

MMP-2

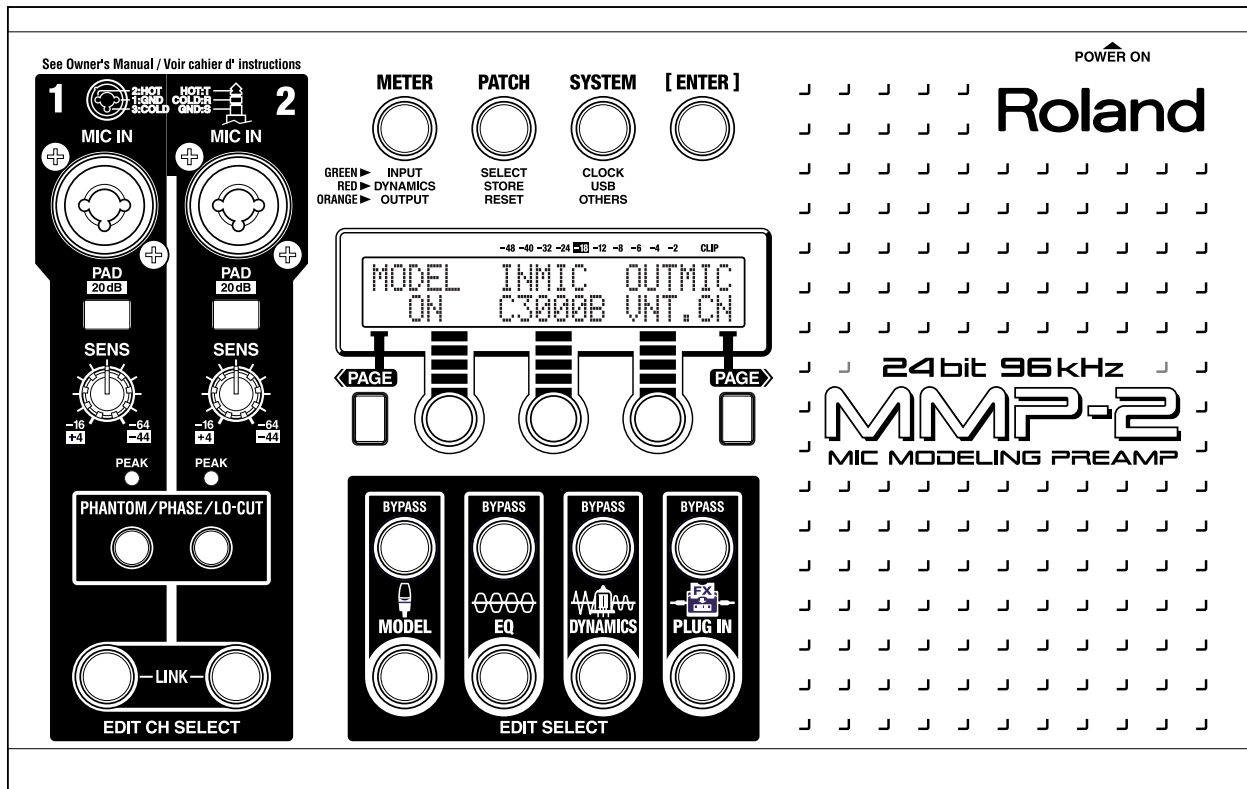
MIC MODELING PREAMP

SERVICE NOTES

Issued by RJA

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SPECIFICATIONS

MMP-2: MIC MODELING PREAMP

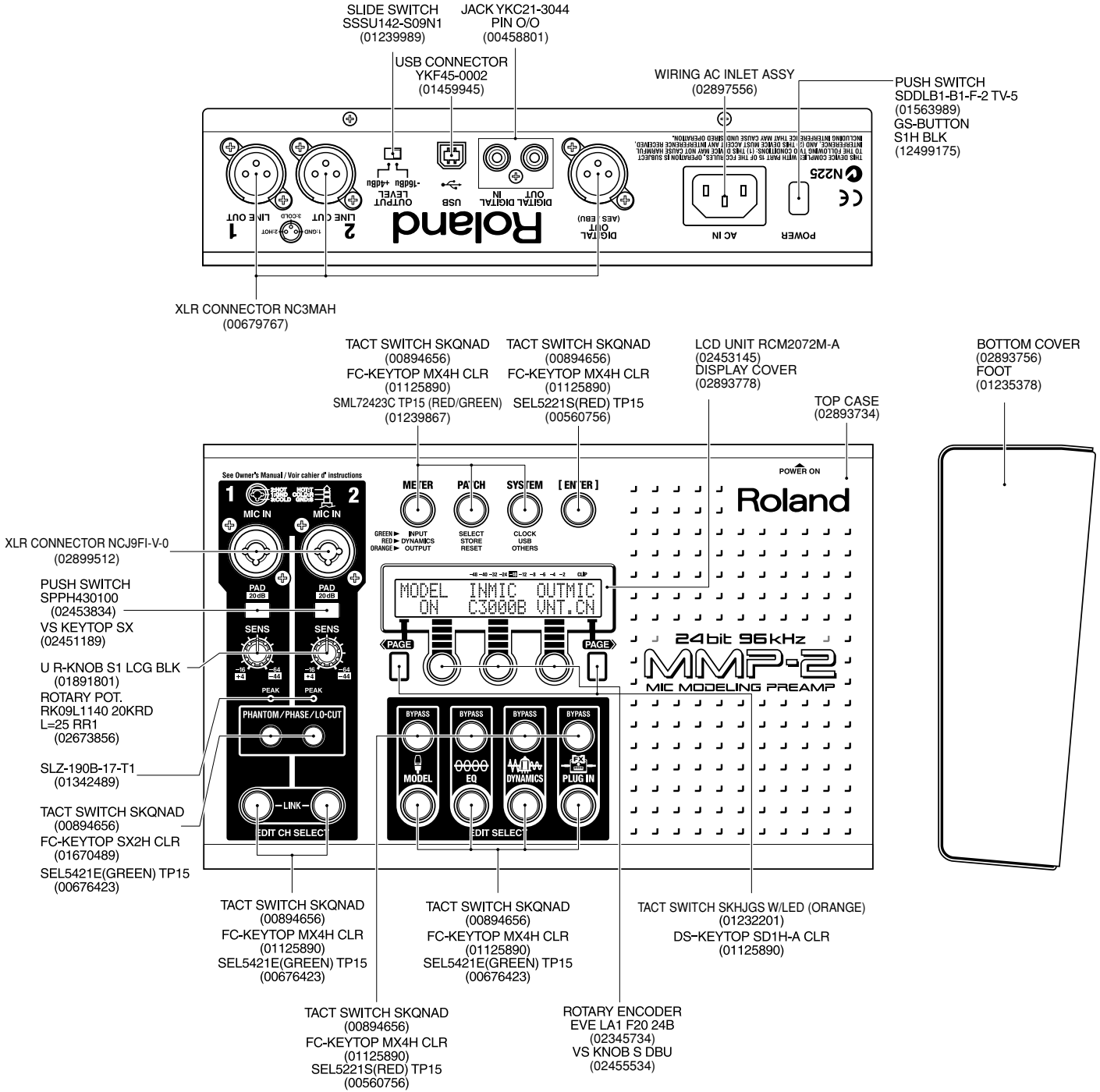
- Analog Input
Connector: XLR-3-31 type (balanced) 1/4 inch TRS phone type (balanced)
Input Impedance: 40k Ω
Phantom Power: DC 48 V and 7mA when the output is shorted
PAD: 20 dB pad
Maximum Input Level: + 2 dBu (PAD off) / +22 dBu (PAD on)
Nominal Input Level: -64 dBu - +4 dBu
Equivalent Input Noise: -132 dBu (IHF-A typ.)
- Analog Output
Connector: XLR-3-32 type (balanced)
Output Impedance: 600 Ω
Recommended Load Impedance: 1k Ω or greater
Nominal Output Level: -16 dBu / +4 dBu
Signal-to-Noise Ratio: 105 dB typ.
- Digital Input
Connector: RCA for S/PDIF
Impedance: 75 Ω
- Digital Output
Connector: XLR for AES/EBU, RCA for S/PDIF
Impedance: 110 Ω for AES/EBU, 75 Ω for S/PDIF
- Signal Processing
A/D Conversion: 24-bit, 64 times oversampling
D/A Conversion: 24-bit, 128 times oversampling
- Sample Rate
96.0kHz, 88.2k Hz, 48.0k Hz, 44.1k Hz
- Frequency Response
96.0k Hz: 20 Hz - 40k Hz (+0.1 / -3.0 dB)
88.2k Hz: 20 Hz - 40k Hz (+0.1 / -3.0 dB)
48.0k Hz: 20 Hz - 20k Hz (+0.1 / -0.5 dB)
44.1k Hz: 20 Hz - 20k Hz (+0.1 / -0.5 dB)
- Microphone Modeling
Reference Microphone: DR-20, Small Dynamic Microphone, Head-worn
Dynamic Microphone, Miniature Condenser
Microphone, AKG C3000B, Flat
Modeling Microphone: Small Dynamic, Vocal Dynamic, Large Dynamic,
Small Condenser, Large Condenser, Vintage
Condenser, Flat
- Equalizer
4-Band parametric equalizer
Reference Frequency: 20 Hz - 20k Hz
Type: Peaking, Low-Shelving, High-Shelving, Low-Pass, High-Pass,
Low-Pass2, Hi-Pass2, Band-Pass, Band-Eliminate
GAIN: -15 dB - +15 dB
- Compressor
Type: Solid, Tube1, Tube2, Tube3, Tube4
Knee Type: Hard or Soft knee
- Other Effects
Expander, Enhancer, De-esser, Pre-amp Modeling

- Display
20 characters, 2 lines (back light LCD)
- Power Supply
AC 117 V, AC 230 V or AC 240 V
- Power Consumption
9 W
- Dimension
250 (W) x 165 (D) x 76 (H) mm
9-7/8 (W) x 6-1/2 (D) x 3 (H) inches
- Weight
1.8 kg
4 lbs
- Accessories
Owner's Manual English (#72012345)
AC Cord 120 V (#00894378)
AC Cord 230 V (#00894389)
AC Cord 240 VA (#23495124)
AC Cord 240 VE (#00907001)
USB Cable (#02239578)
Driver CD-ROM (#02897534)

* 0 dBu = 0.775 Vrms

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

LOCATION OF CONTROLS



EXPLODED VIEW PARTS LIST

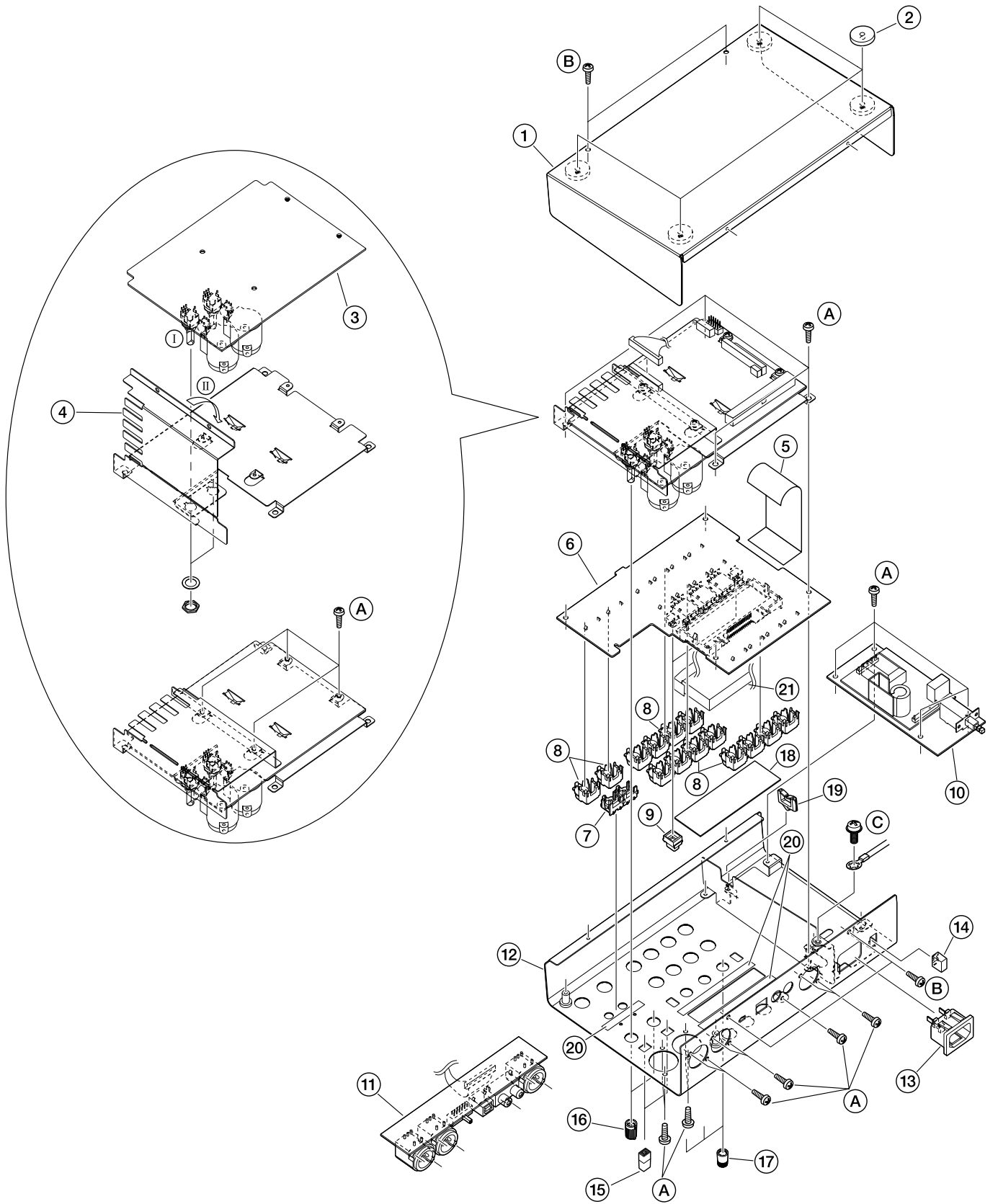
[Parts]

No.	Part Code	Part Name
1	02893756	BOTTOM COVER
2	01235378	FOOT
3	72012034	CHASSIS ASSY (W/MAIN BOARD)
4	02893767	CHASSIS
5	02897656	BNCD-P=1.25-K-34-90
6	72012056	PANEL BOARD
7	01670489	F C-KEYTOP SX2H CLR
8	01904134	F C-KEYTOP MX4H CLR
9	01125890	D S-KEYTOP SD1H-A CLR
10	72012078	POWER SUPPLY BOARD
11	72012067	JACK BOARD
12	02893734	TOP CASE
13	02897556	WIRING AC INLET ASSY
14	12499175	G S-BUTTON S1H BLK
15	02451189	VS KEYTOP SX
16	01891801	U R-KNOB S1 LCG BLK
17	02455534	VS KNOB S DBU
18	02893778	DISPLAY COVER
19	00902790	CORD BUSHING EDS-1208U
20	40122434	DOUBLE-FACED TAPE #500 W7MM 20M 30P
21	40457267	ACETATE TAPE 570S BLACK W10MM 30M

[Screws]

No.	Part Code	Part Name
A	40011101	SCREW 3x8 BINDING TAPTITE B BZC
B	40236956	SCREW 3x8 BINDING TAPTITE B BZC W/PROJECTION
C	40342989	SCREW M4x8 BINDING MACHINE W/EXT.TW BZC

EXPLODED VIEW



PARTS LIST

SAFETY PRECAUTIONS:

The parts marked Δ have safety-related characteristics. Use only listed parts for replacement.

CONSIDERATION ON PARTS ORDRING

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER
Ex.	10	22575241	Sharp Key	C-20/50
	15	2247017300	Knob (orange)	DAC-15D

Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.

NOTE: The parts marked # are new. (initial parts)

MB -> MAIN BOARD, PB -> PANEL BOARD, JB -> JACK BOARD, PS -> POWER SUPPLY BOARD

CASING					Q'ty
#	02893756	BOTTOM COVER			1
#	02893778	DISPLAY COVER			1
#	02893734	TOP CASE			1
KNOB, BUTTON					
	01125890	D S-KEYTOP	SD1H-A CLR		2
	01670489	F C-KEYTOP	SX2H CLR		1
	01904134	F C-KEYTOP	MX4H CLR		7
	12499175	G S-BUTTON	S1H BLK 249-175		1
	01891801	U R-KNOB	S1 LCG BLK		2
	02451189	VS KEYTOP SX			2
	02455534	VS KNOB S DBU	ENCORDER		3
SWITCH					
	02453834	SPPH430100	PUSH SWITCH	SW2,SW1 on MB	2
	01563989	SDDL1-B1-F-2 TV-5	PUSH SWITCH	SW51 on PS	1
	01232201	SKHJGS (ORANGE)	TACT SWITCH WITH LED	SW22,SW12 on PB	2
	00894656	SKQNAD	TACT SWITCH	SW27,SW37,SW36,SW35,SW34,SW28, SW17,SW26,SW25,SW24,SW18,SW38,SW33, SW16,SW15,SW14 on PB	16
	01239989	SSSU142-S09N1	SLIDE SWITCH	SW41 on JB	1
JACK, EXT TERMINAL					
	00679767	NC3MAH	XLR CONNECTOR	JK2,JK5,JK1 on JB	3
#	02899512	NCJ9FI-V-0	XLR CONNECTOR	JK1,JK2 on MB	2
	00458801	YKC21-3044 0/0	PIN JACK (ORG)PIN X 2	JK3 on JB	1
	01459945	YKF45-0002	USB CONNECTOR	JK4 on JB	1
DISPLAY UNIT					
	02453145	RCM2072M-A	LCD UNIT		1
	NOTE: Replacement RCM2072M-A should be made on a unit base.				
POWER SUPPLY UNIT					
	02457745	A1DU2L3B104 VER.3	SWITCHING REGULATOR	U1 on PS	1
	NOTE: Replacement A1DU2L3B104 VER.3 should be made on a unit base.				
PCB ASSY					
#	72012034	CHASSIS ASSY			1
	NOTE: 'CHASSIS ASSY' includes the following parts.				
#	*****	MAIN BOARD			1
#	02893767	SHIELD CHASSIS			1
#	72012056	PANEL BOARD			1
	NOTE: 'PANEL BOARD' includes the following parts.				
#	40457267	ACETATE CROSS TAPE	570S BLACK W10MM 30M(CM)		25
	02453345	LCD HOLDER			1
#	72012067	JACK BOARD			1
	NOTE: 'JACK BOARD' includes the following parts.				
#	02897578	WIRING	16X150-P2.0-SJ-JB-F	CN2 on JB	1
#	40122734	3M CONDUCTIVE TAPE 1245	W12.7MM 16.4M 24P (CM)		5
Δ #	72012078	POWER SUPPLY BOARD			1
	NOTE: 'POWER SUPPLY BOARD' includes the following parts.				
#	*****	WIRING	5X80-P2.5-XHP-SCN-F	CN4 on PS	1

IC					
	02780034	CPU M37641M8-123FP	IC (8BIT CPU)	IC315 on MB	1
	01786667	HD6413006F20	IC (CPU)	IC301 on MB	1
	02458978	XCB56364FU100	IC (DSP)	IC305 on MB	1
#	02902123	K6R1008V1C-TC12T00(AE)	IC (SRAM)	IC306 on MB	1
	02785112	M5M5256DFP-55LL-T4	IC (SRAM)	IC303 on MB	1
	01783123	LH28F400BVE-BL85	IC (FLASH MEMORY/BLANK)	IC302 on MB	1
	02453878	AK4528VF	IC (AD/DA)	IC6 on MB	1
	15189266	NE-5532AN	IC (BIPOLAR OP AMP)	IC1,IC3 on MB	2
	15289105	UPC4570G2-E2	IC (BIPOLAR OP AMP)	IC5,IC4,IC2 on MB	3
#	02897690	OP275GS	IC (BIPOLAR OP)	IC8,IC7 on MB	2
	01901989	TC7SET04F(TE85L)	IC (CMOS)	IC412 on MB	1
	01121845	TC7W04FU TE12L	IC (CMOS)	IC310,IC311,IC316 on MB	3
	01679412	TC7W139F(TE12L)	IC (CMOS)	IC314 on MB	1
#	02899690	SN75ALS191PSR	IC (DRIVER)	IC10 on MB	1
#	02893356	EPM3064ATC100-10	IC (PLD)	IC304 on MB	1
	00564690	TC9246F(ELP)	IC (PLL)	IC308 on MB	1
	00458312	NJM2360M	IC (REGULATOR)	IC11 on MB	1
	01458445	UPC29M33T-T1	IC (REGULATOR)	IC317 on MB	1
	15199283	UPC78L05T-E1	IC (REGULATOR)	IC9 on MB	1
	15289123	M51953AFP-600C	IC (RESET)	IC307 on MB	1
	02015678	LC89055W-RA8	IC	IC313 on MB	1
	01785178	TC9271FS	IC	IC309 on MB	1

TRANSISTOR

	01121278	2SA1576A T106 QRS	TRANSISTOR	Q16 on MB	1
	02454390	2SA1588-GR(TE85L)	TRANSISTOR	Q17 on MB	1
	15309105	2SA1587-GR(TE85L)	TRANSISTOR	Q9,Q7,Q3,Q8,Q6,Q1,Q2,Q4 on MB	8
	01121289	2SC4081 T106 QRS	TRANSISTOR	Q5,Q10 on MB	2
	15319115	2SC4213-A(TE85L)	TRANSISTOR	Q12,Q11,Q13,Q14 on MB	4
	00239812	DTC114EUT106	TRANSISTOR	Q15 on MB	1
	02671067	DTA114YSATP	TRANSISTOR	Q10,Q9,Q11 on PB	3
	15119626	DTB113ZSTP	TRANSISTOR	Q8,Q1,Q2,Q3,Q4,Q5,Q7,Q6 on PB	8

DIODE

	15339119T0	1SS352(TPH3)	SWITCHING DIODE	D5 on MB	1
	15019126	1SS133 T-77	SWITCHING DIODE	D35,D23,D14,D15,D16,D17,D18,D13,D25,D26, D27,D28,D38,D34,D36,D37,D24,D33 on PB	18
	02454412	CRG02 (TE85L)	RECTIFIER DIODE	D1 on MB	1
	00560756	SEL5221S TP15	LED (RED)	D44,D45,D46,D47,D48 on PB	5
	00676423	SEL5421E TP-15	LED (GREEN)	D65,D52,D53,D54,D55,D62,D64,D63 on PB	8
	02453156	LNJ801TP6JA	LED	D3,D8,D7,D6,D4,D2,D1,D5 on PB	8
	01342489	SLZ-190B-17-T1	LED (RED)	D43,D42 on PB	2
	01239867	SML72423C TP15	LED (RED/GREEN)	D56,D57,D58 on PB	3
	01679012	DAP202U T106	DIODE ARRAY	DA1,DA2 on MB	2

RESISTOR

	13749845T0	SR25TRE 104 J 1/4W	CARBON RESISTOR	R36,R35,R26,R25 on JB	4
	13749779T0	SR25TRE 181 J	CARBON RESISTOR	R3,R4,R1,R2 on PB	4
	13749763T0	SR25TRE 390 J	CARBON RESISTOR	R13,R14,R15 on PB	3
#	13749814T0	SR25TRE 512 J	CARBON RESISTOR	R33,R34,R23,R24 on JB	4
#	02899701	SR25TRE 621 J	CARBON RESISTOR	R38,R28,R27,R37 on JB	4
	01011856	RPC05T 0R0 J	MTL.FILM RESISTOR	R307,R308,R354,R355,R362,R363,R303 on MB	7
	15399707	MCR25 JZH J 151	MTL.FILM RESISTOR	R47,R97,R96,R94,R46,R45,R44,R95 on MB	8
	01451423	MCR25JZH J 682 1/4W	MTL.FILM RESISTOR		4
	00566867	RPC05T 100 J	MTL.FILM RESISTOR	R359 on MB	1
	00567023	RPC05T 101 J	MTL.FILM RESISTOR	R314,R306,R304,R305 on MB	4
	00567156	RPC05T 102 J	MTL.FILM RESISTOR	R309,R310,R311,R344 on MB	4
	00567289	RPC05T 103 J	MTL.FILM RESISTOR	R322,R329,R330,R346,R356,R357,R358,R327, R326,R323,R328,R321,R320,R319,R318,R317, R324 on MB	17
	00567556	RPC05T 105 J	MTL.FILM RESISTOR	R347 on MB	1
	00567167	RPC05T 122 J	MTL.FILM RESISTOR	R325 on MB	1
	00567178	RPC05T 152 J	MTL.FILM RESISTOR	R341,R313 on MB	2
	00567312	RPC05T 183 J	MTL.FILM RESISTOR	R343,R332,R333,R331 on MB	4
	00567190	RPC05T 222 J	MTL.FILM RESISTOR	R101,R102,R103,R104 on MB	4
	00567456	RPC05T 224 J	MTL.FILM RESISTOR	R312,R107 on MB	2
	00566934	RPC05T 330 J	MTL.FILM RESISTOR	R340,R339 on MB	2
	00567345	RPC05T 333 J	MTL.FILM RESISTOR	R334,R336,R337 on MB	3
	00567478	RPC05T 334 J	MTL.FILM RESISTOR	R106 on MB	1
	00567245	RPC05T 472 J	MTL.FILM RESISTOR		1
	00567378	RPC05T 473 J	MTL.FILM RESISTOR	R108,R338,R28,R78,R353 on MB	5
#	02898089	RPC05T 510 J	MTL.FILM RESISTOR	R361,R360 on MB	2
	01897878	RPC05T 512 J	MTL.FILM RESISTOR	R351,R350 on MB	2
	00567001	RPC05T 750 J	MTL.FILM RESISTOR	R352,R345,R348 on MB	3
	00567278	RPC05T 822 J	MTL.FILM RESISTOR	R349 on MB	1
	15419704	RR1220P-101-D 100 OHM (CHIP)	MTL.FILM RESISTOR	R124,R123 on MB	1
	15419702	RR1220P-102-D 1K OHM 1/10W	MTL.FILM RESISTOR	R122 on MB	1

RESISTOR					
	15419701	RR1220P-103-D 10K OHM (CHIP)	MTL.FILM RESISTOR	R67,R18,R32,R33,R40,R41,R43,R17,R68,R82,R83 ,R90,R91,R92,R93,R42 on MB	16
	00120289	RR1220P-104-D 100K OHM (CHIP)	MTL.FILM RESISTOR	R27,R3,R25,R53,R54,R75,R77,R4 on MB	8
	00566067	RR1220P-151-D 150 OHM (CHIP)	MTL.FILM RESISTOR		1
	15419727	RR1220P-153-D 15K OHM (CHIP)	MTL.FILM RESISTOR	R65,R66,R120,R16,R15 on MB	4
	00897234	RR1220P-183-D (CHIP)	MTL.FILM RESISTOR	R58,R57,R8,R7 on MB	4
	00897245	RR1220P-222-D 2.2K (D)	MTL.FILM RESISTOR	R60,R59,R10,R9 on MB	4
	15419725	RR1220P-223D 22KOHM (CHIP)	MTL.FILM RESISTOR	R23,R74,R24,R73 on MB	4
	15419717	RR1220P-273-D 27K 1/10W	MTL.FILM RESISTOR	R1,R504,R502,R121,R52,R505,R2,R503,R51,R507 ,R508,R509,R501,R510,R511,R512,R506 on MB	1
	01018234	RR1220P-331-D	MTL.FILM RESISTOR	R119,R35,R84,R85,R34 on MB	4
	00564212	RR1220P-332-D 3.3KOHM (CHIP)	MTL.FILM RESISTOR	R86,R36 on MB	2
	01679312	RR1220P-362-D	MTL.FILM RESISTOR	R39,R38,R88,R89 on MB	4
	15419726	RR1220P-393-D	MTL.FILM RESISTOR	R11,R80,R62,R61,R30,R12 on MB	6
	15419707	RR1220P-472-D 4.7KOHM (CHIP)	MTL.FILM RESISTOR	R87,R37 on MB	2
	00564234	RR1220P-473-D 47K OHM (CHIP)	MTL.FILM RESISTOR	R14,R26,R63,R64,R76,R13 on MB	6
	15419710	RR1220P-512D	MTL.FILM RESISTOR	R81,R31 on MB	2
	15419728	RR1220P-562-D 5.6K	MTL.FILM RESISTOR		1
	02126478	RR1220P-684-D	MTL.FILM RESISTOR	R22,R72 on MB	2
#	02898078	RR1220P-913-D	MTL.FILM RESISTOR	R71,R70,R21,R20 on MB	4
	01013878	RR1220Q-100-D	MTL.FILM RESISTOR	R56,R5,R6,R55,R516,R109,R125,R513,R514,R515 on MB	6
#	02455901	RR1220Q-430-D	MTL.FILM RESISTOR	R19,R69 on MB	2
	02679356	RA4C1632-102-J	RESISTOR ARRAY	RA308,RA309,RA307,RA306 on MB	4
	02679290	RA4C1632-103-J	RESISTOR ARRAY	RA304,RA310,RA311 on MB	3
	15399965	RCE9A103JAG7A (10KOHM X8)	RESISTOR ARRAY	RA303,RA301,RA302 on MB	3
POTENTIOMETER					
	02673856	RK09L1140 20KRD L25 RR1	9M/M ROTARY POT.	VR2,VR1 on MB	2
CAPACITOR					
	13519663	DD104-989SL220J50	CERAMIC CAPACITOR	C32,C31,C21,C22 on JB	4
	01674612	ECJ1VB1H103K	CERAMIC CAPACITOR	C347,C345,C319,C348,C349,C350,C353,C330, C355,C346 on MB	10
	02568812	ECJ2FB1C474K	CERAMIC CAPACITOR	C331 on MB	1
	01674167	ECUV1H100DCV	CERAMIC CAPACITOR	C363,C362,C326,C325 on MB	4
	01674190	ECUV1H150JCV	CERAMIC CAPACITOR	C344,C329,C343 on MB	3
	01674212	ECUV1H220JCV	CERAMIC CAPACITOR	C10,C40 on MB	2
	02014890	RA2-16V221MT2	CERAMIC CAPACITOR	C85,C97 on MB	2
	02127812	RA2-25V470MT2	CERAMIC CAPACITOR	C112,C115,C111,C108,C107,C104,C116, C103 on MB	8
	01674701	ECJ1VF1E104Z 0.1UF/16VK	CERAMIC CAPACITOR(CHIP)	C95,C98,C102,C94,C358,C91,C105,C113,C99, C106,C101,C110,C109,C114,C310,C360,C317, C315,C314,C313,C321,C311,C322,C309,C308, C307,C306,C305,C302,C301,C118,C312,C339, C361,C90,C359,C46,C356,C354,C318,C340, C364,C338,C337,C335,C334,C333,C328,C327, C323,C351,C67,C65,C63,C89,C117,C16,C43, C13 on MB	59
	02453856	ECEA0JPZ221B	CHEMICAL CAPACITOR	C61 on MB	1
	01345956	ECEA1CPZ470B 47PF/16V	CHEMICAL CAPACITOR	C33,C4,C3,C34 on MB	4
	02562478	ECEA1HPZ101B	CHEMICAL CAPACITOR	C24,C54,C22,C52 on MB	4
	01346001	ECEA1HPZ220B 22UF/50V	CHEMICAL CAPACITOR	C31,C49,C32,C2,C19,C1 on MB	8
	01909690	RA2-16V471MC-T2	CHEMICAL CAPACITOR	C69 on MB	1
#	02898101	RA2-50V2R2MC-T2	CHEMICAL CAPACITOR	C341 on MB	1
	01902590	RA2-6V101MC-T2	CHEMICAL CAPACITOR	C357,C316,C304,C303,C320,C352 on MB	6
#	02898112	RA2-6V102MC-T2	CHEMICAL CAPACITOR	C92,C8,C38 on MB	3
	01902601	RA2-6V221M-T2	CHEMICAL CAPACITOR	C332 on MB	1
#	02898145	RA2-6V470MC-T2	CHEMICAL CAPACITOR	C47,C17 on MB	2
	01902612	RA2-6V471MC-T2	CHEMICAL CAPACITOR	C96,C100 on MB	2
	02781423	RC3-6V101M-T2	CHEMICAL CAPACITOR	C1,C2 on PB	2
	02782901	RE3-50V010MB-T2	CHEMICAL CAPACITOR	C68 on MB	1
#	02898090	RFS-16V101MH3-T2	CHEMICAL CAPACITOR	C121,C122 on MB	2
#	02345001	RV2-50V100M-R	CHEMICAL CAPACITOR	C12,C42 on MB	2
	13529132	RPE132-901F104Z50	MLT.LAY.CERAMIC CAPACITOR	C1 on JB ,C1 on PS	1 +1
	01784156	ECHU1C104JX5	POLYEST. CAPACITOR	C41,C11 on MB	2
	01898434	ECHU1H101JX5	POLYEST. CAPACITOR	C45,C14,C15,C44,C53,C23 on MB	6
	01899345	ECHU1H121JX5	POLYEST. CAPACITOR	C51,C50,C37,C36,C35,C21,C20,C5,C6,C7 on MB	11
	01784145	ECHU1H152JX5	POLYEST. CAPACITOR	C48,C18 on MB	2
	01896589	SK4-0J106MZ4-RA	TANTALUM CAPACITOR	C66,C64,C62 on MB	3
INDUCTOR, COIL, FILTER					
	01893634	LQH4N151K04	COIL		1
	01783601	BLM21B601SPT	FERRITE-BEAD	L10,L7,L6,L5,L2,L9,L11,L8 on MB	8
CRYSTAL, RESONATOR					
	00894023	MA-406 20.000MHZ TE24	CRYSTAL	X1 on MB	1
	00891801	MA-406 24.000MHZ TE24	CRYSTAL	X3 on MB	1

CRYSTAL, RESONATOR					
	00901912	MA-406 24.576MHZ TE24	CRYSTAL	X2 on MB	1
ENCODER					
	02345734	EVE LA1 F20 24B	ROTARY ENCODER	ENC3,ENC2,ENC1 on PB	3
CONNECTOR					
	02018990	34FE-BT-VK-N	CONNECTOR	CN4 on MB	1
	01679378	52044-3445	CONNECTOR	CN1 on PB	1
	02237512	75501-0X0-B P/N	CONNECTOR	CN5 on MB	1
	13369898	B2P3-VH 7A/250V	CONNECTOR	CN3 on PS	1
	13369593	B5B-XH-A	CONNECTOR	CN2 on MB	1
	13369568	JST B3B-PH-K-S JST	CONNECTOR	CN7,CN3 on MB	2
#	01345567	PS-10PE-D4T1-PN1	CONNECTOR	CN6 on MB	1
#	02899201	SJ20-16WX	CONNECTOR	CN1 on MB	1
WIRING, CABLE					
#	02897656	BNCD-P=1.25-K-34-90	BAN CARD		1
#	02897556	AC INLET ASSY	WIRING		1
TRANSFORMER					
	02019478	(7KQ5) 19832A	PULSE TRANS	T301 on MB	1
	01786645	SEP003	PULSE TRANS		1
SCREW					
	40011101	SCREW 3x8	BINDING TAPTITE B BZC		19
#	40236956	SCREW 3x8	BINDING TAPTITE B BZC W/PROJECTION		4
	40342989	SCREW M4x8	BINDING MACHINE W/EXT.TW BZC		1
PACKING					
#	02901945	BOTTOM PAD			1
#	02901978	BOTTOM SUB PAD			2
#	02904856	OUTER PACKING CASE			1
#	02893290	PACKING CASE			1
#	02901956	UPPER PAD			1
MISCELLANEOUS					
	40238545	CAUTION LABEL	SHOCK HAZARD & ICES		1
	00902790	CORD BUSHING	EDS-1208U		1
	40122434	DOUBLE-FACED TAPE	#500 W7MM 20M 30P		4
	01235378	FOOT			4
#	02893745	ISOLATOR			1
#	40457290	LABEL MODELING CAUTION SEAL			1
ACCESSORIES (STANDARD)					
#	72012001	OWNER'S MANUAL	JAPANESE		1
#	72012345	OWNER'S MANUAL	ENGLISH		1
	02670401	AC CORD SET	100V YA-101/YP-3N/YC-13		1
	00894378	AC CORD SET	120V SP301+IS14 SJT18/3		1
	00894389	AC CORD SET	230V SP22+IS14 H05VV-F3G1.0		1
	23495124	AC CORD SET	240VA SC-144-JO1 ES303-10HMA		1
	00907001	AC CORD SET	240VE KP-610 GTTBS-3 KS-31A		1
	02239578	USB CONNECT CORD	YAF11-0791 2M		1
#	02897534	DRIVER CD-ROM			1
	40232334	WARRANTY CARD	(JAPAN ONLY)		1

IDENTIFYING VERSION NUMBER

1. Power on the unit while pressing down the [BYPASS_PLUGIN] and [SYSTEM] buttons.
2. The LCD displays the version numbers of the boot and main programs for several seconds.
The version numbers can also be confirmed under "Checksum" in test mode.
3. Confirm the versions and power off the unit.

SAVING USER DATA & RELOADING SAVED DATA

Backing up patches

User patches can be saved and loaded on a computer or a sequencer. Using this feature, patches can be transferred between MMP-2 units via external devices.
For operation from the MMP-2 editor, see "ReadMe" on the accompanying CD-ROM.

Saving patches on a computer (BACKUP)

On the MMP-2, press the [SYSTEM] button several times to light it up in orange.
A screen similar to the following appears.

```
LDCNT: PEAK : ROUTE
8: -3dB: NORM▶
```

On the MMP-2, press the [PAGE] button several times to have [BACKUP] displayed.

```
BACKUP [ENTER]
◀ USER PATCHES ▶
```

Start data transmission by using an external device such as a computer. If a starting procedure is required on the MMP-2, press the [ENTER] button.

Loading data from a computer (RECOVER)

On the MMP-2, press the [SYSTEM] button several times to light it up in orange.
A screen similar to the following appears.

```
LDCNT: PEAK : ROUTE
8: -3dB: NORM▶
```

On the MMP-2, press the [PAGE] button several times to have [RECOVER] displayed.

```
RECOVER
◀ USER PATCHES ▶
```

Start data transmission by using an external device such as a computer.

TEST MODE

Required items

- Capacitor microphone (or tester)
- Device with an analog XLR input jack, such as the VS-2480.
- Device with a digital output jack, such as a CD player.
- Device with a digital input jack, such as the VS-2480.
- Device that can receive AES/EBU, such as the AE-7000.
- Computer with the MMP-2 USB-MIDI driver already installed and can recognize the MMP-2.
* For instructions for installing the driver, see "ReadMe" on the CD-ROM shipped with the unit.
- USB cable (shipped with the MMP-2)

How to enter test mode

Power on the unit while pressing down the [BYPASS_PLUGIN] and [SYSTEM] buttons.

Test mode is activated.

Immediately after it is activated, checksum is performed as well as a device check.

The items subject to checking are listed below.

- Checksum of the program and its version number
- Reading and writing of SRAM (IC303)
- Reading and writing of DSP RAM (IC306)

After the above checking, the program enters test item selection in test mode.

Operating in test mode

Basically, use the [PAGE] button to select a test item and use the [ENTER] button to execute the test.

After completing a test item, the program proceeds to the next page automatically.

Test items

• Device Check

Result of device check performed upon activating test mode is displayed.

• Check Sum

The program version numbers and checksum result are displayed.

• LCD Check

The entire LCD display comes on upon entering this test item. Press the [ENTER] button to have the LCD display go off entirely. Press the [ENTER] button again to return to test item selection.

• ENC Check

Rotate the encoders to change the number displayed on the screen between 0 and 15.
In conjunction with the operation of the left-side encoder, the LCD contrast changes.
After having values of all of the three encoders change from 0 to 15, press the [ENTER] button to return to test item selection.

• LED Check

After entering this item, press the [ENTER] button again to cause all the LEDs to come on.
 After checking that they have all lit up, press the [ENTER] button again to have the LEDs come on one by one.
 After the LED of the [METER] button comes on, the program returns to the test item selection automatically.

• SW Check

The LEDs of the buttons come on upon entering this test item.
 Press the buttons one by one until all LEDs are turned off.
 After confirming that all the LEDs are off, press the [ENTER] button again to return to test item selection.

• USB Check

Entering this item allows passage of MIDI data.
 Using a USB cable, connect the MMP-2 to a computer and confirm that the MMP-2 is recognized, then input MIDI data and compare it with the MIDI data output from the MMP-2.
 Under normal operation, the two sets of MIDI data should be identical.
 Disconnect the USB cable and press the [ENTER] button to return to test item selection.

• Audio Check

Under this item, the phantom power supply and the muting function are checked.

The parameters involved are listed below:

Ph1: ON/OFF of the phantom power supply for MIC IN 1ch.

Ph2: ON/OFF of the phantom power supply for MIC IN 2ch.

Mut: ON/OFF of output muting

Connect a capacitor microphone and supply phantom power.

Then check to see if sounds are input normally.

If a capacitor microphone is not available, measure the voltage between Hot and GND of the XLR jack.

If the voltage is between 36V and 50V, it is normal.



It takes several seconds for phantom power to stabilize.

Switching may cause noise or voltage fluctuation, which presents no problem once the power supply has stabilized.

Connect the analog output to a device with an analog XLR input jack (such as a VS-2480) to check if sounds can be input normally.

Operate the SENS volume controller, the PAD switch or the OUTPUT LEVEL switch to check if the volume changes.

Also, check if the muting function operates normally.

• Digital I/O Check

Test this item using the product mode.
 Turn off the power of the MMP-2.
 Then turn on the power again without pressing any button.
 Start in normal mode.

Press the [SYSTEM] button once and check that its LED comes on in green.

Manipulate the "FREQ" parameter with the encoder to change the sampling frequency and check to see if output sounds are free from any abnormality.

Connect Digital Out of a CD player or the like to the Digital In jack of the MMP-2, then manipulate the "CLOCK" parameter with the encoder to check if the setting is locked.

```
DIGITAL IN
locked.
```

Connect the Digital Out jack to a device with Digital In to check if output sounds are free from any abnormality.

Connect the AES/EBU OUT jack of the MMP-2 to a device with an AES/EBU IN jack (such as an AE-7000) to check if output sounds are free from any abnormality.

After completing Digital I/O Check, power off the unit and initialize the system according to "RESTORING THE FACTORY SETTINGS."

RESTORING THE FACTORY SETTINGS

Initialize the system settings (system parameters and effect parameters).

Performing this operation deletes the settings for user patches.

If the user patch settings need to be saved, save them beforehand according to "SAVING USER DATA & RELOADING SAVED DATA."

1. Power on the unit while pressing down the [BYPASS_PLUGIN] and [ENTER] buttons.

A display similar to the following appears.

```
INITIALIZE [ENTER]
ALL PARAMETERS?
```

2. Press the [ENTER] button once and the display changes as shown below.

```
INITIALIZE [ENTER]
ALL PARAMETERS OK?
```

1. Press the [ENTER] button once again and "Processing..." and "Completed." appear, indicating completion of initialization. After that, the system starts automatically in product mode.

SYSTEM SOFTWARE UPDATE PROCEDURE

Required items

- Computer with the MMP-2 USB-MIDI driver already installed and can recognize the MMP-2.
For instructions on installing the driver, see "ReadMe" on the CD-ROM shipped with the unit.
- MIDI sequence software that can play back SMF data.
Some MIDI sequence software applications include massive system exclusive messages and cannot play back or update SMF files normally. It is preferred to use a simplified SMF player.
- USB cable (shipped with the MMP-2)

Updating Procedure

The accompanying disk contains the latest MMP-2 system in standard MIDI file (SMF) data.

mmp2_01.MID
 mmp2_02.MID
 mmp2_03.MID
 mmp2_04.MID
 mmp2_05.MID

Follow the steps below to update the MMP-2 system.

1. Connect the USB jack of a computer to the USB jack of the MMP-2 using the accompanying USB cable.



Directly connect the two without using an external hub. Check to see if the computer recognizes the MMP-2.

2. Power on the unit while pressing down the [BYPASS_PLUGIN] and [PATCH] buttons.

A display similar to the following appears.

```
Select update items.
BOOT:× MAIN:○ USER:×
```

3. Turn the knob and change the display on the LCD according to the update manual.

Typically, invoking "BOOT:○ MAIN:○ USER:○" updates the entire display area.

BOOT: boot block
 MAIN: main block
 USER: user block

```
Select update items.
BOOT:○ MAIN:○ USER:○
```

4. Press the [SHIFT] button twice. Check that the following display appears.

```
Update 1.000 × ?..???
Waiting data..
```

5. Set up an SMF player and play back SMF data 1 through 5 sequentially. While the MMP-2 is receiving data, the following display appears.

```
Update 1.000 × 1.001
Receiving..1/5
```

6. When all data are received, the display changes to the following and the software is updated.

```
KEEP POWER ON!
```



Never turn off the power while "KEEP POWER ON!" is displayed. Powering off the unit in this state disables the MMP-2.

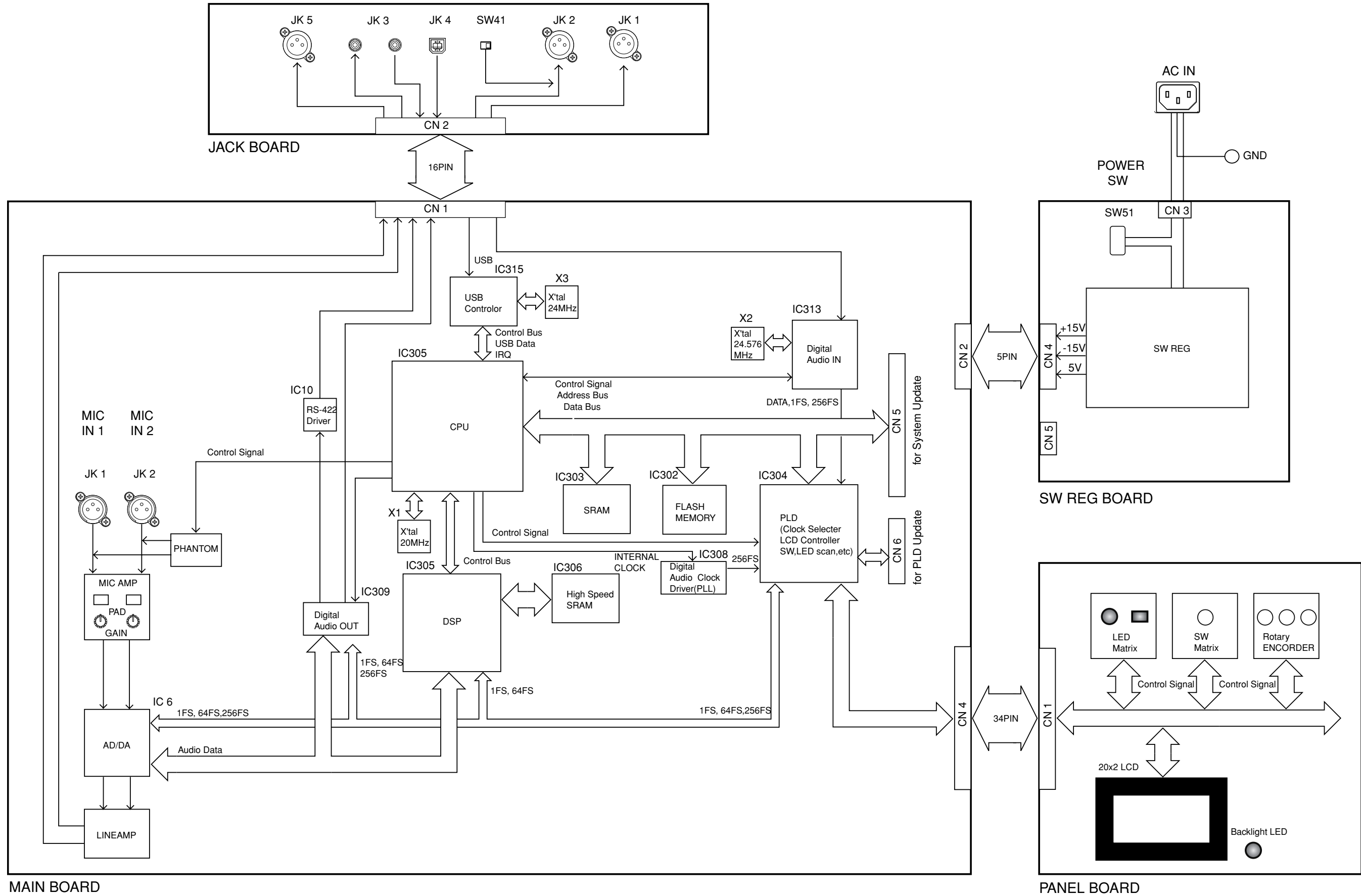
7. When the following display appears after software updating is completed, power off the unit.

```
Please reboot OK.
```

8. Check the version number and checksum according to the relevant instructions.

BLOCK DIAGRAM

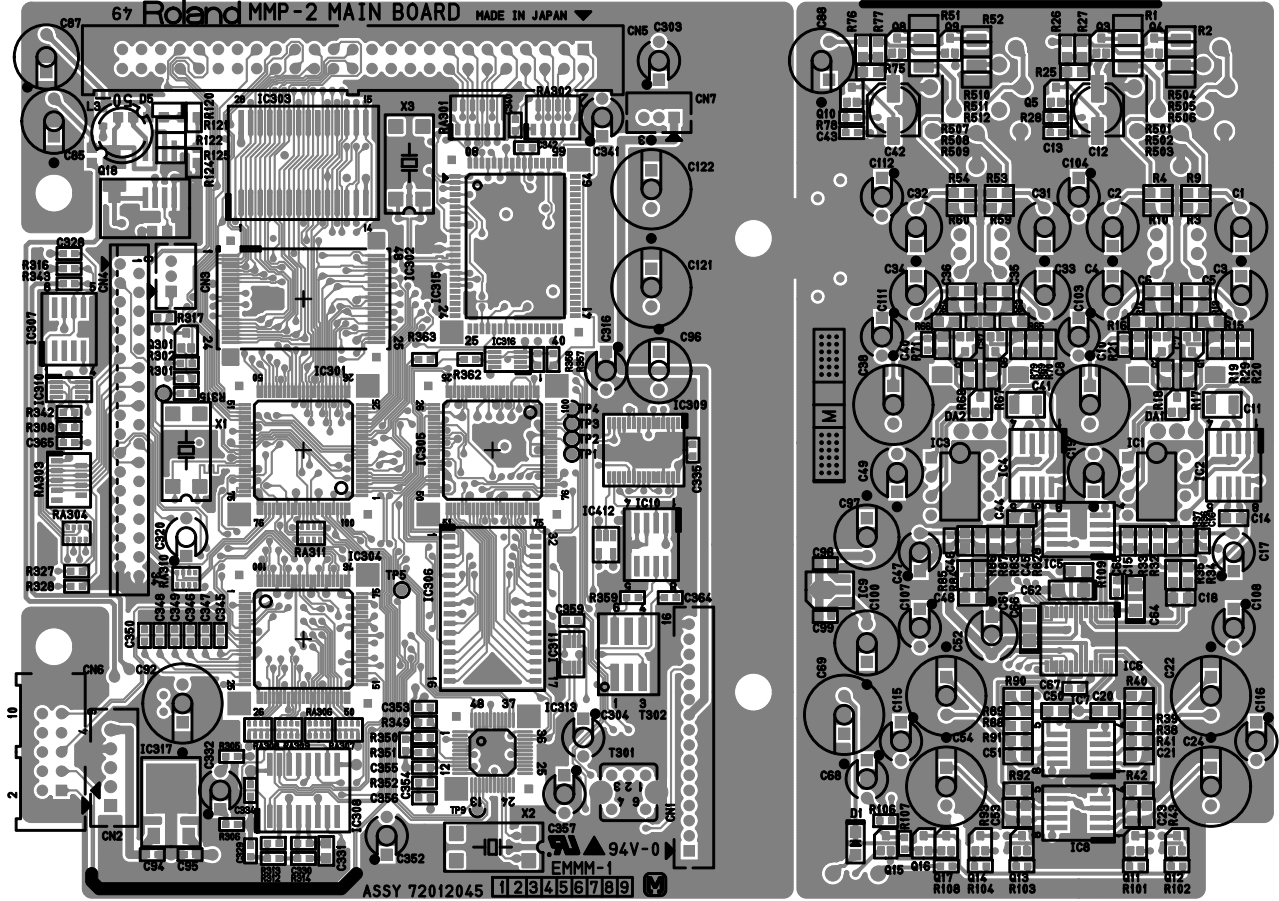
AES/EBU S/PDIF S/PDIF USB OUTPUT LINE OUT LINE OUT
 OUT OUT IN LEVEL 2 1



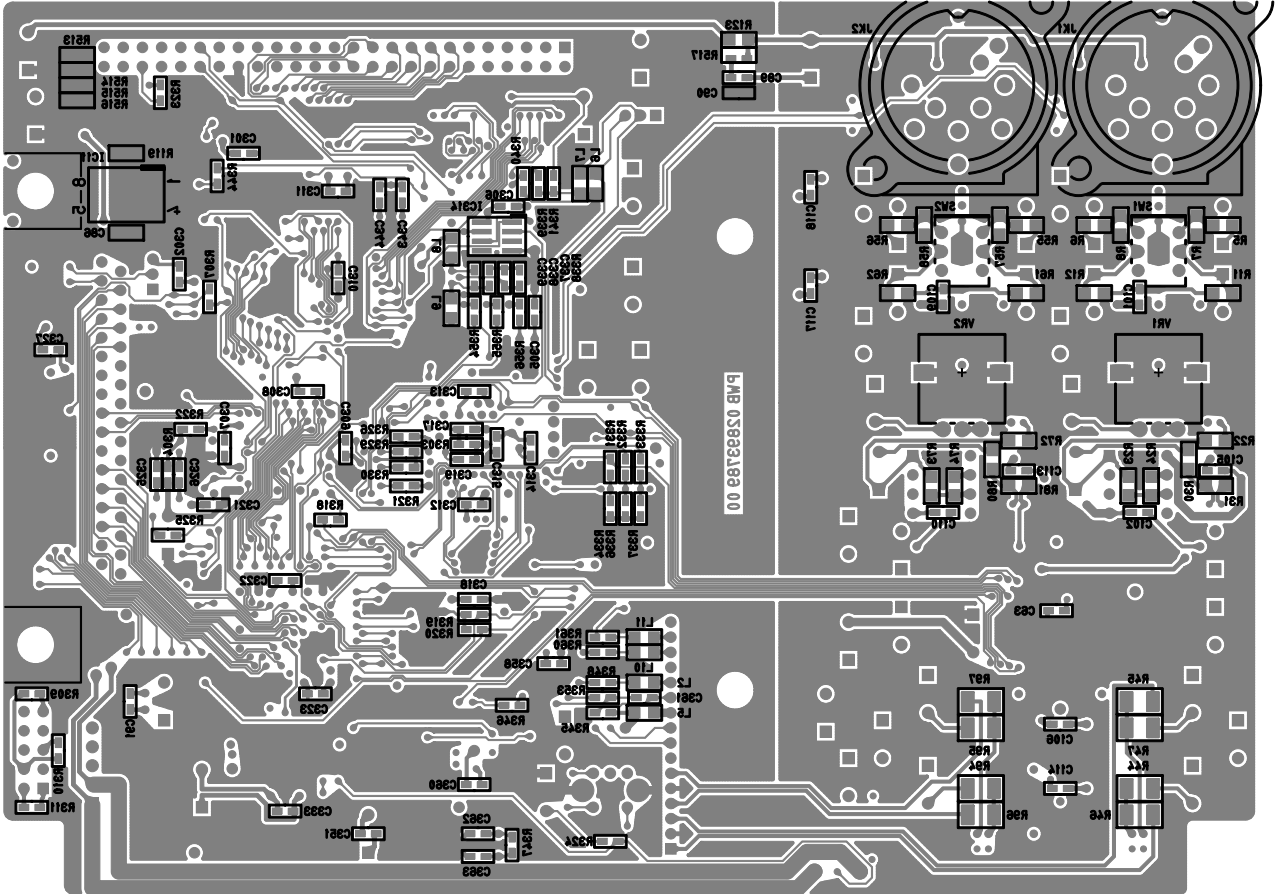
MAIN BOARD

PANEL BOARD

CIRCUIT BOARD (MAIN)

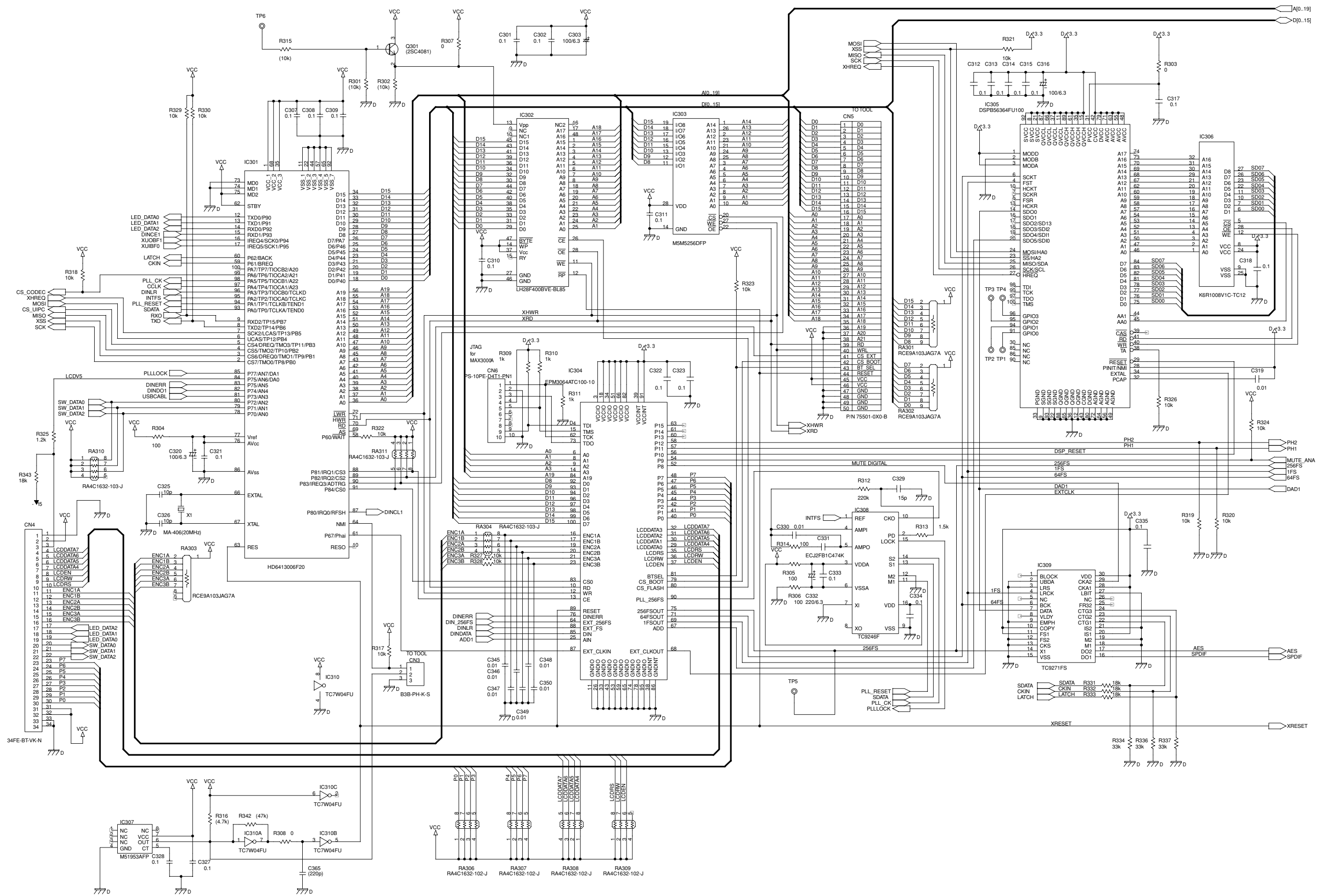


View from components side

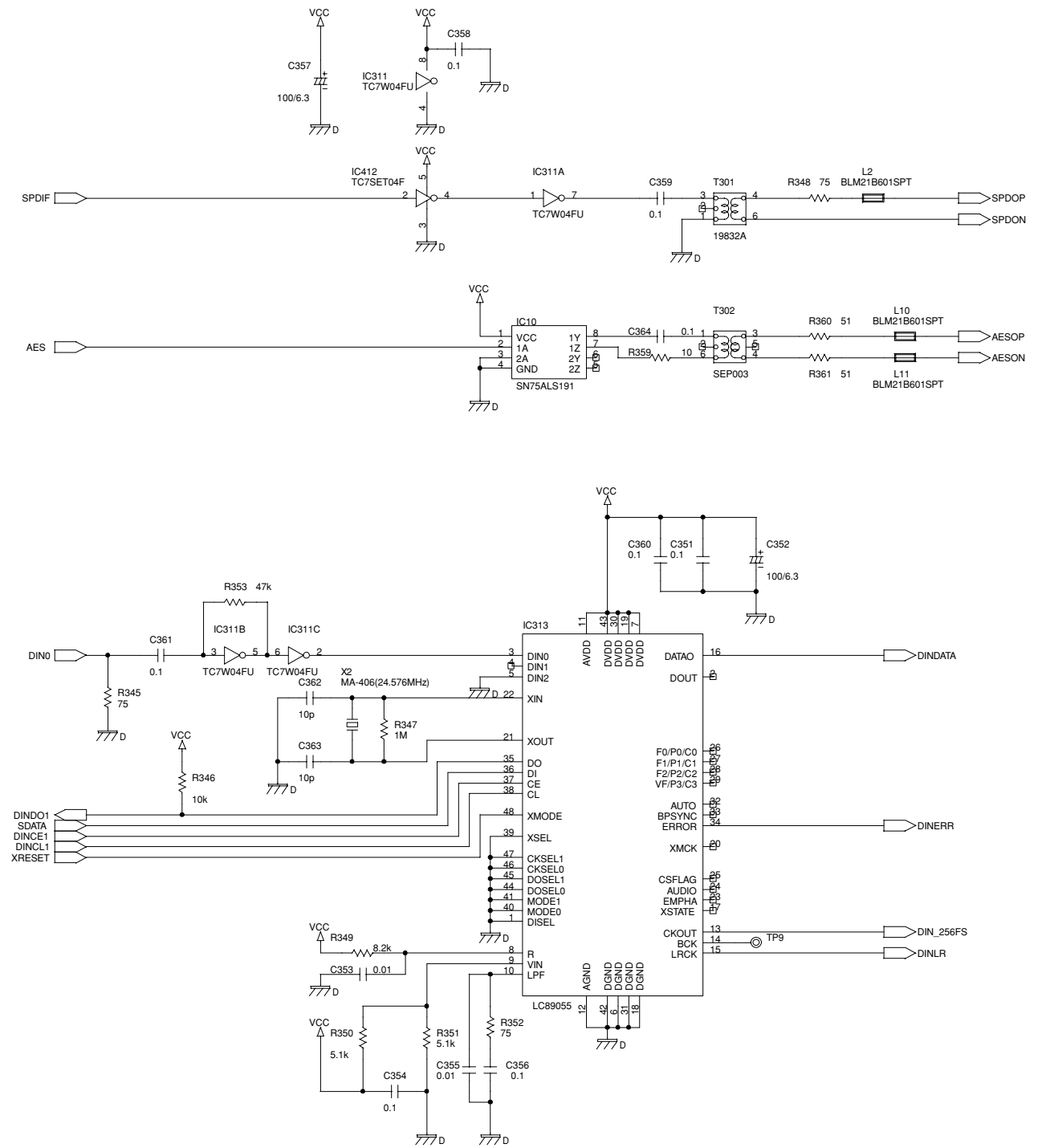
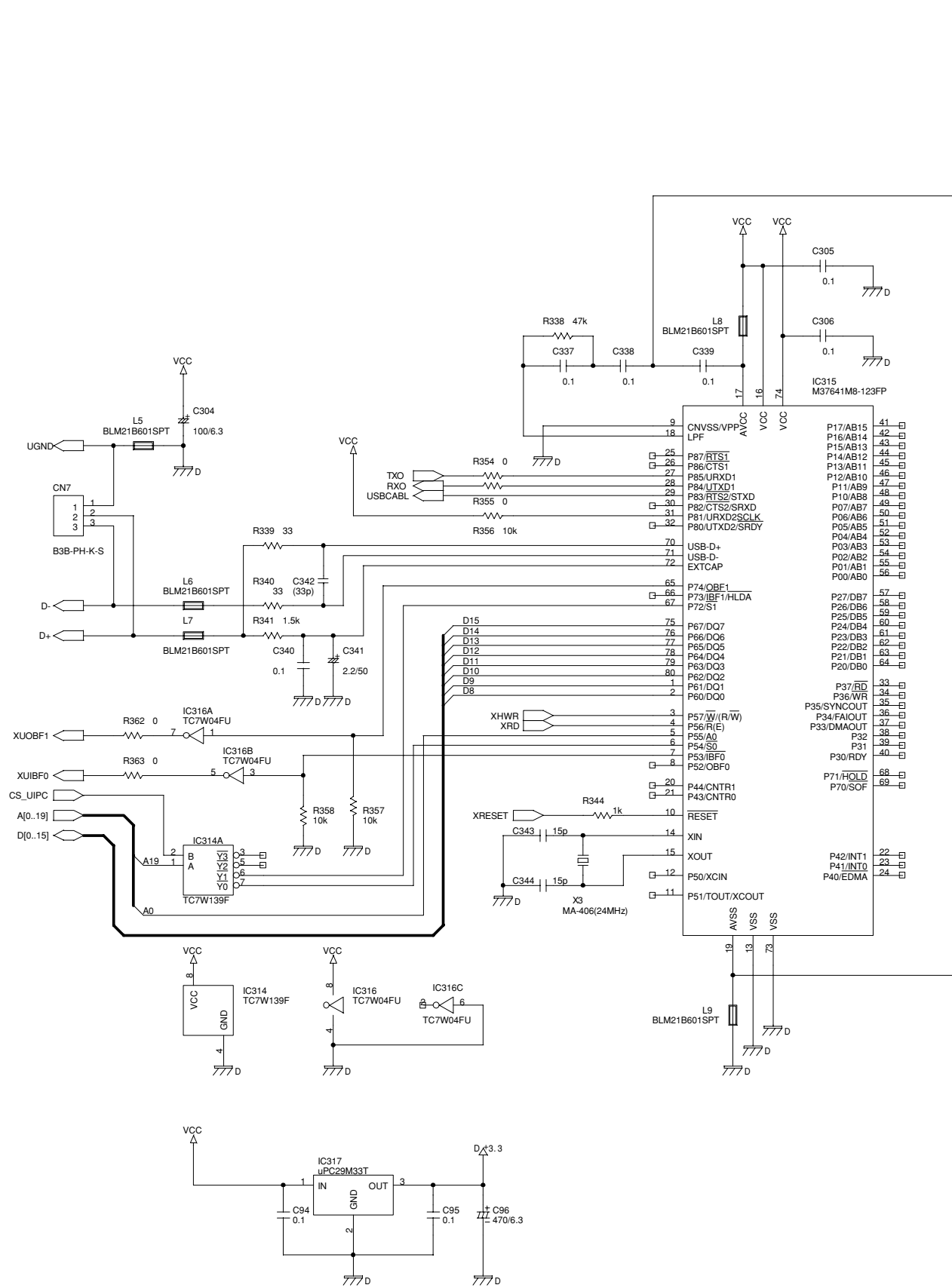


View from foil side

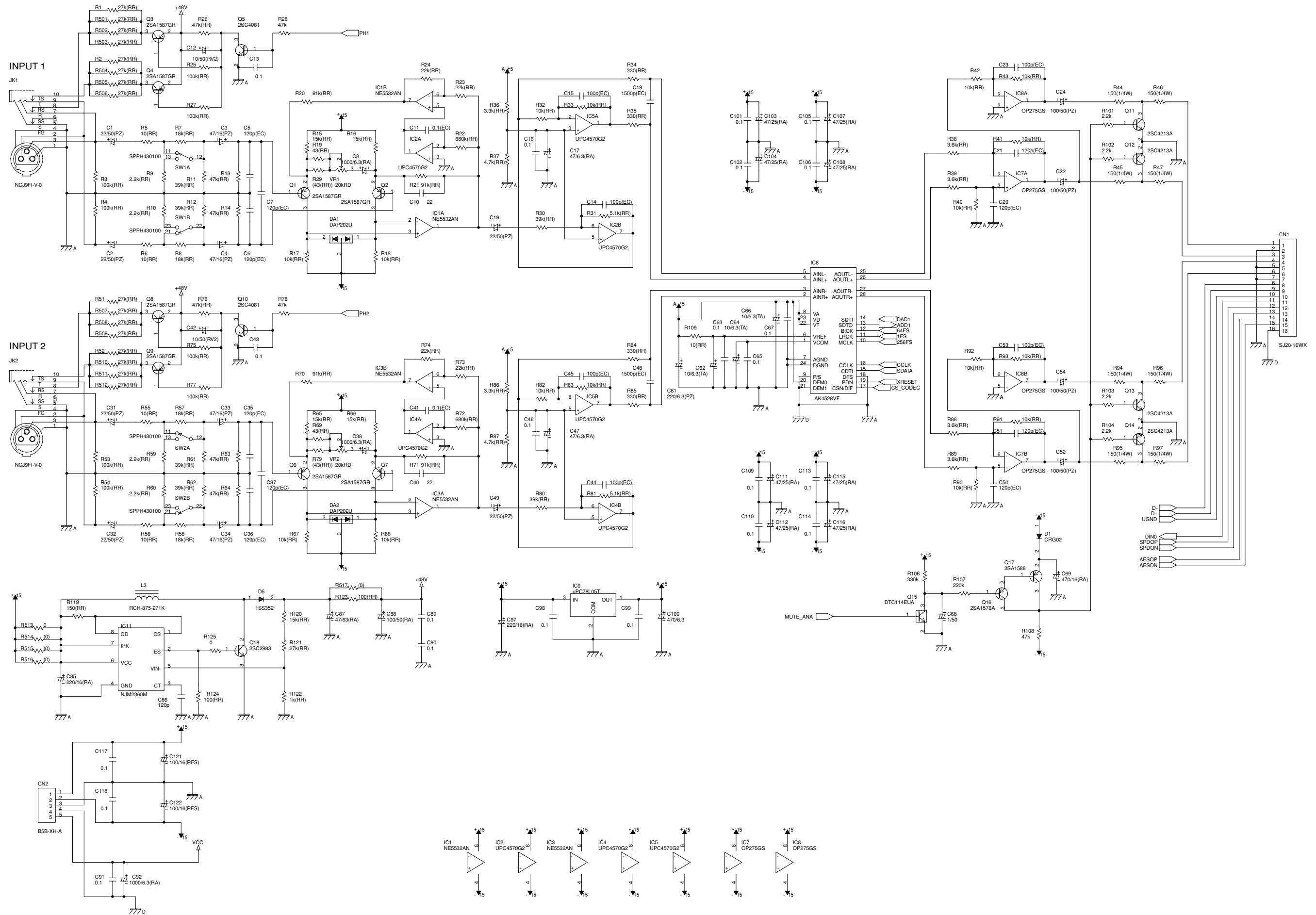
CIRCUIT DIAGRAM (MAIN 1/3)



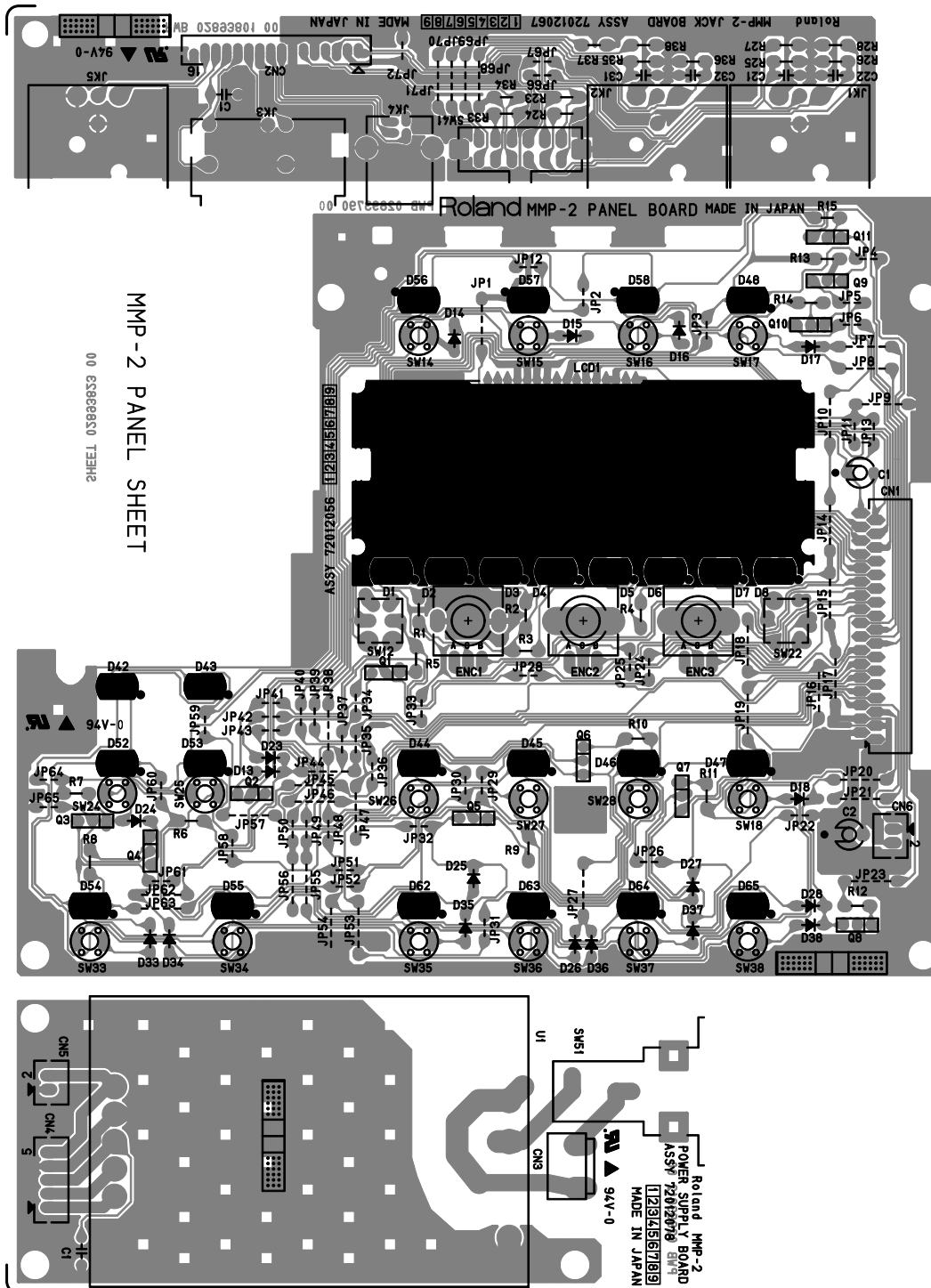
CIRCUIT DIAGRAM (MAIN 2/3)



CIRCUIT DIAGRAM (MAIN 3/3)

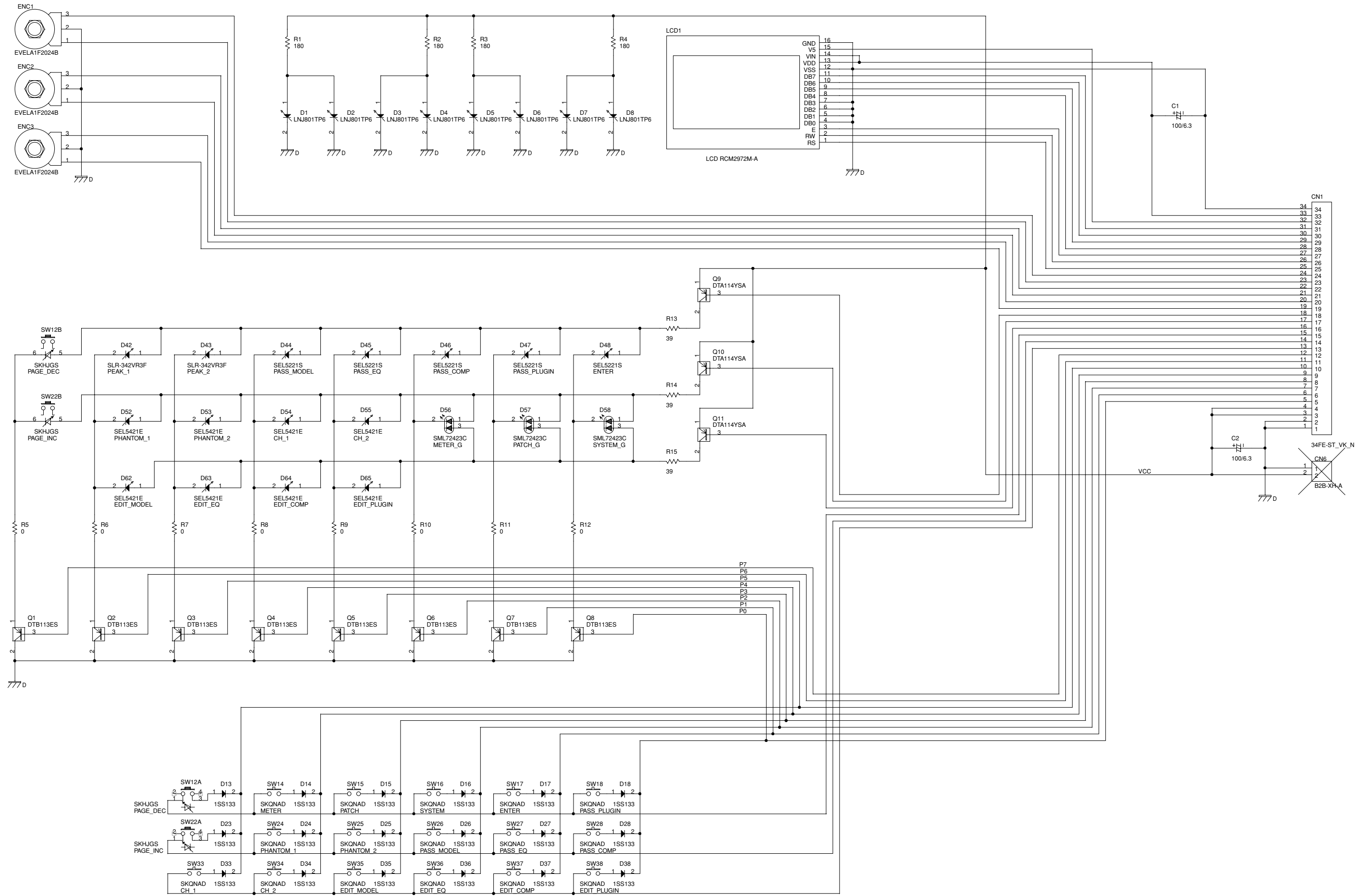


CIRCUIT BOARD (PANEL/JACK/POWER)



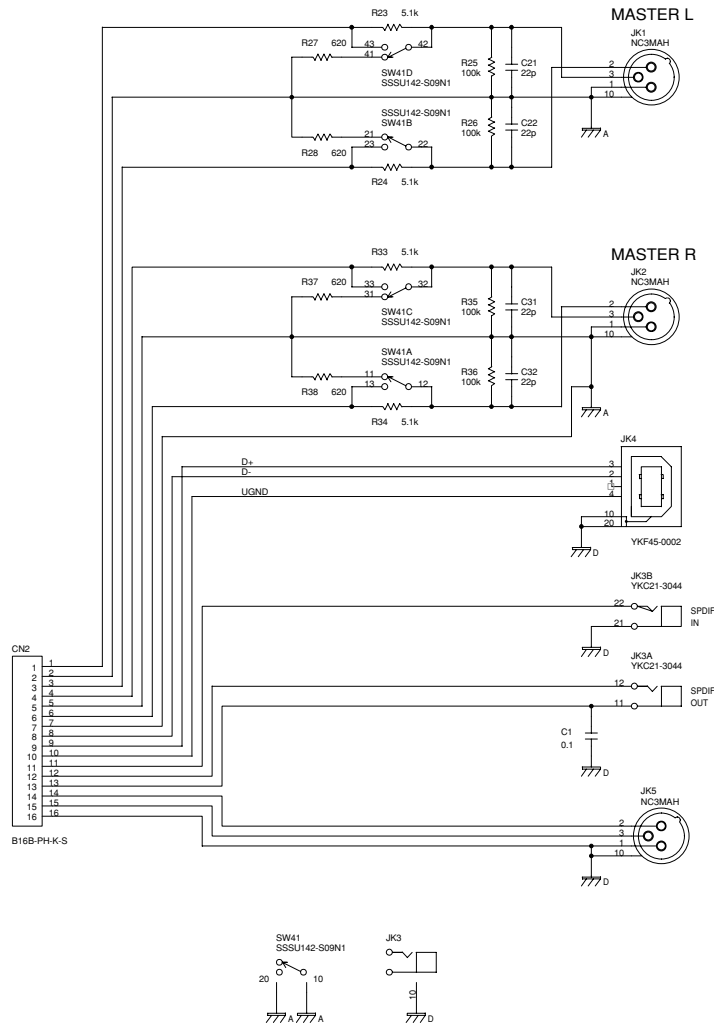
View from components side

CIRCUIT DIAGRAM (PANEL)



CIRCUIT DIAGRAM (JACK/POWER)

JACK BOARD



POWER SUPPLY BOARD

