

# VS-1824/1824CD

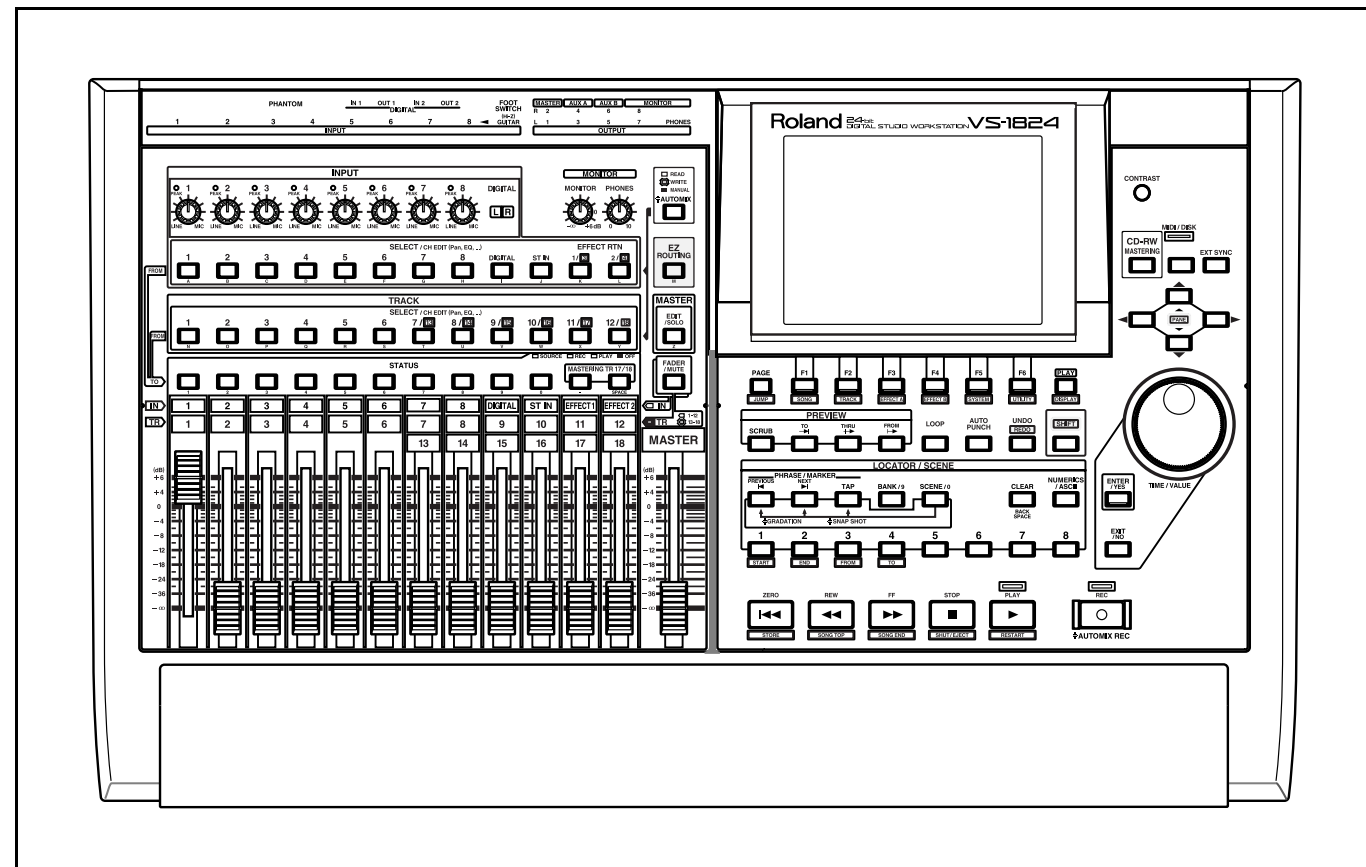
# SERVICE NOTES

First Edition

Issued by RJA

## 24BIT DIGITAL STUDIO WORKSTATION

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## SPECIFICATIONS

### VS-1824/1824CD : 24 bit Digital Studio Workstation

- **Tracks**
  - Tracks:18
  - V-Tracks: 288 (16 V-Tracks per each Track)
- **Sample Rate**
  - 48.0 / 44.1 / 32.0 kHz
  - \* Adjustable range with vari-pitch function
  - 22.00 kHz - 50.48 kHz
- **Recording Mode**
  - Multitrack Pro (MTP)
  - CD Writing (CDR)
  - Mastering (MAS)
  - Multitrack 1 (MT1)
  - Multitrack 2 (MT2)
  - Live 1 (LIV1)
  - Live 2 (LIV2)
- **Maximum Useful Capacity**
  - 112G bytes : 2Gbytes(Capacity) x 8(Partition) x 7(Disk Drive)
- **Recording Time**

(at 2GB Partition, conversion in 1 track, unit : minutes)

Recording Mode	Sample Rate		
	48 kHz	44.1 kHz	32 kHz
MTP	742	808	1,114
MAS	370	404	556
CDR	370	404	556
MT1	742	808	1,114
MT2	990	1,078	1,484
LIV1	1,188	1,292	1,782
LIV2	1,484	1,616	2,228

  - \* The above-listed recording times are approximate. Times may be slightly depending on the specifications of the disk drive and on the number of songs that were created.
  - In "CDR" recording mode, two tracks are always used in a pair (channel link is on), so recording time is half the above-listed
- **Frequency Response**
  - 48.0 kHz : 20 Hz - 22 kHz (+0.2 dB/-0.2 dB)
  - 44.1 kHz : 20 Hz - 20 kHz (+0.2 dB/-0.2 dB)
  - 32.0 kHz : 20 Hz - 14 kHz (+0.2 dB/-0.2 dB)
- **Total Harmonic Distortion**
  - (INPUT SENS : 0 dBu, 1 kHz at nominal output level)
  - 0.005 % or less (Recording Mode : MTP)
- **Songs**
  - 200 songs for each format (VS-880/880EX/890/1680/1824/VSR-880) in each partition
  - \* The total songs are limited to 500.
  - VS-1880's song data is identical to that of the VS-1824.

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### ● Nominal Input Level (variable)

Input 1-2 : -50 - +4 dBu (maximum +26 dBu : balanced, maximum +20 dBu : unbalanced)  
 Input 3-8 : -50 - +4 dBu (maximum +26 dBu : balanced, maximum +20 dBu : unbalanced)  
 Guitar (Hi-Z) : -50 - +4 dBu (maximum +26 dBu : balanced, maximum +20 dBu : unbalanced)

### ● Input Impedance

Input 1-2 : 30k ohm (balanced)  
 Input 2-8 : 30k ohm (balanced)  
 Guitar (Hi-Z) : 500k ohm

### ● Nominal Output Level

Master Out : +0 dBu  
 AUX A (L, R) : +0 dBu  
 AUX B (L, R) : +0 dBu  
 Monitor Out : +0 dBu

### ● Output Impedance

Master Out : 1k ohm  
 AUX A (L, R) : 1k ohm  
 AUX B (L, R) : 1k ohm  
 Monitor Out : 1k ohm  
 Phones : 22 ohm

### ● Recommended Load Impedance

Master Out : 10k ohm or greater  
 AUX A (L, R) : 10k ohm or greater  
 AUX B (L, R) : 10k ohm or greater  
 Monitor Out : 10k ohm or greater  
 Phones : 8 - 50 ohm

### ● Residual Noise Level

(input terminated with 1k ohm, INPUT SENS : LINE, IHF-A, typ.)  
 Master Out : -82 dBu or less  
 AUX A : -82 dBu or less  
 AUX B : -82 dBu or less  
 Monitor Out : -82 dBu or less

### ● Display

320 x 240 dots Graphic LCD (with backlit)

### ● Interface

SCSI : 25-pin D-sub  
 Digital I/O : Coaxial, Optical (conforms to S/P DIF)  
 MIDI : DIN 5pin

### ● Connectors

SCSI Connector (DB-25 type)  
 MIDI Connectors (DIN 5pin type)  
 Input Jacks 1-2 (XLR type, balanced, phantom power)  
 Input Jacks 3-8 (1/4inch phone type, TRS balanced)  
 Guitar(Hi-Z)Jack (1/4inch phone type)  
 Digital In Connectors (Coaxial type, Optical type)  
 Digital Out Connectors (Coaxial type, Optical type)  
 Foot Switch Jack (1/4inch phone type)  
 Master Out Jack L/R (RCA phone type)  
 Monitor Out Jack L/R (RCA phone type)  
 AUX A Send Jack L/R (RCA phone type)  
 AUX B Send Jack L/R (RCA phone type)  
 Headphones Jack (Stereo 1/4inch phone type)

### ● Power Supply

AC 117 V, AC 230 V or AC 240 V

### ● Power Consumption

33 W (VS-1824)  
 36 W (VS-1824CD)

### ● Dimensions

620(W) x 520(D) x 138(H) mm

### ● Weight

6.2 kg, 13 lbs 10 oz (VS-1824)  
 6.5 kg, 14 lbs 5 oz (VS-1824CD)

### ● Accessories

Owner's Manual English (#71905923)  
 AC Cord 120V (#00894378)  
 AC Cord 230V (#00894389)  
 AC Cord 240VA (#23495124)  
 AC Cord 240VE (#00907001)  
 DEMO DISK <VS-1824CD only> (#02787478)  
 Blank CD-R DISK <VS-1824CD only> (\*\*\*\*\*)  
 Short Cut Seal (#40454245)  
 Overlay Sheet (#02787467)

### ● Options

24-bit Effect Expansion Board : VS8F-2  
 CD-RW Drive : CDR-88RW-4  
 Bi-amp Monitor : DS-90A, DS-50A  
 Dynamic Microphone : DR-20  
 Footswitch : FS-5U (BOSS)  
 Pedal Switch : DP-2

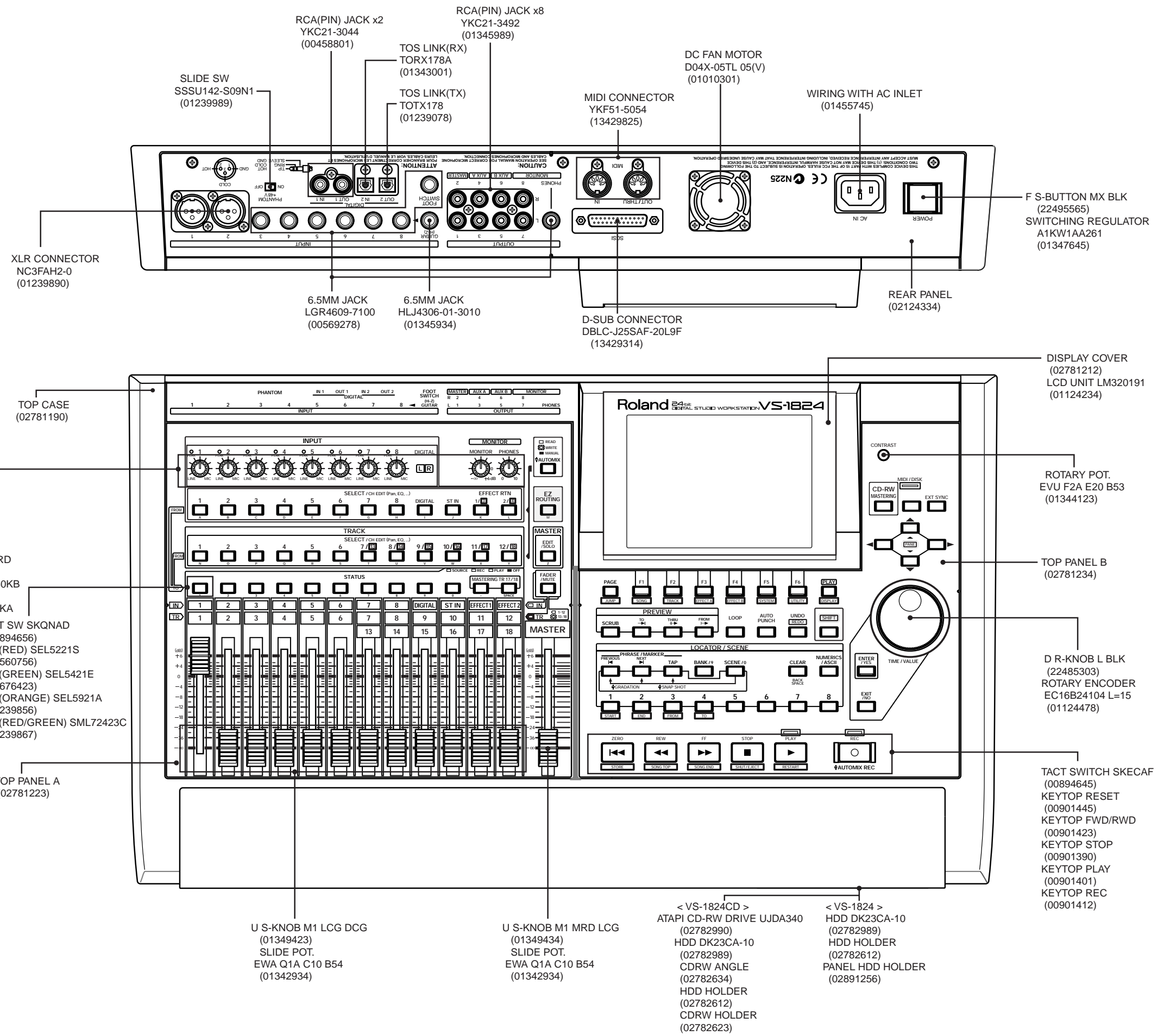
(0 dBu = 0.775 Vrms)

\* In the interest of product development, the specifications for this product are subject to change without prior notice.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A LOCATION OF CONTROLS

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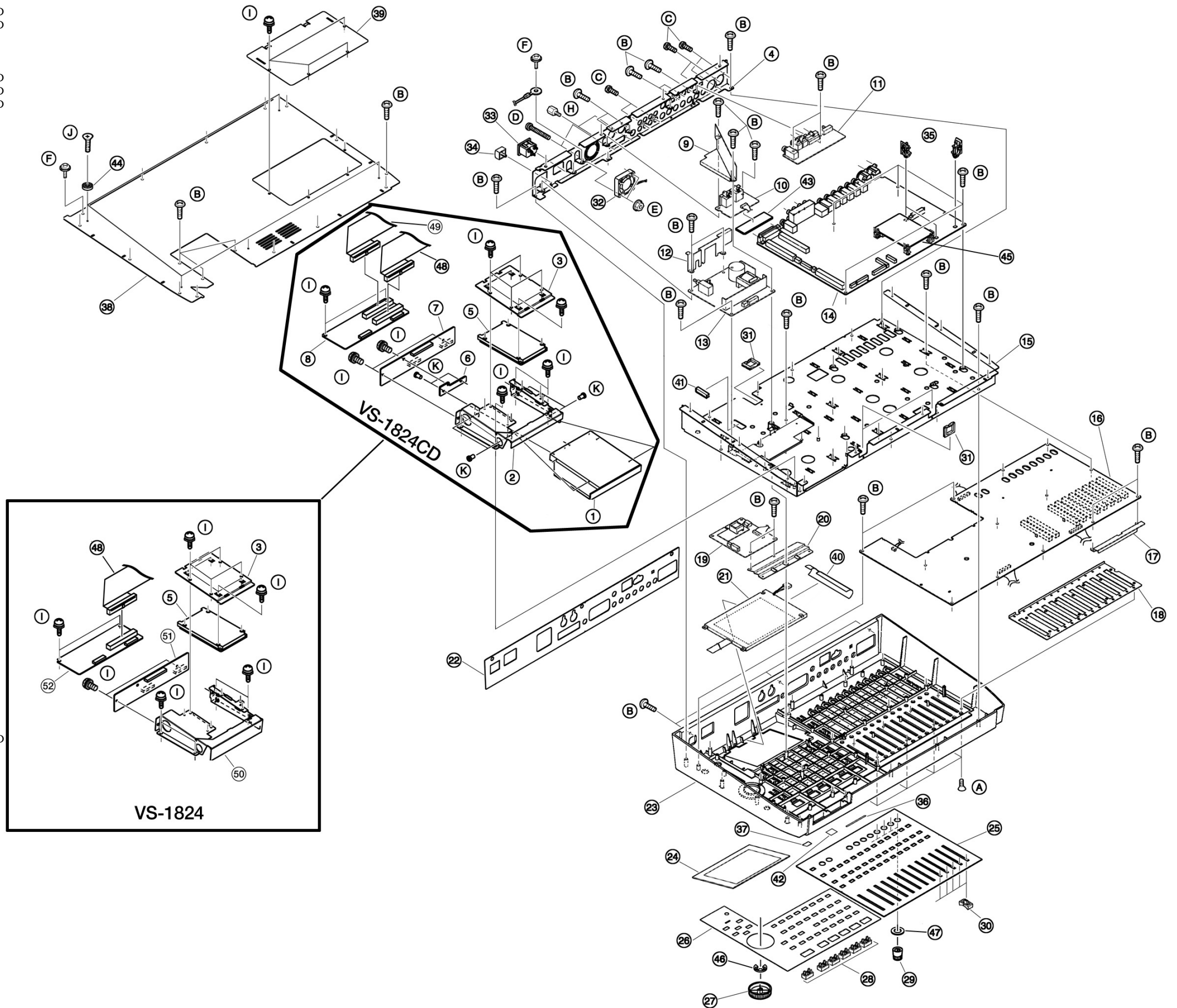


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A EXPLODED VIEW

## [PARTS]

No.	PART CODE	PART NAME	
1	02782990	ATAPI CD-RW DRIVE UJDA340	for VS-1824CD
2	02782623	CDRW HOLDER	for VS-1824CD
3	02782612	HDD HOLDER	
4	01347712	PWB HOLDER	
5	02782989	HDD UNIT DK23CA-10 (2.5INCH 10GB)	
6	02782634	CDRW ANGLE	for VS-1824CD
7	71907378	CDRW CONNECT BOARD	for VS-1824CD
8	71907356	SCSI CONNECT BOARD	for VS-1824CD
9	01561334	AIR GUIDE	
10	70906756	MIDI BOARD	
11	71011289	DIGITAL I/O BOARD	
12	01458312	SHIELD PANEL	
13	01347645	SWITCHING REGULATOR A1KW1AA261	
14	71908034	MAIN BOARD	
15	71908689	SUB CHASSIS ASSY	
16	71905878	PANEL BOARD	
17	01451445	SWB HOLDER	
18	01459201	VOLUME HOLDER	
19	71907845	LCD CONTRAST BOARD	
20	01451434	LCD HOLDER	
21	01124234	LCD UNIT LM320191	
22	02124334	REAR PANEL	
23	02781190	TOP CASE	
24	02781212	DISPLAY COVER	
25	02781223	TOP PANEL A	
26	02781234	TOP PANEL B	
27	22485303	D R-KNOB(ALPHA-DIAL) L BLK 248-303	
28	00901390	KEYTOP(WHIT GREY) STOP	
28	00901401	KEYTOP(WHIT GREY) PLAY	
28	00901412	KEYTO(RED) PREC	
28	00901423	KEYTOP(WHIT GREY) FWD/RWD	
28	00901445	KEYTOP(WHIT GREY) RESET	
29	01891801	U R-KNOB S1 LCG BLK	
	02565389	U R-KNOB S1 LCG REC	
	01891834	U R-KNOB S1 LCG BLU	
30	01349423	U S-KNOB M1 LCG DCG GRY/BLK	
30	01349434	U S-KNOB M1 MRD LCG	
31	01455523	CORD BUSHING EDS-1717U	
32	01010301	DC FAN MORTOR D04X-05TL 05(V)	
33	01455745	WIRING FOR POWER WITH INLET	
34	22495565	F S-BUTTON MX BLK	
35	00899890	PWB SPACER KGES-12	
36	40346923	STATUS KEY SEAL	
37	40346934	AUTOMIX KEY SEAL	
38	71905889	BOTTOM ASSY	
39	01452289	EXP COVER	
40	40346945	LCD SEAL	
41	40346956	EDGEING CE-012 L=27	
42	40453967	TR SEAL	
43	02891112	PWB CUSHION	
44	01782789	VM RUBBER FOOT	
45	71019234	EFFECT EXPANSION BOARD	
46	40235189	RING SE-9	
47	01902678	WASHER	
48	02786701	WIRING IDE	
49	02786712	WIRING SCSI	for VS-1824CD
50	02891256	PANEL HDD HOLDER	for VS-1824
51	72010812	HDD CONNECT BOARD	for VS-1824
52	72010801	CONNECT BOARD	for VS-1824



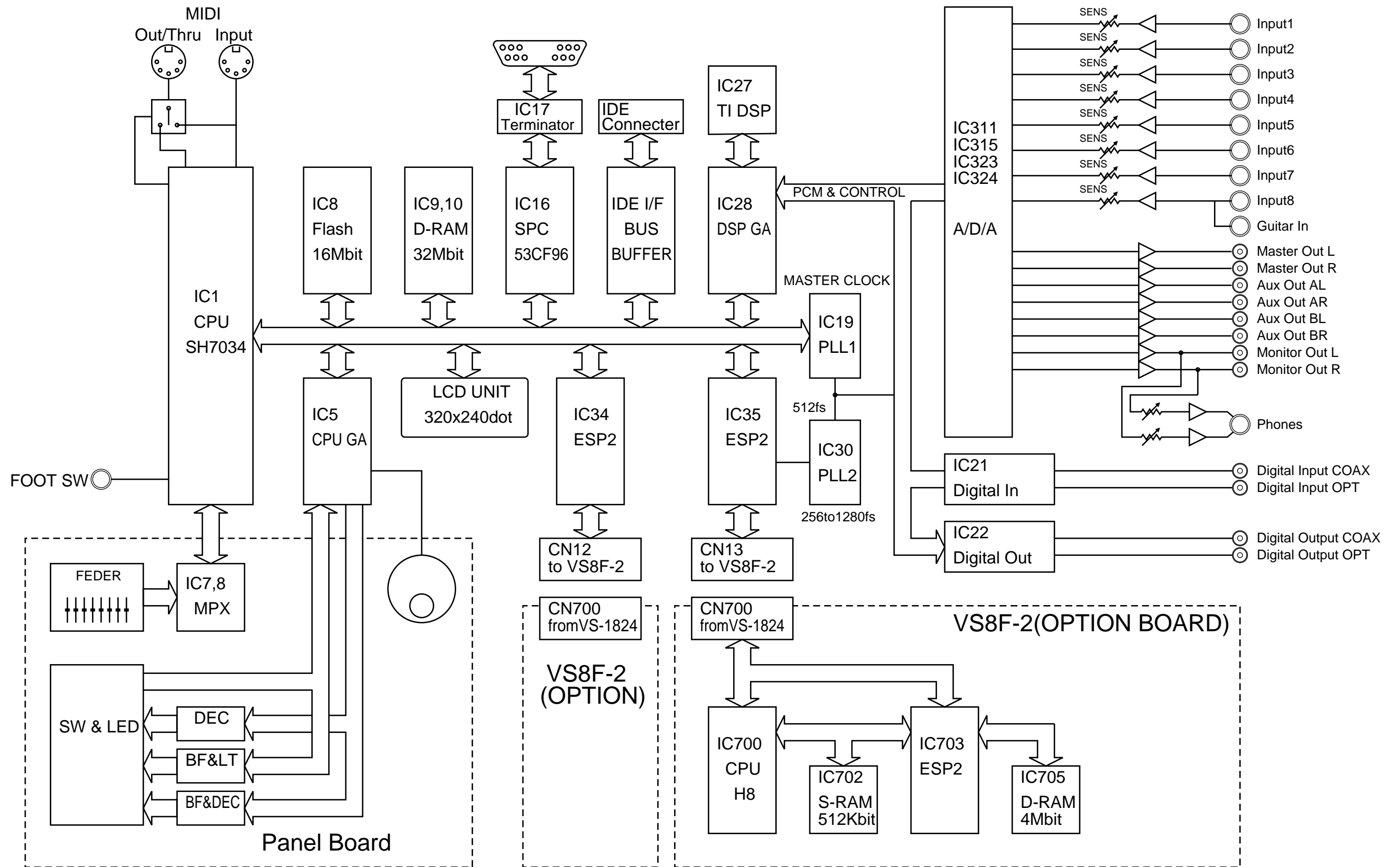
## [SCREWS]

No.	PART CODE	PART NAME
A	40010501	SCREW M3x6 FLAT HEAD FE BZC
B	40011101	SCREW 3x8 BINDING TAPTITE B BZC
C	40011501	SCREW M3x8 PAN MACHINE W/SW BZC
D	40342934	SCREW M4x20 PAN MACHINE W/SW BZC
E	40344545	M4 FLANGE NUT ZC
F	40342989	M4x8 LO2 BZC
G	40012534	SCREW 3x6 BINDING TAPTITE S FE BZC
H	40344134	SCREW M4-40x7.9 HEX SOCKET NI
I	40342712	SCREW M3x6 PAN MACHINE W/SW+SMALL PW BZC
J	40011156	SCREW 3x8 FLAT TAPTITE B BZC
K	40454956	SCREW M2x2.5 SPECIAL PAN ZNC

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

**A BLOCK DIAGRAM**

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# PARTS LIST

<p><b>SAFETY PRECAUTION:</b> The parts marked <math>\Delta</math> have safety-related characteristics. Use only listed parts for replacement.</p>	<p>The parts marked # are new (initial parts).</p>	<p><b>CONSIDERATIONS ON PARTS ORDERING</b> When ordering any parts listed in the parts list, please specify the following items in the order sheet.</p> <table border="1"> <thead> <tr> <th>QTY</th> <th>PART NUMBER</th> <th>DESCRIPTION</th> <th>MODEL NUMBER</th> </tr> </thead> <tbody> <tr> <td>Ex. 10</td> <td>22575241</td> <td>Sharp key</td> <td>C-20/50</td> </tr> <tr> <td>15</td> <td>2247017300</td> <td>Knob (orange)</td> <td>DAC-15D</td> </tr> </tbody> </table> <p>Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.</p>	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER	Ex. 10	22575241	Sharp key	C-20/50	15	2247017300	Knob (orange)	DAC-15D
QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER											
Ex. 10	22575241	Sharp key	C-20/50											
15	2247017300	Knob (orange)	DAC-15D											

MB ---> MAIN BOARD  
 DB ---> DIGITAL I/O BOARD  
 PB ---> PANEL BOARD  
 MIDI ---> MIDI BOARD  
 CB ---> CONNECTOR BOARD  
 LCD ---> LCD CONTRAST

Warning! : There is the possibility that you will burn your hands when you touch Power Supply parts soon after the power supply is turned off.

Note : Consider about the natural environment carefully before through the old lithium battery away when you exchange to the new one.

CASING				
#	02781212	DISPLAY COVER		1
	01672523	DUST COVER		2
	02124334	REAR PANEL		1
#	02781190	TOP CASE		1
#	02781223	TOP PANEL A		1
#	02781234	TOP PANEL B		1
#	71905889	BOTTOM ASSY		1
	NOTE: 'BOTTOM ASSY' includes the following parts.			
#	*****	BOTTOM COVER		1
	01452289	EXP COVER		1
	01782789	VM RUBBER FOOT		5
CHASSIS				
#	71908689	SUB CHASSIS ASSY		1
	NOTE: 'SUB CHASSIS ASSY' includes the following parts.			
	*****	PWB ANGLE		1
	*****	SUB CHASSIS		1
	01561334	AIR GUIDE		1
#	02782634	CDRW ANGLE	for VS-1824CD	1
#	02782623	CDRW HOLDER	for VS-1824CD	1
#	02782612	HDD HOLDER		1
#	02891256	PANEL HDD HOLDER	for VS-1824	1
	01347712	PWB HOLDER		1
	01458312	SHIELD PANEL		1
	01459201	VOLUME HOLDER		1
KNOB, BUTTON				
	00901390	KEYTOP	STOP(WHIT/GREY)	1
	00901401	KEYTOP	PLAY(WHIT/GREY)	1
	00901412	KEYTOP	REC(RED)	1
	00901423	KEYTOP	FWD/RWD(WHIT/GREY)	2
	00901445	KEYTOP	RESET(WHIT/GREY)	1
	22485303	D R-KNOB	L BLK 248-303	1
	22495565	F S-BUTTON	MX BLK	1
	01340412	P R-KNOB	SF-A BLK/LCG	10
	01349423	U S-KNOB	M1 LCG DCG	12
	01349434	U S-KNOB	M1 MRD LCG	1
	01891801	U R-KNOB	S1 LCG BLK	8
	02565389	U R-KNOB	S1 LCG RED	1
	01891834	U R-KNOB	S1 LCG BLU	1
SWITCH				
	01239989	SSSU142-S09N1	SLIDE SWITCH	SW200 on DB
	00894645	SKECAF WITHOUT LED	TACT SWITCH	SW80-SW85 on PB
	00894656	SKQNAD	TACT SWITCH	SW1-SW10 on PB
				79
JACK, EXT TERMINAL				
	00569278	LGR4609-7100	6.5MM JACK	JK403 on DB. JK302-JK307,JK310 on MB
	01345934	HLJ4306-01-3010	6.5MM JACK	JK308 on MB

01345989	YKC21-3492	RCA(PIN) JACK	JK309 on MB	1
00458801	YKC21-3044 0/0	RCA(PIN) JACK (ORANGE) x 2	JK402 on DB	1
01239890	NC3FAH2-0	XLR CONNECTOR	JK300,JK301 on MB	2
13429825	YKF51-5054 2PZ	MIDI CONNECTOR	JK300 on MIDI	1
13429314	DBLC-J25SAF-20L9F	D-SUB 25PIN CONNECTOR	JK1 on MB	1

DISPLAY UNIT				
01124234	LM320191	LCD UNIT		1
NOTE: Replacement " LCD UNIT LM320191 " should be made on a unit base.				

DISK DRIVE UNIT				
02782989	DK23CA-10 (2.5INCH 10GB)	HDD UNIT		1
NOTE: Replacement DK23CA-10 (2.5INCH 10GB) should be made on a unit base.				

#	02782990	ATAPI CD-RW DRIVE UJDA340	for VS-1824CD	1
NOTE: Replacement ATAPI CD-RW DRIVE UJDA340 should be made on a unit base.				

POWER SUPPLY UNIT				
01347645	A1KW1AA261	SWITCHING REGULATOR		1
NOTE: Replacement " SWITCHING REGULATOR A1KW1AA261 " should be made on a unit base.				

PCB ASSY				
#	71908034	MAIN BOARD ASSY		1
NOTE: 'MAIN BOARD ASSY' includes the following parts.				
	01344189	WIRING	FOR DIGITAL I/O BOARD 4S	1
	01347512	WIRING	FOR MAIN 8S	1
	00899890	PWB SPACER	KGES-12	6

#	71905878	PANEL BOARD		1
NOTE: 'PANEL BOARD' includes the following parts.				
	01344134	WIRING	FOR PANEL 3S	1
	01344145	WIRING	FOR PANEL 13S	1
	01344156	WIRING	FOR PANEL 14S	1
	01344167	WIRING	FOR PANEL 15S	1
	01451445	SWB HOLDER		1
#	40453956	PANEL BOARD SEAL		1

#	70906756	MIDI BOARD		1
NOTE: 'MIDI BOARD' includes the following parts.				
	01344212	WIRING	FOR MIDI BOARD 6S	1
#	71011289	DIGITAL I/O BOARD		1
NOTE: 'DIGITAL I/O BOARD' includes the following parts.				
	01344178	WIRING	FOR DIGITAL I/O BOARD 3S	1
	01344190	WIRING	FOR DIGITAL I/O BOARD 7S	1

#	72010812	HDD CONNECT BOARD	for VS-1824	1
#	72010801	CONNECT BOARD	for VS-1824	1
#	71907378	CDRW CONNECT BOARD	for VS-1824CD	1

#	71907356	SCSI CONNECT BOARD	for VS-1824CD	1
NOTE: 'SCSI CONNECT BOARD' includes the following parts.				
#	02784467	WIRING	8x50-P2.5-XHP-SCN-F	1
#	71907845	LCD CONTRAST BOARD		1
NOTE: 'LCD CONTRAST BOARD' includes the following parts.				

	01347634	WIRING	FOR LCD CONT BOARD 12S	1
	01451434	LCD HOLDER		1
	40012534	SCREW 3x6	BINDING TAPTITE S FE BZC	2
	71019234	EFFECT EXPANSION BOARD		1

IC				
----	--	--	--	--

01342423	HD6437042AE11F	IC (CPU)	IC1 on MB	1	
00892556	TC170C140AF-003 (ESP2)	IC (CUSTOM)	IC34,IC35 on MB	2	
01349745	UPD65806GD-100-LML	IC (CUSTOM)	IC28 on MB	1	
00343823	M60205-0601FP	IC (GATE ARRAY)	IC5 on MB	1	
01561945	LH28F160S5T-L70	IC (FLASH MEMORY/BLANK)	IC8 on MB	1	
#	02891023	GM71C17803CJ-6	IC (DRAM)	IC9,IC10 on MB	2
#	01902212	UPD431000AGW-70LL-E2	IC (SRAM)	IC12 on MB	1
#	02566145	K6R1016C1C-JC15T00	IC (SRAM)	IC29,IC62 on MB	2
	01679990	AK4524VF-E2	IC (AD/DA)	IC311,IC315,IC323,IC324 on MB	4
	01347490	NCR53CF96-2	IC (SIO)	IC16 on MB	1
	01450201	TMS320C541PZ1-40	IC (CFM)		1
	15169515	TC74HC00AP	IC (CMOS)		1
	15169627	TC74HC154AP	IC (CMOS)	IC1,IC2 on PB	2
	15169596	TC74HC4051AP	IC (CMOS)		2
	15169556T0	TC74HC574AP	IC (CMOS)	IC5 on PB	1
	00231878	TC74VHC00F(EL)	IC (CMOS)	IC36 on MB	1
	00670290	TC74VHC139F(EL)	IC (CMOS)	IC6 on MB	1
	00893967	TC74VHC153F(EL)	IC (CMOS)	IC7,IC20 on MB	2
	00236889	TC74VHC157F(EL)	IC (CMOS)	IC31,IC32,IC33,IC63 on MB	4
	00236845	TC74VHC245F(EL)	IC (CMOS)	IC13,IC14,IC15 on MB	3
	00893978	TC74VHC393F(EL)	IC (CMOS)	IC18,IC24,IC25,IC52,IC60 on MB	5
	00564534	TC74VHC574F(EL)	IC (CMOS)	IC26,IC303 on MB	2
	01346067	TC74VHC595F(EL)	IC (CMOS)		1
	00236878	TC74VHC74F-EL	IC (CMOS)	IC59,IC65 on MB	2
	01348956	TC7SH00FU(TE85L)	IC (CMOS)	IC58 on MB	1
	01348901	TC7SH04FU(TE85L)	IC (CMOS)	IC50,IC51,IC66 on MB	3
	01348912	TC7SH08FU(TE85L)	IC (CMOS)	IC54 on MB	1
	01348945	TC7SH32FU(TE85L)	IC (CMOS)	IC55,IC56,IC61,IC307 on MB	4
	01348890	TC7SHU04FU(TE85L)	IC (CMOS)	IC53 on MB	1
	01121845	TC7W04FU TE12L	IC (CMOS)	IC49,IC57 on MB	2
	01349578	TC7W08FU(TE12L)	IC (CMOS)	IC45 on MB	1
	01450178	TC7W14FU(TE12L)	IC (CMOS)	IC48 on MB	1
	01121834	TC7W74FU TE12L	IC (CMOS)	IC43,IC64 on MB	2
	01349590	TC7WU04FU(TE12L)	IC (CMOS)	IC44 on MB	1
	15169512	TC74HCU04P	IC (H-CMOS)	IC400 on DB	1
	15199928	NJM2360D	IC (CONTROL)	IC700 on LCD	1
	15289110	UPC4062G2-T2	IC (OP AMP)	IC3 on MB	1
	15289109	M5216FP-600D	IC (BIPOLAR OP AMP)	IC321 on MB	1
	15189266	NE-5532AN	IC (BIPOLAR OP AMP)	IC300,IC304,IC308,IC312 on MB	4
	15289105	UPC4570G2-E2	IC (BIPOLAR OP AMP)	IC301,IC305,IC309,IC313,IC316-IC320, IC322 on MB	10
	15229706S0	PC910XK	IC (PHOTO CUPLER)		1
	00564690	TC9246F(ELP)	IC (PLL)	IC19 on MB	1
	01124367	TLC2933IPW	IC (PLL)	IC30 on MB	1
	15199286	AN78L05M-(E1)	IC (REGULATOR)	IC302,IC306,IC310,IC314 on MB	4
	01899790	UPC29L33T-E2	IC (REGULATOR)		1
	15289123	M51953AFP-600C	IC (RESET)	IC4 on MB	1
	01124378	LC8905VD-TLM	IC (DIF/RECEVER)	IC21 on MB	1
	00121078	TC9271F(ELP)	IC (DIF/TRANSMITTER)	IC22 on MB	1
	15199944	SED1335F0B	IC (DRIVER)	IC11 on MB	1
	00893990	BH9595FP-TP	IC (SCSI ACTIVE TERMINATOR)	IC17 on MB	1
#	02782590	S1R72106FOOA (SPC7216FOA)	IC (IDE/SCSI CONVERTER)		1
	01347489	RTC-4543 SA-A	IC (TIMER)	IC2 on MB	1

TRANSISTOR

15309101	2SA1037KR T146 QRS	TRANSISTOR	Q328 on MB	1
15129151	2SC1815-GR(TPE2)	TRANSISTOR	Q700 on LCD	1
01239990	2SC4117-GR(TE85L)	TRANSISTOR	Q300-Q315 on MB	16
15319603	2SD1664 R T101	TRANSISTOR	Q2 on MB	1
15119141	DTA114ESATP	DIGITAL TRANSISTOR	Q300 on MIDI	1
15129164	DTC114ESTP	DIGITAL TRANSISTOR	Q400 on DB	1
15329516	DTC114EKT146	DIGITAL TRANSISTOR	Q1,Q326,Q327 on MB	3
15329505	DTC314TK T146	DIGITAL TRANSISTOR	Q316-Q325 on MB	10
00019112	TD62381P	TRANSISTOR	IC6,IC9 on PB	2
15149150	TD62787AP	TRANSISTOR	IC3,IC4 on PB	2

DIODE

01349556	AK06	SCHOTTKY DIODE	D700 on LCD	1
01672812	EC21QS06 L	SCHOTTKY DIODE	D3 on MB	1
15019126	ISS133 T-77	SWITCHING DIODE		85 +1
15339105	DAN202K T146 (CHIP)	DIODE ARRAY	D1,D4,D5,D300 on MB	4
15339108	DA204K T146	DIODE ARRAY	D2 on MB	1

RESISTOR

00234090	SR25TRE 1R0 J	CARBON RESISTOR	R700 on LCD	1	
13749741T0	SR25TRE 4R7 J 4.7 OHM 1/10W	CARBON RESISTOR	R4-R8,R22-R27 on PB	19	
13749749T0	SR25TRE 100J 1/6W	CARBON RESISTOR	R1,R2,R3 on PB	3	
13749761T0	SR25TRE 330J 1/6W	CARBON RESISTOR	R405 on DB	1	
#	13749770T0	SR25TRE 750J 1/6W	CARBON RESISTOR	R401,R402 on DB	2
	13749773T0	SR25TRE 101J 1/6W	CARBON RESISTOR	R9-R18 on PB	13
	13749779T0	SR25TRE 181J 1/6W	CARBON RESISTOR	R701 on LCD	1
	13749781T0	SR25TRE 221J 1/6W	CARBON RESISTOR	R300,R301,R302 on MIDI	3
	13749789T0	SR25TRE 471J 1/6W	CARBON RESISTOR	R37-R44 on PB	8
	13749797T0	SR25TRE 102J 1/6W	CARBON RESISTOR	R702,R704 on LCD	2
	13749809T0	SR25TRE 332J 1/6W	CARBON RESISTOR	R404 on DB	1
	13749821T0	SR25TRE 103J 1/6W	CARBON RESISTOR	R403 on DB. R303 on MIDI	1 +1
	13749827T0	SR25TRE 183J 1/6W	CARBON RESISTOR	R703,R705 on LCD	2
	13749837T0	SR25TRE 473J 1/6W	CARBON RESISTOR	R400 on DB	1
	15399952	MCR50JZH470 1/2W	CHIP RESISTOR	R543,R544 on MB	2
	15399989	MCR50JZH680 1/2W	CHIP RESISTOR	R340,R377,R414,R456 on MB	4
	00121089	RPC10T 750 J	MTL.FILM RESISTOR	R32,R72 on MB	2
	00560890	RR1220P-823D	MTL.FILM RESISTOR	R315,R335,R354,R372,R391,R409, R428,R451 on MB	8
	00897245	RR1220P-222-D 2.2K (D)	MTL.FILM RESISTOR	R310,R314,R330,R334,R349,R353, R367,R371,R386,R390,R404,R408, R423,R427,R446,R450 on MB	16
	01122089	RR1220Q-220-D 22 OHM (CHIP)	MTL.FILM RESISTOR	R302,R303,R322,R323,R341,R342,R359, R360,R378,R379,R396,R397, R415,R416, R438,R439 on MB	16
	01345990	RR1220Q-120-D	MTL.FILM RESISTOR	R312,R332,R351,R369,R388,R406,R425, R448 on MB	8
#	01347467	RPC10T 302 J	MTL.FILM RESISTOR	R8 on MB	1
	01451423	MCR25JZH J 682 1/4W	MTL.FILM RESISTOR	R300,R301,R320,R321 on MB	4
	01454890	MCR50 JZH J 220	MTL.FILM RESISTOR	R528,R534 on MB	2
	01458689	SRPX2 L15 0.1 J	MTL.FILM RESISTOR	R95 on MB	1
	15399301	RPC10T 0R0 J	MTL.FILM RESISTOR	R10,R47,R76 on MB	3
	15399349	RPC10T 100 J 1/10W	MTL.FILM RESISTOR	R23,R97,R98,R99 on MB	4
	15399357	RPC10T 220 1/10W	MTL.FILM RESISTOR	R30,R31,R90 on MB	3
	15399373	RPC10T 101 J 1/10W	MTL.FILM RESISTOR	R4,R27,R53-R68,R539-R542 on MB	22
	15399377	RPC10T 151 J 1/10W	MTL.FILM RESISTOR	R36 on MB	1
	15399381	RPC10T 221 J 1/10W	MTL.FILM RESISTOR	R7,R37 on MB	2
	15399385	RPC10T 331 J 1/10W	MTL.FILM RESISTOR	R44 on MB	1
	15399389	RPC10T 471 J 1/10W	MTL.FILM RESISTOR	R515,R511,R319,R339,R470,R455,R413, R520,R432,R358,R376,R395,R468,R522, R480,R488,R486,R494,R482,R474,R509, R504,R500,R492,R498,R476 on MB	26
	15399397	RPC10T 102 J 1/10W	MTL.FILM RESISTOR	R435,R523,R517,R506,R3,R529 on MB	6
	15399401	RPC10T 152 J 1/10W	MTL.FILM RESISTOR	R29 on MB	1
	15399413	RPC10T 472 J 1/10W	MTL.FILM RESISTOR	R45,R318,R338,R357,R375,R394,R412, R431,R454 on MB	9
	15399415	RPC10T 562 J 1/10W	MTL.FILM RESISTOR	R34,R35 on MB	2
	15399421	RPC10T 103 J 1/10W	MTL.FILM RESISTOR	R1,R9,R38-R43,R69,R74,R77-R84, R91-R94,R525,R531,R535 on MB	25
	15399425	RPC10T 153 J 1/10W	MTL.FILM RESISTOR	R46 on MB	1
	15399429	RPC10T 223 J 1/10W	MTL.FILM RESISTOR	R5,R6,R11,R12,R14-R22,R24-R26, R48-R52,R70,R71,R85-R89 on MB	28
	15399430	RPC10T 243 J 1/10W	MTL.FILM RESISTOR	R33 on MB	1
	15399433	RPC10T 333 J 1/10W	MTL.FILM RESISTOR	R526,R532 on MB	2
	15399437	RPC10T 473 J 1/10W	MTL.FILM RESISTOR	R328,R308,R347,R365,R384, R402,R421,R444,R524,R530 on MB	10
	15399445	RPC10T 104 J 1/10W	MTL.FILM RESISTOR	R510,R469,R419,R420,R440,R441,R442,R443, R418,R475,R487,R417,R505,R481,R516,R521, R538,R499,R325,R304,R305,R306,R493,R324, R401,R326,R327,R343,R344,R345,R346,R361, R383,R307,R400,R398,R382,R381,R380, R364,R362,R399,R363 on MB	43
	15399453	RPC10T 224 J 1/10W	MTL.FILM RESISTOR	R28,R537 on MB	2
	15399469	RPC10T 105 J 1/10W	MTL.FILM RESISTOR	R13,R433,R434 on MB	3
	15399485	RPC10T 475 J 1/10W	MTL.FILM RESISTOR	R2 on MB	1
	15419702	RR1220P-102-D 1K OHM 1/10W	MTL.FILM RESISTOR	R508,R519 on MB	2
	15419706	RR1220P-122-D 1.2K OHM 1/10W	MTL.FILM RESISTOR	R316,R336,R355,R373,R392,R410,R429, R452 on MB	8
	15419710	RR1220P-512D 5.1K OHM 1/10W	MTL.FILM RESISTOR	R100,R457,R459-R465,R471,R477,R483, R489,R495,R501,R512 on MB	16
	15419729	RR1220P-822-D 8.2K OHM 1/10W	MTL.FILM RESISTOR	R466,R467,R472,R473,R478,R479,R484, R485,R490,R491,R496,R497, R502,R503, R513,R514 on MB	16
	15419701	RR1220P-103-D 10K OHM 1/10W	MTL.FILM RESISTOR	R311,R313,R331,R333,R350,R352, R368,R370,R387,R389,R405,R407,	

15419726	RR1220P-393-D 39K OHM 1/10W	MTL.FILM RESISTOR	R424,R426,R447,R449 on MB R317,R337,R356,R374,R393,R411,R430, R453 on MB	16 8
15399457	RPC10T 334 J 1/10W	MTL.FLIM RESISTOR	R73,R536 on MB	2
00126490	MNR34J5AJ470	RESISTOR ARRAY	RA11-RA16 on MB	6
01566412	CND2B10VTE103J	RESISTOR ARRAY	RA1-8,RA17,RA18,RA24,RA25 on MB	12
01566423	CND2B10VTE102J	RESISTOR ARRAY	RA9,RA10 on MB	2
01898345	ERY43SA125VA	THERMISTOR	R96 on MB	1
<b>POTENTIOMETER</b>				
01344123	EVU F2AE20B53 5KB	9M/M ROTARY POTENTIOMETER	VR14 on PB	1
01347678	EVU JF8 FL3 54D 50KRD	9M/M ROTARY POTENTIOMETER	VR300-VR307 on MB	8
01347856	EVU JF8 FL3 B54 50KB	9M/M ROTARY POTENTIOMETER	VR1 on MB	1
01345978	EVJ Y95 F03 A14(10KA)	12M/M ROTARY POTENTIOMETER	VR308 on MB	1
01342934	EWA Q1AC10B54 50KB	60M/M SLIDE POTENTIOMETER	VR1-VR10 on PB	13
<b>CAPACITOR</b>				
01906056	DD104-989B561K50	CERAMIC CAPACITOR		1
01674701	ECJ1VF1E104Z 0.1UF/16VK	CERAMIC CAPACITOR		11
15359436	ECJ2VB1H102K	CERAMIC CAPACITOR		25
15359448	ECJ2VB1H103K 0.01F/50V	CERAMIC CAPACITOR		4
15359206	ECJ2VF1E104Z 100000PF/25V	CERAMIC CAPACITOR		54
01674167	ECUV1H100DCV	CERAMIC CAPACITOR		2
15349407M0	GRM40B223K50PT	CERAMIC CAPACITOR		2
01672423	GRM40CH101J50PT	CERAMIC CAPACITOR		8
15359618R0	GRM40CH120J50PT10	CERAMIC CAPACITOR		2
15359616R0	GRM40CH150J50PT10	CERAMIC CAPACITOR		1
01673123	GRM40CH221J50PT	CERAMIC CAPACITOR		2
01672467	GRM40CH470J50PT	CERAMIC CAPACITOR		5
01672478	GRM40CH471J50PT	CERAMIC CAPACITOR		1
00893445	GRM40F474Z16PT	CERAMIC CAPACITOR		1
13649107S0	16MV47NPDW+T	CHEMICAL CAPACITOR		1
13639698	ECEA0JKS101B (H=5MM)	CHEMICAL CAPACITOR		1 +1
01345956	ECEA1CPZ470B 47PF/16V	CHEMICAL CAPACITOR		8
00908201	ECEA1EPZ101B	CHEMICAL CAPACITOR		10
00568801	ECEA1EPZ470B	CHEMICAL CAPACITOR		16
01346001	ECEA1HPZ220B 22UF/50V	CHEMICAL CAPACITOR		16
15369109	ECEV0JA101SP	CHEMICAL CAPACITOR		12
15369149M0	ECEV1CA470P	CHEMICAL CAPACITOR		2
15369263	ECEV1HA2R2SR	CHEMICAL CAPACITOR		1
01345845	EEUFC1J221S 220UF/63V	CHEMICAL CAPACITOR		1
01909689	RA2-10V471M-T2	CHEMICAL CAPACITOR		4
01454889	RA2-16V470MT2 470UF/16V	CHEMICAL CAPACITOR		10
01909690	RA2-16V471MC-T2	CHEMICAL CAPACITOR		8
#	02784478	RC3-35V470M-T2	CHEMICAL CAPACITOR	2
	02781423	RC3-6V101M-T2	CHEMICAL CAPACITOR	2 +3
#	02789123	RE3-16V221M-T2	CHEMICAL CAPACITOR	1
#	02782890	RE3-16V331MB-T2	CHEMICAL CAPACITOR	6
#	02782734	RE3-16V471M-T2	CHEMICAL CAPACITOR	1
#	02789134	RE3-50V4R7M-T2	CHEMICAL CAPACITOR	1
#	02892567	RE3-6V103M	CHEMICAL CAPACITOR	1
	02121089	RFS-16V222M BLACK	CHEMICAL CAPACITOR	2
	02345234	RV2-6V101M-R	CHEMICAL CAPACITOR	5
	02125190	ECEA1HN010UB	CHEMICAL-BP CAPACITOR	1
	01563712	ECQV1H105JL3	M.POLYEST. CAPACITOR	4
	01784189	UP050F104ZAB	MLT.LAY.CERA CAPACITOR	5 +2 +5
	00236267	AMZV0050J102 0200 1000PF 50V	POLYEST. CAPACITOR	1
	00239490	AMZV050J103 0.01UF 50V	POLYEST. CAPACITOR	1
	02014856	ECHU1C472JX5	POLYEST. CAPACITOR	8
	01899345	ECHU1H121JX5	POLYEST. CAPACITOR	20
	01898423	ECHU1H222JX5	POLYEST. CAPACITOR	8
	01784123	ECHU1H471JX5	POLYEST. CAPACITOR	16
	01896589	SK4-0J106MZ4-RA	TANTALUM CAPACITOR	8
<b>INDUCTOR, COIL, FILTER</b>				
	12449449	RCH875-151K 150UH	COIL	L700 on LCD
	00891689	SBT-0260TF	EMI FILTER	FL300-FL304 on MIDI
	01233345	N2012Z121T02	FERRITE BEAD	FL1-FL5 on MB
	12449268	BL02RN2-R62T2	FERRITE-BEAD	FL400 on DB
#	02565678	EMI GASKET	UC-3E0504 L=15	2
<b>CRYSTAL, RESONATOR</b>				
#	02782601	MA-306 40MHZ	CRYSTAL	1
	01124812	MA-406 10MHZ	CRYSTAL	X1 on MB
	01454856	SG-8002JC-56M-PHCL	OSCILLATOR	X3 on MB

01454867	SG-8002JC-60M-PHCL	OSCILLATOR	X4 on MB	1
<b>ENCODER</b>				
01124478	EC16B24104 L=15	ROTARY ENCODER	EN2 on PB	1
<b>OPTICAL DEVICE</b>				
01239078	TOTX178A	IC (OPTICAL DIGITAL OUT)	JK401 on DB	1
01343001	TORX178A	IC (OPTICAL DIGITAL IN)	JK400 on DB	1
00560756	SEL5221S TP15	LED (RED)	D116,D165-D171 on PB	10
00676423	SEL5421E TP-15	LED (GREEN)	D115,D174 on PB	2
01239856	SEL5921A TP15	LED (ORANGE)	D113,D114,D118-D122 on PB	48
01239867	SML72423C TP15	LED (RED/GREEN)	D100-D107 on PB	13
<b>CONNECTOR</b>				
	13379104	TX14-40R-6ST-MH1	B TO B CONNECTOR	CN12,CN13 on MB
#	02782589	14 5600 050 000 883	CONNECTOR	2
#	02782645	24 5600 050 100 883	CONNECTOR	3
	13369541	B10B-PH-K-S JST	CONNECTOR	CN15 on MB
	13369564	B12B-PH-K-S JST	CONNECTOR	CN6 on MB
	13369582	B13B-PH-K-S JST	CONNECTOR	CN11 on MB
	13369563	B14B-PH-K-S JST	CONNECTOR	CN4 on MB
	13369562	B15B-PH-K-S JST	CONNECTOR	CN5 on MB
	13439474	B2B-XH-A	CONNECTOR	CN14 on MB
	13369567	B4B-PH-K-S JST (4P)	CONNECTOR	CN201 on DB
	13369594	B4B-XH-A	CONNECTOR	CN3 on MB
	13369566	B6B-PH-K-S JST(6P)	CONNECTOR	CN1 on MB
	13369503	B7B-PH-K-S JST	CONNECTOR	CN10 on MB
	13369556	B8B-XH-A JST	CONNECTOR	1
	13369568	JST B3B-PH-K-S JST	CONNECTOR	CN702 on LCD
#	02783001	MA18M-44DA-2DSB	CONNECTOR	1
	01349645	S2(4-2.3)B-XH-A	CONNECTOR	CN703 on LCD
	02237512	75501-0X0-B	CONNECTOR P/N	2 +3
	01341990	52045-1245	FFC/FPC CONNECTOR	CN701 on LCD
<b>WIRING, CABLE</b>				
#	02786712	WIRING	for SCSI	1
#	02786701	WIRING	for IDE	1
△	01455745	WIRING	for POWER WITH INLET	1
<b>TRANSFORMER</b>				
	12449615	PT-10244-615	PULSE TRANSFORMER	T400 on DB
	00900901	CXA-M10AL 560000030	INVERTER MODULE	IC701 on LCD
<b>SCREWS</b>				
#	40454956	SCREW M2x2.5	SPECIAL PAN ZNC	6
	40342712	SCREW M3x6	PAN MACHINE W/SW+SMALL PW BZC	21
	40010501	SCREW M3x8	FLAT HEAD FE BZC	8
	40011101	SCREW 3x8	BINDING TAPTITE B BZC	55
	40011156	SCREW 3x8	FLAT TAPTITE B BZC	5
	40011201	SCREW 3x8	PAN TAPTITE P BZC	6
	40342989	SCREW M4x8	PAN W/EX.TOOTH WASHER	2
#	40342934	SCREW M4x20	PAN MACHNE W/SW BZC	2
	40344134	SCREW M4-40x7.9	HEX SOCKET NI	2
	40344545	M4 FLANGE NUT ZC		2
	40235189	RING	SE-9	1
	01902678	WASHER		10
<b>PACKING</b>				
#	02891501	ACCESSORY PAD		1
#	02891490	BOTTOM PAD		1
#	02894512	FRONT PROTECT PAD		1
	02781367	OUTER PACKING CASE	for PACKING CASE	1
	02781001	PACKING CASE		1
	02784434	PACKING CASE		1
#	02891478	PAD L		1
#	02891489	PAD R		1
#	02894523	REAR PROTECT PAD		1
<b>MISCELLANEOUS</b>				
	40346934	AUTOMIX KEY SEAL		1
	40238545	CAUTION LABEL	SHOCK HAZARD & ICES	1
	40126812	CAUTION LABEL	BARRIER(100V/117V ONLY)	1
#	40454067	CDRW SEAL		1
	40017412	CORD BINDER	NO.11 BLACK	1



	01455523	CORD BUSHING	EDS-1717U	3
	01010301	DC FAN MORTOR	D04X-05TL 05(V)	1
	40346956	EDGEING	CE-012 L=27	1
	40346945	LCD SEAL		1
	00238990	LITHIUM BATTERY	CR2032 220MAH/3V	1
	12569420	LITHIUM BATTERY HOLDER	(HL32-A2) FOR CR2032	1
#	02891112	PWB CUSHION		1
	40346923	STATUS KEY SEAL		1
#	40453967	TR SEAL		1
	40014589	WARNING SEAL	102-103	1

**ACCESSORIES (STANDARD)**

#	71905867	OWNER'S MANUAL SET	JAPANESE	1
#	71905923	OWNER'S MANUAL SET	ENGLISH	1
	00894367	AC CORD SET	100V SP18A+IS14 VCTF2X0.75	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
	*****	BLANK CD-R		1
			for VS-1824CD	
#	02787478	DEMO CDROM		1
			for VS-1824CD	
#	02787467	OVERLAY SHEET		1
	40232334	WARRANTY CARD	(JAPAN ONLY)	1

# TEST MODE

## Equipment

:VS-1824  
 :VS8F-2  
 :Audio devices (CD PLAYER, DAT, AUDIO SIGNAL GENERATOR, AMPLIFIER, SPEAKER, HEADPHONES)  
 :MIDI devices (MIDI KEYBOARD, MIDI MODULE)  
 :SCSI devices (ZIP DRIVE)  
 :Cable (AUDIO, MIDI, SCSI)

### 1. Entering test mode

While pressing [TRACK SELECT] and [STATUS] button on the CH5, turn the power on.  
 The unit is now in the test mode.

### 2. Exiting test mode

Turning the power off is the only one way to exit the test mode.

### 3. Selecting of the test from a menu

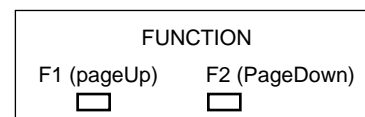
The test menu is shown on the display after starting up the test mode program.  
 The information of the current version is shown on the upper part of the display all the time.  
 The menu items are shown on the left-lower part of the display.  
 The contents of the selected menu is shown on the right-lower part of the display.

[ Roland VS-1824 TEST Mode ( Version 1.xxx ) ]	
Upper Software Version Number:	VS-1824Ver.x.xxx
Upper Software Create Date:	Dec 11 01' xx:xx
BOOTROM Version Number:	VS-1824BtVerx.xx
[TEST MENU]	[ [ LCD Check ] ]
>01:LCD      Chk	
02:LED        Chk	
03:SW         Chk	

(fig-1)

### 4. Executing commands

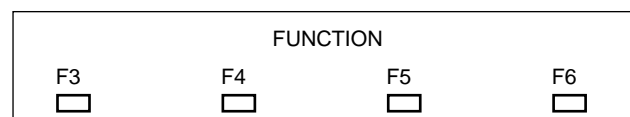
There are 17 kinds of the check menus. Each check menu has several commands.



(fig-2)

To select the desired menu, use [F1] and [F2] button.

When the desired menu is selected by [F1] or [F2] button, that function on a display is shown on the [F3], [F4], [F5] and [F6].



(fig-3)

## 5. Test Options

### [01:LCD check]

This is a test for the LCD in order to find any defect such as LCD lighting problems, cracks, wrong connections, or etc.

[F3:LCD Black]      Turn on all LCD dots simultaneously.  
 [F4:LCD White]     Turn off all LCD dots simultaneously.  
 [F5:LCD check1]    Turn on LCD in a check pattern.  
 [F6:LCD check2]    Display all ASCII character codes one by one on the LCD.

### [02:LED check]

This is a test for the LED in order to find any defect such as LED lighting problems, short circuit, wrong connections, or etc.

[F3:LED Scan]        Turn on and off LED one by one.  
 [F4:LED Blink]      Flash all LED simultaneously.  
 [F5:LED All On]     Turn all LED simultaneously.  
 [F6:LED ManuScan]   Turn on LED one by one as [FF] or [REW] button is pressed or TIME/VALUE Dial is turned.

### [03:SW check]

Check the SW contact fault or other problems and confirm SW functions on Panel board.

[F3:SW]              Except power switch press all switches on the panel one by one.  
 The LEDs will flash and warn of error when more than two switches are pressed at the same time during the test. To finish this test turn TIME/VALUE dial.  
 "Err" message and the number of switches which not tested yet will be appeared on the display at the end of the test.  
 (If there is any untested switch is remained.)  
 When all switches are tested completely, "OK" message is appeared on the display and finish the test.

### [04:Fader check]

Check the Fader and the capacity of back up battery on Panel board.

[xx:Fader Check]    Check the Faders.  
 The LCD draws bar graphs representing settings of the faders.  
 Each channel LED lights green when the fader is at the bottom, red at the top position (127) and orange at the middle of the stroke (64).  
 In the test, confirm the bottom and top position.  
 [xx:Battery Check]   Battery voltage and OK/NG are shown on the display.

### [05:FootSW check]

Check the status of foot switch function.

[xx:FootSW Check]   Check the foot switch.  
 Plug the foot switch in FOOT SWITCH socket.  
 The LCD indicates each status when switch is turned on and off and confirm the LCD correspond it correctly.

### [06:Encoder check]

Check the status of Encoder function.

[xx:Encoder Check]   Check the encoder function.  
 The display shows the numbers that increase or decrease depending on the TIME/VALUE dial turning direction.  
 Confirm increase or decrease numbers correspond to the dial direction.  
 Turn TIME/VALUE dial clockwise: increase the numbers.  
 Turn TIME/VALUE dial counterclockwise: decrease the numbers.  
 The numbers are indicated -25 to 25 extreme.

### [07:MIDI check]

Check the status of MIDI IN/OUT/THRU function.

[F3:MIDI IN/OUT]    Feed MIDI signal to MIDI IN.  
 The display indicate the data which input into MIDI IN and output the data from MIDI OUT.  
 Confirm the data which output from MIDI OUT is as same as the input data.

[F4:MIDI THRU]      Feed MIDI signal to MIDI IN.

The display indicate the data which input into MIDI IN and output the data from MIDI OUT by hardware through from MIDI IN.  
Confirm the data which output from MIDI OUT is as same as the input data.

**[08:A/D D/A check]**

Test A/D and D/A in order to find wrong connection or etc.

[F3:FS Select]	48k,44.1k,32k Hz Select the sampling rate at A/D and D/A stages
[F4:Peak ModeSel]	Clip(0dB), Peak(-3dB), Sence(-20dB), 0(---dB) Set the LED lighting conditions at the peak point.
[F5:R-DAC Mode]	MASTER, MT-PRO, MT-1, MT-2, Liv1, Liv2 R-DAC processed sound is output to all OUT.
[F6:MUTE]	Off, ON Mute all of output signals.

Analogue input 1-8 send signals to analogue output 1-8 respectively.  
The signals from analogue input 7 and 8 are also sent to DIGITAL OUT.

**[09:Digital IN check]**

Test Digital IN in order to find wrong connection or etc.

[F3:Input Sel]	1ch(Cx), 2ch(Op) Select the output of Cox and Opt.
[F5:R-DAC Mode]	MASTER, MT-PRO, MT-1, MT-2, Liv1, Liv2 R-DAC processed sound is output to all OUT

Test DIGITAL IN.

Connect DIGITAL IN socket to DIGITAL OUT of your CD player or etc. and play song.

When the signal is received correctly and locked, the display will show "Lock" message, current FS, Emphasis(EMP), Copy graph(CPY) and Category(xxH).  
If the signal isn't received correctly and unlocked,"Unlock" message will be appeared on the display.

The input signals from DIGITAL IN are sent to all of analogue output and also sent to DIGITAL OUT with the same flags (FS, CPY, EMP) as they received.

**[10:Digital OUT check]**

Test Digital OUT in order to find wrong connection or etc.

[F3:FS Select]	48k,44.1k,32k Hz Select the sampling rate at Digital OUT.
[F4:Emphasis]	Off, On Set the Emphasis flag of DIGITAL OUT.
[F5:Copy]	Off, On Set the Copy flag of DIGITAL OUT.
[F6:MUTE]	Off, ON Mute all of output signals.

Test DIGITAL OUT.

Send the signals that are input to analogue 7 and 8 to DIGITAL OUT (1ch, 2ch) and also send to analogue output(7ch, 8ch).

**[11:Sin Wave check]  
( FACTORY ONLY TEST.NOT USE SERVICE. )**

Test the analogue D/A by SIN wave from DSP in order to find wrong connection or etc.

[F3:FS Select]	48k,44.1k,32k Hz Select the sampling rate at Sin wave output stages.
[F4:Sin Freq]	100-900(100HzStep) 1K-10K(1KHzStep) Select the Sin wave frequency.
[F5:Sin Level]	0Fh-7Fh Set the output level of Sin wave.
[F6:MUTE]	Off, ON Mute the output from Sin wave.

Output Sin wave.

Sin wave is sent to all analogue output and DIGITAL OUT.

**[12:SCSI check]**

This performs the SCSI operation and connection check and the IC chip operation check of the VS-1824/1824CD unit.

Connect the ZipDrive to the SCSI connector of the VS-1824/1824CD.

To end the test item, select another test item using the [F1] and [F2] buttons.

[F3:Check Start]	This checks the SCSI (external and internal). Selecting this item starts the SCSI IC chip initialization, and performs Read/Write to the SCSI Connected equipment. If there is no error, "OK!" is displayed, and if an error occurs, "Err!" is displayed. The firmware version of the IC (SPC7216) which controls the CD-RW drive is also displayed.
------------------	---

\* Use only external drives that are formatted with VS-1824/1824CD.

\* Note: The CD-RW is temporarily disconnected for this check.

[F4:CD Wt]	Executing this item performs the Write check for the internal CD-RW drive. This item operates only on the VS-1824CD. Set a CD-RW media (for Low Speed) in the CD-RW drive and execute. If no error occurs, "OK!" is displayed, and if an error occurs, "Err!" is displayed.
[F5:CD Rd]	Executing this item performs the Read check for the internal CD-RW drive. This item operates only on the VS-1824CD. Set a CD-RW media (for Low Speed) in the CD-RW drive and execute. If no error occurs, "OK!" is displayed, and if an error occurs, "Err!" is displayed. Use a CD-RW media that is confirmed by the [F4:CD Wt] check.

**[13:IDE check]**

Test IDE in order to find wrong connection or etc.

[F3:Check Start]	Test IDE. Install a disk drive unit into front panel expansion slot (if not installed). Execute read/write procedure from/into the connected IDE. The drive unit must have been formatted on VS-1824. The display will show "OK!" message when the test is successful, if not "Err" message will be appeared on the display.
------------------	---

**[14:RTC check]**

Set the internal clock.

[F3:TIME Edit]	Set the time of the internal clock. [F4] and [F5] buttons function as (Left) and (Right) cursor in the edit menu. Move the cursor and edit the values by TIME/VALUE dial. To select the value press [F6](Store). To cancel the performance press [F3] (Cancel).
[F6:Get MIDI]	Set the internal clock by the data from MIDI.

**[15:FAN check]**

This is a test for FAN control to see whether it functions correctly.

[F3:FAN ON/OFF]	Off, On FAN is switched ON/OFF alternatively whenever it selected. The display shows FAN condition.
-----------------	---

**[16:DSP GA check]****( FACTORY ONLY TEST.NOT USE SERVICE. )**

This is a test for DSP GA function and memory in order to find any wrong connection or etc.

[F3:FS Select]	48k,44.1k,32k Hz Select the sampling rate at the test.
[F4:Peak ModeSel]	Clip(0dB), Peak(-3dB), Sence(-20dB), 0(--dB) Set the LED lighting conditions at the peak point.
[F6:Memory Check]	Test the memory of the high speed S-RAM which used in DSP GA.

**[17:VS8F-2 check]**

This is a test for the option board (VS8F-2), ESP and DSP in order to find any wrong connection, chip defect or other problems.

[F3:VS8F-2]	Test the connection between VS-1824 and VS8F-2 and also test the VS8F-2 internal functions. To start the test install VS8F-2 to the option connector A and B on VS-1824 then select the test menu. The display will show "OK!" messages from both of connector A and B when the test is successful, if not "Err" message will be appeared on the display.
[F4:ESP Check]	Test the connection of ESP and ESP internal functions. To start the test select this item. The display will show "OK!" message when the test is successful,if not "Err" message will be appeared.
[F5:DSP Check]	Test the connection of DSP. To start the test select this item. The display will show "OK!" message when the test is successful, if not "Err" message will be appeared.

**TEST MODE ERROR CODE****■ ERROR MESSAGESS**

- Aborted Command!
- Illegal Request!  
This disk drive is not available for the VS-1824/1824CD.
- Already Selected  
The currently selected disk drive is selected.  
To switch to another disk drive, reselect the disk drive.
- Arbitration Failed!
- Busy Status!
- Check Condition!
- Status Error!  
Communication error occurred with the disk drive.  
Confirm that the disk drive is correctly connected.
- Blank Disc  
The CD Player function is executed for a CD-R disc without any recorded data.  
Exchange the disc with commercial CD software or a recorded CD-R disc.
- Can't Communicate!
- Drive Time Out!
- Message Error!
- Phase Mismatch!
- Undefined Sense!
- Drive Unknown Error!  
There is a connection error with the disk drive.  
Confirm that the disk drive is correctly connected.
- Cannot write in "Track at Once" format on CD- RW Disc!  
Audio writing using the Track at Once method was attempted when the CD-RW was inserted in the drive.
- Can't REC CD!  
The purchased VS-1824/1824CD cannot be digitally connected to the CD player.  
Read the "Recording a Digital Source" described in the Owner's Manual.
- Can't Recover  
Recovery of the Drive Check cannot be executed due to lack of empty disk space.  
Either delete unwanted songs or perform Song Optimize.
- Event Memory Full!  
All of the events allowed for one song by the VS-1824/1824CD are already used.  
Delete unwanted Automix data.  
Or, perform Song Optimize.
- Finalized CD!  
You are trying to write on commercial CD software or a finalized CD-R disc.  
Switch to an empty disc or a disk that is not finalized.
- Found Illegal Track Pair!
- Found Illegal Phrase Pair!  
You are trying to perform track editing or phrase editing (copy/move/exchange etc..) between a normal V-Track and a V-Track in the recording mode or in "CDR" in the CDR recording mode.  
Reselect the track.
- Function Failed  
The operation is interrupted due to reasons such as not enough empty disc space or disk drive error.  
Confirm the disk drive connection and the disc reliability.
- Hardware Error!  
There is a disk drive error.  
Exchange the disk drive unit.

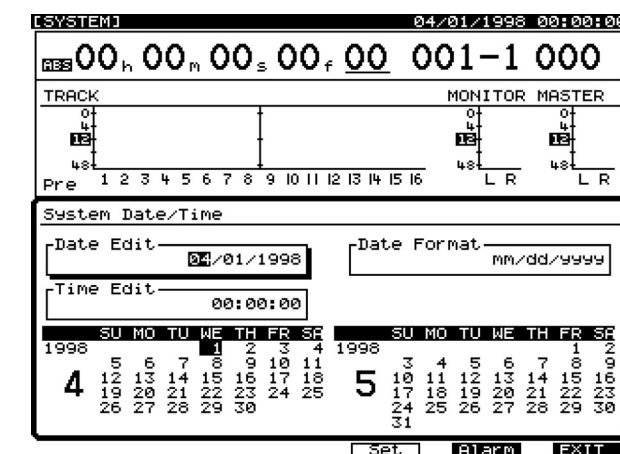
- **Illegal Track!**  
You are trying to perform Phrase New between a normal V-Track (Take) and V-Track in the recording mode or in "CDR" in the CDR recording mode (Take).  
Reselect the track.
- **Lack of CD-R Memory!**  
There is not enough space on the CD-R disc to write a song.
- **Lack of EVENT!!**  
Automix Realtime recording was attempted when less than 1,000 events are available.  
Undo or Redo was attempted when less than 200 events are available.  
These operations cannot be performed.
- **Lack of IDE Memory!**  
There is not enough space on the internal IDE hard disk to create an image data file.
- **MARKER Memory Full!**  
All of the markers (1,000) that can be used for one song by the VS-1824/1824CD are already used.  
Delete unwanted markers.
- **Medium Error!**  
There is a disc error.  
This disc cannot be used on the VS-1824/1824CD.  
Executing "Drive Check" described in the Owner's Manual may recover it.
- **No CD-R Drive!**  
Either the CD-RW drive (CDR-88 series) is not connected or the power may be off.
- **No Data to Write**  
A track without recorded data is selected to write on an audio CD.
- **No Disc**  
There is no disc in the CD-RW drive.  
Insert a disc.
- **No Drive Ready**  
The disk drive is not connected.  
Confirm that the disk drive is correctly connected.
- **Not 44.1k Song!**  
Audio CD cannot be written because the song's sample rate is not 44.1kHz.
- **Not 512byte/sector**  
The disc is not 512 byte/sector.  
This disc cannot be used on the VS-1824/1824CD.
- **Not Ready!**  
The disk drive is not ready.  
Please wait.
- **Obey Copyrights?**  
This message is displayed to confirm that you agree to the license agreement on copying, broadcasting, distribution, etc. of musical work.  
Please read the "License Agreement" on the back of the Owner's Manual.
- **Please Insert CD-R Disc!**  
The CD-R drive is not ready due to reasons such as open loading tray of the CD-RW drive or no CD-R disc.  
Insert a CD-R disc.
- **Please Wait...**  
Operation is being performed. Please wait.
- **SCSI ID Error!**  
Several disk drives have the same SCSI ID number.  
Set the SCSI ID numbers so that they are not the same.

- **SPC Not Available!**  
The VS-1824/1824CD has a SCSI failure.
- **Song Protected!**  
Operation cannot be executed because the Song Protect is on.
- **TOC Read Error!**  
A CD-R disc reading error has occurred.  
There is CD-R drive or CD-R disc malfunction.
- **Too Many Markers!**  
You are trying to create more track number markers than allowed per disk (98).
- **Unformatted!**  
The disk drive is not initialized with the VS-1824/1824CD.  
If this is displayed on the disk drive that is already initialized, there is a connection error between the disk drive.  
Confirm that the disk drive is correctly connected.
- **User Aborted!**  
The operation has been stopped by pressing the [EXIT/NO] button.
- **Write Another?**  
Writing to the CD-R disc is completed.  
Select whether to write the same content to another disc.
- **WriteProtected!**  
The disk drive protection is on.

## SETTING THE INTERNAL CLOCK

The VS-1824 features an internal clock. The internal clock is battery-powered. Re-setting of time and date will be required when the battery is changed.

1. Press [PLAY (DISPLAY)].
2. Hold down [SHIFT] and press [F5(SYSTEM)]. The System menu icon is displayed.  
If the system menu icon does not appear press [F6(EXIT)].
3. Press [F2(DATE)]. If "DATE" does not appear in [F2], first press [PAGE] until "DATE" is displayed then press [F2(DATE)].
4. To move cursor and set the each value press [^], [v], [←] or [→].  
Refer to the displayed calendar shown on the display.



**Date Edit**  
Set year, month and date by the Christian era.

**Date Format**  
Select the way of indicating year, month and date.

mm/dd/yyyy:	month/date/year
dd/mm/yyyy:	date/month/year
yyyy/mm/dd:	year/month/date
mmm.dd.'yy:	month/date/year
dd mmm 'yy:	date/month/year

## Time Edit

Set the current time by 24 hours.

- When year, month, date and time are set, press [F4(Set)] with the time signal.  
From that moment, the clock start counting time.
- Press [PLAY(DISPLAY)] to back to the initial display.

## HOW TO USE THE UPDATIING CD-ROM (Updating CD-ROM P/No.17041117)

The updating CD-ROM includes SMF and ZIP data for updating.  
Each item of data is categorized in the directory as follows:

## Directory

[SMF]: SMF data file for updating

[ZIP]: ZIP data file for updating

## How to create an updated SMF disk

Separate the files included in the [SMF] directory as follows and store them on a floppy disk.

Disk1	Disk2
VS-182401.MID	VS-182405.MID
VS-182402.MID	VS-182406.MID
VS-182403.MID	VS-182406.MID
VS-182404.MID	VS-182408.MID

Disk3	Disk4
VS-182409.MID	VS-182413.MID
VS-182410.MID	VS-182414.MID
VS-182411.MID	VS-182415.MID
VS-182412.MID	VS-182416.MID

## How to create an updated ZIP disk

Insert a ZIP disk into the ZIP drive connected to the VS-1824, and format it.  
Then, insert the formatted ZIP disk into the ZIP drive connected to the computer, and copy all the files included in the [ZIP] directory.

This completes SMF and ZIP disk creation.

Use the disks to update the VS-1824.

## SYSTEM SOFTWARE UPDATE USING THE SMF

The latest system software of the VS-1824 is stored to the CD-ROM named "VS-1824 System Ver.1.xx SMF" as the standard MIDI file format (SMF format).

Check the following SMF's included to the floppy disks.

VS-1824 System Ver.1.xx SMF disk 1	VS-1824 System Ver. 1.xx SMF disk 2
VS182401. MID	VS182405. MID
VS182402. MID	VS182406. MID
VS182403. MID	VS182407. MID
VS182404. MID	VS182408. MID

VS-1824 System Ver. 1.xx SMF disk 3	VS-1824 System Ver. 1.xx SMF disk 4
VS182409. MID	VS182413. MID
VS182410. MID	VS182414. MID
VS182411. MID	VS182415. MID
VS182412. MID	VS182416. MID

Update VS-1824 system software by following the procedure described below.

- Connect a MIDI cable between two connectors; MIDI OUT connector of the MIDI Sequencer that can play back SMF data and MIDI IN connector of VS-1824. It is convenient to use the MIDI Sequencer such as an SB-55 sound brush that can play back some SMF's continuously.
- While holding down [TRACK SELECT] and [STATUS] on the CH7, turn on the VS-1824's power.
- A message "SYSTEM Update?" will be displayed. Press [YES].
- Check a message "Waiting MIDI-EX" is displayed, play back all SMF data from "VS-182401. MID" to "VS-182416. MID" in order.
- After finish playing back all SMF's, a message "Update SysPRG?" will be displayed.  
Press [YES].
- A message "Please Reboot OK" will be displayed. The system software of your VS-1824 was already updated. Restart the VS-1824.

## SYSTEM SOFTWARE UPDATE USING ZIP DISK

To update the VS-1824 using the disk, follow the procedure described below.  
Note that if the version of the disk is identical to that of the VS-1824, no updating is possible. Rather, the unit simply operates in the play conditions.

- Connect a zip drive to VS-1824 through the SCSI cable. Turn on Zip drive.
- Insert the disk into the zip drive.
- Turn on VS-1824.
- The message "System Prog Load Now working ..." appears indicating the start of updating.

```
" -- Update System Program ? -- "  
" Ver.1.xxx ( Btver1.00 ) "  
[ YES ] / [ NO ]
```

Fig.1

- [Fig.1] is displayed. When the updated data is correct, press YES button.

```
" -- Keep User Setting ? -- "  
" [ EZ ROUTING User Routing ] "  
" [ EFFECT User Patch ] "  
" [ ARARM User Data ] "  
" [ NO ] is Init User Seeting "  
[ YES ] / [ NO ]
```

Fig.2

- [Fig.2] is displayed. If the user date is required to be saved,press [YES] button.  
If [NO] button is pressed, [Fig.3] is displayed.  
If it is OK, press [YES] button.
- The message "Now Working \*.\*" appears indicating the start of count down.  
When the message ""Please Reboot OK" appears and LEDs on the VS-1824 are flashing, the updating procedure is completed. Turn off VS-1824.
- Remove the zip disk and turn off the zip drive. Remove the SISI cable.

## SAVING SYSTEM PARAMETERS

If it is necessary to replace a PCB on the user VS-1824, save the user system parameters and Effect user patches onto a sequencer or equivalent storage.  
Load back the data onto the VS-1824 after it has been fixed.

### ■ Send the parameters through MIDI OUT

- Pressing CH7 "TRACK SELECT" and STATUS and F5 SYSTEM button simultaneously, turn on POWER switch on VS-1824.
- The message "Send SysPrmMIDI?" is displayed. Press "YES" button and the system parameters are sent in MIDI exclusive format.

### ■Restore the system parameters

To receive the system parameters & write it to Flash, refer to the chapter [VS-1824 SYSTEM SOFTWARE UPDATE USING THE SMF] in this service note.

Depending on the receiving method, the displays will look different on the LCD.

For example, when "-P-" and prompt "Update SysPRM/" are displayed, press [YES] button to write only the system parameters into the flash memory.

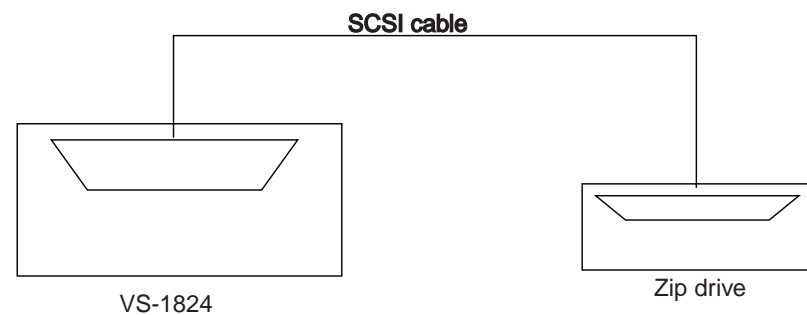
## SAVING AND LOADING DATA OF INTERNAL HDD

A Zip drive (ZIP-EXT-S2) can be connected to the SCSI connector of the VS-1824 and save song data which created on VS-1824.

Equipment:	VS-1824
	Zip disk
	Zip drive (ZIP-EXT-2S)
	SCSI connector

### Connecting the Zip Drive

Connect the Zip drive to the VS-1824 as below.



### About connector:

- VS-1824 uses SCSI connector; D-sub type, pin25 (female). To connect the cable correctly, please confirm the form of the SCSI connector of the disk drive to be connected.
- Keep SCSI cable as short as possible, and use only cables which have an impedance (110 ohms +/- 10%) that is compatible with the SCSI standard, and are completely shield.
- Do not allow the total length of all SCSI cables connecting the chain of disk drives to exceed 6.5 meters.
- Do not connect or disconnect SCSI cables when the power of any device is turned on.

### Turning power on.

- Turn on the power to the Zip drive.
- Turn on the power to the VS-1824 with the POWER switch on the rear panel.

## INITIALIZING THE DISK (DRIVE LINITIALIZE)

A new disk just purchased at your computer store or a disk that was used by another device cannot be used on the VS-1824 as is.

You must initialize the disk by VS-1824 so that it can be used by the VS-1824.

When a disk is initialized, the entire contents are irretrievably lost.

Check any such disk you plan to initialize to make sure that it does not contain anything that you don't want deleted.

If you are using a drive or disk that has been partitioned, please note that you will not be able to choose a particular partition that you wish to initialize.

When you carry out a drive initialization, the whole drive and all its partitions will be initialized at once.

### ■ Initializing new Zip disks.

- Confirm that power to the Zip drive and the VS-1824 is turned on.
- Insert a disk into the Zip drive.
- Press [PLAY (DISPLAY)]
- Hold down [SHIFT] and press [F6 (UTILITY)]. The Utility menu icon appears in the display.
- Press [F6 (DrIni)]. If "DrIni" does not appear in [F6], first press [PAGE] until "DrIni" is displayed, then press [F6 (DrIni)].
- Use [^], [v], [<], and [>] to move the cursor. Rotate the TIME/VALUE dial to make each of the values settings.

### ■ Init Drive (Initialize Drive):

Select the disk drive (IDE, SCSI0~SCSI7). "IDE" indicators internal hard disks, and "SCSI0~SCSI7" (these are SCSI ID numbers) indicate external hard disks.

For example, select "SCSI5" when selecting the Zip drive connection.

### ■ Partition:

Select the partition size (500 MB, 1000 MB, or 2000 MB).

In normal circumstances, select "2000 MB."

### ■ Physical Format:

Select whether or not to use physical formatting. For new disks or disks that have been used by another device, select "On."

"For new hard disks or when formatting disks for Windows or Macintosh platforms, select "Off."

### ■ Surface Scan:

This confirms that the read and write functions in all of the disk drive's partitions are operating correctly when the drive is initialized.

In normal circumstances, set this to "Off."

"When you particularly want to conduct a test of the read/write functions, the set this to "On."

At this time, the function buttons work as shown below.

[F1 (DrSel)]: This displays a directory of the currently connected drives.

Use [^], [v], [<], and [>] to select the drive that you want to initialize.

[F3 (Info)]: Displays the drive information.

[F4 (Exec)]: Executes initialization of the selected drive.

[F6 (EXIT)]: Exits the screen.

- When the settings are made, press [F4 (Exec)]. "Init. \*\*\*\*\*, OK?" appears in the display. "\*\*\*\*\*" refers to the drive's SCSI ID number. For example, "SCSI5" indicates a Zip drive.
- Press [YES]. "Init \*\*\*\*\*, Sure?" (Really initialize the disk?) appears in the display.
- Press [YES]. "STORE Current?" (Store the current song?) appears in the display.
- If you wish to save the current song, press [YES]; if not, then press [NO]. If you have selected a demo song, then press [NO].
- After the initialization is completed correctly, the VS-1824 restarts automatically, and you are returned to Play condition.

\* Be aware that initializing a drive requires some time. This is not a malfunction.

For example, when physical formatting is turned on, the time required to format one Zip disk is approximately 10 minutes.

The progress of initialization will be shown in the display.

Be sure not to turn the power off until initialization is complete.

## SAVING PERFORMANCE DATA TO A ZIP DRIVE (Song Copy)

There are two ways to carry out the Song Copy procedure.

Select the method you will use based on the amount of free space on the destination disk (100 MB for Zip disks).

The amount of memory used on the disk is shown in the display.

Playable: Use this method to copy songs that use relatively little data onto disks with sufficient memory to hold them.

If the destination drive or disk already has song data saved on it, then you can copy additional songs that will fit within the remaining free space.

Archive: Use this method to copy songs that are too large to be saved on a single disk.

The song data is converted into a data format specifically for saving (archive format), and is copied onto multiple disks according to the free space on the disks.

This means that it will not be possible to directly play back the song data.

If you wish to play back song data copied in archive format, you will need to reload the archive data into the current drive using the appropriate procedure.

Furthermore, song data cannot be copied onto disks that already have songs recorded on them.

#### ■ Saving a Song to a Single Disk (Playable)

Save a playable copy of a song on the VS-1824's internal hard disk to a Zip drive which is set to SCSI ID Number 5.

1. Select the disk containing the source song you want to copy as the current drive.
2. Press [PLAY(DISPLAY)].
3. Hold down [SHIFT] and press [F1 (SONG)].  
The Song menu icon appears in the display.
4. Press [F1 (CP PL)]. If "CP PL" does not appear in [F1], first press [PAGE] until "CP PL" is displayed, then press [F1 (CP PL)].
5. Press [<] and [>] to move the cursor to "Source Song."
6. Use the TIME/VALUE dial to move the cursor to the song you want to copy and press [F3 (MARK)]. By pressing [F2 (ALL)], you can place and remove Markers from all of the songs.  
In addition, you can press [F1 (SelSg)] to display a directory of the songs.  
At this point, after you have placed a Marker at the song you want, press [F1 (Back)].
7. Press [>] to move the cursor to "Destination Drive."
8. Use the TIME/VALUE dial to select the destination drive and partition.  
You can press [F5 (SelDr)] to display a directory of drives.  
At this point, use [^], [v], [<], and [>] to select the destination drive, and select the destination partition with the TIME/VALUE dial.  
Once you have selected the destination drive, press [F1 (Back)].
9. If the source and destination drives are different, press [v].  
Move the cursor to "Erase All Songs" with the TIME/VALUE dial.
- \* Erase All Songs  
When this is set to "On," the copy procedure is carried out after the destination drive is initialized.  
If you want to perform the copy procedure leaving songs already saved in the destination drive as they are, then set this to "Off."
10. Press [F4 (Exec)].  
A message asking if you want to continue appears in the display.
11. Press [YES].  
"STORE Current?" (Store the current song?) appears in the display.
12. If you wish to save the current song, press [YES]; if not, then press [NO].  
If you have selected a demo song, then press [NO].
13. When copy is completed, the Song menu icon appears in the display.  
Press [PLAY (DISPLAY)].  
Return to Play condition.

NOTE : If "Disk Memory Full" Appears in the Display

This indicates that the destination disk has insufficient free space, or that the number of songs on the disk has exceeded the maximum number (200 songs) that can be stored on the disk, and that the copy procedure was canceled.

However, you can still use the song data copied up to that point.

#### ■ To Load Data from Disks

Use the following procedure to take playable songs that have been copied to Zip disks and load them onto the VS-1824's hard disk.

Switch the current drive to Zip drive (Drive Select).

Then perform playable copy from Zip drive to the internal hard disk drive.

- \* The original song is not overwritten by performing these procedures if the original song that copied from the internal hard disk to Zip disk is not erased from the internal hard disk.

In that case, a new song which has the same name as the original one will be create in an available earliest song number.

1. Confirm both power of Zip drive and VS-1824 are turned on.
2. Insert the disk containing the song you want to load into the Zip drive.
3. Press [PLAY (DISPLAY)].
4. While pressing [SHIFT] press [F6 (UTILITY)]. The utility menu icon is appeared on the display.
5. Press [F4 (DrSel)]. If "DrSel" does not appear on [F4], first press [PAGE] to show "DrSel" then press [F4 (DrSel)]. Table of the current connected drive will be shown on the display.
6. To move cursor, press [^], [v], [<] or [>]. Select the drive you wish to switch.  
To select the partition which you wish to switch, rotate the TIME/VALUE dial.  
At this time, the function buttons works as described below.  
[F3 (Info)] : Indicate the drive information.  
[F4 (Exec)] : Execute drive select.  
[F6 (EXIT)] : Exit from the menu.
7. After select drive/partition press [F4 (Exec)].
8. A confirming message is appeared on the display. Press [YES].
9. "STORE Current?" (Save the current song?) message is appeared on the display.  
If you wish to save the current song press [YES], if not press [NO].  
When the demo song is selected press [NO].
10. When the current drive is switched song menu icon is displayed.  
Press [PLAY (DISPLAY)].  
Return to play condition.
11. Make a playable copy of the song from the Zip disk onto the VS-1824's hard disk, as described in "Saving a Song to a Single Disk."
12. When playable copy is completed, repeat the procedures 3 to 10 and select the internal hard disk as a current drive.

#### ■ When You Cannot Save a Song to a Single Disk

Handling of Archive Copy Disks

To save songs in archive format, the destination disk must be initialized.

This initialization procedure differs from the usual Drive Initialize formatting.

This procedure lets you carry out Archive Copy with newly purchased disks, disks which previously have been used with a personal computer or other device, or other disks which have not been formatted with Drive Initialize.

However, any song data saved to the disk is lost once the Archive Copy procedure is performed.

Additionally, you cannot designate a disk containing archive format songs as the current drive.

If you try to do this, the disk is identified as being an {uninitialized disk}.

#### ■ Saving to Disks (Store)

1. Make the drive containing the song you want to load the current drive.
2. Press [PLAY (DISPLAY)].
3. Hold down [SHIFT] and press [F1 (SONG)].  
The Song menu icon appears in the display.
4. Press [F2 (AC Str)]. If "AC Str" does not appear in [F2], first press [PAGE] until "AC Str" is displayed, then press [F2 (AC Str)].
5. Press [<] to move the cursor to "Source Song."
6. Songs that are marked are copied.  
Use the TIME/VALUE dial to move the cursor to the song you want to copy and press [F3 (MARK)].  
By pressing [F2 (ALL)], you can place and remove Markers from all of the songs.  
In addition, you can press [F1 (SelSg)] to display a directory of the songs.  
At this point, after you have placed a Marker at the song you want, press [F1 (Back)].
7. Press [>] to move the cursor to "Destination Drive."
8. Use the TIME/VALUE dial to select the destination drive and partition.  
Press [F5 (SelDr)] to display a directory of drives.  
At this point, use [^], [v], [<], and [>] to select the destination drive, and press [F1 (Back)].
9. Press [F4 (Exec)].  
A message asking if you want to continue appears in the display.
10. Press [YES].  
"STORE Current?" (Store the current song?) appears in the display.



11. If you wish to save the current song, press [YES]; if not, then press [NO].  
If you have selected a demo song, then press [NO].
- \* All data saved on the Zip disk will be deleted.  
Do not use any Zip disk containing song data that you need.
12. If the song holds a large amount of data, and cannot be contained on a single Zip disk, the disk is ejected, and the message "Please Insert Disk" appears in the display.  
Insert the next disk and press [YES].  
At this time, be sure to write the disk numbers on the labels so that you can keep track of the order in which the disks were inserted into the drive.
13. When copying over multiple Zip disks, "Insert Disk #" (# indicates the number in the order of insertion) appears in the display.  
Insert each of the disks once more in the proper order and press [YES].
14. When the Archive Store procedure is finished, the Song menu icon appears in the display.  
Press [PLAY (DISPLAY)].  
Return to Play condition.

#### ■ Loading Data From Disks (Extract)

1. Make the drive containing the song you want to copy the current drive.
2. Press [PLAY (DISPLAY)]
3. Hold down [SHIFT] and press [F1 (SONG)].  
The Song menu icon appears in the display.
4. Press [F3 (AC Ext)]. If "AC Ext" does not appear in [F3], first press [PAGE] until "AC Ext" is displayed, then press [F3 (AC Ext)].
5. Press [^] to move the cursor to "Source Drive."
6. Use the TIME/VALUE dial to select the drive containing the source you want to load.  
By pressing [F1 (SelDr)], you can display a directory of drives.  
At this point, use [^],[v],[<], and [>] to select the source drive, and press [F1(Back)].
7. Songs that are marked are copied.  
Use the TIME/VALUE dial to move the cursor to the song you want to restore and press [F4 (MARK)].  
By pressing [F3 (ALL)], you can place and remove Markers from all of the songs.  
In addition, you can press [F2 (SelSg)] to display a directory of the songs.  
At this point, after you have placed a Marker at the song you want, press [F1 (Back)].
8. Press [F5 (Exec)].  
A message asking if you want to continue appears in the display.
9. Press [YES].  
"STORE Current?" (Store the current song?) appears in the display.
10. If you wish to save the current song, press [YES]; if not, then press [NO].  
If you have selected a demo song, then press [NO].
11. A confirmation message is displayed asking if you want to perform the Drive Initialize procedure on the disk to which the data will be loaded.  
If you want the song data to loaded after the drive is initialized, press [YES].  
If you do not wish to initialize the drive, the press [NO].

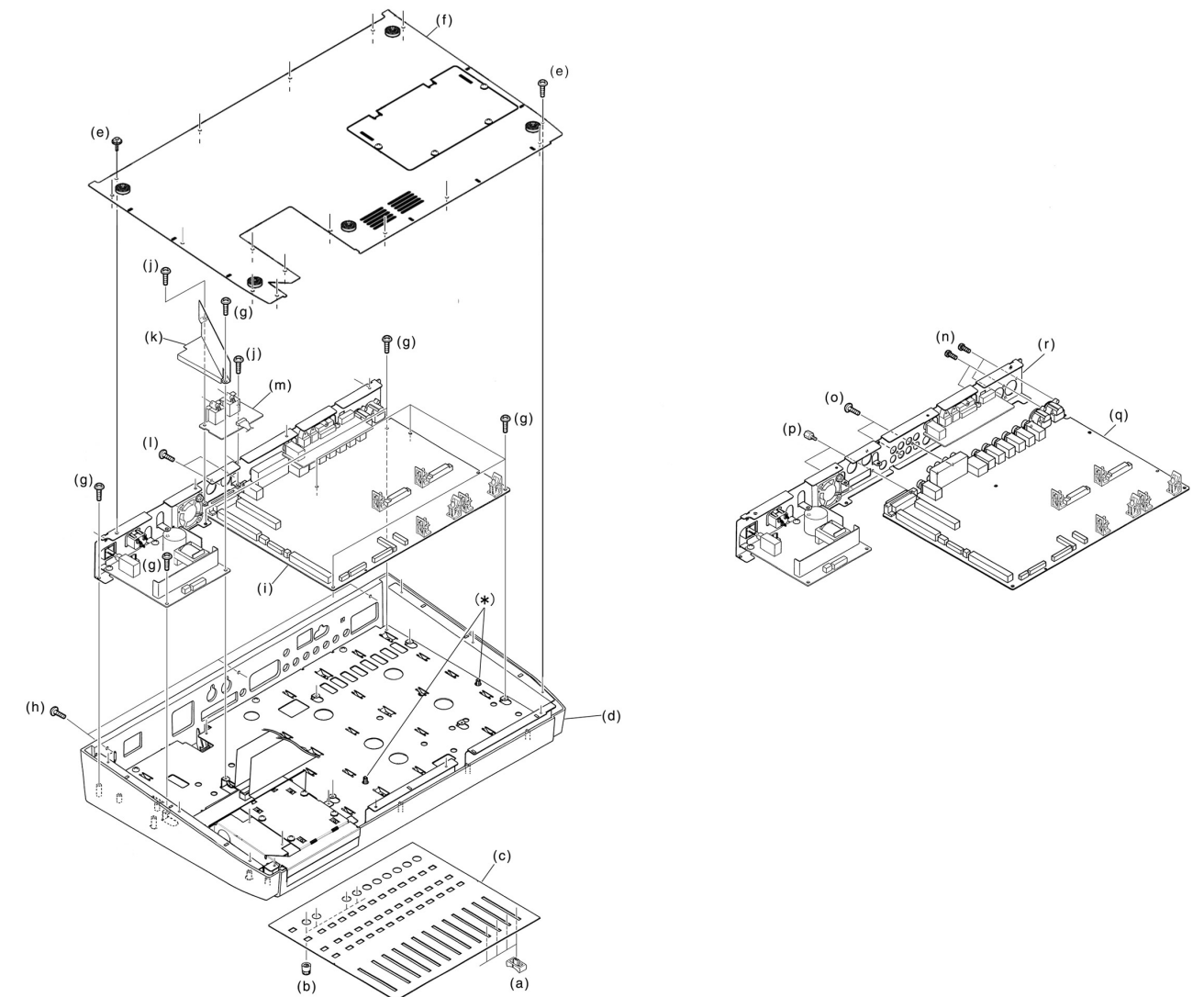
- \* If you press [YES] at this point, any data stored on the destination drive is lost.  
In normal circumstances, press [NO].  
If there is insufficient free space on the drive, then after first backing up the data on the disk to which you will load the data, press [YES].

12. Execute the load.  
When copying over multiple disks, "Insert Disk #" (# indicates the number in the order of insertion) appears in the display.  
Insert the next disk and press [YES].
13. When the Archive Store procedure is finished, the Song menu icon appears in the display.  
Press [PLAY (DISPLAY)].  
Return to Play condition.

#### ■ Turning power off

1. Turn the power of VS-1824 off.
2. Take Zip disk from Zip drive.
3. Turn the power of Zip drive off.
4. Disconnect SCSI connector.

## EXCHANGE THE MAIN BOARD

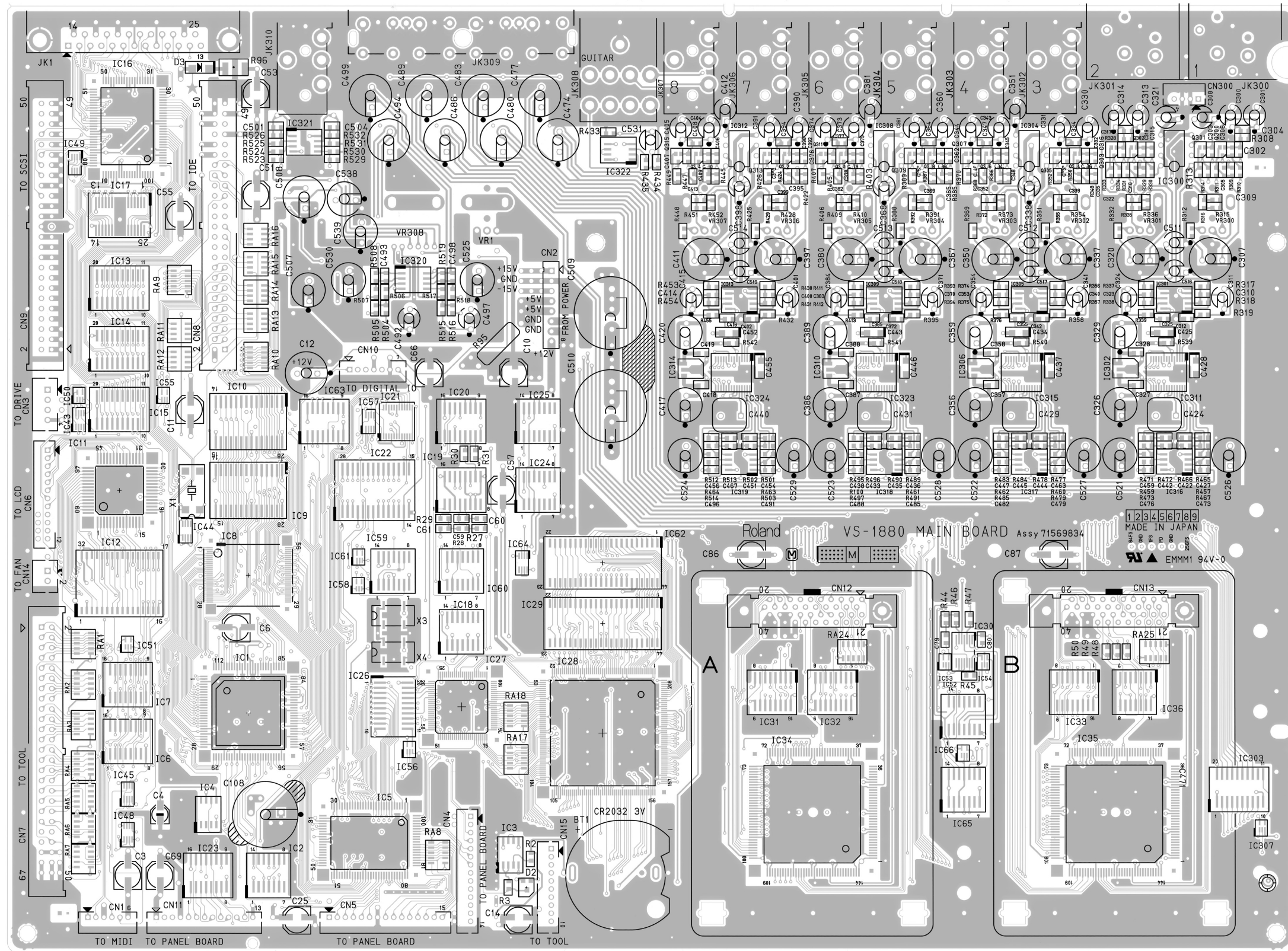


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT BOARD (MAIN)

## MAIN BOARD ASSY (71908034)

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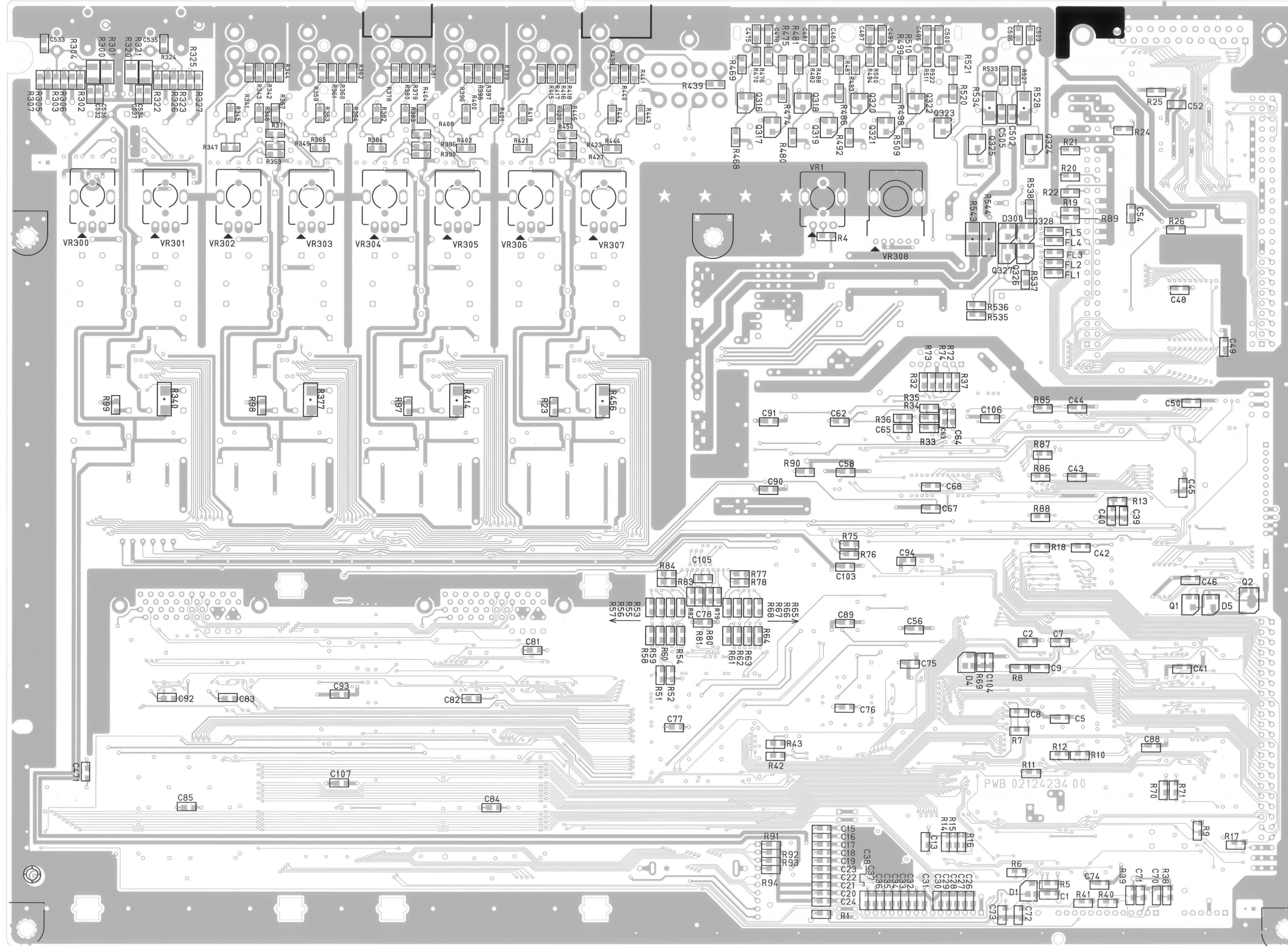
View from component side

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT BOARD (MAIN)

## MAIN BOARD ASSY (71908034)

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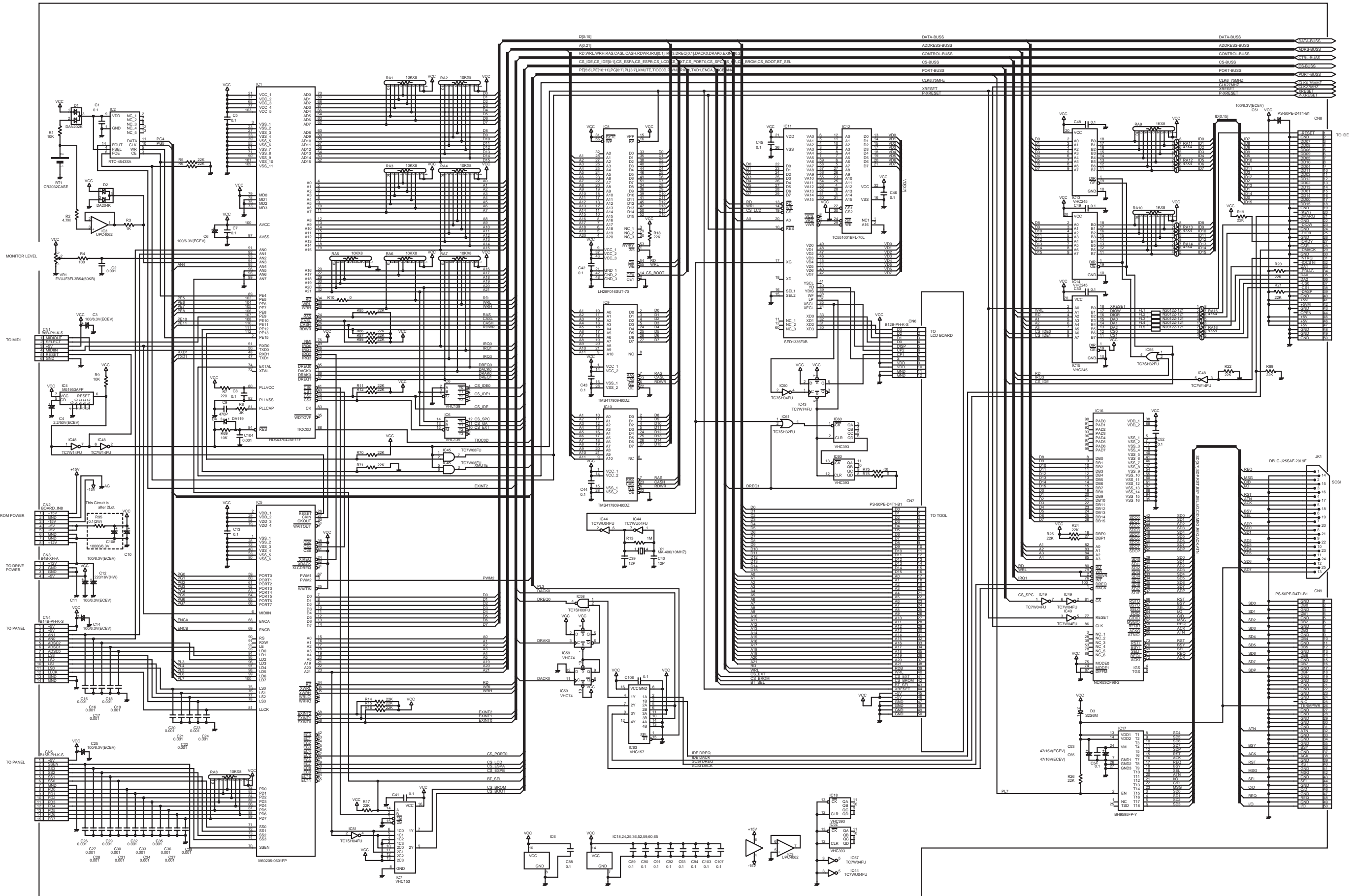
View from foil side

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (MAIN) 1/3

## MAIN BOARD (71908034)

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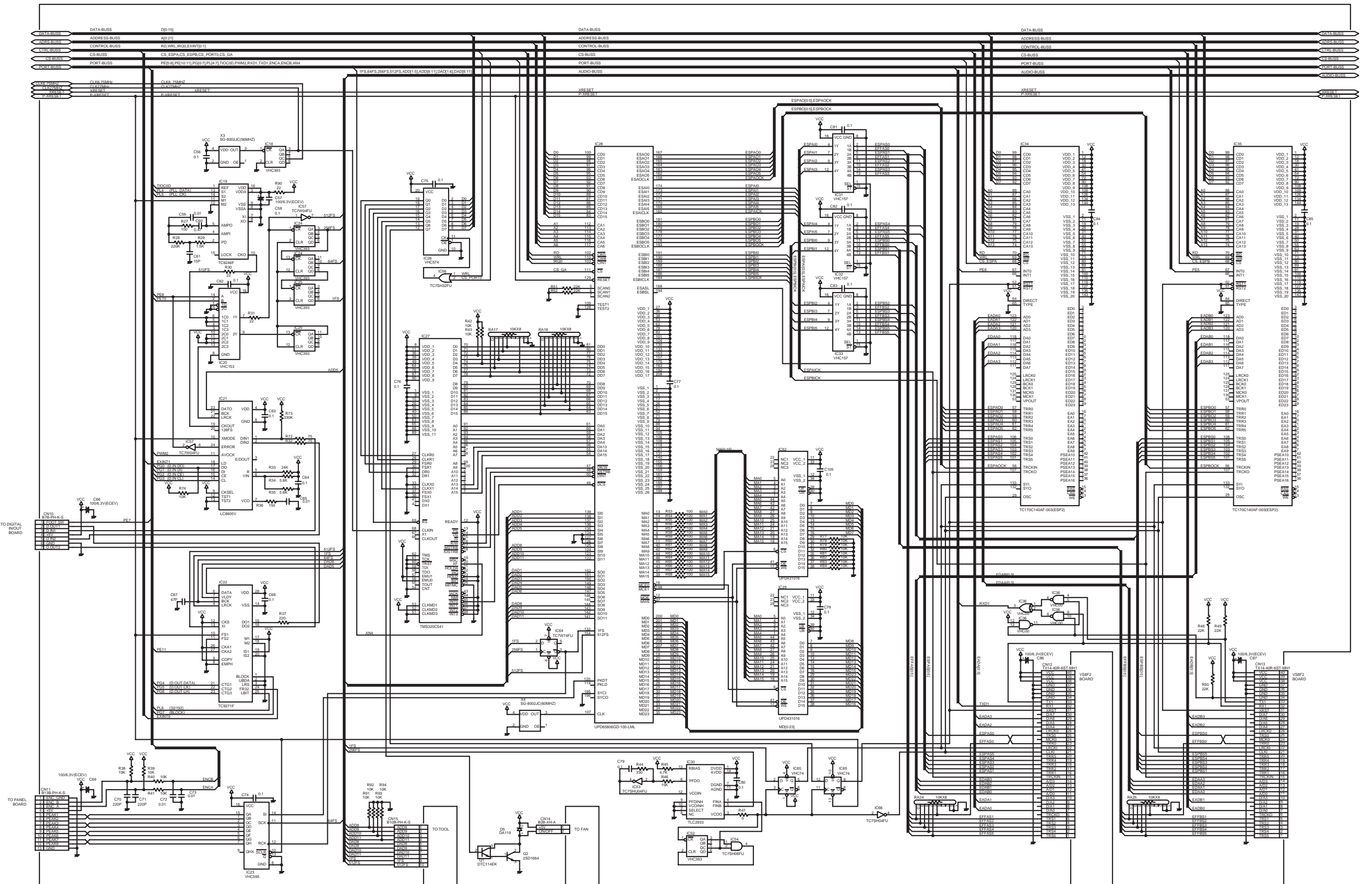


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (MAIN) 2/3

## MAIN BOARD (71908034)

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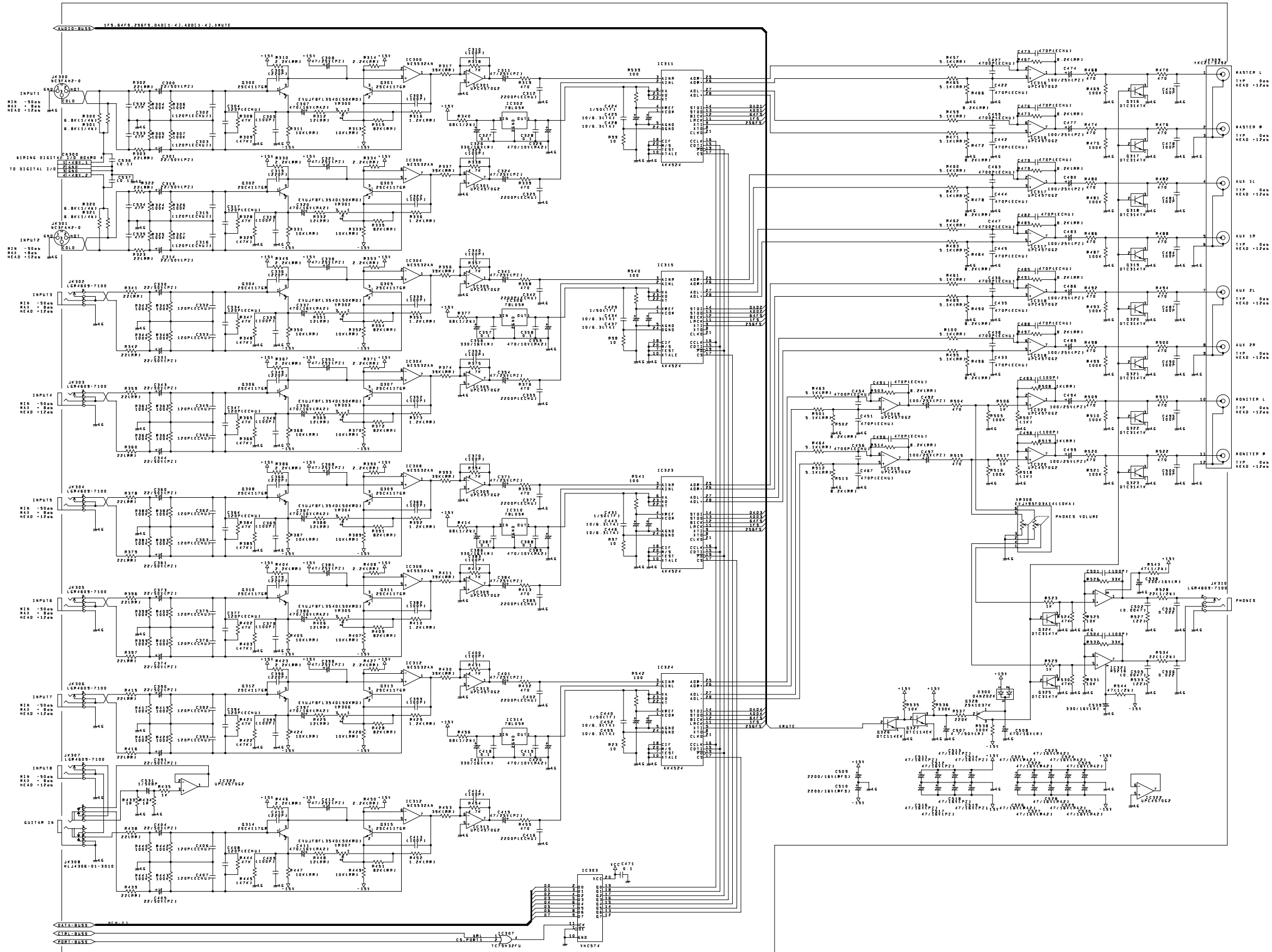


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (MAIN) 3/3

## B MAIN BOARD (71908034)

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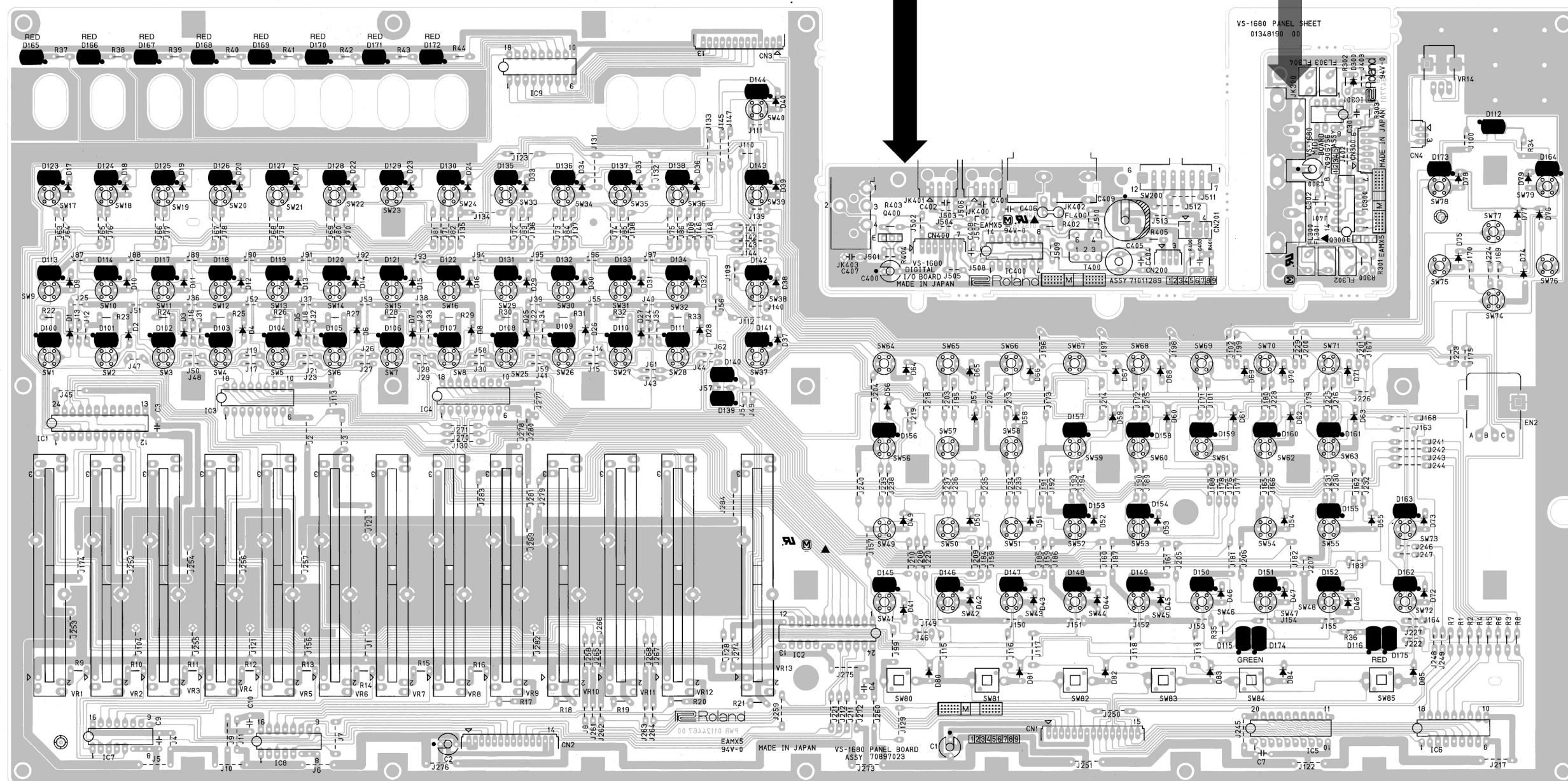
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A CIRCUIT BOARD (PANEL, DIGITAL I/O, MIDI)

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DIGITAL I/O BOARD  
(71011289)

MIDI BOARD  
(70906756)



↑  
PANEL BOARD  
(71905878)

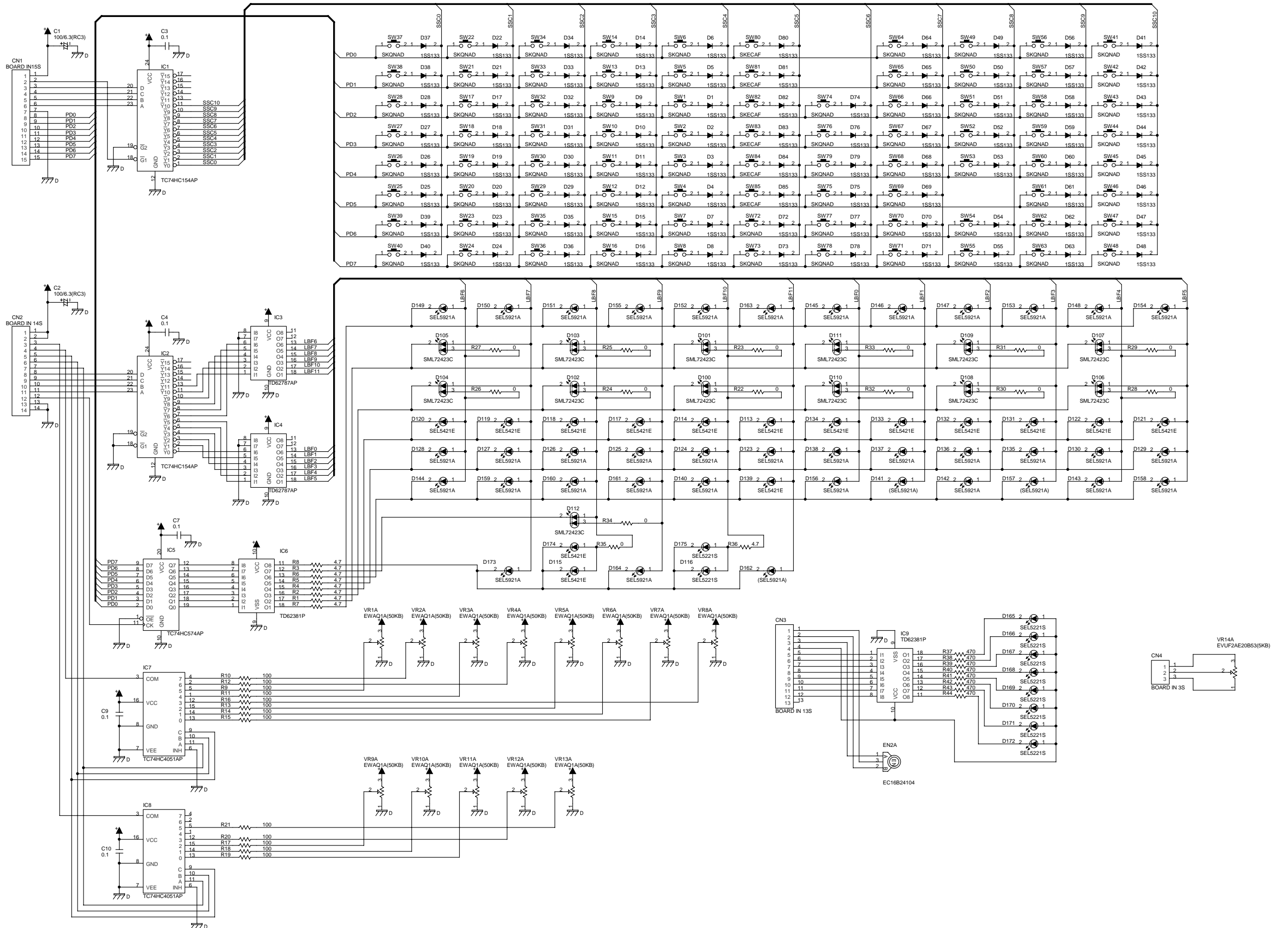
View from component side

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (PANEL)

## PANEL BOARD (71905878)

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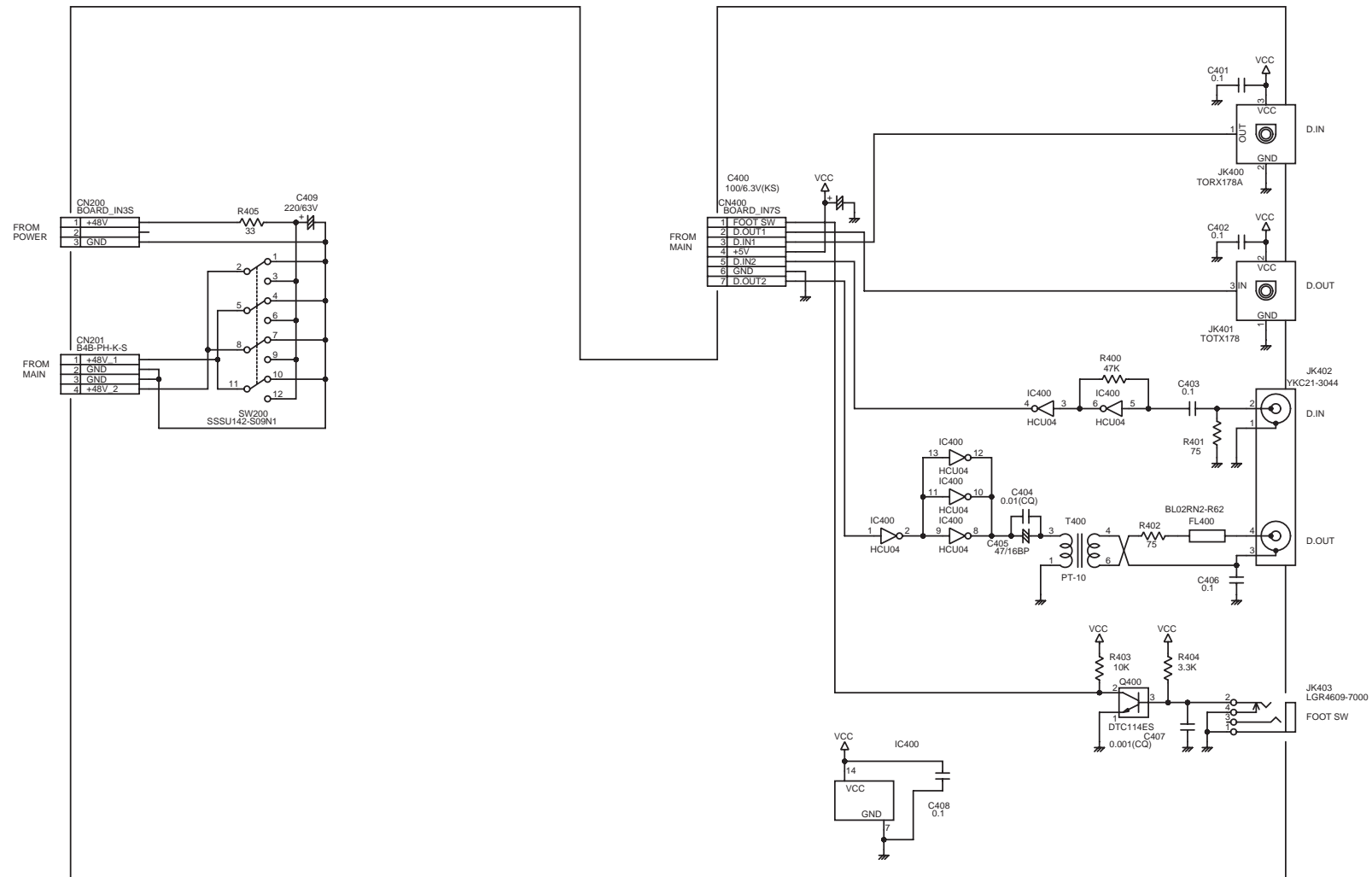


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (DIGITAL I/O)

## DIGITAL I/O BOARD (71011289)

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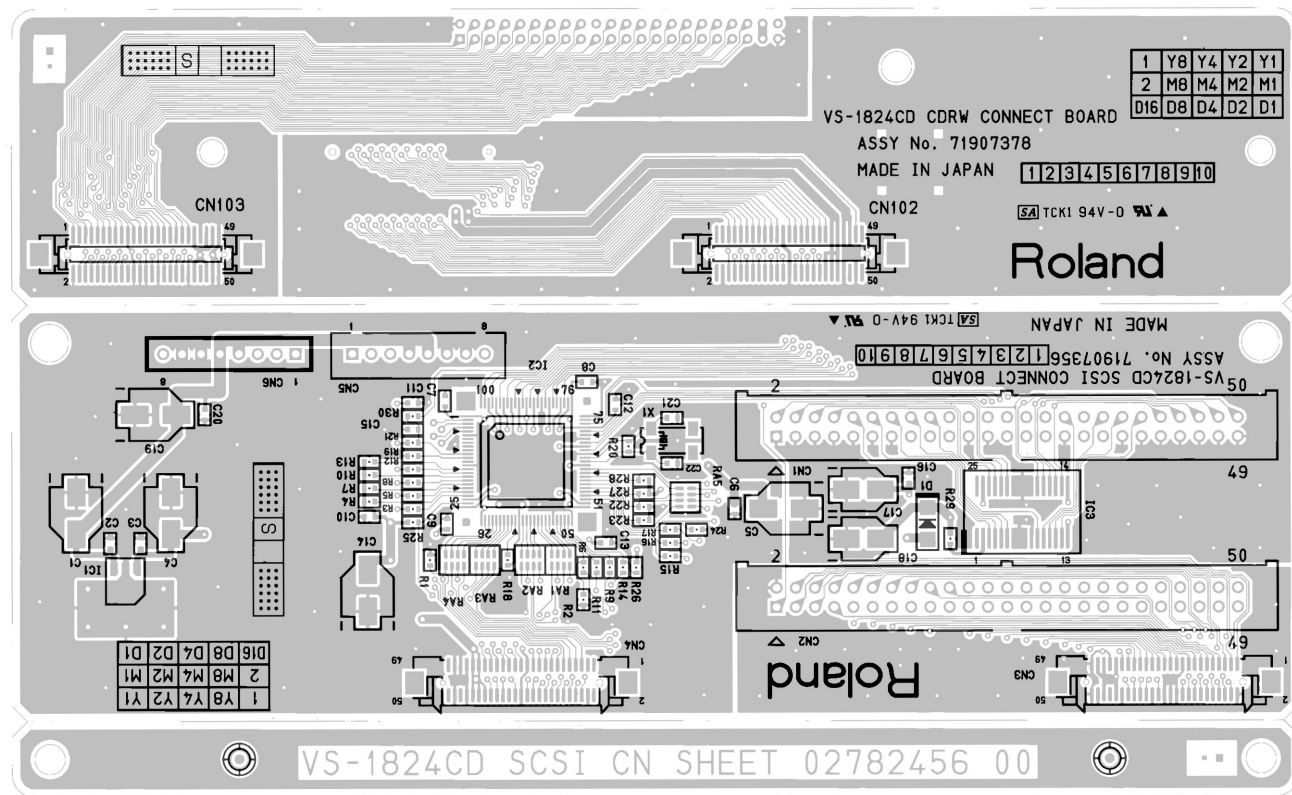


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

**A CIRCUIT BOARD (SCSI/CDRW CONNECT)**

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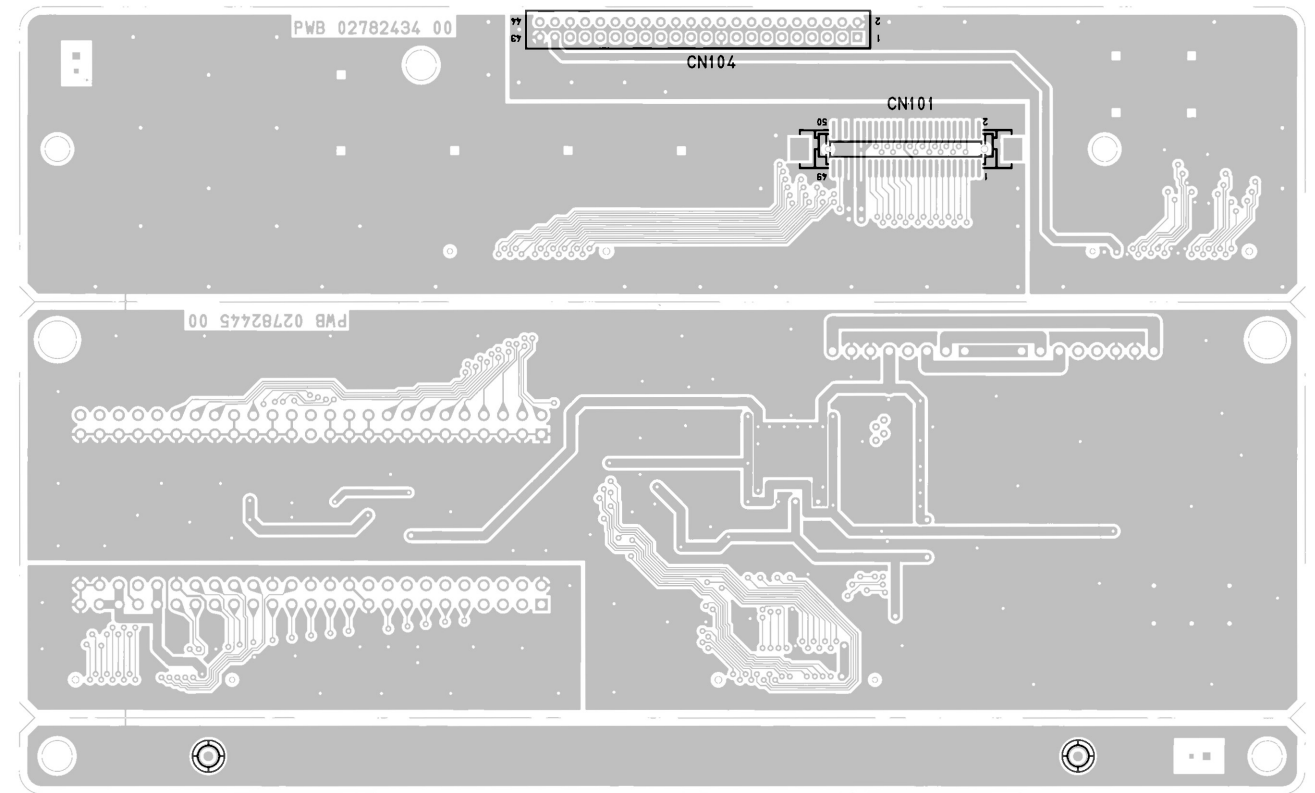
**CDRW CONNECT BOARD (71907378)**



**SCSI CONNECT BOARD (71907356)**



View from component side



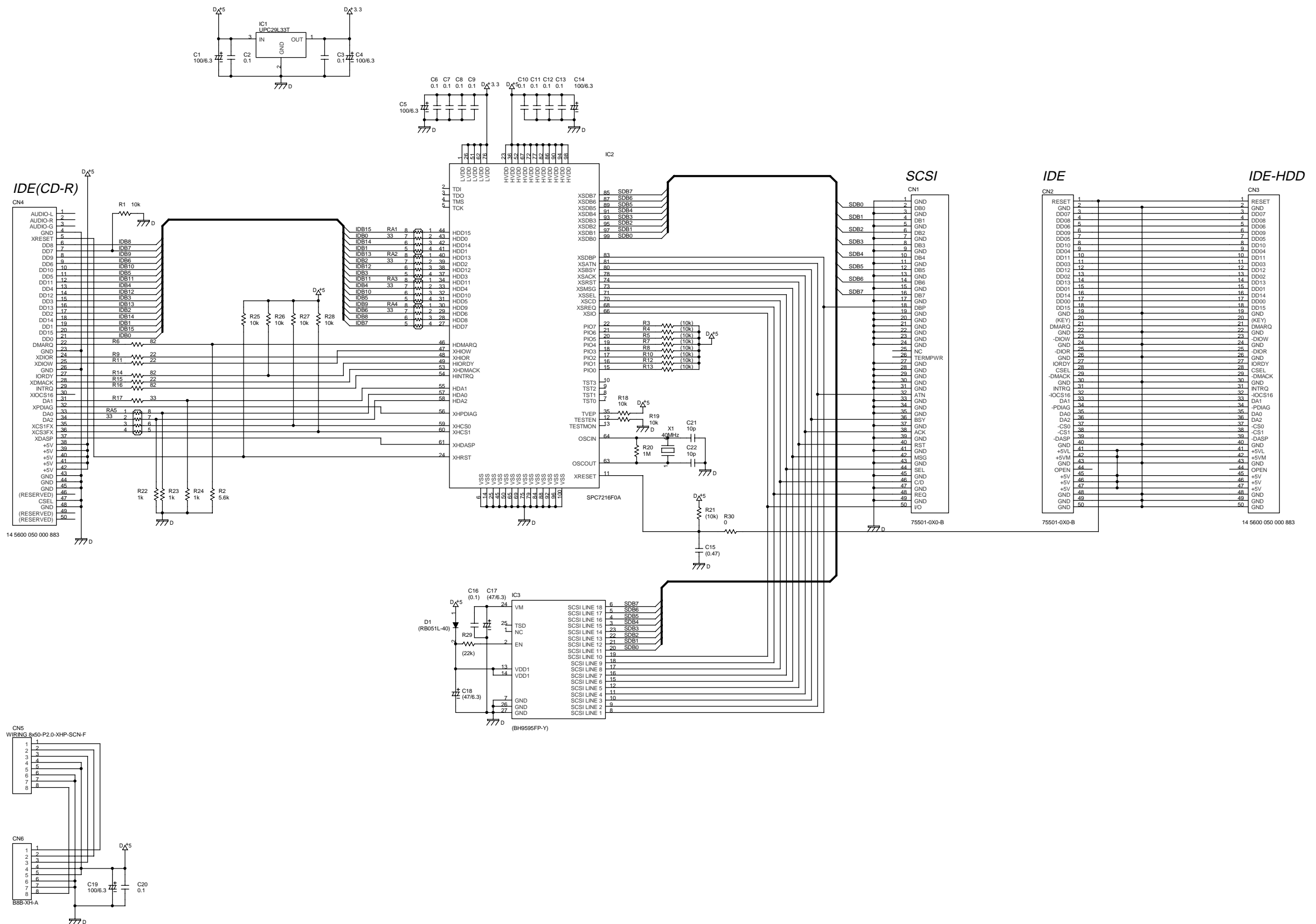
View from foil side

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (SCSI CONNECT)

## SCSI CONNECT BOARD (71907356)

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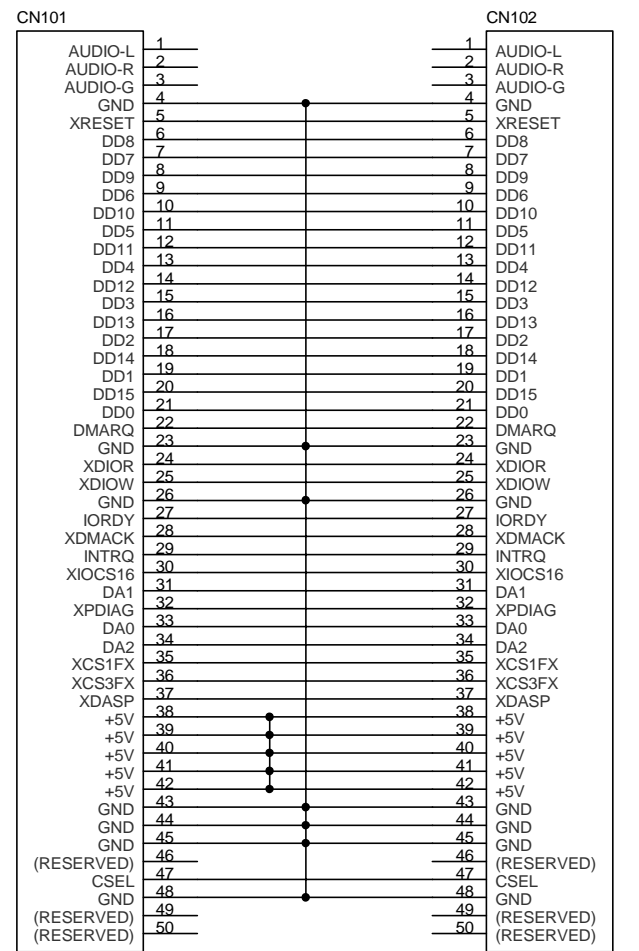


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

# A CIRCUIT DIAGRAM (CDRW CONNECT)

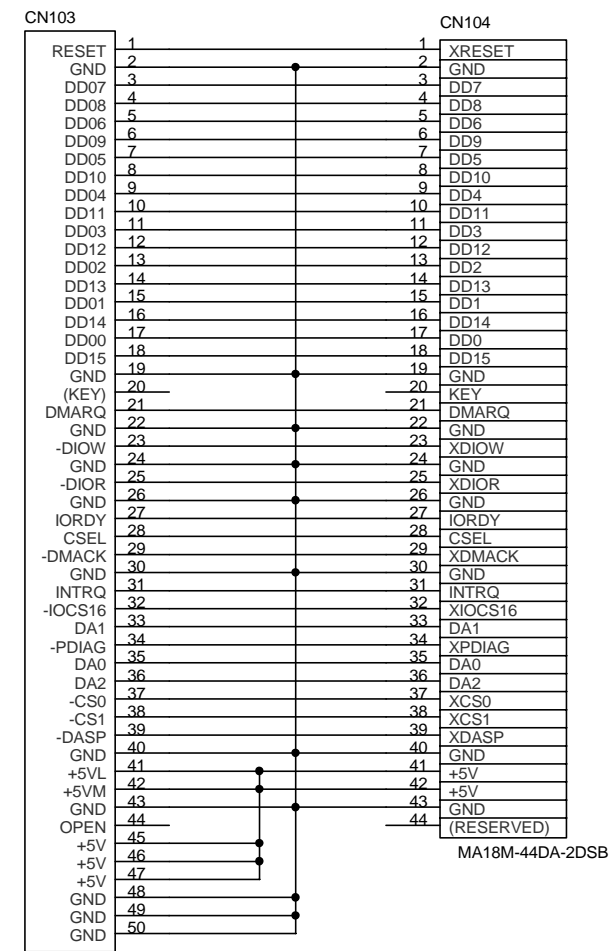
## CDRW CONNECT BOARD (71907378)

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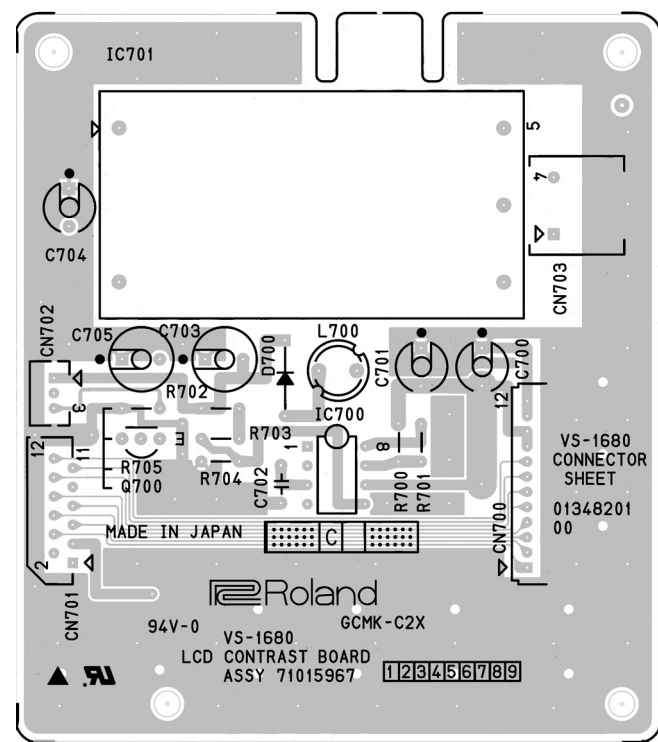
MA18M-44DA-2DSB

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

**A CIRCUIT BOARD (LCD CONTRAST)**

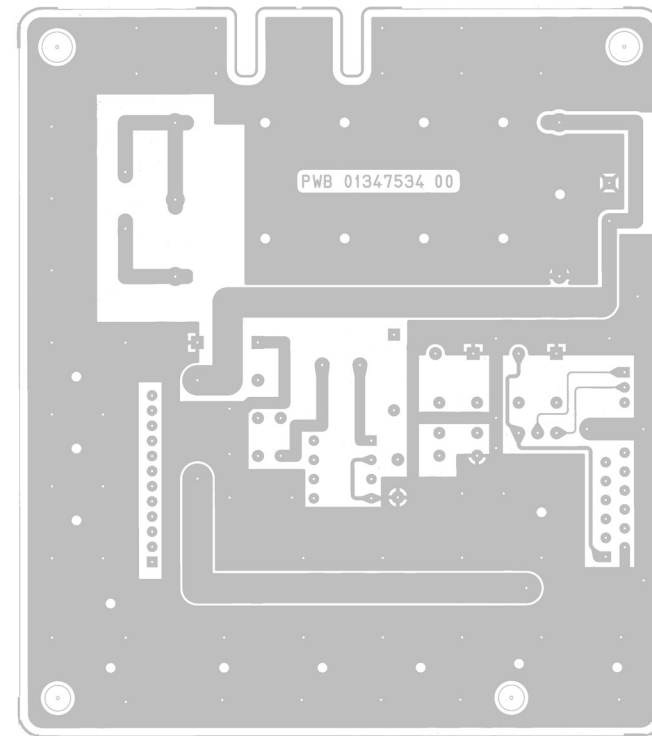
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**LCD CONTRAST BOARD  
(71907845)**



View from component side

**LCD CONTRAST BOARD  
(71907845)**

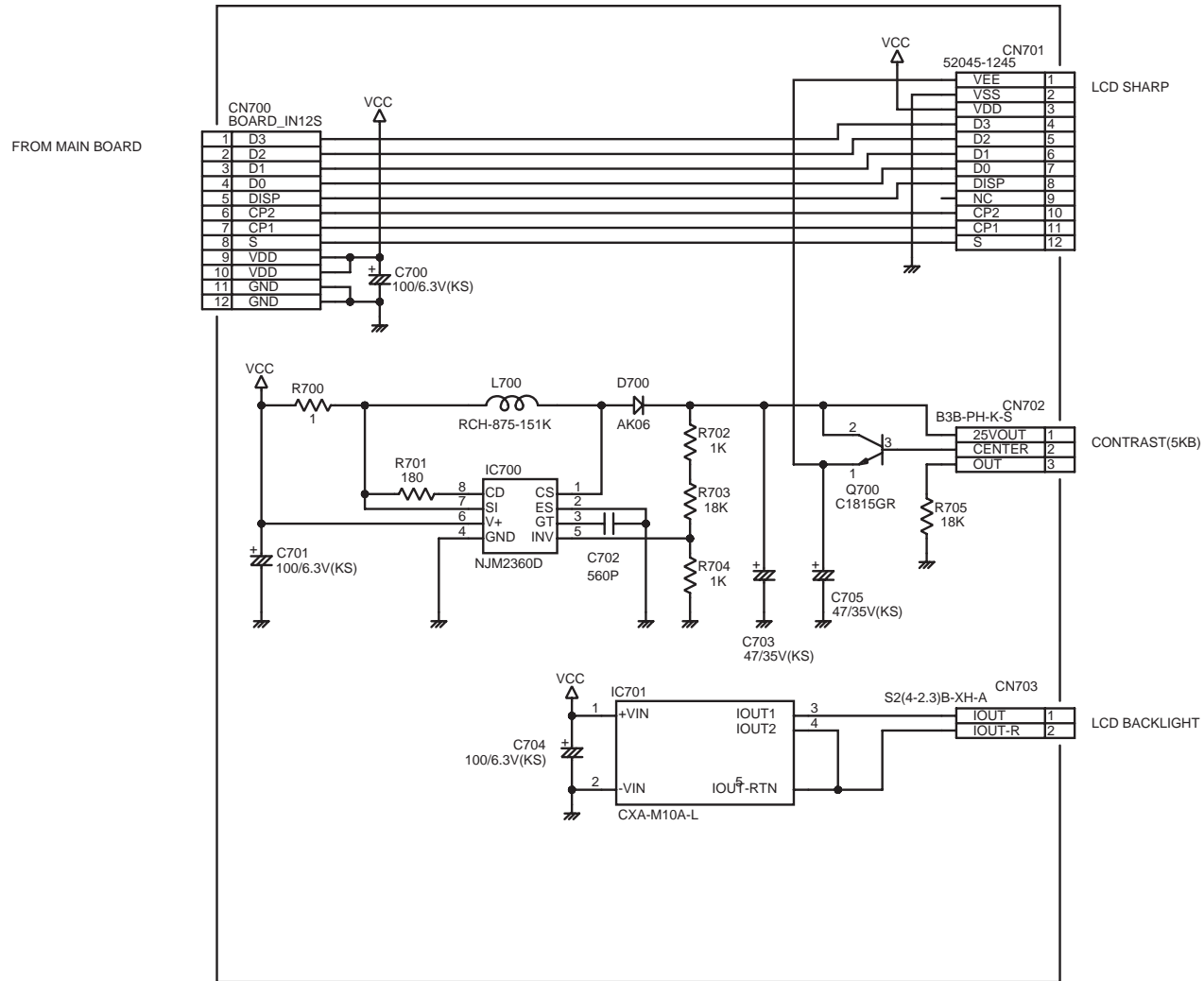


View from foil side

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

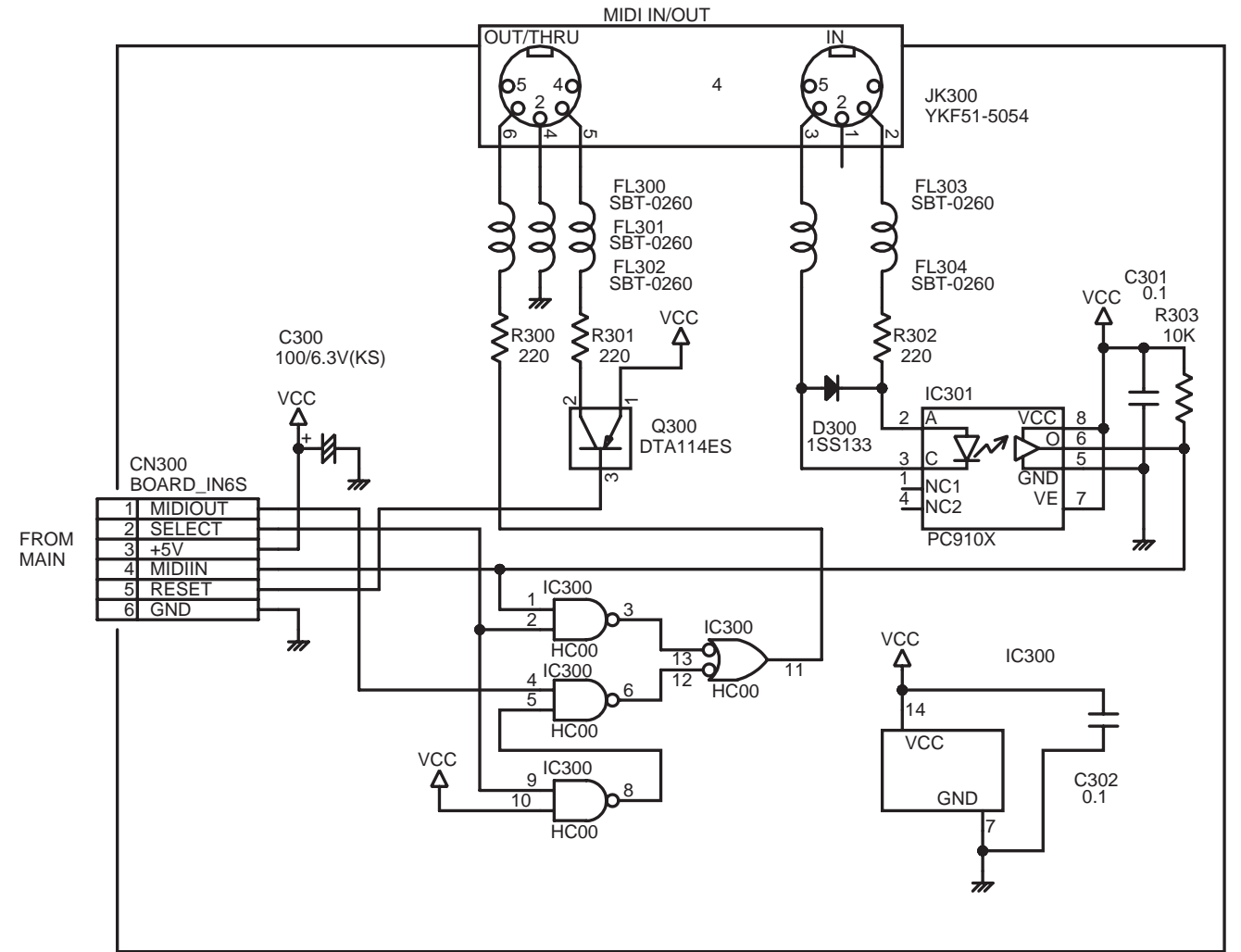
# A CIRCUIT DIAGRAM (LCD CONTRAST)

## LCD CONTRAST BOARD (71907845)



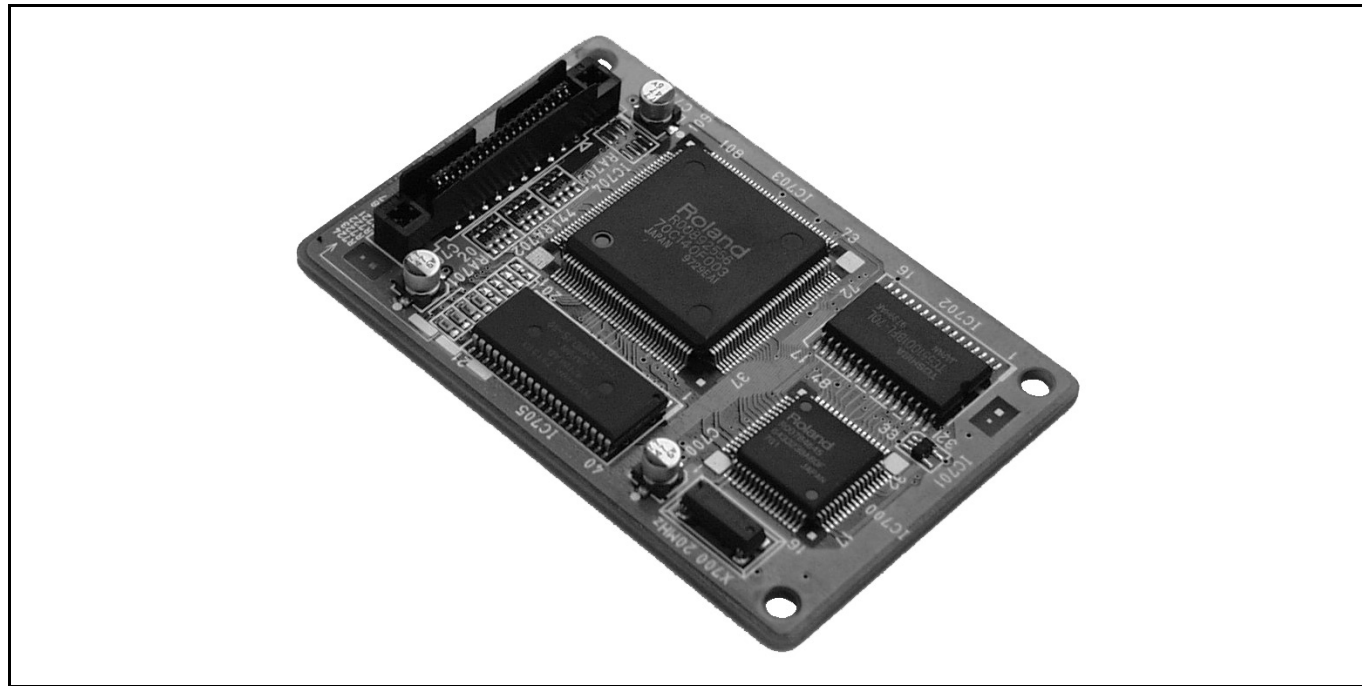
# CIRCUIT DIAGRAM (MIDI)

## MIDI BOARD (70906756)



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# VS8F-2



## SPECIFICATIONS (VS8F-2)

- **Expands the functionality of the VS-1824**

Simply by installing the VS8F-2 into the VS-1824, high quality stereo effects become accessible for convenient use.

- **Two stereo effect systems**

The VS8F-2 has two stereo effect systems. Each effect can be connected to the effect buss or inserted into a specific channel.

This means that you can, for example, insert one effect into a specific channel, and connect the other effect to the send/return of the mixer.

- **A varied selection of effects**

200 Preset Patches (effect settings) and 210 User Patches are provided. You can instantly switch between a variety of effects simply by selecting a Patch.

Original effects settings that you create can be saved as a User Patch. They can also be saved as part of the mixer settings in a Scene.

- **Algorithms**

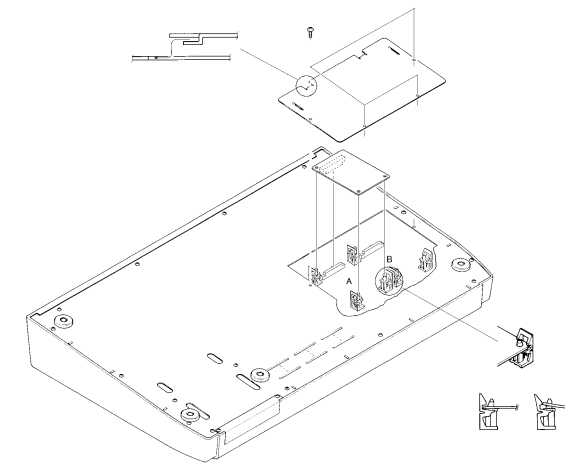
The VS8F-2 provided not only basic effects such as reverb and delay, but also effects ideal for vocals and guitar, and even special effects such as vocoder and RSS.

The way in which each of these effects is organized internally is determined by which of the 34 algorithms it uses.

This means that you can simply select an algorithm (Patch) and begin creating the sound you want, without having to worry about how to make connections.

## INSTALLING THE VS8F-2

1. Turn off the power of the VS-1824 and the connected devices, and disconnect all cables that are connected to the VS-1824.
2. Turn the VS-1824 over, and remove the bottom cover. Inside is the connector and three plastic pins. Insert the connector of the VS8F-2 into the internal connector and at the same time make sure the plastic pins go into the holes in the VS8F-2, so that the board is firmly in place.



3. Re-attach the cover.
4. Connect the external equipment to the VS-1824, and turn on the VS-1824 power.

# PARTS LIST (VS8F-2)

**SAFETY PRECAUTION:**

The parts marked  $\Delta$  have safety-related characteristics. Use only listed parts for replacement.

The parts marked # are new (initial parts).

**CONSIDERATIONS ON PARTS ORDERING**

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.

EB ---> Effect Expansion Board

**PCB ASSY**

#	71019234	VS8F-2 BOARD ASSY	EFFECT EXPANSION BOARD
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**IC**

	00784645	HD6433238A80F	IC (CPU)	IC700 on EB
	00892556	TC170C140AF-003	IC (CUSTOM)	IC703 on EB
	01122412	TC551001CF-70L	IC (SRAM)	IC702 on EB
#	01238234	TC514260DJS-50(YEL)	IC (DRAM)	IC705 on EB
#	00565956	TC7S86F(TE85L)	IC (CMOS)	IC704 on EB

**CRYSTAL**

	00894023	MA-406 20.000MHZ	XTAL	X700 on EB
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**CONNECTOR**

#	13379114	TX15-40P-6ST-MH1	CN700 on EB
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**PACKING**

#	01452634	PACKING CASE	
#	22633419	PAD	for PACKING CASE

**MISCELLANEOUS**

#	71019223	OWNER'S MANUAL SET	JAPANESE/ENGLISH
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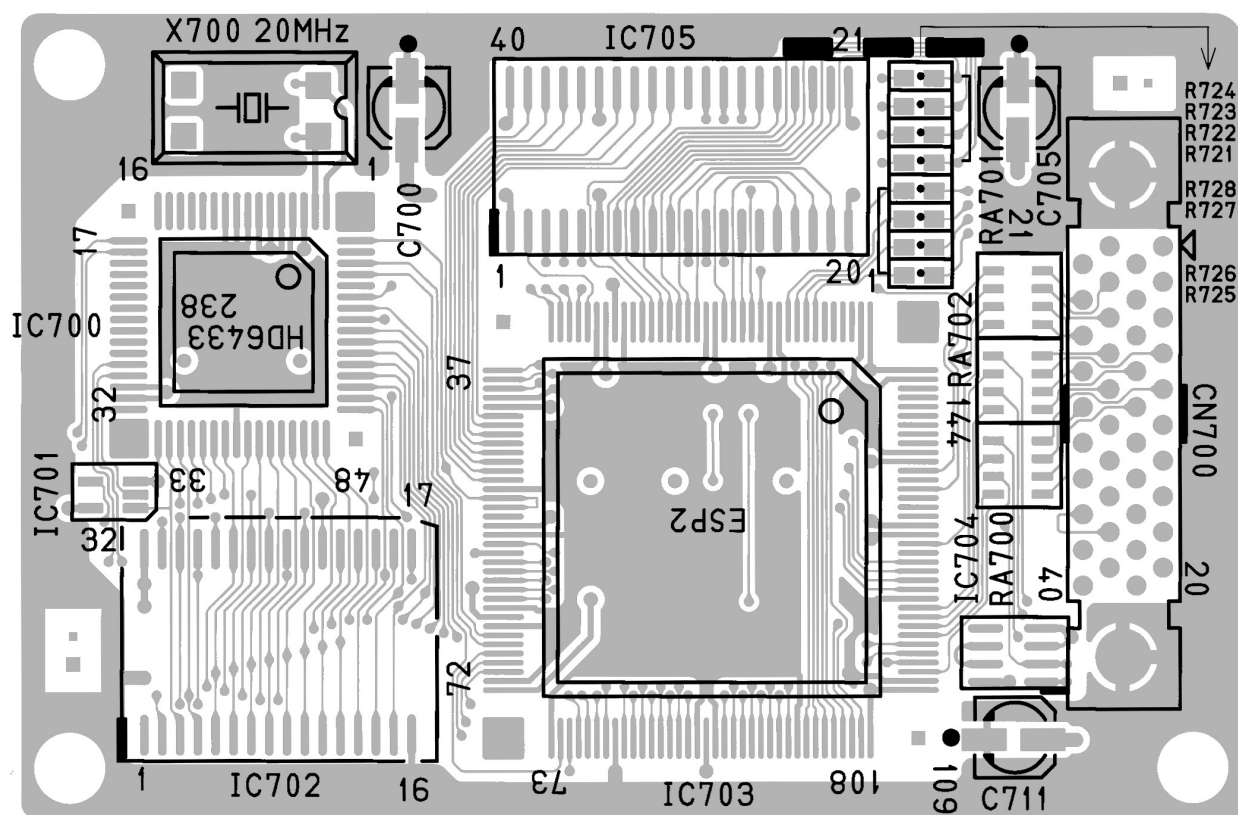


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

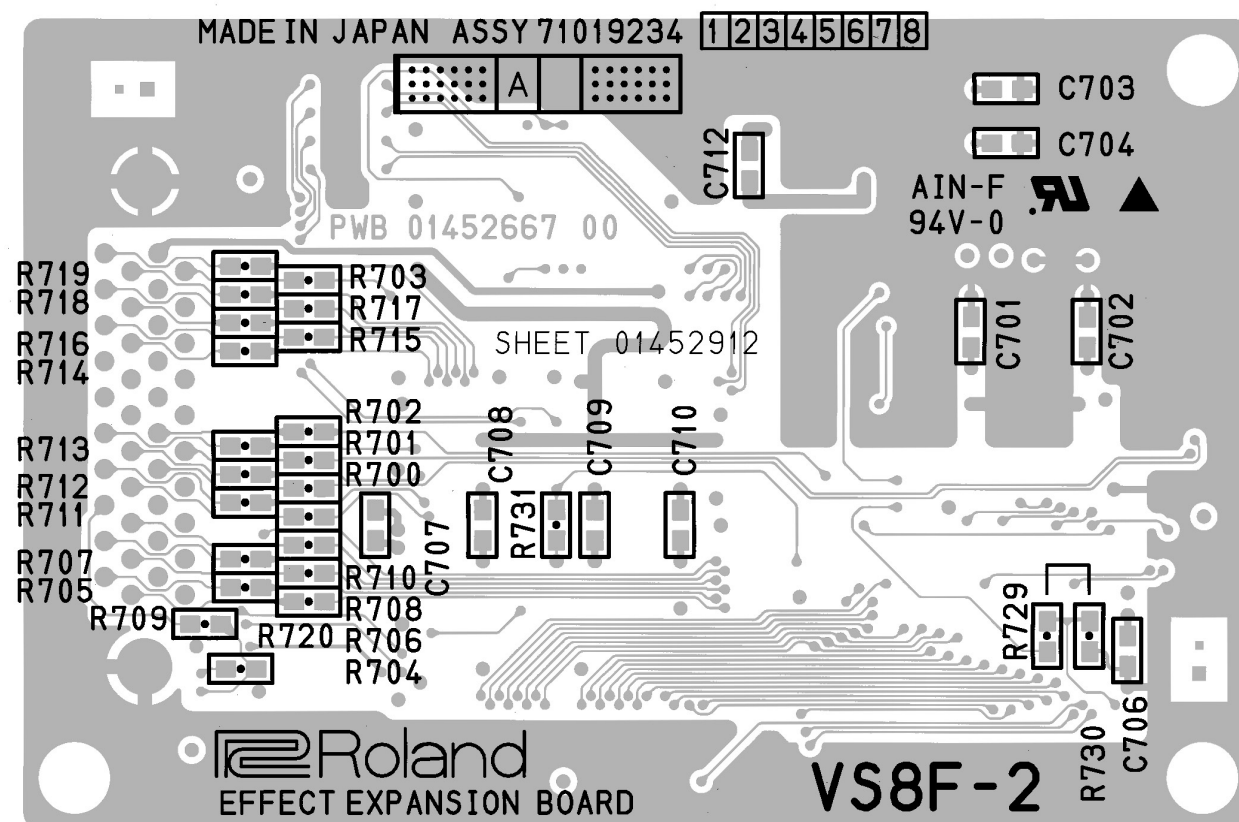
# A CIRCUIT BOARD (VS8F-2)

VS8F-2 BOARD ASSY (71019234)

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View from components side



View from foil side

