

PROFESSIONAL AUDIO CD RECORDER

CDR1000

SERVICE MANUAL



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IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING : Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT : This presentation or sale of this manual to any individual or firm does not constitute authorization certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING : Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground bus in the unit (heavy gauge black wires connect to this bus.)

IMPORTANT : Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (Where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ WARNING

Components having special characteristics are marked  and must be replaced with parts having specification equal to those originally installed.

■ PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.

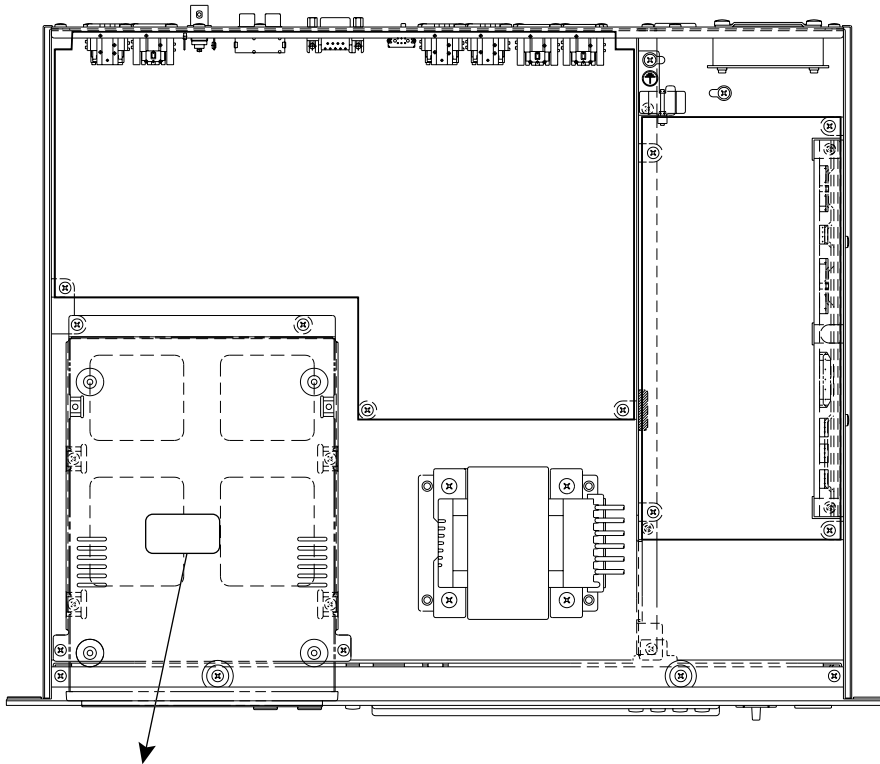
WARNING: LASER SAFETY

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precaution must be used during servicing of the unit.

- 1) When testing and / or repairing any component within the product, keep your eyes and skin more than 30cm away from the laser pick-up unit at all time. Do not stare the laser beam at any time.
- 2) Do not attempt readjustment,disassemble and repair of the laser pick-up, unless noted elsewhere in this manual.
- 3) CAUTION - Use of controls or readjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Diode Properties

- * Material : GaAlAs
 - * Wavelength : 783–789 nm
 - * Emission Duration : Continuous
 - * Laser Output Power : Less than 44.6 μ W
- (Note) Laser output is measured at a distance of 20cm from the object lens on the optical pick-up head.



CAUTION : INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.

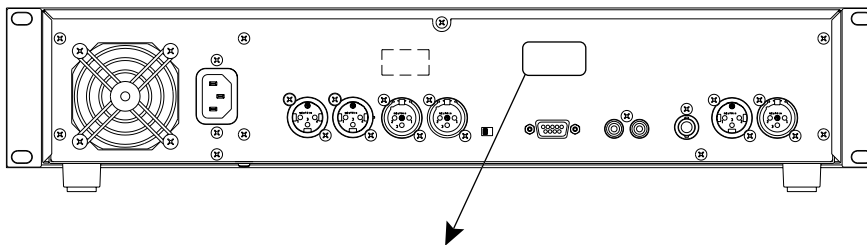
VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR
ÖPPEN. STRÅLEN ÄR FARLIG.

VARO! : NÄKYMÄTÖNTÄ AVATTAESSA OLET ALTIINA
LESERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR
ÖPPNAD. BETRAKTA EJ STRÅLEN.

VORSICHT! : UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG
GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

- This label is located on the interior.
- Varningsanvisning för laserstrålning. Placerad i apparaten.



CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

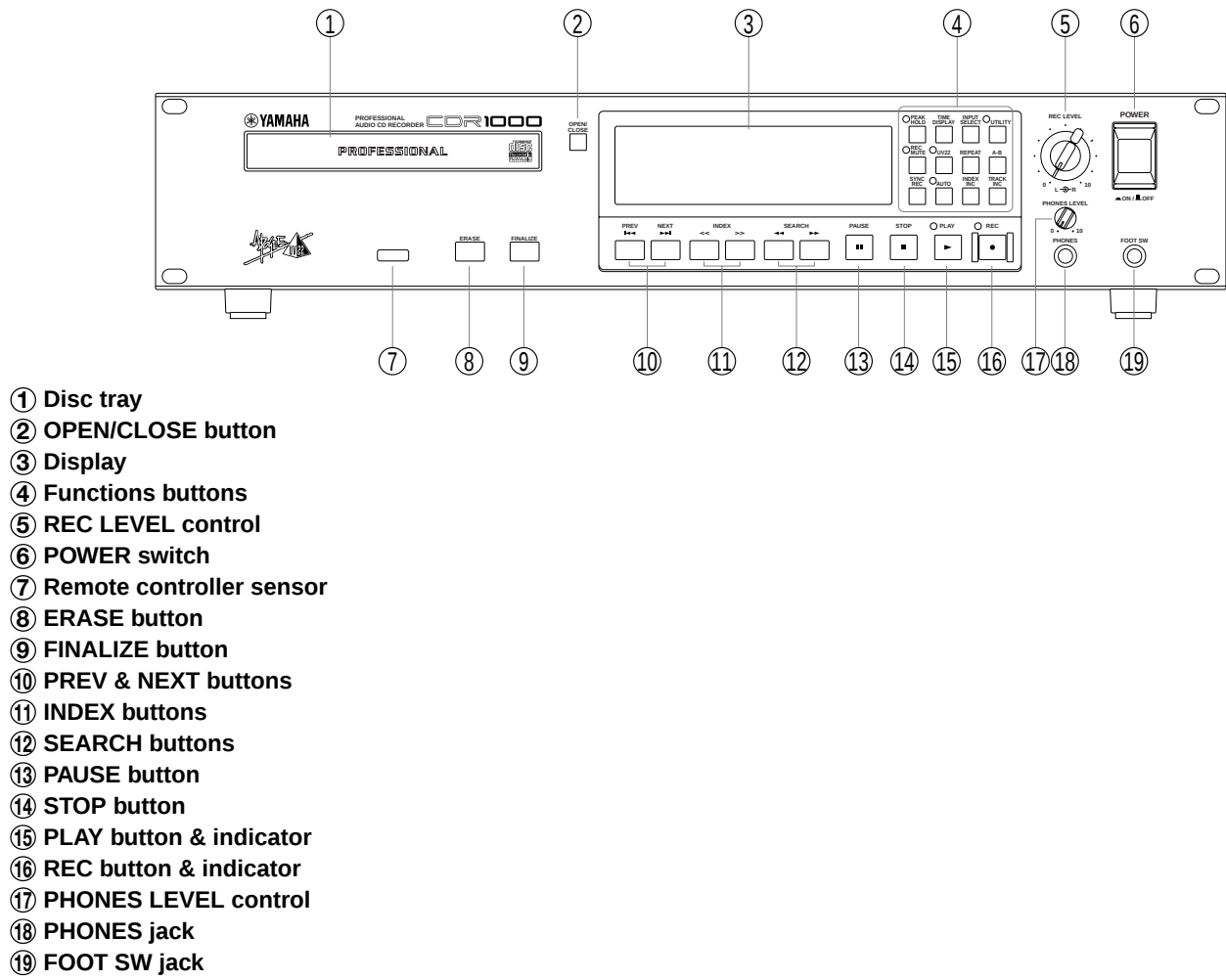
- This label is located on the exterior.
- On USA or Canadian models do not have this label.
- Klassmärkning för Finland.

SPECIFICATIONS

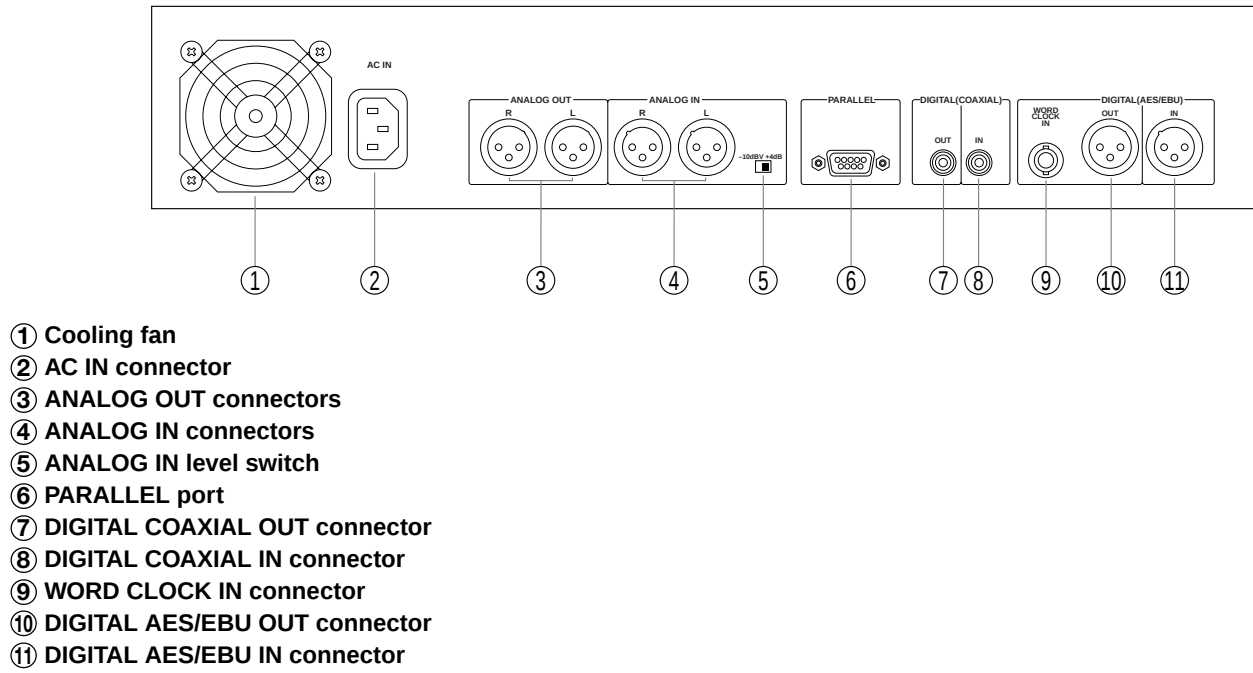
Recording media		CD-R, CD-RW
Playback media		CD, CD-R, CD-RW
Sampling rate		44.1 kHz
Recording resolution		16-bit linear
Converters	A/D	20-bit 64-times oversampling
	D/A	20-bit 128-times oversampling
Frequency response		20 Hz–20 kHz
Track		Up to 99 tracks
Index		Up to 99 indexes
SRC (Sampling Rate Converter)		30 kHz to 50 kHz
UV22		16-bit encoding
S/N		97 dB
Input delay		0–4,950 ms
Fade in/out time		0–10 second
Synchronized recording		CD, MD, DAT
Repeat playback		One track, All track, A–B
Locate		PREV, NEXT, INDEX, SEARCH, direct select
Display	Type	VFD (Vacuum Fluorescent Display)
	Characters	12-character line
	Time counter	Minutes and seconds
	Display mode	Elapse, Remain, Total
	Track counter	0–99
	Index counter	0–99
	Level meters	16 segment with CLIP indicator x2
Power requirements		U.S.A. & Canada 120 V AC, 60 Hz Europe 230 V AC, 50 Hz
Power consumption		33 W
Dimensions (W× H × D)		480 × 101 × 389 mm (18.9 x 4 x 15.3 inches)
Weight		8 kg (17.6 lbs)
Free-air operating temperature range		5° C to 35° C (41° F to 95° F)
Relative humidity		10%–95%
Accessories		Power cord, remote controller, batteries (size AA, R6, UM-3 x2), transportation pad, Owner's Manual
Options		Yamaha FC5 footswitch

PANEL LAYOUT

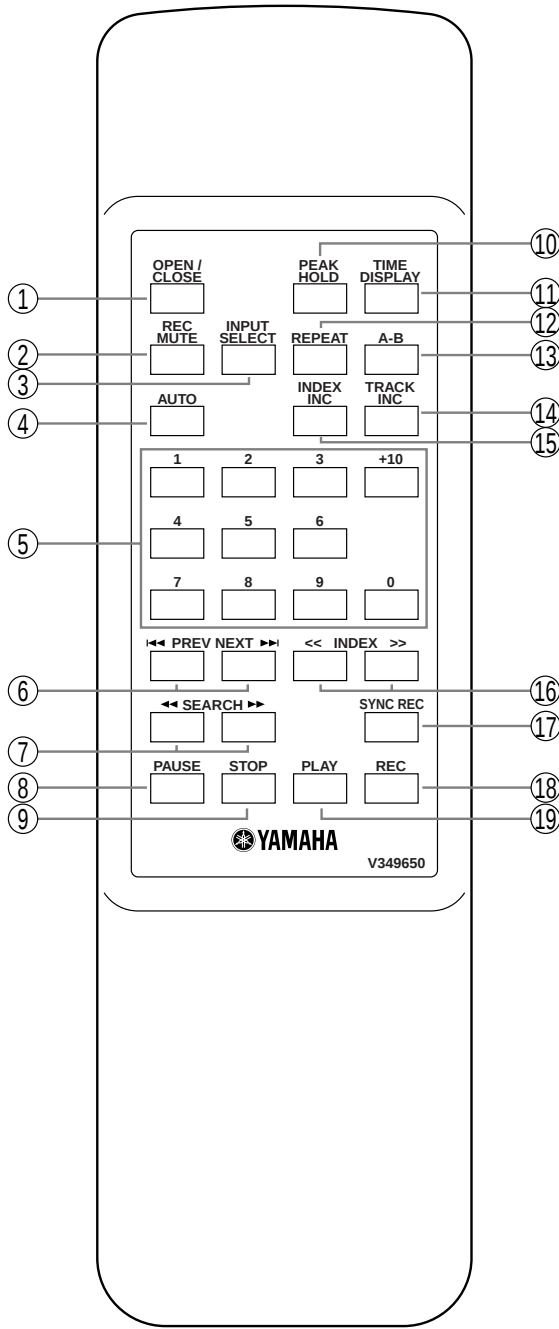
• Front panel



• Rear panel

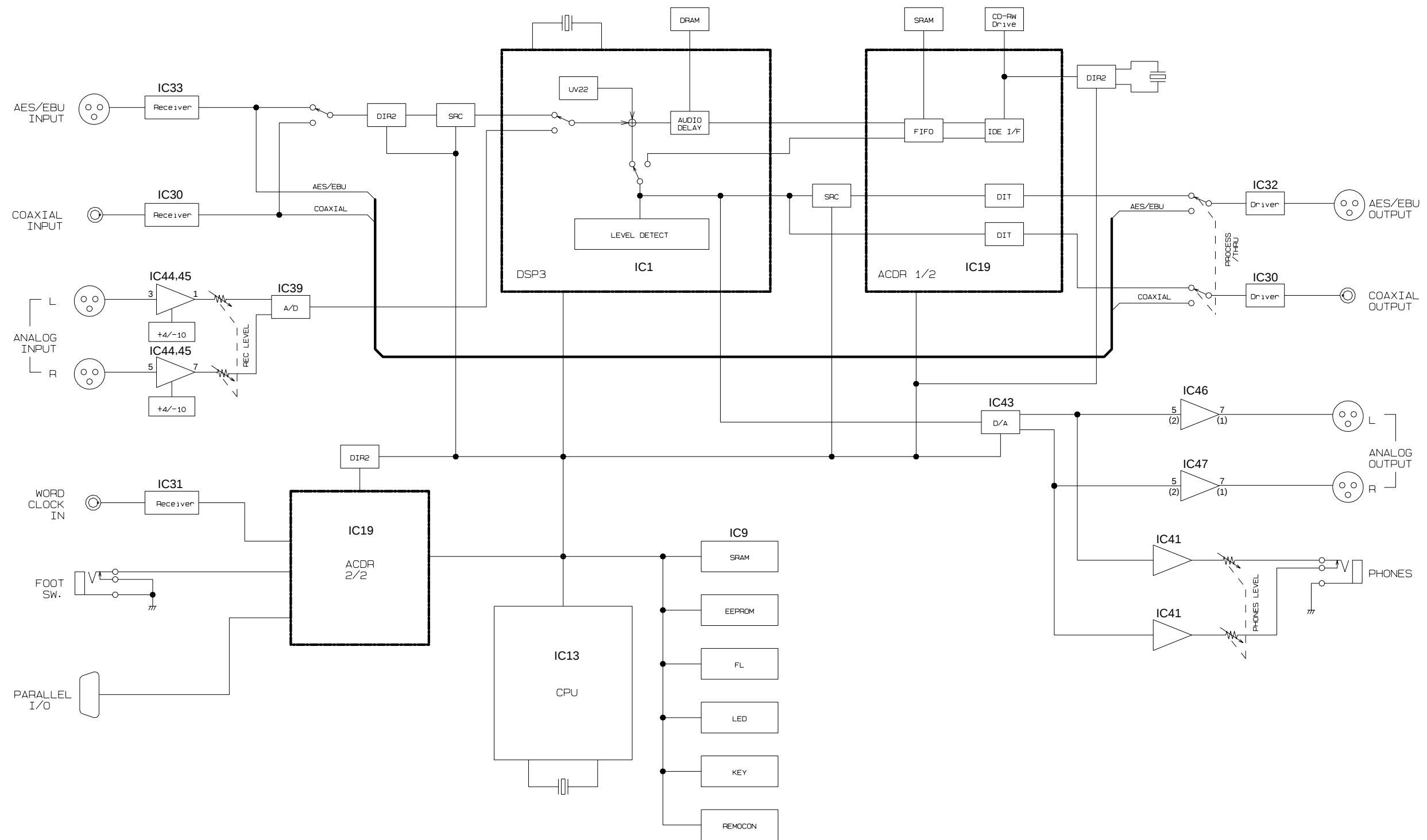


• Remote Controller

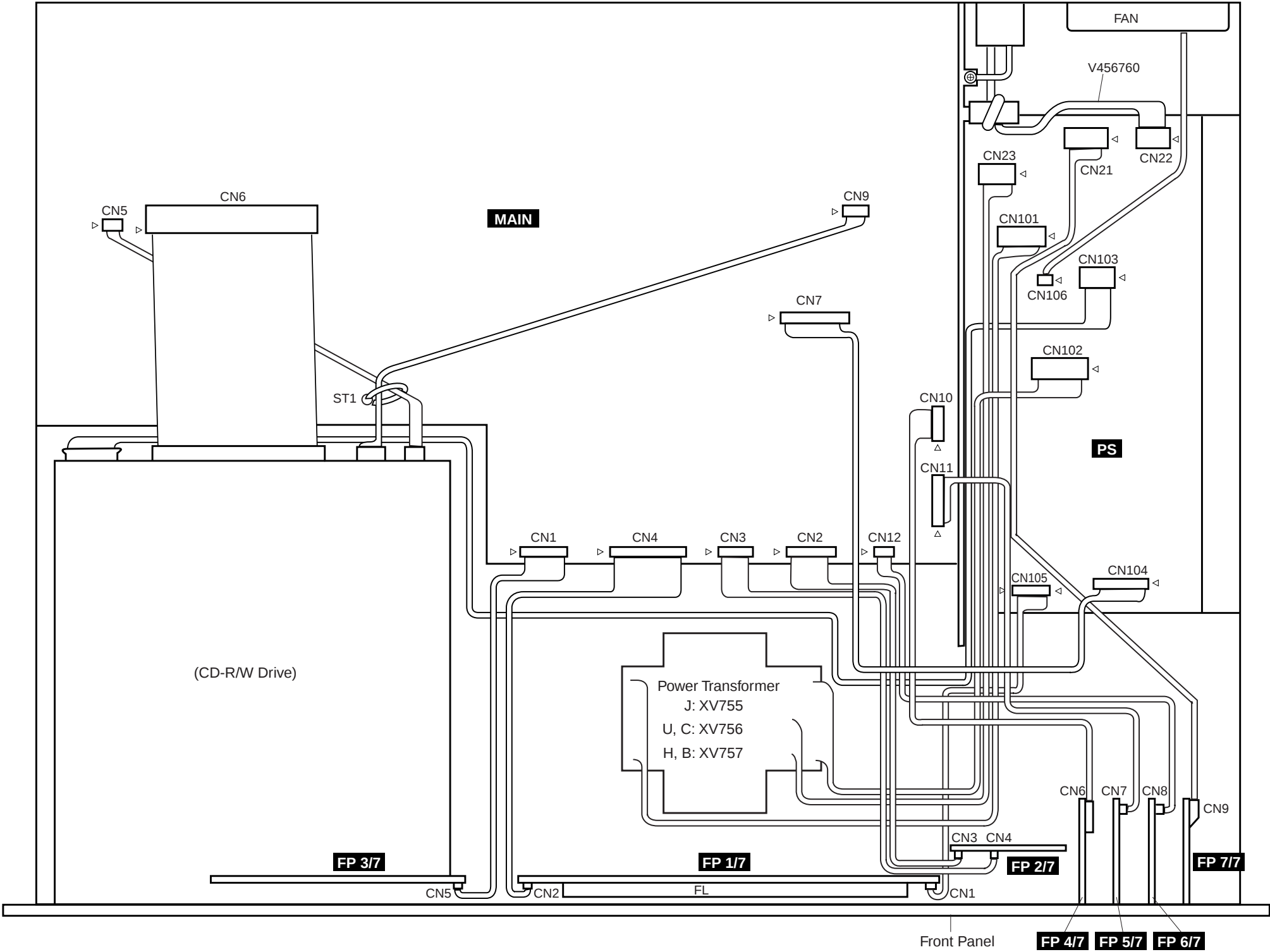


- ① OPEN/CLOSE button
- ② REC MUTE button
- ③ INPUT SELECT button
- ④ AUTO button
- ⑤ Number keypad
- ⑥ PREV & NEXT buttons
- ⑦ SEARCH buttons
- ⑧ PAUSE button
- ⑨ STOP button
- ⑩ PEAK HOLD button
- ⑪ TIME DISPLAY button
- ⑫ REPEAT button
- ⑬ A-B button
- ⑭ TRACK INC button
- ⑮ INDEX INC button
- ⑯ INDEX buttons
- ⑰ SYNC REC button
- ⑱ REC button
- ⑲ PLAY button

■ BLOCK DIAGRAM

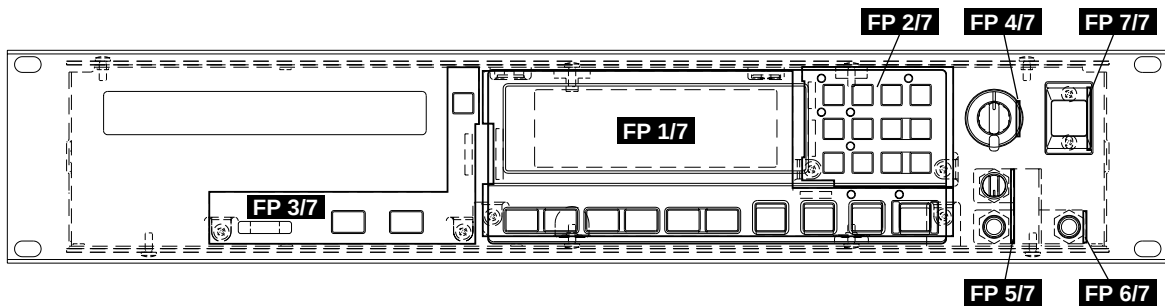
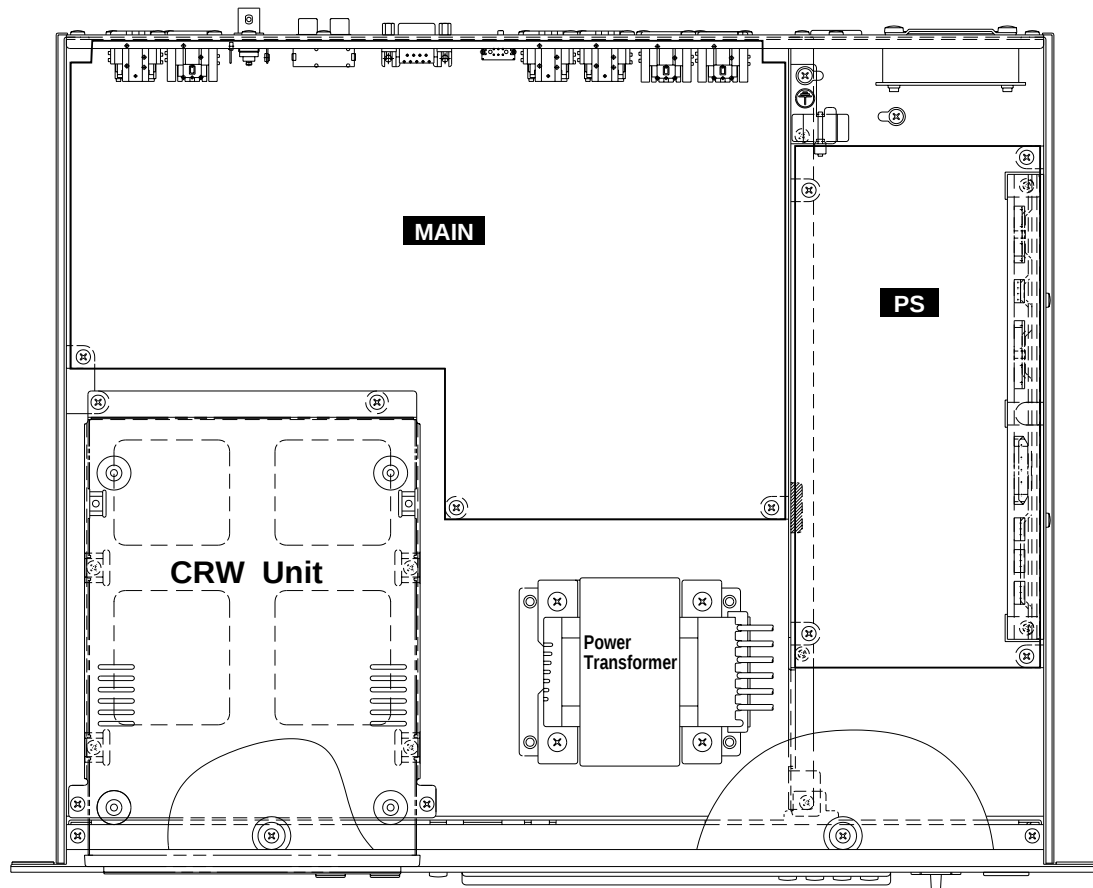


WIRING



Destination		Connector Assembly	Pin/Lenght	Parts List No.
MAIN-CN1	FP3/7-CN5	C & C	8P/L200	FRONT 250
MAIN-CN2	FP2/7-CN3	C & C	7P/L250	FRONT 260
MAIN-CN3	FP2/7-CN4	C & C	5P/L250	FRONT 270
MAIN-CN4	FP1/7-CN2	B & C	10P/L200	FP CN2
MAIN-CN11	FP5/7-CN7	C & C	8P/L250	OVERALL 410
MAIN-CN12	FP6/7-CN8	C & C	3P/L250	OVERALL 420
MAIN-CN7	PS-CN104	C & C	9P/L350	OVERALL 440
FP1/7-CN1	PS-CN105	C & C	6P/L160	OVERALL 450
FP7/7-CN9	PS-CN21	PSW	2P/L340	OVERALL 350
FP4/7-CN6	MAIN-CN10	VR	6P/L220	OVERALL 360
PS-CN103	CD-R/W Drive	CDRW	4P/L600	OVERALL 370
MAIN-CN5	CD-R/W Drive	DO	2P/L180	OVERALL 390
MAIN-CN9	CD-R/W Drive	AO	4P/L230	OVERALL 380
MAIN-CN6	CD-R/W Drive	MAIN to CDR	40P/L120	OVERALL 400

CIRCUIT BOARD LAYOUT



■ DISASSEMBLY PROCEDURE

1. Top Cover

Remove the seven (7) screws marked [320] and remove the top cover by sliding it rearward.

[320]: Bind Head Tapping Screw-B A3.0x8 MFZN2BL+BindB Tight (VP157000)

2. Circuit Boards and Units

After removing the top cover, remove the following screw.
Each circuit board and unit can then be removed. (Fig.1)

Circuit Board	Ref. No.	Parts No.	Description	Q'ty
MAIN	130	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	3
	Rear Panel	100	Bind Head Tapping Screw-P 3.0 X MFZN2BL	12
		110	Jack Socket 17L-003A3	2
		120	Bind Head Screw A3.0 X 6 MFZN2BL	1
PS	150	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	4
	160	VP157000	Bind Head Tapping Screw-B A3.0 X 8 MFZN2BL	2
AC-IN	190	EP630220	Bind Head Tapping Screw-P 3.0 X 8 MFZN2BL	2
Fun	530	VR116500	Pan Head Screw SP4.0 X 25 MFZN2BL	4
Trans.	280	VC688800	Bind Head Tapping Screw-B A4.0 X 8 MFZN2BL	4
CRW Unit	260	VP157000	Bind Head Tapping Screw-B A3.0 X 8 MFZN2BL	4
Front Panel Assembly	300	VP157000	Bind Head Tapping Screw-B A3.0 X 8 MFZN2BL	9

3. Circuit Board in Front Panel Assembly

3-1 Remove the top cover.(See procedure 1.)

3-2 After removing the front panel assembly, remove the following screw. Each circuit board in the front panel assembly can then be removed. (Fig. 2)

Circuit Board	Ref. No.	Parts No.	Description	Q'ty
Front Panel	160	VP157000	Bind Head Tapping Screw-B A3.0 X 8 MFZN2BL	4
	190	VF888400	Knob	1
	200	VF888500	Knob	1
FP3/7	90	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	2
FP4/7	40	V2431400	Hexagonal Nut 9.0	1
FP5-7	60	V2431400	Hexagonal Nut 9.0	2
FP6/7	50	V2431400	Hexagonal Nut 9.0	1
FP7/7	30	VP156600	Bind Head Screw A3.0 X 6 MFZN2BL	2
Window	120	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	4
FP1/7	80	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	2
FP2/7	70	EP600190	Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL	2

LSI PIN DESCRIPTION

YSS228E-F (XQ962D00) DSP3 (Digital Signal Processor) IC1

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VSS		Ground	81	VSS	I/O	Ground
2	XI	I	System master clock input (60 M or30 MHz)	82	DB13	I/O	
3	XO		System master clock input (60 M or30 MHz)	83	DB14	I/O	
4	VDD		Power supply	84	DB15	I/O	
5	/SYNCl	I	System synch. input	85	DB16	I/O	
6	/SYNCO	O	System synch. output	86	DB17	I/O	
7	CKI	I	System clock input (30 MHz)	87	DB18	I/O	
8	CKO	O	System clock output (30 MHz)	88	DB19	I/O	
9	CKSL	I	System master clock select (0:60 M,1:30 MHz)	89	DB20	I/O	
10	VSS		Ground	90	DB21	I/O	
11	MCKS	I	Master clock for serial I/O(128 xFs)	91	DB22	I/O	
12	/SSYNc	I	Synch. signal for serial I/O	92	DB23	I/O	
13	/IC	I	Initial clear	93	DB24	I/O	
14	/TEST	I	Test mode setting	94	DB25	I/O	
15	BTYP	I	CPU data bus 8/16 bit select(0:8,1:16)	95	DB26	I/O	
16	/IRQ	O	Interrupt request	96	DB27	I/O	
17	TRIG	I/O	Trigger signal	97	DB28	I/O	
18	VDD		Power supply	98	DB29	I/O	
19	VSS		Ground	99	DB30	I/O	
20	/CS	I	Chip select	100	DB31	I/O	
21	/DS	I	Data strobe	101	TIMO/DBOE	I/O	
22	R/W	I	Read/Write select	102	VSS		Timing signal/Parallel data bus control
23	CA7	I	CPU address bus	103	VDD		Ground
24	CA6	I		104	DA00	I/O	Power supply
25	CA5	I		105	DA01	I/O	
26	CA4	I		106	DA02	I/O	
27	CA3	I	CPU address/data bus	107	DA03	I/O	
28	CA2	I		108	DA04	I/O	
29	CA1	I		109	DA05	I/O	
30	CA0/CD15	I/O		110	DA06	I/O	
31	CD14	I/O	CPU data bus	111	DA07	I/O	
32	CD13	I/O		112	DA08	I/O	
33	CD12	I/O		113	DA09	I/O	
34	CD11	I/O		114	DA10	I/O	
35	CD10	I/O	CPU data bus	115	DA11	I/O	
36	CD09	I/O		116	DA12	I/O	
37	CD08	I/O		117	DA13	I/O	
38	CD07	I/O		118	DA14	I/O	
39	CD06	I/O	Ground	119	DA15	I/O	
40	VSS			120	VSS		
41	VDD			121	VDD		
42	CD05	I/O		122	DA16	I/O	
43	CD04	I/O	CPU data bus	123	DA17	I/O	
44	CD03	I/O		124	DA18	I/O	
45	CD02	I/O		125	DA19	I/O	
46	CD01	I/O	DTACK signal output	126	DA20	I/O	
47	CD00	I/O		127	DA21	I/O	
48	/DTACK	O		128	DA22	I/O	
49	SI0	I		129	DA23	I/O	
50	SI1	I	Serial data input	130	DA24	I/O	
51	SI2	I		131	DA25	I/O	
52	SI3	I		132	DA26	I/O	
53	SI4	I	Serial data input	133	DA27	I/O	
54	SI5	I		134	DA28	I/O	
55	SI6	I		135	DA29	I/O	
56	SI7	I		136	DA30	I/O	
57	VSS		Ground	137	DA31	I/O	
58	VDD			138	VDD		
59	SO0	O		139	VSS		
60	SO1	O		140	A00	O	
61	SO2	O	Serial data output	141	A01	O	
62	SO3	O		142	A02	O	
63	SO4	O		143	A03	O	
64	SO5	O		144	A04	O	
65	SO6	O		145	A05	O	
66	SO7	O		146	A06	O	
67	DB00	I/O		147	A07	O	
68	DB01	I/O	Parallel data bus	148	A08	O	
69	DB02	I/O		149	A09	O	
70	DB03	I/O		150	A10	O	
71	DB04	I/O		151	A11	O	
72	DB05	I/O		152	A12	O	
73	DB06	I/O		153	A13	O	
74	DB07	I/O		154	A14	O	
75	DB08	I/O		155	A15/RAS	O	
76	DB09	I/O		156	A16/CAS	O	
77	DB10	I/O		157	A17/CE	O	
78	DB11	I/O		158	/WE	O	
79	DB12	I/O	Power supply	159	/OE	O	External memory write enable
80	VDD			160	VDD		External memory output enable
							Power supply

AK4520A-VF-E2 (XT802A00) DAC&ADC

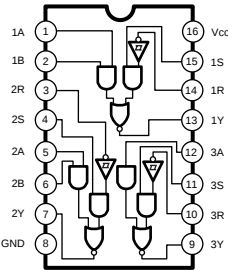
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VREFH	I	Positive Voltage Reference Input, VA	15	MCLK	I	Master Clock Input
2	VREFL	I	Negative Voltage Reference Input, AGND	16	DEM0	I	De-emphasis Frequency Select
3	AINR+	I	Rch Analog Positive Input	17	DEM1	I	De-emphasis Frequency Select
4	AINR-	I	Rch Analog Negative Input	18	TST3	I/O	Test Pins (Pull Down Pins)
5	AINL+	I	Lch Analog Positive Input	19	TST2	I/O	
6	AINL-	I	Lch Analog Negative Input	20	TST1	I	
7	VA	-	Analog Power Supply	21	VD	-	
8	AGND	-	Analog Ground	22	DGND	-	Digital Power Supply
9	DIF0	I	Audio Data Interface Format	23	/PWDA	I	Digital Ground
10	DIF1	I	Audio Data Interface Format	24	/PWAD	I	DAC Power-Down Mode
11	LRCK	I	Input/Output Channel Clock	25	CMODE	I	ADC Power-Down Mode
12	SCLK	I	Audio Serial Data Clock	26	AOUTL	O	Master Clock Select ("H":.384fs,"L":.256fs)
13	SDTI	I	Audio Serial Data Input	27	AOUTR	O	Lch Analog Output
14	SDTO	O	Audio Serial Data Output	28	VCOM	O	Rch Analog Output
							Common Voltage Output, VA/2

YM3436 (XG948A00) DIR2 (Digital Format Interface)

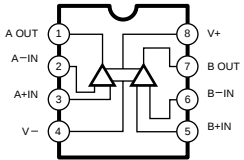
PIN No.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DAUX	I	Auxiliary input for audio data	23	RSTN	I	System reset input
2	HDLT	O	Asynchronous buffer operation flag	24	Vdda		VCO section power (+5V)
3	DOUT	O	Audio data output	25	CTLN	I	VCO control input N
4	VFL	O	Parity flag output	26	PCO	O	PLL phase comparison output
5	OPT	O	Fs × 1 Synchronous output signal for DAC	27	(NC)		
6	SYNC	O	Fs × 1 Synchronous output signal for DSP	28	CTLP	I	VCO control input P
7	MCC	O	Fs × 64 Bit clock output	29	Vssa		VCO section power (GND)
8	WC	O	Fs × 1 Word clock output	30	TSTN	I	Test terminal. Open for normal use
9	MCB	O	Fs × 128 Bit clock output	31	KM2	I	Clock mode switching input 2
10	MCA	O	Fs × 256 Bit clock output	32	KMO	I	Clock mode switching input 0
11	SKSY	I	Clock Synchronous control input	33	FS1	O	Channel status sampling frequency display output 1
12	XI	I	Crystal oscillator connection or external clock input	34	FS0	O	Channel status sampling frequency display output 0
13	XO	O	Crystal oscillator connector	35	CSM	I	Channel status output method selection
14	P256	O	VCO oscillating clock connection	36	EXTW	I	External synchronous auxiliary input word clock
15	LOCK	O	PLL lock flag	37	DDIN	I	EIAJ (AES/EBU) data input
16	Vss		Logic section power	38	LR	O	PLL word clock output
17	TC	O	PLL time constant switching output	39	Vdd		Logic section power (+5V)
18	DIM1	I	Data input mode selection	40	ERR	O	Data error flag output
19	DIM0	I	Data input mode selection	41	EMP	O	Channel status emphasis control code output
20	DOM1	I	Data output mode selection	42	CD0	O	3-wire type microcomputer interface data output
21	DOM0	I	Data output mode selection	43	CCK	I	3-wire type microcomputer interface clock input
22	KM1	I	Clock mode switching input 1	44	CLD	I	3-wire type microcomputer interface load input

IC BLOCK DIAGRAM

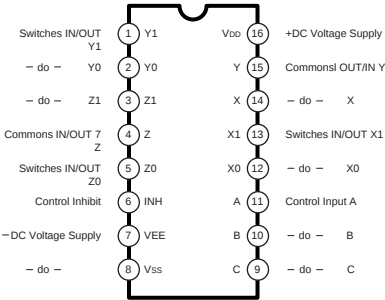
SN75124NS (XN976A00) IC31 LINE RECEIVER



NJM5532M (XC011A00) IC46, IC47 OP AMP



TC4053BF (XB738A00) IC43 MULTIPLEXER



● HD64F3039F18 (XW700A00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	TIOCA3	I/O	Input capture/output compare	41	A18/P52	O	Address bus
2	TIOCB3	I/O		42	A19/P53	O	
3	TIOCA4	I/O		43	P60//WAIT	I	Wait
4	TIOCB4	I/O		44	MD0	I	Mode control
5	TOCXA4	I/O		45	MD1	I	
6	TOCXB4	I/O		46	φ	O	System clock
7	MD2	I	Mode control	47	/STBY	I	Standby
8	/ADTRG/TP15/PB7		AD conversion external trigger input	48	/RES	I	Reset
9	TXD0/P90	O	Transmit data	49	NMI		Non-maskable interrupt
10	RXD0/P92	I	Receive data	50	VSS		Ground
11	/IRQ4/SCK0/P94	I	Interrupt request	51	EXTAL	I	Crystal oscillator
12	VSS	-	Ground	52	XTAL	I	
13	D0/P30	I/O	Data bus	53	VCC		Power supply
14	D1/P31	I/O		54	P63/AS	O	Address strobe
15	D2/P32	I/O		55	P64/RD	O	Read
16	D3/P33	I/O		56	P65/WR	O	Write
17	D4/P34	I/O		57	/RESO/FWE	I/O	Reset output/write enable signal
18	D5/P35	I/O		58	AVSS	-	Ground
19	D6/P36	I/O	Power supply	59	P70/AN0	I	Analog input
20	D7/P37	I/O		60	P71/AN1	I	
21	VCC	-		61	P72/AN2	I	
22	A0/P10	O		62	P73/AN3	I	
23	A1/P11	O		63	P74/AN4	I	
24	A2/P12	O		64	P75/AN5	I	
25	A3/P13	O	Address bus	65	P76/AN6	I	Power supply
26	A4/P14	O		66	P77/AN7	I	
27	A5/P15	O		67	AVCC	-	
28	A6/P16	O		68	P80//IRQ0	I	Interrupt request
29	A7/P17	O		69	P81//IRQ1	I	
30	VSS	-		70	P91/TXD1	O	Transmit data
31	A8/P20	O	Ground	71	P93/RXD1	I	Receive data
32	A9/P21	O		72	P95/SCK1/IRQ5	I	Interrupt request
33	A10/P22	O		73	PA0/TP0/TCLKA	I	Clock input
34	A11/P23	O		74	PA1/TP1/TCLKB	I	
35	A12/P24	O		75	PA2/TP2/TIOCA0/TCLKC	I	
36	A13/P25	O		76	PA3/TP3/TIOCB0/TCLKD	I	
37	A14/P26	O	Address bus	77	A23	O	Address bus
38	A15/P27	O		78	A22	O	
39	A16/P50	O		79	A21	O	
40	A17/P51	O		80	A20	O	

● SM5844AF (XW097A00) Sample Converter

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DI	I	Input data	23	OW20N	I	Output format setting*1
2	DI	I		24	OW20N	I	
3	BCKI	I	Input side bit clock	25	IISN	I	IIS output mode select
4	BCKI	I		26	IISN	I	H: normal L: IILS Output which shows internal operation
5	LRCI	I	Input side word clock	27	STATE	O	
6	ICLK	I	Input side system clock input	28	TST1N	I	Diza ON/OFF select
7	ICKSL	I	Input side system clock select	29	TST2N	I	Test
8	IFM1	I	Input format setting	30	RSTN	I	Reset
9	IFM1	I		31	RSTN	I	
10	IFM2	I		32	VSS	-	Ground
11	IFM2	I		33	VSS	-	
12	VDD	-	Power supply	34	SLAVE	I	Mode select of BCKO and LRCO H: input L: output
13	VDD	-		35	SLAVE	I	
14	DMUTE	I	Mute	36	THRUN	I	Slue mode setting of DOUT
15	DMUTE	I		37	THRUN	I	
16	MCOM	I	17 to 20 pin control select	38	OCKSL	I	Output side system clock select
17	MDT/FSI1	I	MCDM H: data input L: de-emphasis clock select	39	OCLK	I	Output side system clock input
18	MCK/FSI2	I	MCDM H: Bit clock of data input L: de-emphasis clock select	40	LRCO	I/O	Output side word clock input/output
19	MLEN/DEEM	I	MCDM H: data word latch clock L: de-emphasis on/off control	41	BCKO	I/O	Output side Bit clock input/output
20	MLEN/DEEM	I		42	BCKO	I/O	
21	OW18N	I	Output format setting*1	43	DOUT	O	Data Out
22	OW18N	I		44	DOUT	O	

*1

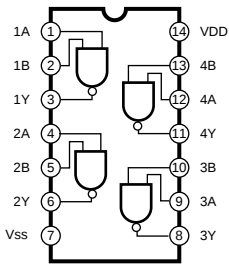
IISN: H

Output format		OW20N	OW18N
16 bit	Stuffs back	H	H
18 bit		H	L
20 bit	Stuffs ahead	L	L

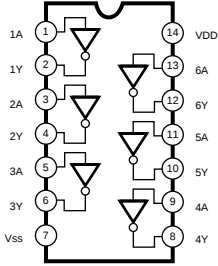
IISN: L

Output format		OW20N	OW18N
16 bit	IIS MODE Stuffs ahead	H	H
18 bit		H	L
20 bit		L	L

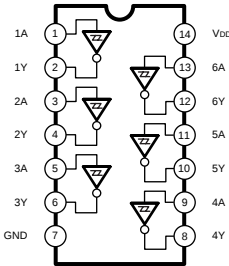
- **HD74HC00FPEL** (XP250A00)
IC29, IC50, IC66
NAND



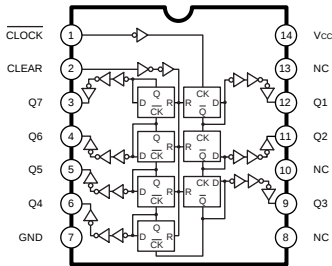
- **TC74HC04AF** (XS993A00)
● **TC74HCU04AF-TP1**(XD660A00)
IC6, IC52, IC65
Hex Inverter



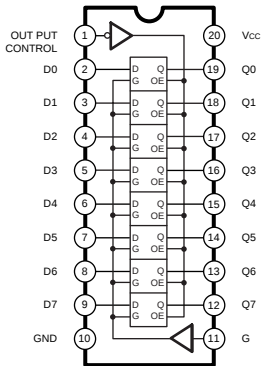
- **TC74HC14AF-TP1**(XD657A00)
IC4, IC7, IC24
Hex Inverter



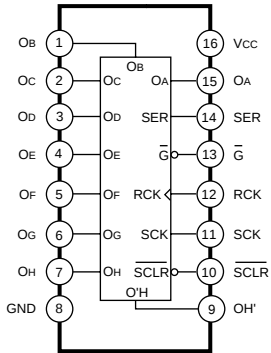
- **TC74HC4024AF**(XT546A00)
IC25
COUNTER



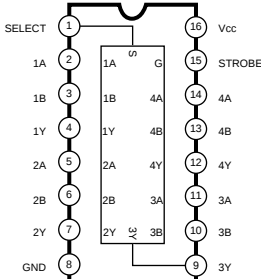
- **TC74HC573AF**(XH224A00)
IC2
T-LATCCHES



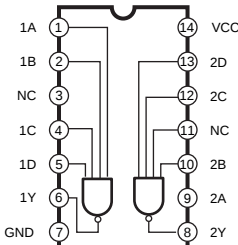
- **SN74HC595NSR**(XW108A00)
IC11, IC58, IC59, IC60
SHIFT REGISTER



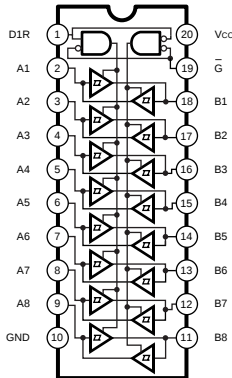
- **SN74HC157NSR**(XW110A00)
IC16, IC34
Quad 2 to 1 Multiplexer



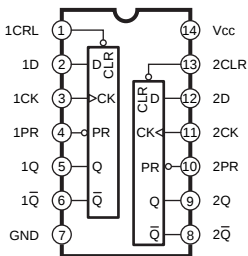
- **TC74HC20AF**(XW092A00)
IC5, IC8, IC63
NAND



- **TC74HC245AF**(XS720A00)
IC14, IC15
Octal 3-State Bus Transceiver

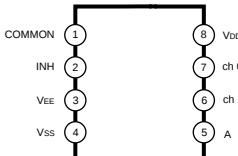


- **TC74HC74AF**(XP003A00)
IC54, IC57, IC64, IC67
Dual D-Type Flip-Flop

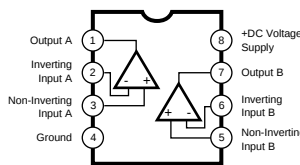


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q̄
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	L	X	Q*	Q̄*

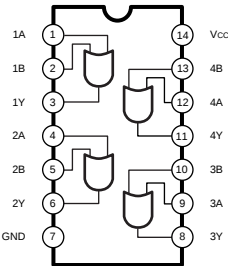
- **TC4W53FU** (XR769A00)
2-Channel
IC53
Multiplexer/Demultiplexer



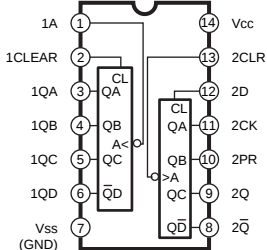
- **NJM4556AMT1** (XQ138A00)
● **NJM2068MD-T1** (XJ553A00)
IC40, IC41, IC42, IC44, IC45
Dual Operation Amplifier



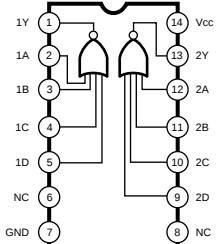
- **TC74HC32AF**(XN241A00)
IC10, IC23, IC51, IC55
Quad 2 Input OR



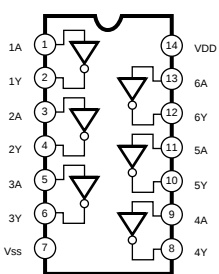
- **TC74HC393AF-TP1**(XE052A00)
IC56
BINARY COUNTER



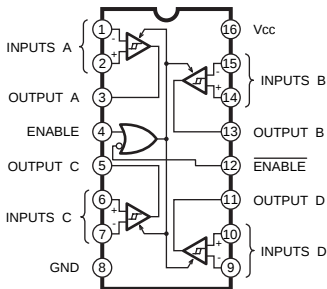
- **TC74HC4002AF**(XW138A00)
IC61, IC62
NOR



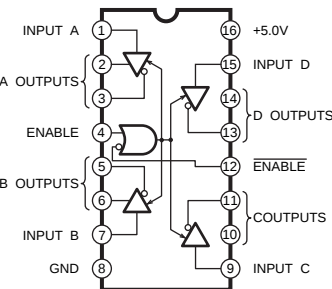
- **HD74LS06FPEL**(XH610A00)
IC37
Hex Inverter



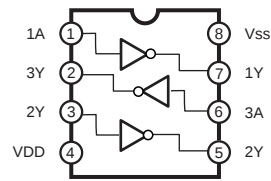
- **DS26C32ATMX**(XU815A00)
IC33
LINE RECEIVER



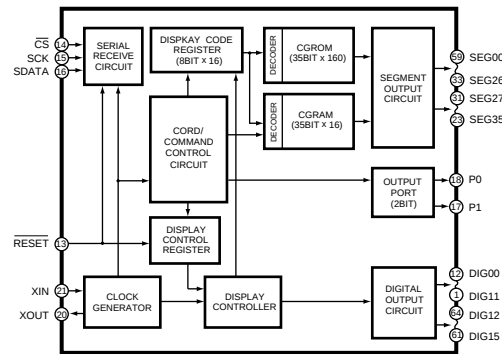
- **AM26LS31M** (XN919A00)
IC32
LINE DRIVER



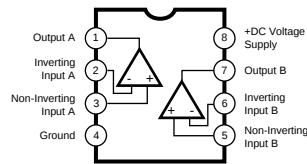
● TC7W04FU(XQ805A00)
INVERTER



● M66004FP (XT828A00)
FL DRIVER

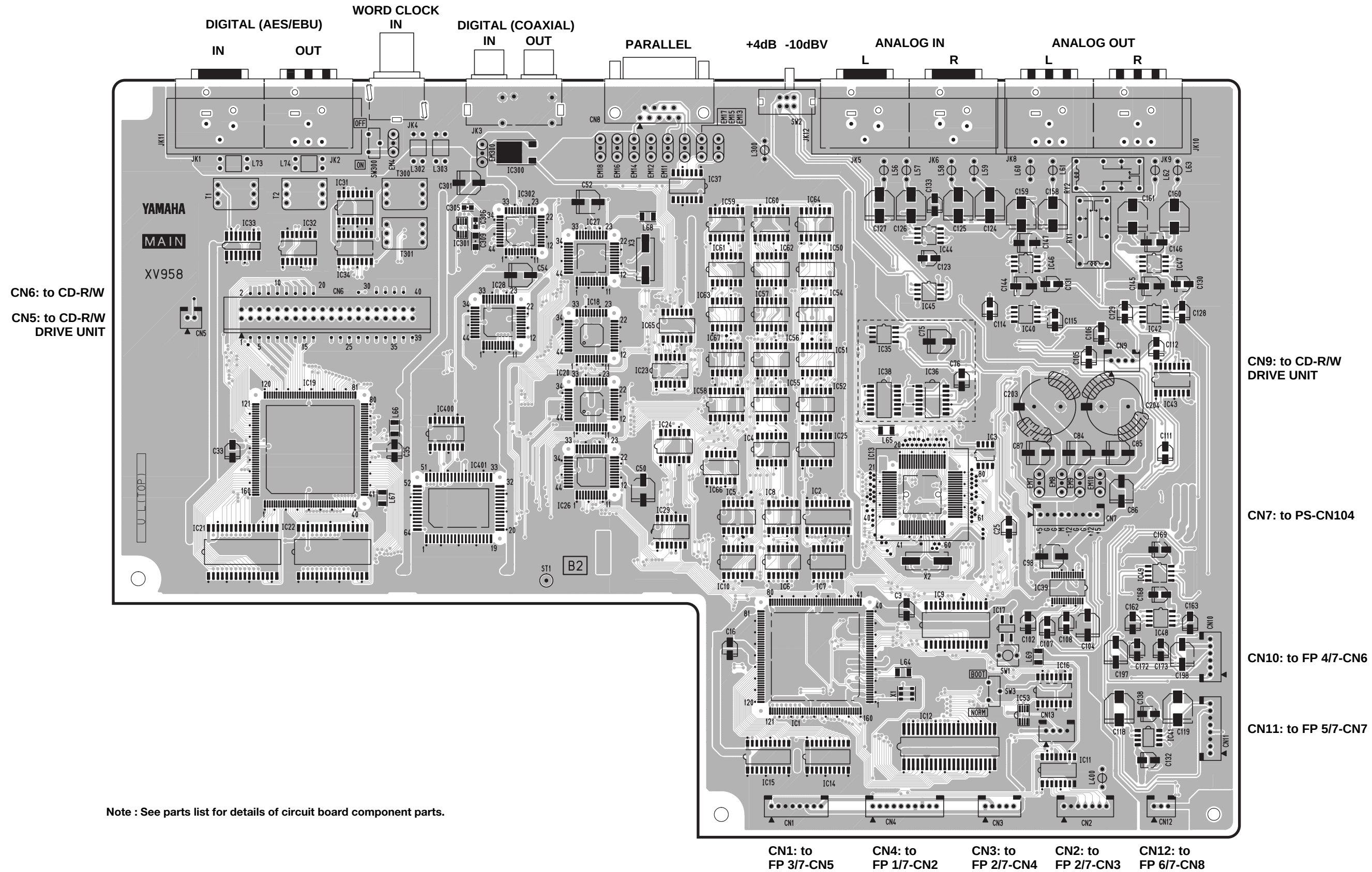


● NJM2115M-T1(XS511A00)
OP AMP



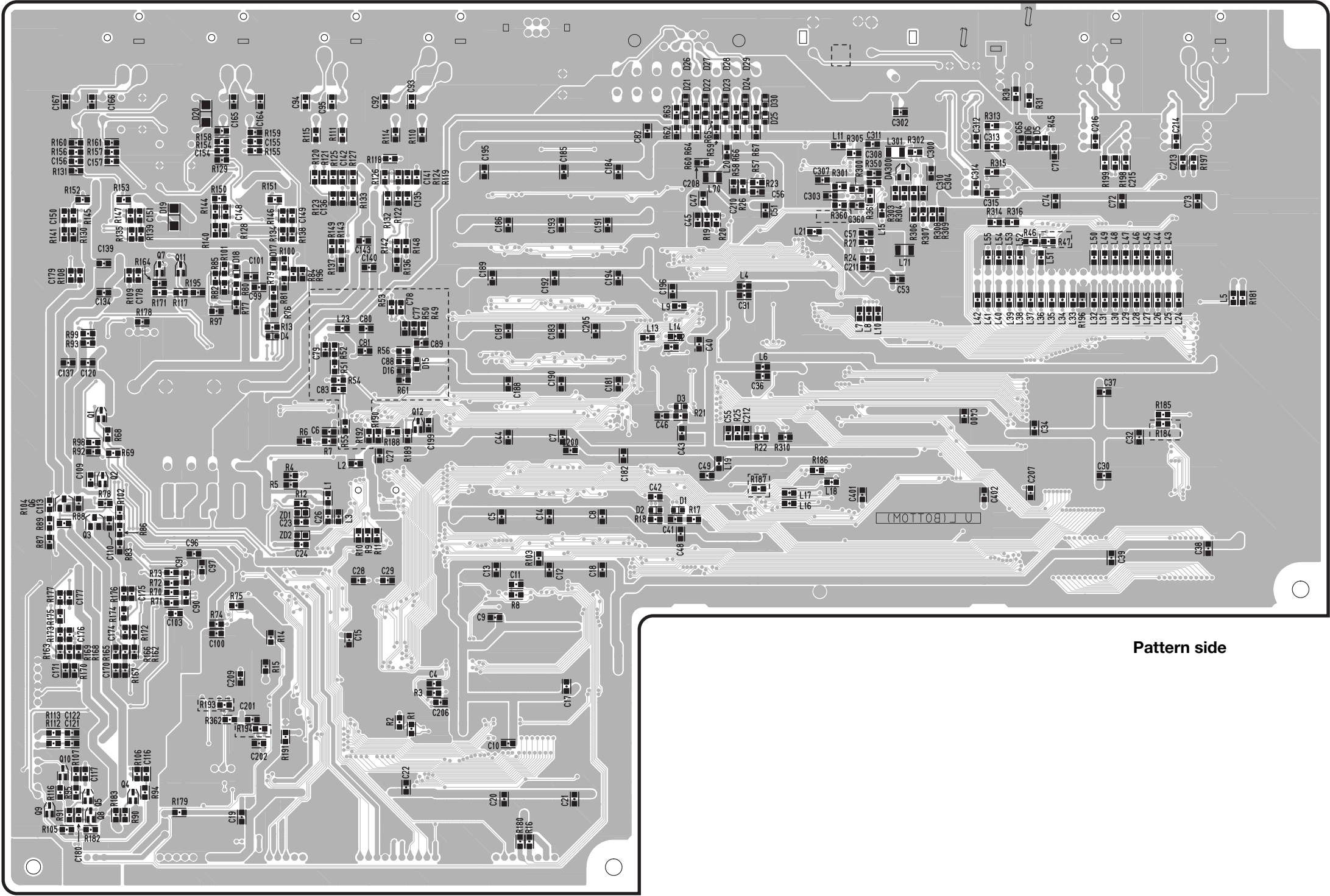
■ CIRCUIT BOARDS

- **MAIN Circuit Board**



Component side

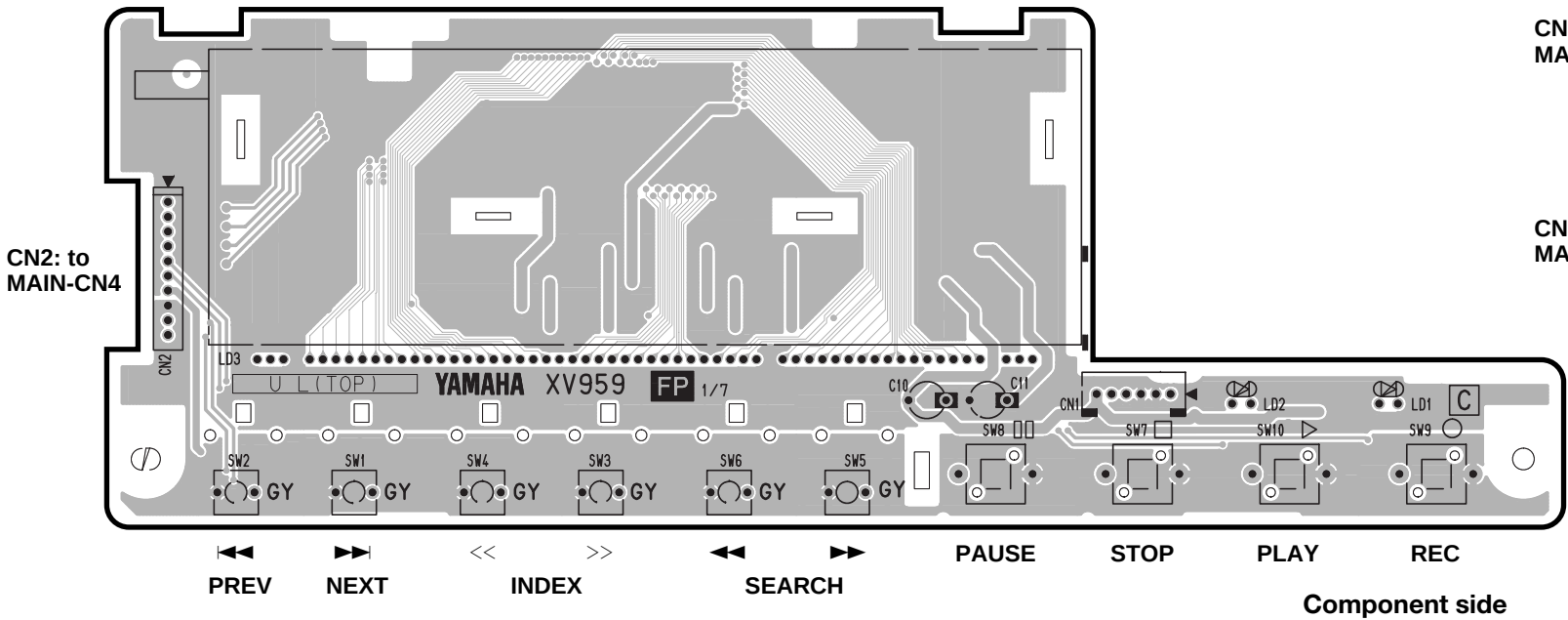
MAIN: 3NA-V354050 



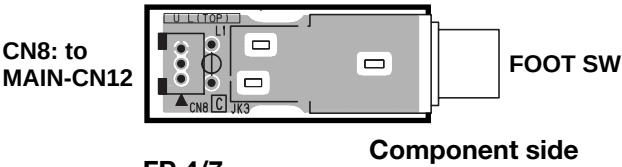
Pattern side

• FP Circuit Board

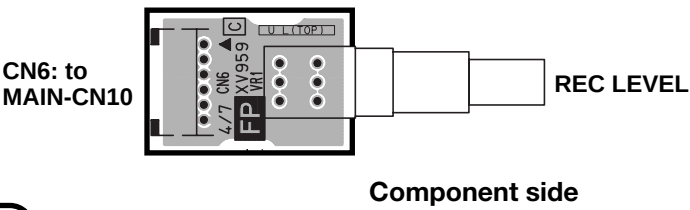
FP 1/7



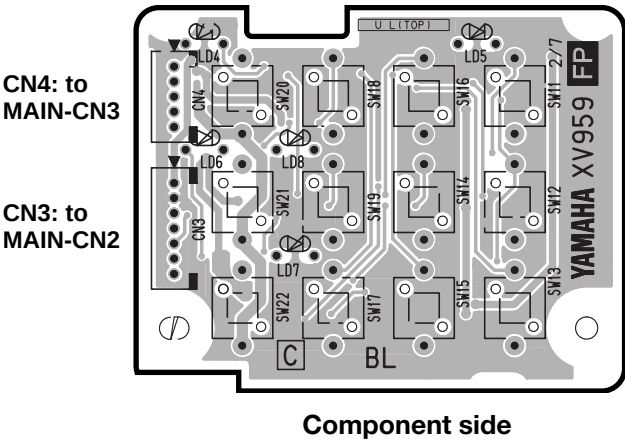
FP 6/7



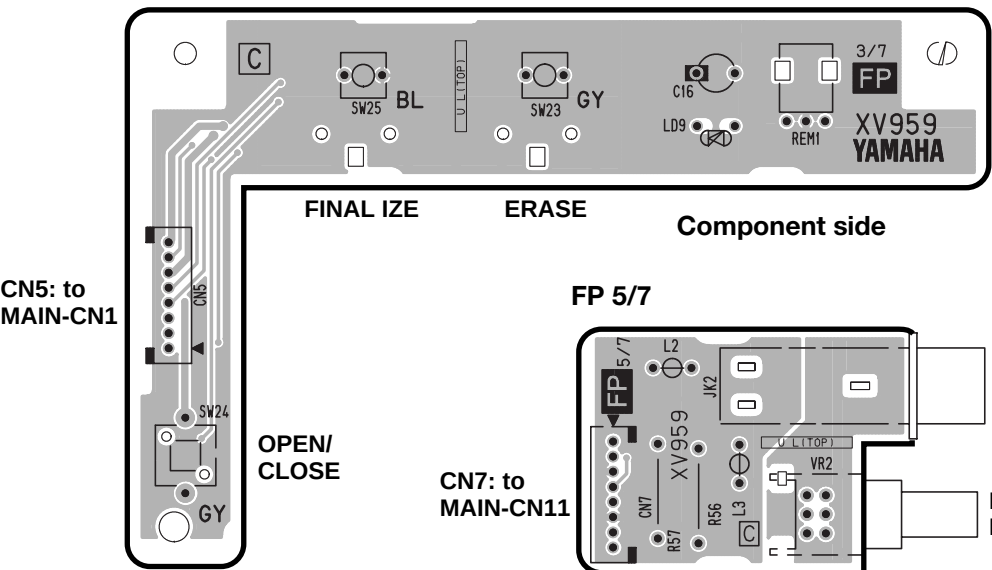
FP 4/7



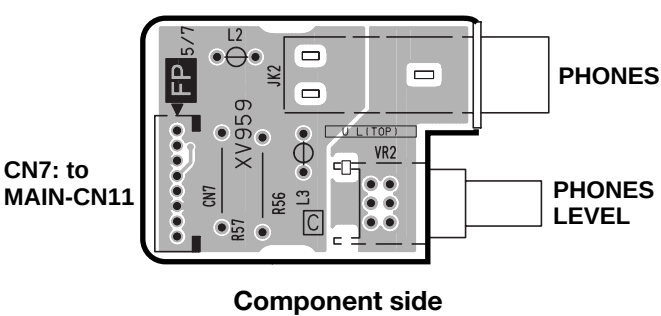
FP 2/7



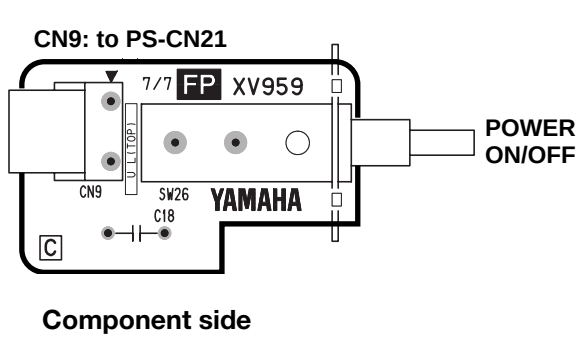
FP 3/7



FP 5/7



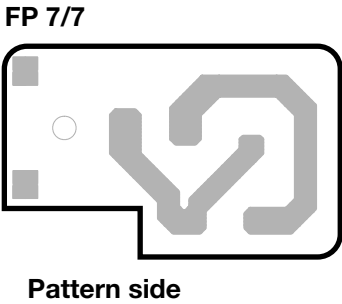
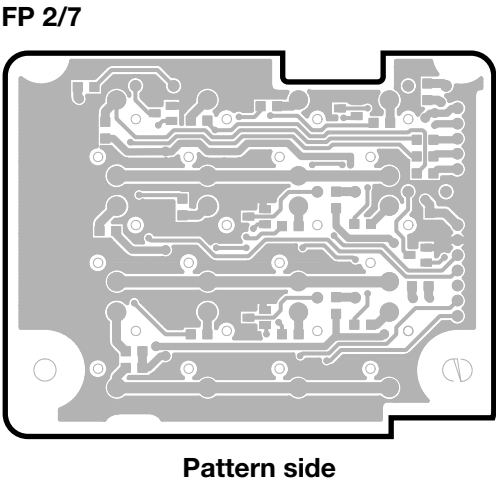
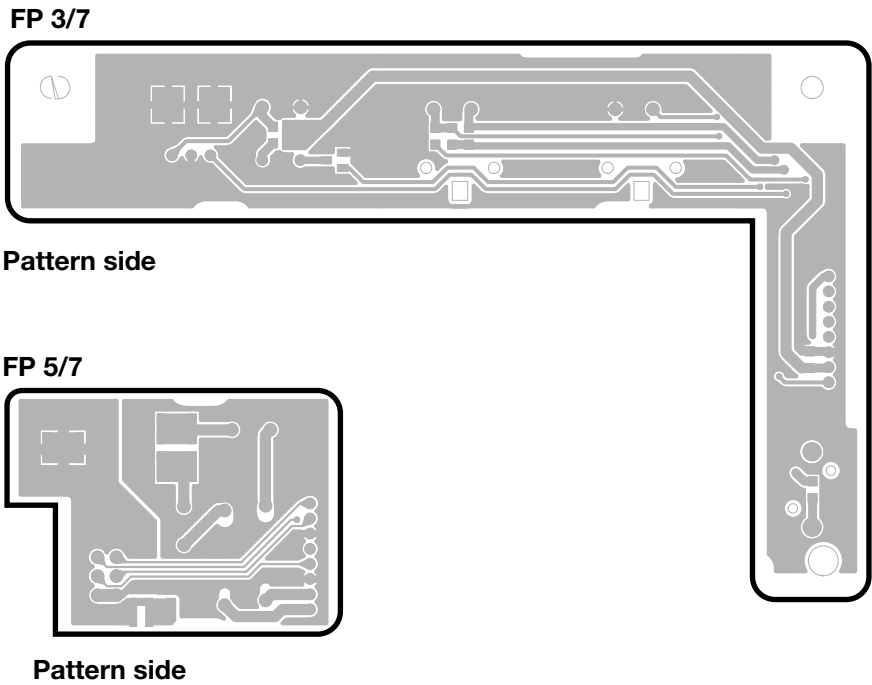
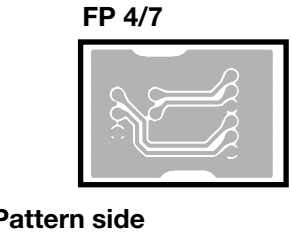
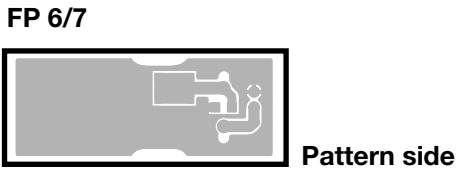
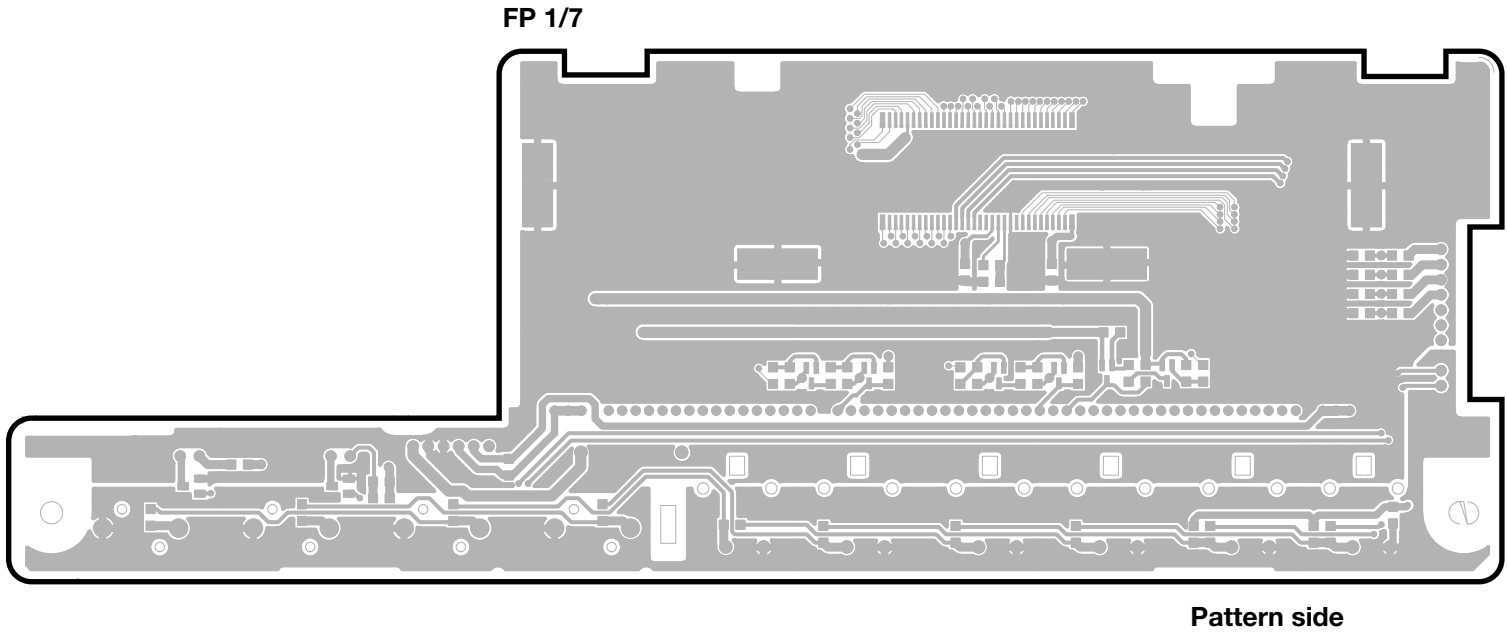
FP 7/7



SWITCH TABLE

SW20 PEAK HOLD	SW18 TIME DISPLAY	SW16 INPUT SELECT	SW11 UTILITY
SW21 REC MUTE	SW19 UV22	SW14 REPEAT	SW12 A-B
SW22 SYNC REC	SW17 AUTO	SW15 INDEX INC	SW13 TRACK INC

• FP Circuit Board



■ TEST PROGRAM

1. Unless otherwise specified, use the following volume and switch settings.

REC LEVEL: Max.
 PHONES LEVEL: Max.
 GAIN SW: +4dB

Connect the following load resistance to each output terminal.

ANALOG OUT (L, R): 600 ohm
 PHONES OUT: 40 ohm

Measuring instruments

Low frequency oscillator, AC voltmeter, Distortion meter, Oscilloscope, CD filter,
 FOOT SW, A/D converter unit, D/A converter unit

N.B.: Unless otherwise specified, use 44.1 kHz sampling frequency for the A/D and D/A converter units.

Disk in use

Any music CD
 Test CD: ALMEDIO TCD-78
 CDRW: TDK CD-RW XA74

2. How to enter the Test Program

While pressing the [UTILITY] and [SYNC REC] buttons, turn on the power switch.
 The display will appear as shown below.

DIAG VER0.16

When the display changes as shown below, the test mode will be set.

D0: DIAG IN

3. Proceeding through the Test Program

To select the test program number, use the [NEXT] and [PREV] buttons.
 To start the test, press the [STOP] button.

There are 12 TEST programs, as listed below.

Test No.	Description
D1	Fluorescent Display, LED
D2	Key Switch
D3	Remote Control
D4	PARALLEL I/O
D5	EEPROM Initialize
D6	ANALOG Input
D7	COAXIAL Input
D8	AES/EBU Input
D9	WORD CLOCK
D10	AES/EBU THRU
D11	DSP, DRAM
D12	SEARCH

D1 Fluorescent Display and LED

Selecting this program will cause the fluorescent display and LED to light up.
 Check that the fluorescent display and all LEDs light up.

D2 Key Switch

Connect the FOOT SW to the FOOT SW jack and select this test program.
The display will appear as shown below.

D2: FOOT SW

Turn on the FOOT SW. If the check result is OK, move to the next switch check. The switches are tested in the following order.

FOOT SW -> OPEN/CLOSE -> ERASE -> FINALIZE -> PEAK HOLD -> TIME DISPLAY -> INPUT SELECT-> UTILITY
-> REC MUTE -> UV22 -> REPEAT -> A-B -> SYNC REC -> AUTO -> INDEX INC -> TRACK INC -> PREV -> NEXT ->
INDEX<< ->INDEX>> -> SEARCH<< -> SEARCH>> ->PAUSE ->STOP-> PLAY ->REC

D3 Remote Control

When this program is selected, the display will appear as shown below.

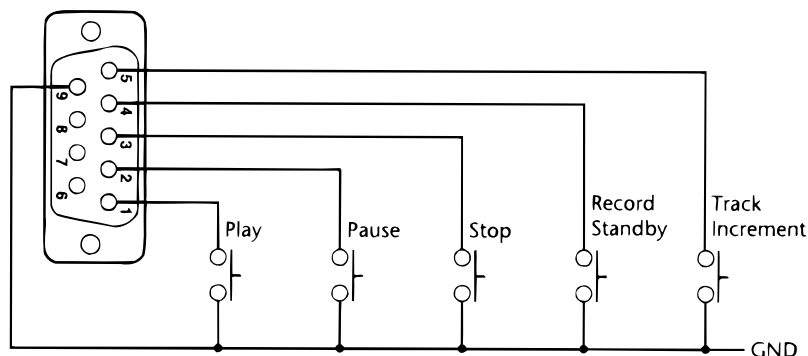
D3: OPEN/C

Press the OPEN/CLOSE button on the remote control unit. When the check result is OK, the display will appear as shown below.

D3: RM END

D4 Parallel I/O

Short the terminal as shown below and check that the main unit operates properly as commanded.

**D5 EEPROM Initialize**

Execute testing, and the EEPROM will be initialized.

D6 ANALOG Input

Input a 1 kHz, -10 dBm signal into the ANALOG IN L and R, check that the output level at ANALOG OUT L and R is 0 dBm $\pm$ 1 dB.

Also, check that a full-scale, -18.5 dBm $\pm$ 1 dB signal is output from COAXIAL OUT and AES/EBS OUT.

Set the GAIN switch to -10 dBV, check that the output level at ANALOG OUT L and R is +11.8 dBm $\pm$ 1 dB.

D7 COAXIAL Input

Input a 1 kHz, full-scale signal into the COAXIAL IN, check that the output level at ANALOG OUT L and R is +18.5 dBm $\pm$ 1 dB.

Also, check that a 1 kHz, full-scale signal is output from COAXIAL OUT, AES/EBS OUT.

D8 AES/EBS Input

Input a 1 kHz, full-scale signal into the AES/EBS IN, check that the output level at ANALOG OUT, L and R is +18.5 dBm $\pm$ 1 dB.

Also, check that a 1 kHz, full-scale signal is output from COAXIAL OUT, AES/EBS OUT.

D9 WORD CLOCK

Input a 1 kHz, full-scale signal into the AES/EBS IN, and a 44.1 kHz word clock into the WORD CLOCK terminal, check that a 1 kHz, full-scale signal is output from AES/EBS OUT.

D10 AES/EBU THRU

Input a 1 kHz, full-scale signal into AES/EBS IN, check that a 1 kHz, full-scale signal is output from AES/EBS OUT.

D11 DSP and DRAM

Input a 1 kHz, full-scale signal into AES/EBS IN, check that a signal is output from AES/EBS OUT about 2 seconds later.

D12 SEARCH

Load a music CD into the drive unit.

Check that the sound of the CD being fast forwarded is output from ANALOG OUT L and R and that the meter responds correctly.

After the above check, press the [NEXT] key; the display will appear as shown below and testing will end.

DIAG END

Exit the TEST mode

Turn off the power switch then turn on again.

Pressing the SW1 on the MAIN circuit board will set to regular mode.

■ INSPECTION

* Load a test CD (ALMEDIO TCD-784) into the drive unit.

1. Playback Level & Frequency Response

Playback the second trac (1 kHz), the third trac (20 Hz) and the sixth trac (20 kHz) on the test CD, and check that the output level at ANALOG OUT L and R is within the range of +18.5 dBm +1/-2 dB. Also check that a 1 kHz, full-scale signal is output from COAXIAL OUT, AES/EBS OUT respectively.

2. Playback Distortion Factor

Playback the second trac (1 kHz) on the test CD, and check that the distortion factor measured at ANALOG OUT L and R is less than 0.03%.

3. Playback Residual Noise

Play back the seventh trac (no sound) on the test CD, and check that the residual noise measured at ANALOG OUT L and R is less than -77 dBm.

4. Emphasis

Using the output level obtained at ANALOG OUT L and R when the second trac (1 kHz EMP:OFF) on the test CD is played back at 0 dB, check that the level obtained when the twelfth trac (5 kHz EMP:ON) is played back is -4.53 dB $\pm$ 1 dB.

* Load a CD-RW disk (TDK CD-RW XA74) into the drive unit to inspect the following items.

5. Recording Playback Level & Frequency Response

Select ANALOG from the INPUT SELECT switch and press the REC key. (REC stand-by state) Input the signals of the frequencies and levels in the following table into ANALOG IN and check that the output of the specified level is obtained at ANALOG OUT L and R as well as COAXIAL OUT, AES/EBS OUT.

INPUT		ANALOG OUT OUT L,R	COAXIAL OUT AES/EBS OUT
FREQ	LEVEL		
20 Hz	0 dBm	+10 dBm +1/-2dB	FULL-SCALE, -8.5 +/- 1dB
1 kHz	↓	↓	↓
1 kHz	↓	↓	↓

6. Recording Playback Distortion Factor

Select ANALOG from the INPUT SELECT switch and press the REC key (REC stand-by state).

Input a 1 kHz, +8 dB signal into ANALOG IN L and R and check that the distortion factor at ANALOG OUT L and R is less than 0.03%.

7. Recording Playback Residual Noise

Select ANALOG from the INPUT SELECT switch and press the REC key (REC stand-by state).

Connect a 150 ohm resistor to the 2-3 pins of ANALOG IN L and R and check that the residual noise at ANALOG OUT L and R is less than -73 dBm.

8. Headphone Output Level, Distortion Factor

Select ANALOG from the INPUT SELECT switch and press the REC key (REC stand-by state).

Input a 1 kHz, 0 dB signal into ANALOG IN L and R and check that the output level at PHONES OUT, L and R is +3 dBm $\pm$ 2 dB.

Also, vary the input level of ANALOG IN L and R so as to obtain the +8 dBm $\pm$ 1 dB (100W output power) at PHONES OUT L and R and check that the distortion factor is less than 5%.

9. Digital Input Level

Select COAXIAL from the INPUT SELECT switch and press the REC key (REC stand-by state).

Input a 1 kHz, full-scale signal into COAXIAL IN and check that +18.5 dBm $\pm$ 1 dB signal is output from ANALOG OUT L and R.

Also, input a 1 kHz, full-scale signal into AES/EBS IN and check that a +18.5 dBm $\pm$ 1 dB signal is output from ANALOG OUT L and R.

10. Recording check

Select ANALOG from the INPUT SELECT switch.

Press the AUTO button, and then press the REC button (AUTO REC START mode).

Input 1 kHz, 0 dBm signals into the ANALOG IN L and R to record them on the CD-RW disk.

Playback the recorded signals to check that the recording has been made properly.

■ ERROR MESSAGES

If the CDR1000 displays an error message, follow the instructions below.

Error Number	Remarks
062900	*1
062800	
020401	
023A02	
023A03	
052000	
052400	
020408	
030C0A	
052100	
0409XX	Change media or failure*2
056400	* 1
056401	
053008	Change media
053100	Change media
023005	Change media (PMA error)
057301	Change media (PMA FULL)
037300	Change media (TNO FULL)
031100	Change media
037303	* 1
2XXXXXX	*2
300001	
400001	
500051	
500053	
500054	
500055	
500056	

1. If the error cannot be fixed by opening or closing the disc tray, and the error remains even after powering off and on, change the CDR unit.
2. If the error remains even after powering off and on, repair the Circuit board.

PROFESSIONAL AUDIO CD RECORDER

CDR1000

PARTS LIST

CONTENTS

OVERALL ASSEMBLY	2
FRONT ASSEMBLY	4
ELECTRICAL PARTS	6

Notes : DESTINATION ABBREVIATIONS

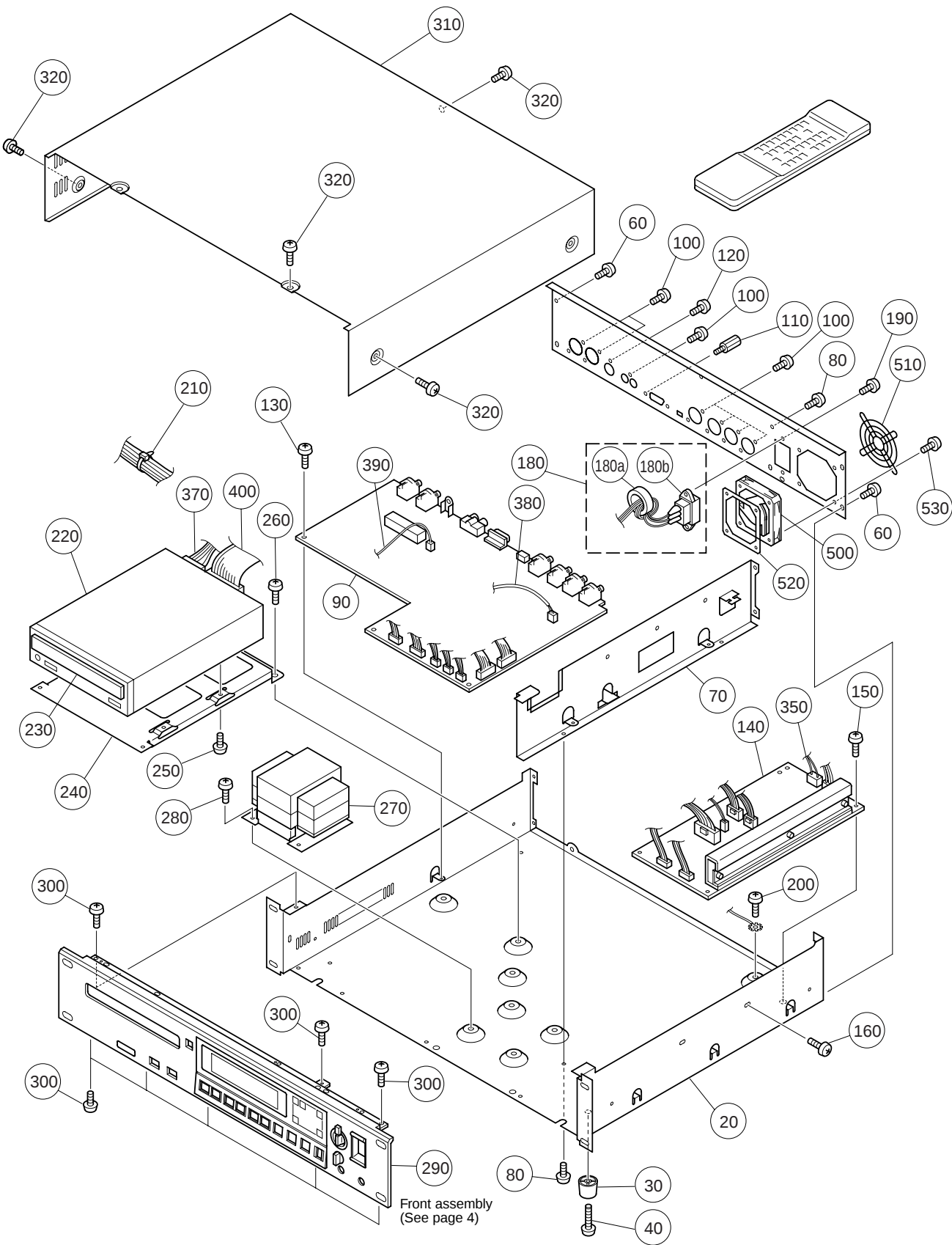
A : Australian model	M: South African model
B : British model	O : Chinese model
C : Canadian model	Q : South-east Asia model
D : German model	T : Taiwan model
E : European model	U : U.S.A. model
F : French model	V : General export model (110V)
H : North European model	W: General export model (220)
I : Indonesian model	N,X : General export model
J : Japanese model	Y : Export model

■ WARNING

Components having special characteristics are marked ⚠ and must be replaced with parts having specification equal to those originally installed.

- The numbers “QTY” show quantities for each unit.
- The parts with “--” in “PART NO.” are not available as spare parts.
- This mark “ } ” in the REMARKS column means these parts are interchangeable.
- The second letter of the shaded (■) part number is O, not zero.
- The second letter of the shaded (■) part number is I, not one.

OVERALL ASSEMBLY

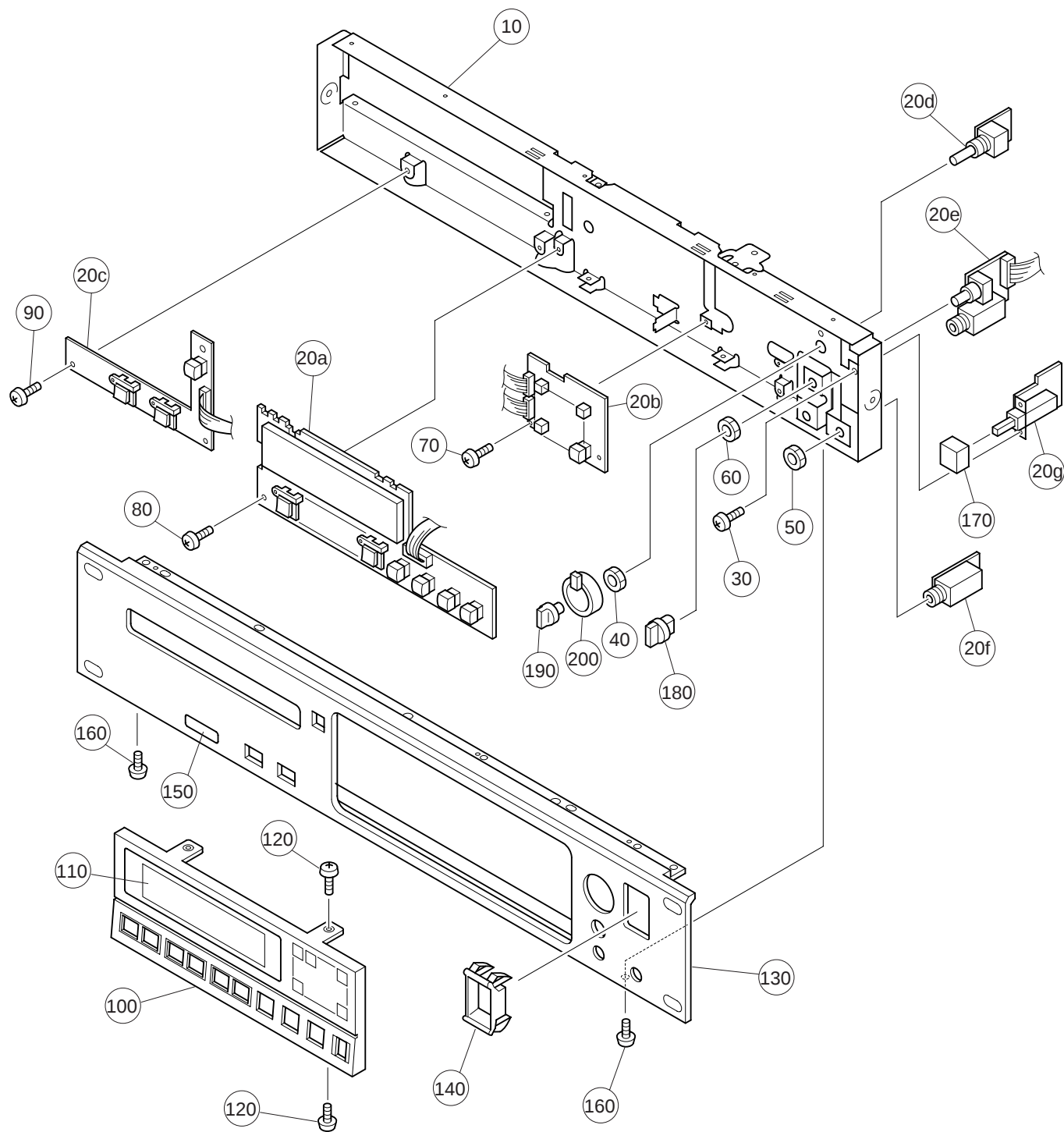


REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
* --		OVERALL ASSEMBLY		CDR1000 J,U,V,H,W,B		
* --		Overall Assembly		J (V4570900)		
* --		Overall Assembly		U,V (V4571000)		
* --		Overall Assembly		H,W (V4571100)		
* --		Overall Assembly		B (V4571200)		
3	--	Earth Film		(V521920)	2	
* 10	V4056900	Rear Panel	J	J		
* 10	V4057000	Rear Panel	U C	U,C		
* 10	V4057100	Rear Panel	H B	H,W,B		
20	--	Bottom Cover		(V405770)		
30	CB651110	Foot	TL-014		4	02
40	EP600380	Bind Head Tapping Screw-B	3.0X16 MFZN2BL		4	01
60	VP157000	Bind Head Tapping Screw-B	A3.0X8 MFZN2BL		6	01
70	--	Stay		(V405760)		
80	VP157000	Bind Head Tapping Screw-B	A3.0X8 MFZN2BL		4	01
* 90	V3540500	Circuit Board	MAIN			
100	EP630190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		13	01
110	VT362500	Jack Socket	17L-003A3		2	01
120	VP156600	Bind Head Screw	A3.0X6 MFZN2BL			01
130	EP600230	Bind Head Tapping Screw-B	3.0X6 MFZN2BL		3	01
* 140	V5076400	Circuit Board	PS J	J		
* 140	V3540600	Circuit Board	PS U	U,V		
* 140	V3540700	Circuit Board	PS H,B	H,W,B		
150	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		4	01
160	VP157000	Bind Head Tapping Screw-B	A3.0X8 MFZN2BL		2	01
180	--	AC-INLET Assembly	ACIN 250L	(V456760)		
180a	VC362700	Ferrite Core	FR25/15/12-1400L			04
180b	VL785200	AC-IN Connector	AC-P01CR02			03
190	VC161100	Bind Head Tapping Screw-P	3.0X12 MFZN2BL		2	01
200	EG340360	Bind Head Screw	4.0X8 MFZN2BL			01
210	CB069250	Cord Holder	BK-1			01
* 220	V4580100	CRW Unit	ACRW100			
* 220a	V2427600	Front Panel	ABS			
* 220b	V3725000	Tray	PPE X251V BLC1x133			
* 230	V4572500	Tray Panel				
240	--	CDR Angle		(V405980)		
250	VP156600	Bind Head Screw	A3.0X6 MFZN2BL		4	01
260	VP157900	Bind Head Tapping Screw-B	A3.0X6 MFZN2BL		4	01
270	XV755A00	Power Transformer		J		
270	XV756A00	Power Transformer	UL CSA	U,V		
270	XV757A00	Power Transformer	CEE	H,W,B		
280	VC688800	Bind Head Tapping Screw-B	A4.0X8 MFZN2BL		4	01
285	--	Spacer		(V413330)	2	
290	--	Front Panel Assembly		(V457240)		
300	VP157000	Bind Head Tapping Screw-B	A3.0X8 MFZN2BL		8	01
305	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		2	01
* 310	V4742200	Top Cover				
320	VP157000	Bind Head Tapping Screw-B	A3.0X8 MFZN2BL		7	01
350	--	Wiring Assembly	PSW 340L	(V456770)		
360	--	Witing Assembly	VR 6P-6P220L	(V456800)		
370	--	Witing Assembly	CDRW	(V456810)		
380	--	Witing Assembly	AO 230L	(V456820)		
390	--	Witing Assembly	DO 180L	(V456830)		
400	--	Witing Assembly	MAIN TO CDR	(V456840)		
410	--	Connector Assembly	8 250mm C&C	(VR79090)		
420	--	Connector Assembly	3 250mm C&C	(VR78240)		
440	--	Connector Assembly	9 350mm C&C	(VR79280)		
450	--	Connector Assembly	6 160mm C&C	(VR78720)		
490	CB069250	Cord Holder	BK-1		2	01
* 500	V4755300	Fan	MMS-06E12DL			08
510	--	Finger Guard	FG-06ULB	(V506250)		
520	VM964700	Holder, Fan				09
530	VR116500	Pan Head Screw	SP 4.0X25 MFZN2BL		4	01
		Accessoreis				
	--	Battery	SUM-3N(4S)NE.AB	(VH21490)		
	VN391100	AC Cord	DC-015-J01	J		06
	VB927800	AC Cord	CSA	U,V		08
	VB928000	AC Cord	VDE	H,W		08
	VP204400	AC Cord	BS	B		10
* 530	V3496500	Remort Controller	RC			

*: New Parts

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FRONT ASSEMBLY



[illegible]

*: New Parts

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ELECTRICAL PARTS

REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
*		ELECTRICAL PARTS					
	V3540500	Circuit Board	MAIN		(XV958B0)		
	AAX08680	Circuit Board	FP 1/7		(XV959C0)		
	AAX08690	Circuit Board	FP 2/7		(XV959C0)		
	AAX08700	Circuit Board	FP 3/7		(XV959C0)		
	AAX08710	Circuit Board	FP 4/7		(XV959C0)		
	AAX08720	Circuit Board	FP 5/7		(XV959C0)		
	AAX08730	Circuit Board	FP 6/7		(XV959C0)		
	AAX08740	Circuit Board	FP 7/7		(XV959C0)		
	V5076400	Circuit Board	PS		(XV960B0)		
	V3540600	Circuit Board	PS		U,V (XV960B0)		
	V3540700	Circuit Board	PS		H,W,B (XV960B0)		
	AAX08680	Circuit Board	FP 1/7		(XV959C0)		
	AAX08690	Circuit Board	FP 2/7		(XV959C0)		
*	AAX08700	Circuit Board	FP 3/7		(XV959C0)		
	AAX08710	Circuit Board	FP 4/7		(XV959C0)		
	AAX08720	Circuit Board	FP 5/7		(XV959C0)		
	AAX08730	Circuit Board	FP 6/7		(XV959C0)		
	AAX08740	Circuit Board	FP 7/7		(XV959C0)		
	--	FL Holder			(V405990)		
	VT810300	Push Button			FINALIZE	7	03
	VT839000	Push Button			PREV,NEXT,INDEX(<<,>>),		03
					SEARCH(<<,>>),ERASE		
	V3117400	Button			OPEN/CLOSE		02
	V3259500	Button			PEAK HOLD,TIME DISPLAY,	12	02
					INPUT SELECT,UTILITY,		
					REC MUTE,UV22,REPEAT,A-B,		
					SYNC REC,AUTO,INDEX INC,		
					TRACK INC		
*	V4060100	Button	REC				
	V4060300	Button	PLAY				
	V4060400	Button	STOP				
	V4060500	Button	PAUSE				
	--	LED Spacer	BL		(V511560)		
	CN1 VB390200	Connector Base Post	PH- 6P TE				01
	CN2 --	Connector Assembly	10 200mm B&C 2mm		(VY91980)		
	CN3 VB390300	Connector Base Post	PH- 7P TE				01
	CN4 VB390100	Connector Base Post	PH- 5P TE				01
	CN5 VB390400	Connector Base Post	PH- 8P TE				01
	CN6 VB858500	Connector Base Post	PH- 6P SE				01
	CN7 VB390400	Connector Base Post	PH- 8P TE				01
	CN8 VB389900	Connector Base Post	PH- 3P TE				01
	CN9 --	Base Post Connector	VA- 2P SE		(V459160)		
*	IC1 XT828A00	IC	M66004FP		FL DRIVER		07
	J1 RD250000	Carbon Resistor(chip)	0.0 0.0J				01
	J2 UB445100	Monolithic Ceramic Cap.	F0.1 16V Z				01
	J4 UB445100	Monolithic Celamic Cap.	F0.1 16V Z				01
	JK2 LB302070	Phone Jack	STEREO HLJ0544		PHONES LEVEL		03
	JK3 LB301800	Phone Jack	MONO HLJ0544		FOOT SW		03
	L1 VB835000	Coil	FL5R200QNT				01
	-3 VB835000	Coil	FL5R200QNT				01
	LD1 VT942200	LED	SLZ-135B RE		REC		01
	LD2 V5295900	LED	SLZ-235B GR		PLAY		01
	LD3 V3744000	Fluorescent Display	CM1800D				
	LD4 V4845500	LED	SLZ-435B-08-T1(YE)		PEAK HOLD,UTILITY,		01
	-8 V4845500	LED	SLZ-435B-08-T1(YE)		REC MUTE,UV22,AUTO		01
	Q1 VV655400	Digital Transistor	DTC114EKA TP				01
	Q2 VV655400	Digital Transistor	DTC114EKA TP				01
*	Q3 VQ986700	Transistor	2SC4081T106				01
	Q4 VR936300	Transistor	2SA1576AT106				01
	Q5 VQ986700	Transistor	2SC4081T106				01
	Q6 VR936300	Transistor	2SA1576AT106				01
	Q7 VQ986700	Transistor	2SC4081T106				01
	Q8 VR936300	Transistor	2SA1576AT106				01
	Q9 VV655400	Digital Transistor	DTC114EKA TP				01
	-13 VV655400	Digital Transistor	DTC114EKA TP				01
	REM1 V4579700	Remote Signal Sensor	NJL62H380A				
	SW1 VT513600	Light Touch Switch	EVQ 22C 05B		PREV,NEXT,INDEX(<<,>>),		01
	-6 VT513600	Light Touch Switch	EVQ 22C 05B		SEARCH(<<,>>)		01

※: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
SW7	V3123600	Push Switch	SKECAF	PAUSE,STOP,PLAY,REC,		02
-22	V3123600	Push Switch	SKECAF	PEAK HOLD,TIME DISPLAY, INPUT SELECT,UTILITY, REC MUTE,UV22,REPEAT,A-B, SYNC REC,AUTO,INDEX INC, TRACK INC		02
SW23	VT513600	Light Touch Switch	EVQ 22C 05B	ERASE		01
SW24	V3123600	Push Switch	SKECAF	FINALIZE		02
SW25	VT513600	Light Touch Switch	EVQ 22C 05B	OPEN/CLOSE		01
SW26	V3127000	Push Switch	ESB92S23B J.U.C.S	POWER ON/OFF		02
* VR1	V4441400	Rotary Pot.	A 10.0K RK09722	REC LEVEL		
VR2	V3123000	Rotary Variable Resistor	RK09L12B0 A10K X 2	PHONE LEVEL		03
	UB044100	Monolithic Ceramic Cap.	F 0.01 50V Z	C:9		01
	UB445100	Monolithic Ceramic Cap.	F 0.1 16V Z	C:1,2,8,12-15,17		01
	UB051470	Monolithic Ceramic Cap.	SL 47P 50V J	C:3-5		01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	C:6,7		01
	UM388100	Electrolytic Cap.-KS	100.00 6.3V	C:10,16		01
	UM417100	Electrolytic Cap.-KS	10.00 50V			01
	VY675000	Capacitor	0.01 250V J.U.C.S	C:18		01
	UB446100	Ceramic Capacitor-F (chip)	F 1.0 16V Z	C:19		01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	R:2,4,22,27,33,36-38,59		01
	RD256270	Carbon Resistor (chip)	2.7K 0.1 J	R:5,6,42-44,60		01
	RD256390	Carbon Resistor (chip)	3.9K 0.1 J	R:7,8,45-47		01
	RD256470	Carbon Resistor (chip)	4.7K 0.1 J	R:21,26,32		01
	RD256820	Carbon Resistor (chip)	8.2K 0.1 J	R:9,10,53-55		01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	R:1,3,16,39-41,58		01
	RD257220	Carbon Resistor (chip)	22.0K 0.1 J	R:11,12,23,28,34		01
	RD257270	Carbon Resistor (chip)	27.0K 0.1 J	R:29		01
	RD257470	Carbon Resistor (chip)	47.0K 0.1 J	R:24,30,35		01
	RD255100	Carbon Resistor (chip)	100.0 0.1 J	R:62		01
	RD258100	Carbon Resistor (chip)	100.0K 0.1 J	R:20,25,31		01
	VC731800	Metal Oxide Film Resistor	150.0 1W J	R:56,57	01	
	RD255390	Carbon Resistor (chip)	390.0 0.1 J	R:48-52		01
	RD255470	Carbon Resistor (chip)	470.0 0.1 J	R:13,17-19		01
	RD255560	Carbon Resistor (chip)	560.0 0.1 J	R:14,15		01
* CN1	V3540500	Circuit Board	MAIN	(XV958B00)		
CN2	VB390400	Connector Base Post	8P TE			01
CN3	VB390300	Connector Base Post	7P TE			01
CN4	VB390100	Connector Base Post	5P TE			01
CN5	VB390600	Connector Base Post	10P TE			01
CN6	VB389800	Connector Base Post	2P TE			01
CN7	VK270300	Strate Header	HIF3FC40PA-2.54DSA			05
CN8	VB390500	Connector Base Post	9P TE			03
CN9	V3584100	Connector	9P SE			03
CN10	VB390000	Connector Base Post	4P TE			01
CN11	VB390200	Connector Base Post	6P TE			01
CN12	VB390400	Connector Base Post	8P TE			01
CN13	VB389900	Connector Base Post	3P TE			01
D1	VB390000	Connector Base Post	4P TE			01
D2	VT332900	Diode	1SS355 TE-17			01
D3	VT332900	Diode	1SS355 TE-17			
D4	VT332900	Diode	1SS355 TE-17			
D5	VT332900	Diode	1SS355 TE-17			
D6	VT332900	Diode	1SS355 TE-17			
D17	VT332900	Diode	1SS355 TE-17			
D18	VT332900	Diode	1SS355 TE-17			
D19	VT532500	Diode	1SR154-400			01
D20	VT532500	Diode	1SR154-400			01
DA300	VU384000	Diode	HVM17			
EM4	FZ006920	LC Filter	LS MT B271KB			01
EM7	FZ006970	LC Filter	LS MT Y223NB			02
-10	FZ006970	LC Filter	LS MT Y223NB			02
EM11	FZ006920	LC Filter	LS MT B271KB			01
-18	FZ006920	LC Filter	LS MT B271KB			01
EM300	FZ006970	EMI Filter	Y223NB			
IC1	XQ962D00	IC	YSS228E-F	DSP3		20
IC2	XH224A00	IC	TC74HC573AF	T-LATCCHES		04
IC3	XT160A00	IC	93LC56T-I/SN	EEPROM 2K		03

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REF NO.	PART NO.	DESCRIPTION	REMARKS	QTY	RANK
* IC4	XD657A00	IC TC74HC14AF-TP1	INVERTER		02
IC5	XW092A00	IC TC74HC20AF	NAND		
IC6	XP250A00	IC HD74HC00FPPEL	NAND		01
IC7	XD657A00	IC TC74HC14AF-TP1	INVERTER		02
* IC8	XW092A00	IC TC74HC20AF	NAND		
IC9	XT090A00	IC SRM2B256SLMX70	SRAM 256K		07
IC10	XN241A00	IC TC74HC32AF	OR		01
* IC11	XW108A00	IC SN74HC595NSR	SHIFT REGISTER		
IC12	XV145A00	IC KM416C1200CJ-6	DRAM 16M		12
* IC13	XW700A00	IC CPU	CPU		
IC14	XS720A00	IC TC74HC245AF	TRANSCEIVER		03
IC15	XS720A00	IC TC74HC245AF	TRANSCEIVER		03
* IC16	XW110A00	IC SN74HC157NSR	DATA SELECTOR		
IC17	XP226A00	IC IC-PST591DMT	RESET		03
* IC18	XW097A00	IC SM5844AF	SAMPLE CONVERTER		
* IC19	XV903A00	IC FH1B31-70A	ACDR		
* IC20	XW097A00	IC SM5844AF	SAMPLE CONVERTER		
IC21	XS681A00	IC M5M51008BFP-70LLT	SRAM 1M		11
IC22	XS681A00	IC M5M51008BFP-70LLT	SRAM 1M		11
IC23	XN241A00	IC TC74HC32AF	OR		01
IC24	XD657A00	IC TC74HC14AF-TP1	INVERTER		02
* IC25	XT546A00	IC TC74HC4024AF	COUNTER		
IC26	XG948E00	IC YM3436DK	DIR2		11
-28	XG948E00	IC YM3436DK	DIR2		11
IC29	XP250A00	IC HD74HC00FPPEL	NAND		01
IC31	XV930A00	IC SN75124NSR	LINE RECEIVER		05
IC32	XU996A00	IC AM26LS31MCNSR	LINE DRIVER		05
IC33	XU815A00	IC DS26C32ATMX	LINE RECEIVER		06
* IC34	XW110A00	IC SN74HC157NSR	DATA SELECTOR		
IC37	XH610A00	IC HD74LS06FPPEL	INVERTER		02
IC39	XT802A00	IC AK4520A-VF-E2	ADC & DAC		07
IC40	XJ553A00	IC NJM2068MD-T1	OP AMP		02
IC41	XQ138A00	IC NJM4556AMT1	OP AMP		03
IC42	XJ553A00	IC NJM2068MD-T1	OP AMP		02
IC43	XB738A00	IC TC4053BF	MULTIPLEXER		02
IC44	XJ553A00	IC NJM2068MD-T1	OP AMP		02
IC45	XJ553A00	IC NJM2068MD-T1	OP AMP		02
* IC46	XC011A00	IC NJM5532M	OP AMP		
* IC47	XC011A00	IC NJM5532M	OP AMP		
IC48	XS511A00	IC NJM2115M-T1	OP AMP		02
IC49	XS511A00	IC NJM2115M-T1	OP AMP		02
IC50	XP250A00	IC HD74HC00FPPEL	NAND		01
IC51	XN241A00	IC TC74HC32AF	OR		01
IC52	XS993A00	IC TC74HC04AF	INVERTER		01
IC53	XR769A00	IC TC4W53FU	MULTIPLEXER		02
IC54	XP003A00	IC TC74HC74AF	D-FF		01
IC55	XN241A00	IC TC74HC32AF	OR		01
IC56	XE052A00	IC TC74HC393AF-TP1	BINARY COUNTER		03
IC57	XP003A00	IC TC74HC74AF	D-FF		01
* IC58	XW108A00	IC SN74HC595NSR	SHIFT REGISTER		
* -60	XW108A00	IC SN74HC595NSR	SHIFT REGISTER		
* IC61	XW138A00	IC TC74HC4002AF	NOR		
* IC62	XW138A00	IC TC74HC4002AF	NOR		
* IC63	XW092A00	IC TC74HC20AF	NAND		
IC64	XP003A00	IC TC74HC74AF	D-FF		01
IC65	XD660A00	IC TC74HC04AF-TP1	INVERTER		01
IC66	XP250A00	IC HD74HC00FPPEL	NAND		01
IC67	XP003A00	IC TC74HC74AF	D-FF		01
IC300	XS534A00	IC NJM78M05DLA	REGULATOR		
IC301	XQ805A00	IC TC7WU04FU			
IC302	XY116A00	IC FPGA PLL	FPGA PLL		
IC400	XW110A00	IC SN74HC595NSR	SHIFT REGISTER		
IC401	XH494A00	IC YM6067	PSC4		10
JK1	VS133800	XLM Connector NC3FAH1-0	DIGITAL IN		04
JK2	VS133700	XLM Connector NC3MAH	DIGITAL(AES/EBU) OUT		04
JK3	V5345400	Pin Jack	DIGITAL(COAXIAL)(IN,OUT)		04
JK4	V1552200	BNC Connector	WORD CLOCK IN		05
JK5	VS133800	XLM Connector	ANALOG IN L		04
JK6	VS133800	XLM Connector	ANALOG IN R		04
JK8	VS133700	XLM Connector	ANALOG OUT L		04

*: New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
JK9	VS133700	XLM Connector	NC3MAH	ANALOG OUT R		04
JK10	VT696400	Holder, Cannon Connector				04
L1	VQ724900	Chip Inductance	BK2125HM601-T			01
-4	VQ724900	Chip Inductance	BK2125HM601-T			01
L5	VS740100	Chip Inductance	BLM21B751S			03
L6	VQ724900	Chip Inductance	BK2125HM601-T			01
L7	VS740100	Chip Inductance	BLM21B751S			03
-18	VS740100	Chip Inductance	BLM21B751S			03
L19	VQ724900	Chip Inductance	BK2125HM601-T			01
-21	VQ724900	Chip Inductance	BK2125HM601-T			01
L24	VS740100	Chip Inductance	BLM21B751S			03
-55	VS740100	Chip Inductance	BLM21B751S			03
L56	VB835000	Coil	FL5R200QNT			01
-63	VB835000	Coil	FL5R200QNT			01
L64	VU374100	Chip Inductance	ELJFA100 KF2			01
-71	VU374100	Chip Inductance	ELJFA100 KF2			01
L73	VP246300	Noise Filter	ZJY51R5-2P			04
L74	VP246300	Noise Filter	ZJY51R5-2P			04
L300	VB835000	Coil	20U			
L301	VU374000	Inductor (chip)	ELJFA2R2-KF2			
L302	VP246300	Noise Filter	ZJY51R5-2P			
L303	VP246300	Noise Filter	ZJY51R5-2P			
L400	VB835000	Coil	FL5R200QNT			01
L401	VB835000	Coil	FL5R200QNT			01
Q1	VQ986700	Transistor	2SC4081T106			01
Q2	VR936300	Transistor	2SA1576AT106			01
Q3	VV655400	Digital Transistor	DTC114EKA TP			01
Q4	V2993500	Transistor	2SD1979 S,T			
Q5	V2993500	Transistor	2SD1979 S,T			
Q6	VV655400	Digital Transistor	DTC114EKA TP			01
Q7	VQ986700	Transistor	2SC4081T106			01
Q8	VR936300	Transistor	2SA1576AT106			01
Q9	V2993500	Transistor	2SD1979 S,T			
Q10	V2993500	Transistor	2SD1979 S,T			
Q11	VQ986700	Transistor	2SC4081T106			01
Q12	VQ986700	Transistor	2SC4081T106			01
	UB012470	Monolithic Ceramic Cap.	B470P 50V K	C:92-95,110,113,164-167		
	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K	C:23,24,199,200,206,208		01
	UB013150	Monolithic Ceramic Cap.	B 1500P 50V K	C:90,91		01
	UB013220	Monolithic Ceramic Cap.	B 2200P 50V K	C:207,209		01
	UB013470	Monolithic Ceramic Cap.	B 4700P 50V K	C:55		01
	UB045100	Monolithic Ceramic Cap.	F 0.1 50V Z	C:140,180		01
	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D	C:116,117		01
	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J	C:45,47		01
	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J	C:65,121,122,148-151,		01
				154-157,178,179		01
	UB051680	Monolithic Ceramic Cap.	SL 68P 50V J	C:135,136,141,142		01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	C:11,174-177,210-212		01
	UB214470	Monolithic Ceramic Cap.	B 0.047 25V K	C:41,42,46,56,57		01
	UB445100	Monolithic Ceramic Cap.	F 0.1 16V Z	C:5-8,12-14,18-21,26,32,		
				34,40,43,44,48,49,51,		
				53,71-74,82,96,97,		
				99-101,103,109,120,134,		
				137,139,143,170,171,		
				181-196,201,202,205,		
				213-216,300,302,303,307,		
				308,310-315,400-402,450		
	UB446100	Ceramic Capacitor-F (chip)	F 1.0 16V Z	C:4,9,10,15,17,22,27,30,		01
				31,36-39		
	UF017220	Electrolytic Cap. (chip)	22 6.3V	C:3,16,33,35,162,163,172		01
				173		01
	UF037470	Electrolytic Cap. (chip)	47 16V	C:50,52,54,84-87,104,301		01
	UF037100	Electrolytic Cap. (chip)	10 16V	C:25,102,105-108,111,112,		01
				123,128-133,138,168,169		
	UF037220	Electrolytic Cap. (chip)	22 16V	C:144-147		01
	UF066330	Electrolytic Cap. (chip)	3.3 50V	C:114,115		01
	UF138220	Electrolytic Cap. (chip)	220 16V UUR1C2	C:118,119,158-161		01
	UF167470	Electrolytic Cap. (chip)	47 50V	C:124-127		01
	VJ899000	Monolithic Ceramic Cap.	CH 5P 50V C	C:29		01
	VJ899300	Monolithic Ceramic Cap.	CH 8P 50V D	C:28		01

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	VJ900500	Monolithic Ceramic Cap.	27P	C:304		
	VR326600	Mylar Cap. (chip)	0.022	C:309		
	VR329100	Mylar Cap. (chip)	0.001	C:305,306		
	VT896800	Electrolytic Cap.	2200 35.0V	C:203,204		04
	VY671200	Electrolytic Cap.(chip)	47.00 16V	C:98,197,198		
	RD250000	Carbon Resistor (chip)	0.0 0.0 J	R:46,178,181,185,186,310,363		01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	R:8,12,13,63-67,86,89,100,101,300,301,305,350,360,361		01
	RD256180	Carbon Resistor (chip)	1.8K 0.1 J	R:136,137		01
	RD256220	Carbon Resistor (chip)	2.2K 0.1 J	R:189		01
	RD256330	Carbon Resistor (chip)	3.3K 0.1 J	R:22-24		01
	RD256470	Carbon Resistor (chip)	4.7K 0.1 J	R:69,165,167,168,170,174-177		01
	RD256510	Carbon Resistor (chip)	5.1K 0.1 J	R:142,143		01
	RD256680	Carbon Resistor (chip)	6.8K 0.1 J	R:172,173		01
	RD256750	Carbon Resistor (chip)	7.5K 0.1 J	R:122-125		01
	RD254390	Carbon Resistor (chip)	39	R:314		
	RD254430	Carbon Resistor (chip)	43	R:315		
	RD259100	Carbon Resistor (chip)	1.0M 0.1 J	R:1,17,18,20,21,302		01
	RD254100	Carbon Resistor (chip)	10.0 0.1 J	R:74,198,199		01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	R:3-7,9-11,14,15,45,57-60,62,68,75,78,88,90,91,98,99,102-105,116,117,129,131,134,135,138-141,158-164,171,179,180,182,183,188,195,196,362		01
	RD257160	Carbon Resistor (chip)	16.0K 0.1 J	R:114,115		01
	RD257200	Carbon Resistor (chip)	20.0K 0.1 J	R:110,111,118-121		01
	RD257220	Carbon Resistor (chip)	22.0K 0.1 J	R:81,82,144-147		01
	RD255220	Carbon Resistor (chip)	220	R:316		
	RD257240	Carbon Resistor (chip)	24.0K 0.1 J	R:154-157		01
	RD257270	Carbon Resistor (chip)	27.0K 0.1 J	R:112,113		01
	RD254330	Carbon Resistor (chip)	33.0 0.1 J	R:166,169		01
	RD254470	Carbon Resistor (chip)	47.0 0.1 J	R:31		01
	RD257470	Carbon Resistor (chip)	47.0K 0.1 J	R:84,85,132,133,190,191		01
	RD257560	Carbon Resistor (chip)	56.0K 0.1 J	R:94,95		01
	RD257680	Carbon Resistor (chip)	68.0K 0.1 J	R:96,97		01
	RD254750	Carbon Resistor (chip)	75.0 0.1 J	R:30,150-153,313		01
	RD255100	Carbon Resistor (chip)	100.0 0.1 J	R:2,25,79,80,126,127,148,149		01
	RD258100	Carbon Resistor (chip)	100.0K 0.1 J	R:76,77,83,87,92,93,106,107		01
	RD255110	Carbon Resistor (chip)	110.0 0.1 J	R:197		01
	RD255330	Carbon Resistor (chip)	330.0 0.1 J	R:70-73		01
	RD255470	Carbon Resistor (chip)	470.0 0.1 J	R:26,27		01
	RD258470	Carbon Resistor (chip)	470.0K 0.1 J	R:16		01
	RD255560	Carbon Resistor (chip)	560.0 0.1 J	R:19		01
	RD255680	Carbon Resistor (chip)	680.0 0.1 J	R:128,130		01
	RD257330	Carbon Resistor (chip)	33.0K 0.1J	R:108,109		01
	VI196100	Oxide Film Resistor(chip)	3.3K	R:303		
	VI200000	Oxide Film Resistor(chip)	100K	R:308,309		
	VI197800	Oxide Film Resistor(chip)	15K	R:306,307		
	VI198600	Oxide Film Resistor(chip)	33K	R:304		
RY1	KC001900	Relay	DC RY12W			07
RY2	KC001900	Relay	DC RY12W			07
ST1	VB966900	Style Pin	IMSA-6024			01
SW1	VT513600	Light Touch Switch	EVQ 22C 05B	repair use		01
SW2	VP799800	Slide Switch	SSSF12341A	-10dBV/4dB		02
SW3	VP804700	Slide Switch	SSSS2-12-01	BOOT/NORM		01
SW300	VP804700	Slide Switch	SSSS2-12-01	WORD CLOCK IN(ON/OFF)		
T1	VP246100	Palus Transformer	P17H			07
T2	VP246100	Palus Transformer	P17H			07
T300	VP246100	Palus Transformer	P17HTS20-1AA			
T301	VP246100	Palus Transformer	P17HTS20-1AA			
*	X1	V3743900	Ceramic Resonator	30.00M CSTCV30MX		
	X2	VP864900	Quartz Crystal Unit	16M SMD-49		04
	X3	VP864800	Quartz Crystal Unit	11.2896M SMD-49		04
ZD1	VU171900	Zener Diode	UDZS5.1BTE-17 5.1V			01

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
ZD2	VU171900	Zener Diode	UDZS5.1BTE-17 5.1V			01
* * *	V5076400	Circuit Board	PS	J (XV960B00)		
	V3540600	Circuit Board	PS	U,V (XV960B00)		
	V3540700	Circuit Board	PS	H,W,B (XV960B00)		
	VA078900	Jumper Wire	0.55			
	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL			01
	VQ074600	Bind Head Tapping Screw-B	3.0X12 MFZN2Y			01
* *	--	Transistor Holder		(V459140)		
	--	Insulation Plate		(V405960)		
	V4572600	Insulation Sheet				
CN21	LB932040	Base Post Connector	4P TE			01
CN22	VG879900	Base Post Connector	2P TE			01
CN23	VG879900	Base Post Connector	2P TE			01
CN101	LB932050	Base Post Connector	5P TE			01
CN102	LB932070	Base Post Connector	7P TE			01
CN103	LB932040	Base Post Connector	4P TE			01
CN104	VB390500	Connector Base Post	9P TE			03
CN105	VB390200	Connector Base Post	6P TE			01
CN106	VB389800	Connector Base Post	2P TE			01
D101	VU652800	Diode	1SR139-400 T-31			01
D102	VB941200	Diode	1SS133,1SS176			01
-104	VB941200	Diode	1SS133,1SS176			01
D105	VU652800	Diode	1SR139-400 T-31			01
D106	VU652800	Diode	1SR139-400 T-31			01
D107	VB941200	Diode	1SS133,1SS176			01
-110	VB941200	Diode	1SS133,1SS176			01
DB101	VT359600	Diode Stack	D3SBA20 4.0A 200V			03
DB102	VT359600	Diode Stack	D3SBA20 4.0A 200V			03
DB103	VL834300	Diode Stack	RBV-602 LF-B 6.0A			03
EM101	FZ006970	LC Filter	LS MT Y223NB			02
-105	FZ006970	LC Filter	LS MT Y223NB			02
FZ21	KB003570	Fuse	2.00A JU	J,U,V		01
FZ21	VP206500	Fuse Holder	EYF-52BC			01
FZ21	KB003040	Fuse	1.00A S	H,W,B		01
FZ101	KB003600	Fuse	3.15A JU	J,U,V		01
FZ101	KB003080	Fuse	2.50A S	H,W,B		01
FZ101	VP206500	Fuse Holder	EYF-52BC			01
FZ102	KB003600	Fuse	3.15A JU	J,U,V		01
FZ102	KB003080	Fuse	2.50A S	H,W,B		01
FZ102	VP206500	Fuse Holder	EYF-52BC			01
FZ103	KB003560	Fuse	1.60A JU	J,U,V		01
FZ103	VP206500	Fuse Holder	EYF-52BC			01
FZ103	KB003060	Fuse	1.60A S	H,W,B		01
FZ104	KB003560	Fuse	1.60A JU	J,U,V		01
FZ104	VP206500	Fuse Holder	EYF-52BC			01
FZ104	KB003060	Fuse	1.60A S	H,W,B		01
* IC101	XW098A00	IC	PQ12RF2	REGULATOR +12V		
IC102	XM482A00	IC	STR9005	REGULATOR +5V		07
IC103	XJ608A00	IC	NJM7812FA	REGULATOR +12V		02
IC104	XC721A00	IC	NJM7912FA	REGULATOR -12V		02
IC105	XJ604A00	IC	NJM78M05FA	REGULATOR +5V		02
L21	VZ677000	Line Filter	PLH11A1811R2P01B1	J,U,V		03
LA1	BB069510	Angle	A-8			
Q101	IC174070	Transistor	2SC1740S R,S			01
Q102	VD678500	Digital Transistor	DTA114ES			01
Q103	VZ580200	Transistor	2SA1533			01
ZD101	V2909500	Zener Diode	MA2056-A 5.6V			01
ZD102	VQ558900	Zener Diode	MTZJ36C 36.0V			01
	UR867100	Electrolytic Cap.	10.00 50.0V	C:101,125		01
	UR868220	Electrolytic Cap.	220.00 50.0V	C:102		
	FG644100	Ceramic Capacitor-F	0.01 50V Z	C:103-112		01
	UR866470	Electrolytic Cap.	4.7 50.0V	C:113		01
	UR749680	Electrolytic Cap.	6800 25.0V	C:114,115		03
	VR261400	Electrolytic Cap.	10000 25.0V	C:116		05
* V3124800		Electrolytic Cap.	22000 16.0V	C:117		
	UR828220	Electrolytic Cap.	220.00 10.0V	C:118		01
	UR857470	Electrolytic Cap.	47.00 35.0V	C:119		01
	UR838100	Electrolytic Cap.	100.00 16.0V	C:120-124		01
	UR839470	Electrolytic Cap.	4700 16.0V	C:126		03

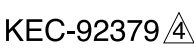
*: New Parts

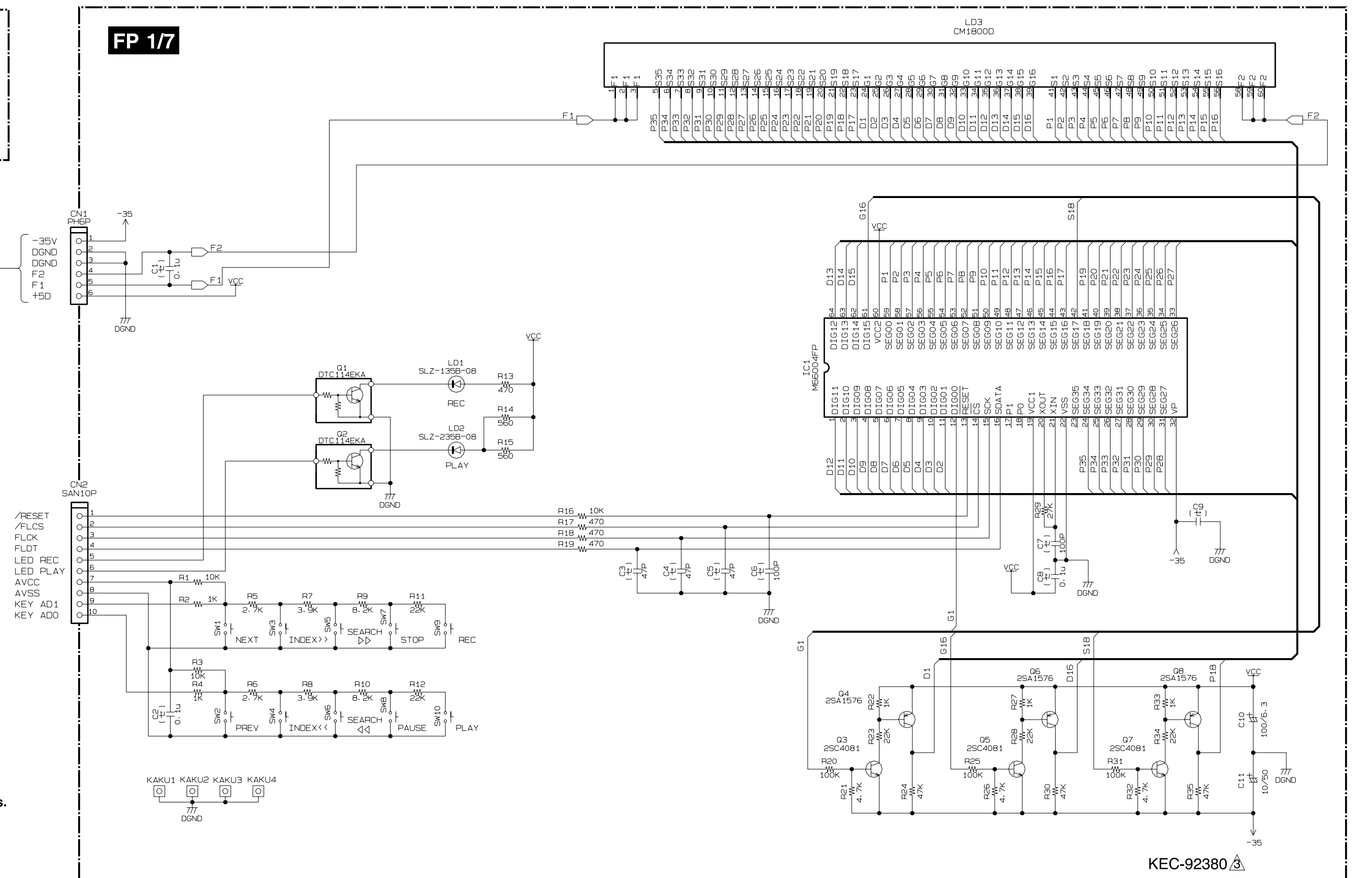
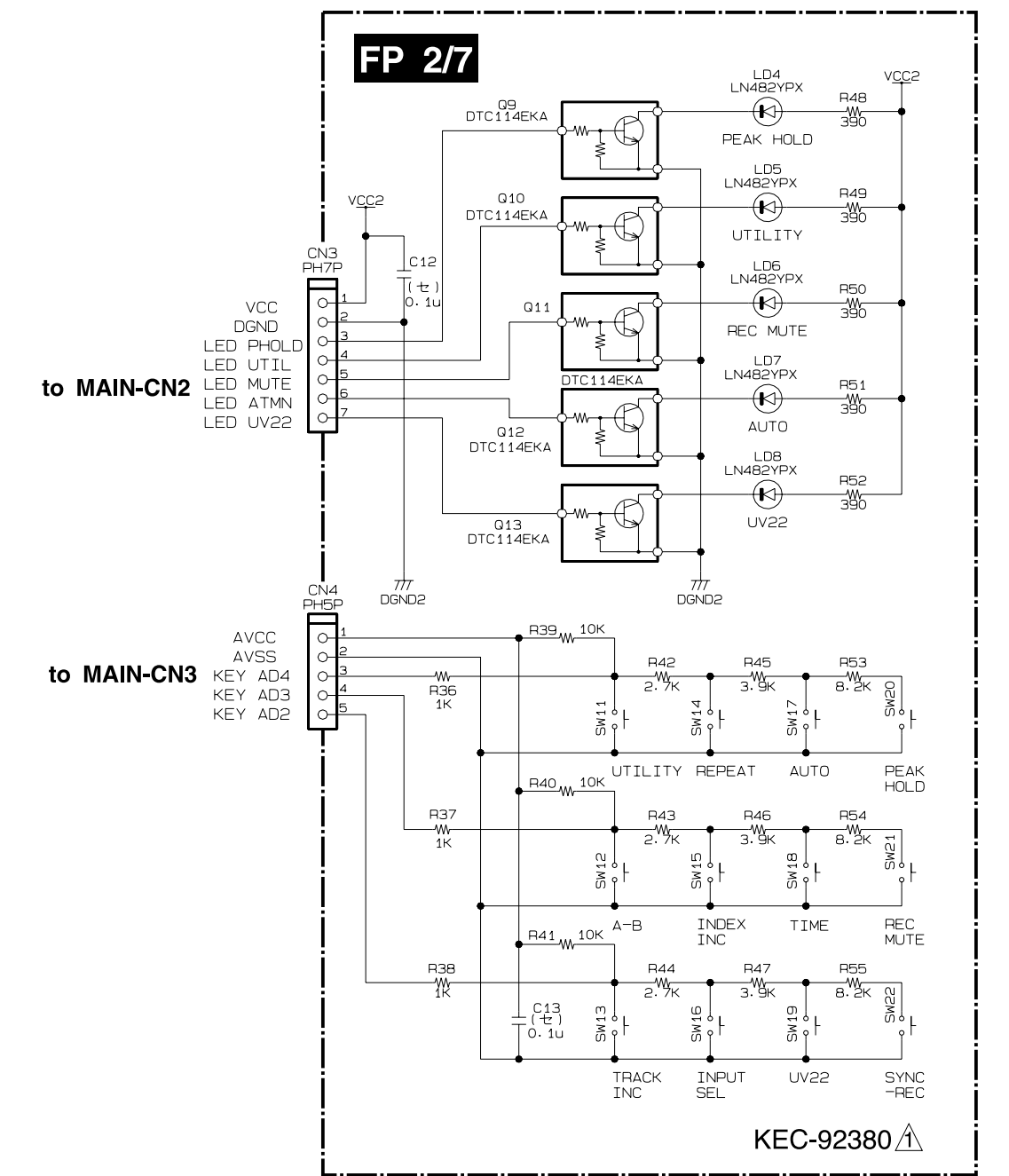
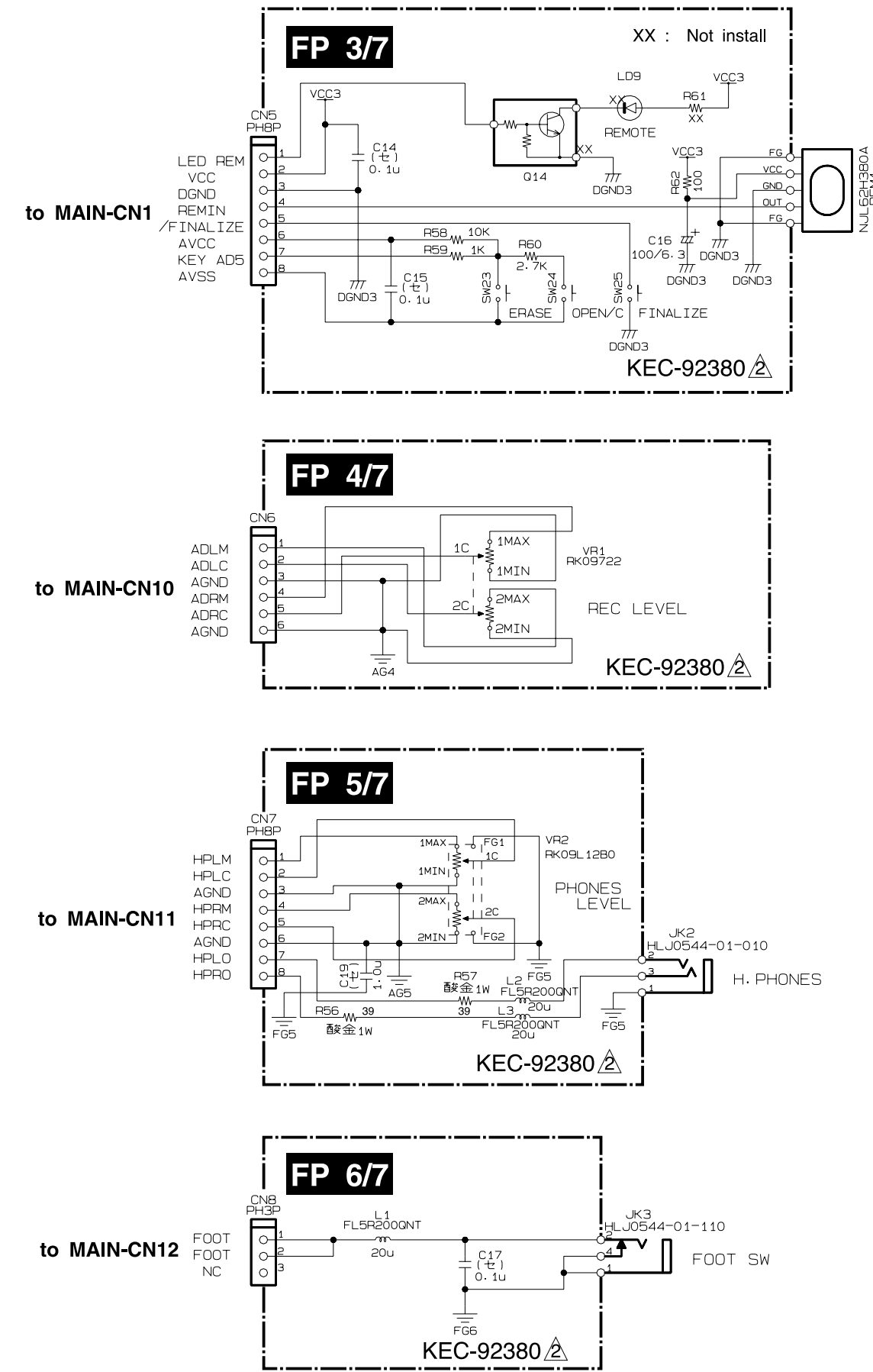
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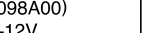
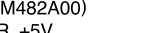
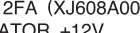
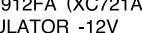
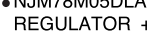
*: New Parts

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• PN012F2 (XV098A00) REGULATOR +12V  1: V IN 2: V OUT 3: GND 4: GND 5: OUTPUT	• STR0905 (XM482A00) REGULATOR +5V  1: Vo OUT 2: Vo CONT 3: Vo ON - OFF 4: V IN 5: GND	• NJM7815FA (XJ08A00) REGULATOR +12V  1: INPUT 2: GND 3: OUTPUT	• NJM7812FA (XC72A00) REGULATOR -12V  1: OUT 2: IN 3: V COMMON	• NJM7805FA (XJ60A00) REGULATOR +5V  1: INPUT 2: GND 3: OUTPUT	• NJM7805DLSA (XS53A00) REGULATOR +5V  1: INPUT 2: GND 3: OUTPUT
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(七): Ceramic Capacitor
酸金: Metal Oxide Film Resistor