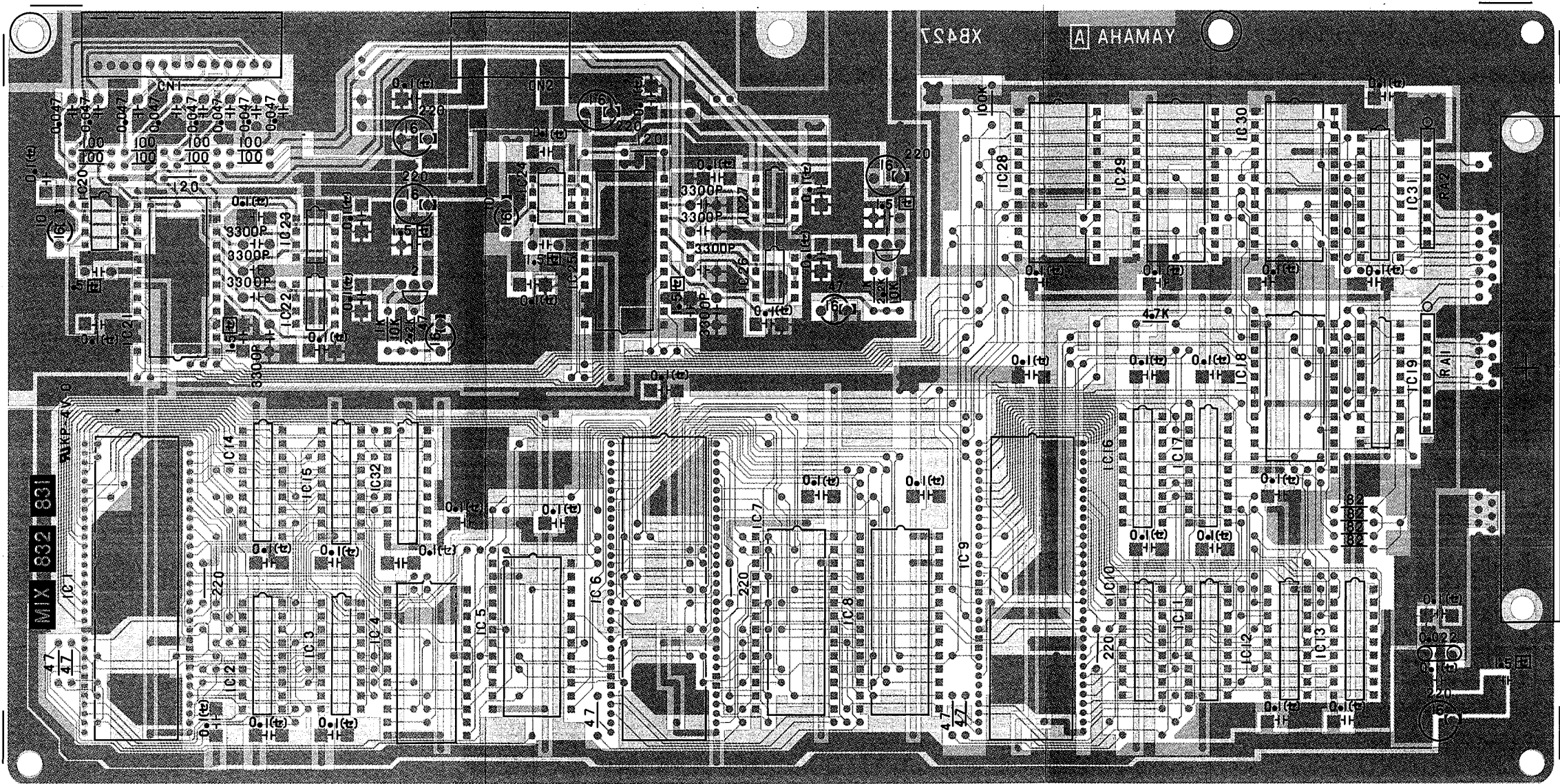


MIX CIRCUIT BOARD(MIXシート基板図)(HX3,5)



部品側 (Components side)



CN1

Pin No.	Pin Name	Destination
1	REVL	A-REVL (CN5-1)
2	L1	A-L1 (CN5-2)
3	L2	A-L2 (CN5-3)
4	REVR	A-REVR (CN5-4)
5	R1	A-R1 (CN5-5)
6	R2	A-R2 (CN5-6)
7	PKL	A-PKL (CN5-7)
8	PKR	A-PKR (CN5-8)
9	RHYL	A-RHYL (CN5-9)
10	RHYR	A-RHYR (CN5-10)
11	LDL	A-LDL (CN5-11)
12	LDR	A-LDR (CN5-12)
13	EA	A-EA (CN5-13)
14	EA	A-EA (CN5-14)

CN2

Pin No.	Pin Name	Destination
1	+15A	A- +15A (CN6-1)
2	+15A	A- +15A (CN6-2)
3	EA	A-EA (CN6-3)
4	EA	A-EA (CN6-4)
5	EA	A-EA (CN6-5)
6	EA	A-EA (CN6-6)
7	-15A	A- -15A (CN6-7)
8	-15A	A- -15A (CN6-8)

Notes)

- Circuit Board : XB427A0
- IC 1,6,9 : YM3804 (XA896001) DSP
IC 2,3,10~17,32 : MB81416-12 (IG122300) 64K DRAM
IC 4,5 : YM3807 (XA902001) MOD
IC 7,8 : μ PD4168C-15 (XB448001) 8K \times 8 SRAM
IC18,28~30 : YM3808 (XA798001) MIX
IC21,25 : YM3017 (XA800001) DAL
IC19,31 : TC74HC244P (IR024400) BUS BUFFER
IC20,22~24,26,27 : NJM4560ED (IG040000) OP AMP.
- Tr 1,2 : 2SC1815 Y, GR
- RA 1,2 : Resistor Array 100K Ω \times 8
- (ϵ) marked : Semiconductive Ceramic Cap.
 marked : Monolithic Ceramic Capacitor
 marked : EMI Filter

■ A CIRCUIT BOARD (Aシート基板図)(HX3,5)

CN1

Pin No.	Pin Name	Destination
1	EXIN	EIO-EXIN (CN1-1)
2	+15A	EIO- +15A (CN1-2)
3	EA	EIO-EA (CN1-3)
4	EA	EIO-EA (CN1-4)
5	-15A	EIO- -15A (CN1-5)
6	LO	EIO-LO (CN1-6)
7	RO	EIO-RO (CN1-7)
8	LCO+	EIO-LCO+ (CN1-8)
9	LCO-	EIO-LCO- (CN1-9)
10	RCO+	EIO-RCO+ (CN1-10)
11	RCO-	EIO-RCO- (CN1-11)
12	MICO	EIO-MICO (CN1-12)

CN2

Pin No.	Pin Name	Destination
1	MICT	CNB-MICT (CN-1)
2	MICV	CNB-MICV (CN-2)
3	+15A	CNB- +15A (CN-3)
4	EA	CNB-EA (CN-4)
5	-15A	CNB- -15A (CN-5)
6	HPIN	CNB-HPIN (CN-6)
7	HPL	CNB-HPL (CN-7)
8	HPR	CNB-HPR (CN-8)
9	EA	CNB-EA (CN-9)
10	NC	CNB-NC (CN-10)

CN4

Pin No.	Pin Name	Destination
1	EXP	MSC-EXP (CN1-1)
2	MV	MSC-MV (CN1-2)
3	+15D	MSC- +15D (CN1-3)
4	ED	MSC-ED (CN1-4)
5	-15D	MSC- -15D (CN1-5)
6	RSQ	MSC-RSQ (CN1-6)

CN5

Pin No.	Pin Name	Destination
1	REVL	MIX-REVL (CN1-1)
2	L1	MIX-L1 (CN1-2)
3	L2	MIX-L2 (CN1-3)
4	REVR	MIX-REVR (CN1-4)
5	R1	MIX-R1 (CN1-5)
6	R2	MIX-R2 (CN1-6)
7	PKL	MIX-PKL (CN1-7)
8	PKR	MIX-PKR (CN1-8)
9	RHYL	MIX-RHYL (CN1-9)
10	RHYR	MIX-RHYR (CN1-10)
11	LDL	MIX-LDL (CN1-11)
12	LDR	MIX-LDR (CN1-12)
13	EA	MIX-EA (CN1-13)
14	EA	MIX-EA (CN1-14)

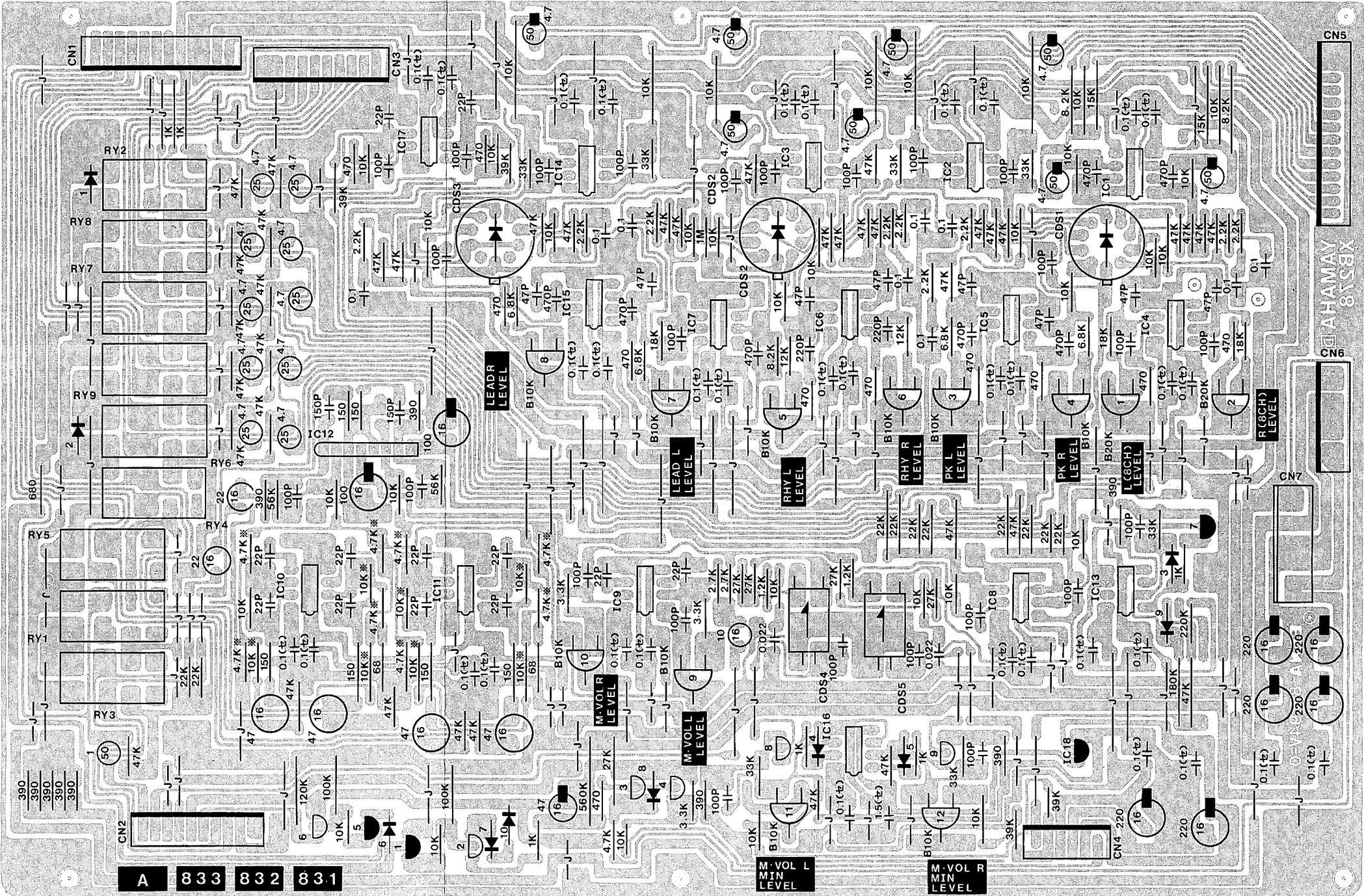
CN6

Pin No.	Pin Name	Destination
1	+15A	MIX- +15A (CN2-1)
2	+15A	MIX- +15A (CN2-2)
3	EA	MIX-EA (CN2-3)
4	EA	MIX-EA (CN2-4)
5	EA	MIX-EA (CN2-5)
6	EA	MIX-EA (CN2-6)
7	-15A	MIX- -15A (CN2-7)
8	-15A	MIX- -15A (CN2-8)

CN7

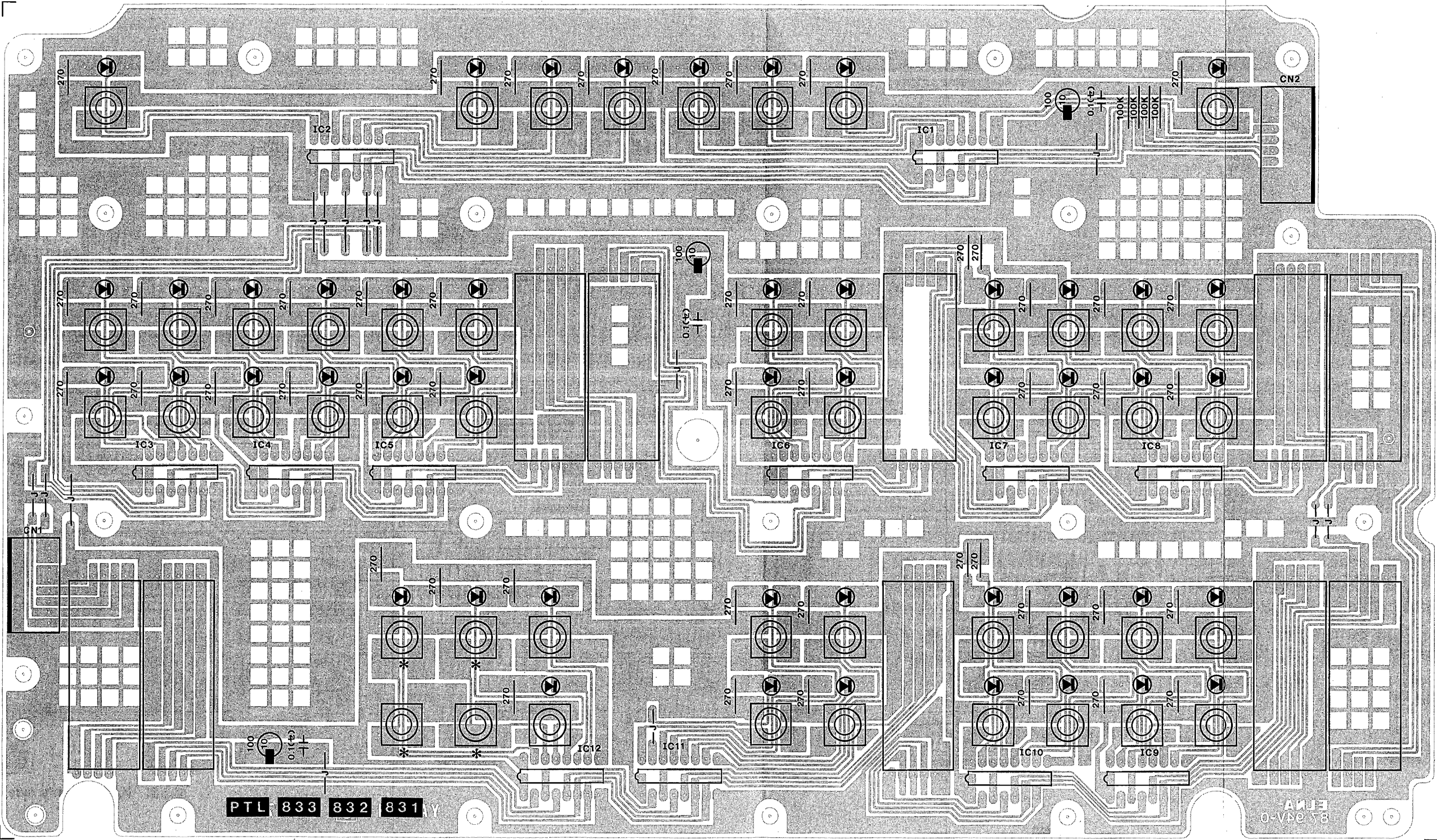
Pin No.	Pin Name	Destination
1	+15A	CNA- +15A (CN2-18)
2	EA	CNA-EA (CN2-21)
3	EA	CNA-EA (CN2-22)
4	-15A	CNA- -15A (CN2-19)
5	-20	CNA- -20 (CN2-20)

- Notes)
- Circuit Board : XB278D0
- IC 3,7,13,16 : NJM4558DV (IG001390) OP AMP.
IC 6,10,11,17 : NJM4556 (IG042500) OP AMP.
IC12 : M5216L (XB419001) OP AMP.
IC18 : NJM79L09A (XC139001) REGULATOR
- Tr 1 : 2SA950 Y
Tr 2~4,6,8,9 : 2SC1815 Y, GR
Tr 5,7 : 2SA1015 Y
- D 1~10 : 1SS176
- CDS2 : Photo Coupler P653-05
CDS4,5 : Photo Coupler P873-27
- RY 1~5 : Relay RY-24W
- Resistor * marked : Metal Film Resistor 1/6W



部品側 (Components side)

PTL CIRCUIT BOARD (PTLシート基板図)(HX3,5)



CN1

Pin No.	Pin Name	Destination
1	Vss	CP1-Vss (CN1-1)
2	Vss	CP1-Vss (CN1-2)
3	VDD	CP1-VDD (CN1-3)
4	VDD	CP1-VDD (CN1-4)
5	SDi	CP1-SDi (CN1-5)
6	RDi	CP1-RDi (CN1-6)
7	φ	CP1-φ (CN1-7)
8	G/L	CP1-G/L (CN1-8)

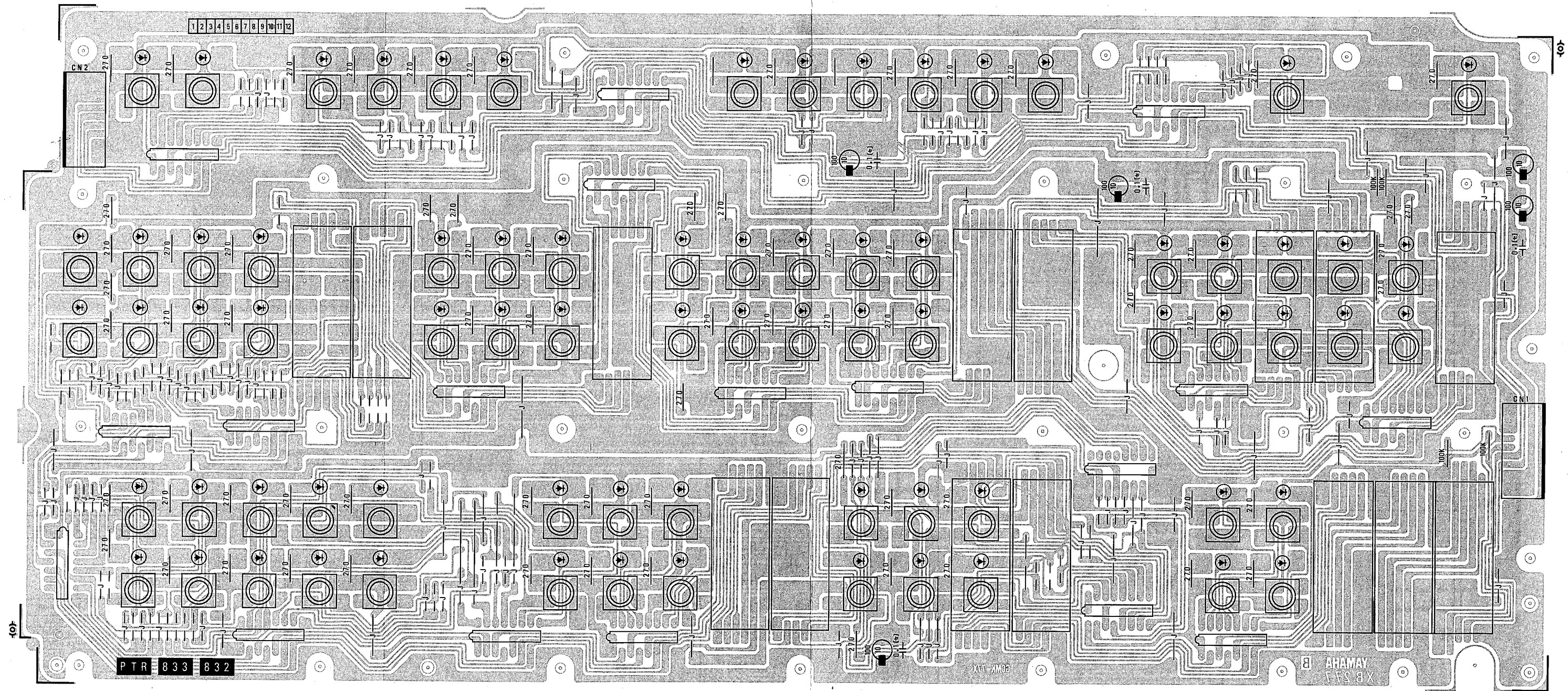
CN2

Pin No.	Pin Name	Destination
1	Vss	PTR-Vss (CN2-1)
2	Vss	PTR-Vss (CN2-2)
3	Vss	PTR-Vss (CN2-3)
4	G/L	PTR-G/L (CN2-4)
5	φ	PTR-φ (CN2-5)
6	RDi	PTR-RDi (CN2-6)
7	SDi	PTR-SDi (CN2-7)
8	VDD	PTR-VDD (CN2-8)
9	VDD	PTR-VDD (CN2-9)
10	VDD	PTR-VDD (CN2-10)

部品側 (Components side)

- Notes)
Circuit Board : XB276C0
IC 1 ~ 12 : T7617 (IG143200) DRV3
S4996-1 ~ 8 : 7-Segment Volume (VB856100)
LED (All) : LT1D21A (VB254500)
- (セ) marked : Semiconductive Ceramic Cap.
Push Switch : KEV10903 (KA906960)
* marked : SKEVAD001A (KA907010)
Others :

■PTR CIRCUIT BOARD (PTRシート基板図)(HX3)



部品側 (Components side)

- Notes)
- Circuit Board : XB277B0
- IC 1~16 : T7617 (IG143200) DRV3
- S4996-1~12 : 7-Segment Volume (VB856100)
- LED (All) : LT1D21A (VB254500)
- (セ) marked : Semiconductive Ceramic Cap.
- Push Switch : SKEVAD001A (KA907010)

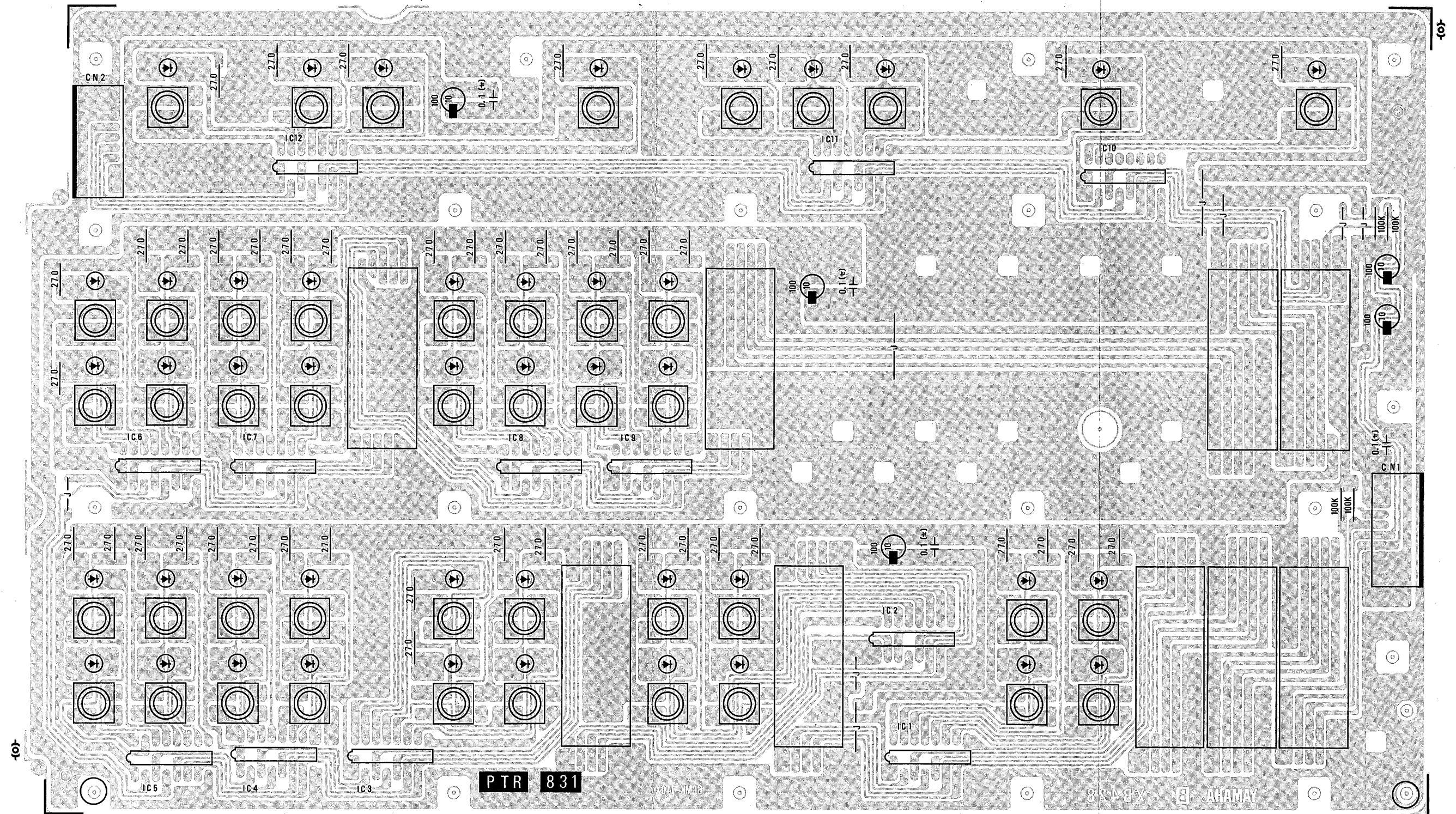
CN1

Pin No.	Pin Name	Destination
1	Vss	MSC-Vss (CN3-1)
2	Vss	MSC-Vss (CN3-2)
3	Vss	MSC-Vss (CN3-3)
4	G/L	MSC-G/L (CN3-4)
5	φ	MSC-φ (CN3-5)
6	RDi	MSC-RDi (CN3-6)
7	SDi	MSC-SDi (CN3-7)
8	VDD	MSC-VDD (CN3-8)
9	VDD	MSC-VDD (CN3-9)
10	VDD	MSC-VDD (CN3-10)

CN2

Pin No.	Pin Name	Destination
1	Vss	PTL-Vss (CN2-1)
2	Vss	PTL-Vss (CN2-2)
3	Vss	PTL-Vss (CN2-3)
4	G/L	PTL-G/L (CN2-4)
5	φ	PTL-φ (CN2-5)
6	RDi	PTL-RDi (CN2-6)
7	SDi	PTL-SDi (CN2-7)
8	VDD	PTL-VDD (CN2-8)
9	VDD	PTL-VDD (CN2-9)
10	VDD	PTL-VDD (CN2-10)

■PTR CIRCUIT BOARD(PTRシート基板図)(HX5)



- Notes)
- Circuit Board : XB428B0
- IC 1~12 : T7617 (IG143200) DRV3
- S4996-1~9 : 7-Segment Volume (VB586100)
- LED (All) : LT1D21A (VB254500)
- (ϵ) marked : Semiconductive Ceramic Cap.
- Push Switch : SKEVAD001A (KA907010)

CN1

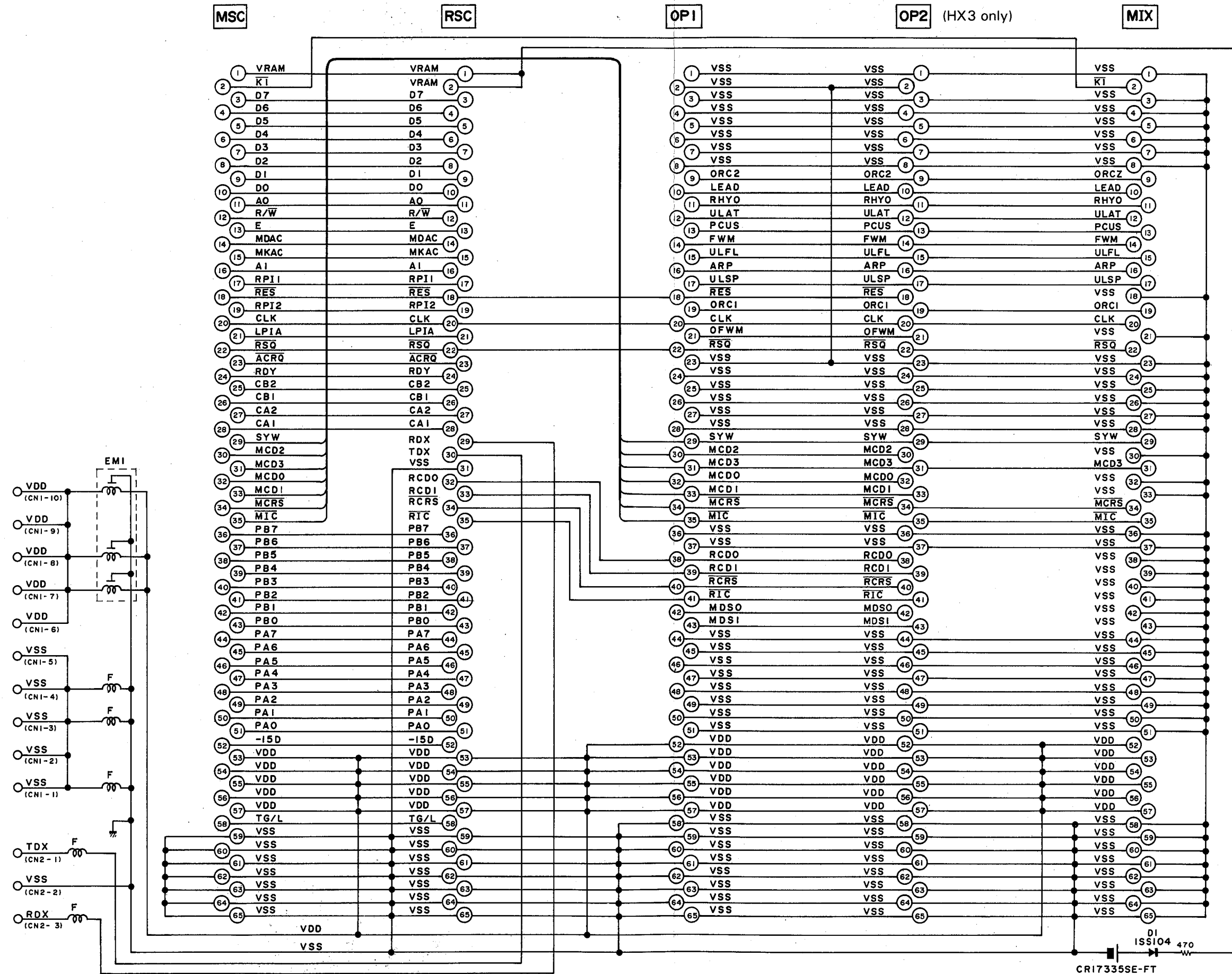
Pin No.	Pin Name	Destination
1	Vss	MSC-Vss (CN3-1)
2	Vss	MSC-Vss (CN3-2)
3	Vss	MSC-Vss (CN3-3)
4	G/L	MSC-G/L (CN3-4)
5	ϕ	MSC- ϕ (CN3-5)
6	RDi	MSC-RDi (CN3-6)
7	SDi	MSC-SDi (CN3-7)
8	VDD	MSC-VDD (CN3-8)
9	VDD	MSC-VDD (CN3-9)
10	VDD	MSC-VDD (CN3-10)

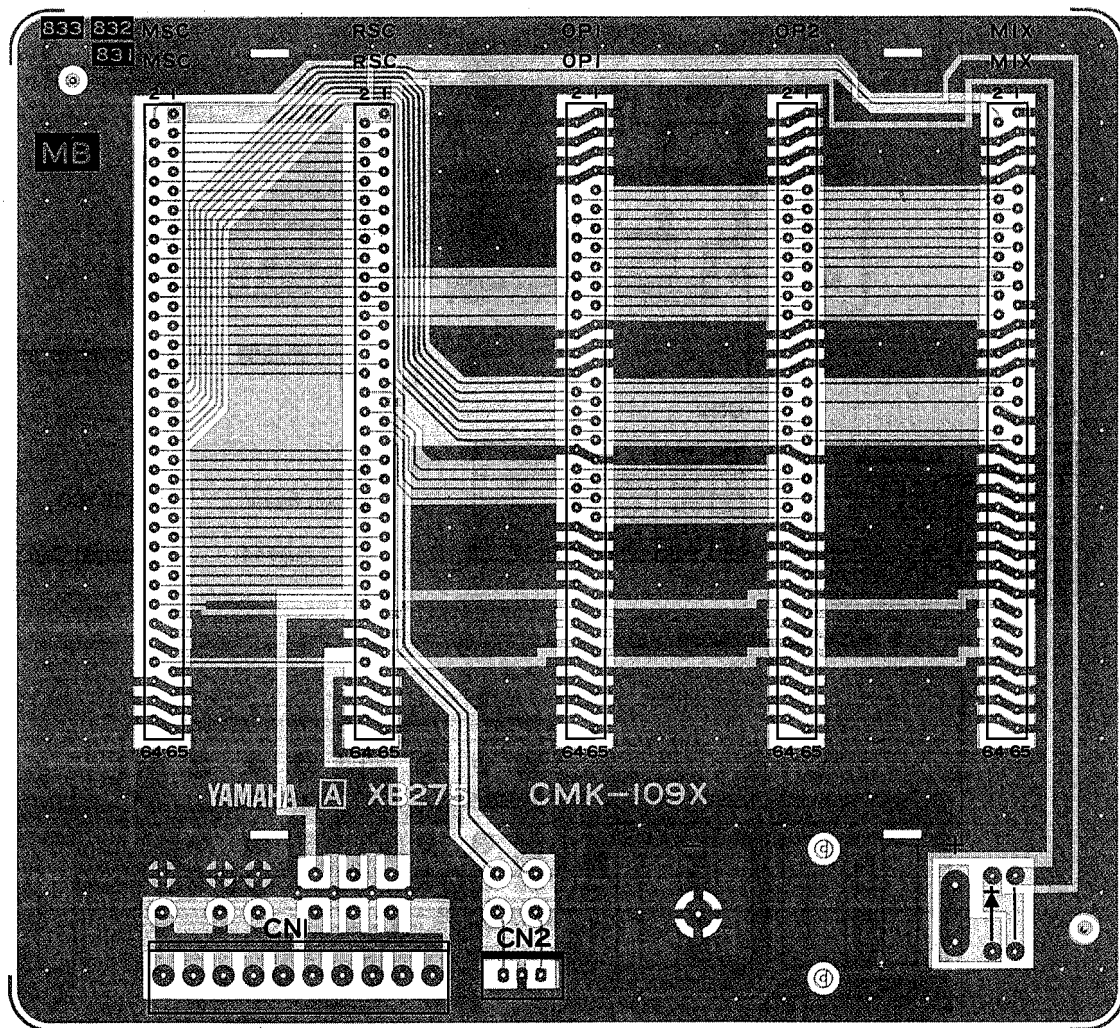
CN2

Pin No.	Pin Name	Destination
1	Vss	PTL-Vss (CN2-1)
2	Vss	PTL-Vss (CN2-2)
3	Vss	PTL-Vss (CN2-3)
4	G/L	PTL-G/L (CN2-4)
5	ϕ	PTL- ϕ (CN2-5)
6	RDi	PTL-RDi (CN2-6)
7	SDi	PTL-SDi (CN2-7)
8	VDD	PTL-VDD (CN2-8)
9	VDD	PTL-VDD (CN2-9)
10	VDD	PTL-VDD (CN2-10)

部品側 (Components side)

■MB CIRCUIT BOARD(MBシート基板図)(HX3,5)





部品側 (Components side)

Notes)
 Circuit Board : XB275A0
 D 1 : 1SS104

CN1

Pin No.	Pin Name	Destination
1	Vss	CNA-Vss (CN-2)
2	Vss	CNA-Vss (CN-4)
3	Vss	CNA-Vss (CN-6)
4	Vss	CNA-Vss (CN-8)
5	Vss	CNA-Vss (CN-10)
6	VDD	CNA-VDD (CN-1)
7	VDD	CNA-VDD (CN-3)
8	VDD	CNA-VDD (CN-5)
9	VDD	CNA-VDD (CN-7)
10	VDD	CNA-VDD (CN-9)

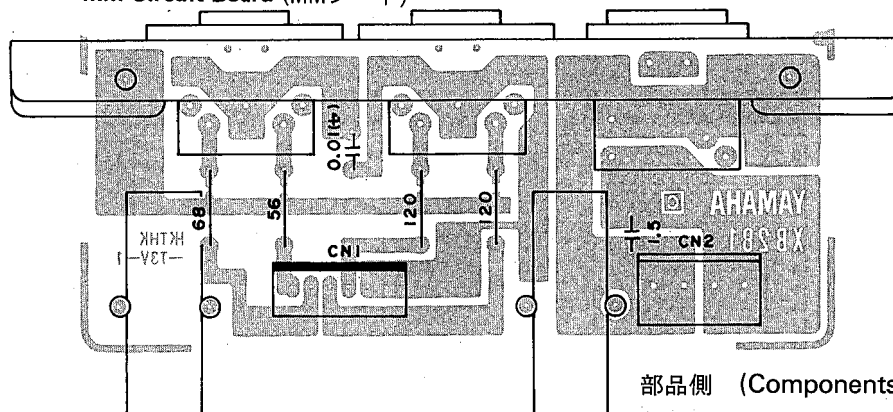
CN2

Pin No.	Pin Name	Destination
1	RX	CNA-RX (CN-23)
2	Vss	CNA-Vss (CN-24)
3	TX	CNA-TX (CN-25)

2NA-VB76160 : HX3
 2NA-VB88070 : HX5

■ MM・EIO CIRCUIT BOARDS (MM・EIOシート基板図)(HX3,5)

● MM Circuit Board (MMシート)



CN1

Pin No.	Pin Name	Destination
1	IN1	RSC-IN1 (CN1-1)
2	IN2	RSC-IN2 (CN1-2)
3	OUT1	RSC-OUT1 (CN1-3)
4	OUT2	RSC-OUT2 (CN1-4)
5	OUT3	RSC-OUT3 (CN1-5)
6	OUT3	RSC-OUT3 (CN1-6)

CN2

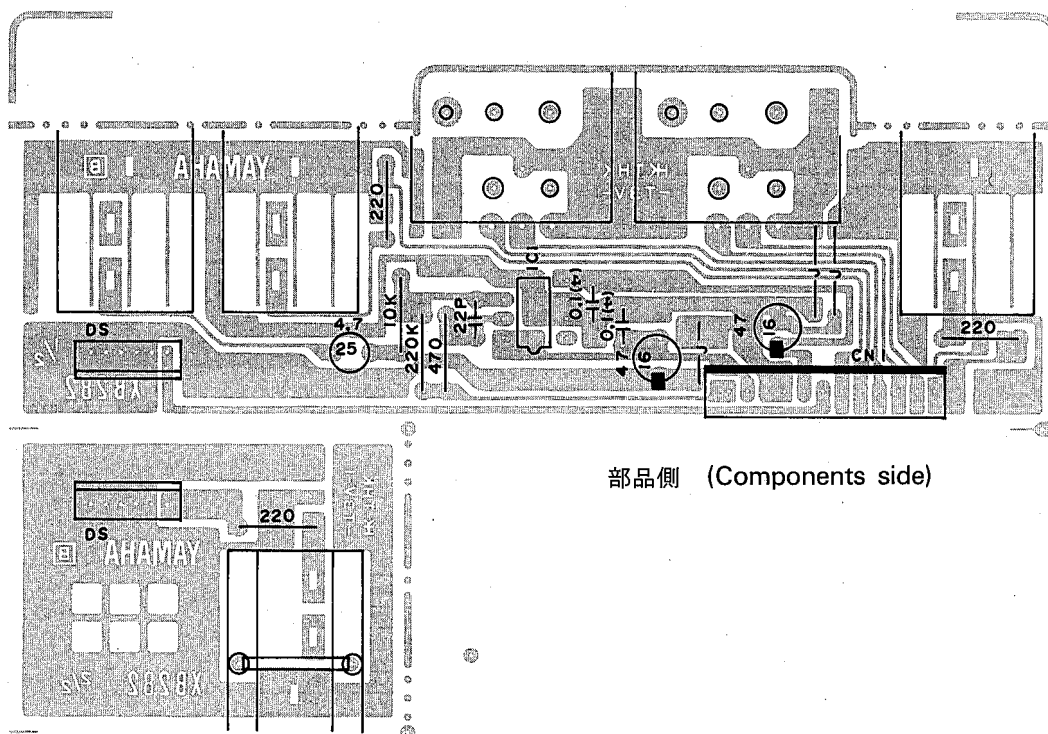
Pin No.	Pin Name	Destination
1	Vss	CNA-Vss (CN-15)
2	Vss	CNA-Vss (CN-17)
3	VDD	CNA-VDD (CN-14)
4	VDD	CNA-VDD (CN-16)

Notes)

Circuit Board : XB281C0

(セ) marked : Ceramic Cap.

● EIO Circuit Board (EIOシート)



CN1

Pin No.	Pin Name	Destination
1	EXIN	A-EXIN (CN1-1)
2	+15A	A- +15A (CN1-2)
3	EA	A-EA (CN1-3)
4	EA	A-EA (CN1-4)
5	-15A	A- -15A (CN1-5)
6	LO	A-LO (CN1-6)
7	RO	A-RO (CN1-7)
8	LCO+	A-LCO+ (CN1-8)
9	LCO-	A-LCO- (CN1-9)
10	RCO+	A-RCO+ (CN1-10)
11	RCO-	A-RCO- (CN1-11)
12	MICO	A-MICO (CN1-12)

Notes)

Circuit Board : XB282B0

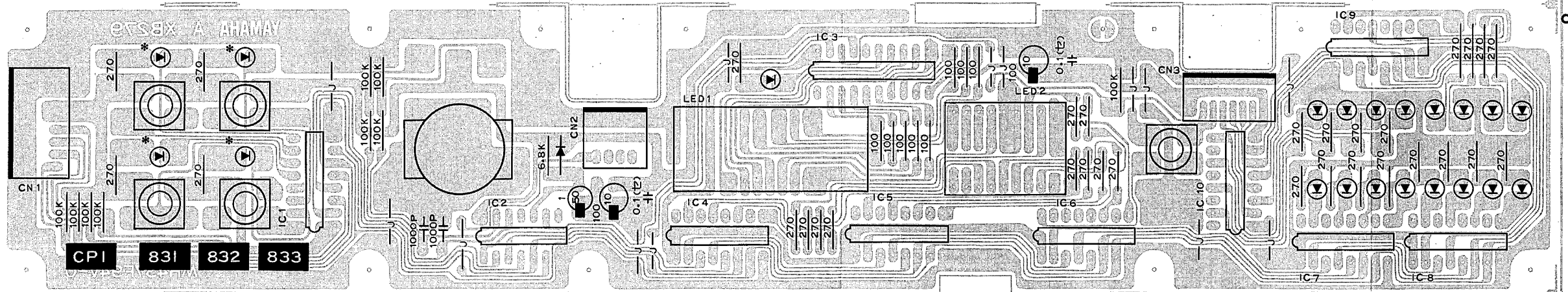
IC 1 : NJM4558DV (IG001390) OP AMP.

(セ) marked : Semiconductive Ceramic Cap.

2NA-VB76240 △ : MM
2NA-VB76250 △ : EIO

■CP1・CP2 CIRCUIT BOARDS(CP1・CP2シート基板図)(HX3,5)

- **CP1 Circuit Board (CPIシート)**



Notes)

Circuit Board : XB279A0

IC 1,4~10	: T7617 (IG143200) DRV3
IC 2	: T7648A (IG150810) DRI3
IC 3	: DRIVER (IG080800)

D 1 : 1SS176

LED 1 : SL-1060-07 (VB908700)

LED2 : SL-2273-20 (VB908800)

* marked : LT1D21A (VB254500)

(ㄗ) marked : Semiconductive Ceramic Cap.

Resistor : 1/6W

Rotary Encoder : EC24B30D

Push Switch : SKEVAD001A (KA907010)

CN1

Pin No.	Pin Name	Destination
1	Vss	PTL-Vss (CN1-1)
2	Vss	PTL-Vss (CN1-2)
3	VDD	PTL-VDD (CN1-3)
4	VDD	PTL-VDD (CN1-4)
5	SDi	PTL-SDo (CN1-5)
6	RDi	PTL-RDo (CN1-6)
7	ϕ	PTL-G/L (CN1-7)
8	G/L	PTL-G/L (CN1-8)

CN2

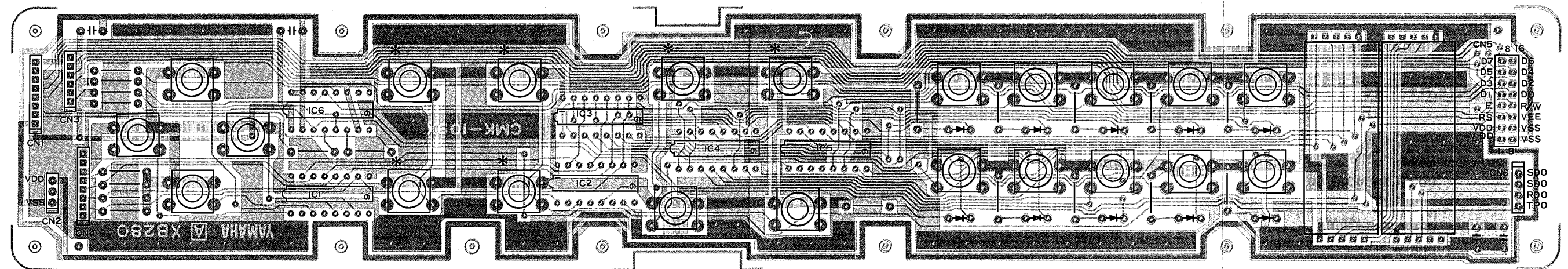
Pin No.	Pin Name	Destination
1	NC	RSC-V _{SS} (CN3-1)
2	NC	RSC-V _{SS} (CN3-2)
3	NC	RSC-V _{SS} (CN3-3)
4	TG/L	RSC-TG/L (CN3-4)

部品側 (Components side)
CN3

Pin No.	Pin Name	Destination
1	Vss	CP2-Vss (CN4-8)
2	TPO	CP2-TPO (CN4-7)
3	VDD	CP2-VDD (CN4-6)
4	SD _O	CP2-SDI (CN4-5)
5	RD _O	CP2-RDi (CN4-4)
6	ϕ	CP2- ϕ (CN4-3)
7	G/L	CP2-G/L (CN4-2)
8	Vss	CP2-Vss (CN4-1)

- **CP2 Circuit Board (CP2シート)**

Push Switch : SKEVAD001A (KA907010)



Notes)


Circuit Board : XB280A0

IC 1~5 : T7617 (IG143200) DRV3
IC6 : TC74HC365P (IR036500) DRIVERS

S4996 : 7-Segment Volume (VB586100)

Resistor (All) : 1/4W

(セ) marked : Semiconductive Ceramic Cap.

 marked : Monolithic Ceramic Capacitor

Push Switch
* marked : KEV10903 (KA906960)
Others : KEV10003 (KA907010)

CN1

Pin No.	Pin Name	Destination
1	VDD	LCD-VDD (CN1-1)
2	RS	LCD-RS (CN1-2)
3	E	LCD-E (CN1-3)
4	D1	LCD-D1 (CN1-4)
5	D3	LCD-D3 (CN1-5)
6	D5	LCD-D5 (CN1-6)
7	D7	LCD-D7 (CN1-7)
8	Vss	LCD-Vss (CN1-8)

CN3

Pin No.	Pin Name	Destination
1	VEE	LCD-VEE (CN1-9)
2	R/W	LCD-R/W (CN1-10)
3	D0	LCD-D0 (CN1-11)
4	D2	LCD-D2 (CN1-12)
5	D4	LCD-D4 (CN1-13)
6	D6	LCD-D6 (CN1-14)

CN5

Pin No.	Pin Name	Destination
1	VDD	RSC-VDD (CN2-3)
2	VDD	RSC-VDD (CN5-1)
3	RS	RSC-RS (CN5-2)
4	E	RSC-E (CN5-3)
5	D1	RSC-D1 (CN5-4)
6	D3	RSC-D3 (CN5-5)
7	D5	RSC-D5 (CN5-6)
8	D7	RSC-D7 (CN5-7)
9	VSS	RSC-VSS (CN2-1)
10	VSS	RSC-VSS (CN5-8)
11	VEE	RSC-VEE (CN5-9)
12	R/W	RSC-R/W (CN5-10)
13	D0	RSC-D0 (CN5-11)
14	D2	RSC-D2 (CN5-12)
15	D4	RSC-D4 (CN5-13)
16	D6	RSC-D6 (CN5-14)

部品側 (Components side)

CN6

Pin No.	Pin Name	Destination
1	SDo	MSC-SDi (CN4-1)
2	SDo	MSC-SDi (CN4-2)
3	RDo	MSC-RDi (CN4-3)
4	TPO	MSC-TPO (CN4-4)

. CN2

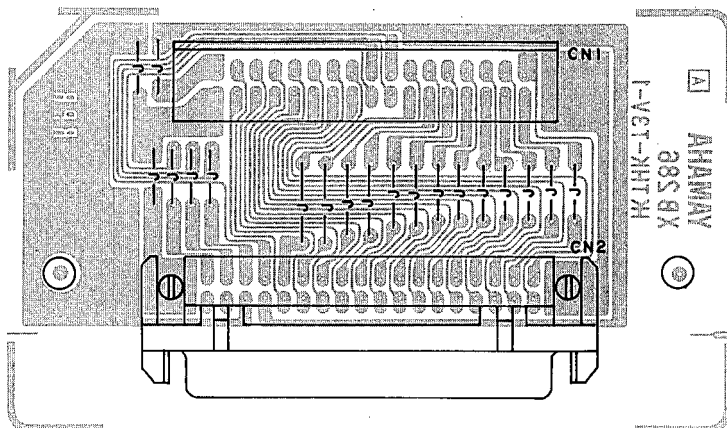
Pin No.	Pin Name	Destination
1	Vss	LCD-Vss (CN2-1)
2	NC	
3	VDD	LCD-VDD (CN2-3)

CN4

Pin No.	Pin Name	Destination
1	V _{SS}	CP1-V _{SS} (CN3-8)
2	G/L	CP1-G/L (CN3-7)
3	O	CP1-O (CN3-6)
4	RD _i	CP1-RD _o (CN3-5)
5	SD _i	CP1-SD _o (CN3-4)
6	V _{DD}	CP1-V _{DD} (CN3-3)
7	TPO	CP1-TPO (CN3-2)
8	V _{SS}	CP1-V _{SS} (CN3-1)

2NA-VB76210 \triangle_3 : CP1
2NA-VB76230 \triangle_3 : CP2

■ RPR CIRCUIT BOARD (RPRシート基板図)(HX3,5)



部品側 (Components side)

Circuit Board : XB286A0

CN1

Pin No.	Pin Name	Destination
1	A15	RSC-A15 (CN4-1)
2	A14	RSC-A14 (CN4-2)
3	A13	RSC-A13 (CN4-3)
4	A12	RSC-A12 (CN4-4)
5	A11	RSC-A11 (CN4-5)
6	A10	RSC-A10 (CN4-6)
7	A9	RSC-A9 (CN4-7)
8	A8	RSC-A8 (CN4-8)
9	A7	RSC-A7 (CN4-9)
10	A6	RSC-A6 (CN4-10)
11	A5	RSC-A5 (CN4-11)
12	A4	RSC-A4 (CN4-12)
13	A3	RSC-A3 (CN4-13)
14	A2	RSC-A2 (CN4-14)
15	A1	RSC-A1 (CN4-15)
16	A0	RSC-A0 (CN4-16)
17	MIN	RSC-MIN (CN4-17)
18	NC	RSC-NC (CN4-18)
19	WP	RSC-WP (CN4-19)
20	RDY	RSC-RDY (CN4-20)
21	CS	RSC-CS (CN4-21)
22	OE	RSC-OE (CN4-22)
23	R/W	RSC-R/W (CN4-23)
24	A16	RSC-A16 (CN4-24)
25	D7	RSC-D7 (CN4-25)
26	D6	RSC-D6 (CN4-26)
27	D5	RSC-D5 (CN4-27)
28	D4	RSC-D4 (CN4-28)
29	D3	RSC-D3 (CN4-29)
30	D2	RSC-D2 (CN4-30)
31	D1	RSC-D1 (CN4-31)
32	D0	RSC-D0 (CN4-32)
33	VDD	RSC-VDD (CN4-33)
34	Vss	RSC-Vss (CN4-34)

CN2

Pin No.	Pin Name	Destination
1	A15	MKX module -CNC-1
2	A14	MKX module -CNC-2
3	A13	MKX module -CNC-3
4	A12	MKX module -CNC-4
5	A11	MKX module -CNC-5
6	A10	MKX module -CNC-6
7	A9	MKX module -CNC-7
8	A8	MKX module -CNC-8
9	A7	MKX module -CNC-9
10	A6	MKX module -CNC-10
11	A5	MKX module -CNC-11
12	A4	MKX module -CNC-12
13	A3	MKX module -CNC-13
14	A2	MKX module -CNC-14
15	A1	MKX module -CNC-15
16	A0	MKX module -CNC-16
17	MIN	MKX module -CNC-17
18	NC	MKX module -CNC-18
19	WP	MKX module -CNC-19
20	RDY	MKX module -CNC-20
21	CS	MKX module -CNC-21
22	OE	MKX module -CNC-22
23	R/W	MKX module -CNC-23
24	A16	MKX module -CNC-24
25	D7	MKX module -CNC-25
26	D6	MKX module -CNC-26
27	D5	MKX module -CNC-27
28	D4	MKX module -CNC-28
29	D3	MKX module -CNC-29
30	D2	MKX module -CNC-30
31	D1	MKX module -CNC-31
32	D0	MKX module -CNC-32
33	VDD	MKX module -CNC-33
34	Vss	MKX module -CNC-34
35	NC	MKX module -CNC-35
36	NC	MKX module -CNC-36

2NA-VB76290 △

■ COMMUNICATION CONNECTOR TO MKX MODULE (MKXとのコミュニケーション コネクタ)

CNA

(to MKX module CNA)

Pin No.	Pin Name	Destination
1	Vss	MB-Vss (CN1-6)
2	Vss	MB-Vss (CN1-1)
3	VDD	MB-VDD (CN1-7)
4	Vss	MB-Vss (CN1-2)
5	VDD	MB-VDD (CN1-8)
6	Vss	MB-Vss (CN1-3)
7	VDD	MB-VDD (CN1-9)
8	Vss	MB-Vss (CN1-4)
9	VDD	MB-VDD (CN1-10)
10	Vss	MB-Vss (CN1-5)
11	+15A	MSC- +15D (CN2-1)
12	EA	MSC-ED (CN2-2)
13	-15A	MSC- -15D (CN2-3)
14	VDD	MM-VDD (CN2-3)
15	Vss	MM-Vss (CN2-1)
16	VDD	MM-VDD (CN2-4)
17	Vss	MM-Vss (CN2-2)
18	+15A	A- +15A (CN7-1)
19	-15A	A- -15A (CN7-4)
20	-20	A- -20 (CN7-5)
21	EA	A-EA (CN7-2)
22	EA	A-EA (CN7-3)
23	RX	MB-RX (CN2-1)
24	Vss	MB-Vss (CN2-2)
25	TX	MB-TX (CN2-3)

CNB

(to MKX module CNB)

Pin No.	Pin Name	Destination
1	MICV	A-MICT (CN2-1)
2	MICV	A-MICV (CN2-2)
3	+15A	A- +15A (CN2-3)
4	EA	A-EA (CN2-4)
5	-15A	A- -15A (CN2-5)
6	HPIN	A-HPIN (CN2-6)
7	HPL	A-HPL (CN2-7)
8	HPR	A-HPR (CN2-8)
9	EA	A-EA (CN2-9)
10	NC	A-NC (CN2-10)