO	NO	1M
R 113	NO	NO	NO	100K
R 114	NO	NO	NO	100K
R 117	NO	NO	NO	1. 2K
R 118 (1/8W)	NO	NO	NO	12K
R 119 (1/8W)	NO	NO	NO	12K
R 120	NO	NO	NO	1. 2K
R 121	NO	NO	NO	82K
R 122	NO	NO	NO	82K
R 124	NO	NO	NO	10K
R 125	NO	NO	NO	47
R 126. 127	NO	NO	NO	10K
S 1 (S 31-)	NO	2094	NO	NO
W 12	YES	YES	YES	NO
W 13	YES	YES	YES	NO
W 16	NO	NO	NO	YES
W 17	NO	NO	NO	YES
W 18	YES	YES	YES	NO
W 19	NO	YES	NO	NO
W 21	YES	NO	NO	NO
W 22	NO	YES	NO	NO
W 23	NO	NO	YES	NO
W 24	NO	NO	NO	YES

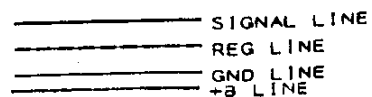
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DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

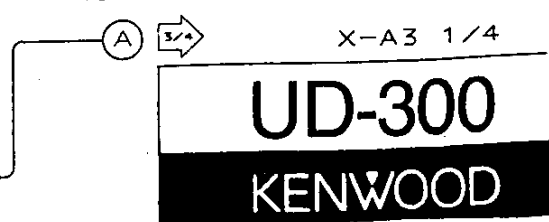
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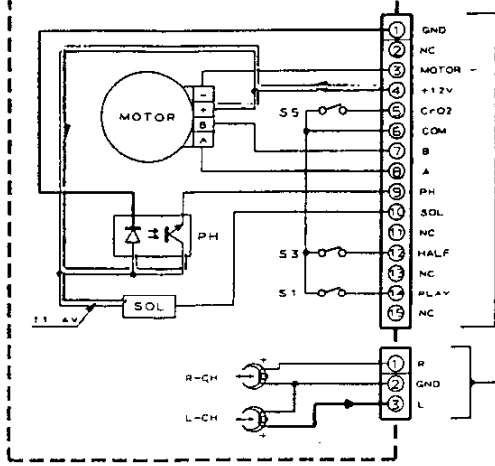


Y08-4550-10

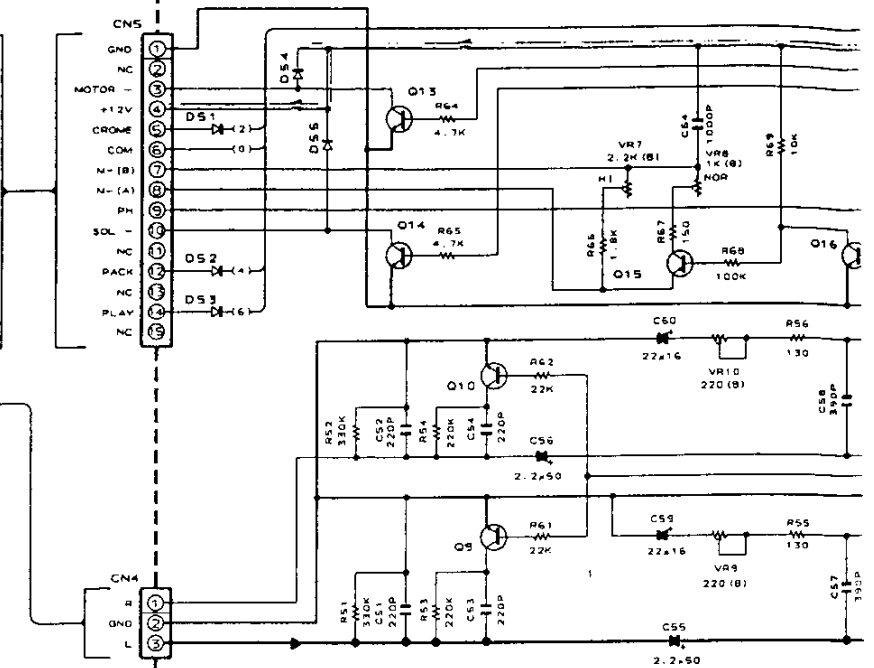
TO X29-B/4 CN5



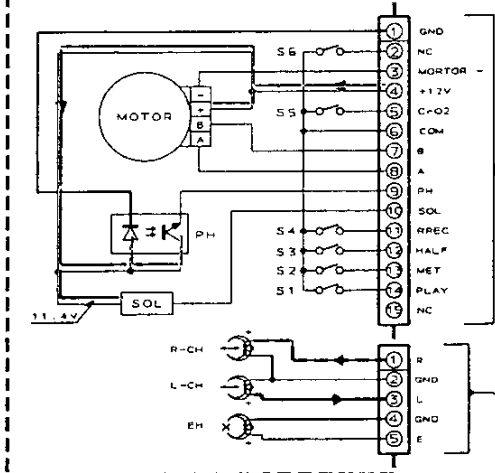
D40-1214-05 A MECHA



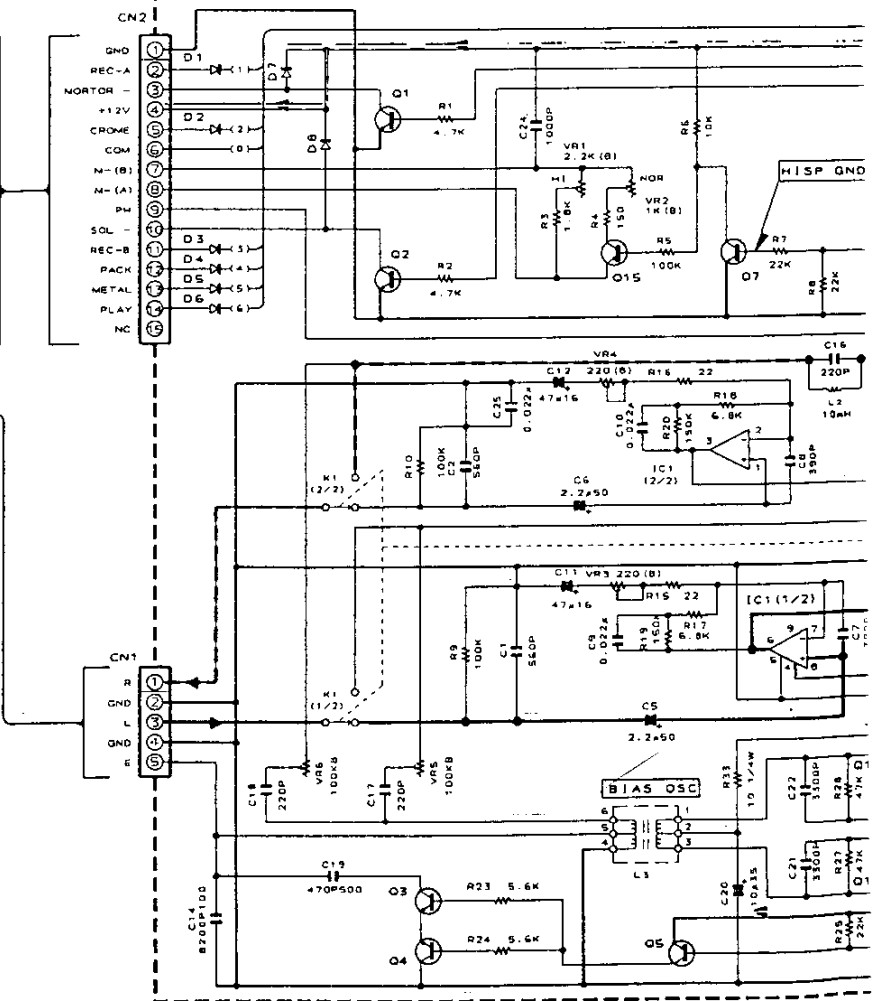
X28-2450-10 A/2



D40-1215-05 B MECHA

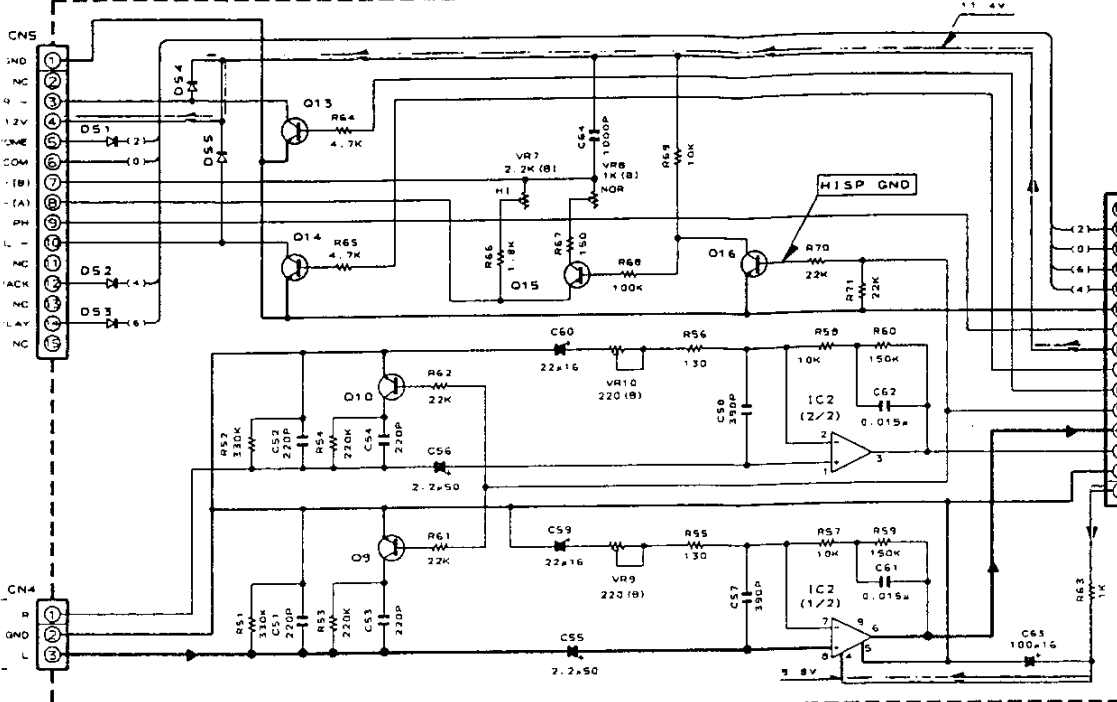


X28-2450-10 B/2

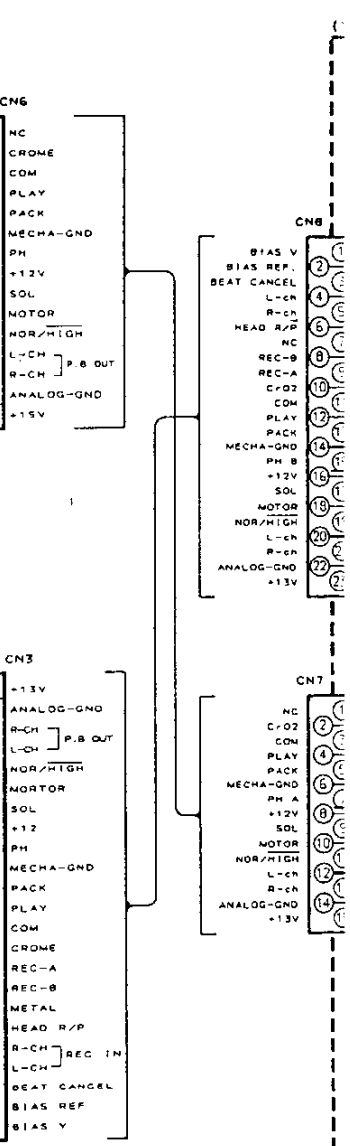
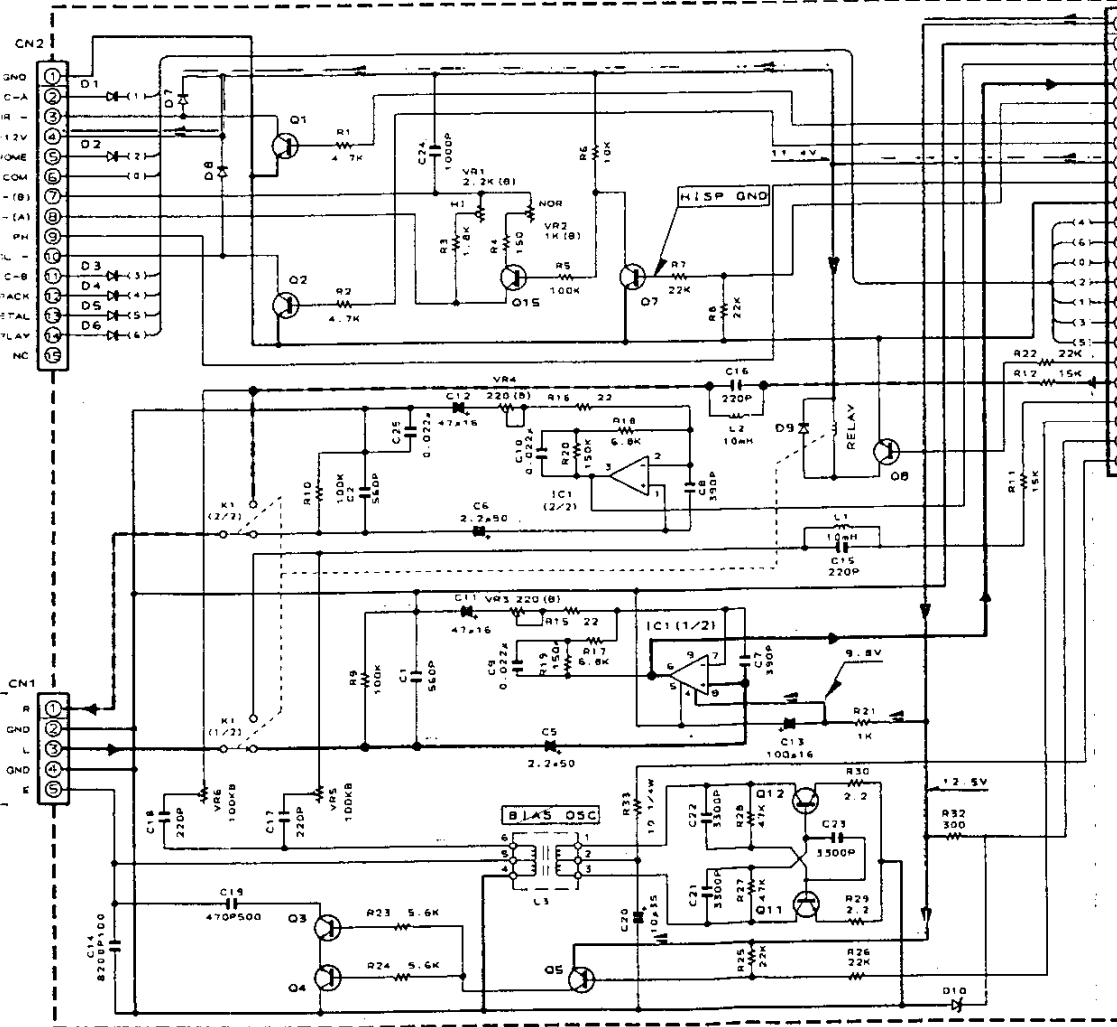


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X28-2450-10 A/2



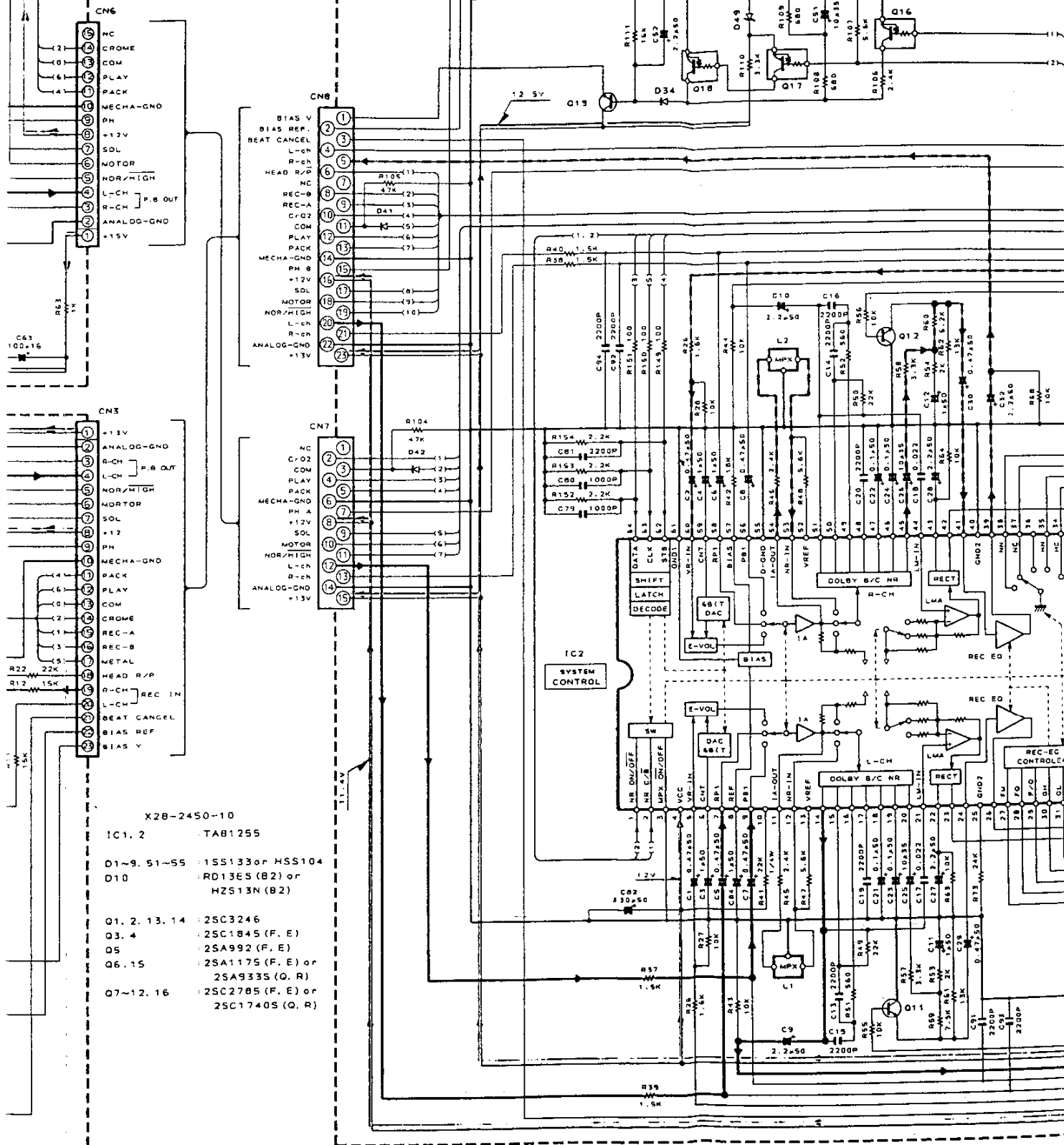
X28-2450-10 B/2



- X28-2450-10
- IC1, 2 TAB1255
  - D1-9, 51-55 1SS133 or HSS104
  - D10 RD13ES (B2) or HZS13N (B2)
  - Q1, 2, 13, 14 2SC3246
  - Q3, 4 2SC1845 (F, E)
  - Q5 2SA992 (F, E)
  - Q6, 15 2SA1175 (F, E) or 2SA933S (Q, R)
  - Q7-12, 16 2SC2785 (F, E) or 2SC1740S (Q, R)

IC1	CXP82324-1040	Q6	2SA1175 (F. E) or 2SA933S (Q. R)	D23-34, 53-
IC2	HA12157NT	Q7-10		D41, 42
IC3	XRU4052B or TC4052BP	Q11, 12	2SC2878 (B)	D48
IC4	BA10393	Q13, 15, 17	RN2203 or DTA124ES	D49
IC6	PST529D	Q14, 16, 18	RN1203 or DTC124ES	
		Q19	2SC3940A	

(X29-230X-XX) (A/4)



X28-2450-10

IC1, 2 TAB1255

D1~9, 51~55 1SS133 or HSS104  
 D10 RD13ES (B2) or  
 HZ513N (B2)

Q1, 2, 13, 14 2SC3246  
 Q3, 4 2SC1845 (F. E)  
 Q5 2SA992 (F. E)  
 Q6, 15 2SA1175 (F. E) or  
 2SA933S (Q. R)  
 Q7~12, 16 2SC2785 (F. E) or  
 2SC1740S (Q. R)

25A1175 (F, E) or 25A9335 (O, R)

D23~34, 53~54 : 15S133 or HSS104

25C2878 (B)

D41, 42 : RB7210

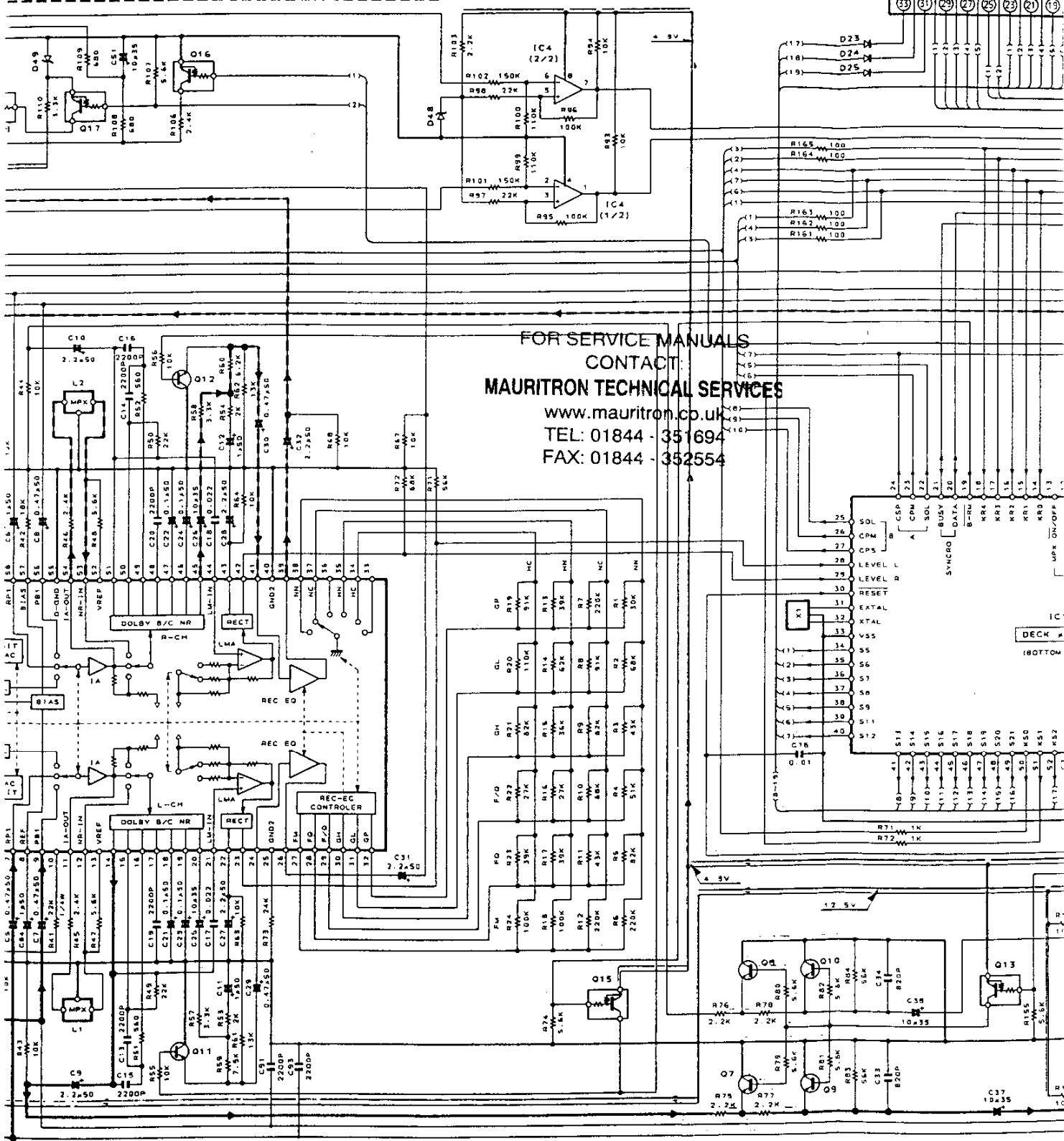
RN2203 or DTA124ES

D48 : RD2.7ES (B) or HZS2.7M (B2)

RN1203 or DTC124ES

D49 : RD4.7ES (B) or HZS4.7 (B)

25C3940A

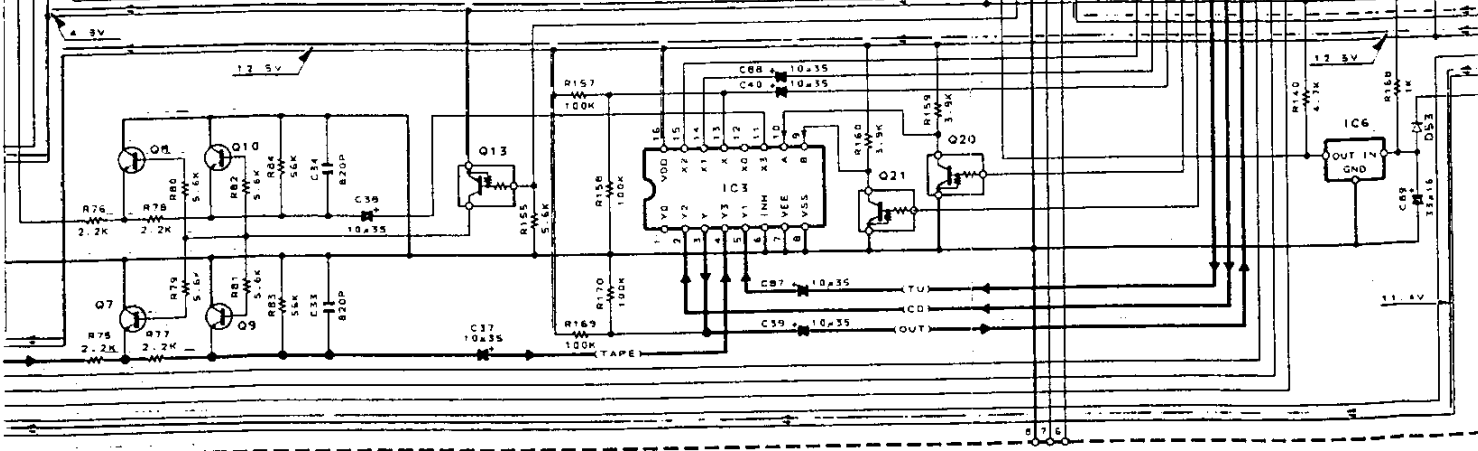
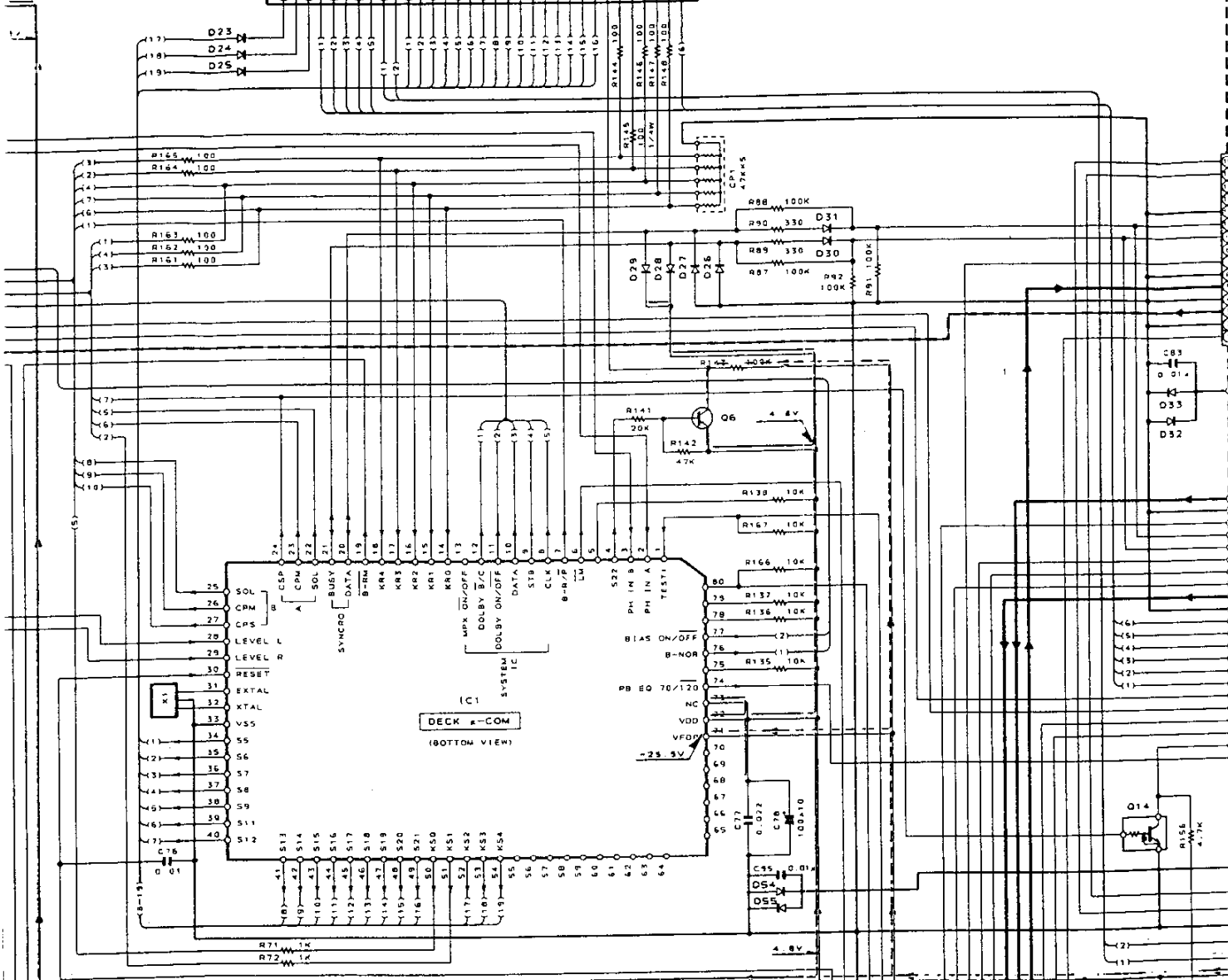
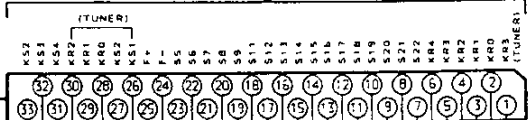


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IC  
DECK

18BOTTOM

(B)

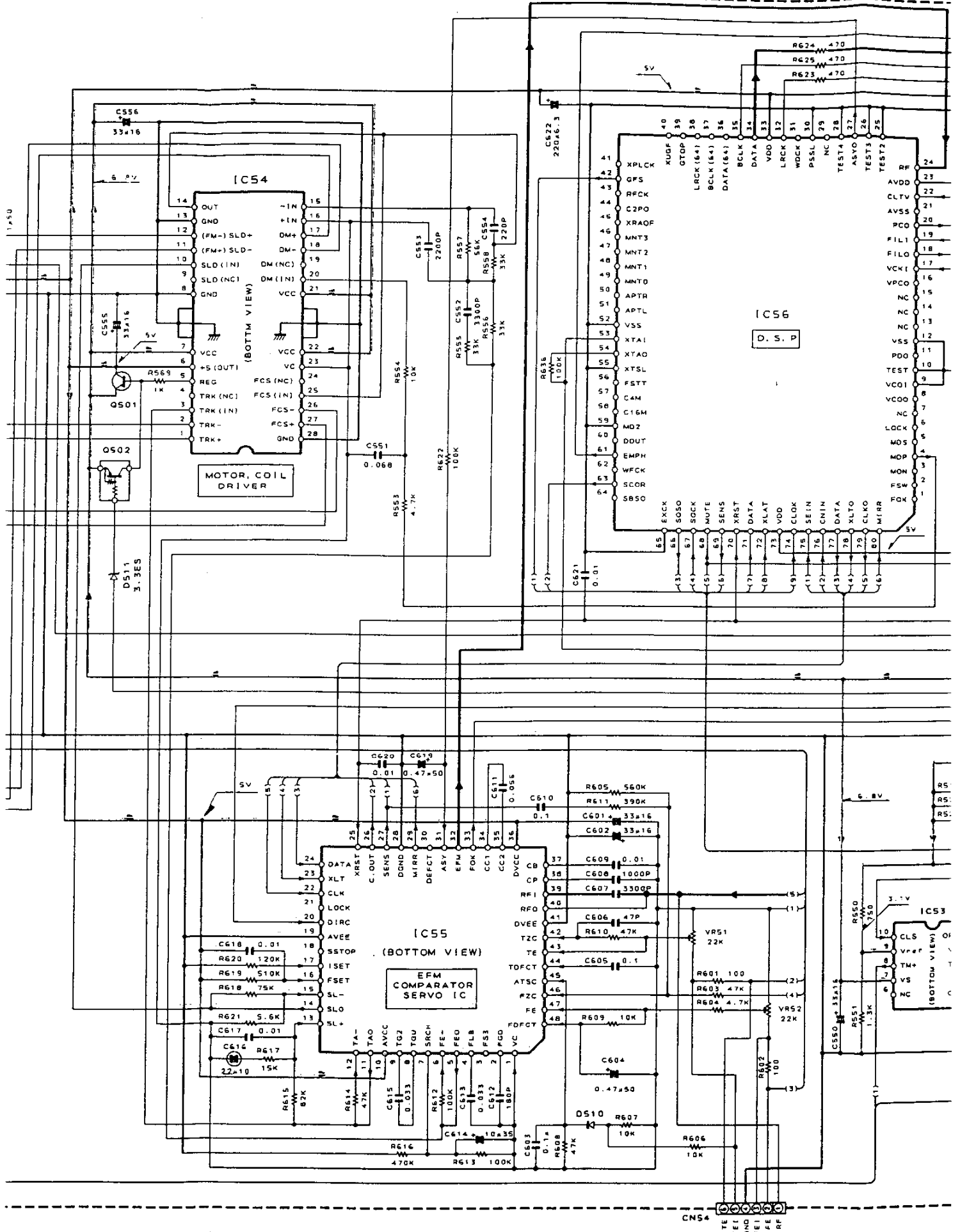


TEST MODE

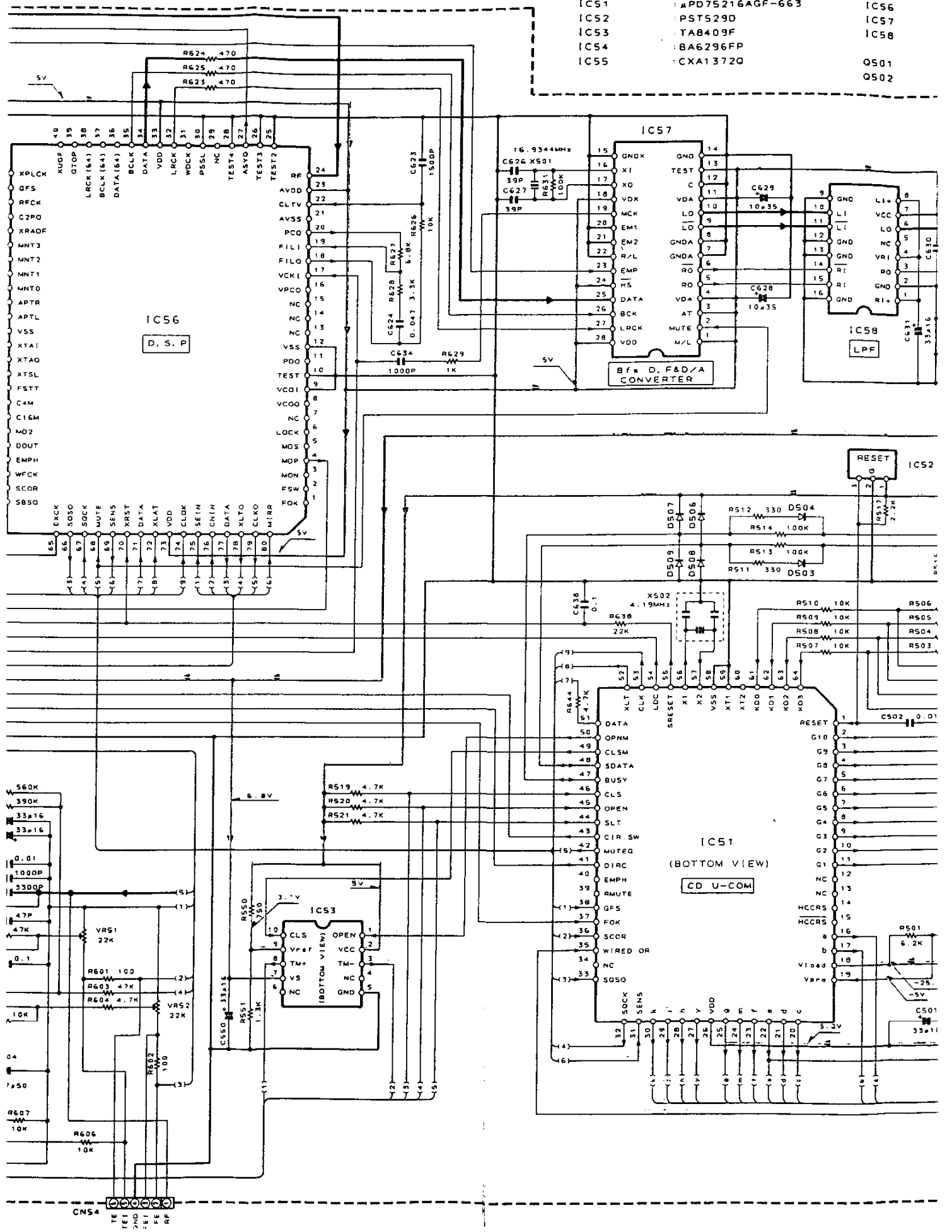








- IC51 : PD75216AGF-663
- IC52 : PST529D
- IC53 : TA8409F
- IC54 : BA6296FP
- IC55 : CXA1372Q
- IC56 : D. S. P
- IC57 : B f a D. F&D/A CONVERTER
- IC58 : LPF
- Q501
- Q502



IC56  
D. S. P

IC57  
B f a D. F&D/A  
CONVERTER

IC58  
LPF

IC52  
RESET

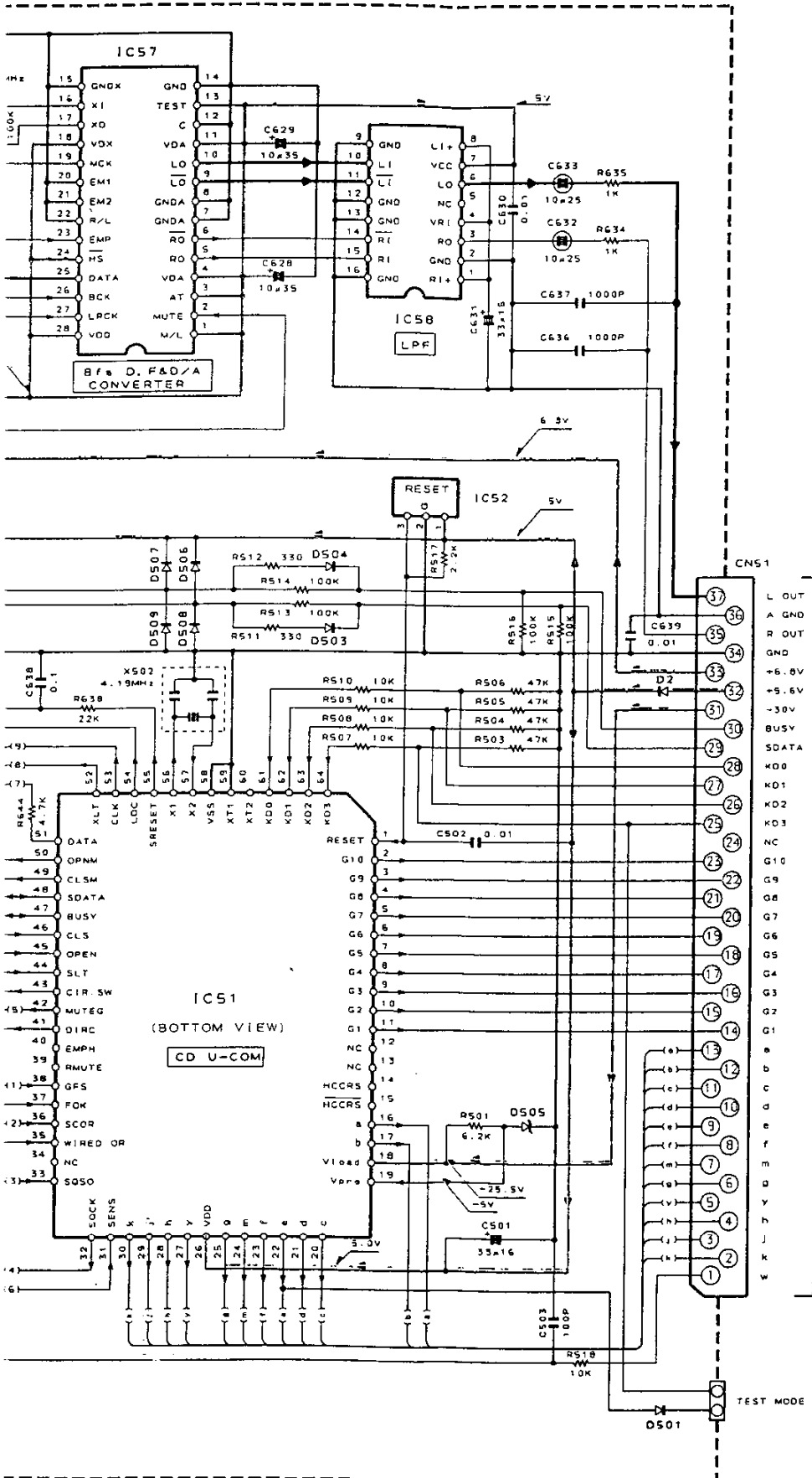
IC51  
(BOTTOM VIEW)  
CD U-COM

CNS4  
TE  
2NO  
2NC  
2C  
2E  
2F

CNS5  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19

IC51	: PD75216AGF-663	IC56	: CXD2500AQ	D501, 503, 504	: MA110
IC52	: PST529D	IC57	: TC92378F	506~510	
IC53	: TA8409F	IC58	: TA2009F	D505	: MAB051-M
IC54	: BA6296FP	Q501	: 2SA954 (L, K)	D511	: MAB033
IC55	: CXA1372Q	Q502	: DTA1437S		

2SA  
2SA  
2SA



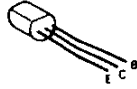
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TO X29-B/4 CN1  
E 2/4

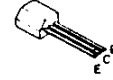
— SIGNAL LINE  
— GND LINE  
— +B LINE  
- - - -B LINE

X-A3 (3/4)

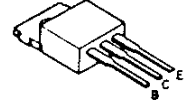
4A110

4A8051-M  
4A80332SA954 2SC1845 2SC3246  
2SA992 2SC2003 2SC3940A  
2SA999 2SC2878 2SD1302

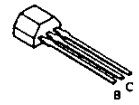
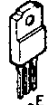
2SB772



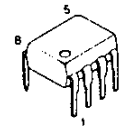
RN1203



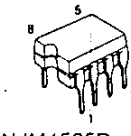
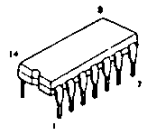
2SD1266

2SA1175  
2SC2785DTA124ES RN2203  
DTA143TS 2SA933S  
DTC124ES 2SC1740S2SA1037K 2SC2413K  
2SC2412K 2SC31152SB941  
2SC3944A  
2SD2061

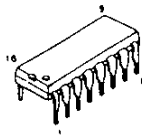
DTC144TFF



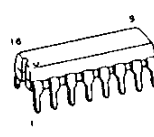
NJM4558D

NJM4565D  
NJM4565-D  
PST620DDB

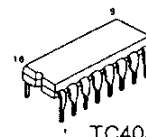
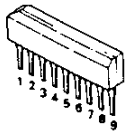
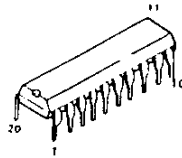
UPC4574C



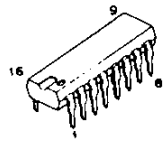
XRU4052B



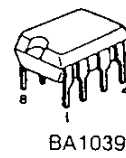
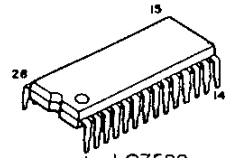
LB1294

TC4052BP  
TC9215P  
UPA80CTA8125S  
TA8409S  
TD62554S

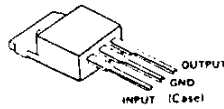
M5229P



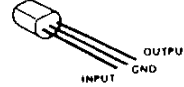
XR-1091ECP

BA10393  
RC4565D

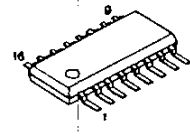
LC7522



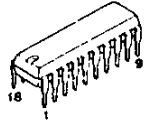
UPC7805HF



PST529D

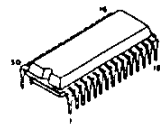


TA2009F

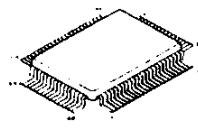


TDA3810

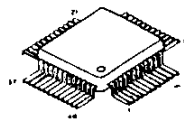
TO X29-B/4 CN1



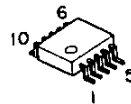
LA1851N



CXD2500AQ



CXA1372Q



TA8409F

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— GND LINE  
— +B LINE  
- - - -B LINE

X-A3 (3/4)

Y08-4550-10

**UD-300**  
**KENWOOD**

BL

BM

BN

BO

TO X29-A/4 CN5



TO X29-A/4



TO X32- CN51



2

3

4

5

6

TO X29-A/4

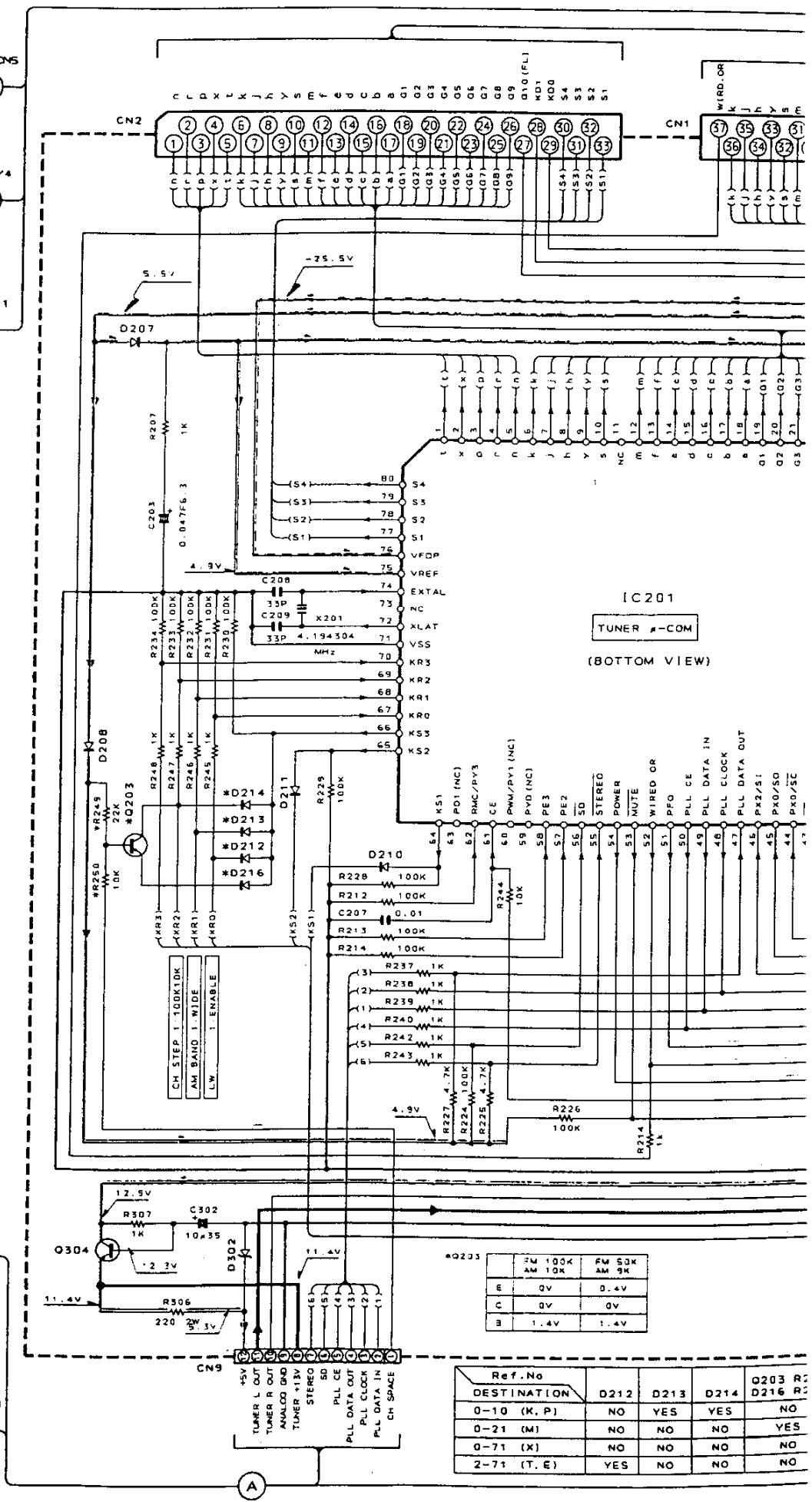


6

TO C32-B/2 CN1



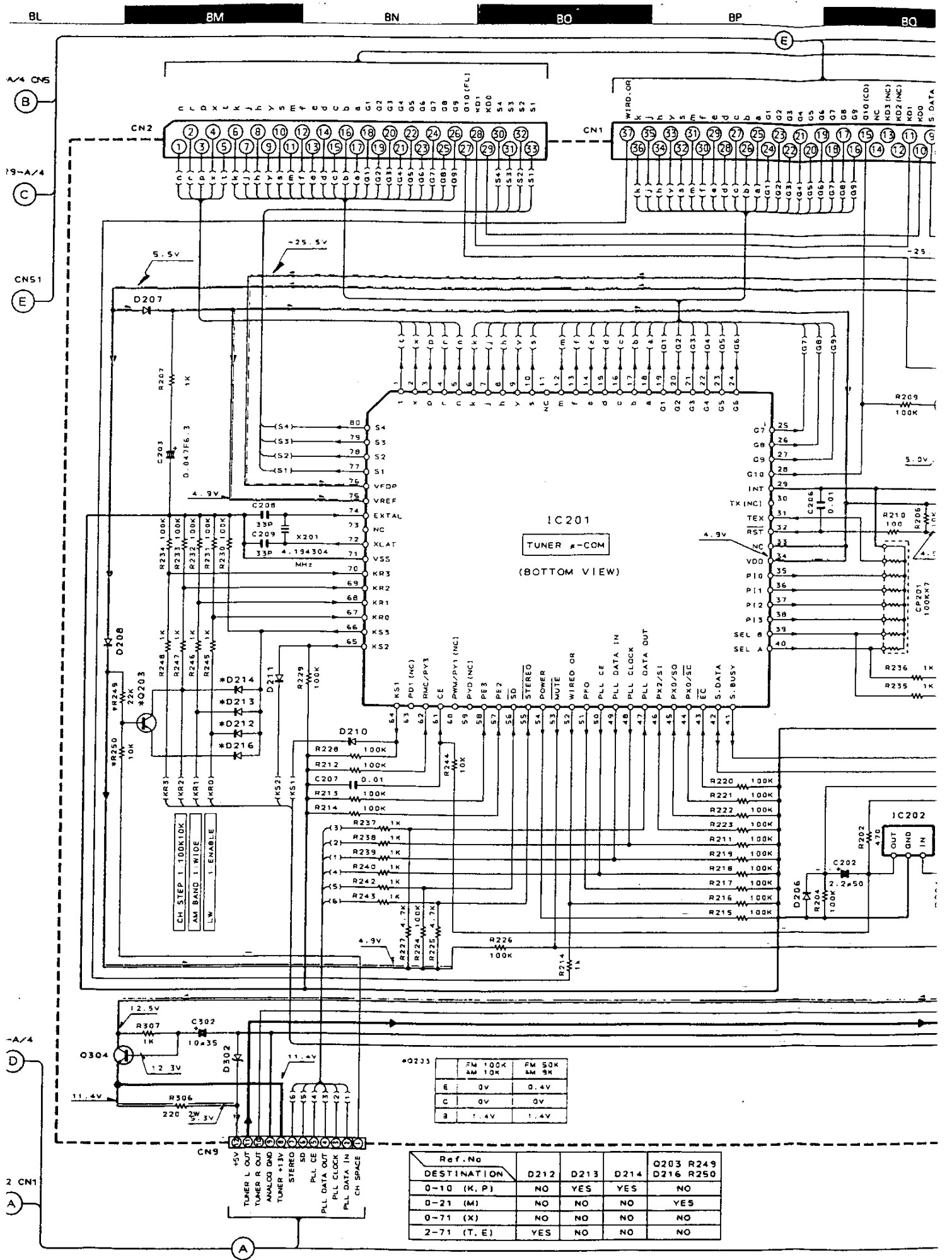
99



IC201  
TUNER #COM  
(BOTTOM VIEW)

	FM 100K	FM 50K
E	0V	0.4V
C	0V	0V
B	1.4V	1.4V

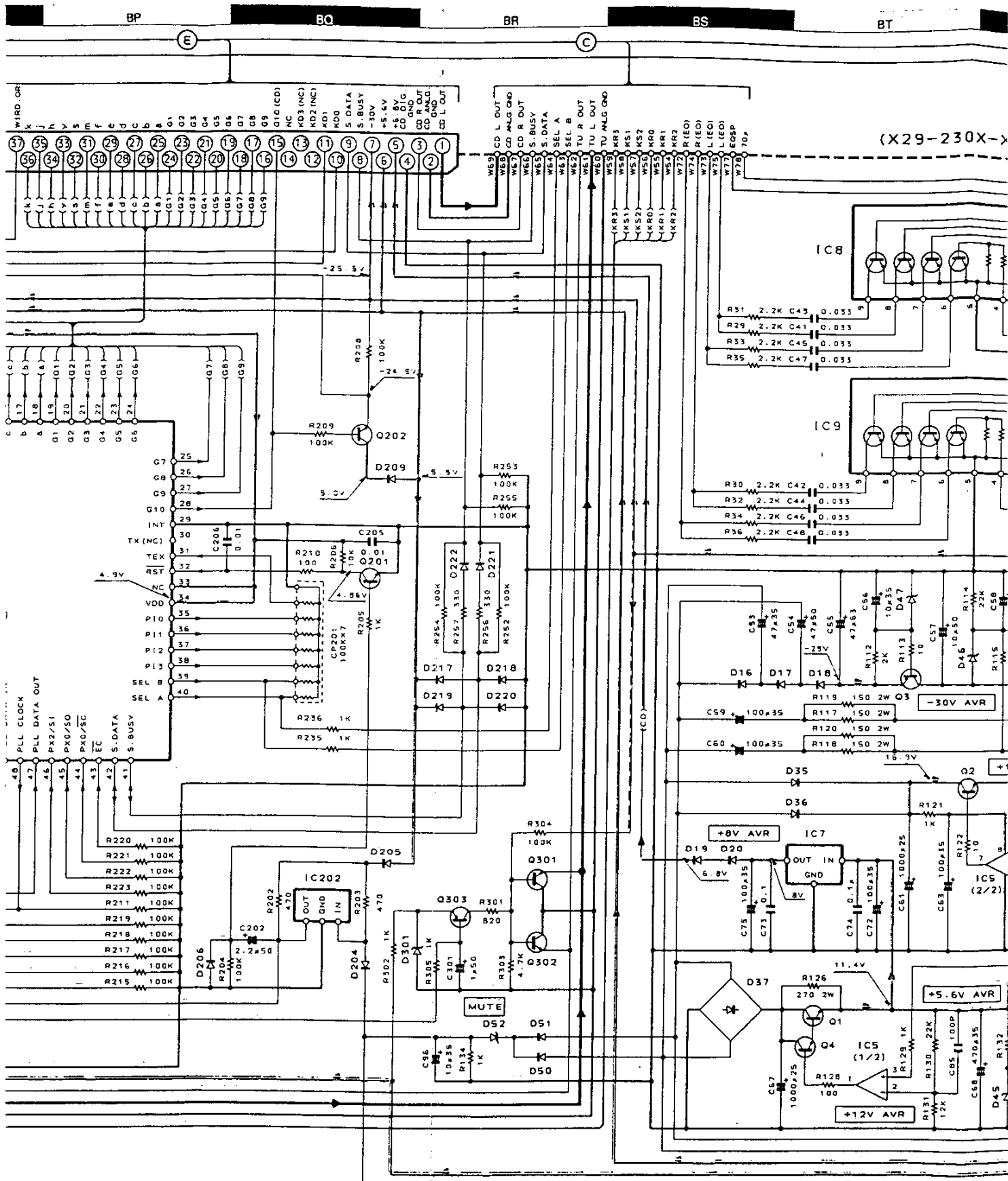
Ref.No	DESTINATION	D212	D213	D214	Q203 R: D216 R:
0-10 (K, P)		NO	YES	YES	NO
0-21 (M)		NO	NO	NO	YES
0-71 (X)		NO	NO	NO	NO
2-71 (T, E)		YES	NO	NO	NO



	FM 100K	FM 50K
E	0V	0.4V
C	0V	0V
B	1.4V	1.4V

Ref. No	D212	D213	D214	O203 R249	O216 R250
0-10 (K, P)	NO	YES	YES	NO	NO
0-21 (M)	NO	NO	NO	YES	NO
0-71 (X)	NO	NO	NO	NO	NO
2-71 (T, E)	YES	NO	NO	NO	NO





(X29-230X-Y)

FOR SERVICE MANUALS  
CONTACT:

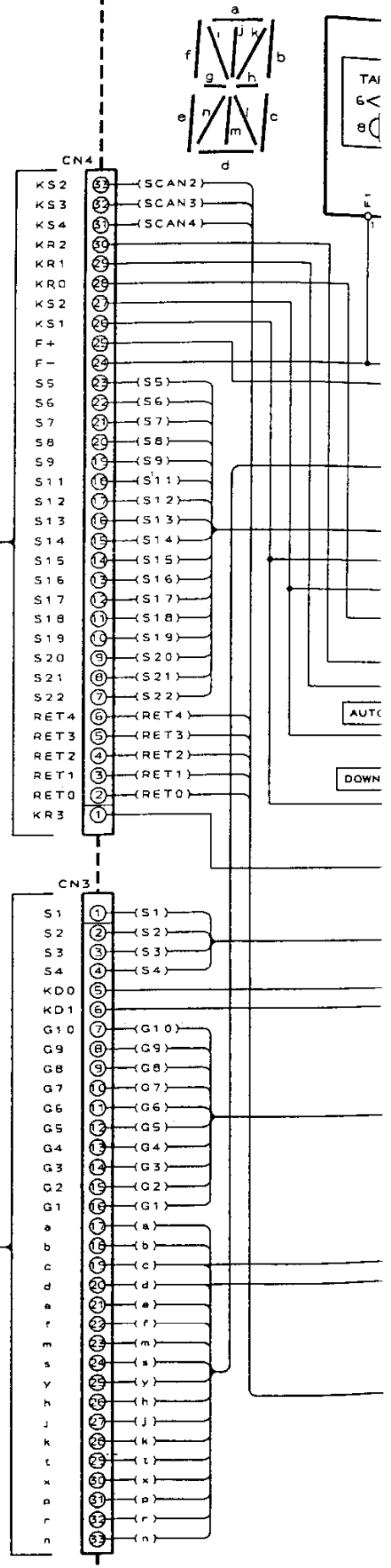
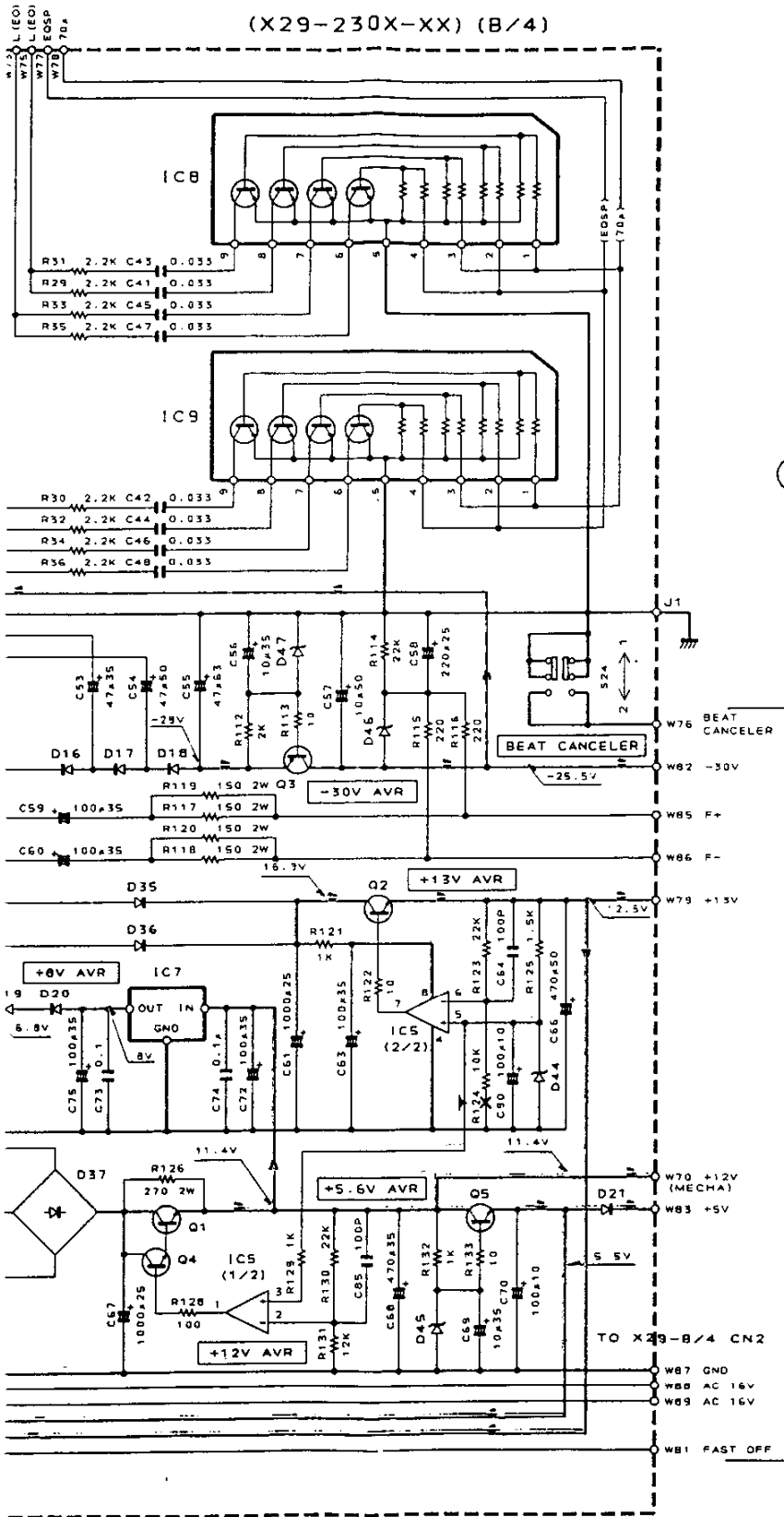
**MAURITRON TECHNICAL SERVICES**

www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

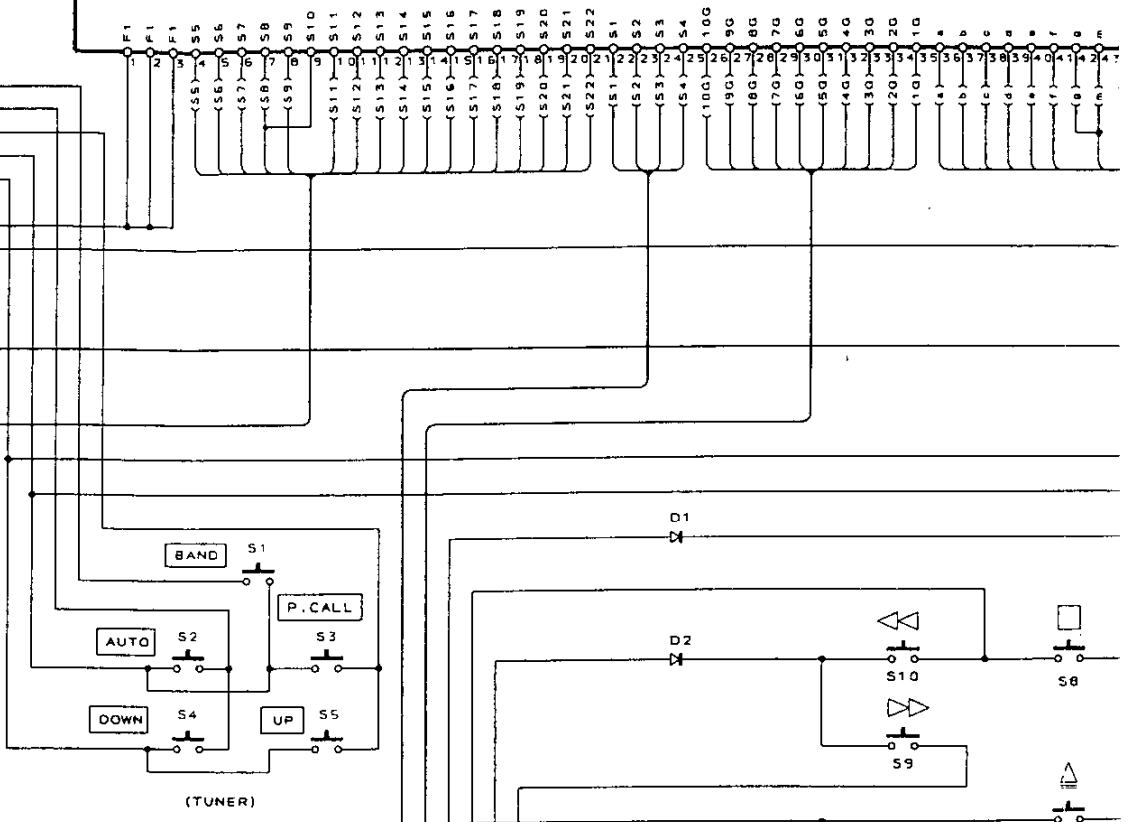
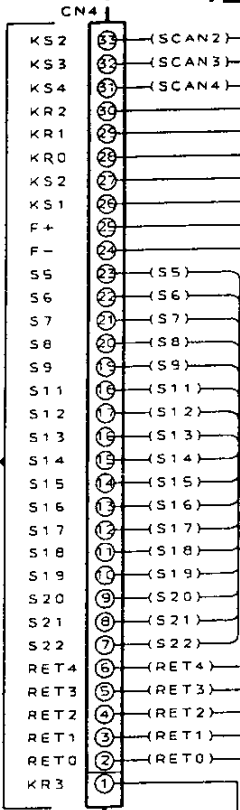
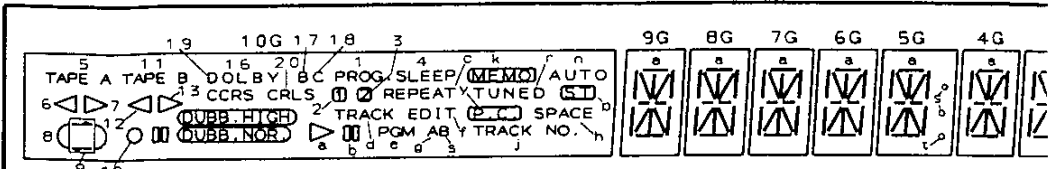
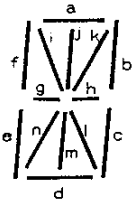
Q203	R249
D214	D216
D216	R250
YES	NO
NO	YES
NO	NO
NO	NO

(X29-230X-XX) (B/4)

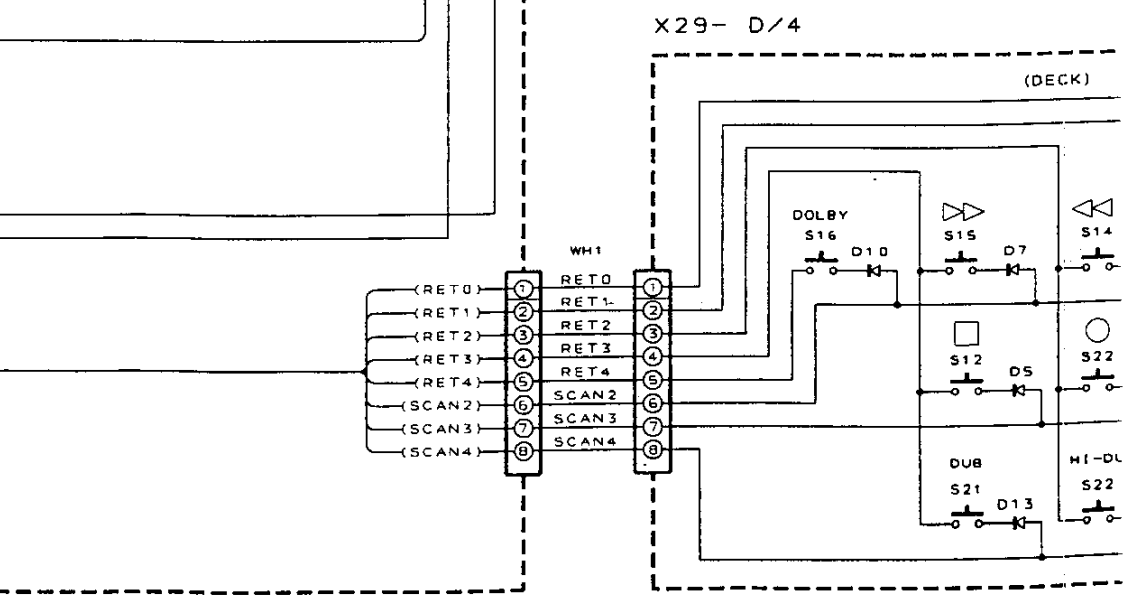
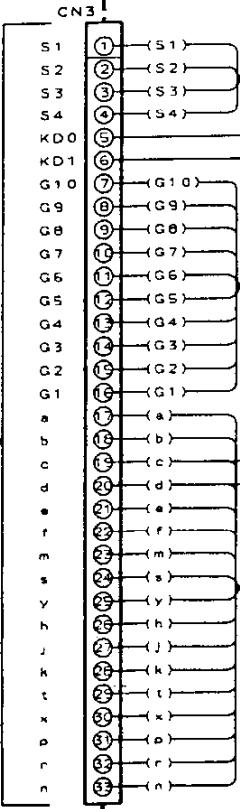
X29- (C/4)

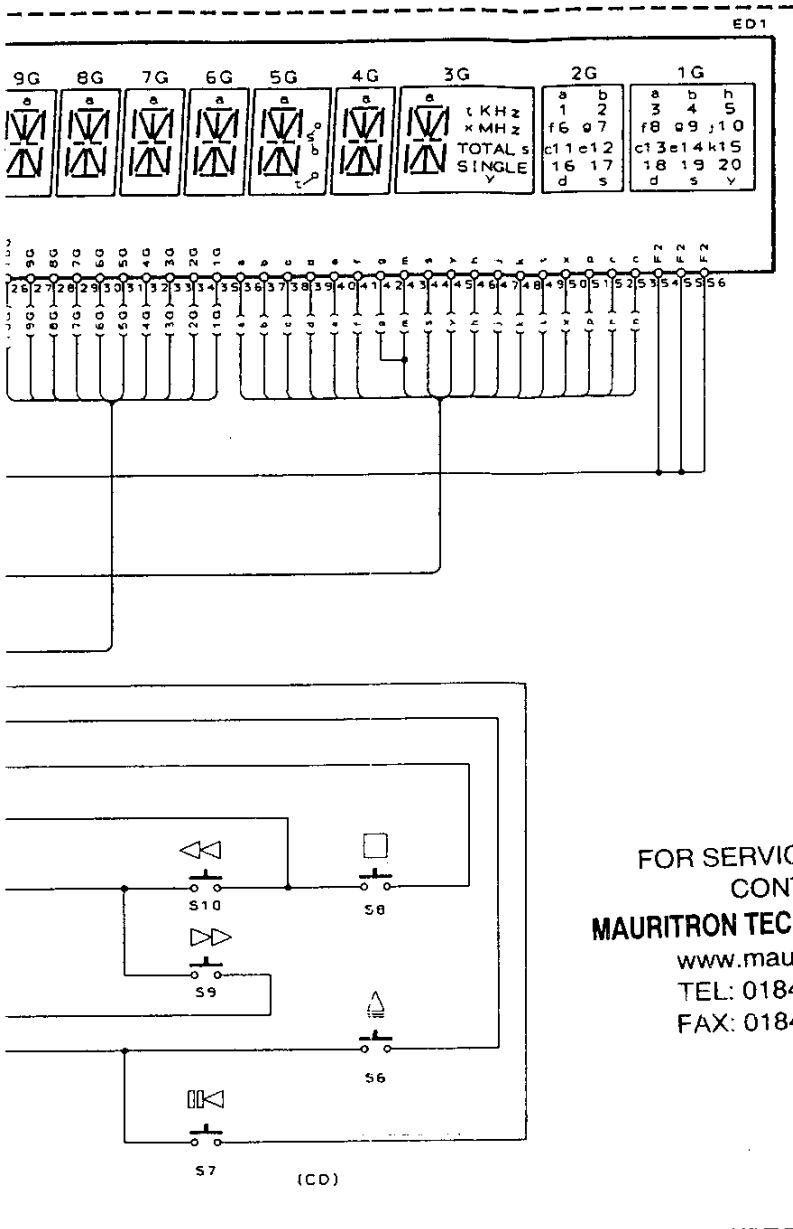


X29- (C/4)



FOR SERVICE MANUALS  
CONTACT:  
**MAURITRON TECHNICAL SERVICES**  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554





X29-230X-XX (B/4)

IC5 : RC4565D or NJM4565D  
 IC7 : PC7808HF  
 IC8, 9 : TD62554S  
 IC201 : CXP-50116-380Q  
 IC202 : PST529C

Q1, 2 : 2SD2061  
 Q3 : 2SA999 (E, F)  
 Q4 : 2SC2785 (E, F) or 2SC1740S (Q, R)  
 Q5 : 2SC3944A  
 Q201, 202, 304 : 2SC1740S (Q, R) or 2SC3311A (Q, R)  
 or 2SC2458 (Y, GR) or 2SC2785 (F, E)  
 Q203, 303 : 2SA933S (Q, R) or 2SA1309A (Q, R)  
 or 2SA1048 (Y, GR) or 2SA1175 (F, E)  
 Q301, 302 : 2SD1302

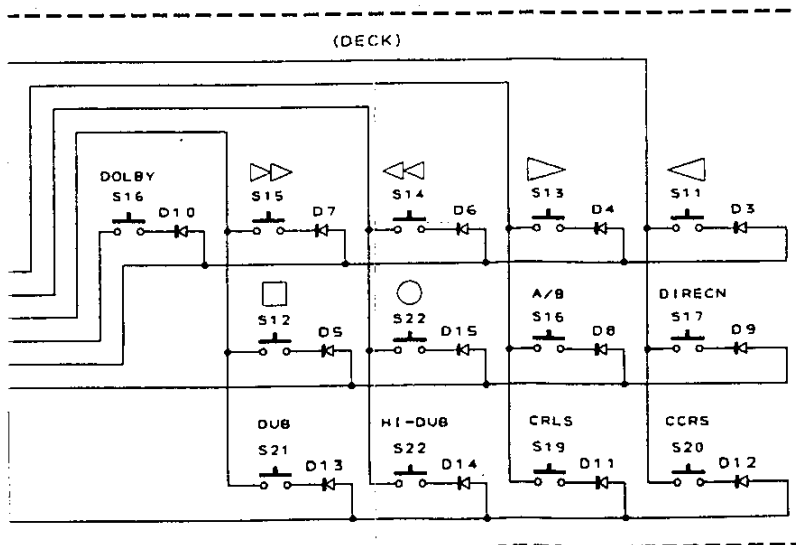
D16~18, 50, 51 : 1SS133 or HSS104  
 D19, 20, 35, 36 : 1SR139-100 or S55668  
 D37 : RBV-402LFA  
 D44 : RD3.9ES (B2) or HZS3.9N (B2)  
 D45 : RD6.2ES (B2) or HZS6.2N (B2)  
 D46 : RD7.5JS (B2) or HZS7.5S (B2)  
 D47 : RD30ES (B) or HZS30N (B)  
 D52 : RD6.8ES (B2) or HZS6.8S (B2)

Q204~214 : HSS104 or 1SS133  
 216~222  
 D301 : RD3.3ES (B2) or HZS3.3N (B2)  
 D302 : RD5.1ES (B2) or HZS5.1N (B2)

FOR SERVICE MANUALS  
 CONTACT:  
**MAURITRON TECHNICAL SERVICES**  
[www.mauritron.co.uk](http://www.mauritron.co.uk)  
 TEL: 01844 - 351694  
 FAX: 01844 - 352554

X-A3 (4/4)

3- D/4



**CAUTION:** For continued safety, replace safety critical parts only with manufacturer's recommended parts list.  $\Delta$  indicates safety critical components. To re-duce risk of electric shock, leakage-current or resistance measurement shall be carried out (exposed parts are acceptably insulated the supply circuit) before the appliance is returned to the user.

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

Les tensions c.c. doivent être mesurées avec un voltmètre haute impédance. Les valeurs peuvent différer légèrement fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

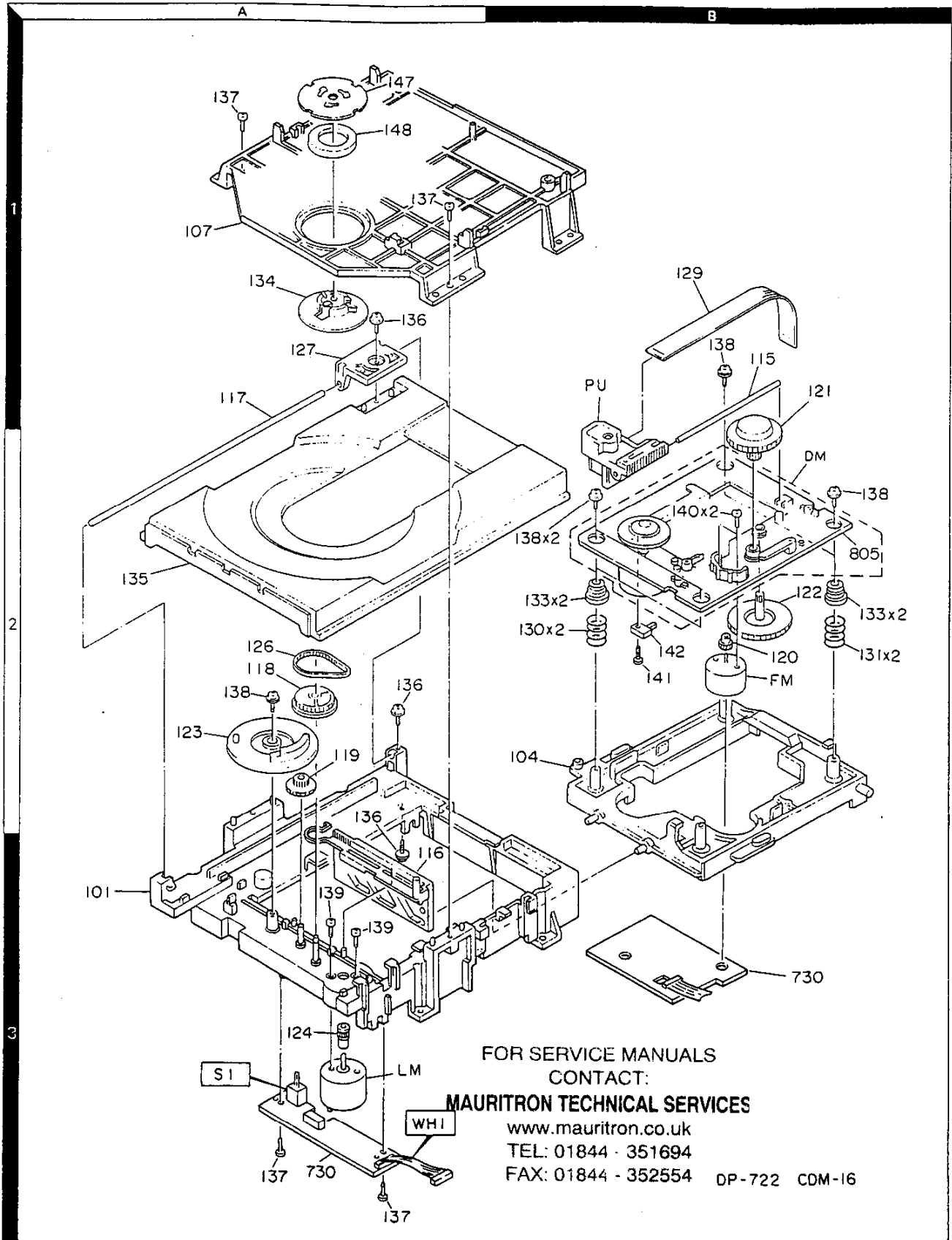
Die angegebenen Gleichspannungswerte wurden mit hochohmigen Spannungsmesser gemessen. Dabei sind die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

UD-300

KENWOOD

Y08-4550-10

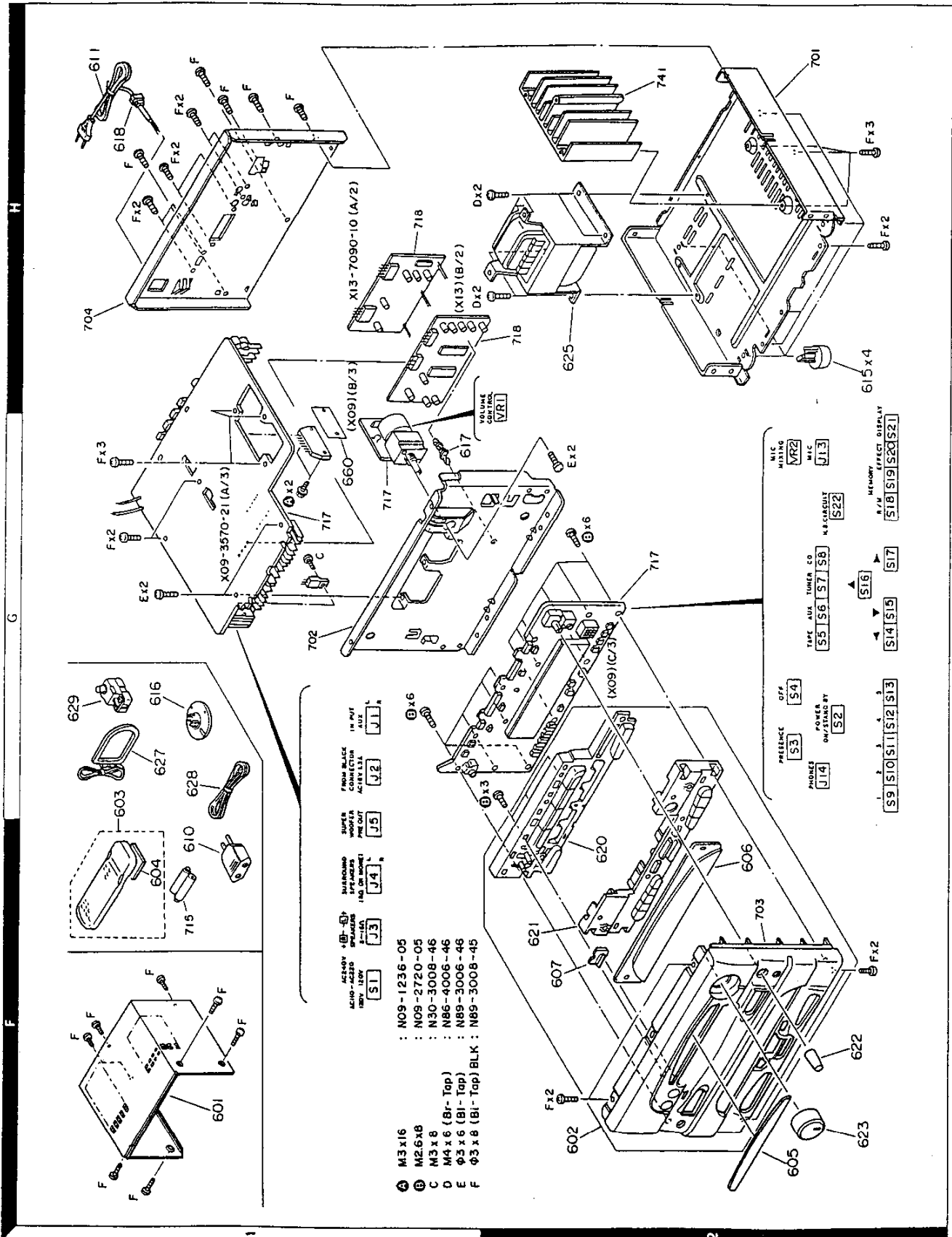
## EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied. 103



## EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied. 105





PARTS LIST

NO.2

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teil ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Part No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
B	1C, 2C	H09-2720-05	TAPTITE SCREW (2.6X8)		
D	1H	H86-1006-16	BINDING HEAD TAPTITE SCREW		
E	1C, 2C	H89-3006-16	BINDING HEAD TAPTITE SCREW		
F	1F, 1H	H89-3006-15	BINDING HEAD TAPTITE SCREW		
627	1C	T90-0174-05	LOOP ANTENNA		
628	1C	T90-0175-05	T TYPE ANTENNA		
629	1C	T90-0185-05	ANTENNA ADAPTOR		
X-A3					
630	11	A01-2922-01	METALLIC CABINET		
631	21	A29-0310-03	CO TRAY PANEL		KPHX
632	21	A60-0180-11	PANEL		TE
633	21	A60-0192-11	PANEL		KPHX
633	21	A53-1336-23	CASSETTE HOLDER ASSY		TE
633	21	A53-1340-23	CASSETTE HOLDER ASSY		A B
635	21	B07-1720-04	ESCUTCHEON		
636	21	B10-1914-03	FRONT GLASS		A B
637	21	B10-1915-03	FRONT GLASS		
638	21	B10-1916-03	FRONT GLASS		
-	21	B46-0122-23	WARRANTY CARD		E
-	21	B46-0143-13	WARRANTY CARD		T
640	11, 2J	B39-0198-05	DAMPER		
641	1K	E30-2686-05	CORD WITH CONNECTOR POWER CORD		
FC1	1J, 2J	E35-0300-05	FLAT CABLE X29(CN1)-X92(CN5)		
FC2	2J	E35-0301-05	FLAT CABLE X29(CN1)-X92(CN5)		
FC3	1K	E35-0302-05	FLAT CABLE X29(CN8)-X92(CN3)		
FC4	1J	E35-0305-05	FLAT CABLE X29(CN7)-X92(CN6)		
646	1J, 1K	G01-3461-14	EXTENSION SPRING		
647	1K	G02-0998-14	FLAT SPRING		B
648	1J	G02-0999-14	FLAT SPRING		A
649	21	G02-1001-24	FLAT SPRING		
-	21	H50-0241-14	ITEM CARTON CASE		K
-	21	H50-0301-04	ITEM CARTON CASE		TE
-	21	H50-0313-14	ITEM CARTON CASE		PHX
-	21	H10-5263-01	POLYSTYRENE FOAMED FIXTURE		KPHX
-	21	H10-5264-01	POLYSTYRENE FOAMED FIXTURE		KPHX
-	21	H10-5270-12	POLYSTYRENE FOAMED FIXTURE (L)		TE
-	21	H10-5271-12	POLYSTYRENE FOAMED FIXTURE (R)		TE
-	21	H20-0574-04	PROTECTION COVER		M
-	21	H25-0232-04	PROTECTION BAG (235X350X0.03)		E
-	21	H25-0651-04	PROTECTION BAG (0232 PRINTED)		T
-	21	H25-0672-04	PROTECTION BAG		KPATE
653	2J	J02-0370-05	FOOT		
655	1J	K29-4360-13	KNOB BUSH UP, TUNING		
656	2J	K29-4361-03	KNOB STOP PAUSE		
657	1J	K29-4362-13	KNOB CASSETTE CONTROL		
658	1J, 2J	K29-4363-14	KNOB EJECT		
B	1J	M09-2720-05	TAPTITE SCREW (2.6X8)		
E	1J, 1J	H89-3006-16	BINDING HEAD TAPTITE SCREW		
F	1J, 1K	H89-3006-15	BINDING HEAD TAPTITE SCREW		

L:Scandinavia KUSA P:Canada  
Y:PK(Far East, Hawaii) T:England EE:Europe  
Y:AFES(Europe) Z:Australia M:Other Areas  
A indicates safety critical components

NO.1

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teil ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Part No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
A-A3					
601	1F	A01-2922-01	METALLIC CABINET		KPTE
602	2F	A60-0180-12	PANEL ASSY		MX
603	2F	A60-0181-12	PANEL ASSY		K
603	1C	X94-1010-11	REMOTE CONTROL ASSY UNIT		X
604	1F	A09-0126-03	BATTERY COVER		P
605	2F	B03-2764-04	DRESSING PLATE		T
606	2F	B10-1706-03	FRONT GLASS		PE
607	2F	B12-0190-04	INDICATOR		
-	2F	B46-0092-13	WARRANTY CARD		E
-	2F	B46-0096-33	WARRANTY CARD		T
-	2F	B46-0121-13	WARRANTY CARD		PE
-	2F	B46-0122-23	WARRANTY CARD		E
-	2F	B46-0143-13	WARRANTY CARD		E
-	2F	B60-0751-00	INSTRUCTION MANUAL (ENGLISH)		E
-	2F	B60-0752-00	INSTRUCTION MANUAL (FRENCH)		PE
-	2F	B60-0753-00	INSTRUCTION MANUAL (GERMAN)		E
-	2F	B60-0754-00	INSTRUCTION MANUAL (DUTCH)		E
-	2F	B60-0755-00	INSTRUCTION MANUAL (ITALIAN)		E
-	2F	B60-0756-00	INSTRUCTION MANUAL (CHINESE)		M
-	2F	B60-0757-00	INSTRUCTION MANUAL (SPANISH)		ME
-	2F	B60-0758-00	INSTRUCTION MANUAL (ARABIC)		M
610	1F	E03-0115-05	AC PLUG ADAPTER		M
611	1H	E30-2274-15	AC POWER CORD		KP
611	1H	E30-2275-15	AC POWER CORD		X
611	1H	E30-2276-15	AC POWER CORD		T
611	1H	E30-2277-15	AC POWER CORD		ME
-	1H	H50-0241-14	ITEM CARTON CASE		K
-	1H	H50-0242-04	ITEM CARTON CASE		TE
-	1H	H50-0313-14	ITEM CARTON CASE		PHX
-	1H	H10-5263-01	POLYSTYRENE FOAMED FIXTURE		KPHX
-	1H	H10-5264-01	POLYSTYRENE FOAMED FIXTURE		KPHX
-	1H	H10-5294-12	POLYSTYRENE FOAMED FIXTURE (L)		TE
-	1H	H10-5295-12	POLYSTYRENE FOAMED FIXTURE (R)		TE
-	1H	H13-0086-04	CARTON B&ARD		KPHX
-	1H	H25-0232-04	PROTECTION BAG (235X350X0.03)		E
-	1H	H25-0632-24	PROTECTION BAG		KPHX
-	1H	H25-0651-04	PROTECTION BAG (0232 PRINTED)		T
-	1H	H25-0671-04	PROTECTION BAG		
615	2H	J02-0370-05	FOOT		
616	1C	J19-2815-04	ANTENNA HOLDER		
617	1C	J19-3329-05	UNIT HOLDER		
618	1H	J42-0083-05	POWER CORD BUSHING		
620	2F	K29-4351-02	KNOB INPUT SELECTOR		MX
621	2F	K29-4352-02	KNOB GE CONTROL		
622	2F	K29-4357-04	KNOB MIC MIXING		
623	2F	K29-4358-04	KNOB VOLUME CONTROL		
625	2H	L07-0465-15	POWER TRANSFORMER		KP
625	2H	L07-0466-15	POWER TRANSFORMER		M
625	2H	L07-0467-15	POWER TRANSFORMER		T
625	2H	L07-0468-15	POWER TRANSFORMER		E
625	2H	L07-0469-15	POWER TRANSFORMER		X

L:Scandinavia KUSA P:Canada  
Y:PK(Far East, Hawaii) T:England EE:Europe  
Y:AFES(Europe) Z:Australia M:Other Areas  
A indicates safety critical components

\* New Parts  
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Teil ohne Parts No. werden nicht geliefert.

NO.3

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
<b>LS-A3</b>				
		* A21-2274-03	FRONT PANEL ASSY	
		* E30-5120-08	OUTSIDE CONNECTING WIRE	
		* H51-0137-08	CARTON CASE	KTE
		* H51-0138-08	CARTON CASE	PMX
		* H10-6011-08	POLYSTYRENE FOAMED FIXTURE	
		* H21-1071-08	PROTECTION SHEET	
SP1		* T10-0546-05	LOUDSPEAKER(WOOFER)	
SP2		* T03-0378-05	LOUDSPEAKER(TWEETER)	
<b>AUDIO UNIT(X09-3570-10;K.P.Q-21;M.O-71;X.2-71;T.E)</b>				
<b>033</b>				
		B30-1291-05	LED(LN21CPSLX(V)-(TA4))	
C1 -6		CC45FSL1H221J	220PF J	TE
C1 -2		CC45FSL1H221J	220PF J	KPMX
C5 -6		CC45FSL1H221J	220PF J	KPMX
C7 -8		CE04LV1V100H	100UF 35WV	
C9 -10		CF92FV1H683J	0.068UF J	
C11 -12		CF92FV1H223J	0.022UF J	
C13 -14		CF92FV1H243J	0.024UF J	
C15 -18		CF92FV1H104J	0.10UF 10WV	
C19 -20		CE04LV1A221H	220UF J	
C21 -24		CF92FV1H104J	0.10UF J	
C25 -26		C092FV1H472J	4700PF J	
C27 -30		CE04LV1V100K	100UF 35WV	
C29 -28		CK45FB1H102K	1000PF K	
C31 -32		CC45FSL1H181J	180PF J	
C33 -34		CC45FSL1H270J	27PF J	
C100-101		CK45FF1H103Z	0.010UF Z	
C102-103		CC45FSL1H221J	220PF J	
C104-105		CE04LV1V4R7M	4.7UF 35WV	
C106-107		CE04LV1H101M	1.0UF 50WV	
C108		CK45FF1H103Z	0.010UF Z	
C109		CK45FB1H471K	470PF K	
C110		CE04LV1H3R3M	NP-ELEC 3.3UF 50WV	
C111		CE04LV1H100M	10UF 50WV	
C112-113		CE04LV1H101M	100UF 50WV	
C114		CE04LV1H100M	10UF 50WV	
C115		CE04LV0J331H	3300UF 6.3WV	
C116		CE04LV1V100K	100UF 35WV	
C117-118		CE04LV1A221H	220UF 10WV	
C119		CE04LV1V100K	10UF 35WV	
C120-121		CE04LV1V102K	1000UF 35WV	
C122-123		CK45FF1H103Z	0.010UF Z	
C124-125		CE04LV1A101H	100UF 10WV	
C126-127		C092FV1H103J	0.010UF J	
C128		CK45FB1H471K	470PF K	
C129-130		CE04LV1E471H	470UF 25WV	
C131-132		CK45FF1H103Z	0.010UF Z	
C133-134		CE04LV1V100H	10UF 35WV	
C135-136		CE04LV1H470N	47UF 50WV	
C137		CE04LV1V101H	1000UF 35WV	
C138		CE04EV1C471H	470UF 16WV	

L:Scandinavia  
Y:PA(Far East, Japan)  
Y:AFES(Europe)

K:USA  
T:England  
X:Australia

P:Canada  
L:Europe  
M:Other Areas

△ indicates safety critical components

NO.4

\* New Parts  
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Teil ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
C139-140		CK45FF1H103Z	0.010UF Z	
C141-142		C90-1961-05	3300UF 45WV	
C143		CK45FB1H102K	1000PF K	
C144		C90-3231-05	3.3UF 25WV	
C145-146		CK45FF1H103Z	0.010UF Z	
C147		C90-3231-05	3.3UF 25WV	
C148		C092FV1H102J	1000PF J	
C149		CK45FF1H103Z	0.010UF Z	
C150		C91-0769-05	0.01UF K	
C151-152		C90-3213-05	6.3WV	
C154		C91-0769-05	0.01UF K	
C155		C91-0753-05	470PF K	
C156		C91-0753-05	1000PF K	
C157		C90-3248-05	0.1UF 50WV	
C158		C91-0749-05	220PF K	
C159		C91-0757-05	1000PF K	
C160		C90-3224-05	4.7UF 16WV	
C161		C90-3240-05	2.2UF 35WV	
C162-163		C90-3219-05	33UF 10WV	
C164-165		C91-0757-05	1000PF K	
C166-167		C91-0769-05	0.01UF K	
C168		C90-3240-05	2.2UF 35WV	
C169		CK45FF1H223Z	0.022UF Z	
C170		CE04LV1V100H	10UF 35WV	
C171-172		CK45FF1H103Z	0.010UF Z	
J1		F63-0040-05	PHONE JACK	
J2		E08-1509-05	RECTANGULAR RECEPTACLE BLACK	
J3		E70-0013-05	LOCK TERMINAL BOARD SPEAKER	
J4		E63-0041-05	PHONE JACK SURROUND SPEAKER	
J5		E13-0138-05	PHONE JACK SUPER WOOFER	
J13-14		E11-0234-05	PHONE JACK MCI HEAD PHONE	
J14		E11-0234-05	PHONE JACK HEAD PHONE	
660	1C	F20-1352-05	INSULATING SHEET	
F1		F53-0022-05	FUSE	
F2-3		F53-0036-05	FUSE	
F3		F53-0016-05	FUSE	
F4		F53-0030-05	FUSE	
F5		F53-0022-05	FUSE	
F6		F53-0020-05	FUSE	
F7		F53-0034-05	FUSE	
F8		F05-1623-05	FUSE (SERK0) (250V T1.6A)	
F9		F06-3027-05	FUSE (UL) (250V 3A)	
F10		F05-1623-05	FUSE (SERK0) (250V T1.6A)	
CN9-12		J13-0075-05	FUSE CLIP	
CN10		J13-0075-05	FUSE CLIP	
J7-8		J21-5159-04	MOUNTING HARDWARE	
L1-2		L39-0085-05	PHASE-COMPENSATION COIL	
L3-4		L40-1011-17	SMALL FIXED INDUCTOR(100UH,K)	
X1		L78-0244-05	RESONATOR 4MHz	
X2		L78-0267-05	RESONATOR 4.19MHz	
A	1C	N09-1236-05	TAPPING SCREW (3X16)	
C	1C	N30-3008-46	PAN HEAD MACHIN SCREW	

L:Scandinavia  
Y:PA(Far East, Japan)  
Y:AFES(Europe)

K:USA  
T:England  
X:Australia

P:Canada  
L:Europe  
M:Other Areas

△ indicates safety critical components

# PARTS LIST

NO.6

\* New Parts  
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Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
ICA		NJM45580	IC(OP AMP X2)		
ICB		UPC7805F	IC(VOLTAJE REGULATOR / +5V)		
ICD		MC0940-3LSSP	IC(MICROPROCESSOR)		
ICE		XB-1091ECP	IC(EQUALIZER FILTER)		
ICF		UP480C	IC(7CH TRANSISTOR ARRAY)		
ICG		L81294	IC(6CH DARLINGTON DRIVER)		
IC8		CAP50112-375Q	IC(MICROPROCESSOR)		
IC9		CAP50112-388Q	IC(MICROPROCESSOR)		
IC10		PST62000B	IC(SYSTEM RESET)		
IC11		NJM45650-D	IC(OP AMP X2)		
IC12, 13					
IC13		NJM45650-0	IC(OP AMP X2)		
Q1	.2	25C17405(Q,R)	TRANSISTOR		
Q2	.4	25C2785(F,E)	TRANSISTOR		
Q3	.4	25C2678(B)	TRANSISTOR		
Q5	.6	25C2878(B)	TRANSISTOR		
Q50		25C17405(Q,R)	TRANSISTOR		
Q50		25C2785(F,E)	TRANSISTOR		
Q51		DTC124ES	DIGITAL TRANSISTOR		
Q51		RM1203	TRANSISTOR		
Q52		25A1175(F,E)	TRANSISTOR		
Q52		25A9335(Q,R)	TRANSISTOR		
Q53		25C1845(F,E)	TRANSISTOR		
Q54		DTA124ES	DIGITAL TRANSISTOR		
Q54		RH2203	TRANSISTOR		
Q55		2501266(Q,P)	TRANSISTOR		
Q56		25B941(Q,P)	TRANSISTOR		
Q57		25A1175(F,E)	TRANSISTOR		
Q57		25A9335(Q,R)	TRANSISTOR		
Q58		25B772(Q,P)	TRANSISTOR		
Q59		25C2003(L,K)	TRANSISTOR		
Q60		DTC144TFF	DIGITAL TRANSISTOR		
Q61		25C2878(B)	TRANSISTOR		
Q62		25A992(F,E)	TRANSISTOR		
A1		W02-1046-05	ELECTRIC CIRCUIT MODULE		
ACCESSORY UNIT(X13-7090-10)					
C1	.2	CE04LW1V100K	ELECTRØ		
C3		CC45FSLH390J	CERAMIC		
C4		CC45FSLH101J	CERAMIC		
C5	.6	CF92FV1H103J	MF		
C7	.8	CF92FV1H222J	MF		
C9	.10	CE04LW1V100K	ELECTRØ		
C11	.12	CF92FV1H154J	MF		
C13	.14	CF92FV1H474J	MF		
C17	.18	CF92FV1H153J	MF		
C19		CF92FV1H333J	MF		
C20		CF92FV1H474J	MF		
C21	.22	CE04LW1V477K	ELECTRØ		
C24	.25	CE04LW1A101H	ELECTRØ		
C26	.27	CK45FTH103Z	CERAMIC		
C31	.32	CE04LW1V100K	ELECTRØ		
C33	.34	CE04LW1H2R2M	ELECTRØ		
C35	.36	CE04LW1H010M	ELECTRØ		
C37	.38	CK45FBH471K	CERAMIC		
C39	.40	CC45FSLH221J	CERAMIC		

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NO.5

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Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
F	IC	N89-3008-45	BINDING HEAD TAPTITE SCREW		
CP1		R90-0854-05	MULTI-COMP 4.7X3 J 1/6V		
CP2		R90-0487-05	MULTI-COMP 47KX4 J 1/6V		
CP3		R90-0851-05	MULTI-COMP 100KX11		
CP4		R90-0487-05	MULTI-COMP 47KX4 J 1/6V		
RA3	.44	R014HB2E47J	RD 4.7 J 1/4V		
RA5	.46	RS14KB3D4R7J	FL-PROOF RS 4.7 J 2V		
RA7	.48	RS14KB3D561J	FL-PROOF RS 560 J 2V		
R113	1.14	R014HB2E101J	RD 10 J 1/4V		
R145		R014HB2E220J	RD 22 J 1/4V		
R196		R92-0173-05	RC 2.2K X 1/2W	KP	
WR1		R29-5044-05	MOTOR VR 100XB X2 MAIN VOLUME		
WR2		R10-5054-05	POTENTIOMETER 100K RIC MIXING		
K1		S76-0008-05	MAGNETIC RELAY		
S1		Z31-2322-05	SLIDE SWITCH VOLTAGE SELECTOR		
S2	-22	S40-1064-05	PUSH SWITCH KEY BOARD		
D1	-11	HSS104	D100E		
D1	-11	HSS133	D100E		
D12		HZ57.5S(B)	ZENER D100E		
D12		R07.5S(B)	ZENER D100E		
D13	.14	HZ50.2H(B2)	ZENER D100E		
D13	.14	R08.2ES(B2)	ZENER D100E		
D15	-18	ISR139-100	D100E		
D19		HSS104	D100E		
D19		HSS133	D100E		
D20	-23	ISR139-100	D100E		
D24		HZ57.5S(B)	ZENER D100E		
D24		R07.5S(B)	ZENER D100E		
D25		HZ527A(B2)	ZENER D100E		
D25		R027ES(B)	ZENER D100E		
D26		ISR139-100	D100E		
D28		HSS104	D100E		
D28		HSS133	D100E		
D29		05SBA20F03	D100E		
D30		HZ54.7H(B2)	ZENER D100E		
D30		R04.7ES(B2)	ZENER D100E		
D31	.32	HSS104	D100E		
D31	.32	HSS133	D100E		
D34	-38	HSS104	D100E		
D34	-38	HSS133	D100E		
D39	.40	ISR139-100	D100E		
041		HZ54.7H(B2)	ZENER D100E		
041		R04.7ES(B2)	ZENER D100E		
042	-44	HSS104	D100E		
042	-44	HSS133	D100E		
045		MA177	D100E		
046		ISR139-100	D100E		
ED1		FPI33CV19Y	FLUORESCENT INDICATOR TUBE		
IC1		TCA4528P	IC(4CH MPX0E-MPX)		
IC2		STR4140MK2Z	IC(CAF POWER AMP)		
IC2		STR4140MK5Z	IC(CAF POWER AMP)		
IC2		STK4150MK2Z	IC(CAF POWER AMP)		
IC3		YAB4095	IC(LIGHTØR CONTROL)		

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NO. 8

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Ref. No. 参照番号	Address 位 置	Parts No. 部 品 番 号	Description 部 品 名 / 規 格	Desti- nation 向 標 号
C59 .60		CE04LV1C470H	ELECTRØ 47UF 16VV	FOR SERVICE MANUALS CONTACT: <b>MAURITRON TECHNICAL SERVICES</b> www.mauritron.co.uk TEL: 01844 - 351694 FAX: 01844 - 352554
C61 .62		CF92FV1H153J	MF 0.015UF J	
C63		CE04LV1C101H	ELECTRØ 100UF 16VV	
C64		CK45FB1H102K	CERAMIC 1000PF K	
L1 .2		L40-1035-29	SMALL FIXED INDUCTOR(10MH, J)	
		L32-0542-05	BIAS OSCILLATING COIL	
VR1		R12-1617-05	TRIMMING POT.(2.2K) HIGH SPEED	
VR2		R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED	
VR3 .4		R12-0A05-05	TRIMMING POT.(220) PLAY LEVEL	
VR5 .6		R12-5072-05	TRIMMING POT.(100K) BIAS	
VR7		R12-1617-05	TRIMMING POT.(2.2K) HIGH SPEED	
VR8		R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED	
VR9 .10		R12-0605-05	TRIMMING POT.(220) PLAY LEVEL	
K1		S51-2089-05	MAGNETIC RELAY	
D1 -4		HSS104	DIØDE	
D1 -4		1S5133	DIØDE	
D6 -9		HSS104	DIØDE	
D6 -9		1S5133	DIØDE	
D10		HZ511H(B2)	ZENER DIØDE	
D10		RD11ES(B2)	ZENER DIØDE	
D51 -55		HSS104	DIØDE	
D51 -55		1S5133	DIØDE	
IC1 .2		TAB1255	IC(2CH PRE AMP)	
Q1 .2		2SC3246	TRANSISTOR	
Q3 .4		2SC1845(F,E)	TRANSISTOR	
Q5		2SA92(F,E)	TRANSISTOR	
Q6		2SA1175(F,E)	TRANSISTOR	
Q6		2SA9335(Q,R)	TRANSISTOR	
Q7 -12		2SC17405(Q,R)	TRANSISTOR	
Q7 -12		2SC2785(F,E)	TRANSISTOR	
Q13 .14		2SC3246	TRANSISTOR	
Q15		2SA1175(F,E)	TRANSISTOR	
Q15		2SA9335(Q,R)	TRANSISTOR	
Q16		2SC17405(Q,R)	TRANSISTOR	
Q16		2SC2785(F,E)	TRANSISTOR	
CONTROL UNIT(X29-2300-10;K,P,O-21;M,O-71;X,2-71;T,E)				
C1 .2		CE04LV1HR47H	ELECTRØ 0.47UF 50VV	
C3 .4		CE04LV1H010H	ELECTRØ 1.0UF 50VV	
C5 .8		CE04LV1HR47H	ELECTRØ 0.47UF 50VV	
C9 -10		CE04LV1H2R2H	ELECTRØ 2.2UF 50VV	
C11 .12		CE04LV1H010H	ELECTRØ 1.0UF 50VV	
C13 -16		C092FM1H222J	MYLAR 2200PF J	
C17 -18		CK45FE1H223Z	CERAMIC 0.022UF Z	
C19 .20		C092FM1H221J	MYLAR 2200PF J	
C21 -24		CE04LV1HR1K	ELECTRØ 0.1UF 50VV	
C25 .26		CE04LV1V100H	ELECTRØ 100UF 35VV	
C27 .28		CE04LV1H2R2H	ELECTRØ 2.2UF 50VV	
C29 .30		CE04LV1HR47K	ELECTRØ 0.47UF 50VV	
C31 .32		CE04LV1H2R2K	ELECTRØ 2.2UF 50VV	
C33 .34		CK45FB1H221K	CERAMIC 0.020PF K	
C37 -40		CE04LV1V100H	ELECTRØ 100UF 35VV	
C41 .42		CF92FV1H333J	MF 0.033UF J	

NO. 7

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Ref. No. 参照番号	Address 位 置	Parts No. 部 品 番 号	Description 部 品 名 / 規 格	Desti- nation 向 標 号
C41 .42		CE04LV1H010H	ELECTRØ 1.0UF 50VV	FOR SERVICE MANUALS CONTACT: <b>MAURITRON TECHNICAL SERVICES</b> www.mauritron.co.uk TEL: 01844 - 351694 FAX: 01844 - 352554
C43 .44		CF92FV1H224J	MF 0.22UF J	
C45 .46		CE04LV1HR47H	ELECTRØ 0.47UF 50VV	
C47 .48		CF92FV1H913J	MF 0.091UF J	
C49 .50		CF92FV1H184J	MF 0.18UF J	
C51 .52		CF92FV1H333J	MF 0.033UF J	
C53 .54		CF92FV1H683J	MF 0.068UF J	
C55 .56		CF92FV1H133J	MF 0.013UF J	
C57 .58		CF92FV1H303J	MF 0.030UF J	
C59 .60		CF92FV1H582J	MF 5600PF J	
C61 .62		CF92FV1H123J	MF 0.012UF J	
C63 .64		CF92FV1H222J	MF 2200PF J	
C65 .66		CF92FV1H472J	MF 4700PF J	
C67 .68		CK45FB1H821K	CERAMIC 820PF K	
C69 .70		CE04LV1H2R2H	ELECTRØ 2.2UF 50VV	
C71 .72		CE04LV1V100H	ELECTRØ 100UF 35VV	
C73 .74		CE04LV1A101H	ELECTRØ 100UF 10VV	
C75 .76		CK45FB1H471K	CERAMIC 470PF K	
R49 .50		RD14RB2E470J	RD 47 J 1/4W	
R77 .78		RD14RB2E470J	RD 47 J 1/4W	
IC1		TC9215P	IC(ANALØG SWITCH X 6)	
IC2		UPC4574C	IC(OP AMP X4)	
IC3		TDA3810	IC(PSEUDO STEREO CIRCUIT)	
IC4		NJ45650-D	IC(OP AMP X2)	
IC5 .6		M5229P	IC(7CH GRAPHIC EQUALIZER)	
IC7		LC7522	IC(7CH GRAPHIC EQUALIZER)	
Q1 .2		DTA124ES	DIGITAL TRANSISTOR	
Q1 .2		RM2203	TRANSISTOR	
NETWORK ASSY(X21-5990-10)				
C1		C90-1098-05	NP-ELEC 2.7UF 100VV	
J1		E29-0309-08	INPUT TERMINAL	
CD ELECTRIC UNIT(X25-4570-31)				
S1		S33-2062-05	LEVER SWITCH LOADING	
RECORD/PLAYBACK AMPLIFIER UNIT(X28-2450-10)				
C1 .2		CK45FB1H561K	CERAMIC 560PF K	
C5 .6		CE04LV1H2R2H	ELECTRØ 2.2UF 50VV	
C7 .8		CK45FB1H391K	CERAMIC 390PF K	
C9 .10		CF92FV1H223J	MF 0.022UF J	
C11 .12		CE04LV1C470H	ELECTRØ 47UF 16VV	
C13		CE04LV1C101H	ELECTRØ 100UF 16VV	
C14		C093HP2A821J	MYLAR 8200PF J	
C15 -18		CK45FL1H221J	CERAMIC 220PF J	
C19		CK45FB1H71K	CERAMIC 470PF K	
C20		CE04LV1HR47H	ELECTRØ 4.7UF 35VV	
C21 .22		CK45FB1H332K	CERAMIC 3300PF K	
C23		CK45FF1H103Z	0.10UF Z	
C24		CK45FB1H102K	CERAMIC 1000PF K	
C25		CK45FF1H232Z	0.022UF Z	
C51 .52		CC45FL1H221J	CERAMIC 220PF J	
C53 .54		CK45FB1H391K	CERAMIC 390PF K	
C55 .56		CE04LV1H2R2H	ELECTRØ 2.2UF 50VV	
C57 .58		CK45FB1H391K	CERAMIC 390PF K	

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## PARTS LIST

NO. 10

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X1 X201		L78-0294-05 L77-1176-05	RESONATOR CRYSTAL RESONATOR 4.19430MHz	
F	2K	H89-3008-45	BINDING HEAD TAPTITE SCREW	
CP1		R90-0818-05	MULTI-COMP 47KX5 J 1/8W	
CP201		R90-0803-05	MULTI-COMP 100KX7 J 1/4W	
R117-120		RS14K83D151J	FL-PROOF RS 150 J 2W	
R126		RS14K83D821J	FL-PROOF RS 820 J 2W	
R306		RS14K83D221J	FL-PROOF RS 220 J 2W	
S1-23		S40-1064-05	PUSH SWITCH KEY BOARD	
S24		S31-2094-05	SLIDE SWITCH BEAT CANCELER	
D1-18		HSS104	DIODE	
D19-20		S55668	DIODE	
D19-20		LSR133-100	DIODE	
D21-34		HSS104	DIODE	
D21-34		SSS133	DIODE	
D35-36		S55668	DIODE	
D35-36		LSR133-100	DIODE	
D37		RBV-402LFA	DIODE	
D41-42		RB721Q	DIODE	
D44		HZ53.9H(B2)	ZENER DIODE	
D45		RD3.9ES(B2)	ZENER DIODE	
D45		HZ56.2M(B2)	ZENER DIODE	
D45		RD6.2ES(B2)	ZENER DIODE	
D46		HZ57.5S(B2)	ZENER DIODE	
D46		RD7.5JS(B2)	ZENER DIODE	
D47		HZ530K(B)	ZENER DIODE	
D47		RD30ES(B)	ZENER DIODE	
D48		HZ52.7N(B2)	ZENER DIODE	
D48		RD2.7ES(B2)	ZENER DIODE	
D49		HZ54.7N(B)	ZENER DIODE	
D50-51		RD4.7ES(B)	ZENER DIODE	
D50-51		HSS104	DIODE	
D52		HZ56.2M(B2)	ZENER DIODE	
D52		RD6.2ES(B2)	ZENER DIODE	
D53-55		HSS104	DIODE	
D53-55		SSS133	DIODE	
D204-211		HSS104	DIODE	KPX KPK
D204-211		SSS133	DIODE	TE TE KP KP H
D204-212		HSS104	DIODE	
D204-212		SSS133	DIODE	
D213-214		HSS104	DIODE	
D213-214		SSS133	DIODE	
D216-222		HSS104	DIODE	
D216-222		SSS133	DIODE	
D217-222		HSS104	DIODE	
D217-222		SSS133	DIODE	
D301		HZ53.3K(B2)	ZENER DIODE	M KPXTE KPXTE
D301		RD3.3ES(B2)	ZENER DIODE	
D302		HZ55.1K(B2)	ZENER DIODE	
D302		RD5.1ES(B2)	ZENER DIODE	
E01		FIP10BRN7	FLUORESCENT INDICATOR TUBE	

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NO. 9

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C43-44		CK45FF1H333Z	CERAMIC 0.033UF Z	
C45-46		CF92FV1H333J	MF 0.033UF Z	
C47-48		CK45FF1H333Z	CERAMIC 0.033UF Z	
C51		CE04LV1V100H	ELECTR0 10UF 35V	
C52		CE04LV1H282H	ELECTR0 2.2UF 50V	
C53		CE04LV1H101H	ELECTR0 100UF 50V	
C54		CE04LV1H370H	ELECTR0 47UF 50V	
C55		CE04LV1H101H	ELECTR0 100UF 50V	
C56		CE04LV1V100H	ELECTR0 10UF 35V	
C57		CE04LV1H100H	ELECTR0 10UF 50V	
C58		CE04LV1E221H	ELECTR0 220UF 25V	
C59-60		CE04LV1V101H	ELECTR0 100UF 35V	
C61		CE04LV1E102H	ELECTR0 1000UF 25V	
C63		CE04LV1V101H	ELECTR0 100UF 35V	
C64		CC45FSL1H101J	CERAMIC 100PF J	
C66		CE04LV1H471H	ELECTR0 470UF 50V	
C67		CE04LV1E102H	ELECTR0 1000UF 25V	
C68		CE04LV1E471H	ELECTR0 470UF 35V	
C69		CE04LV1V100H	ELECTR0 10UF 35V	
C70		CE04LV1A101H	ELECTR0 100UF 10V	
C72		CE04LV1V101H	ELECTR0 100UF 35V	
C73-74		CF92FV1H104J	MF 0.10UF J	
C75		CE04LV1V101H	ELECTR0 100UF 35V	
C76		CK45FF1H103Z	CERAMIC 0.010UF Z	
C77		CK45FF1H223Z	CERAMIC 0.022UF Z	
C78		CE04LV1A101H	ELECTR0 100UF 10V	
C79-80		CK45FB1H102K	CERAMIC 1000PF K	
C81		CK45FB1H222K	CERAMIC 2200PF K	
C82		CE04LV1H331H	ELECTR0 330UF 50V	
C83		CK45FF1H103Z	CERAMIC 0.010UF Z	
C84		CE04LV1H101H	ELECTR0 10UF 50V	
C85		CC45FSL1H101J	CERAMIC 100PF J	
C86-88		CE04LV1V100H	ELECTR0 10UF 35V	
C89		CE04LV1C330H	ELECTR0 330UF 16V	
C90		CE04LV1A101H	ELECTR0 100UF 10V	
C91-94		CK45FB1H223K	CERAMIC 2200PF K	
C95		CK45FF1H103Z	CERAMIC 0.010UF Z	
C96-97		CK45FF1H223Z	CERAMIC 0.022UF Z	
C98		CE04LV1V100H	ELECTR0 10UF 35V	
C99-101		CP1-0753-05	CHIP C	
C102		CE04LV1H220H	ELECTR0 220UF K	
C203		CE04LV1H2R2H	ELECTR0 2.2UF 50V	
C204		CP0-1827-05	BACKUP 0.047F 5.5V	
C205		CE04LV0J221H	ELECTR0 220UF 6.3V	
C206		CE04LV1H101H	ELECTR0 1.0UF 50V	
C207		CE04LV1H103Z	CERAMIC 0.010UF Z	
C208		CC45FCH1H270J	ELECTR0 1.0UF 50V	
C209		CC45FCH1H330J	CERAMIC 33PF J	
C301		CE04LV1H101H	ELECTR0 1.0UF 50V	
C302		CE04LV1V100H	ELECTR0 10UF 35V	
L1-4		L79-0720-05 L40-1011-17	LC FILTER SMALL FIXED INDUCTOR	

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P:Canada  
E:Europe  
M:Other Areas

△ indicates safety critical components

NO. 11  
 \* New Parts  
 Parts without Paris No. are not supplied.  
 Les articles non mentionnés dans le Paris No. ne sont pas fournis.  
 Teile ohne Paris No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Paris No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 向備考
IC1		CXP82324-104Q	IC(MICROPROCESSOR)		
IC2		HAI2157NT	IC(OPLLBY 8/C NR)		
IC3		TC4052BP	IC(4CH MPX/DE-MPX)		
IC4		XRU4052B	IC(MULTIPLXER/DEMULTIPLXER)		
IC5		BA10393	IC(DUAL COMPALATOR)		
IC6		NJM4565D	IC(OP AMP X2)		
IC7		RC4565D	IC(OP AMP X2)		
IC8		PS7529D	IC(SYSTEM RESET)		
IC9		UPC7808HF	IC(VOLTAGE REGULATOR/ +8V)		
IC10		T0425545	IC(4CH TRANSISTOR ARRAY)		
IC201		CXP50116-380Q	IC(MICROPROCESSOR)		
IC202		PS7529D	IC(SYSTEM RESET)		
Q1		25Q2061	TRANSISTOR		
Q2		25A999(E,F)	TRANSISTOR		
Q3		25C1740S(Q,R)	TRANSISTOR		
Q4		25C2785(F,E)	TRANSISTOR		
Q5		25C3944A	TRANSISTOR		
Q6		25A1175(F,E)	TRANSISTOR		
Q7		25A9335(Q,R)	TRANSISTOR		
Q8		25C1740S(Q,R)	TRANSISTOR		
Q9		25C2785(F,E)	TRANSISTOR		
Q10		25C2988(B)	TRANSISTOR		
Q11		Q1214ES	DIGITAL TRANSISTOR		
Q12		Q1214ES	DIGITAL TRANSISTOR		
Q13		RM2203	DIGITAL TRANSISTOR		
Q14		Q1214ES	DIGITAL TRANSISTOR		
Q15		RM1203	DIGITAL TRANSISTOR		
Q16		Q1214ES	DIGITAL TRANSISTOR		
Q17		Q1214ES	DIGITAL TRANSISTOR		
Q18		RM2203	DIGITAL TRANSISTOR		
Q19		Q1214ES	DIGITAL TRANSISTOR		
Q20		Q1214ES	DIGITAL TRANSISTOR		
Q21		RM1203	DIGITAL TRANSISTOR		
Q22		25C1740S(Q,R)	TRANSISTOR		
Q23		25C2785(F,E)	TRANSISTOR		
Q24		25A1175(F,E)	TRANSISTOR		
Q25		25A9335(Q,R)	TRANSISTOR		
Q26		25C1740S(Q,R)	TRANSISTOR		
Q27		25C2785(F,E)	TRANSISTOR		
Q28		25C2988(B)	TRANSISTOR		
Q29		Q1214ES	DIGITAL TRANSISTOR		
Q30		Q1214ES	DIGITAL TRANSISTOR		
Q31		Q1214ES	DIGITAL TRANSISTOR		
Q32		Q1214ES	DIGITAL TRANSISTOR		
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Q34		Q1214ES	DIGITAL TRANSISTOR		
Q35		Q1214ES	DIGITAL TRANSISTOR		
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Q200		Q1214ES	DIGITAL TRANSISTOR		
Q201		Q1214ES	DIGITAL TRANSISTOR		
Q202		Q1214ES	DIGITAL TRANSISTOR		
Q203		Q1214ES	DIGITAL TRANSISTOR		
Q204		Q1214ES	DIGITAL TRANSISTOR		
Q205		Q1214ES	DIGITAL TRANSISTOR		
Q206		Q1214ES	DIGITAL TRANSISTOR		
Q207		Q1214ES	DIGITAL TRANSISTOR		
Q208		Q1214ES	DIGITAL TRANSISTOR		

FOR SERVICE MANUALS CONTACT: **PARTS LIST**  
**MAURITRON TECHNICAL SERVICES**

www.mauritron.co.uk  
 TEL: 01844 - 351694  
 FAX: 01844 - 352554

NO. 14

\* New Parts  
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 Les articles non mentionnés dans le Paris No. ne sont pas fournis  
 Teile ohne Paris No. werden nicht geliefert.

Ref. No. 参照番号	Address 位	Paris No. 部品番号	Description 部品名 / 規格	Desti- nation 向	Re- marks 備考
V25 .26		R92-0679-05	CHIP R		
V27 .28		R92-0670-05	CHIP R		
V501-521		R92-0679-05	CHIP R		
S1		S31-2094-05	SLIDE SWITCH DE-EXPHASYS		X
D1 .2		M110	DIODE		TE
D4 .5		M110	DIODE		TE
D6 .7		M110	DIODE		TE
D102-106		M110	DIODE		
D501-504		M110	DIODE		
D505		DT25-1A	ZENER DIODE		
D506-510		M8051-H	ZENER DIODE		
D511		M110	DIODE		
D512-513		M8039	ZENER DIODE		
IC1		M110	DIODE		
IC2		LAI851H	IC(AK-FK TUNER)		
IC51		LC7218	IC(PLL SYNTHESIZER)		
IC52		UP075216AGCF-663	IC(MICROPROCESSOR)		
IC53		PST529D	IC(SYSTEM RESET)		
IC54		TAB409F	IC(MOTOR DRIVER)		
IC55		BA5286FP	IC(MOTOR DRIVER)		
IC56		CXA1372Q	IC(CD-RF SERVØ)		
IC57		XC02500AQ	IC(SIGNAL PROCESSOR)		
IC58		TC9237BF	IC(D/A CONVERTER)		
Q4		TA2009F	IC(FILTER)		TE
Q7 .0		25C2412K	TRANSISTOR		X
Q10		25C2412K	TRANSISTOR		TE
Q11		25C2412K	TRANSISTOR		TE
Q101-102		25C2412K	TRANSISTOR		KPX
Q103		25A1037K	TRANSISTOR		TE
Q103-105		25A1037K	TRANSISTOR		TE
Q106		25C2412K	TRANSISTOR		TE
Q501		25A954(L,X)	TRANSISTOR		
Q502		DTA143TS	DIGITAL TRANSISTOR		
Q503		ØTA124ES	DIGITAL TRANSISTOR		
DT1		W02-1041-15	FR FRONT-END ASSY		TE
DT1		W02-1042-15	FR FRONT-END ASSY		KPX
CD MECHANISM ASSY (X92-1650-31;K,P,0-32;M,0-33;X,0-34;T,E)					
101	3A	A10-2879-11	CHASSIS		
104	2B	A11-Ø719-05	SUB CHASSIS		
107	1A	A11-Ø732-02	SUB CHASSIS		
115	1B	D10-2190-04	RØD		
116	3A	D10-3196-03	SLIDER		
117	1A	D10-3197-04	RØD		
118	2A	D13-ØØ75-04	PULLEY GEAR		
119	2A	D13-ØØ77-04	INTERMEDIATE GEAR		
120	2B	D13-ØØ94-05	ØBYØR GEAR		
121	1B	D13-ØØ95-05	GEAR		
122	2B	D13-ØØ96-05	GEAR		
123	2A	D13-Ø939-03	MATH GEAR		

L:Scandinavia K:USA P:Canada  
 T:PX(Fw East, Hawaii) E:Europe  
 X:Australia M:Other Areas

△ indicates safety critical components

NO. 13

\* New Parts  
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 Teile ohne Paris No. werden nicht geliefert.

Ref. No. 参照番号	Address 位	Paris No. 部品番号	Description 部品名 / 規格	Desti- nation 向	Re- marks 備考
C613		CK73FB1H333K	CHIP C		
C614		CE04LV1V100H	ELECTRO		
C615		CK73FB1H333K	CHIP C		
C616		CE04HV1A220H	NP-ELEC		
C617, 618		CK73FB1H103K	CHIP C		
C619		CE04LV1HR47M	ELECTRO		
C620, 621		CK73FB1H103K	CHIP C		
C622		CE04LV0221H	ELECTRO		
C623		CK73FB1H152K	CHIP C		
C624		CK73FB1E473K	CHIP C		
C625		CE04LV01221M	ELECTRO		
C626, 627		CK73FB1H300J	CHIP C		
C628, 629		CE04LV1V100H	ELECTRO		
C630		CK73FB1H103K	CHIP C		
C631		CE04LV1C300H	ELECTRO		
C632, 633		CE04HV1HR47M	NP-ELEC		
C634		CK73FB1H103K	CHIP C		
C635, 637		CK73FB1H103K	CHIP C		
C638		CK73FB1E104K	CHIP C		
C639		CK73FB1H103K	CHIP C		
C640		CK73FB1H102K	CHIP C		
C641		CK73FB1E104K	CHIP C		
C642		CK45FB1R222K	CERAMIC		
J1		E20-Ø321-05	LOCK TERMINAL BOARD	TE	
		E70-Ø016-05	LOCK TERMINAL BOARD	KPX	
CF1 .2		L72-Ø531-05	CERAMIC FILTER	KPX	
CF1 .2		L72-Ø536-05	CERAMIC FILTER	TE	
L3		L30-Ø498-05	FR IFT	TE	
L5		L79-Ø125-05	LC FILTER	TE	
L7		L30-Ø467-05	AR IFT	TE	
L11		L40-1021-14	SMALL FIXED INDUCTOR(1.ØRH. X)		
L20		L40-1091-17	SMALL FIXED INDUCTOR		
L104		L39-1307-05	COMBINATION COIL	TE	
L106		L39-Ø192-05	COMBINATION COIL	KPX	
L105		L39-1306-05	COMBINATION COIL	TE	
X1		L77-1122-05	CRYSTAL RESONATOR 7.2MHz		
X2		L78-Ø295-05	RESONATOR 19.000KHz		
X501		L77-1164-05	CRYSTAL RESONATOR 16.9344MHz		
X502		L78-Ø218-05	RESONATOR 4.19MHz		
VRI .2		R12-3686-05	TRIMMING PØT. (.22K) TUNE LEVEL		
VH3		R12-1619-05	TRIMMING PØT. (.2.2K) HPX SEPARA		
V51, 52		R12-3686-05	TRIMMING PØT. (.22K) TE, FE GAIN		
V1 -4		R92-Ø679-05	CHIP R		KPX
V7 -15		R92-Ø670-05	CHIP R		TE
V7 -8		R92-Ø670-05	CHIP R		TE
V10 .11		R92-Ø670-05	CHIP R		KPX
V16 .17		R92-Ø670-05	CHIP R		M
V18		R92-Ø670-05	CHIP R		
V19		R92-Ø679-05	CHIP R		
V20 .21		R92-Ø670-05	CHIP R		KX
V22		R92-Ø670-05	CHIP R		KP
V23		R92-Ø670-05	CHIP R		X
V24		R92-Ø670-05	CHIP R		TE

L:Scandinavia K:USA P:Canada  
 T:PX(Fw East, Hawaii) E:Europe  
 X:Australia M:Other Areas

△ indicates safety critical components

NO.16

\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non-mentionnés dans le Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向
337	2E	E35-0398-08	HEAD WIRE	A
338	1E	E40-4244-05	PIN CONNECTOR	
340	2C	G01-3428-08	RETURN GEAR SPRING	
341	1D	G01-3429-08	REEL SPRING	
342	1E	G01-3431-08	CLUTCH ARM SPRING	
343	1C	G01-3432-08	PLAY ARM SPRING	
344	1E	G01-3433-08	SHIFT SELECT LEVER SPRING	
345	2E	G01-3434-08	TRIGGER ARM SPRING	
346	2D	G01-3435-08	SHIFT LEVER SPRING	
347	2C	G01-3436-08	HEAD CHASSIS SPRING	
348	2D	G01-3437-08	PINCH ROLLER ARM SPRING RIGHT	B
349	1C	G01-3438-08	PINCH ROLLER ARM SPRING LEFT	A
350	1E	G01-3439-08	BRAKE ARM SPRING	
351	2C	G01-3440-08	INTER LOCK LEVER SPRING RIGHT	
351	2C	G01-3441-08	INTER LOCK LEVER SPRING LEFT	
353	1D	G02-0913-08	PACK LOCK FLAT SPRING	
354	2C	G02-0994-08	AZIMUTH SPRING	
355	2C, 2D	G11-2117-08	HEAD WIRE CLARPER	
356	1D	G16-0780-08	REFLECT SEAL	
357	2C	G16-0786-08	INSULATING SHEET	
358	2C	J21-5789-08	HEAD PLATE ASSY	
360	2C	J31-0850-08	RETURN GEAR COLLAR	
361	1C, 2D	J31-0851-08	EJECT LEVER COLLAR	
362	2D	J42-0103-08	REEL CAP BUSHING	
363	2C	J90-0679-08	TAPE GUIDE	
364	2C	J90-0680-08	CASSETTE G10E	
365	1C, 2D	N09-2870-08	SCREW M2.6X5	
366	2C, 2D	N09-2871-08	SCREW M2X6	
367	2C	N09-2872-08	SCREW M1.7X8	
368	2C	N09-2873-08	SCREW M2X6	
369	2C	N09-2876-08	HEAD SCREW	
370	2C, 2D	N09-2877-08	TAP TITE SCREW M2X4	
371	2C	N09-2883-08	AZIMUTH SCREW	
372	1E	N19-1224-08	FLAT WASHER 74.1X4.0X0.25	
373	1E	N19-1225-08	FLAT WASHER 72.1X4.0X0.25	
374	1D	N19-1285-08	FLAT WASHER 71.6X3.0X0.13	
375	2E	N19-1286-08	FLAT WASHER 72.3X4.0X0.25	
376	2C	N19-1287-08	FLAT WASHER 73.5X4.5X0.5	
377	1C	N19-1288-08	FLAT WASHER 71.65X5.0X0.5	
378	2D	N19-1289-08	FLAT WASHER 71.8X6.0X0.5	
379	1D	N35-2604-46	BINDING HEAD MACHINE SCREW	
380	2E	N09-2900-08	SCREW M2X6	
381	2E	N09-2901-08	SCREW M2X6	
385	1E	S74-0006-08	LEAF SWITCH (REC.METAL, C-Ø2)	
386	1E	S74-0007-08	LEAF SWITCH (PACK DETECT)	
388	2D	T94-0226-08	SOLENOID ASSY	
390	1E	W02-1130-08-	ELECTRIC UNIT	
BM	1E	D16-0326-08	MAIN BELT	
PF	2D	D14-0341-08	PINCH ROLLER ASSY	
PH	2C	D14-0340-08	PINCH ROLLER ASSY	
MM	1D	T42-0599-08	DC MOTOR ASSY	
PH	2C	T31-0066-08	PLAYBACK HEAD	
RPEH	2C	T39-0020-08	REC/PLAYBACK/ERASE HEAD	
PHI	1E	N3LS16SK	PHOTO REFLECTOR	B

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 Y:AFES(Europe) Δ indicates safety critical components

NO.15

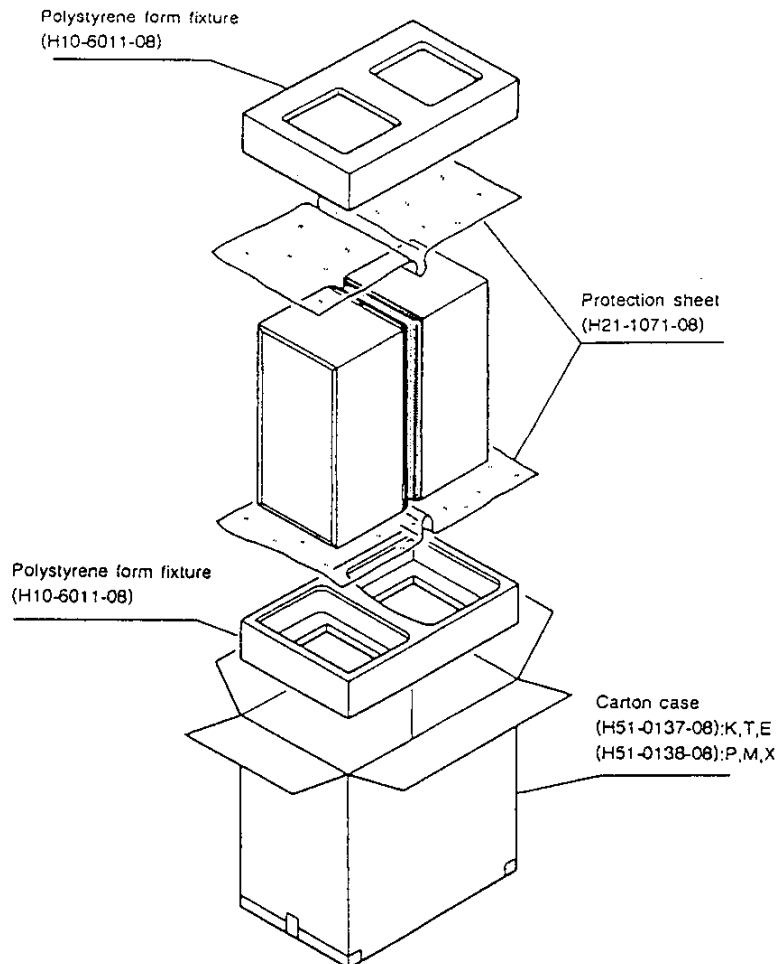
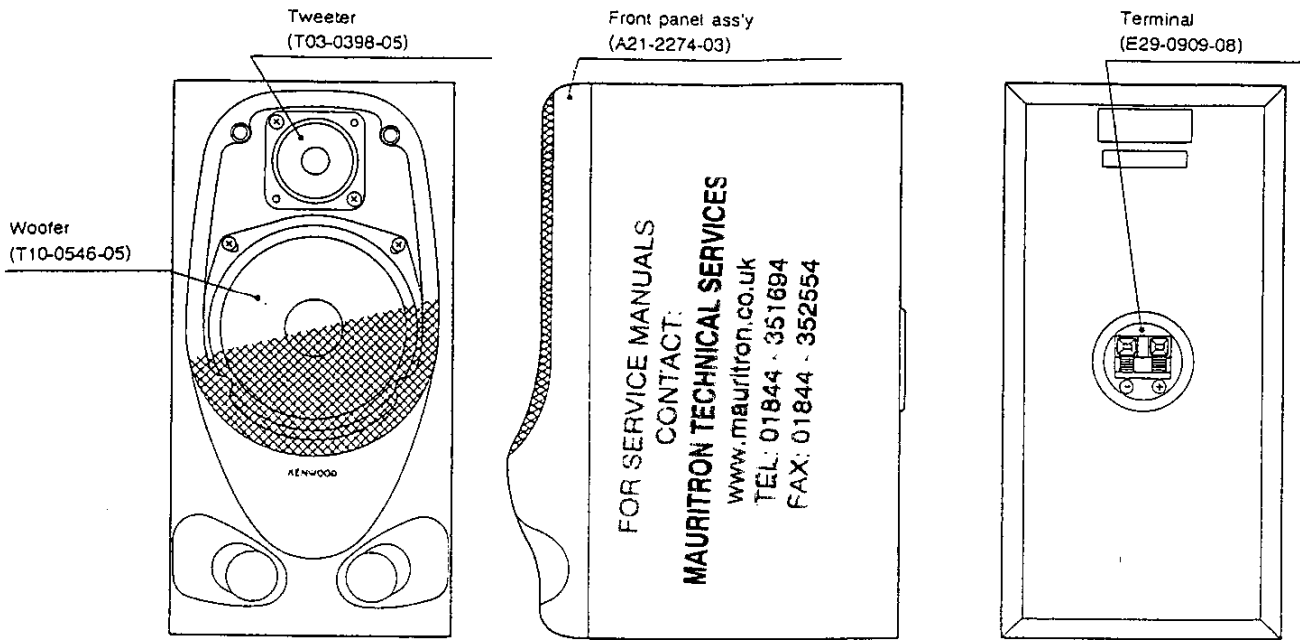
\* New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non-mentionnés dans le Parts No. ne sont pas fournis.  
 Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向
124	3A	D15-0309-04	PULLEY ASSY	
126	2A	D16-0301-05	SYNCRØ BELT	
127	1A	D23-0265-03	RETAINER	
129	1B	E35-0286-05	FLAT CABLE	
130	2B	G01-3409-04	INSULATOR SPRING FRONT	
131	2B	G01-3410-04	INSULATOR SPRING REAR	
133	2B	J02-1057-15	INSULATOR	
134	1A	J11-0164-03	CLAMPER	
135	2A	J99-0507-11	TRAY	
136	1A, 2A	N09-1522-05	SET SCREW (3XB)	
137	1A, 3A	N09-2720-05	TAPTITE SCREW (2.6XB)	
138	2A, 2B	N09-2769-05	MACHINE SCREW (2.6X2)	
139	3A	N35-2005-46	BINDING HEAD MACHIN SCREW	
140	2B	N39-2025-46	PAN HEAD MACHIN SCREW	
141	2B	N89-2008-46	BINDING HEAD TAPTITE SCREW	
142	2B	S33-1022-05	LEVER SWITCH	
147	1A	T50-1054-04	YØKE	
148	1A	T99-0503-15	MAGNET	
PH	2B	A11-0733-05	DISK MOTOR ASSY	
PH	2B	T42-0532-05	FEED MOTOR	
ILM	3A	T42-0531-05	LOADING MOTOR	
IFU	1B	T25-0014-05	OPTICAL PICKUP HEAD (KSS-240A)	
<b>CASSETTE MECHANISM ASSY (D40-1214-05; A, 5-05; B)</b>				
301	2C	A10-2922-08	HEAD CHASSIS CALKED ASSY	B
302	1D	A11-0754-08	BASE CHASSIS ASSY	A
305	1E	D01-0138-08	FLYWHEEL ASSY LEFT	B
306	1E, 2E	D01-0139-08	FLYWHEEL ASSY RIGHT	B
308	2D	D10-3210-08	SHIFT LEVER	A
309	2C	D10-3211-08	PLAY SHIFT LEVER	
310	2C	D10-3212-08	INTER LOCK LEVER	
310	2C	D10-3220-08	INTER LOCK LEVER	
311	1C	D10-3213-08	EJECT LEVER	
311	1C	D10-3221-08	EJECT LEVER	
312	1D	D10-3214-08	FR ARM	
313	1C	D10-3215-08	PLAY ARM	
314	1E	D10-3216-08	SHIFT SELECT LEVER	
315	2D	D10-3217-08	TRIGGER ARM	
316	2D	D10-3218-08	SELECT ARM	
317	1E	D10-3219-08	BRAKE ARM	
319	1D	D13-0965-08	CLUTCH GEAR	
320	1D	D13-0966-08	GEV GEAR	
321	1D	D13-0967-08	EG GEAR	
322	1D, 2D	D13-0968-08	REEL GEAR	
323	2E	D13-0970-08	PLAY CAR GEAR	
324	1C	D13-0974-08	PLAY GEAR ASSY	
325	2C	D13-0981-08	ROTATION GEAR	
326	2C	D13-0982-08	RETURN GEAR	
329	2D	D19-0270-1B	REEL CAP	
330	1E	D19-0273-08	CLUTCH PULLEY ASSY	
332	2D	D23-0277-08	HOUSING ASSY RIGHT	
333	1C	D23-0270-08	HOUSING ASSY LEFT	
335	1E	E35-0264-08	MOTOR WIRE	
336	1E	E35-0396-08	FLAT WIRE 15P	
337	2E	E35-0394-08	HEAD WIRE 5P	B

L:Scandinavia K:USA P:Canada  
 Y:PA(Far East, Hawaii) T:England E:Europe  
 X:Australia M:Other Areas  
 Y:AFES(Europe) Δ indicates safety critical components

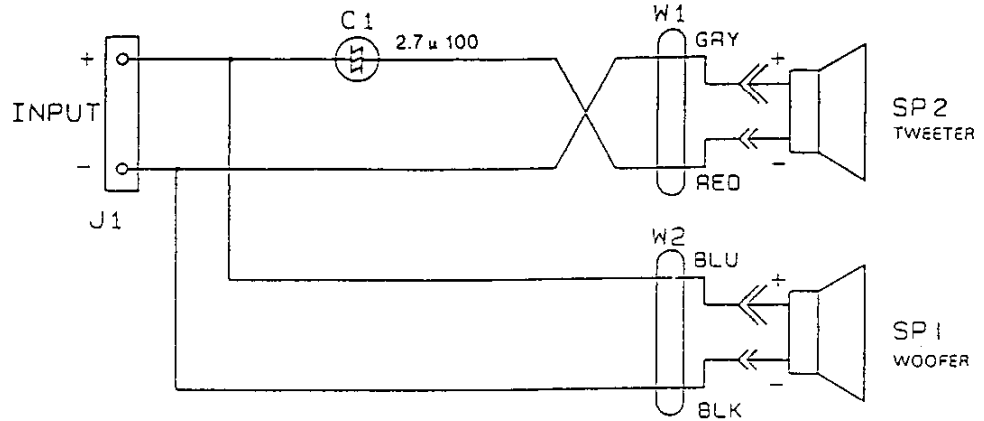


## SPEAKER SYSTEM



# UD-300

## SPEAKER SYSTEM



\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
<b>LS-A3</b>						
-		*	A21-2274-03	FRONT PANEL ASSY		
-		*	E30-5120-08	OUTSIDE CONNECTING WIRE		
		*	H51-0137-08	CARTON CASE	KTE PHX	
		*	H51-0138-08	CARTON CASE		
-		*	H10-6011-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H21-1071-08	PROTECTION SHEET		
SP1		*	T10-0546-05	LOUDSPEAKER(WOOFER)		
SP2		*	T03-0398-05	LOUDSPEAKER(TWEETER)		
<b>NETWORK ASSY (X21-5990-10)</b>						
C1			C90-1098-05	NP-ELEC 2.7UF 100WV		
J1		*	E29-0909-08	INPUT TERMINAL		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)


T:England

E:Europe

Y:AAFES(Europe)

X:Australia

M:Other Areas

 indicates safety critical components.

## Specifications (For U.K. and Europe)

## Amplifier/Graphic equalizer unit (A-A3)

**Amplifier section**

(IEC/NF) From 63 Hz to 12,500 Hz 0.7% T.H.D. at 8 $\Omega$ .....	25 W + 25 W
(DIN) 1 kHz, at 8 $\Omega$ .....	25 W + 25 W
Total harmonic distortion at 1/2 rated power (1 kHz, 8 $\Omega$ ) .....	0.03%
Signal to noise ratio AUX .....	86 dB (IHF' 66)
Input sensitivity/Impedance AUX .....	200 mV/47 k $\Omega$

**Graphic equalizer section**

Center frequency .....	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Control range .....	$\pm 10$ dB

## GENERAL

Power consumption .....	85 W
Dimensions .....	W: 270 mm H: 165 mm D: 276 mm
Weight (Net) .....	4.7 kg

## Cassette deck/CD player/Tuner unit (X-A3L)

**FM tuner section**

Tuning frequency range .....	87.5 MHz ~ 108 MHz
Usable sensitivity (DIN at 75 $\Omega$ ) MONO .....	0.9 $\mu$ V/10.2 dBf
STEREO .....	28 $\mu$ V/40.2 dBf
Total harmonic distortion (DIN at 1 kHz) MONO .....	0.3% (65.2 dBf input)
STEREO .....	0.8% (65.2 dBf input)
Signal to noise ratio (DIN weighted at 1 kHz) MONO .....	69 dB (65.2 dBf input)
STEREO .....	62 dB (65.2 dBf input)
Stereo separation (DIN) 1 kHz .....	42 dB
6.3 kHz .....	37 dB
Selectivity (DIN $\pm 300$ kHz) .....	64 dB
Frequency response (30 Hz ~ 15 kHz) .....	+0.5 dB, -3.5 dB

**MW tuner section**

Tuning frequency range .....	531 kHz ~ 1,602 kHz
Usable sensitivity .....	20 $\mu$ V (600 $\mu$ V/m)
Signal to noise ratio (at 30% mod. 1 mV input) .....	47 dB

**LW tuner section**

Tuning frequency range .....	153 kHz ~ 279 kHz
Usable sensitivity .....	20 $\mu$ V
Signal to noise ratio (at 30% mod. 1 mV input) .....	47 dB

**CD player section**

Refer to page 56.

**Cassette Deck section**

Refer to page 56.

## GENERAL

Dimensions .....	W: 270 mm H: 165 mm D: 250 mm
Weight (Net) .....	3.4 kg

FOR SERVICE MANUALS

CONTACT:

MAURITRON TECHNICAL SERVICES

www.mauritron.co.uk

TEL: 01844 - 351694

FAX: 01844 - 352554

# UD-300

## SPECIFICATIONS

Specifications (For U.S.A. and Canada)

### Amplifier/Graphic equalizer unit (A-A3)

#### Amplifier section

Continuous rated power output

25 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  1 kHz with no more than 0.7% total harmonic distortion. (FTC)

Total harmonic distortion at 1/2 rated power  
(1 kHz, 8  $\Omega$ ) ..... 0.1%  
Signal to noise ratio  
LINE (AUX) ..... 86 dB (IHF' 66)  
Input sensitivity/Impedance  
LINE (AUX) ..... 200 mV/47 k $\Omega$

#### Graphic equalizer section

Center frequency ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz,  
2.4 kHz, 6 kHz, 15 kHz  
Control range .....  $\pm 10$  dB

#### GENERAL

Power consumption ..... 85 W  
Dimensions ..... W: 270 mm (10-5/8")  
H: 165 mm (6-1/2")  
D: 276 mm (10-7/8")  
Weight (Net) ..... 4.7 kg (10.36 lb)

### Cassette deck/CD player/Tuner unit (X-A3)

#### FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz  
Usable sensitivity (MONO at 75  $\Omega$ ) ..... 1.2  $\mu$ V/12.8 dBf  
50 dB quieting sensitivity (at 75  $\Omega$ )  
MONO ..... 1.8  $\mu$ V/16.2 dBf  
STEREO ..... 28  $\mu$ V/40.2 dBf  
Total harmonic distortion (at 1 kHz)  
MONO ..... 0.4% (65 dBf input)  
STEREO ..... 0.5% (65 dBf input)  
Signal to noise ratio (at 1 kHz)  
MONO ..... 78 dB (65 dBf input)  
STEREO ..... 71 dB (65 dBf input)  
74 dB (85 dBf input)

#### Stereo separation

1 kHz ..... 40 dB  
Selectivity ( $\pm 400$  kHz) ..... 50 dB  
Frequency response (30 Hz ~ 15 kHz)  
..... +0.5 dB, -3.5 dB

#### AM tuner section

Tuning frequency range  
10 kHz step ..... 530 kHz ~ 1,700 kHz  
Usable sensitivity ..... 16  $\mu$ V (500  $\mu$ V/m)  
Signal to noise ratio  
(at 30% mod. 1 mV input) ..... 48 dB

#### CD player section

Refer to page 56.

#### Cassette deck section

Refer to page 56.

#### GENERAL

Dimensions ..... W: 270 mm (10-5/8")  
H: 165 mm (6-1/2")  
D: 250 mm (9-13/16")  
Weight (Net) ..... 3.4 kg (7.5 lb)

FOR SERVICE MANUALS  
CONTACT:

**MAURITRON TECHNICAL SERVICES**

www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

## SPECIFICATIONS

Specifications (For other countries)

## Amplifier/Graphic equalizer unit (A-A3)

## Amplifier section

Continuous rated power output

27 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  1 kHz with no more than 10% total harmonic distortion. (EIAJ)

(IHF' 66) From 60 Hz to 20 kHz, 1% T.H.D. at 8  $\Omega$   
 ..... 20 W + 20 W  
 Total harmonic distortion at 1/2 rated power  
 (1 kHz, 8  $\Omega$ ) ..... 0.1%  
 Signal to noise ratio  
 AUX ..... 86 dB (IHF' 66)  
 Input sensitivity/impedance  
 AUX ..... 200 mV/47 k $\Omega$

## Graphic equalizer section

Center frequency ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz,  
 2.4 kHz, 6 kHz, 15 kHz  
 Control range .....  $\pm 10$  dB

## GENERAL

Power consumption ..... 85 W  
 Dimensions ..... W: 270 mm  
 H: 165 mm  
 D: 276 mm  
 Weight (Net) ..... 4.7 kg

## Cassette deck/CD player/Tuner unit (X-A3)

## FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz  
 Usable sensitivity (MONO at 75  $\Omega$ ) ..... 1.2  $\mu$ V/12.8 dBf  
 50 dB quieting sensitivity (at 75  $\Omega$ )  
 MONO ..... 1.8  $\mu$ V/16.2 dBf  
 STEREO ..... 28  $\mu$ V/40.2 dBf  
 Total harmonic distortion (at 1 kHz)  
 MONO ..... 0.4% (65 dBf input)  
 STEREO ..... 0.5% (65 dBf input)  
 Signal to noise ratio (at 1 kHz)  
 MONO ..... 78 dB (65 dBf input)  
 STEREO ..... 71 dB (65 dBf input)  
 74 dB (85 dBf input)  
 Stereo separation  
 1 kHz ..... 40 dB  
 Selectivity ( $\pm 400$  kHz) ..... 50 dB  
 Frequency response (30 Hz ~ 15 kHz)  
 ..... +0.5 dB, -3.5 dB

## AM tuner section

Tuning frequency range  
 9 kHz step ..... 531 kHz ~ 1,602 kHz  
 10 kHz step ..... 530 kHz ~ 1,610 kHz  
 Usable sensitivity ..... 16  $\mu$ V (500  $\mu$ V/m)  
 Signal noise ratio  
 (at 30% mod. 1 mV input) ..... 48 dB

## CD player section

Refer to page 56.

## Cassette deck section

Refer to page 56.

## GENERAL

Dimensions ..... W: 270 mm  
 H: 165 mm  
 D: 250 mm  
 Weight (Net) ..... 3.4 kg

