

16bit DIGITAL PERCUSSION SYNTHESIZER

XD-5

SERVICE MANUAL

KAWAI

Kawai Musical Instruments
Manufacturing Co., Ltd.

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1. P.W.B INFORMATION

P.W.B. Name	Code No.	Description
MI-056-059 (4) : Japan 110V Markets 220 / 240V Markets	236336	MI-056 : MPU, CARD BUFFER, RESET, RAM, CODE ROM, ADDRESS DECODER, DCO, DCA, WAVE ROM, DCF, PANPOT, MIDI, AUDIO, D / A, POWER SUPPLY
(5) : U.S.A., Canada	236337	
(6) : Australia, U.K., Germany Europe	236338	MI-057 : PANEL SWITCHES MI-058 : VOLUME MI-059 : DATA ENTRY (VALUE)

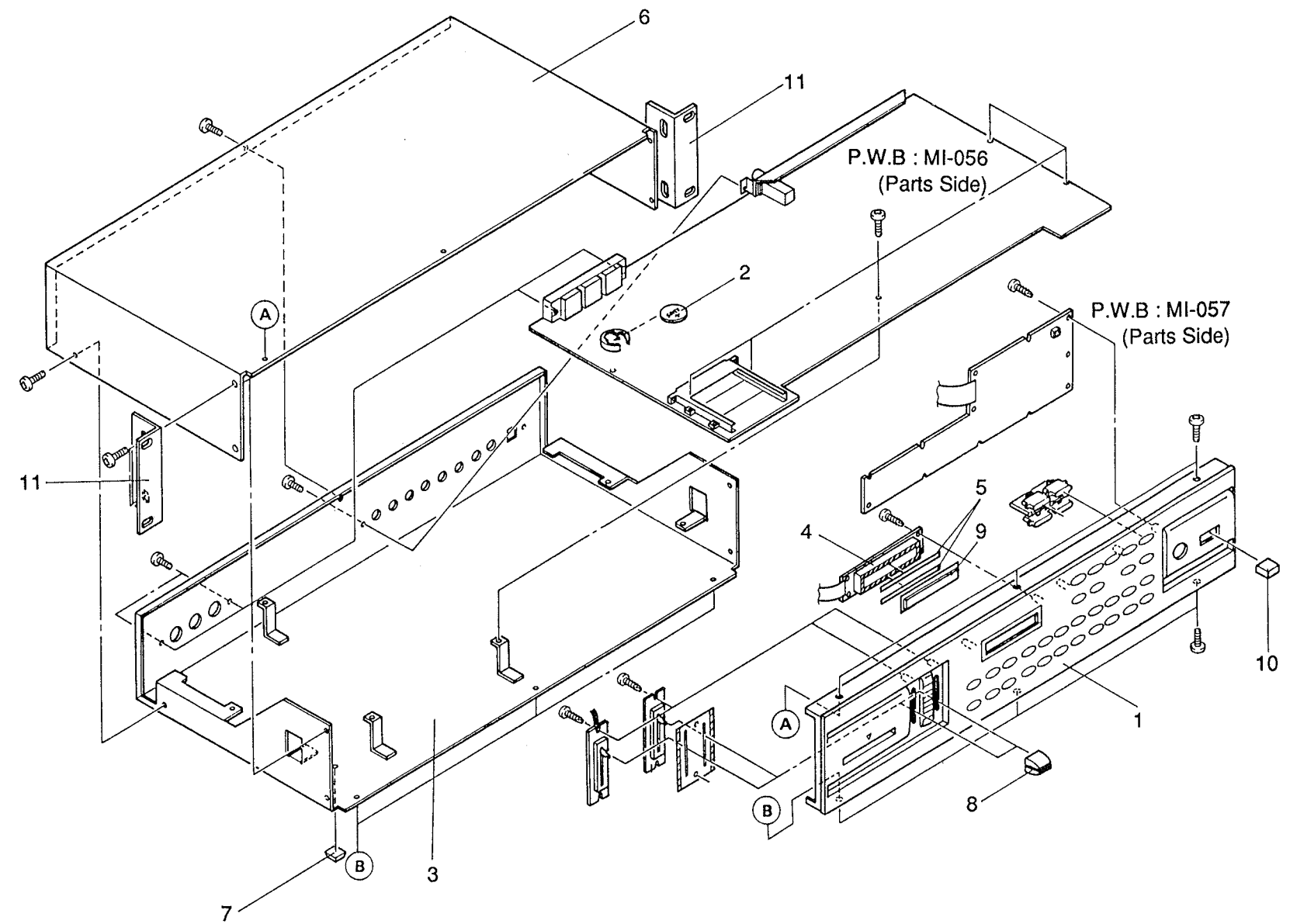
2. SEMICONDUCTORS LIST

	Code No.	Name	Description	Q'ty
IC	706990	TA75558P	Dual OP AMP	3
	707019	NJM-4556D	Dual OP AMP	1
	801926	TC74HC08	Quad 2-Input AND Gate	1
	802832	MSM74HC04	Hex Inverter	3
	802835	MSM74HC139	Dual 2-To 4 Line Decoder	1
	802837	MSM74HC174	Hex D-Type Flip Flop	3
	802838	MSM74HC244	Octal 3-State Bus Buffer	2
	802842	MSM74HC373	Octal D-Type Latch with 3-State Output	1
	802935	MSM74HC245	Octal 3-State Bus Transceiver	1
	803005	MSM74HC00	Quad 2-Input NAND Gate	5
	804982	MB3771	Reset	1
	804984	TA7508P	Quad OP AMP	1
	804986	PD78310G-36	Micro Processing Unit	1
	805065	HM62256LP-15SL	8 x 32Kbits SRAM	1
	805129	TC74LS03	Quad 2-input NAND Gate with Open Collector Output	1
	805727	TLP513	PHOTO Coupler	1
	805823	K002FP : FP100P	Tone Generator	2
	805979	K004FP : FP80P	Panpot	1
	805980	K008FP : FP80P	Digital Filter	1
	805981	PCM66P : FP20P	D/A Converter	4
	805982	MC7809CT	Regulator	1
	805983	PC78L05J	Regulator	1
	921170	27C512-20 EP ROM : HP019	8 x 512Kbits EPROM	1
	921175	LH538100 MASKROM:KP020	8 x 512Kbits MASK ROM	1
	921180	LH538100 MASK ROM: KP021	8 x 512Kbits MASK ROM	1
Transistor	802508	2SC3331T	SiNPN : Epitaxial Planar Type	1
	805984	2SD1468SR	"	8
	806089	DTC114ES	"	1
FET	806068	2SK371GR	" with Resistors	8
Diode	800625	1SS133		32
	805987	MPG06D		2
	805988	MA700		3
Zenor Diode	805989	HZS4A-LL		8
Crystal Oscillator	803422	AT-51B	12 MHz	1

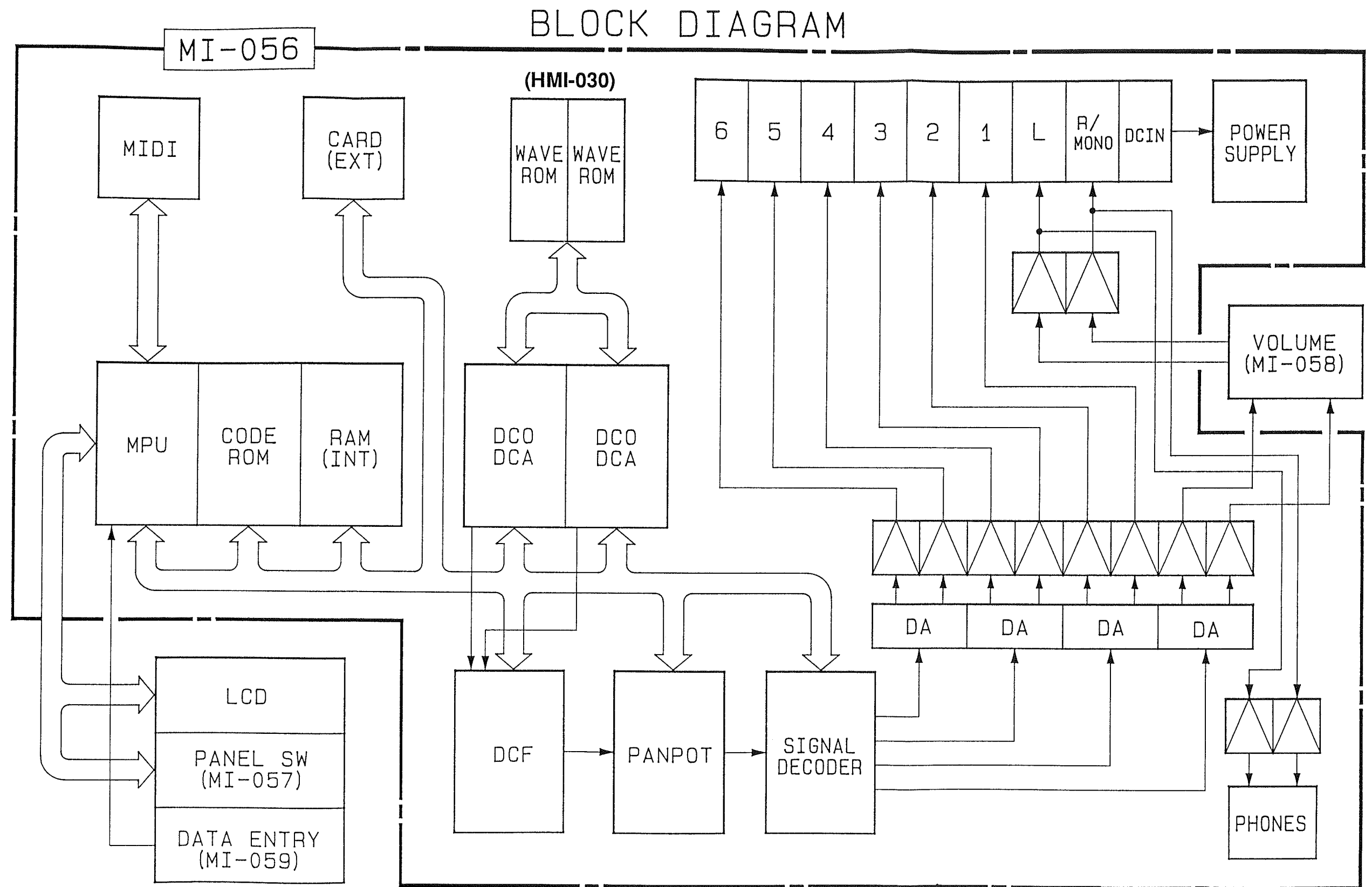
3. PARTS LIST

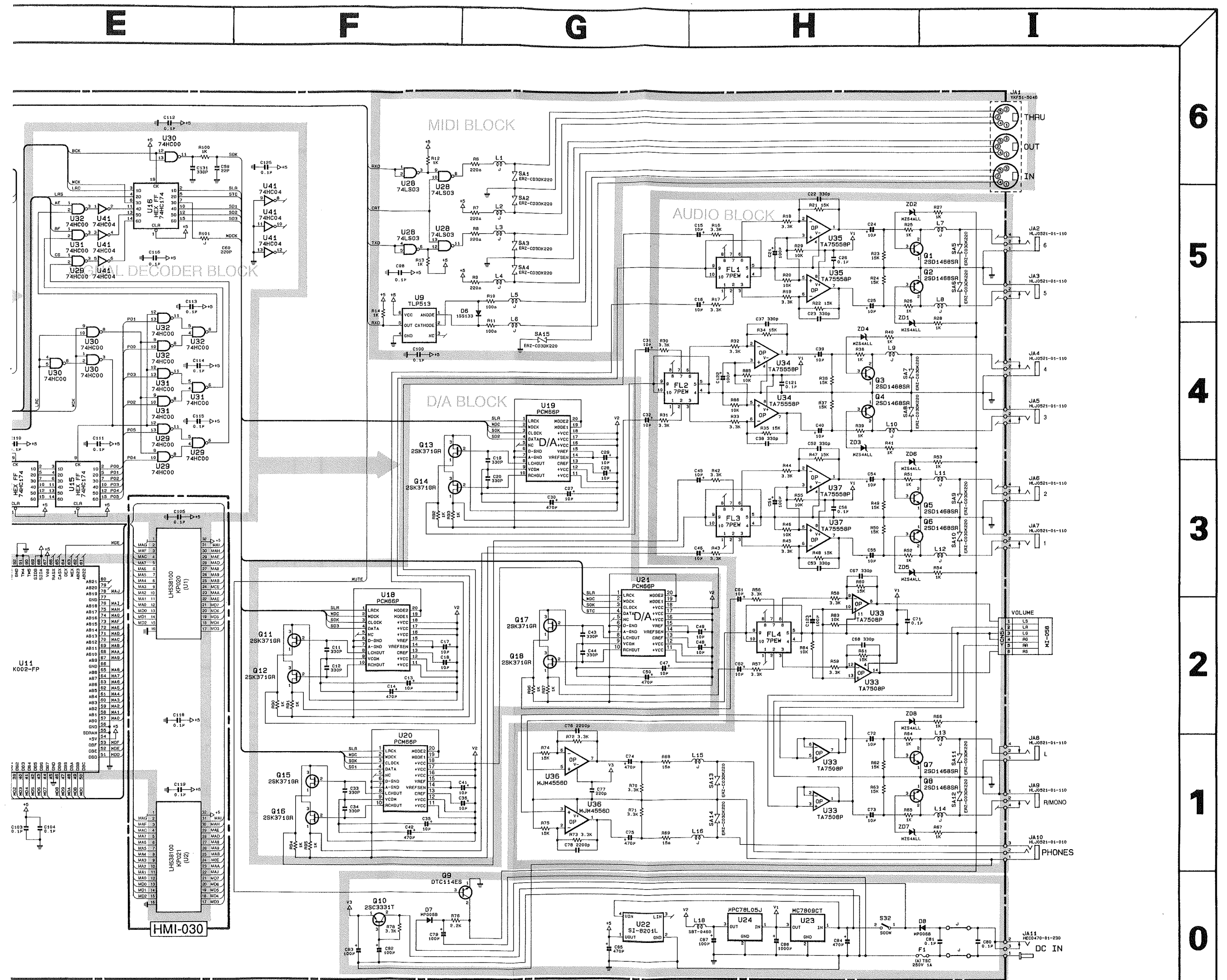
No.	Code No.	Name	Q'ty/Unit	Country
	806252	AC Adapter PS-121 D2	1	Japan
	806253	AC Adapter PS-121 U2	1	U.S.A., CSA, 110V Markets
	803351	AC Adapter PS-121 N	1	200V Markets
	803352	AC Adapter PS-121 S	1	Australia
	804351	AC Adapter PS-121 G	1	U.K., 220/240V Markets
	804504	AC Adapter PS-121 W	1	West Germany
	803363	Power Jack	1	All Markets
	802960	Phone Jack : HLJ0541-01-010	1	All Markets
	805123	Fuse TSC 1A 250V	1	Japan
	803622	Fuse MT4 1A 250V	1	U.S.A., Canada
	803628	Fuse SET 1A	1	Europe
	805000	Jack	8	All Markets
	805736	MIDI Connector	1	All Markets
	806070	Power Switch	1	All Markets
1	806613	Front Panel	1	All Markets
2	806046	Lithium Battery : CR2032	1	All Markets
3	919695	Lower Case	1	All Markets
4	806071	LCD : DMC16205-NY-LY1	1	All Markets
5	803501	Scotch Tape	2	All Markets
6	919690	Upper Case	1	All Markets
7	806083	Foot (black)	4	All Markets
8	806634	Volume Knob	2	All Markets
9	806081	LCD Cover	1	All Markets
10	806708	Knob (gray)	1	All Markets
11	921190	Rack Adapter	2	All Markets
	236336	PCB Set MI-056 ~ 059 (4)	1	Japan, 110/220/240V
	236337	PCB Set MI-056 ~ 059 (5)	1	U.S.A., Canada
	236338	PCB Set MI-056 ~ 059 (6)	1	Australia, U.K., Germany

4. DISASSEMBLY DRAWING

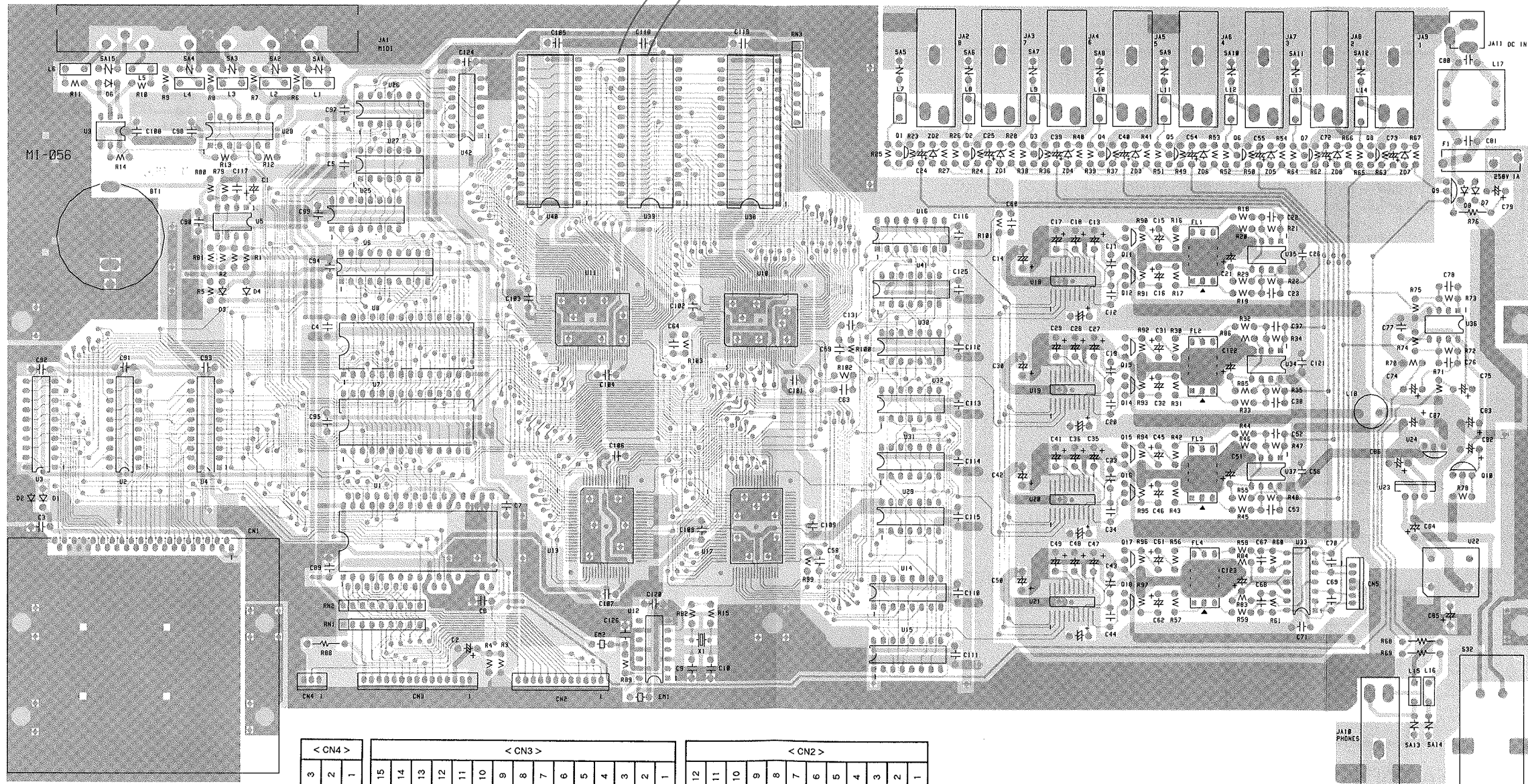


5. BLOCK DIAGRAM





7. MI-056, HMI-030 PRINTED WIRING BOARD



< CN4 >			
+5	3		
ANO	2		
GND	1		

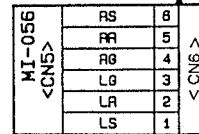
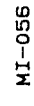
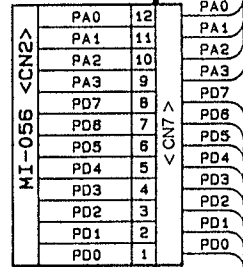
< CN3 >													
K	15												
PD7	14												
PD6	13												
PD5	12												
PD4	11												
PD3	10												
PD2	9												
PD1	8												
PD0	7												
ECLK	6												
R/W	5												
RSEL	4												
VEF	3												
+5	2												
GND	1												

< CN2 >											
PD0	12										
PD1	11										
PD2	10										
PA2	9										
PD3	8										
PD4	7										
PD5	6										
PD6	5										
PD7	4										
PA3	3										
PA1	2										
PA0	1										

< CN5 >		
1	LS	MI-056
2	LR	
3	LG	
4	RG	
5	RR	
6	RS	

< CN1 >																																		
38																																		
GND	37																																	
CDET	36																																	
VDD	35																																	
GND	34																																	
GND	33																																	
GND	32																																	
GND	31																																	
GND	30																																	
CA13	29																																	
CA12	28																																	
CA11	27																																	
CA10	26																																	
CA9	25																																	
CA8	24																																	
CA7	23																																	
CA6	22																																	
CA5	21																																	
CA4	20																																	
CA3	19																																	
CA2	18																																	
CA1	17																																	
CA0	16																																	
CD7	15																																	
CD6	14																																	
CD5	13																																	
CD4	12																																	
CD3	11																																	
CD2	10																																	
CD1	9																																	
CD0	8																																	
CDE	7																																	
CWE	6																																	
CRT	5																																	
CARD	4																																	
VDD	3																																	
	2																																	
GND	1																																	

I



A

B

C

D

E

F

G

H

I

9. MI-057, 058, 059 PRINTED WIRING BOARDS

6

5

4

3

2

1

0

6

5

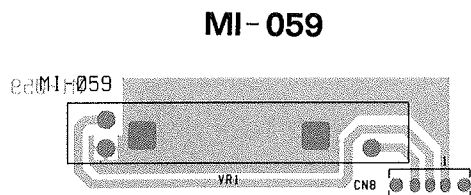
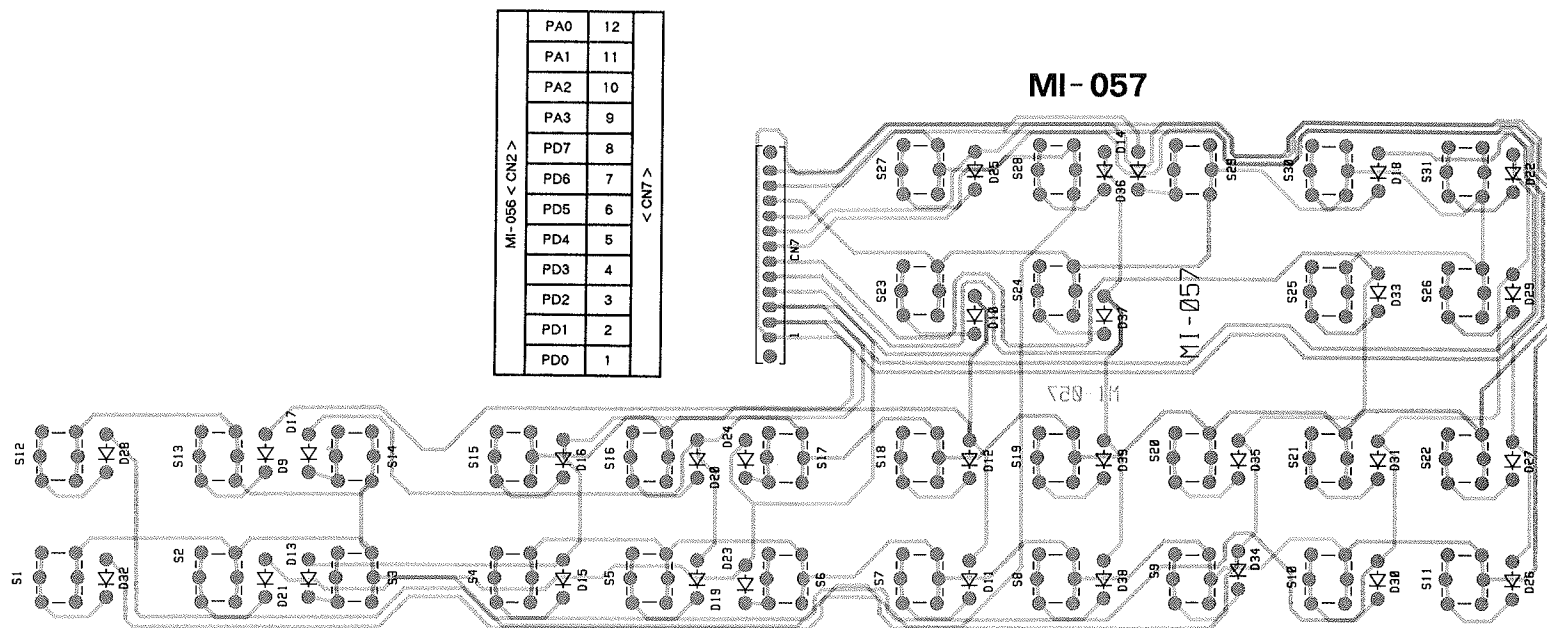
4

3

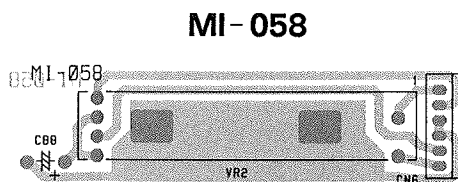
2

1

0



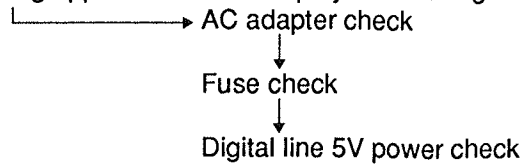
< CN8 >		
3	2	1
+ 5	ANO	GND
MI-058		
< CN4 >		



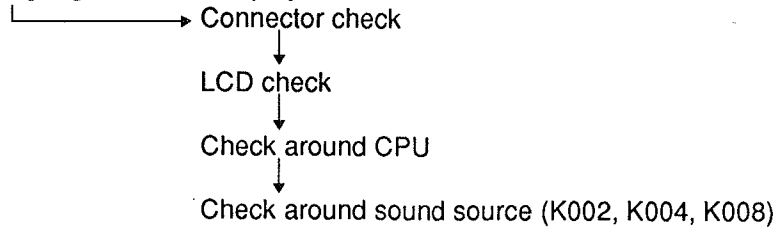
1	LS
2	LR
3	LG
4	RG
5	RR
6	RS
< CN6 >	
MI-056 < CN5 >	

10. TROUBLESHOOTING

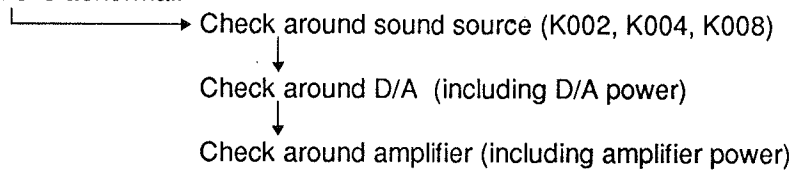
① Nothing appears on LCD display and backlight.



② Backlight goes on but display is abnormal.



③ Sound is abnormal.



④ No sound produced.

