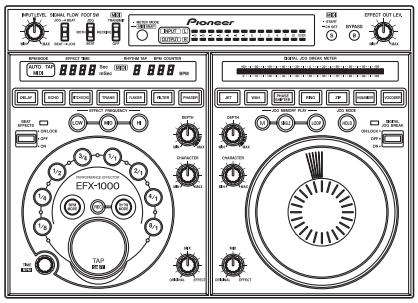
Pioneer *sound.vision.soul*

Service Manual



EFX-1000

ORDER NO.
RRV3122

DJ EFFECTOR

EFX-1000

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
EFX-1000	KUCXJ	AC120V	
EFX-1000	TLTXJ	AC110 - 240V	
EFX-1000	WYXJ	AC220 - 240V	
EFX-1000	WAXJ	AC220 - 240V	

For details, refer to "Important Check Points for good servicing".

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T-IZY JUNE 2005 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

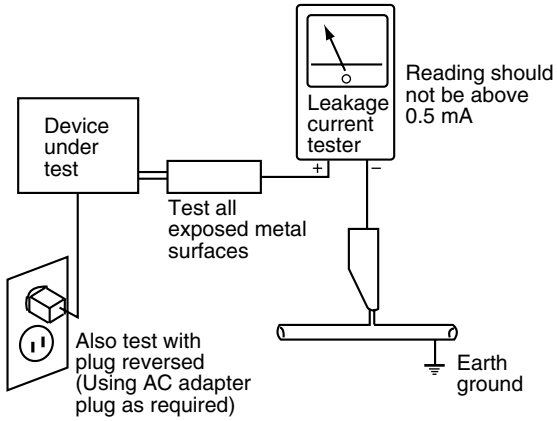
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SPECIFICATIONS

• KUCXJ type

1. General

Power supply ..... AC 120 V, 60 Hz
Power consumption ..... 16 W
Operating temperature ..... +5°C to +35°C (+41°F to +95°F)
Relative humidity ..... 5% to 85% (without condensation)
Weight ..... 2.4 kg (5.3 lb)
Maximum external dimensions ..... 320 (W) x 234 (D) x 101 (H) mm
12-19/32 (W) x 9-7/32 (D) x 3-31/32 (H) in.

2. Audio Unit

Sampling rate ..... 96 kHz
A/D, D/A Resolution ..... 24 bits
Frequency characteristics ..... 20 Hz to 22 kHz
S/N ratio ..... 83 dB
Distortion ..... 0.02 %
Headroom ..... 19 dB
Input level ..... –10 dBV / +4 dBu (22 kΩ)
Output level ..... –10 dBV / +4 dBu
(RCA pin jacks: 1 kΩ, Phone jacks: 1 kΩ)
*–10 dBV / +4 dBu is switchable.

3. Input/Output terminals

Audio line input terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Audio line output terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Digital input terminal
RCA pin jack 1
Digital output terminal
RCA pin jack 1
EFX LINK connector (mini-DIN) 1
MIDI input terminal (5-pin DIN) 1
MIDI output terminal (5-pin DIN) 1

4. Accessories

Operating instructions 1
Digital link cable 1
Power cord 1
Warranty 1

NOTE:
Specifications and design are subject to possible modification without notice.

• TLTXJ type

1. General

Power supply ..... AC 110 V - 240 V, 50/60 Hz
Power consumption ..... 16 W
Operating temperature ..... +5°C to +35°C
Relative humidity ..... 5% to 85% (without condensation)
Weight ..... 2.4 kg
Maximum external dimensions ..... 320 (W) x 234 (D) x 101 (H) mm

2. Audio Unit

Sampling rate ..... 96 kHz
A/D, D/A Resolution ..... 24 bits
Frequency characteristics ..... 20 Hz to 22 kHz
S/N ratio ..... 83 dB
Distortion ..... 0.02 %
Headroom ..... 19 dB
Input level ..... –10 dBV / +4 dBu (22 kΩ)
Output level ..... –10 dBV / +4 dBu
(RCA pin jacks: 1 kΩ, Phone jacks: 1 kΩ)
*–10 dBV / +4 dBu is switchable.

3. Input/Output terminals

Audio line input terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Audio line output terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Digital input terminal
RCA pin jack 1
Digital output terminal
RCA pin jack 1
EFX LINK connector (mini-DIN) 1
MIDI input terminal (5-pin DIN) 1
MIDI output terminal (5-pin DIN) 1

4. Accessories

Operating instructions 1
Digital link cable 1
Power cord 1

NOTE:
Specifications and design are subject to possible modification without notice.

• WYXJ type

1. General

Power supply ..... AC 220 V - 240 V, 50/60 Hz
Power consumption ..... 16 W
Operating temperature ..... +5°C to +35°C
Relative humidity ..... 5% to 85% (without condensation)
Weight ..... 2.4 kg
Maximum external dimensions ..... 320 (W) x 234 (D) x 101 (H) mm

2. Audio Unit

Sampling rate ..... 96 kHz
A/D, D/A Resolution ..... 24 bits
Frequency characteristics ..... 20 Hz to 22 kHz
S/N ratio ..... 83 dB
Distortion ..... 0.02 %
Headroom ..... 19 dB
Input level ..... –10 dBV / +4 dBu (22 kΩ)
Output level ..... –10 dBV / +4 dBu
(RCA pin jacks: 1 kΩ, Phone jacks: 1 kΩ)
*–10 dBV / +4 dBu is switchable.

3. Input/Output terminals

Audio line input terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Audio line output terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Digital input terminal
RCA pin jack 1
Digital output terminal
RCA pin jack 1
EFX LINK connector (mini-DIN) 1
MIDI input terminal (5-pin DIN) 1
MIDI output terminal (5-pin DIN) 1

4. Accessories

Operating instructions 1
Digital link cable 1
Power cord 1

NOTE:
Specifications and design are subject to possible modification without notice.

• WAXJ type

1. General

Power supply ..... AC 220 V - 240 V, 50/60 Hz
Power consumption ..... 16 W
Operating temperature ..... +5°C to +35°C
Relative humidity ..... 5% to 85% (without condensation)
Weight ..... 2.4 kg
Maximum external dimensions..... 320 (W) x 234 (D) x 101 (H) mm

2. Audio Unit

Sampling rate ..... 96 kHz
A/D, D/A Resolution ..... 24 bits
Frequency characteristics ..... 20 Hz to 22 kHz
S/N ratio ..... 83 dB
Distortion ..... 0.02 %
Headroom..... 19 dB
Input level ..... –10 dBV / +4 dBu (22 kΩ)
Output level ..... –10 dBV / +4 dBu
(RCA pin jacks: 1 k, Phone jacks: 1 kΩ)
*–10 dBV / +4 dBu is switchable.

3. Input/Output terminals

Audio line input terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Audio line output terminal
RCA pin jacks 2
Phone jacks (1/4-inch/6.3 mm in diameter) 2
Digital input terminal
RCA pin jack 1
Digital output terminal
RCA pin jack 1
EFX LINK connector (mini-DIN) 1
MIDI input terminal (5-pin DIN) 1
MIDI output terminal (5-pin DIN) 1

4. Accessories

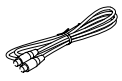
Operating instructions 1
Digital link cable 1
Power cord 1

NOTE:
Specifications and design are subject to possible modification without notice.

● Accessories

Power cord
(KUCXJ : ADG7021)
(TLTXJ : ADG1127)
(WYXJ : ADG1127)
(WAXJ : ADG7079)

Digital link cable
(8P DIN cable)
(DKP3724)
L= 2 m

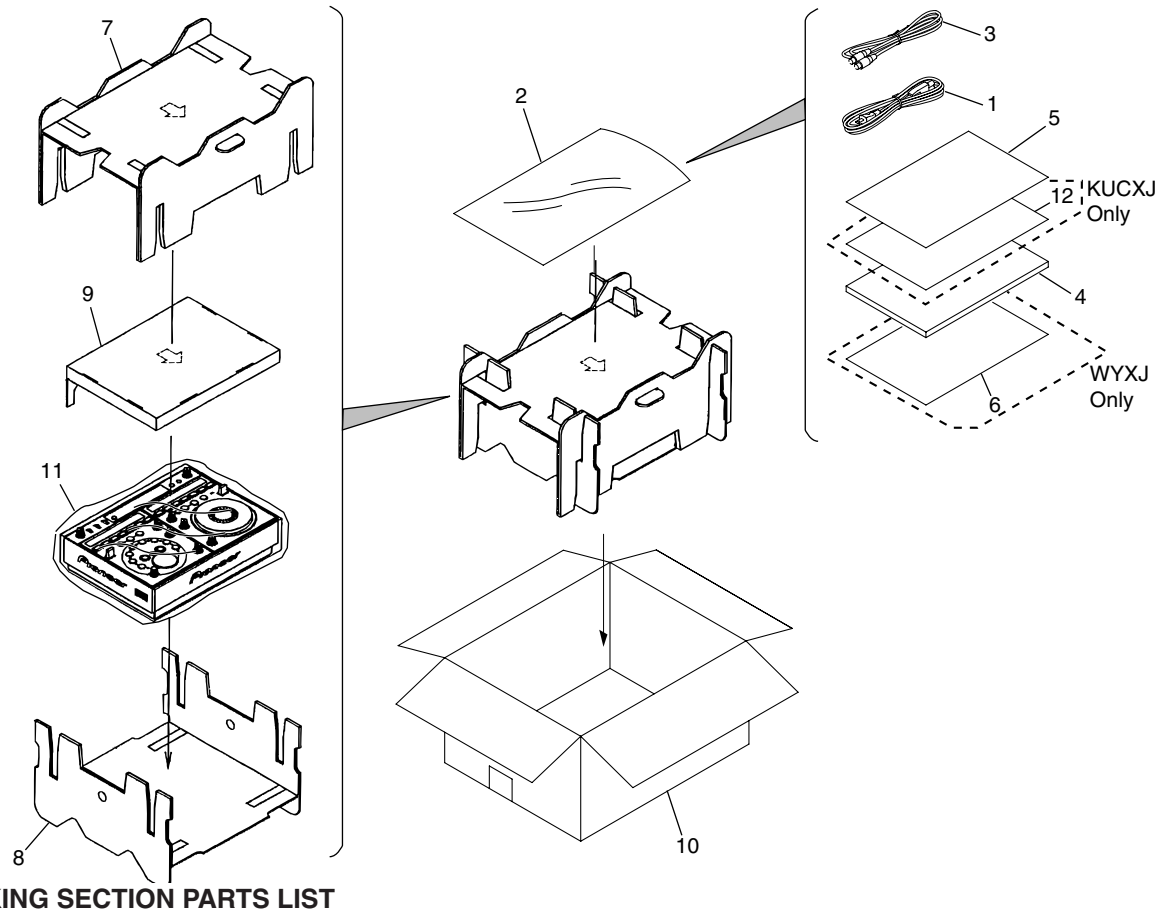


Operating Instructions
Warranty (KUCXJ type only)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

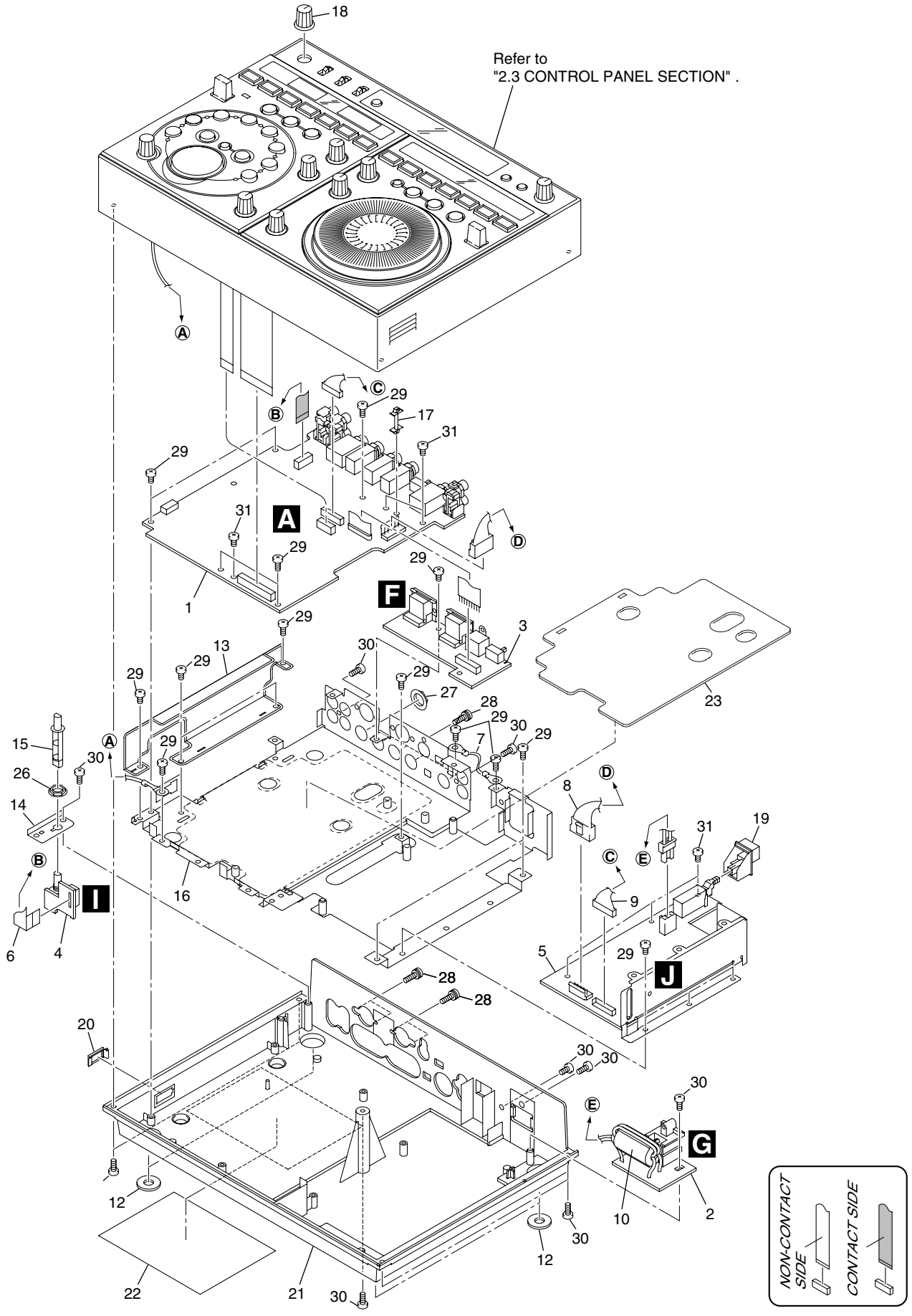
Mark	No.	Description	Part No.
⚠	1	Powe Cord	See Contrast table (2)
NSP	2	Polyethylene Bag	AHG7117
	3	Digital Link Cable(8P DIN Cable)	DKP3724
	4	Operating Instructions	See Contrast table (2)
NSP	5	User Registration SH	DRM1262
	6	WEE Caution Card	See Contrast table (2)
	7	Pad (A)	DHA1645
	8	Pad (B)	DHA1687
	9	Pad (C)	DHA1647
	10	Packing Case	See Contrast table (2)
	11	Sheet	RHX1006
NSP	12	Limited Warranty	See Contrast table (2)

(2) CONTRAST TABLE

EFX-1000/KUCXJ, TLTXJ, WYXJ and WAXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	EFX-1000/ KUCXJ	EFX-1000/ TLTXJ	EFX-1000/ WYXJ	EFX-1000/ WAXJ
⚠	1	Power Cord	ADG7021	ADG1127	ADG1127	ADG7079
	4	Operating Instructions (Chinise/English)	DRB1367	Not used	Not used	Not used
	4	Operating Instructions (English/Spanish/ Chinese)	Not used	DRB1369	Not used	Not used
	4	Operating Instructions (English/French/Duch/German/Italian/Spanish)	Not used	Not used	DRB1368	Not used
	4	Operating Instructions (English)	Not used	Not used	Not used	DRB1370
	6	WEE Caution Card	Not used	Not used	ARM7099	Not used
	10	Packing Case	DHG2476	DHG2477	DHG2475	DHG2479
NSP	12	Limited Warranty	ARY7043	Not used	Not used	Not used

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

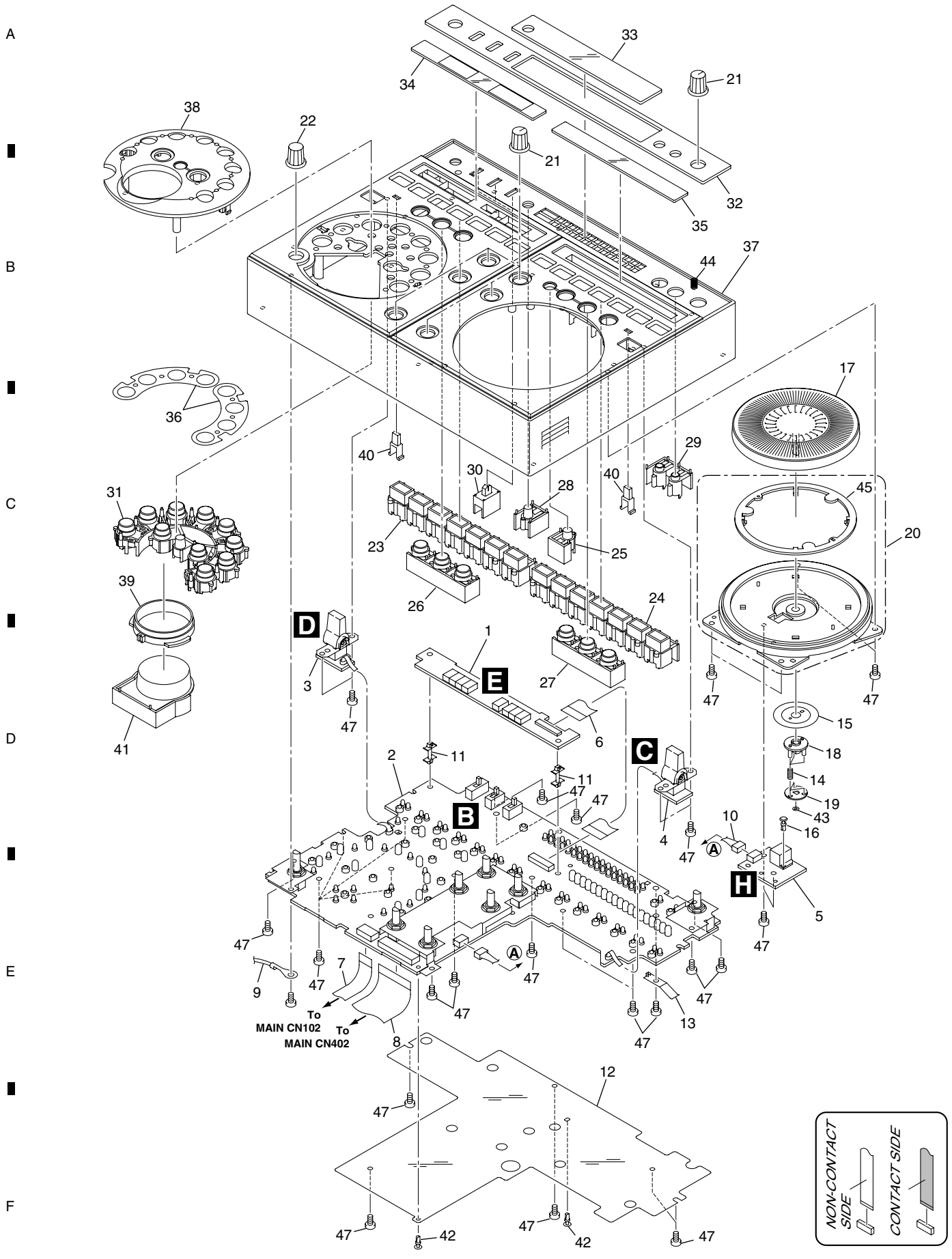
Mark	No.	Description	Part No.
	1	MAIN BOARD Assy	DWX2401
	2	ACIN Assy	See Contrast table (2)
	3	MIDI Assy	DWX2402
	4	MVR Assy	DWX2444
⚠	5	POWER SUPPLY Unit	DWR1377
	6	10P Flexible Cable	DDD1293
NSP	7	Earth Lead Wire	DE005VF0
	8	Connector Assy	DKP3725
	9	Connector Assy	DKP3741
⚠	10	Ferrite Core	DTH1196
	11	•••••	
	12	Insulator MO	DEC2250
	13	Insulation Sheet B	DEC2823
	14	VOL Support Plate MASTER	DNF1719
	15	Extension Shaft	DNK4348
	16	Main Shield Assy	DXB1851
NSP	17	PCB Holder	REC1220
	18	Knob VOL	DAA1168
	19	Power Knob	DAC1895
	20	Blind Cap	DNK4218
NSP	21	Chassis	See Contrast table (2)
	22	Block Label	DRW2271
	23	E Wave Sheet	DEC2881
	24	•••••	
	25	•••••	
	26	Nut M7	DBN1011
	27	Nut M12	DBN1012
	28	Screw	PMH30P100FTB
	29	Screw	BBZ30P060FTB
	30	Screw	BPZ30P080FTB
	31	Screw	BBZ30P080FTC

(2) CONTRAST TABLE

EFX-1000/KUCXJ, TLTXJ, WYXJ and WAXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	EFX-1000/ KUCXJ	EFX-1000/ TLTXJ	EFX-1000/ WYXJ	EFX-1000/ WAXJ
	2	ACIN Assy	DWR1382	DWR1381	DWR1381	DWR1381
NSP	21	Chassis	DNK4618	DNK4621	DNK4617	DNK4620

2.3 CONTROL PANEL SECTION



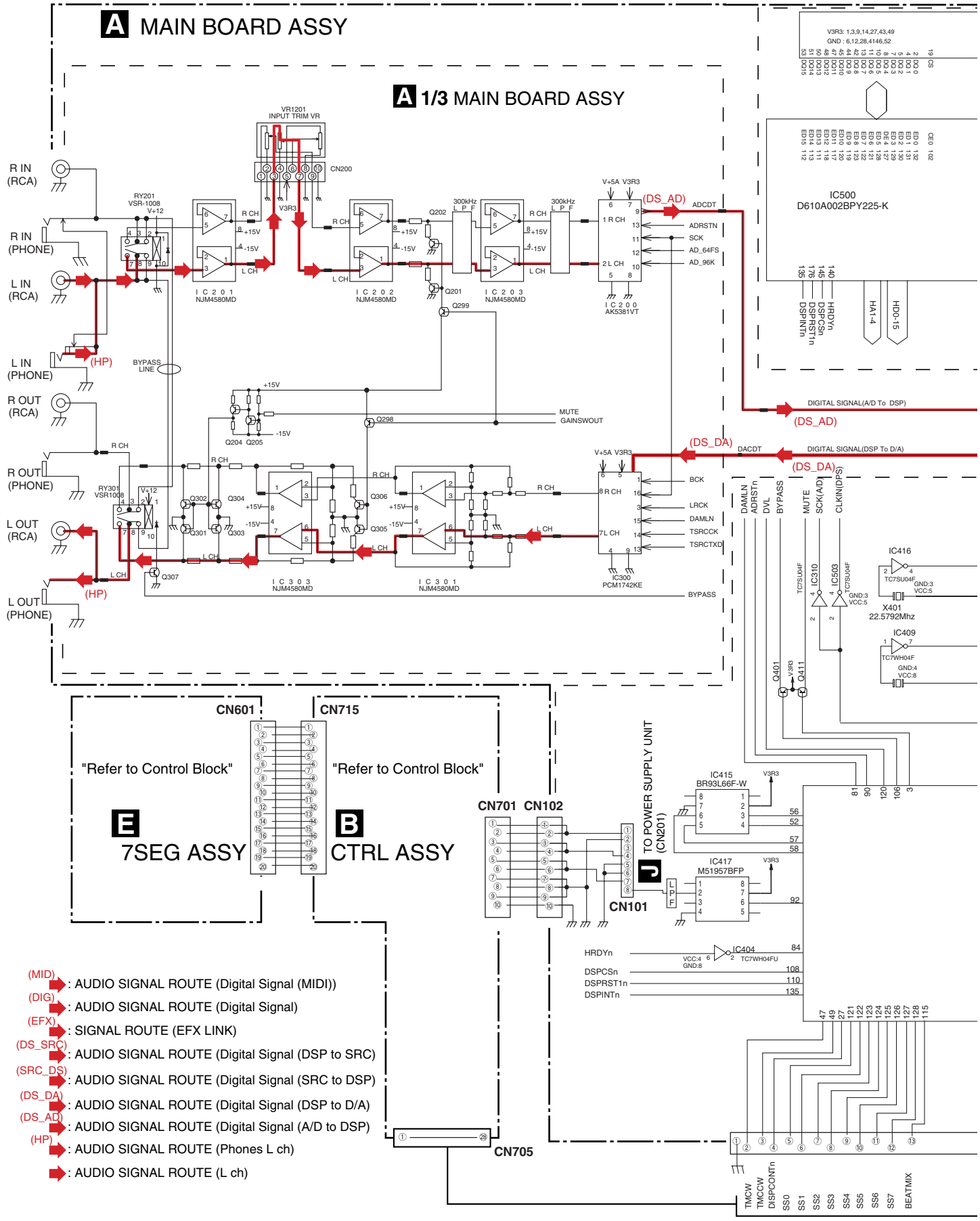
CONTROL PANEL SECTION PARTS LIST

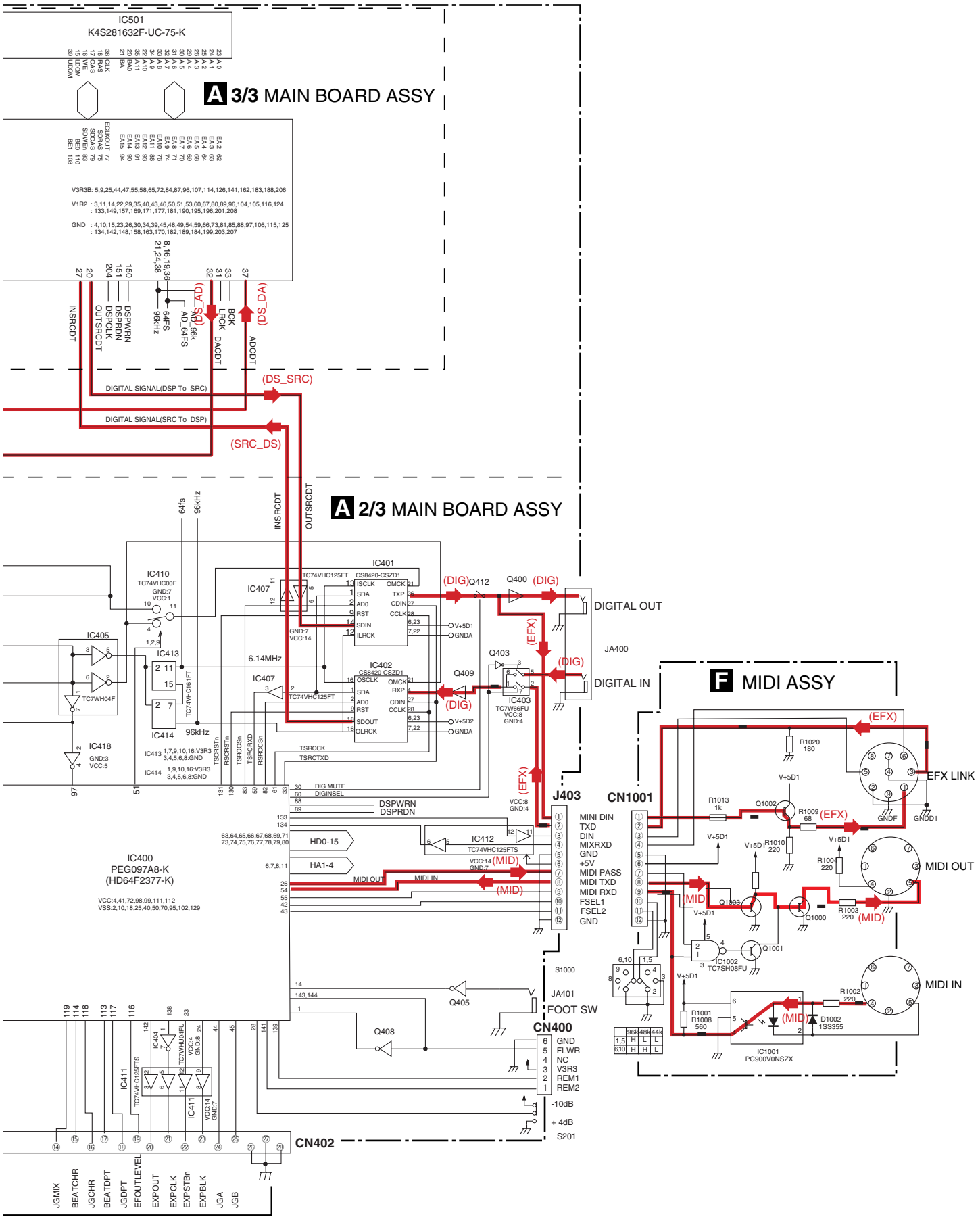
Mark	No.	Description	Part No.
	1	7SEG Assy	DWG1584
	2	CTRL Assy	DWG1585
	3	SW1 Assy	DWS1353
	4	SW2 Assy	DWS1354
	5	ENCB Assy	DWX2403
	6	20P Flexible Cable	DDD1274
	7	10P Flexible Cable	DDD1290
	8	28P Flexible Cable	DDD1292
NSP	9	Earth Lead Wire	DE015VF0
	10	Small Connector	PF04PP-C05
	11	PC Support	DEC2736
	12	Insulation Sheet A	DEC2807
	13	Earth Plate (CU)	VBK1070
	14	JOG Spring	DBH1540
	15	Encoder Plate	DEC2498
	16	Nyron Rivet	DEC2735
	17	JOG Dial	DNK4337
	18	Encoder Holder	DNK4339
	19	Smoother	DNK4346
	20	JOG Holder Assy	DXA1992
	21	Knob VOL	DAA1168
	22	Knob TIME	DAA1169
	23	Button Effect DELAY	DAC2223
	24	Button Effect JET	DAC2224
	25	Button MEMORY	DAC2225
	26	Button HOLD	DAC2226
	27	Button LOW	DAC2227
	28	Button METER	DAC2228
	29	Button LB	DAC2229
	30	Slide Knob	DAC2230
	31	Button BEAT	DAC2231
	32	aluminum Panel	DAH2330
	33	Window LEVEL	DAH2331
	34	Window TIME	DAH2332
	35	Window JOG	DAH2333
	36	Sheet	DED1175
	37	Control Panel	DNK4340
	38	Escutcheon	DNK4342
	39	TAP Display Ring	DNK4343
	40	Indicator	DNK4344
	41	Button TAP Assy	DXA1993
	42	Nyron Rivet 3x4.5	RBM-003
	43	Washer	WT26D060D050
	44	Earth Spring	DBH1539
	45	Pom Ring	DNK4345
	46	Screw	BBZ30P060FTB
	47	Screw	BPZ30P080FTB

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

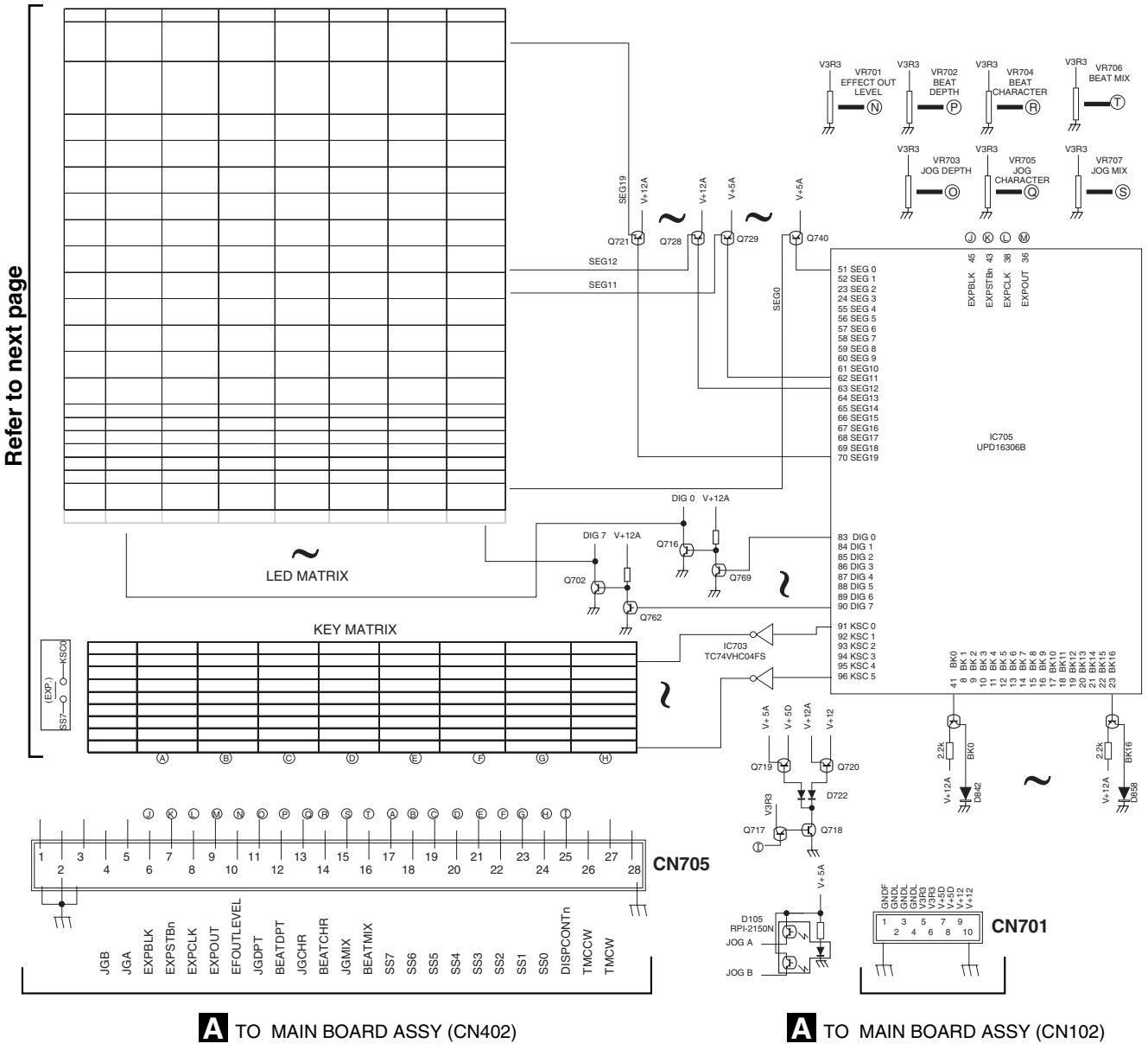
• **AUDIO BLOCK**



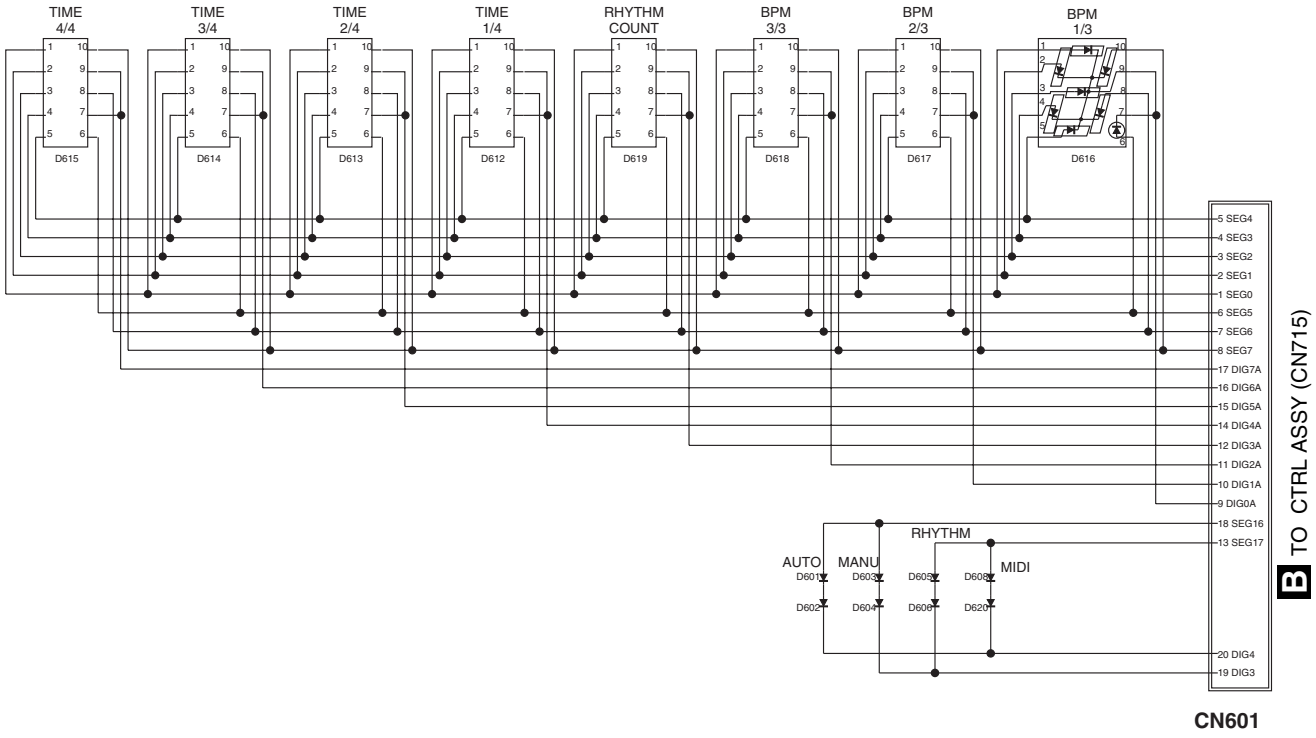

IC501
K4S281632F-UC-75-K
A 3/3 MAIN BOARD ASSY
V3R3B: 5,9,25,44,47,55,58,65,72,84,87,96,107,114,126,141,162,183,188,206
V1R2 : 3,11,14,22,29,35,40,43,46,50,51,53,60,67,80,89,96,104,105,116,124
: 133,149,157,169,171,177,181,190,195,196,201,208
GND : 4,10,15,23,26,30,34,39,45,48,49,54,59,66,73,81,85,88,97,106,115,125
: 134,142,148,158,163,170,182,189,184,199,203,207
INSRCDT
OUTSRCDT
DSPCLK
DSPRDN
DSPWRN
64fS 96kHz
AD_64FS
AD_96k
LRCK
BCK
DACDT
ADCDT
(DS_AD)
(DS_DA)
DIGITAL SIGNAL(DSP To SRC)
DIGITAL SIGNAL(SRC To DSP)
(DS_SRC)
(SRC_DS)
A 2/3 MAIN BOARD ASSY
64fs
96kHz
IC410
TC74VHC00F
IC405
TC7WH04F
IC413
IC414
TC74VHC161FT
IC418
IC407
TC74VHC125FT
6.14MHz
96kHz
IC401
CS8420-CSZD1
IC402
CS8420-CSZD1
IC403
TC7W66FU
Q412
Q400
Q403
Q409
(DIG)
(EFX)
DIGITAL OUT
DIGITAL IN
JA400
TSRCCK
TSRCTXD
TSRCRSTn
RSRCRSTn
TSRCCSn
TSRCRXD
RSRCCSn
DIG MUTE
DIGINSEL
DSPWRN
DSPRDN
IC400
PEG097A8-K
(HD64F2377-K)
VCC:4,41,72,98,99,111,112
VSS:2,10,18,25,40,50,70,95,102,129
HD0-15
HA1-4
MIDI OUT
MIDI IN
(MID)
IC412
TC74VHC125FTS
J403
MINI DIN
TXD
DIN
MIXRXD
GND
+5V
MIDI PASS
MIDI TXD
MIDI RXD
FSEL1
FSEL2
GND
S1000
JA401
FOOT SW
CN400
GND
FLWR
NC
V3R3
REM1
REM2
Q405
Q408
IC411
TC74VHC125FTS
IC404
TC7WHU04FU
-10dB
+ 4dB
S201
CN402
JGMIX
BEATCHR
JGCHR
BEATDPT
JGDPT
EFOUTLEVEL
EXPOUT
EXPCLK
EXPSTBn
EXPBLK
JGA
JGB
F MIDI ASSY
CN1001
R1020 180
R1013 1k
R1009 68
R1010 220
R1004 220
R1003 220
R1002 220
R1001 R1008 560
Q1002
Q1003
Q1000
Q1001
IC1002
TC7SH08FU
IC1001
PC900V0NSZX
D1002
1SS355
EFX LINK
MIDI OUT
MIDI IN
V+5D1
GNDF
GNDD1

• CONTROL BLOCK

B CTRL ASSY



E 7SEG ASSY


TIME 4/4
TIME 3/4
TIME 2/4
TIME 1/4
RHYTHM COUNT
BPM 3/3
BPM 2/3
BPM 1/3
D615
D614
D613
D612
D619
D618
D617
D616
5 SEG4
4 SEG3
3 SEG2
2 SEG1
1 SEG0
6 SEG5
7 SEG6
8 SEG7
17 DIG7A
16 DIG6A
15 DIG5A
14 DIG4A
12 DIG3A
11 DIG2A
10 DIG1A
9 DIG0A
18 SEG16
13 SEG17
RHYTHM
AUTO
MANU
MIDI
D601
D602
D603
D604
D605
D606
D608
D620
20 DIG4
19 DIG3
CN601
B TO CTRL ASSY (CN715)

● LED Matrix

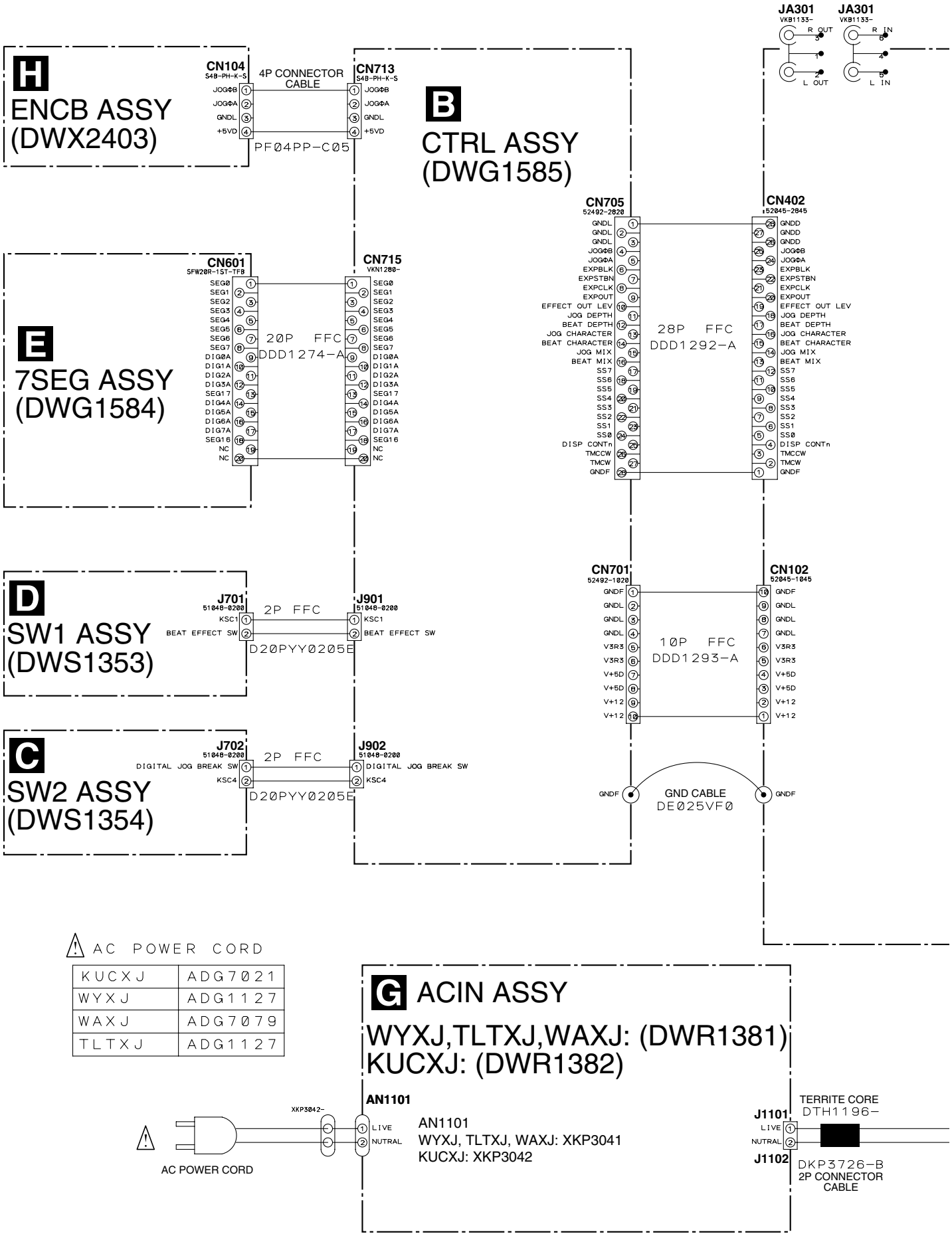
	SEG23 - SEG20	SEG19	SEG18	SEG17	SEG16	SEG15	SEG14	SEG13	SEG12	SEG11	
DIG0	–	RING-LP	PHASE SHIFTER-LP	WAH-LP	JET-LP	LMUP07	LMUP06	LMUP05	LMUP04	LMUP03	
DIG1	–	–	VOCODER -LP	HUMANIZER -LP	ZIP-LP	–	LMUP14	LMUP13	LMUP12	LMUP11	
DIG2	–	LMOUT-LP	LMIN-LP	LINK-LP	–	LMDW07	LMDW06	LMDW05	LMDW04	LMDW03	
DIG3	–	–	–	RYTH-DS	TAP-DS	–	LMDW14	LMDW13	LMDW12	LMDW11	
DIG4	–	–	–	MIDI-DS	AUTO-DS	HOLD-LP	AUTO-LP	PLAY-LP	–	LMR-LP	
DIG5	–	TAPB-LP	TAPB-LP	TAPB-LP	TAPB-LP	-1/2R-LP	-8/1R-LP	-4/1R-LP	-2/1R-L	8/1R-LP	
DIG6	–	TRNS-LP	PICH ECHO-LP	ECHO-LP	DELY-LP	-1/1R-LP	-3/4R-LP	-1/4R-LP	-1/8R-LP	3/4R-LP	
DIG7	–	RYTH-LP	PHAS-LP	FILT-LP	FLAN-LP	LOW-LP	MID-LP	HI-LP	–	JEF-ON	

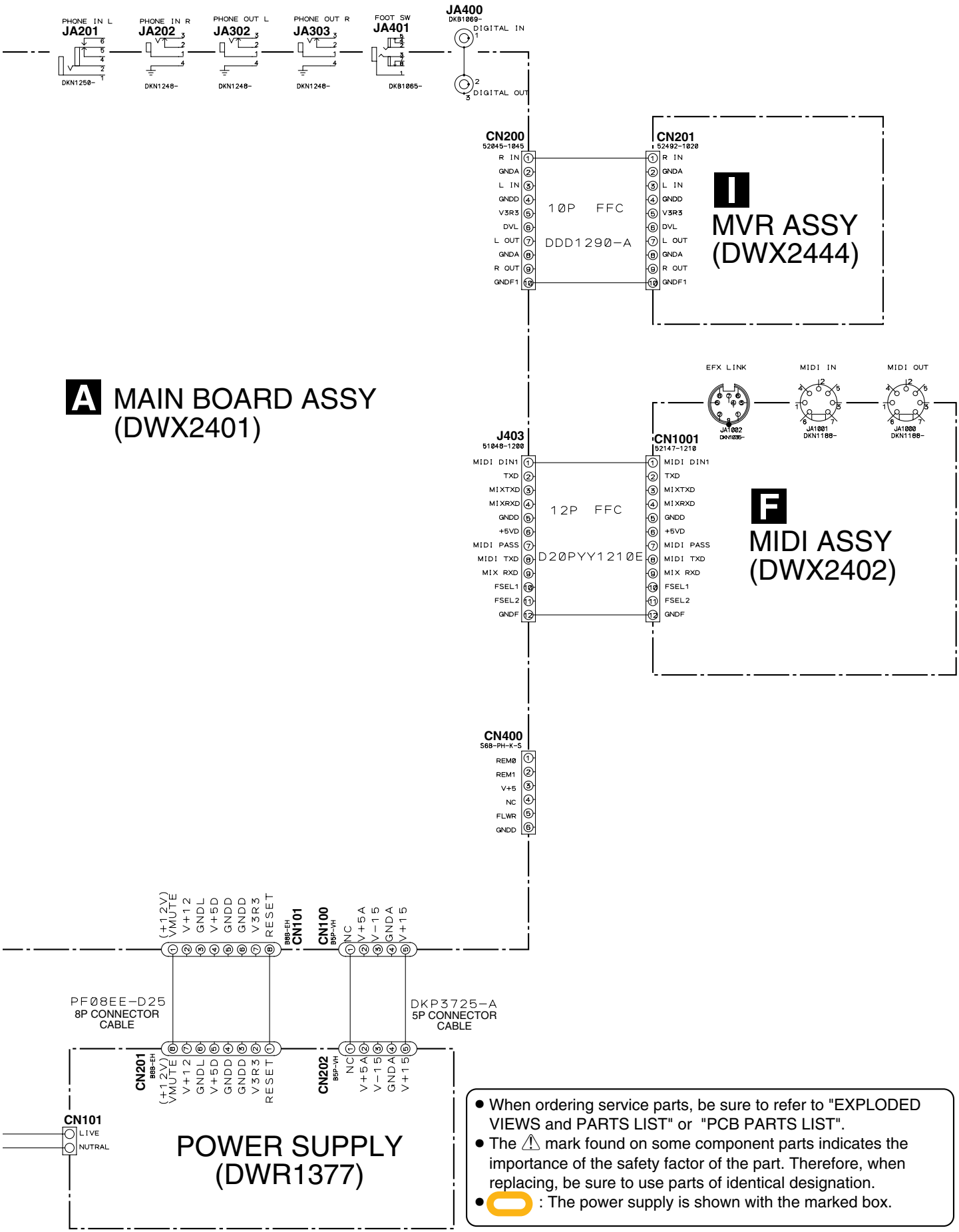
● Key Matrix

	SS7	SS6	SS5	SS4	SS3	SS2	SS1	SS0
KSC0	EFFECT	MIDI	BYPASS	LINK	METER	FTJO-SW	FTBT-SW	BLK-SEL
KSC1	PHAS	FILT	TRAN	FLAN	PAN	ECHO	DELAY	BEATSW
KSC2	8/1	4/1	2/1	1/1	3/4	1/2	1/4	1/8
KSC3	MEMO	–	TAPSW	RHMSW	BPMSW	HI	MID	LOW
KSC4	AQUA	REVE	HAMO	RING	WAH	ZIP	JET	JOGSW
KSC5	–	–	–	–	HOLDSW	JAUTOSW	PLAYSW	MEMOSW
KSC6	–	–	–	–	–	–	–	–
KSC7	–	–	–	–	–	–	–	–

	SEG10	SEG9	SEG8	SEG7	SEG6	SEG5	SEG4	SEG3	SEG2	SEG1	SEG0
	LMUP02	LMUP01	LMUP00	BPM1-LP	–	–	–	–	–	–	BPM1-LP
	LMUP10	LMUP09	LMUP08	BPM2-LP	–	–	–	–	–	–	BPM2-LP
	LMDW02	LMDW01	LMDW00	BPM3-LP	–	–	–	–	–	–	BPM3-LP
	LMDW10	LMDW09	LMDW08	RYT1-LP	–	–	–	–	–	–	RYT1-LP
	LML-LP	BYPASS-LP	–	TM1-LP	–	–	–	–	–	–	TM1-LP
	4/1R-LP	2/1R-LP	1/1R-LP	TM2-LP	–	–	–	–	–	–	TM2-LP
	1/2R-LP	1/4R-LP	1/8R-LP	TM3-LP	–	–	–	–	–	–	TM3-LP
	BEF-ON	BPM-LP	+8/1R-LP	TM4-LP	–	–	–	–	–	–	TM4-LP

3.2 OVERALL WIRING DIAGRAM



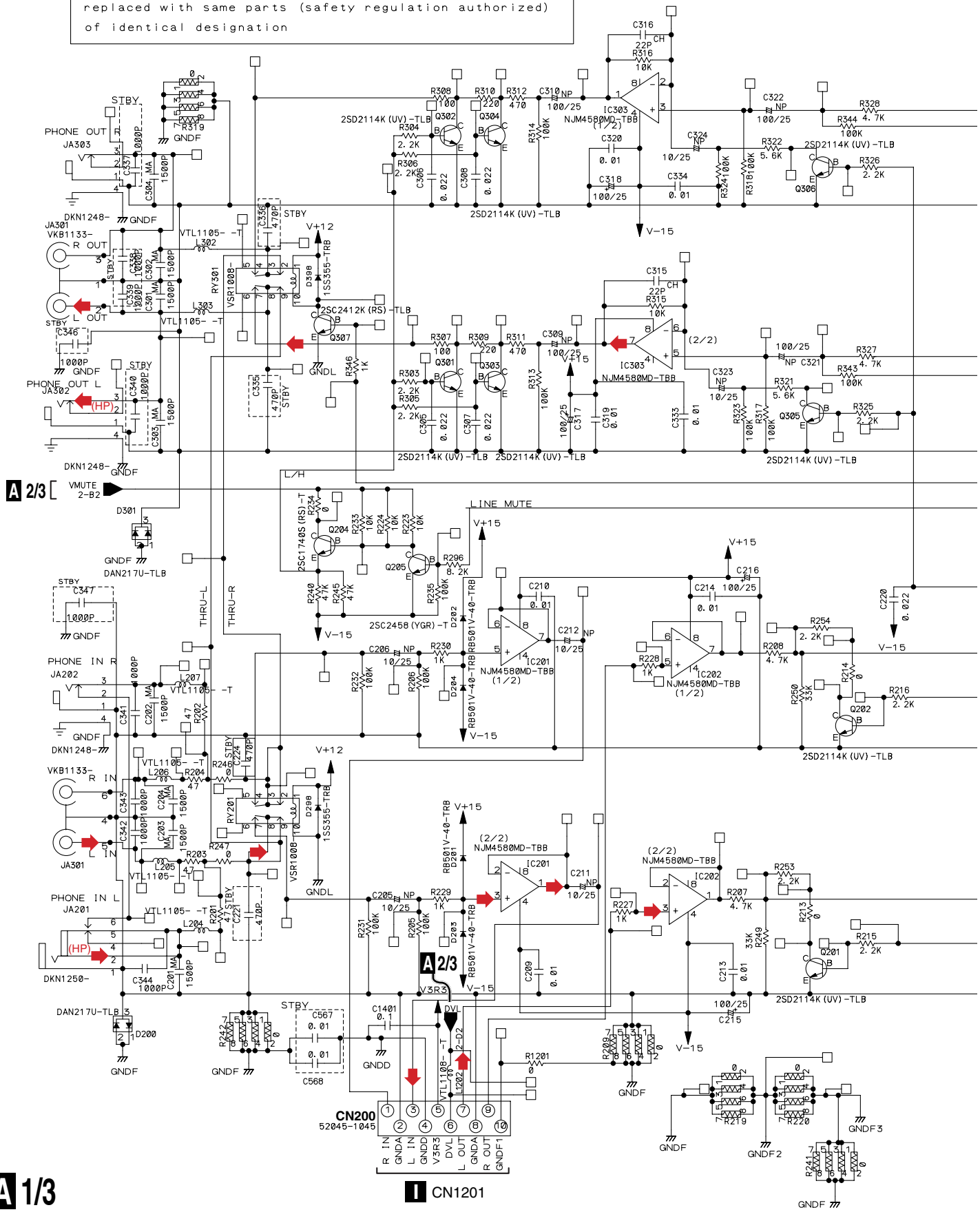


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply is shown with the marked box.

3.3 MAIN ASSY (1/3)

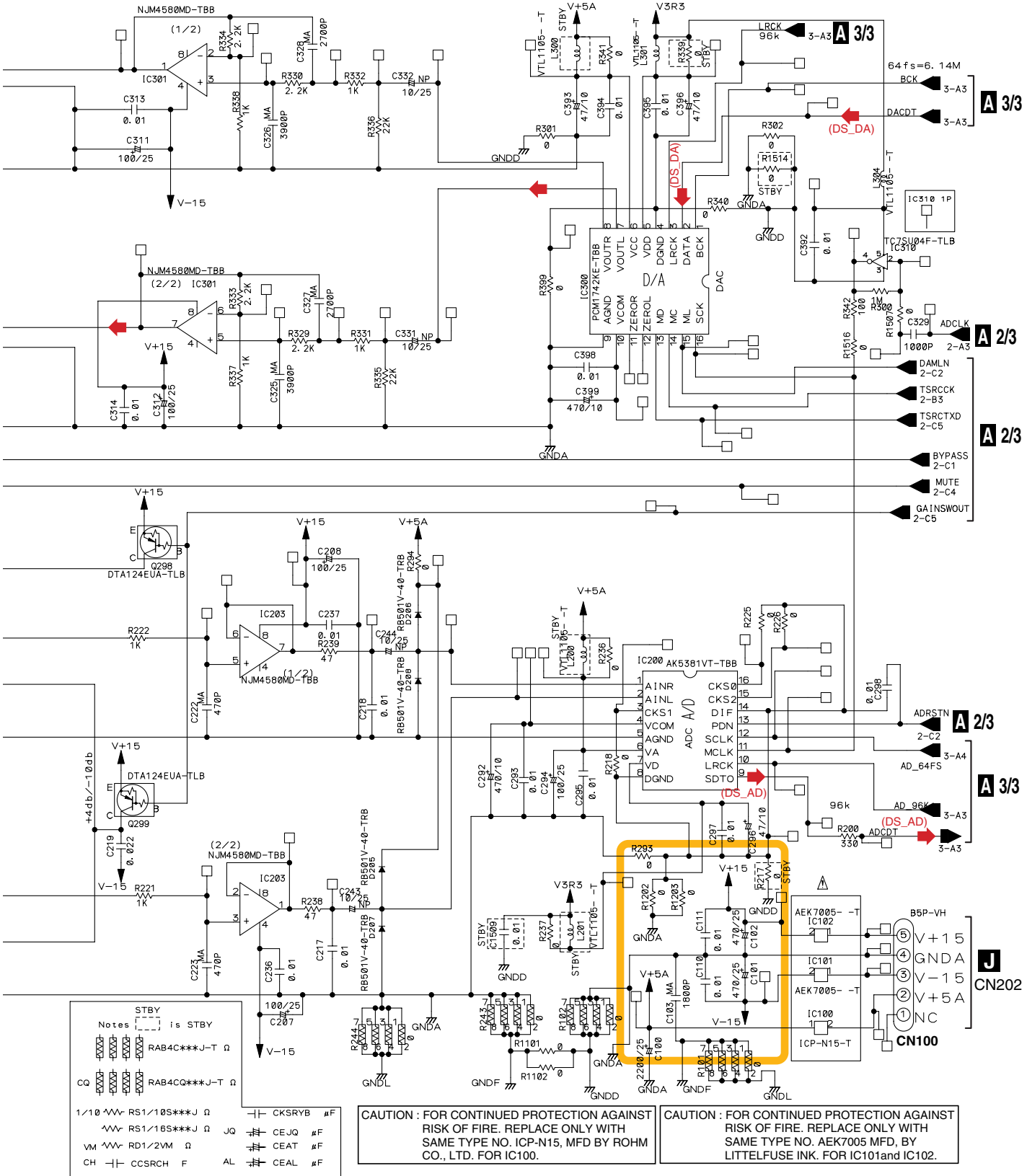
A MAIN BOARD ASSY (1/3) (DWX2401)

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation



(MID) : AUDIO SIGNAL ROUTE (Digital Signal (MIDI))
(DIG) : AUDIO SIGNAL ROUTE (Digital Signal)
(EFX) : SIGNAL ROUTE (EFX LINK)
(DS_SRC) : AUDIO SIGNAL ROUTE (Digital Signal (DSP to SRC)
(SRC_DS) : AUDIO SIGNAL ROUTE (Digital Signal (SRC to DSP)

(DS_DA) : AUDIO SIGNAL ROUTE (Digital Signal (DSP to D/A)
(DS_AD) : AUDIO SIGNAL ROUTE (Digital Signal (A/D to DSP)
(HP) : AUDIO SIGNAL ROUTE (Phones L ch)
: AUDIO SIGNAL ROUTE (L ch)



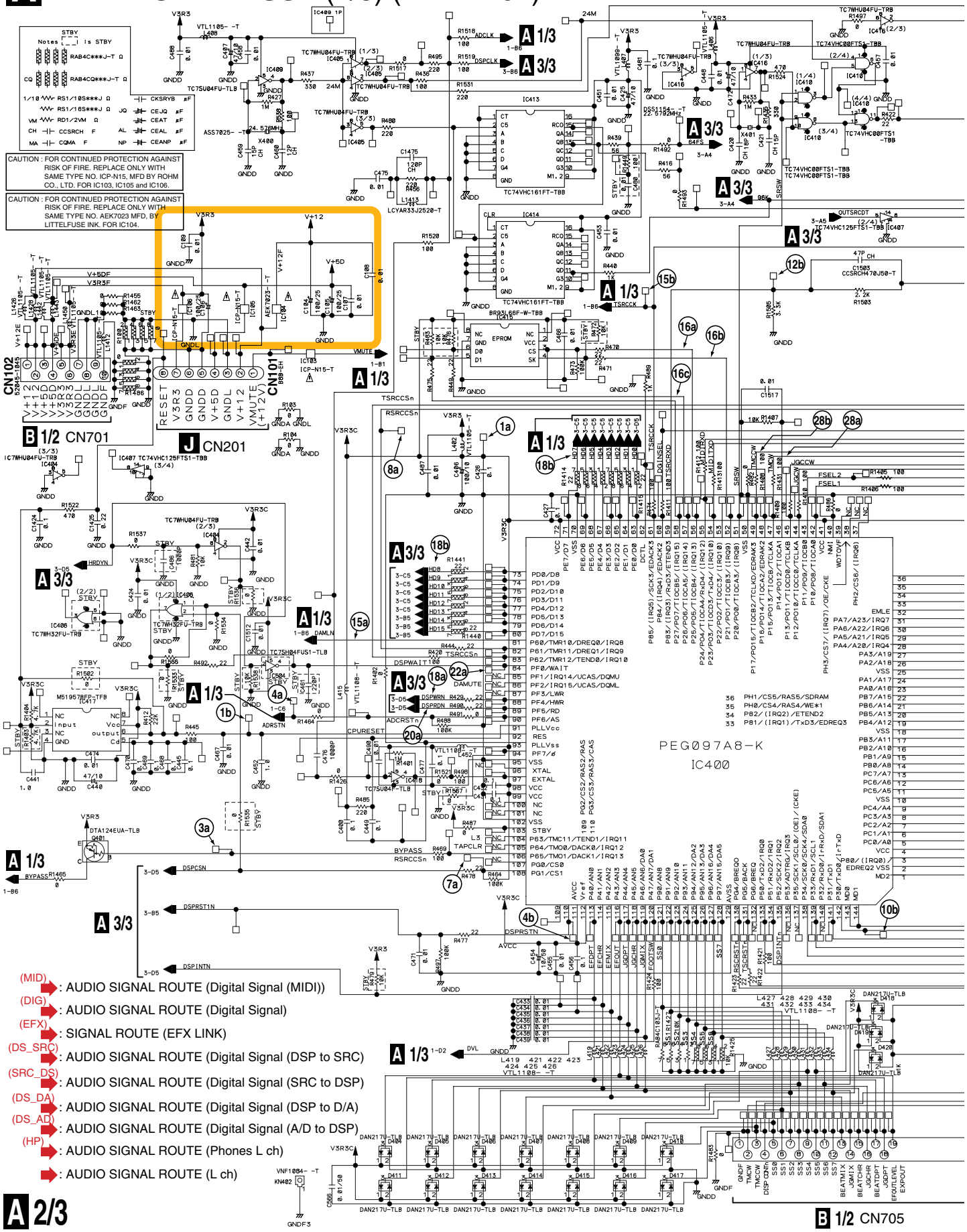
A 3/3
A 2/3
A 1/3
J

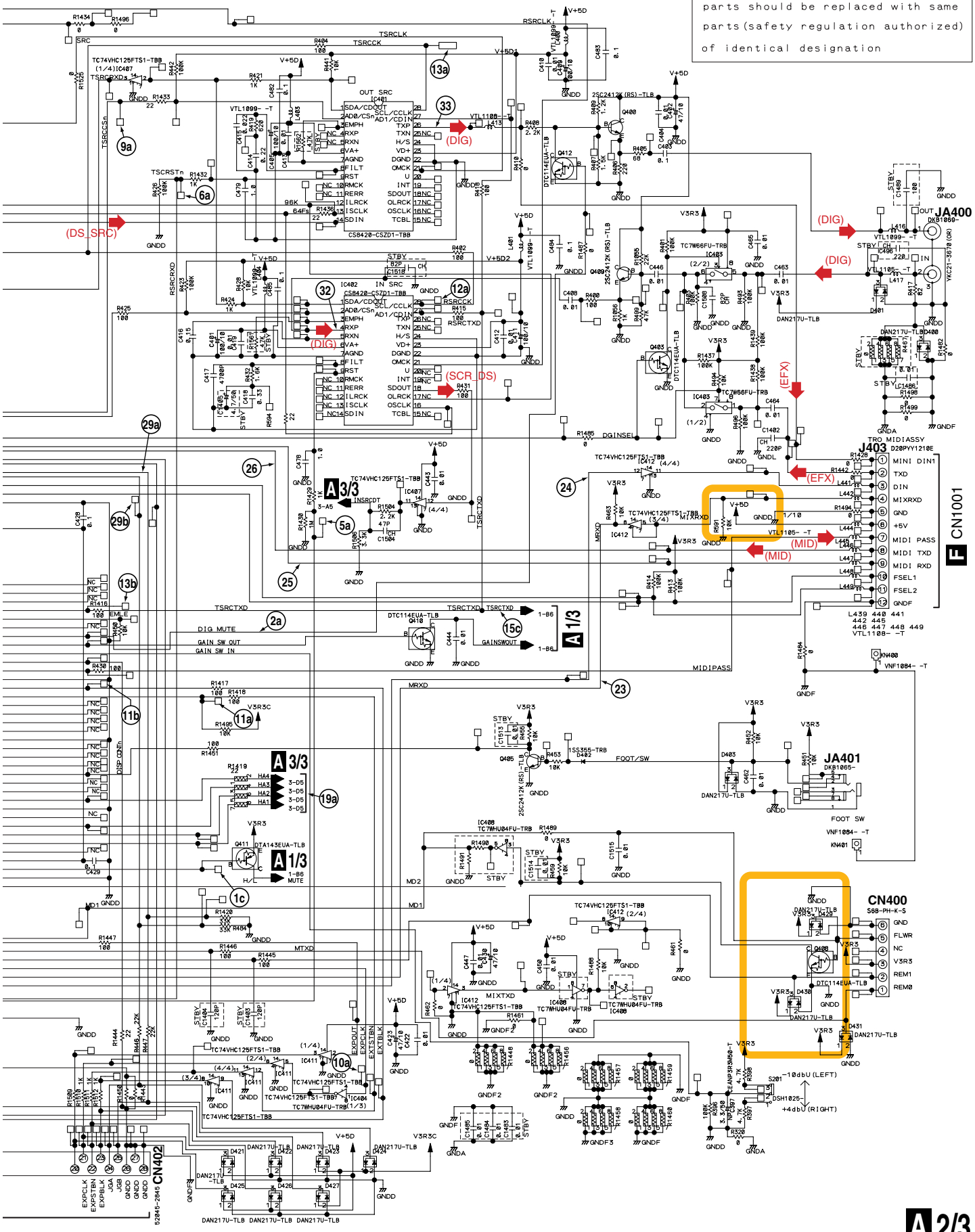
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N15, MFD BY ROHM CO., LTD. FOR IC100.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. AEK7005 MFD, BY LITTELFUSE INK. FOR IC101and IC102.

3.4 MAIN ASSY (2/3)

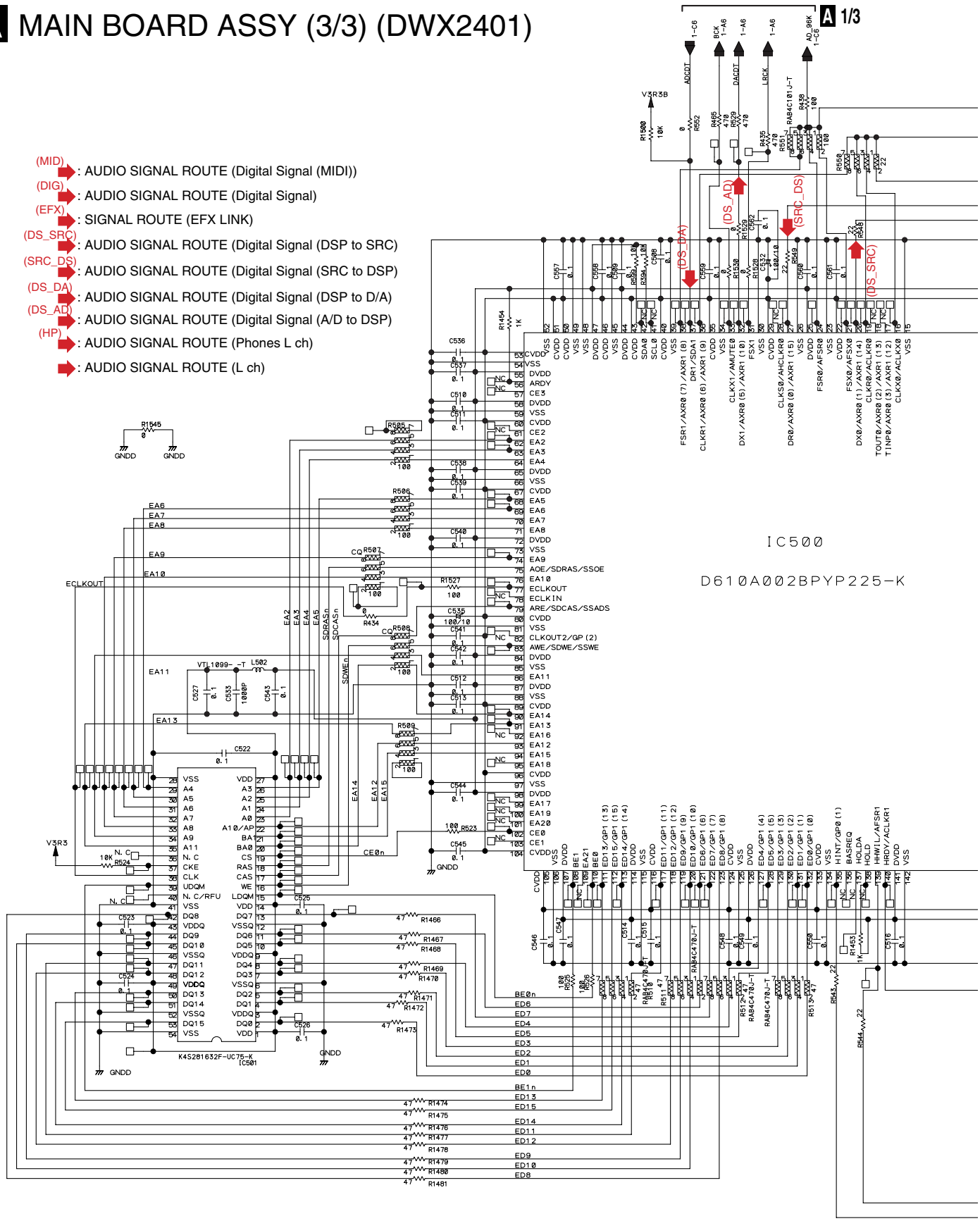
A MAIN BOARD ASSY (2/3) (DWX2401)

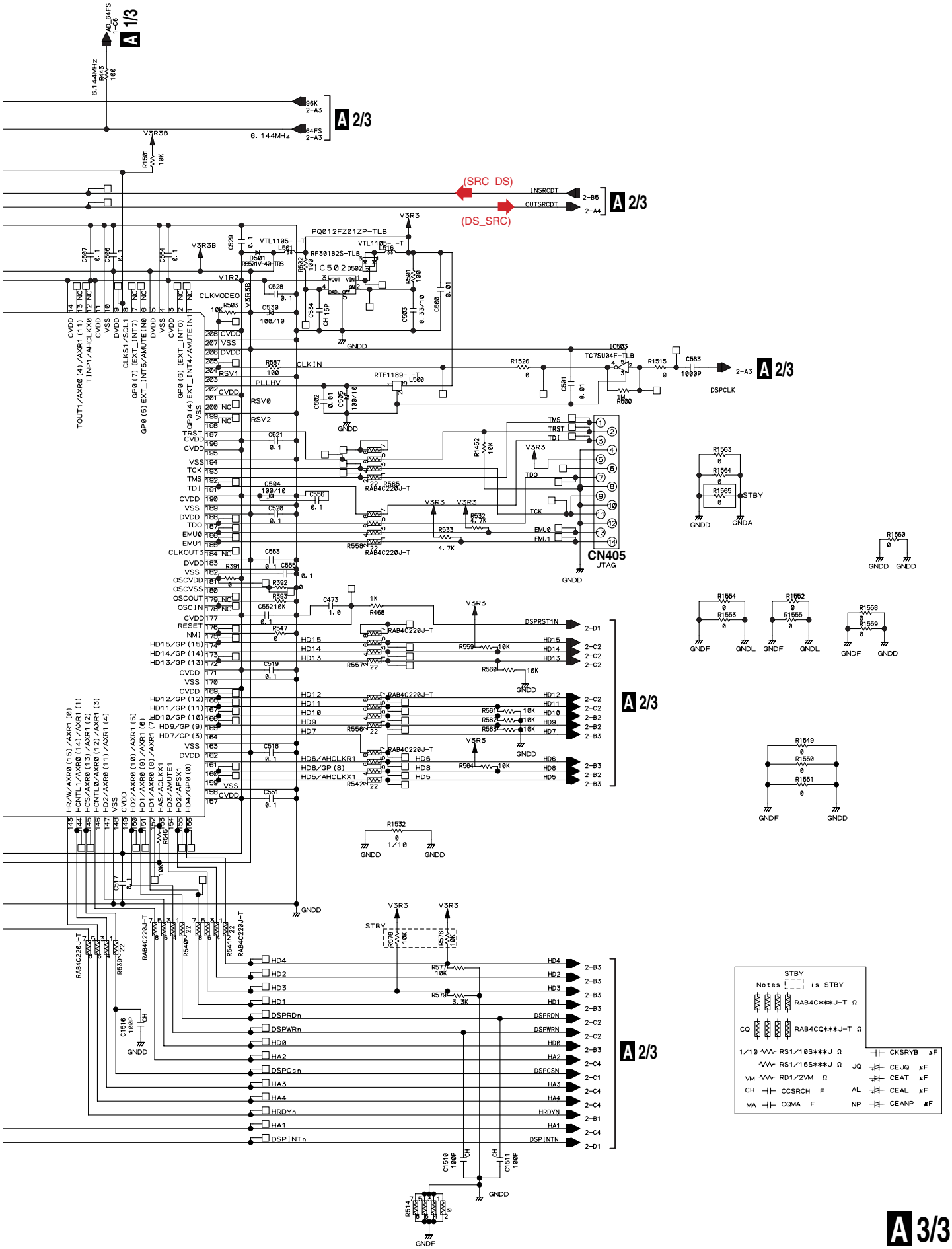



The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation
JA400
JA401
CN400
CN402
J403
CN1001
(DIG)
(DS_SRC)
(SCR_DS)
(EFX)
(MID)
A 3/3
A 1/3
A 2/3
EFX-1000
23

3.5 MAIN ASSY (3/3)

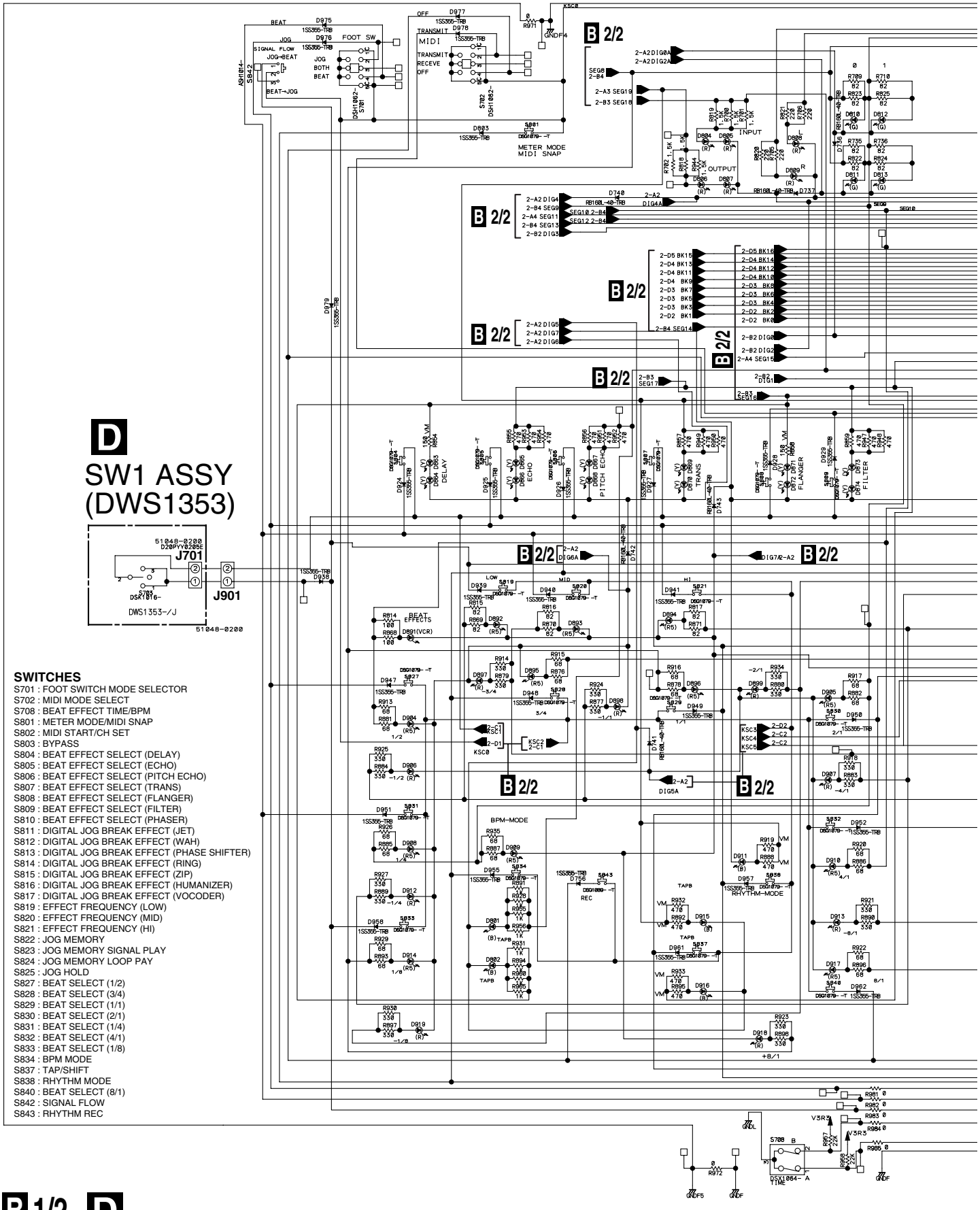
A MAIN BOARD ASSY (3/3) (DWX2401)




A 1/3
A 2/3
A 2/3
A 2/3
A 2/3
A 3/3
(SRC_DS)
(DS_SRC)
INSRCDT
OUTSRCDT
CN405
JTAG
DSPCLK
STBY
Notes [ ] is STBY
RAB4C***J-T Ω
RAB4CQ***J-T Ω
RS1/10S***J Ω
RS1/16S***J Ω
RD1/2VM Ω
CCSRCH F
CQMA F
CKSRYB µF
CEJQ µF
CEAT µF
CEAL µF
CEANP µF

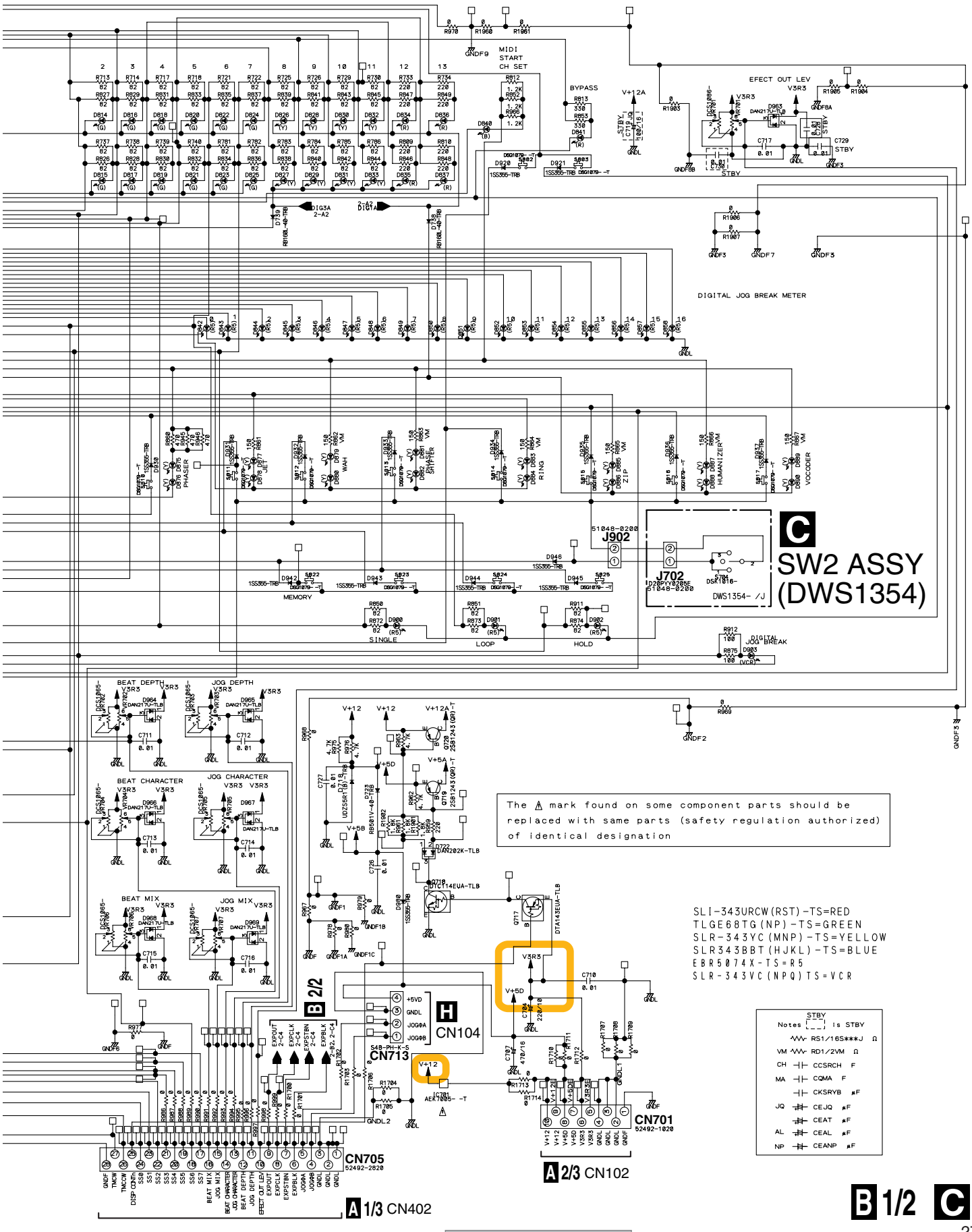
3.6 CTRL (1/2), SW1 and SW2 ASSYS

B CTRL ASSY (1/2) (DWG1585)

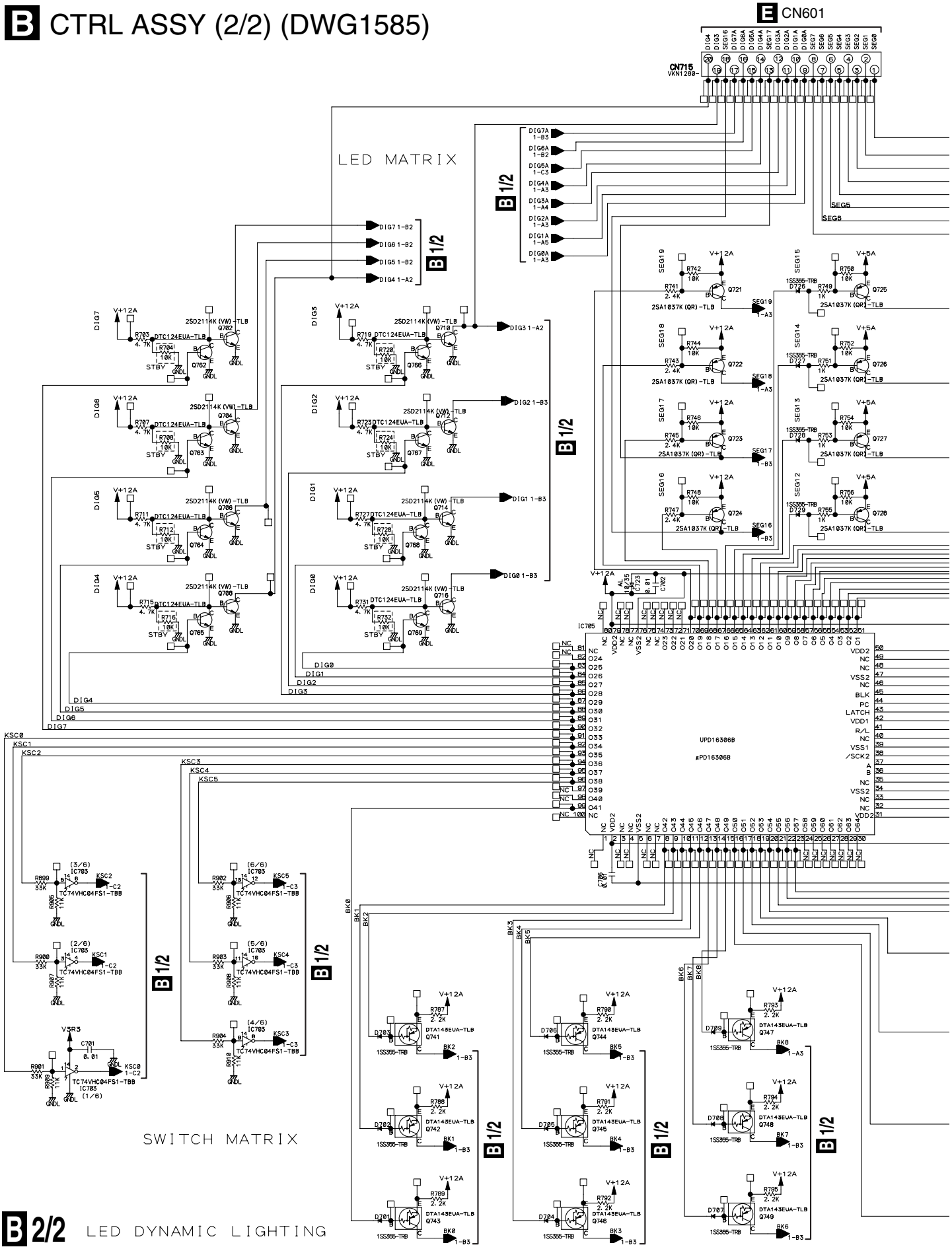


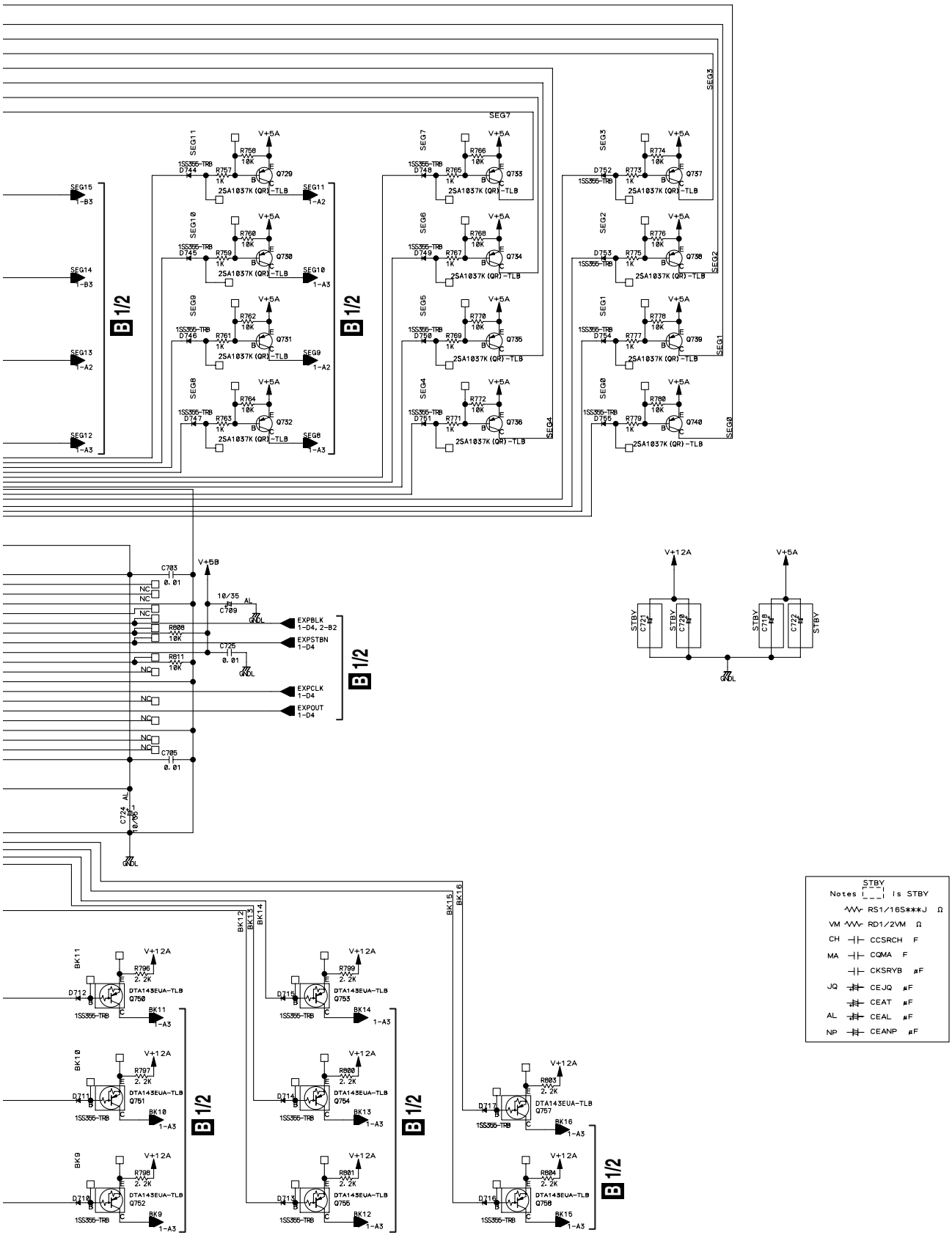
SWITCHES

S701 : FOOT SWITCH MODE SELECTOR
S702 : MIDI MODE SELECT
S708 : BEAT EFFECT TIME/BPM
S801 : METER MODE/MIDI SNAP
S802 : MIDI START/CH SET
S803 : BYPASS
S804 : BEAT EFFECT SELECT (DELAY)
S805 : BEAT EFFECT SELECT (ECHO)
S806 : BEAT EFFECT SELECT (PITCH ECHO)
S807 : BEAT EFFECT SELECT (TRANS)
S808 : BEAT EFFECT SELECT (FLANGER)
S809 : BEAT EFFECT SELECT (FILTER)
S810 : BEAT EFFECT SELECT (PHASER)
S811 : DIGITAL JOG BREAK EFFECT (JET)
S812 : DIGITAL JOG BREAK EFFECT (WAH)
S813 : DIGITAL JOG BREAK EFFECT (PHASE SHIFTER)
S814 : DIGITAL JOG BREAK EFFECT (RING)
S815 : DIGITAL JOG BREAK EFFECT (ZIP)
S816 : DIGITAL JOG BREAK EFFECT (HUMANIZER)
S817 : DIGITAL JOG BREAK EFFECT (VOCODER)
S819 : EFFECT FREQUENCY (LOW)
S820 : EFFECT FREQUENCY (MID)
S821 : EFFECT FREQUENCY (HI)
S822 : JOG MEMORY
S823 : JOG MEMORY SIGNAL PLAY
S824 : JOG MEMORY LOOP PAY
S825 : JOG HOLD
S827 : BEAT SELECT (1/2)
S828 : BEAT SELECT (3/4)
S829 : BEAT SELECT (1/1)
S830 : BEAT SELECT (2/1)
S831 : BEAT SELECT (1/4)
S832 : BEAT SELECT (4/1)
S833 : BEAT SELECT (1/8)
S834 : BPM MODE
S837 : TAP/SHIFT
S838 : RHYTHM MODE
S840 : BEAT SELECT (8/1)
S842 : SIGNAL FLOW
S843 : RHYTHM REC

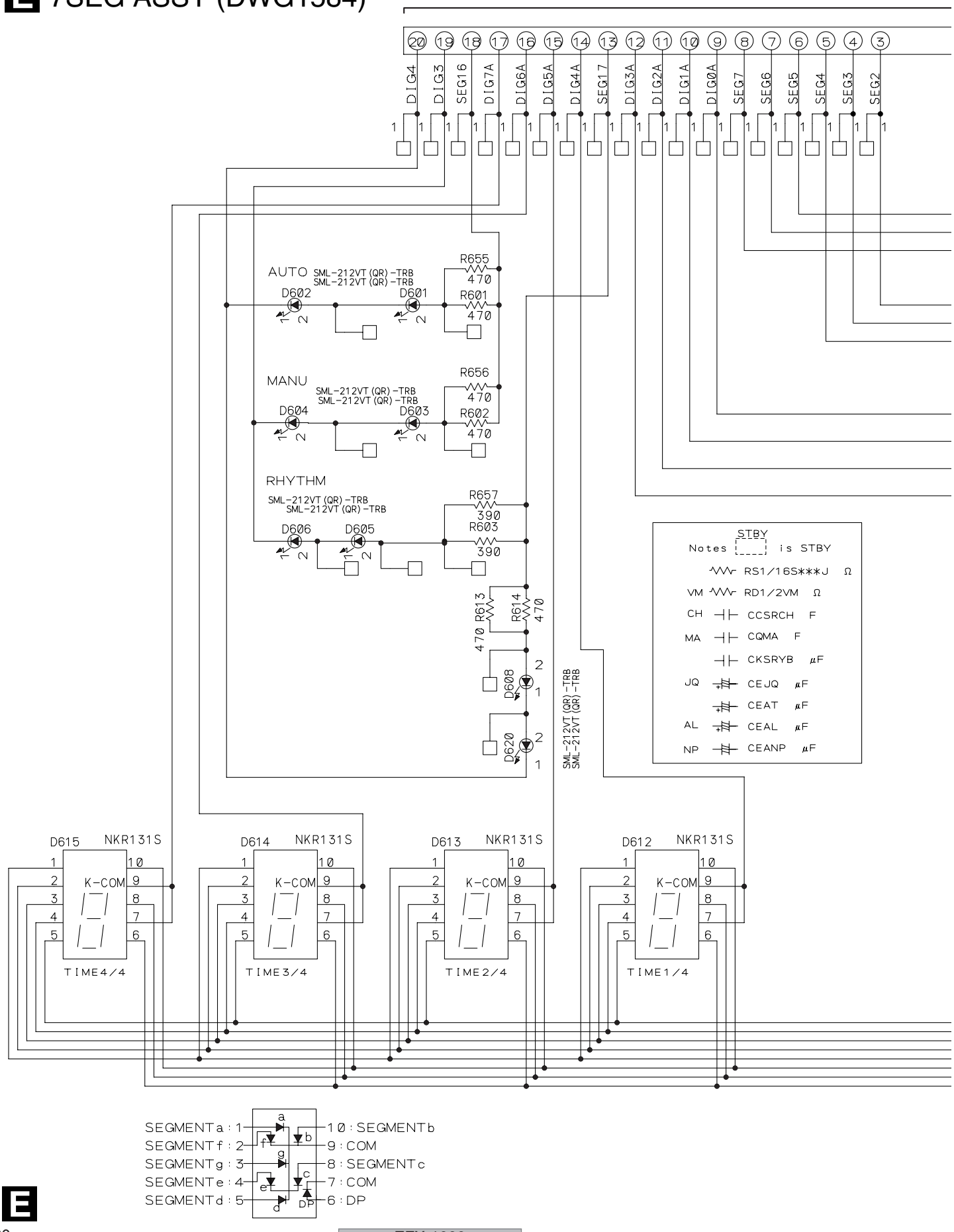

C
SW2 ASSY
(DWS1354)
J902
J702
DWS1354- /J
MIDI START CH SET
BYPASS
EFECT OUT LEV
DIGITAL JOG BREAK METER
MEMORY
SINGLE
LOOP
HOLD
PHASER
WAH
SAMPLER
RING
ZIP
HUMANIZER
VOCODER
BEAT DEPTH
JOG DEPTH
BEAT CHARACTER
JOG CHARACTER
BEAT MIX
JOG MIX
The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation
SLI-343URCW(RST)-TS=RED
TLGE68TG(NP)-TS=GREEN
SLR-343YC(MNP)-TS=YELLOW
SLR343BBT(HJKL)-TS=BLUE
EBR5074X-TS=R5
SLR-343VC(NPQ)TS=VCR
STBY
Notes [ ] is STBY
RS1/16S***J Ω
RD1/2VM Ω
CCSRCH F
CQMA F
CKSRYB µF
CEJQ µF
CEAT µF
CEAL µF
CEANP µF
B 2/2
H
CN104
CN713
CN705
52492-2820
CN701
52492-1020
A 1/3 CN402
A 2/3 CN102
B 1/2
C

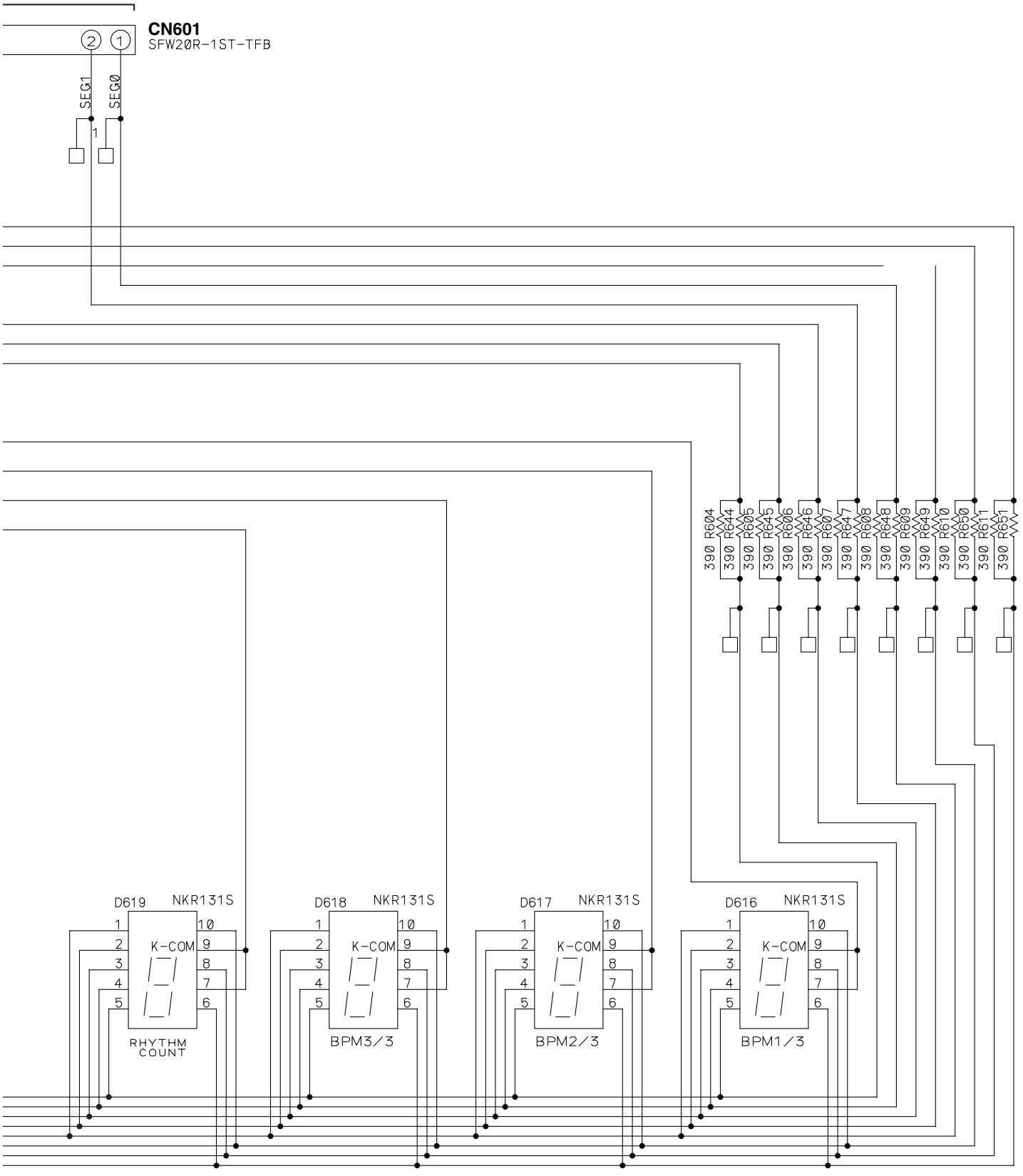
B CTRL ASSY (2/2) (DWG1585)




B 1/2
B 1/2
B 1/2
B 1/2
B 1/2
B 1/2
SEG15
SEG14
SEG13
SEG12
SEG11
SEG10
SEG9
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
SEG0
V+5A
V+12A
V+5B
2SA1037K (QR)-TLB
1SS355-TRB
DTA143EUA-TLB
EXPBLK
EXPSTBN
EXPCLK
EXPOUT
BK16
BK15
BK14
BK13
BK12
BK11
BK10
BK9
STBY
Notes [ ] is STBY
RS1/16S***J Ω
RD1/2VM Ω
CCSRCH F
CQMA F
CKSRYB µF
CEJQ µF
CEAT µF
CEAL µF
CEANP µF

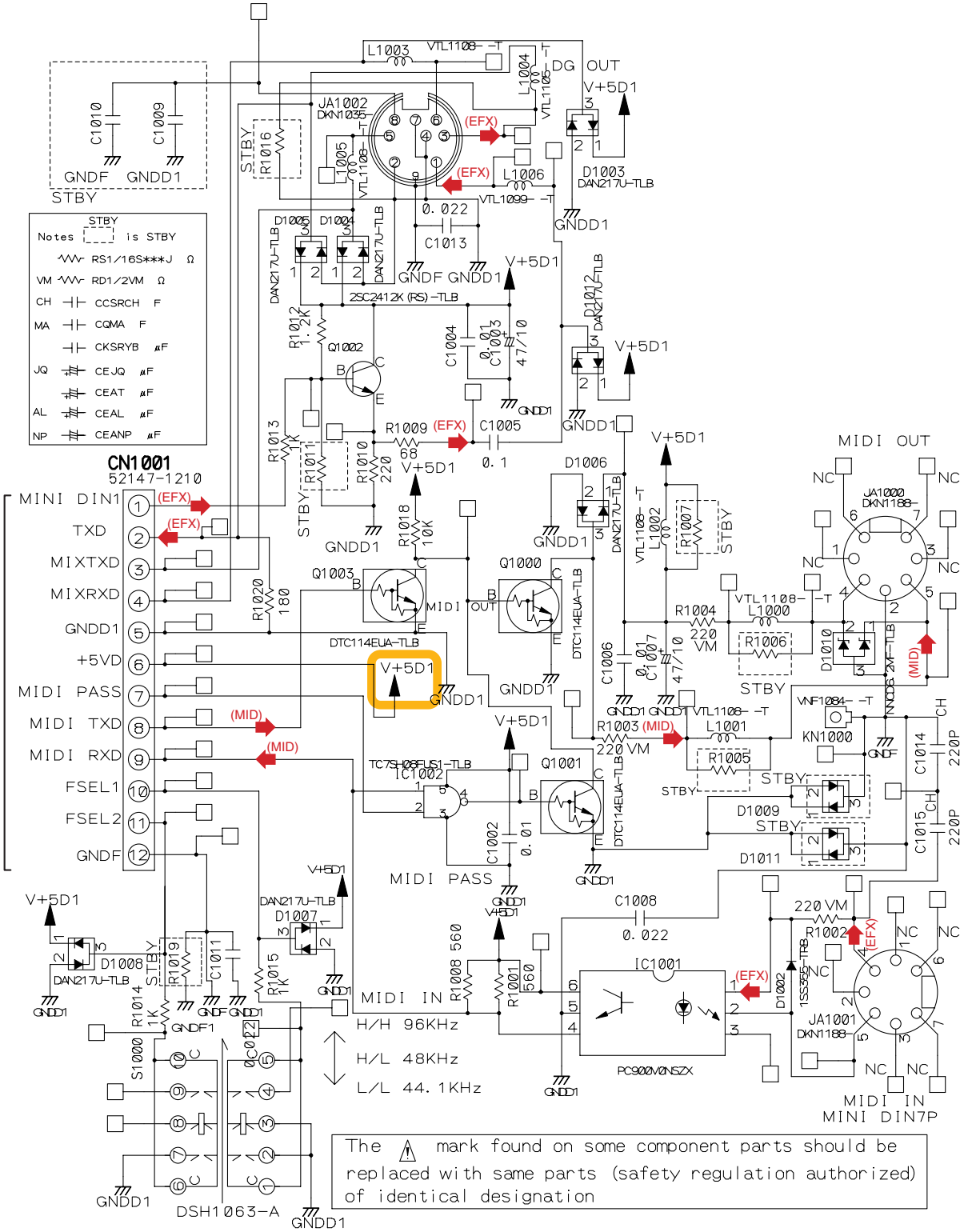
E 7SEG ASSY (DWG1584)



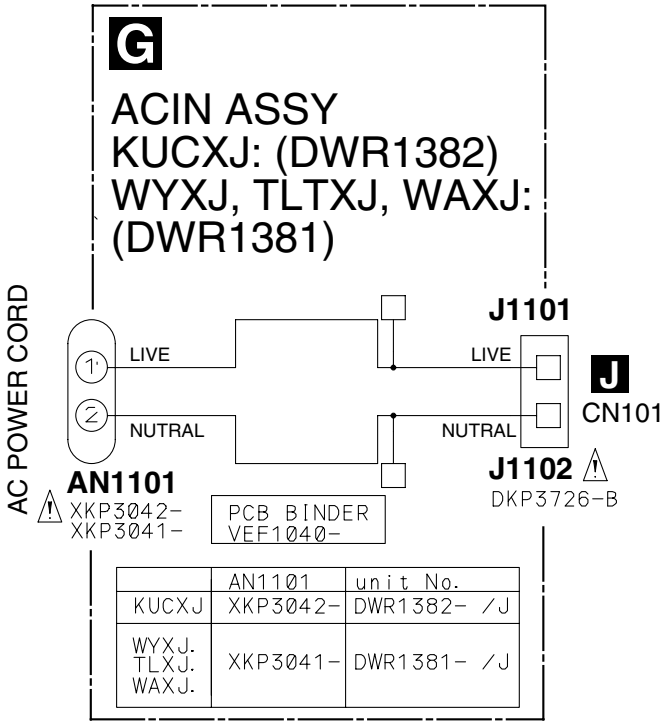

CN601
SFW20R-1ST-TFB
2
1
SEG1
SEG0
1
390 R604
390 R644
390 R605
390 R645
390 R606
390 R646
390 R607
390 R647
390 R608
390 R648
390 R609
390 R649
390 R610
390 R650
390 R611
390 R651
D619 NKR131S
D618 NKR131S
D617 NKR131S
D616 NKR131S
K-COM
RHYTHM COUNT
BPM3/3
BPM2/3
BPM1/3

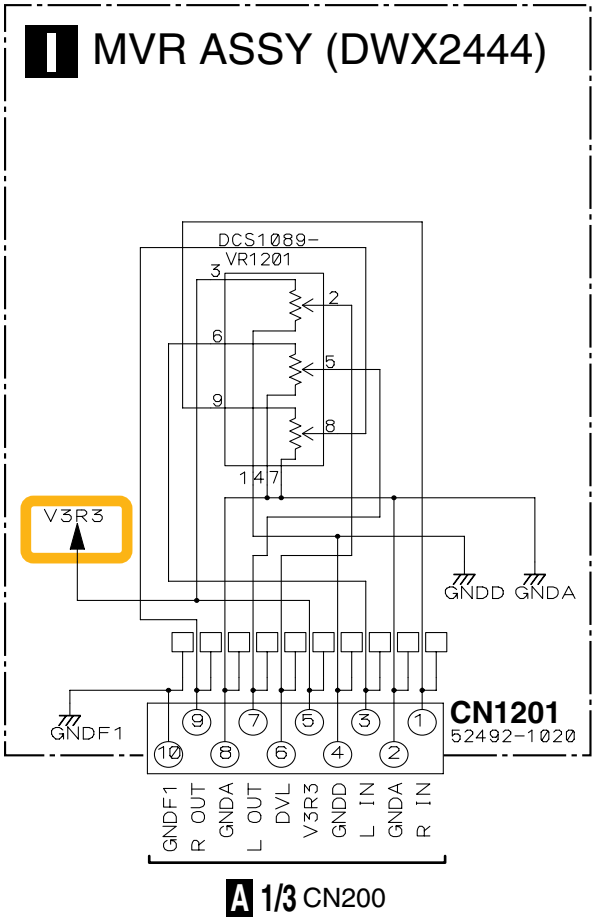
3.9 MIDI ASSY

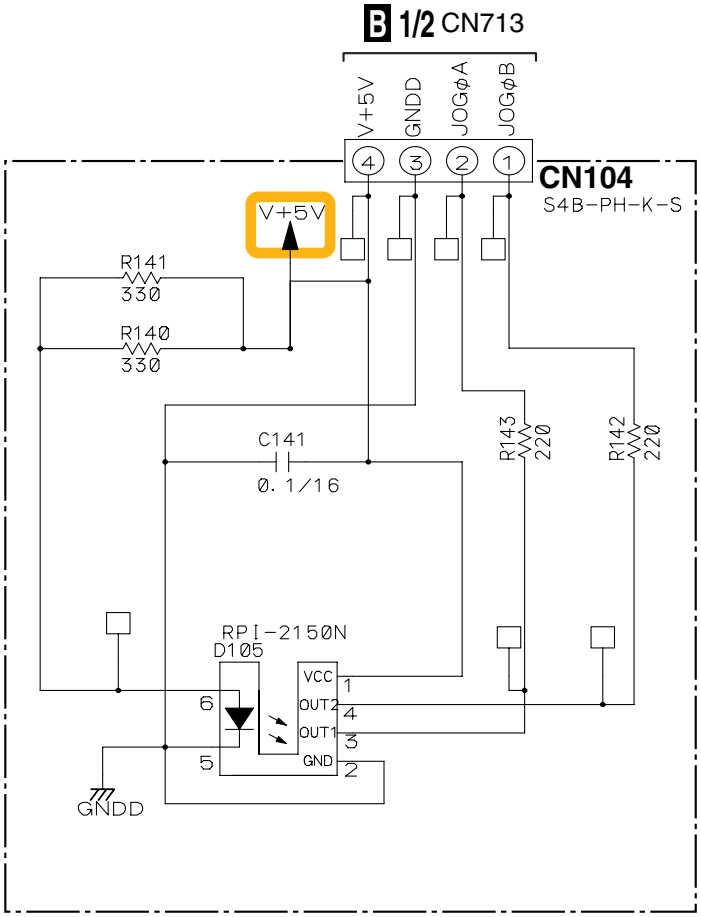
F MIDI ASSY (DWX2402)

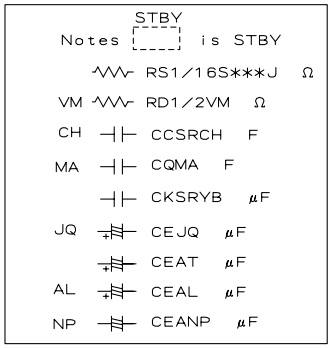


3.10 ACIN, ENCB and MVR ASSYS









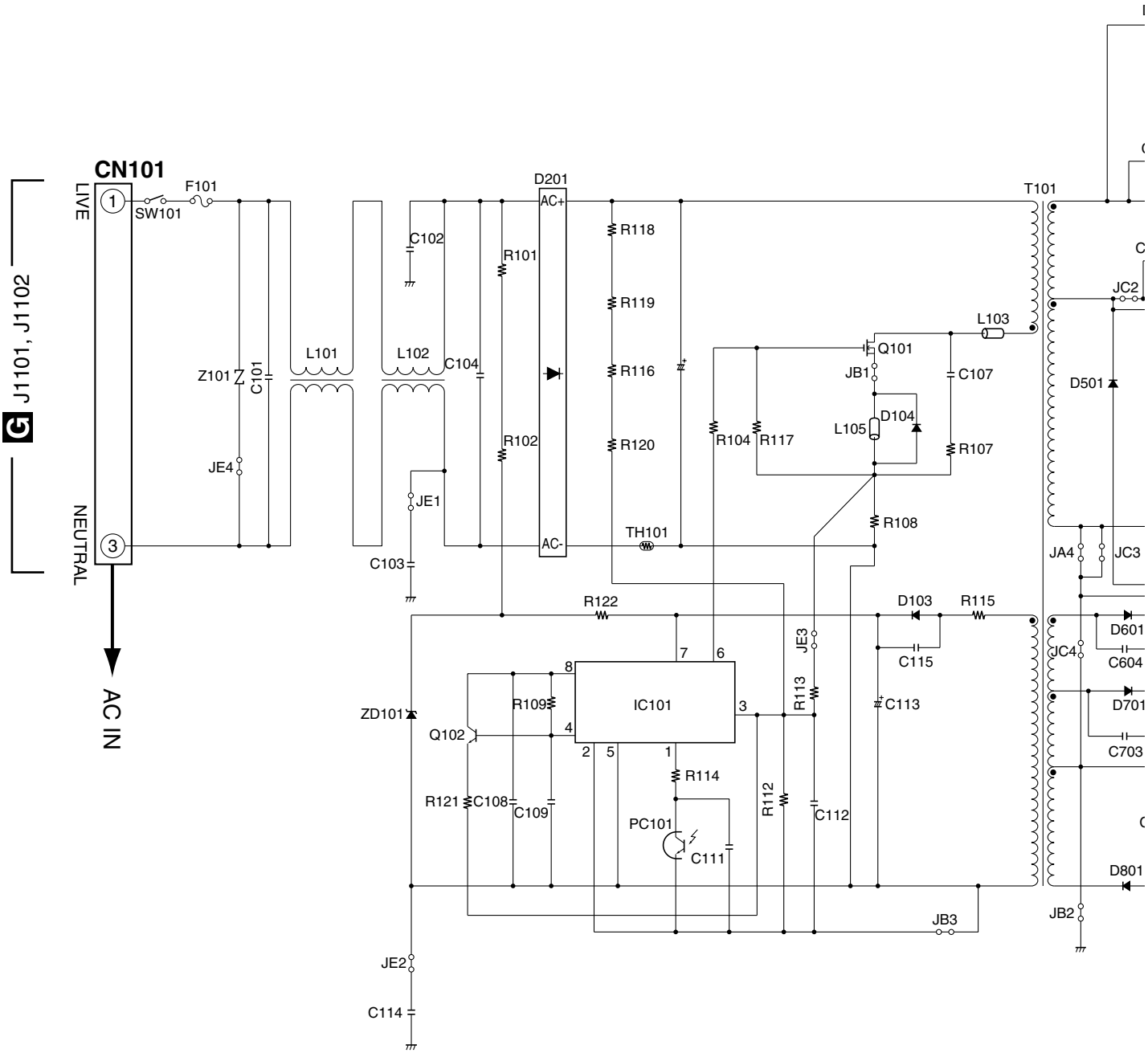
G H I

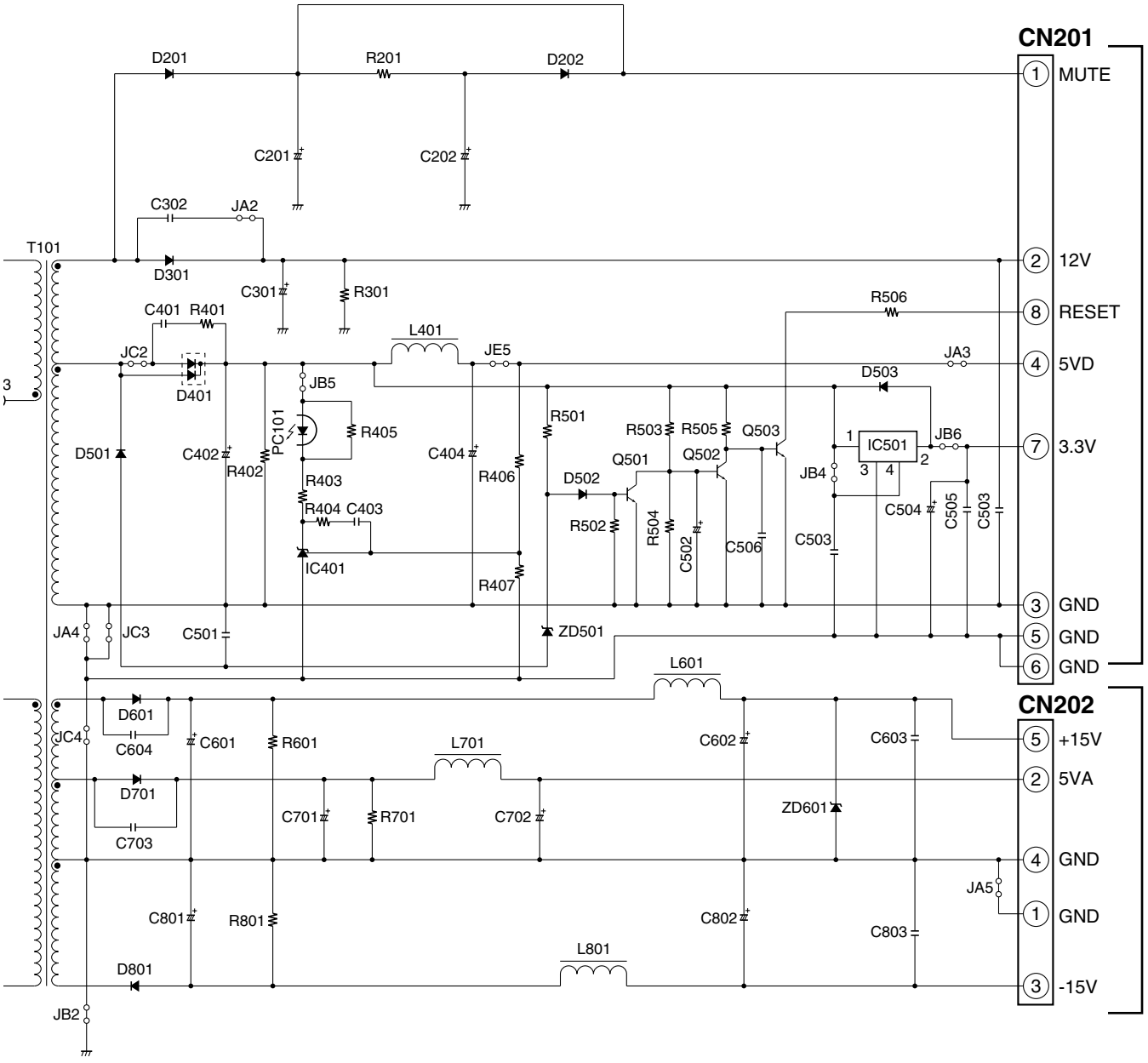
3.11 POWER SUPPLY UNIT

J POWER SUPPLY UNIT (DWR1377)

- NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.




CN201
1 MUTE
2 12V
8 RESET
4 5VD
7 3.3V
3 GND
5 GND
6 GND
A CN101
CN202
5 +15V
2 5VA
4 GND
1 GND
3 -15V
A CN100
D201
R201
D202
C201
C202
C302
JA2
T101
D301
C301
R301
C401
R401
L401
JE5
JA3
JC2
D401
JB5
D503
R506
R501
R503
R505
Q503
IC501
JB6
D501
C402
PC101
R405
C404
R402
R403
R406
Q501
Q502
JB4
D502
R404
C403
R502
R504
C502
C506
C503
C504
C505
C503
IC401
R407
JA4
JC3
C501
ZD501
L601
D601
JC4
C604
C601
R601
L701
C602
C603
D701
C703
C701
R701
C702
ZD601
JA5
C801
R801
C802
C803
L801
D801
JB2

3.12 VOLTAGES

A MAIN BOARD ASSY

IC200
AK5381VT-TBB

Pin	Voltage (V)
1	2.6
2	2.6
3	0
4	2.6
5	0
6	5.2
7	3.1
8	0
9	0.7–1.4
10	1.5
11	1.7
12	1.5
13	3.1
14	0
15	0
16	0

IC201
NJM4580MD-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	-15.4
5	0
6	0
7	0
8	15.2

IC202
NJM4580MD-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	-15.4
5	0
6	0
7	0
8	15.2

IC203
NJM4580MD-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	-15.4
5	0
6	0
7	0
8	15.2

IC415
BR93L66F-W-TBB

Pin	Voltage (V)
1	0
2	3.1
3	0
4	4
5	0
6	0.4
7	0
8	0

IC416
TC7WHU04FU-TRB

Pin	Voltage (V)
1	1.5
2	3.2
3	0
4	0
5	3.2
6	0
7	1.6
8	3.2

IC300
PCM1742KE-TBB

Pin	Voltage (V)
1	1.6
2	1
3	1.6
4	0
5	3.1
6	5.2
7	2.6
8	2.6
9	0
10	3.2
11	0
12	0
13	0.1
14	3.1
15	3.1
16	1.7

IC301
NJM4580MD-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	-15.4
5	0
6	0
7	0
8	15.2

IC303
NJM4580MD-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	-15.4
5	0
6	0
7	0
8	15.2

IC310
TC7SU04F-TLB

Pin	Voltage (V)
1	1.6
2	1.7
3	0
4	1.7
5	3.2

IC417
M51957BFP-TFB

Pin	Voltage (V)
1	0.3
2	1.6
3	0.2
4	0
5	1.2
6	3.1
7	3.1
8	0

IC418
TC7SU04F-TLB

Pin	Voltage (V)
1	1.6
2	1.7
3	0
4	1.7
5	3.2

IC400
PEG097A8-K

Pin	Voltage (V)	Pin	Voltage (V)
1	3.2	73	3.2
2	0	74	0.9
3	3.2	75	0.9
4	3.2	76	0.9
5	0	77	3.2
6	3.2	78	0.9
7	3.2	79	3.2
8	3.2	80	3.2
9	0	81	3.2
10	0	82	3.2
11	2.5	83	3.2
12	0	84	0
13	0	85	0
14	0	86	0
15	0	87	0
16	0	88	3.2
17	0	89	3.2
18	0	90	3.2
19	0	91	3.2
20	0	92	3.2
21	0	93	0
22	0	94	3.2
23	3	95	0
24	0.3	96	1.3
25	0	97	1.7
26	0	98	3.2
27	0	99	3.2
28	0	100	0
29	3.2	101	0
30	0	102	0
31	0	103	3.2
32	0	104	0
33	0.1	105	0
34	0	106	3.2
35	0	107	0
36	0	108	3.2
37	0	109	0
38	0	110	3.2
39	3.1	111	3.2
40	0	112	3.2
41	3.2	113	1.6
42	0	114	1.6
43	0	115	1.6
44	2.2	116	1.6
45	2.2	117	1.6
46	0	118	1.6
47	3.2	119	1.6
48	0	120	1.6
49	3.2	121	0
50	0	122	0
51	0	123	0
52	4	124	0
53	0	125	0
54	3.2	126	0
55	0.8	127	0
56	0	128	0
57	0.4	129	0
58	0	130	3.1
59	3	131	3.1
60	0	132	0
61	3.2	133	3.2
62	0	134	3.2
63	3.2	135	3.2
64	3.2	136	0
65	3.2	137	0
66	0.6	138	2.5
67	0	139	0.9
68	3.2	140	3.1
69	3.2	141	0
70	0	142	2.9
71	3.2	143	0
72	3.2	144	3.2

IC401
CS8420-CSZD1-TBB

Pin	Voltage (V)
1	5
2	3.1
3	5
4	2.5
5	2.5
6	5
7	0
8	2.2
9	3.1
10	2.6
11	0
12	1.5
13	1.6
14	1.2–2.5
15	4.7
16	4.7
17	4.7
18	0
19	5
20	4.8
21	1.6
22	0
23	6
24	0
25	2.5
26	2.6
27	0
28	3.1

IC402
CS8420-CSZD1-TBB

Pin	Voltage (V)
1	5
2	3.1
3	5
4	2.5
5	2.5
6	5
7	0
8	0
9	3.1
10	2.5
11	5
12	4.8
13	4.8
14	4.8
15	4.9
16	1.6
17	1.5
18	0
19	5
20	4.9
21	1.6
22	0
23	5
24	0
25	5
26	0
27	0.8
28	3.1

IC403
TC7W66FU-TRB

Pin	Voltage (V)
1	1.6
2	1.6
3	3
4	0
5	1.6
6	1.6
7	0
8	3.2

IC404
TC7WHU04FU-TRB

Pin	Voltage (V)
1	2.5
2	0
3	0
4	0
5	0
6	3.2
7	3.2
8	3.2

IC405
TC7WHU04FU-TRB

Pin	Voltage (V)
1	1.6
2	1.6
3	1.6
4	0
5	1.6
6	1.6
7	1.6
8	3.2

IC407
TC74VHC125FTS1-TBB

Pin	Voltage (V)
1	0
2	5
3	5
4	0
5	0.1
6	0.1
7	0
8	0
9	0
10	0
11	0.1
12	0.1
13	0
14	5.2

IC409
TC7SU04FU-TLB

Pin	Voltage (V)
1	1.6
2	1.6
3	0
4	1.6
5	3.2

IC410
TC74VHC00FTS1-TBB

Pin	Voltage (V)
1	0
2	0
3	3.2
4	1.6
5	3.2
6	1.6
7	0
8	3.2
9	0
10	1.6
11	1.6
12	1.6
13	3.2
14	3.2

IC411
TC74VHC125FTS1-TBB

Pin	Voltage (V)
1	0
2	2.9
3	1.3
4	0
5	3.2
6	0.3
7	0
8	0.1
9	0.3
10	0
11	0.3
12	3
13	0
14	3.2

IC412
TC74VHC125FTS1-TBB

Pin	Voltage (V)
1	0
2	0
3	0
4	0
5	0
6	3.2
7	0
8	0
9	0
10	0
11	4.9
12	3.2
13	0
14	5.2

IC413
TC74VHC161FT-TBB

Pin	Voltage (V)
1	3.2
2	1.6
3	0
4	0
5	0
6	0
7	3.2
8	0
9	3.2
10	3.2
11	1.6
12	1.6
13	1.5
14	1.6
15	0.2
16	3.2

IC414
TC74VHC161FT-TBB

Pin	Voltage (V)
1	3.2
2	1.5
3	0
4	0
5	0
6	0
7	0.2
8	0
9	3.2
10	3.2
11	1.6
12	1.6
13	1.6
14	1.6
15	0.2
16	3.2

A MAIN BOARD ASSY

IC500
D610A002BPYP225-K

Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	0	53	1.2	105	1.2	157	1.2
2	0	54	0	106	0	158	0
3	1.2	55	3.2	107	3.2	159	3.1
4	0	56	3.2	108	3	160	3.1
5	3.2	57	3.1	109	0	161	3.1
6	0	58	3.2	110	3	162	3.1
7	0	59	0	111	3	163	0
8	1.5	60	1.2	112	3	164	3.1
9	3.2	61	3.2	113	3	165	0.9
10	0	62	0	114	3.2	166	0.9
11	1.2	63	0	115	0	167	0.9
12	0	64	3.1	116	1.2	168	3.1
13	0	65	3.2	117	3	169	1.2
14	1.2	66	0	118	3	170	0
15	0	67	1.2	119	3	171	1.2
16	1.5	68	3.1	120	3	172	0.9
17	0	69	3.1	121	3	173	3.2
18	0	70	3.1	122	3	174	3.1
19	1.5	71	3.1	123	3	175	0
20	1	72	3.2	124	1.2	176	3.2
21	1.5	73	0	125	0	177	1.2
22	1.2	74	1.6	126	3.2	178	0
23	0	75	3.2	127	3	179	0
24	1.5	76	0.3	128	3	180	0
25	3.2	77	1.6	129	3	181	1.2
26	0	78	0.1	130	3	182	0
27	0.1	79	3.1	131	3	183	3.2
28	0	80	1.2	132	3	184	1.6
29	1.2	81	0	133	1.2	185	3.2
30	0	82	0	134	0	186	3.2
31	1.6	83	3.1	135	3.2	187	3.2
32	1	84	3.2	136	0	188	3.2
33	1.6	85	0	137	3.2	189	0
34	0	86	0	138	3.2	190	1.2
35	1.2	87	3.2	139	3.2	191	3.2
36	1.5	88	0	140	3.2	192	3.2
37	0.7–1.4	89	1.2	141	3.2	193	3.2
38	1.5	90	1.9	142	0	194	0
39	0	91	0	143	2.5	195	1.2
40	1.2	92	0	144	3.2	196	1.2
41	3.1	93	0	145	3.1	197	0
42	3.1	94	1.9	146	3.1	198	3.2
43	1.2	95	0	147	3.1	199	0
44	3.2	96	1.2	148	0	200	0
45	0	97	0	149	1.2	201	3.2
46	1.2	98	3.2	150	3.1	202	3.2
47	3.2	99	0	151	3.1	203	0
48	0	100	0	152	3.1	204	1.7
49	0	101	0	153	3.2	205	3.2
50	1.2	102	0	154	0.6	206	3.2
51	1.2	103	3.2	155	3.1	207	0
52	0	104	1.2	156	0	208	1.2

IC501
K4S281632F-UC75-K

Pin	Voltage (V)
1	3.1
2	3
3	3.1
4	3
5	3
6	0
7	3
8	3
9	3.1
10	3
11	3
12	0
13	3
14	3.1
15	3
16	3.1
17	3.1
18	3.2
19	0
20	1.9
21	1.9
22	0
23	0
24	0
25	3.1
26	3.1
27	3.1
28	0
29	3.1
30	3.1
31	3.1
32	1.6
33	0.3
34	0
35	0
36	0
37	3.1
38	1.6
39	3
40	0
41	0
42	3
43	3.1
44	3
45	3
46	0
47	3
48	3
49	3.1
50	3
51	3
52	0
53	3
54	0

IC502
PQ012FZ01ZP-TLB

Pin	Voltage (V)
1	2.7
2	3.2
3	1.2
4	3.3
5	0

IC503
TC7SU04F-TLB

Pin	Voltage (V)
1	1.6
2	1.7
3	0
4	1.7
5	3.2

B CTRL ASSY

IC703
TC74VHC04FS1

Pin	Voltage (V)
1	2.7
2	0.4
3	2.7
4	0.4
5	2.7
6	0.4
7	0
8	0.4
9	2.7
10	0.4
11	2.7
12	0.4
13	2.7
14	3.1

IC705
UPD16306B

Pin	Voltage (V)	Pin	Voltage (V)
1	0	51	8
2	12.3	52	8
3	0	53	8
4	0	54	9
5	0	55	8
6	0	56	12.3
7	0	57	8
8	12.3	58	8
9	12.3	59	11
10	12.3	60	11
11	12.3	61	12.3
12	12.3	62	12.3
13	12.3	63	12.3
14	12.3	64	11
15	12.3	65	11
16	12.3	66	11
17	12.3	67	0
18	12.3	68	3.9
19	12.3	69	3.9
20	12.3	70	6.7
21	12.3	71	5.1
22	12.3	72	5.1
23	12.3	73	5.1
24	12.3	74	0
25	12.3	75	0
26	12.3	76	0
27	12.3	77	0
28	12.3	78	0
29	12.3	79	12.3
30	12.3	80	0
31	12.3	81	0
32	0	82	5.1
33	0	83	10.6
34	0	84	10.6
35	0	85	10.6
36	4.5	86	10.6
37	3	87	10.6
38	1	88	10.6
39	0	89	10.6
40	0	90	10.6
41	0	91	10.7
42	5	92	10.7
43	4.9	93	10.7
44	5	94	10.7
45	4.9	95	10.7
46	0	96	10.7
47	0	97	10.7
48	0	98	10.7
49	0	99	12.3
50	12.3	100	0

H ENCB ASSY

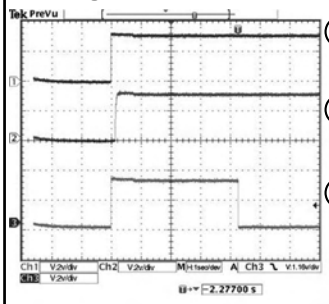
D105
RPI-2150N

Pin	Voltage (V)
1	4.8
2	0
3	3.6
4	3.6
5	0
6	1.4

3.13 WAVEFORMS

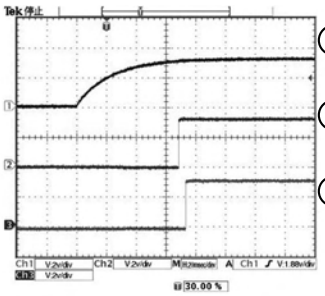
Note : The encircled numbers denote measuring point in the schematic diagram.

1a 1b 1c H:1sec/dev V:2V/div



- 1a **V3R3C** — Power(VCC)
- 1b **CPU RESET** — MICON Reset
- 1c **MUTE** — MUTE

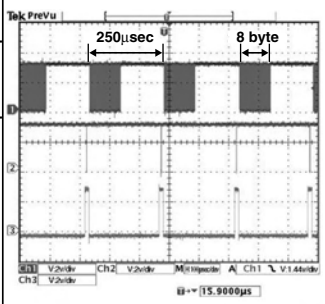
1b 5a 6a H:20msec/dev V:2V/div



- 1b **CPU RESET** — MICON Reset
- 5a **SRC RESET** — Input SRC Reset
- 6a **RSRCRXD** — Output SRC Reset

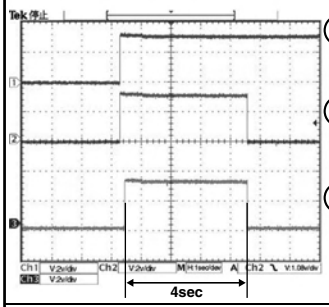
RSRCRXD

10a 11a 11b H:100µsec/dev V:2V/div



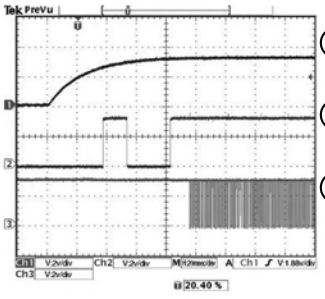
- 10a **EXPCLK** — Extended Port IC Control Clock
- 11a **EXTSTBN** — Extended Port IC STB
- 11b **EXTBLK** — Extended Port IC BLK

1b 1c 2a H:1sec/dev V:2V/div



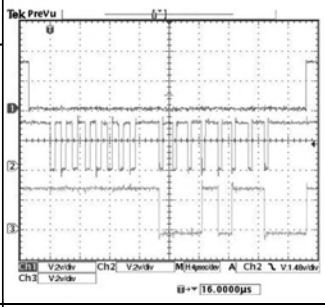
- 1b **CPU RESET** — MICON Reset
- 1c **MUTE** — MUTE
- 2a **DIG MUTE** — Coaxial MUT

1b 4b 7a H:20msec/dev V:2V/div



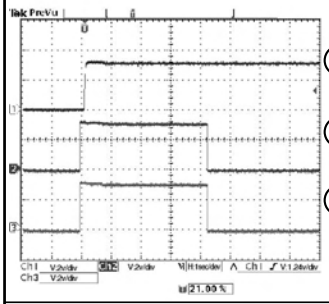
- 1b **CPU RESET** — MICON Reset
- 4b **DSP RSTN** — DSP Reset
- 7a **DSP CSN** — DSP CS

8a 12a 12b H:4µsec/dev V:2V/div



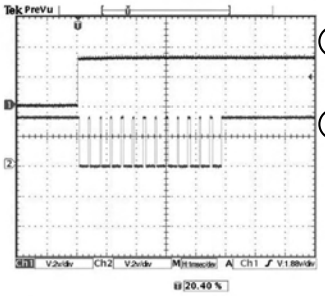
- 8a **RSRCCS** — Input SRC CS
- 12a **RSRCCK** — Input SRC-Clock
- 12b **TSRCRXD** — Input SRC-RDX

1b 1c 3a H:1sec/dev V:2V/div



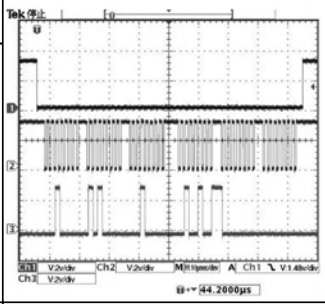
- 1b **CPU RESET** — MICON Reset
- 1c **MUTE** — MUTE
- 3a **BYPASS** — BYPASS

5a 8a H:1msec/dev V:2V/div



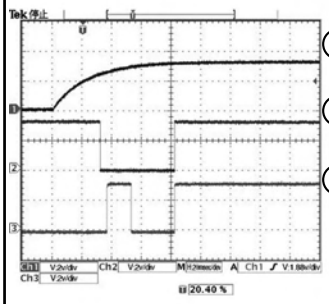
- 5a **SRC RESET** — Input SRC Reset
- 8a **RSRCCS** — Input SRC CS

8a 12a 12b H:10µsec/dev V:2V/div



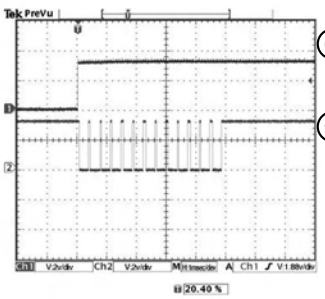
- 8a **RSRCCS** — Input SRC CS
- 12a **RSRCCK** — Input SRC Clock
- 12b **TSRCRXD** — Input SRC TXD

1b 4a 4b H:20msec/dev V:2V/div



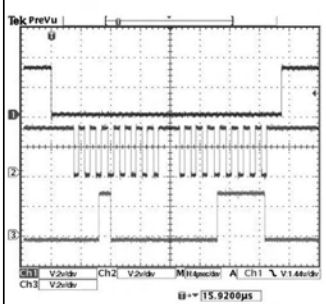
- 1b **CPU RESET** — MICON Reset
- 4a **ADRSTN** — A/D Reset
- 4b **DSP RSTN** — DSP Reset

6a 9a H:1msec/dev V:2V/div



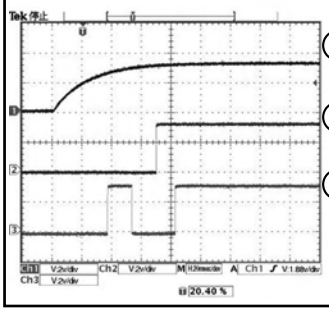
- 6a **RSRCRXD** — Output SRC Reset
- 9a **TSRCCS** — Output SRC CS

9a 13a 13b H:4µsec/dev V:2V/div



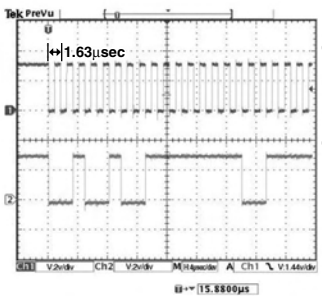
- 9a **TSRCCS** — Output SRC CS
- 13a **TSRCCK** — Output SRC Clock
- 13b **TSRCTXD** — Output SRC TXD

1b 5a 4b H:20msec/dev V:2V/div



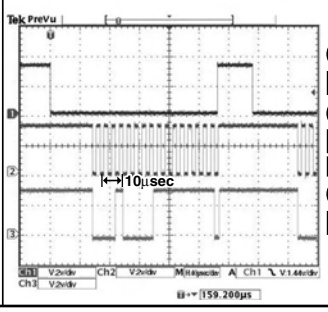
- 1b **CPU RESET** — MICON Reset
- 5a **SRC RESET** — Input SRC Reset
- 4b **DSP RSTN** — DSP Reset

10a 10b H:4µsec/dev V:2V/div



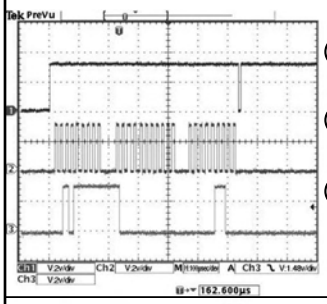
- 10a **EXPCLK** — Extended Port IC Control Clock — 614.4kbps
- 10b **EXPOUT** — TDX for Extended Port IC

15a 15b 15c H:40µsec/dev V:2V/div



- 15a **DAMLN** — DAC CS
- 15b **TSRCCK** — DAC Clock — 100kbps
- 15c **TSRCTXD** — DAC TXD

(16a) (16b) (16c) H:100µsec/dev V:2V/div

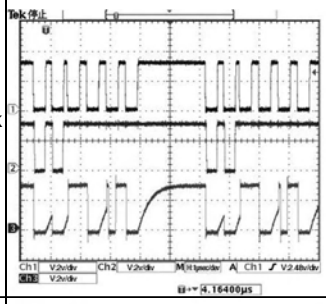


(16a) **EEPCS**
EEPROM CS

(16b) **EEPCLOCK**
EEPROM Clock

(16c) **EEPDO**
EEPROM DO

(7a) (20a) (19a) H:1µsec/dev V:2V/div

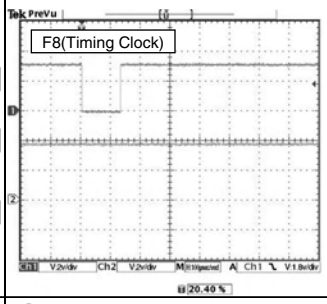


(7a) **DSPCSN**
DSP CS

(20a) **DSPRDN**
DSP READ SIGNAL

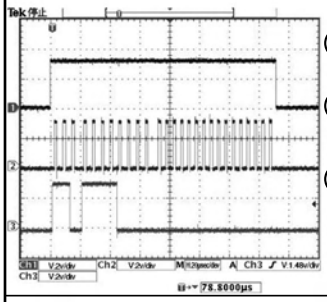
(19a) **HA1-HA4**
DSP ADDRESS

(26) MIDI TXD
H:100µsec/dev V:2V/div



TXD for MIDI
30720bps

(16a) (16b) (16c) H:20µsec/dev V:2V/div

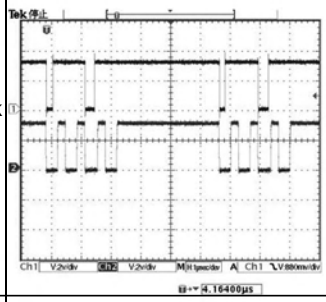


(16a) **EEPCS**
EEPROM CS

(16b) **EEPCLOCK**
EEPROM Clock

(16c) **EEPDO**
EEPROM DO

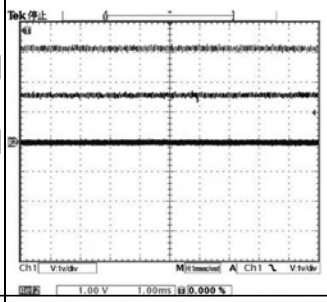
(22a) (20a) H:1µsec/dev V:2V/div



(22a) **DSPWAIT**
WAIT

(20a) **DSPRDN**
DSP READ SIGNAL

(27) A/D input for MICOM pins 113 - 120
H:1msec/dev V:1V/div

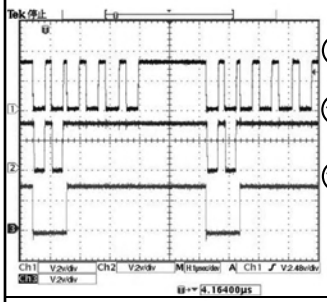


MAX Value

Center Value

MIN Value

(7a) (18a) (18b) H:1µsec/dev V:2V/div

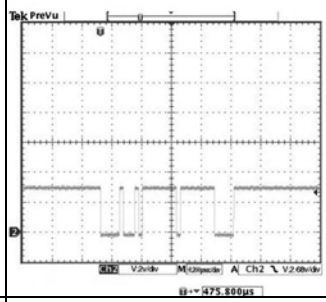


(7a) **DSPCSN**
DSP CS

(18a) **DSPWRN**
DSP WRT SIGNAL

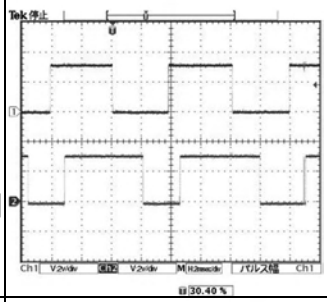
(18b) **HD0-HD15**
DSP DATA
HD0 - HD15 signals

(23) MRXD
H:200µsec/dev V:2V/div



RXD for Link

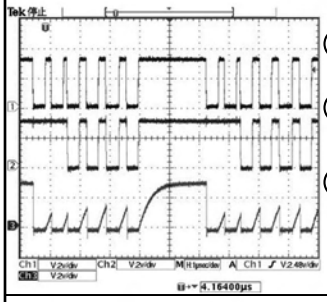
(28a) (28b) H:2msec/dev V:2V/div



(28a) **TMCW**
TIME Encoder CW
pin 47

(28b) **TMCCW**
TIME Encoder CCW
pin 49

(7a) (18a) (19a) H:1µsec/dev V:2V/div

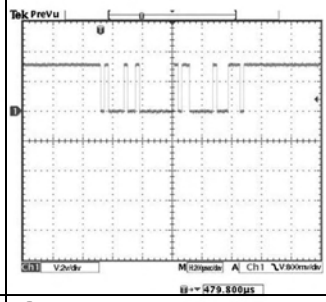


(7a) **DSPCSN**
DSP CS

(18a) **DSPWRN**
DSP WRT SIGNAL

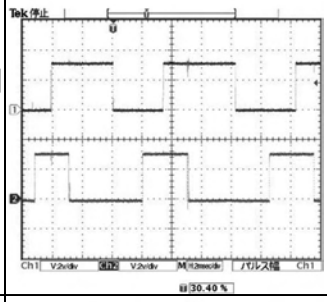
(19a) **HA1-HA4**
DSP ADDRESS
HA1 - HA4 signals

(24) DIN
H:200µsec/dev V:2V/div



TXD for Link

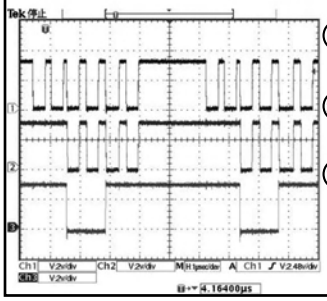
(28a) (28b) H:2msec/dev V:2V/div



(28a) **TMCW**
TIME Encoder CW

(28b) **TMCCW**
TIME Encoder CCW

(7a) (20a) (18b) H:1µsec/dev V:2V/div

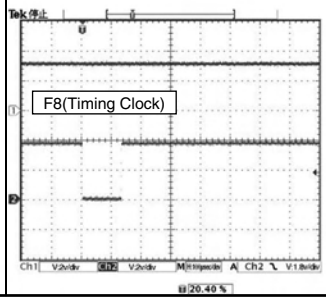


(7a) **DSPCSN**
DSP CS

(20a) **DSPRDN**
DSP READ SIGNAL

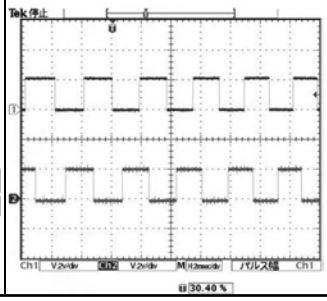
(18b) **HD0-HD15**
DSP DATA

(25) MIDI RXD
H:100µsec/dev V:2V/div



MIDI for RXD
30720bps

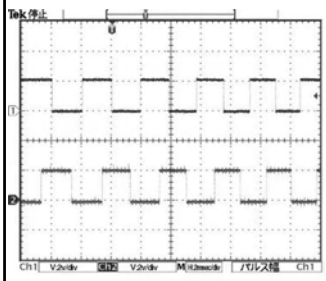
(29a) (29b) H:2msec/dev V:2V/div



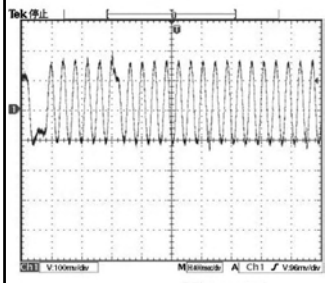
(29a) **JGCCW**
JOG Encoder CW

(29b) **JGCW**
JOG Encoder CCW

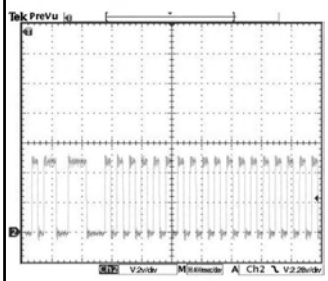
31 **JOG CW/ CCW**
H:2msec/dev V:2v/div



32 **RXP**
H:400nsec/dev V:100mv/div



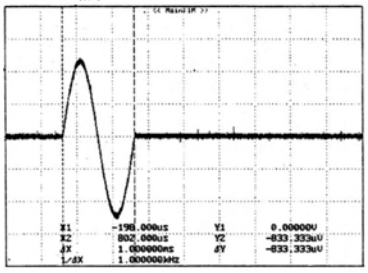
33 **TXP**
H:400nsec/dev V:2v/div



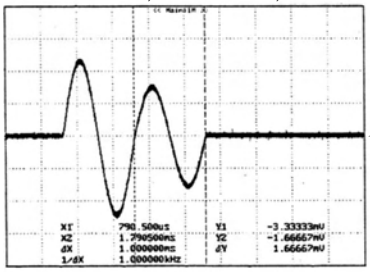
● Waveform at the Effect

Measurement point : Audio output terminal
Measurement condition : Input the audio signal to Audio input terminal
Power ON
Volumes = Positions of volume except designation are the center
Lever switch = Turn lever switch of the measurement side to ON/LOCK, and non-measurement side is OFF (straight)
SIGNAL FLOW = BEAT → JOG
FOOT SW = BOTH
MIDI = RECEIVE
LEVEL = +4dB
fs = 44kHz
Other switches except designation are no operation

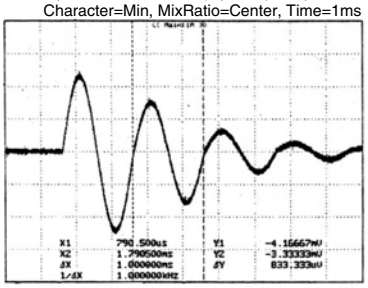
① [BEAT-1] DELAY (1)
H: 500µsec/dev V: 20mV/div
Input: 1kHz one wave (1 period)
MixRatio=Min



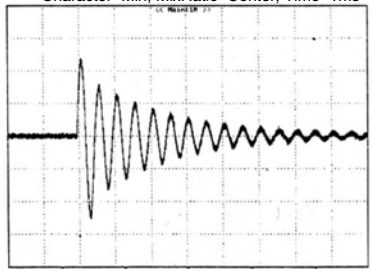
② [BEAT-1] DELAY (2)
H: 500µsec/dev V: 20mV/div
Input: 1kHz one wave (1 period) Depth=Min, Character=Min, MixRatio=Center, Time=1ms



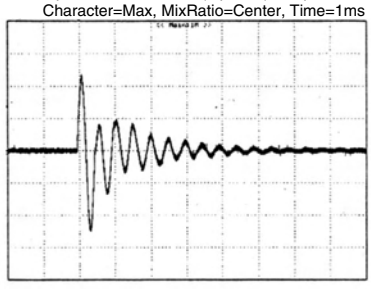
③ [BEAT-1] DELAY (3)
H: 500µsec/dev V: 20mV/div
Input: 1kHz one wave (1 period) Depth=Center, Character=Min, MixRatio=Center, Time=1ms



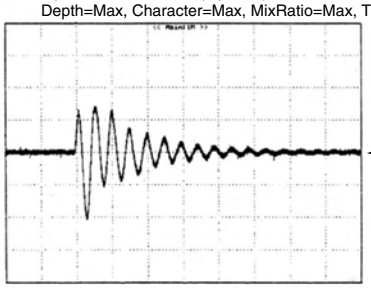
④ [BEAT-1] DELAY (4)
H: 2msec/dev V: 20mV/div
Input: 1kHz one wave (1 period) Depth=Max, Character=Min, MixRatio=Center, Time=1ms



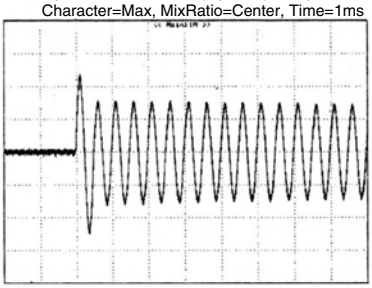
⑤ [BEAT-1] DELAY (5)
H: 2msec/dev V: 20mV/div
Input: 1kHz one wave (1 period) Depth=Max, Character=Max, MixRatio=Center, Time=1ms



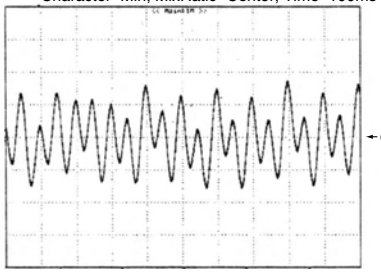
⑥ [BEAT-1] DELAY (6)
H: 2msec/dev V: 20mV/div
Input: 1kHz one wave (1 period)
Depth=Max, Character=Max, MixRatio=Max, Time=1ms



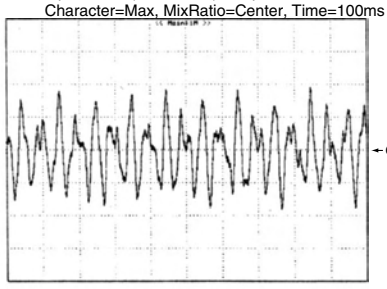
⑦ [BEAT-2] ECHO (1)
H: 2msec/dev V: 20mV/div
Input: 1kHz one wave (1 period) Depth=Max, Character=Max, MixRatio=Center, Time=1ms



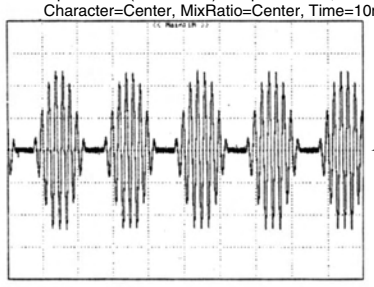
⑧ [BEAT-3] PITCH ECHO (1)
H: 2msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Min, MixRatio=Center, Time=100ms



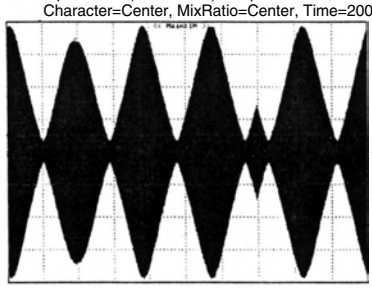
⑨ [BEAT-3] PITCH ECHO (2)
H: 2msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Max, MixRatio=Center, Time=100ms



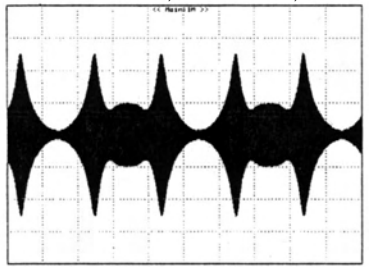
⑩ [BEAT-4] TRANS
H: 5msec/dev V: 20mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Time=10ms



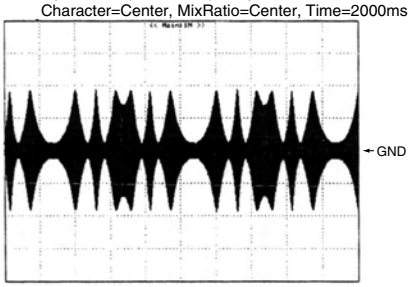
⑪ [BEAT-5] FLANGER
H: 200msec/dev V: 20mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Time=2000ms



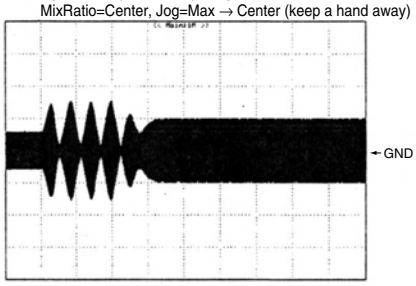
⑫ [BEAT-6] FILTER
H: 500msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Time=2000ms



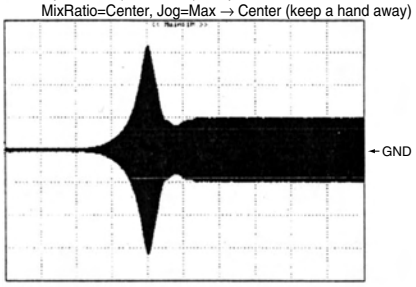
⑬ [BEAT-7] PHASER
H: 500msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Time=2000ms



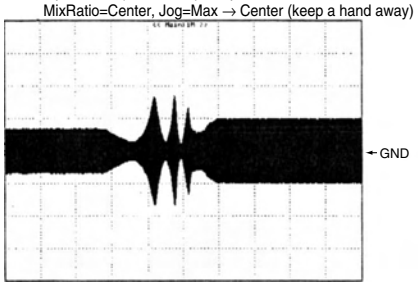
⑭ [JOG-1] JET
H: 100msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max → Center (keep a hand away)



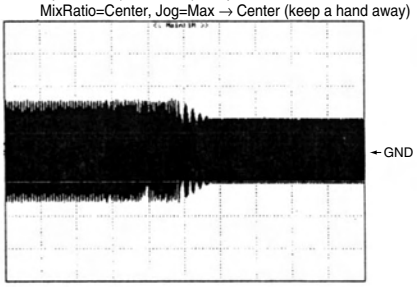
⑮ [JOG-2] WAH
H: 100msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max → Center (keep a hand away)



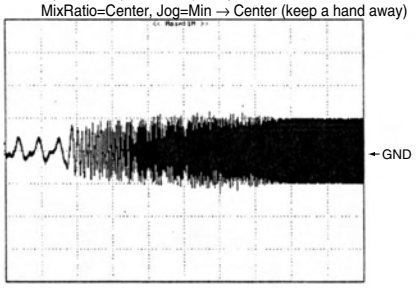
⑯ [JOG-3] PHASE SHIFTER
H: 100msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max → Center (keep a hand away)



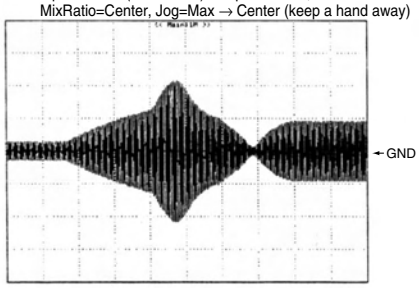
⑰ [JOG-4] RING
H: 100msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max → Center (keep a hand away)



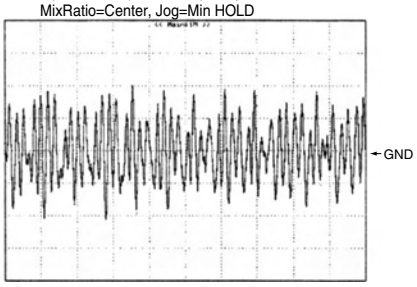
⑱ [JOG-5] ZIP
H: 50msec/dev V: 50mV/div
Input: 1kHz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Min → Center (keep a hand away)



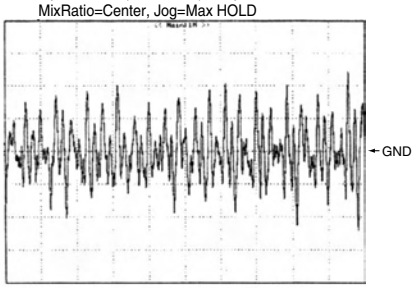
⑲ [JOG-6] HUMANIZER
H: 50msec/dev V: 50mV/div
Input: 440Hz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max → Center (keep a hand away)



⑳ [JOG-7] VOCODER (1)
H: 10msec/dev V: 50mV/div
Input: 440Hz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Min HOLD



㉑ [JOG-7] VOCODER (2)
H: 10msec/dev V: 50mV/div
Input: 440Hz (continuous) Depth=Center, Character=Center, MixRatio=Center, Jog=Max HOLD



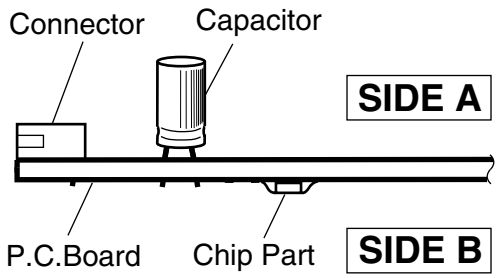
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

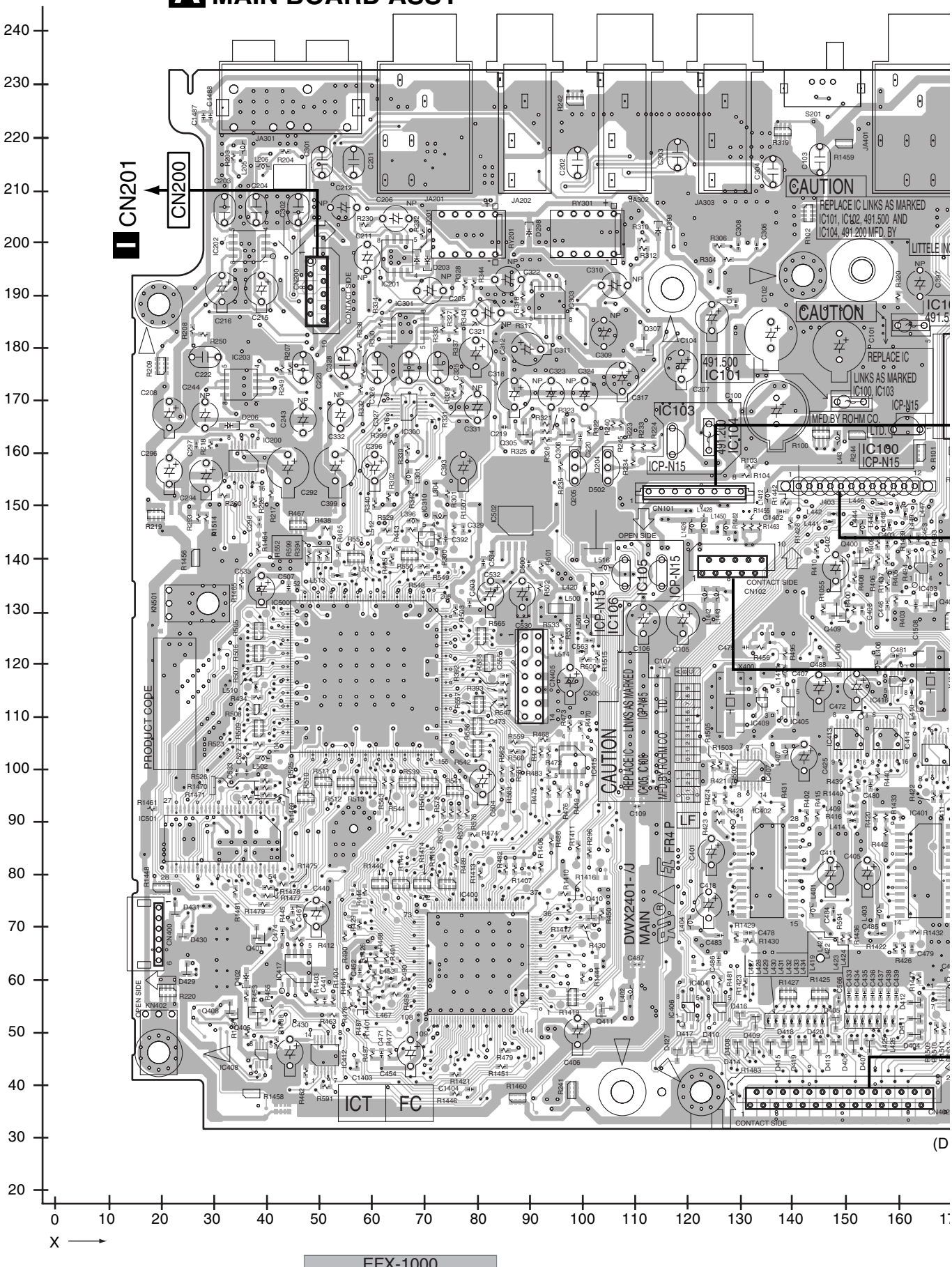
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

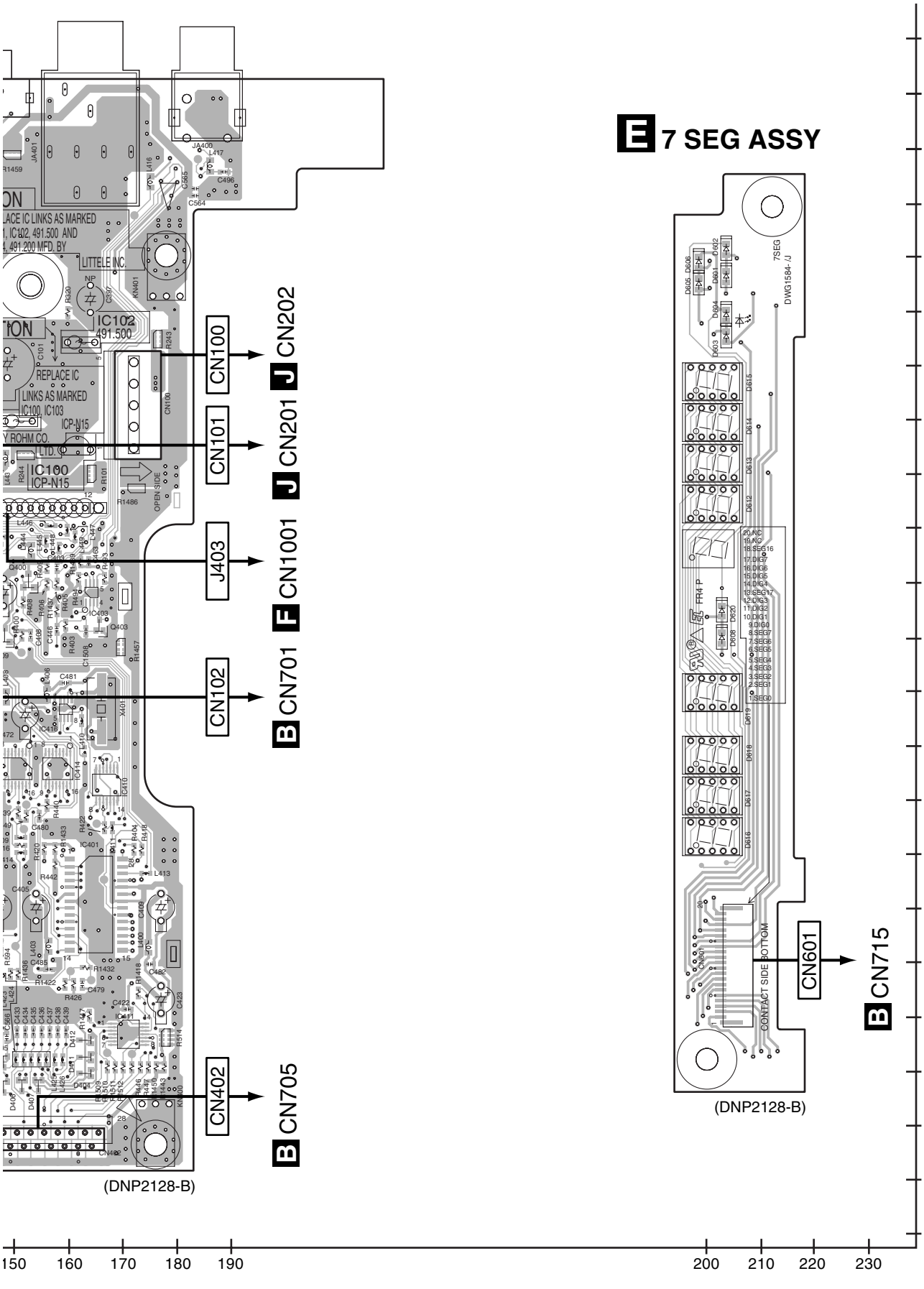


4.1 MAIN ASSY

SIDE A

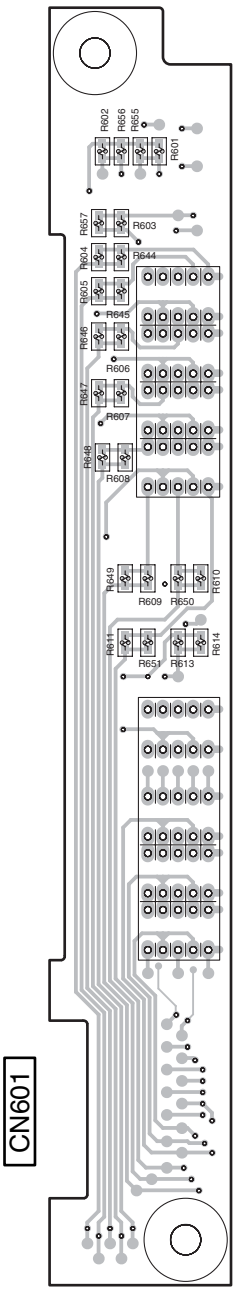
A MAIN BOARD ASSY




E 7 SEG ASSY
CN100
CN101
J403
CN102
CN402
J CN202
J CN201
F CN1001
B CN701
B CN705
CN601
B CN715
(DNP2128-B)
(DNP2128-B)
IC102
491.500
IC100
ICP-N15
REPLACE IC
LINKS AS MARKED
IC100, IC103
LITTELE INC.
ROHM CO.
LTD.
OPEN SIDE
CONTACT SIDE
BOTTOM
7SEG
DWG1584-/J
FR4 P

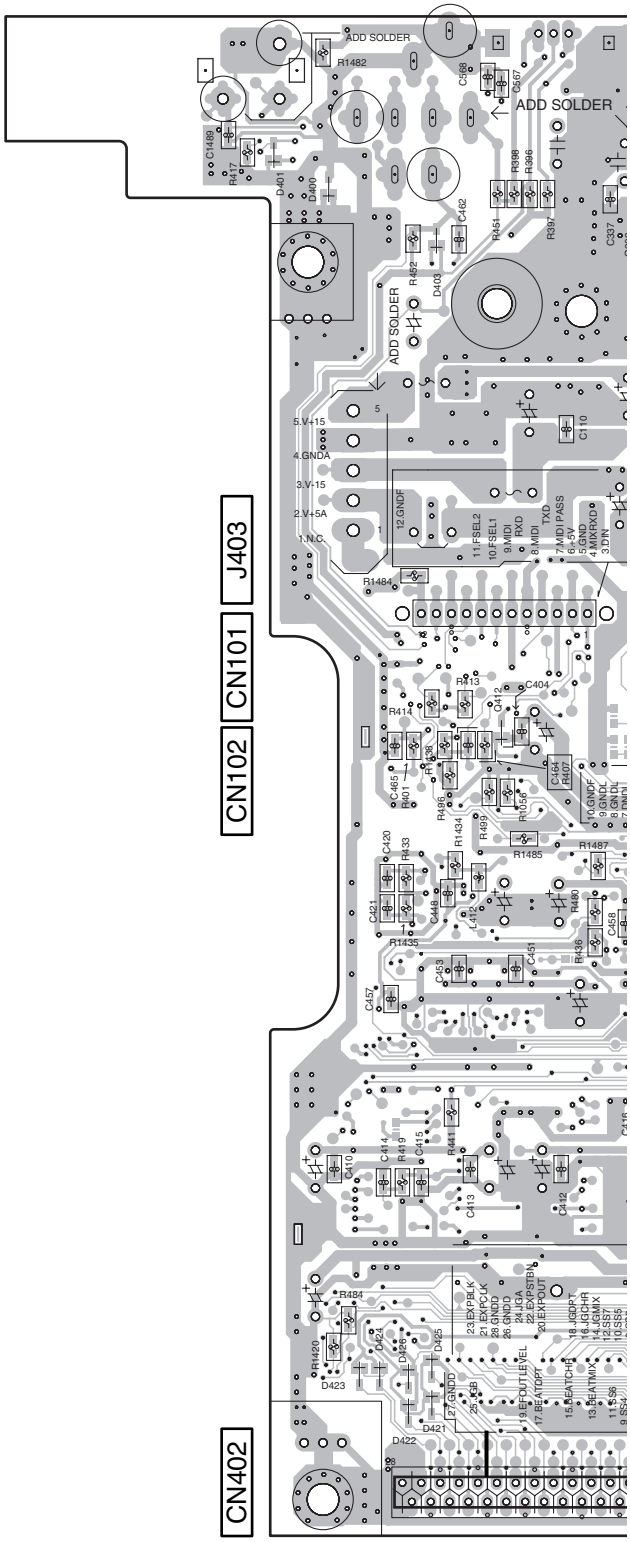
SIDE B

E 7 SEG ASSY

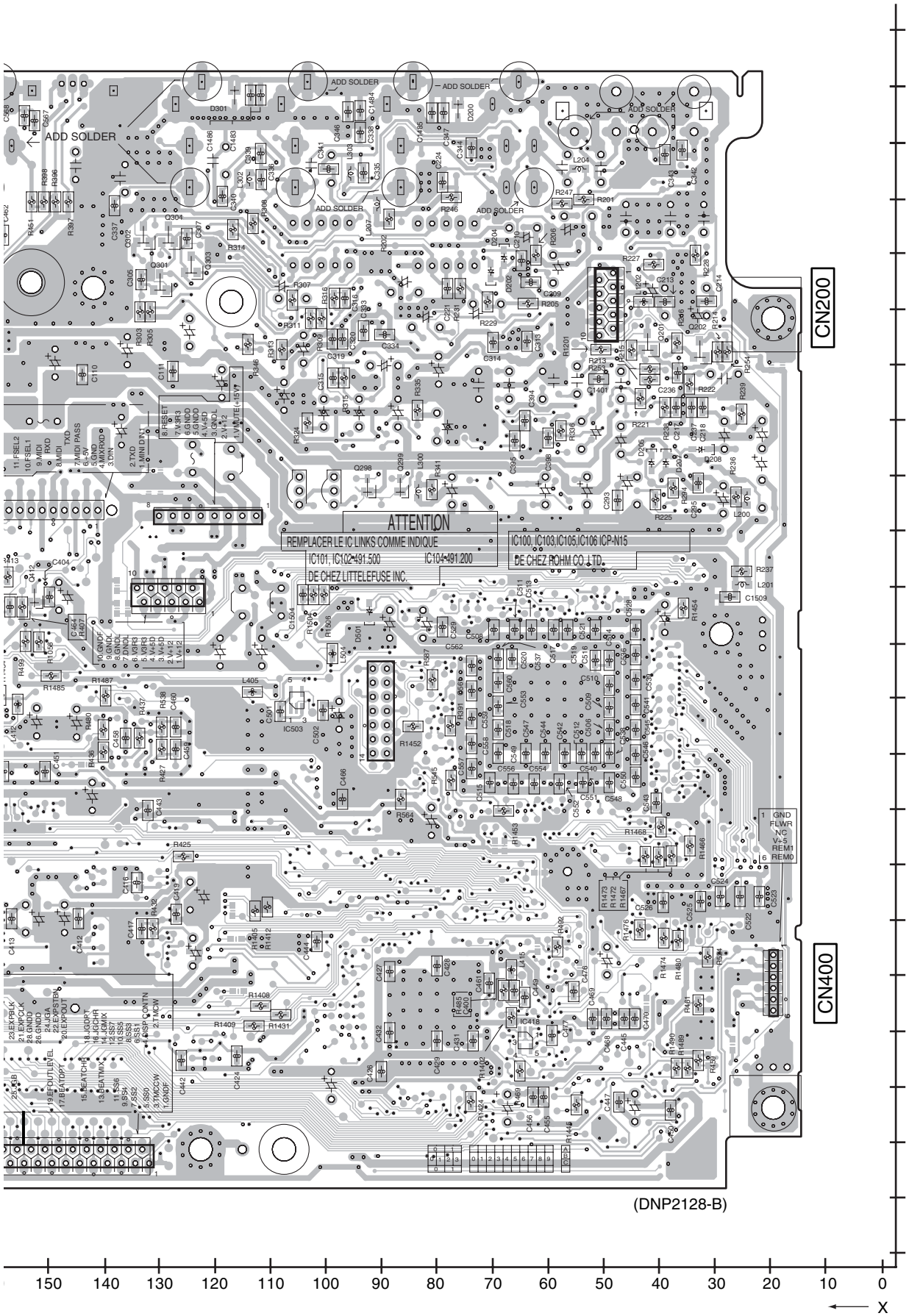


(DNP2128-B)

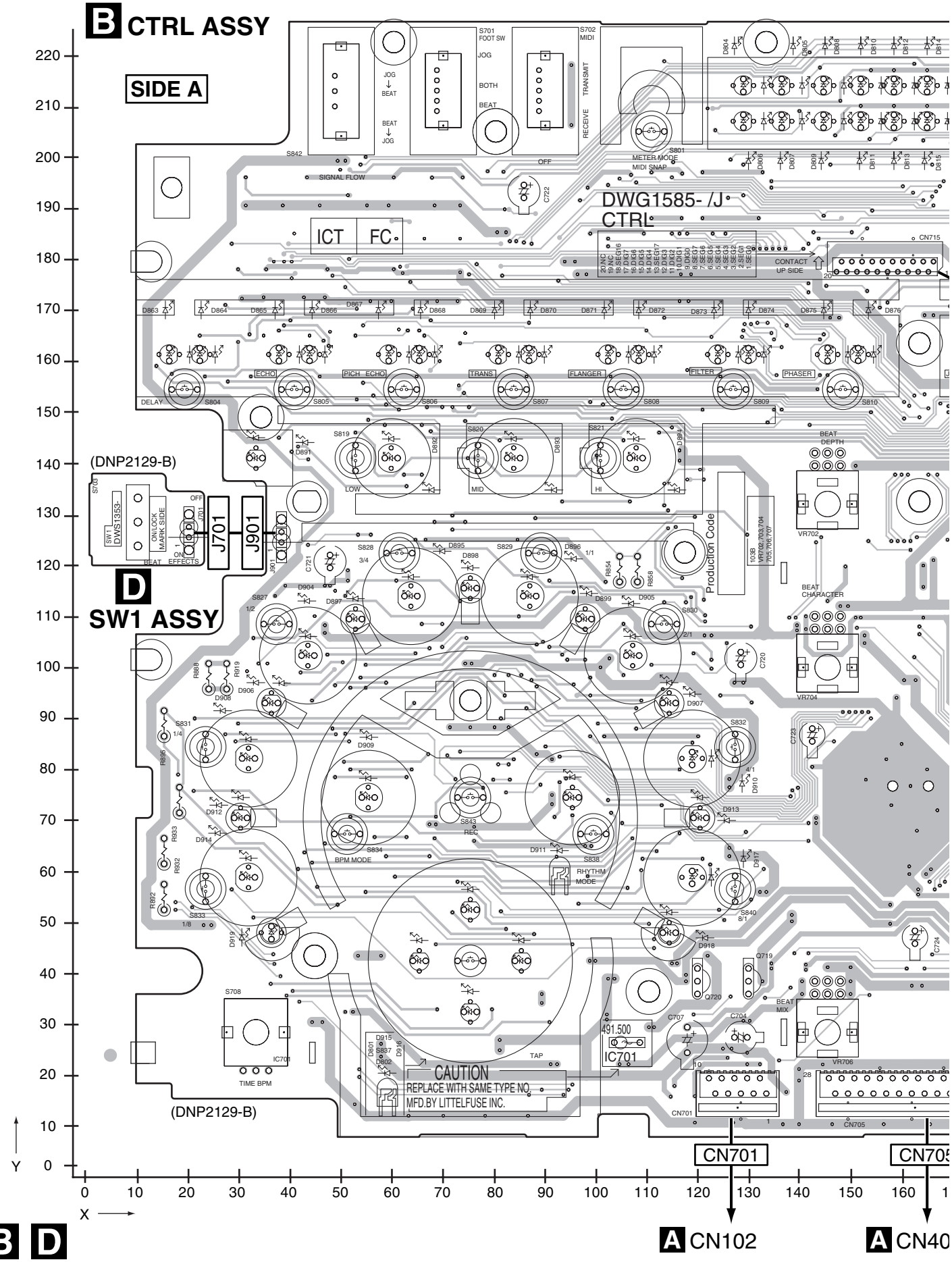
A MAIN BARD ASSY

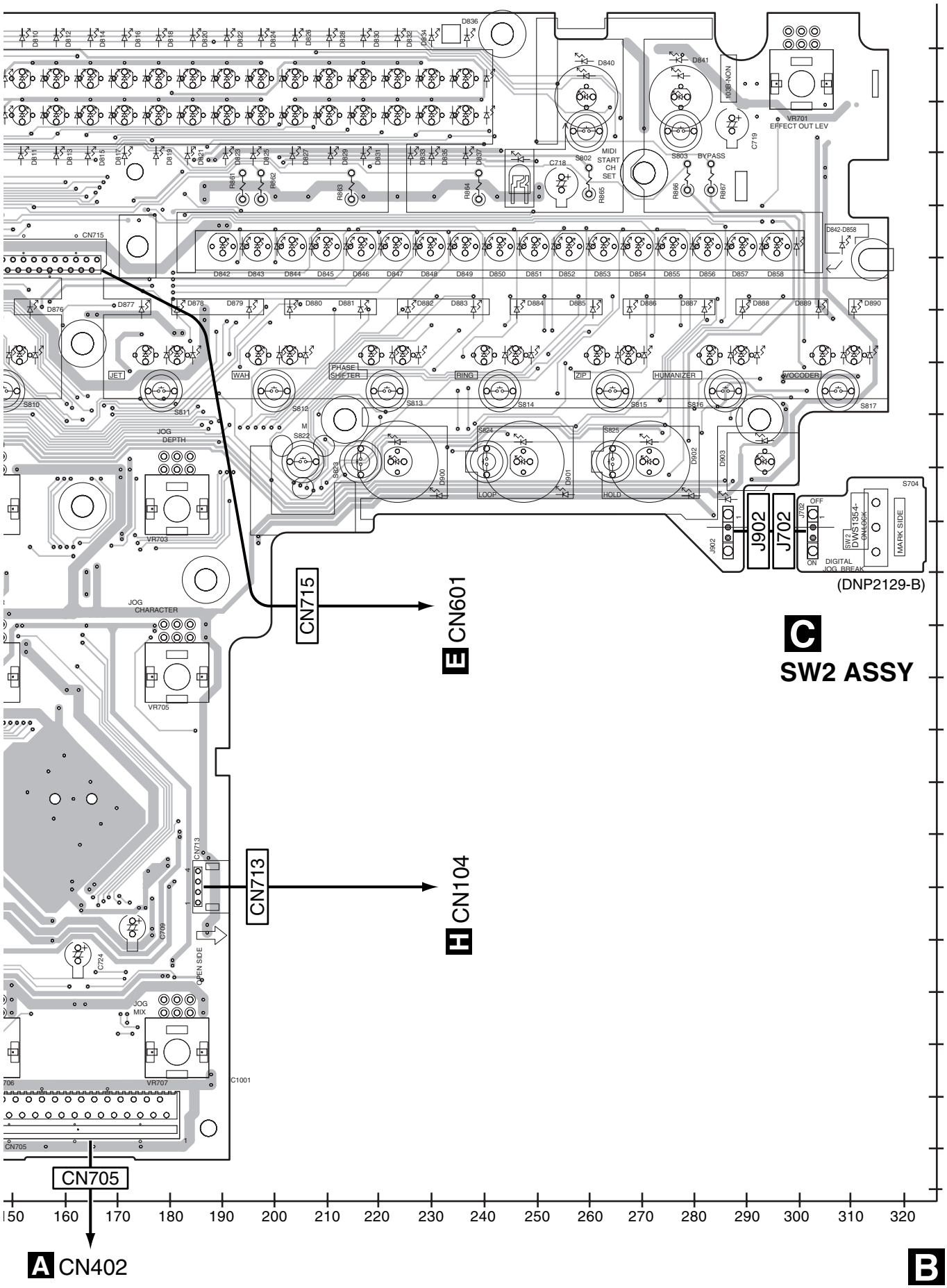


SIDE B


ADD SOLDER
ATTENTION
REMPLACER LE IC LINKS COMME INDIQUE
IC101, IC102=91.500
IC104=91.200
DE CHEZ LITTELEFUSE INC.
IC100, IC103,IC105,IC106 ICP-N15
DE CHEZ ROHM CO.,LTD.
CN200
CN400
(DNP2128-B)
Y
X

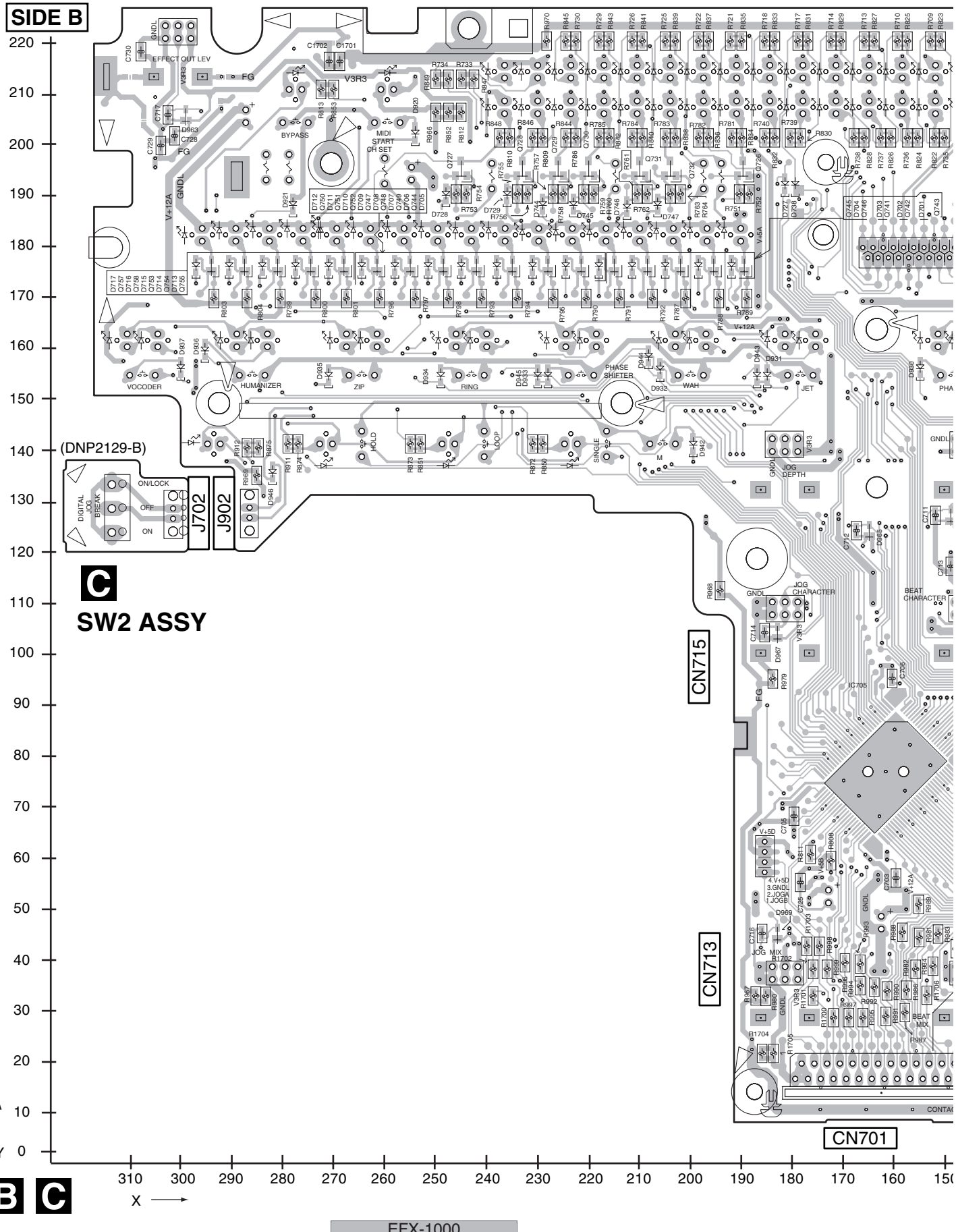
4.2 CTRL, SW1 and SW2 ASSYS



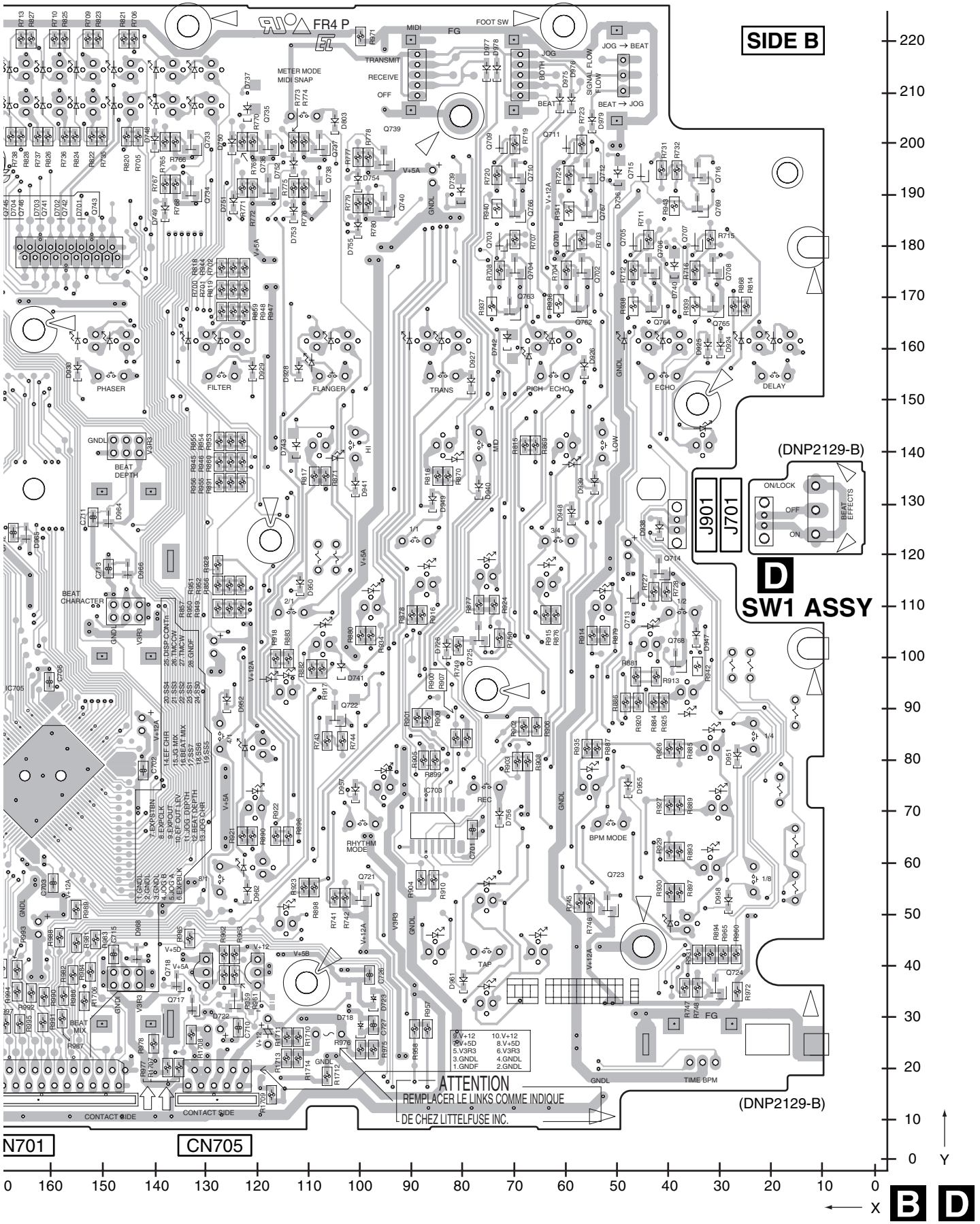

CN715
CN601
E
CN713
CN104
H
CN705
A CN402
B C
C
SW2 ASSY
(DNP2129-B)
J902
J702
S704
MARK SIDE
DIGITAL JOG BREAK
VR703
VR705
VR707
JOG DEPTH
JOG CHARACTER
JOG MIX
JET
WAH
PHASE SHIFTER
RING
ZIP
HUMANIZER
VOCODER
LOOP
HOLD
MIDI START CH SET
BYPASS
VR701 EFFECT OUT LEV
OPEN SIDE
Y

B CTRL ASSY

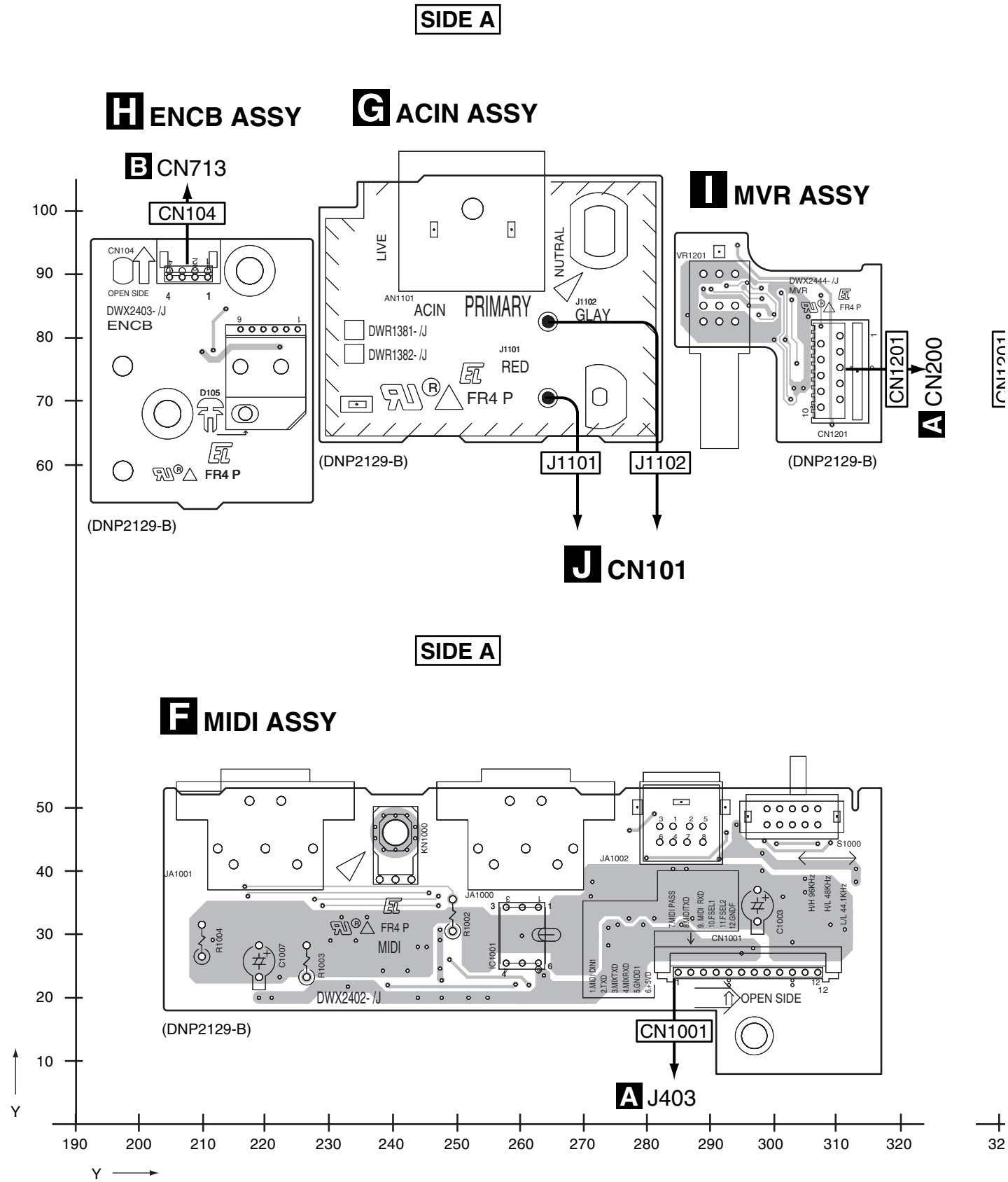
SIDE B



B C


SIDE B
FR4 P
(DNP2129-B)
J901
J701
ON/LOCK
OFF
ON
BEAT EFFECTS
D
SW1 ASSY
(DNP2129-B)
ATTENTION
REMPLACER LE LINKS COMME INDIQUE
DE CHEZ LITTELFUSE INC.
CN701
CN705
CONTACT SIDE
CONTACT SIDE
MIDI
FG
FOOT SW
TRANSMIT
RECEIVE
OFF
METER MODE
MIDI SNAP
JOG
BOTH
BEAT
JOG → BEAT
BEAT → JOG
SIGNAL FLOW
PHASER
FILTER
FLANGER
TRANS
PITCH ECHO
ECHO
DELAY
BEAT DEPTH
BEAT CHARACTER
BEAT MIX
REC
RHYTHM MODE
BPM MODE
TAP
TIME BPM
FG
GNDL
V+5A
V+12A
V+5B
V+12
V+5D
V3R3
HI
MID
LOW
1/1
2/1
3/4
1/2
1/4
1/8
1/16
1.GNDL
2.GNDL
3.GND
4.JOG A
5.JOG B
6.EXPCLK
7.EXPSTBN
8.EXPCLK
9.EXPOUT
10.EF OUT LEV
11.JOG DEPTH
12.BEAT DEPTH
13.JOG CHR
14.EF CHR
15.AG MIX
16.BEAT MIX
17.SS1
18.SS6
19.SS5
20.SS4
21.SS3
22.SS2
23.SS1
24.SS0
25.DISP CONTm
26.TMOUT
27.TMCH
28.GNDF
1.V+12
2.V+5D
3.V3R3
4.GNDL
5.GNDF
6.V-12
7.V+5B
8.V+5D
9.V3R3
10.V+12
0 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
X
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Y

4.3 MIDI, ACIN, ENCB and MVR ASSYS



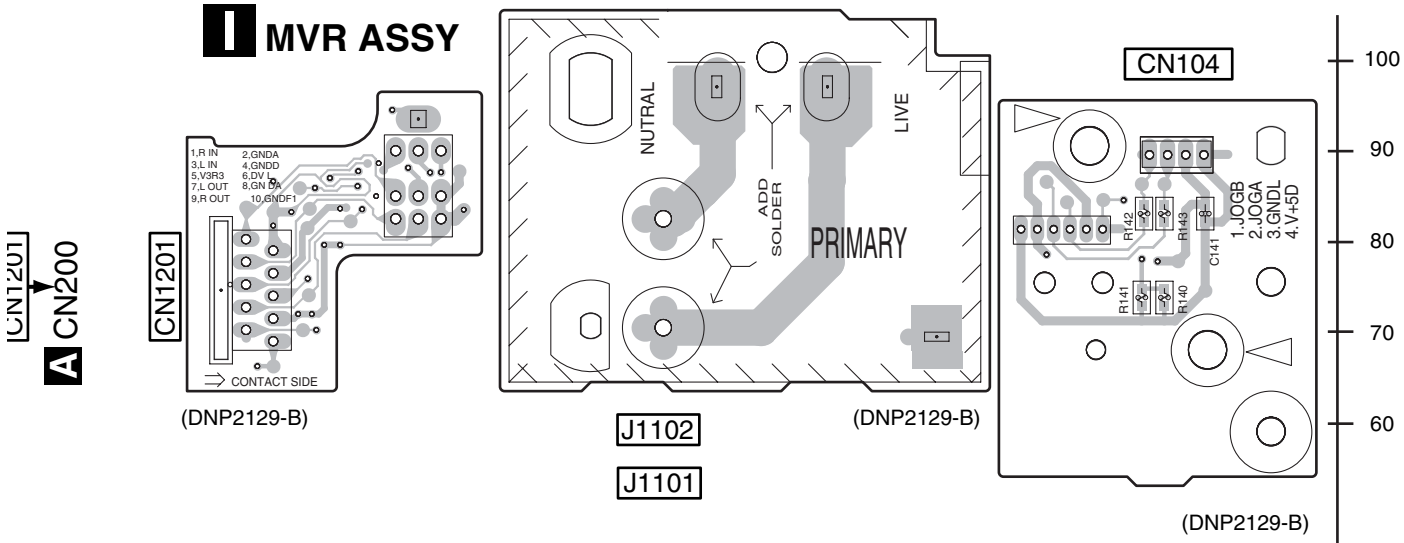
F G H I

SIDE B

G ACIN ASSY

H ENCB ASSY

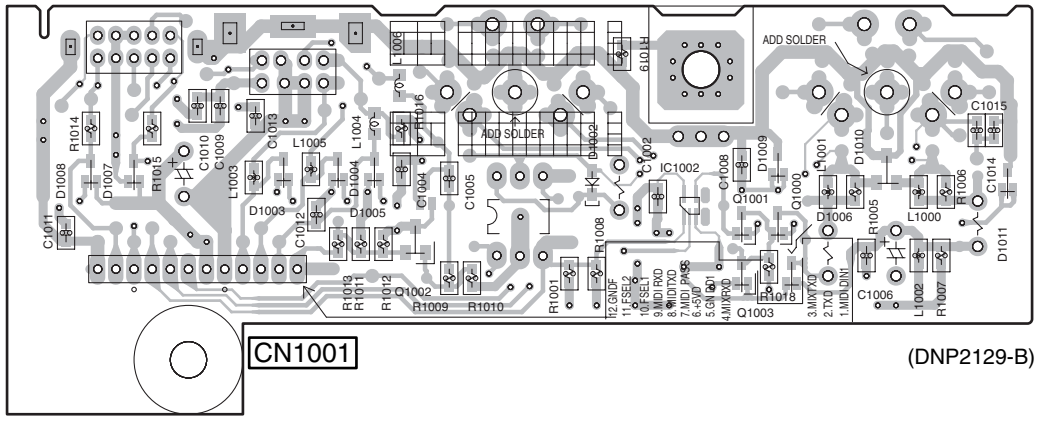
I MVR ASSY



[CN1201] ▼ A CN200

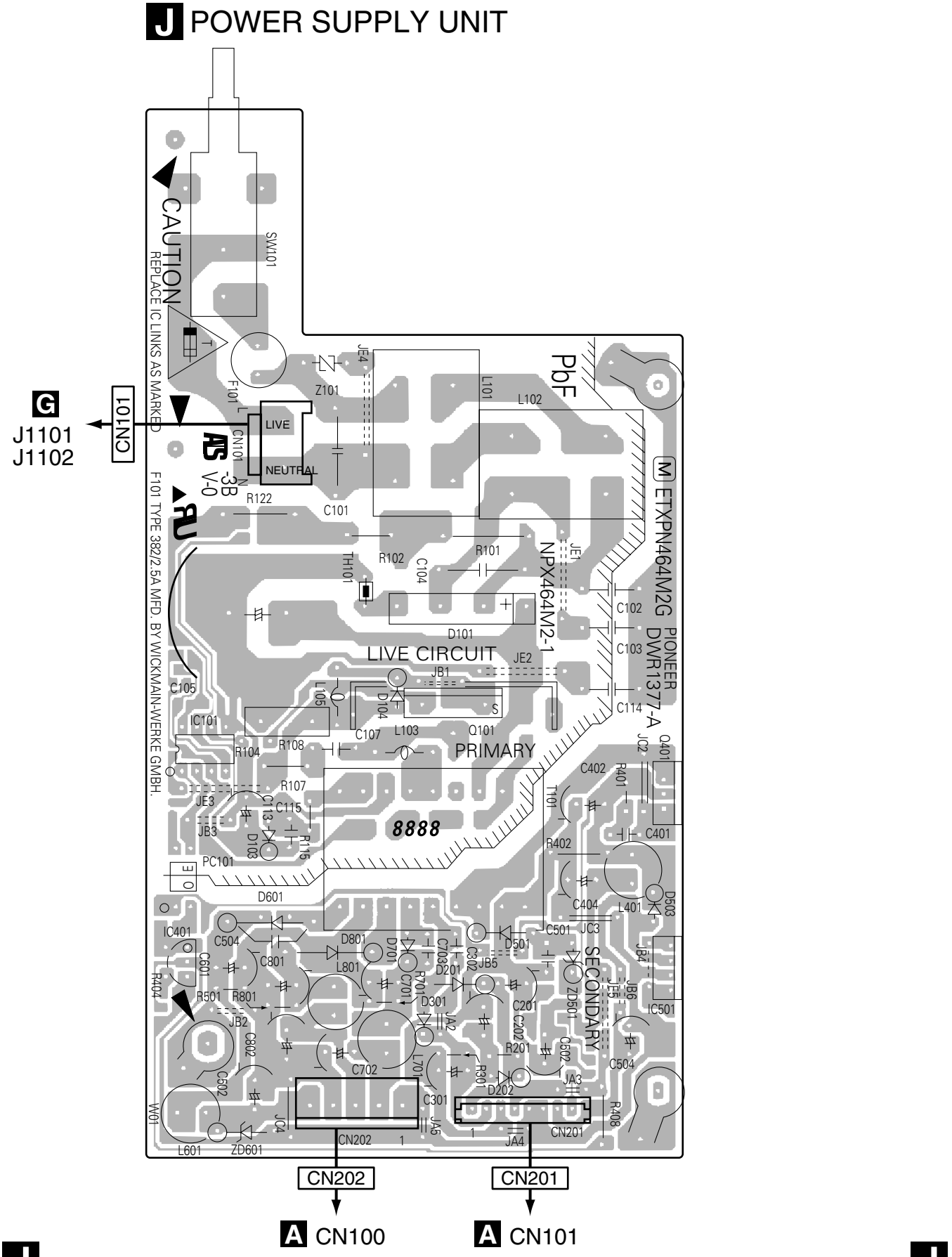
SIDE B

F MIDI ASSY



4.4 POWER SUPPLY UNIT

SIDE A **SIDE A**

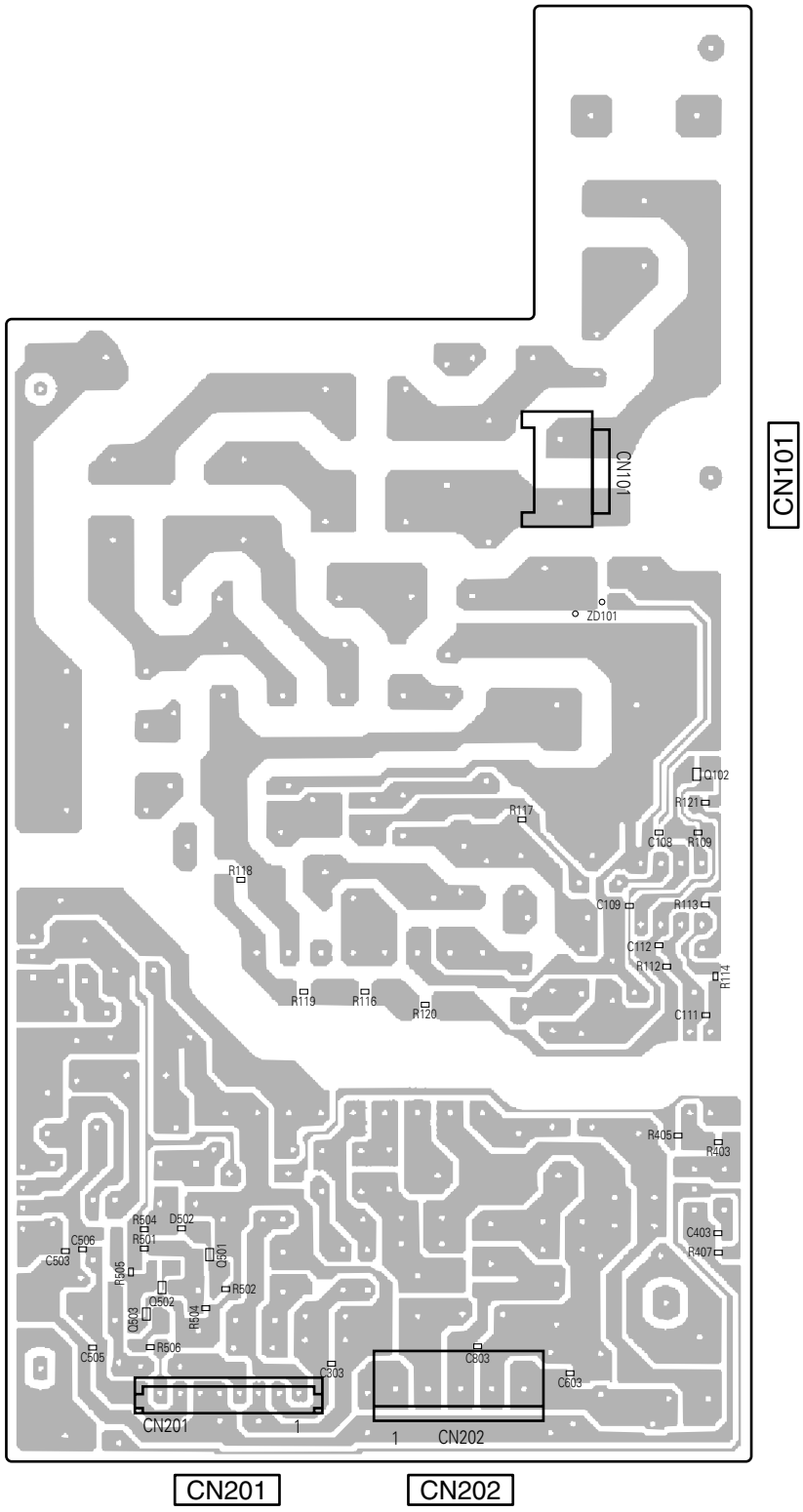


J **J**

SIDE B

SIDE B

J POWER SUPPLY UNIT



5 6 7 8

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10[1] → 561 ····· RD1/4PU 5 6 1 J
47k Ω → 47 x 10[3] → 473 ····· RD1/4PU 4 7 3 J
0.5 Ω → R50 ····· RN2H R 5 0 K
1 Ω → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10[1] → 5621 ····· RN1/4PC 5 6 2 1 F

- *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

■ LIST OF HOLE PCB ASSEMBLIES

Mark	Symbol and Description	EFX-1000/ KUCXJ	EFX-1000/ TLTXJ	EFX-1000/ WYXJ	EFX-1000/ WAXJ
NSP	1..MOTHER ASSY	DWM2185	DWM2185	DWM2185	DWM2185
	2..7 SEG ASSY	DWG1584	DWG1584	DWG1584	DWG1584
	2..MAIN BOARD ASSY	DWX2401	DWX2401	DWX2401	DWX2401
NSP	1..SUB ASSY	DWM2188	DWM2186	DWM2186	DWM2186
	2.CTRL ASSY	DWG1585	DWG1585	DWG1585	DWG1585
	2..ACIN ASSY	DWR1382	DWR1381	DWR1381	DWR1381
	2..SW1 ASSY	DWS1353	DWS1353	DWS1353	DWS1353
	2..SW2 ASSY	DWS1354	DWS1354	DWS1354	DWS1354
	2..MIDI ASSY	DWX2402	DWX2402	DWX2402	DWX2402
	2..ENCB ASSY	DWX2403	DWX2403	DWX2403	DWX2403
	2..MVR ASSY	DWX2444	DWX2444	DWX2444	DWX2444

■ CONTRAST OF PCB ASSEMBLIES

D ACIN ASSY

DWR1382, and DWR1381 are constructed the same except for the following :

Mark	Symbol and Description	DWR1382	DWR1381
⚠	AN1101 1P AC INLET	XKP3042	XKP3041

■ PCB PARTS LIST FOR EFX-1000/KUCXJ UNLESS OTHER WISE NOTED

A MAIN BOARD ASSY

MISCELLANEOUS

Mark No.	Description	Part No.
IC 100	(A,159,162)	ICP-N15
IC 101	(A,153,167) (500MA)	AEK7005
IC 102	(A,165,182) (500MA)	AEK7005
IC 103	(A,117,162)	ICP-N15
IC 104	(A,124,158) (200MA)	AEK7023
IC 105	(A,115,132)	ICP-N15
IC 106	(A,108,132)	ICP-N15
IC 200	(A,36,156) IC	AK5381VT
IC 201	(A,65,195) IC	NJM4580MD
IC 202	(A,37,197) IC	NJM4580MD
IC 203	(A,35,170) IC	NJM4580MD
IC 300	(A,67,166) IC	PCM1742KE
IC 301	(A,67,181) IC	NJM4580MD
IC 303	(A,94,186) IC	NJM4580MD
IC 310	(A,70,141) IC	TC7SU04F
IC 400	(A,80,61) CPU	PEG097A8
IC 401	(A,165,78) DA I/F RECEIVER	CS8420-CSZD1
IC 402	(A,135,78) DA I/F RECEIVER	CS8420-CSZD1
IC 403	(A,164,135) IC	TC7W66FU
IC 404	(A,126,52) LOGIC	TC7WHU04FU
IC 405	(A,139,110) LOGIC	TC7WHU04FU
IC 407	(A,132,97) IC	TC74VHC125FTS1
IC 409	(A,134,110) IC	TC7SU04FU
IC 410	(A,167,100) IC	TC74VHC00FTS1
IC 411	(A,171,54) IC	TC74VHC125FTS1
IC 412	(A,51,43) IC	TC74VHC125FTS1
IC 413	(A,151,103) IC	TC74VHC161FT
IC 414	(A,158,103) IC	TC74VHC161FT
IC 415	(A,98,99) (EEPROM)	BR93L66F-W
IC 416	(A,160,114) LOGIC	TC7WHU04FU
IC 417	(A,46,60) IC	M51957BFP
IC 418	(B,64,56) IC	TC7SU04F
IC 500	(A,59,115) IC	D610A002BPYP225
IC 501	(A,32,84) SDRAM (128M)	K4S281632F-UC75
IC 502	(A,87,144) REGULATOR IC	PQ012FZ01ZP
IC 503	(B,105,117) IC	TC7SU04F
Q 201	(B,42,181) TRANSISTOR	2SD2114K
Q 202	(B,33,180) TRANSISTOR	2SD2114K
Q 204	(A,105,157) TRANSISTOR	2SC1740S
Q 205	(A,99,157) TRANSISTOR	2SC2458
Q 298	(B,93,156) CHIP DIGITATRANS.	DTA124EUA
Q 299	(B,87,156) CHIP DIGITATRANS.	DTA124EUA
Q 301	(B,130,192) TRANSISTOR	2SD2114K
Q 302	(B,133,201) TRANSISTOR	2SD2114K
Q 303	(B,124,195) TRANSISTOR	2SD2114K
Q 304	(B,128,201) TRANSISTOR	2SD2114K
Q 305	(A,89,162) TRANSISTOR	2SD2114K
Q 306	(A,97,162) TRANSISTOR	2SD2114K
Q 307	(A,112,178) TRANSISTOR	2SC2412K
Q 400	(A,153,138) TRANSISTOR	2SC2412K
Q 401	(A,38,66) CHIP DIGITATRANS.	DTA124EUA
Q 403	(A,166,129) CHIP TRANSISTOR	DTC114EUA
Q 405	(A,38,50) TRANSISTOR	2SC2412K
Q 408	(A,33,52) CHIP TRANSISTOR	DTC114EUA
Q 409	(A,148,128) TRANSISTOR	2SC2412K
Q 410	(A,102,70) CHIP TRANSISTOR	DTC114EUA
Q 411	(A,105,52) DIGITATRANSISTOR	DTA143EUA
Q 412	(B,152,136) CHIP TRANSISTOR	DTC114EUA
D 200	(B,76,223) DIODE	DAN217U
D 201	(A,69,194) CHIP DIODE	RB501V-40
D 202	(B,68,196) CHIP DIODE	RB501V-40
D 203	(A,71,194) CHIP DIODE	RB501V-40
D 204	(B,70,194) CHIP DIODE	RB501V-40
D 205	(B,41,160) CHIP DIODE	RB501V-40
D 206	(A,33,163) CHIP DIODE	RB501V-40
D 207	(B,39,160) CHIP DIODE	RB501V-40
D 208	(B,33,162) CHIP DIODE	RB501V-40
D 298	(A,90,199) DIODE	1SS355
D 301	(B,116,225) DIODE	DAN217U
D 398	(A,114,199) DIODE	1SS355
D 400	(B,175,208) DIODE	DAN217U
D 401	(B,183,212) DIODE	DAN217U
D 402	(A,36,58) DIODE	1SS355
D 403	(B,161,201) DIODE	DAN217U
D 404	(A,163,47) DIODE	DAN217U
D 405	(A,148,49) DIODE	DAN217U
D 406	(A,151,45) DIODE	DAN217U
D 407	(A,154,45) DIODE	DAN217U
D 408	(A,129,44) DIODE	DAN217U
D 409	(A,133,49) DIODE	DAN217U
D 410	(A,124,44) DIODE	DAN217U
D 411	(A,163,50) DIODE	DAN217U
D 412	(A,163,53) DIODE	DAN217U
D 413	(A,148,44) DIODE	DAN217U
D 414	(A,132,44) DIODE	DAN217U
D 415	(A,136,44) DIODE	DAN217U
D 416	(A,130,50) DIODE	DAN217U
D 417	(A,121,44) DIODE	DAN217U
D 418	(A,139,44) DIODE	DAN217U
D 419	(A,142,44) DIODE	DAN217U
D 420	(A,145,44) DIODE	DAN217U
D 421	(B,162,46) DIODE	DAN217U
D 422	(B,165,45) DIODE	DAN217U
D 423	(B,171,50) DIODE	DAN217U
D 424	(B,169,50) DIODE	DAN217U
D 425	(B,162,51) DIODE	DAN217U
D 426	(B,165,50) DIODE	DAN217U
D 427	(A,118,43) DIODE	DAN217U
D 429	(A,25,59) DIODE	DAN217U
D 430	(A,24,67) DIODE	DAN217U
D 431	(A,23,71) DIODE	DAN217U
D 501	(B,92,133) CHIP DIODE	RB501V-40
D 502	(A,103,144) DIODE	RF301B2S
L 204	(B,54,212) CHIP BEADS	VTL1105
L 205	(A,35,215) CHIP BEADS	VTL1105
L 206	(A,39,212) CHIP BEADS	VTL1105
L 207	(B,91,206) CHIP BEADS	VTL1105
L 301	(A,67,153) CHIP BEADS	VTL1105
L 302	(B,114,211) CHIP BEADS	VTL1105
L 303	(B,96,212) CHIP BEADS	VTL1105
L 304	(A,73,145) CHIP BEADS	VTL1105
L 400	(A,175,70) CHIP BEADS	VTL1099
L 401	(A,144,71) CHIP BEADS	VTL1099

Mark	No.	Description	Part No.
	L	402 (A,109,55) CHIP BEADS	VTL1105
	L	403 (A,156,70) CHIP BEADS	VTL1099
A	L	404 (A,120,68) CHIP BEADS	VTL1099
	L	406 (A,156,117) CHIP BEADS	VTL1105
	L	407 (A,138,101) CHIP BEADS	VTL1099
	L	408 (A,148,116) CHIP BEADS	VTL1105
	L	413 (A,174,84) CHIP BEADS	VTL1108
	L	415 (B,67,68) CHIP BEADS	VTL1108
	L	416 (A,175,211) CHIP BEADS	VTL1099
	L	417 (A,186,214) CHIP BEADS	VTL1105
	L	419 (A,150,49) CHIP BEADS	VTL1108
	L	421 (A,152,49) CHIP BEADS	VTL1108
B	L	422 (A,153,49) CHIP BEADS	VTL1108
	L	423 (A,155,49) CHIP BEADS	VTL1108
	L	424 (A,156,49) CHIP BEADS	VTL1108
	L	425 (A,157,49) CHIP BEADS	VTL1108
	L	426 (A,159,49) CHIP BEADS	VTL1108
	L	427 (A,135,50) CHIP BEADS	VTL1108
	L	428 (A,137,50) CHIP BEADS	VTL1108
	L	429 (A,138,49) CHIP BEADS	VTL1108
	L	430 (A,140,49) CHIP BEADS	VTL1108
	L	431 (A,141,49) CHIP BEADS	VTL1108
C	L	432 (A,143,49) CHIP BEADS	VTL1108
	L	433 (A,144,49) CHIP BEADS	VTL1108
	L	434 (A,146,49) CHIP BEADS	VTL1108
	L	441 (A,147,144) CHIP BEADS	VTL1108
	L	442 (A,148,146) CHIP BEADS	VTL1108
	L	444 (A,153,143) CHIP BEADS	VTL1105
	L	445 (A,156,145) CHIP BEADS	VTL1108
	L	446 (A,157,148) CHIP BEADS	VTL1108
	L	447 (A,160,147) CHIP BEADS	VTL1108
	L	448 (A,158,144) CHIP BEADS	VTL1108
	L	449 (A,161,146) CHIP BEADS	VTL1108
	L	452 (A,64,58) CHIP BEADS	VTL1108
	L	500 (A,96,128) COIL	RTF1189
D	L	501 (A,101,125) CHIP BEADS	VTL1105
	L	502 (A,39,99) CHIP BEADS	VTL1099
	L	516 (A,104,136) CHIP BEADS	VTL1105
	L	1202(B,43,189) CHIP BEADS	VTL1108
	L	1412(A,135,149) CHIP BEADS	VTL1105
	L	1413(A,134,122) CHIP COIL	LCYAR33J2520
	L	1426(A,121,144) CHIP BEADS	VTL1105
	L	1428(A,123,144) CHIP BEADS	VTL1105
	L	1442(A,123,130) CHIP BEADS	VTL1105
	L	1443(A,125,130) CHIP BEADS	VTL1105
	L	1450(A,127,143) CHIP BEADS	VTL1105
E	J	403 (A,141,151) JUMPER WIRE	D20PYY1210E
	JA201	(A,70,232) MJACK	DKN1250
	JA202	(A,89,232) MJACK	DKN1248
	JA301	(A,45,232) JACK	VKB1133
	JA302	(A,108,232) MJACK	DKN1248
	JA303	(A,127,232) MJACK	DKN1248
	JA400	(A,186,232) JACK	DKB1069
	JA401	(A,164,232) HEADPHONE JACK	DKB1065
	KN400	(A,178,41) WRAPPING TERMINAL	VNF1084
	KN401	(A,176,190) WRAPPING TERMINAL	VNF1084
F	KN402	(A,22,51) WRAPPING TERMINAL	VNF1084
	RY1	RELAY	VSR1008
	RY301	(A,106,203) RELAY	VSR1008
	S 201	(A,147,228) SLIDE SWITCH	DSH1025

Mark	No.	Description	Part No.
	X 400	(A,128,110) 24 MHz	ASS7025
	X 401	(A,166,114) 22.5792 MHz	DSS1154
	0	PCB BINDER	VEF1040
	0	12P CABLE HOLDER	51048-1200
	CN100	(A,172,162) CONNECTOR	B5P-VH
	CN101	(A,113,150) 8P TOP POST	B8B-EH
	CN102	(A,123,135) CONNECTOR	52045-1045
	CN200	(A,48,194) CONNECTOR	52045-1045
	CN400	(A,20,71) CONNECTOR	S6B-PH
	CN402	(A,132,34) 28P CONNECTOR	52045-2845

RESISTORS

R 100	(A,145,161)	RAB4C0R0J
R 101	(A,164,157)	RAB4C0R0J
R 102	(A,143,203)	RAB4C0R0J
R 103	(A,132,155)	RS1/16S0R0J
R 104	(A,131,153)	RS1/16S0R0J
R 200	(A,32,149)	RS1/16S331J
R 201	(B,54,207)	RS1/16S470J
R 202	(B,89,203)	RS1/16S470J
R 203	(A,34,214)	RS1/16S470J
R 204	(A,44,215)	RS1/16S470J
R 205	(B,64,188)	RS1/16S104J
R 206	(B,62,197)	RS1/16S104J
R 207	(A,44,173)	RS1/16S472J
R 208	(A,26,181)	RS1/16S472J
R 209	(A,20,174)	RAB4C0R0J
R 213	(B,42,176)	RS1/16S0R0J
R 214	(B,30,180)	RS1/16S0R0J
R 215	(B,45,180)	RS1/16S222J
R 216	(B,37,181)	RS1/16S222J
R 218	(A,29,159)	RS1/16S0R0J
R 219	(A,19,146)	RAB4C0R0J
R 220	(A,21,55)	RAB4C0R0J
R 221	(B,43,171)	RS1/16S102J
R 222	(B,35,174)	RS1/16S102J
R 223	(A,110,159)	RS1/16S103J
R 224	(A,114,159)	RS1/16S103J
R 225	(B,41,153)	RS1/16S0R0J
R 226	(A,38,148)	RS1/16S0R0J
R 227	(B,41,195)	RS1/16S102J
R 228	(B,34,197)	RS1/16S102J
R 229	(B,71,189)	RS1/16S102J
R 230	(A,59,201)	RS1/16S102J
R 231	(B,76,191)	RS1/16S104J
R 232	(A,70,199)	RS1/16S104J
R 233	(A,112,159)	RS1/16S103J
R 234	(A,110,156)	RS1/16S0R0J
R 235	(A,96,155)	RS1/16S104J
R 236	(B,26,153)	RS1/16S0R0J
R 237	(B,25,140)	RS1/16S0R0J
R 238	(B,39,170)	RS1/16S470J
R 239	(B,25,168)	RS1/16S470J
R 240	(A,106,163)	RS1/16S473J
R 241	(A,98,36)	RAB4C0R0J
R 242	(A,99,224)	RAB4C0R0J
R 243	(A,176,182)	RAB4C0R0J
R 244	(A,152,161)	RAB4C0R0J
R 245	(A,107,163)	RS1/16S473J

Mark No.	Description	Part No.
R 246	(B,77,207)	RS1/16S0R0J
R 247	(B,58,206)	RS1/16S0R0J
R 249	(A,43,173)	RS1/16S333J
R 250	(A,28,180)	RS1/16S333J
R 253	(B,42,175)	RS1/16S222J
R 254	(B,28,180)	RS1/16S222J
R 293	(A,27,145)	RS1/16S0R0J
R 294	(B,38,155)	RS1/16S0R0J
R 296	(A,101,81)	RS1/16S822J
R 300	(A,73,141)	RS1/16S105J
R 301	(A,74,150)	RS1/16S0R0J
R 302	(A,63,149)	RS1/16S0R0J
R 303	(B,133,187)	RS1/16S222J
R 304	(A,128,194)	RS1/16S222J
R 305	(B,132,187)	RS1/16S222J
R 306	(A,126,197)	RS1/16S222J
R 307	(B,106,189)	RS1/16S101J
R 308	(B,113,203)	RS1/16S101J
R 309	(B,101,186)	RS1/16S221J
R 310	(A,111,198)	RS1/16S221J
R 311	(B,103,186)	RS1/16S471J
R 312	(A,111,196)	RS1/16S471J
R 313	(B,108,180)	RS1/16S104J
R 314	(B,117,202)	RS1/16S104J
R 315	(B,97,175)	RS1/16S103J
R 316	(B,98,189)	RS1/16S103J
R 317	(A,89,184)	RS1/16S104J
R 318	(A,89,187)	RS1/16S104J
R 319	(A,138,218)	RAB4C0R0J
R 320	(A,160,187)	RS1/16S0R0J
R 321	(A,93,163)	RS1/16S562J
R 322	(A,101,162)	RS1/16S562J
R 323	(A,93,161)	RS1/16S104J
R 324	(B,103,167)	RS1/16S104J
R 325	(A,90,159)	RS1/16S222J
R 326	(A,93,160)	RS1/16S222J
R 327	(A,73,184)	RS1/16S472J
R 328	(A,78,189)	RS1/16S472J
R 329	(A,76,169)	RS1/16S222J
R 330	(A,58,173)	RS1/16S222J
R 331	(A,77,171)	RS1/16S102J
R 332	(A,58,170)	RS1/16S102J
R 333	(A,73,181)	RS1/16S222J
R 334	(A,62,182)	RS1/16S222J
R 335	(B,84,169)	RS1/16S223J
R 336	(B,58,165)	RS1/16S223J
R 337	(A,76,181)	RS1/16S102J
R 338	(A,58,177)	RS1/16S102J
R 340	(A,61,148)	RS1/16S0R0J
R 341	(B,81,155)	RS1/16S0R0J
R 342	(A,68,143)	RS1/16S101J
R 343	(A,76,184)	RS1/16S104J
R 344	(A,79,189)	RS1/16S104J
R 346	(B,114,181)	RS1/16S102J
R 391	(B,78,112)	RS1/16S0R0J
R 392	(A,85,114)	RS1/16S0R0J
R 393	(A,85,112)	RS1/16S103J
R 394	(A,52,138)	RS1/16S103J
R 396	(B,149,207)	RS1/16S104J
R 397	(B,146,207)	RS1/16S472J
R 398	(B,151,207)	RS1/16S472J
R 399	(A,64,159)	RS1/16S0R0J
R 400	(A,151,128)	RS1/16S101J
R 401	(B,164,134)	RS1/16S104J
R 402	(A,143,89)	RS1/16S101J
R 403	(A,159,129)	RS1/16S104J
R 404	(A,172,88)	RS1/16S101J
R 405	(A,158,137)	RS1/16S680J
R 406	(A,156,137)	RS1/16S221J
R 407	(B,155,134)	RS1/16S152J
R 408	(A,152,134)	RS1/16S222J
R 409	(A,156,140)	RS1/16S122J
R 410	(A,144,139)	RS1/16S0R0J
R 412	(A,46,65)	RS1/16S223J
R 413	(B,157,139)	RS1/16S104J
R 414	(B,162,139)	RS1/16S104J
R 415	(A,145,89)	RS1/16S101J
R 416	(A,151,89)	RS1/16S560J
R 417	(B,186,212)	RS1/16S820J
R 418	(A,173,88)	RS1/16S101J
R 419	(B,166,76)	RS1/16S621J
R 420	(A,156,88)	RS1/16S101J
R 421	(A,127,92)	RS1/16S102J
R 422	(A,167,92)	RS1/16S220J
R 423	(A,126,87)	RS1/16S104J
R 424	(A,125,92)	RS1/16S102J
R 425	(B,126,89)	RS1/16S101J
R 426	(A,161,63)	RS1/16S104J
R 427	(B,130,108)	RS1/16S105J
R 428	(A,126,89)	RS1/16S103J
R 429	(A,58,68)	RS1/16S220J
R 430	(A,100,67)	RS1/16S101J
R 431	(A,138,90)	RS1/16S101J
R 432	(B,131,76)	RS1/16S162J
R 433	(B,165,116)	RS1/16S105J
R 434	(A,38,111)	RS1/16S0R0J
R 435	(A,64,137)	RS1/16S471J
R 436	(B,140,108)	RS1/16S101J
R 437	(B,134,110)	RS1/16S331J
R 438	(A,51,143)	RS1/16S101J
R 439	(A,151,95)	RS1/16S560J
R 440	(A,156,96)	RS1/16S102J
R 441	(B,159,85)	RS1/16S103J
R 442	(A,158,85)	RS1/16S104J
R 443	(A,64,139)	RS1/16S101J
R 444	(A,59,74)	RS1/16S220J
R 445	(A,45,68)	RS1/16S101J
R 446	(A,173,48)	RS1/16S223J
R 447	(A,175,48)	RS1/16S223J
R 449	(A,98,93)	RS1/16S220J
R 450	(A,104,70)	RS1/16S103J
R 451	(B,153,207)	RS1/16S103J
R 452	(B,164,201)	RS1/16S103J
R 453	(A,36,54)	RS1/16S103J
R 455	(A,41,52)	RS1/16S103J
R 456	(A,134,120)	RS1/16S221J
R 459	(B,33,52)	RS1/16S103J
R 461	(B,33,62)	RS1/16S0R0J
R 462	(A,47,40)	RS1/16S0R0J
R 463	(A,53,51)	RS1/16S103J

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	R 464	(A,56,55)	RS1/16S104J		R 548	(A,70,134)	RS1/16S220J
	R 465	(A,54,139)	RS1/16S471J		R 549	(A,70,136)	RS1/16S220J
	R 468	(A,93,103)	RS1/16S102J		R 550	(A,67,138)	RAB4C220J
	R 469	(B,65,50)	RS1/16S101J		R 551	(A,57,137)	RAB4C101J
	R 470	(A,100,106)	RS1/16S220J		R 552	(A,48,138)	RS1/16S0R0J
	R 471	(A,92,101)	RS1/16S220J		R 556	(A,80,105)	RAB4C220J
	R 473	(A,98,106)	RS1/16S104J		R 557	(A,80,110)	RAB4C220J
	R 474	(A,79,85)	RS1/16S101J		R 558	(A,82,117)	RAB4C220J
	R 475	(A,94,93)	RS1/16S220J		R 559	(A,87,102)	RS1/16S103J
	R 477	(A,63,43)	RS1/16S220J		R 560	(A,87,101)	RS1/16S103J
	R 478	(A,56,53)	RS1/16S220J		R 561	(A,87,97)	RS1/16S103J
	R 480	(B,140,112)	RS1/16S221J		R 562	(A,85,97)	RS1/16S103J
	R 481	(A,126,57)	RS1/16S103J		R 563	(A,85,93)	RS1/16S103J
	R 482	(A,85,78)	RS1/16S0R0J		R 564	(B,87,99)	RS1/16S103J
	R 484	(B,173,58)	RS1/16S333J		R 565	(A,81,123)	RAB4C220J
	R 485	(B,68,65)	RS1/16S221J		R 577	(A,77,89)	RS1/16S103J
	R 486	(A,94,84)	RS1/16S0R0J		R 579	(A,75,89)	RS1/16S332J
	R 487	(A,58,55)	RS1/16S0R0J		R 587	(B,81,121)	RS1/16S101J
	R 488	(A,61,62)	RS1/16S104J		R 591	(A,51,37)	RS1/16S103J
	R 489	(A,76,79)	RS1/16S102J		R 594	(A,149,65)	RS1/16S220J
	R 490	(A,55,66)	RS1/16S220J		R 599	(A,50,138)	RS1/16S103J
	R 491	(A,63,62)	RS1/16S0R0J		R 1055	(A,146,128)	RS1/16S223J
	R 492	(B,58,73)	RS1/16S220J		R 1056	(B,152,127)	RS1/16S102J
	R 493	(A,167,138)	RS1/16S104J		R 1101	(A,183,210)	RS1/16S0R0J
	R 494	(A,162,138)	RS1/16S103J		R 1102	(A,183,209)	RS1/16S0R0J
	R 495	(A,138,119)	RS1/16S221J		R 1201	(B,51,180)	RS1/16S0R0J
	R 496	(B,159,130)	RS1/16S104J		R 1202	(A,23,147)	RS1/16S0R0J
	R 497	(A,60,43)	RS1/16S104J		R 1203	(A,23,146)	RS1/16S0R0J
	R 498	(A,64,55)	RS1/16S101J		R 1401	(A,59,55)	RS1/16S105J
	R 499	(B,154,127)	RS1/16S473J		R 1402	(B,67,60)	RS1/16S0R0J
	R 500	(A,101,118)	RS1/16S105J		R 1404	(A,53,53)	RS1/16S472J
	R 501	(A,92,136)	RS1/16S101J		R 1405	(B,117,79)	RS1/16S101J
	R 502	(A,92,132)	RS1/16S101J		R 1406	(A,92,79)	RS1/16S101J
	R 503	(A,76,127)	RS1/16S103J		R 1407	(A,87,78)	RS1/16S103J
	R 505	(A,39,124)	RAB4C101J		R 1408	(B,112,62)	RS1/16S101J
	R 506	(A,39,119)	RAB4C101J		R 1409	(B,113,58)	RS1/16S101J
	R 507	(A,39,116) RESISTOR ARRAY	RAB4CQ101J		R 1410	(A,97,74)	RS1/16S101J
	R 508	(A,38,109) RESISTOR ARRAY	RAB4CQ101J		R 1411	(A,99,83)	RS1/16S101J
	R 509	(A,39,105)	RAB4C101J		R 1412	(A,104,77)	RS1/16S101J
	R 510	(A,47,92)	RAB4C470J		R 1413	(A,81,77)	RS1/16S101J
	R 511	(A,51,95)	RAB4C470J		R 1414	(A,70,76)	RAB4C220J
	R 512	(A,55,95)	RAB4C470J		R 1415	(A,74,75)	RAB4C220J
	R 513	(A,59,95)	RAB4C470J		R 1416	(A,97,71)	RS1/16S101J
	R 514	(A,178,54)	RAB4C0R0J		R 1417	(A,97,65)	RS1/16S101J
	R 523	(A,39,102)	RS1/16S101J		R 1418	(A,173,62)	RS1/16S101J
	R 524	(B,31,71)	RS1/16S103J		R 1419	(A,98,54)	RAB4C220J
	R 525	(A,44,94)	RS1/16S101J		R 1420	(B,175,54)	RS1/16S333J
	R 526	(A,40,95)	RS1/16S101J		R 1421	(A,76,39)	RS1/16S101J
	R 529	(A,63,143)	RS1/16S471J		R 1422	(A,159,63)	RS1/16S220J
	R 532	(A,96,122)	RS1/16S472J		R 1423	(A,131,57)	RS1/16S220J
	R 533	(A,94,122)	RS1/16S472J		R 1424	(B,74,45)	RS1/16S101J
	R 538	(B,130,112)	RS1/16S101J		R 1425	(A,145,55)	RAB4C103J
	R 539	(A,67,95)	RAB4C220J		R 1426	(A,60,58)	RS1/16S0R0J
	R 540	(A,71,95)	RAB4C220J		R 1427	(A,139,55)	RAB4C103J
	R 541	(A,76,93)	RAB4C220J		R 1428	(A,139,144)	RS1/16S0R0J
	R 542	(A,80,101)	RAB4C220J		R 1429	(A,129,65)	RS1/16S102J
	R 543	(A,62,95)	RS1/16S220J		R 1430	(A,132,65)	RS1/16S105J
	R 544	(A,64,95)	RS1/16S220J		R 1431	(B,108,60)	RS1/16S101J
	R 545	(B,77,102)	RS1/16S103J		R 1432	(A,163,66)	RS1/16S102J
	R 547	(A,85,109)	RS1/16S0R0J		R 1433	(A,158,88)	RS1/16S220J

Mark No.	Description	Part No.
R 1434	(B,159,118)	RS1/16S0R0J
R 1435	(B,165,112)	RS1/16S331J
R 1436	(A,151,65)	RS1/16S220J
R 1437	(A,158,132)	RS1/16S104J
R 1438	(B,160,134)	RS1/16S104J
R 1439	(A,162,141)	RS1/16S104J
R 1440	(A,62,76)	RAB4C220J
R 1441	(A,66,76)	RAB4C220J
R 1442	(A,139,148)	RS1/16S0R0J
R 1443	(A,178,48)	RS1/16S0R0J
R 1444	(A,100,58)	RS1/16S220J
R 1445	(B,55,44)	RS1/16S101J
R 1446	(A,76,36)	RS1/16S101J
R 1447	(A,164,58)	RS1/16S101J
R 1448	(A,20,75)	RAB4C0R0J
R 1450	(A,176,48)	RS1/16S0R0J
R 1451	(A,85,41)	RS1/16S101J
R 1452	(B,84,112)	RS1/16S103J
R 1453	(B,68,97)	RS1/16S102J
R 1454	(B,36,133)	RS1/16S102J
R 1455	(A,132,143)	RS1/16S0R0J
R 1456	(A,27,137)	RAB4C0R0J
R 1457	(A,170,125)	RAB4C0R0J
R 1458	(A,43,33)	RAB4C0R0J
R 1459	(A,150,216)	RAB4C0R0J
R 1460	(A,88,35)	RAB4C0R0J
R 1461	(A,18,90)	RS1/16S0R0J
R 1462	(A,131,143)	RS1/16S0R0J
R 1463	(A,134,143)	RS1/16S0R0J
R 1464	(A,38,139)	RS1/16S0R0J
R 1465	(A,35,133)	RS1/16S0R0J
R 1466	(B,35,91)	RS1/16S470J
R 1467	(B,38,89)	RS1/16S470J
R 1468	(B,40,94)	RS1/16S470J
R 1469	(A,36,92)	RS1/16S470J
R 1470	(A,40,94)	RS1/16S470J
R 1471	(A,40,92)	RS1/16S470J
R 1472	(B,40,89)	RS1/16S470J
R 1473	(B,43,89)	RS1/16S470J
R 1474	(B,39,74)	RS1/16S470J
R 1475	(A,43,76)	RS1/16S470J
R 1476	(B,44,76)	RS1/16S470J
R 1477	(A,40,73)	RS1/16S470J
R 1478	(A,40,75)	RS1/16S470J
R 1479	(A,39,72)	RS1/16S470J
R 1480	(B,37,74)	RS1/16S470J
R 1481	(A,34,74)	RS1/16S470J
R 1482	(B,176,225)	RS1/16S0R0J
R 1483	(A,128,35)	RS1/16S0R0J
R 1484	(B,164,156)	RS1/16S0R0J
R 1485	(B,149,121)	RS1/16S0R0J
R 1486	(A,173,155)	RAB4C0R0J
R 1487	(B,140,118)	RS1/16S0R0J
R 1488	(A,42,45)	RS1/16S103J
R 1489	(B,35,51)	RS1/16S0R0J
R 1492	(A,151,90)	RS1/16S0R0J
R 1493	(A,151,88)	RS1/16S0R0J
R 1494	(A,148,160)	RS1/10S0R0J
R 1495	(A,103,61)	RS1/16S103J
R 1496	(B,155,116)	RS1/16S0R0J
R 1497	(A,163,106)	RS1/16S0R0J
R 1498	(A,28,221)	RS1/16S0R0J
R 1499	(A,29,221)	RS1/16S0R0J
R 1500	(B,46,134)	RS1/16S103J
R 1501	(A,75,136)	RS1/16S103J
R 1503	(A,126,98)	RS1/16S222J
R 1504	(B,102,136)	RS1/16S222J
R 1505	(A,125,98)	RS1/16S332J
R 1506	(B,100,136)	RS1/16S332J
R 1507	(A,76,143)	RS1/16S0R0J
R 1509	(A,167,48)	RS1/16S102J
R 1510	(A,169,48)	RS1/16S102J
R 1511	(A,170,48)	RS1/16S102J
R 1512	(A,172,48)	RS1/16S102J
R 1515	(A,103,119)	RS1/16S0R0J
R 1516	(A,68,144)	RS1/16S0R0J
R 1517	(A,138,116)	RS1/16S0R0J
R 1518	(A,100,132)	RS1/16S101J
R 1519	(B,99,125)	RS1/16S101J
R 1520	(B,113,118)	RS1/16S101J
R 1521	(A,61,54)	RS1/16S0R0J
R 1522	(B,136,133)	RS1/16S471J
R 1524	(A,162,112)	RS1/16S471J
R 1525	(A,168,92)	RS1/16S0R0J
R 1526	(A,100,120)	RS1/16S0R0J
R 1527	(A,38,113)	RS1/16S101J
R 1528	(A,57,134)	RS1/16S0R0J
R 1529	(A,60,137)	RS1/16S0R0J
R 1530	(A,53,134)	RS1/16S0R0J
R 1531	(B,143,105)	RS1/16S221J
R 1532	(B,56,100)	RS1/10S0R0J
R 1534	(A,120,48)	RS1/16S0R0J
R 1537	(A,121,60)	RS1/16S0R0J
R 1545	(A,28,73)	RS1/16S0R0J
R 1549	(A,21,124)	RS1/16S0R0J
R 1550	(A,177,66)	RS1/16S0R0J
R 1551	(A,141,115)	RS1/16S0R0J
R 1552	(B,132,158)	RS1/16S0R0J
R 1553	(B,130,154)	RS1/16S0R0J
R 1554	(B,132,154)	RS1/16S0R0J
R 1555	(B,130,158)	RS1/16S0R0J
R 1558	(B,18,177)	RS1/16S0R0J
R 1559	(B,20,177)	RS1/16S0R0J
R 1560	(B,62,86)	RS1/16S0R0J
R 1563	(A,72,151)	RS1/16S0R0J
R 1564	(A,77,148)	RS1/16S0R0J
R 1566	(A,120,57)	RS1/16S0R0J

CAPACITORS

C 100	(A,137,168)	CEAT222M25
C 101	(A,149,180)	CEAT471M25
C 102	(A,136,182)	CEAT471M25
C 103	(A,145,211)	CQMA182J50
C 104	(A,125,186)	CEAT101M25
C 105	(A,119,128)	CEAT101M25
C 106	(A,112,128)	CEAT101M25
C 107	(A,115,117)	CKSRYB103K50
C 108	(A,129,186)	CKSRYB103K50
C 109	(A,110,91)	CKSRYB103K50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
C	110	(B,144,175)	CKSRYB103K50	C	326	(A,61,171)	CQMA392J50
C	111	(B,128,176)	CKSRYB103K50	C	327	(A,67,176)	CQMA272J50
C	201	(A,57,210)	CQMA152J50	C	328	(A,55,177)	CQMA272J50
C	202	(A,99,210)	CQMA152J50	C	329	(A,77,143)	CKSRYB102K50
C	203	(A,32,206)	CQMA152J50	C	331	(A,80,169)	CEANP100M25
C	204	(A,38,201)	CQMA152J50	C	332	(A,54,167)	CEANP100M25
C	205	(A,74,188)	CEANP100M25	C	333	(B,93,183)	CKSRYB103K50
C	206	(A,67,202)	CEANP100M25	C	334	(B,89,183)	CKSRYB103K50
C	207	(A,119,176)	CEAT101M25	C	338	(B,94,219)	CKSRYB102K50
C	208	(A,22,167)	CEAT101M25	C	339	(B,112,215)	CKSRYB102K50
C	209	(B,63,192)	CKSRYB103K50	C	341	(B,100,212)	CKSRYB102K50
C	210	(B,65,196)	CKSRYB103K50	C	342	(B,36,216)	CKSRYB102K50
C	211	(A,59,192)	CEANP100M25	C	343	(B,39,215)	CKSRYB102K50
C	212	(A,57,204)	CEANP100M25	C	344	(B,74,216)	CKSRYB102K50
C	213	(B,39,189)	CKSRYB103K50	C	392	(A,74,141)	CKSRYB103K50
C	214	(B,32,189)	CKSRYB103K50	C	393	(A,77,157)	CEAT470M10
C	215	(A,39,191)	CEAT101M25	C	394	(B,64,167)	CKSRYB103K50
C	216	(A,32,191)	CEAT101M25	C	395	(B,66,164)	CKSRYB103K50
C	217	(B,37,170)	CKSRYB103K50	C	396	(A,61,157)	CEAT470M10
C	218	(B,32,170)	CKSRYB103K50	C	397	(A,164,192)	CEANP3R3M50
C	219	(A,85,162)	CKSRYB223K50	C	398	(B,60,164)	CKSRYB103K50
C	220	(A,100,160)	CKSRYB223K50	C	399	(A,53,157)	CEAT471M10
C	222	(A,31,176)	CQMA471J50	C	400	(B,66,65)	CKSRYB104K25
C	223	(A,47,171)	CQMA471J50	C	401	(A,124,84)	CEAT101M10
C	236	(B,37,176)	CKSRYB103K50	C	402	(A,148,138)	CEAT470M10
C	237	(B,34,170)	CKSRYB103K50	C	403	(A,158,140)	CKSRYB104K25
C	243	(A,47,166)	CEANP100M25	C	404	(B,150,135)	CKSRYB103K50
C	244	(A,28,167)	CEANP100M25	C	405	(A,154,80)	CEAT101M10
C	292	(A,44,157)	CEAT471M10	C	406	(A,99,50)	CEAT101M10
C	293	(B,48,153)	CKSRYB103K50	C	407	(A,145,115)	CEAT470M10
C	294	(A,29,155)	CEAT101M25	C	408	(A,153,128)	CKSRYB103K50
C	295	(B,33,156)	CKSRYB103K50	C	409	(A,177,80)	CEAT101M10
C	296	(A,22,156)	CEAT470M10	C	410	(B,175,78)	CKSRYB103K50
C	297	(A,27,159)	CKSRYB103K50	C	411	(A,147,80)	CEAT101M10
C	298	(A,39,144)	CKSRYB103K50	C	412	(B,145,78)	CKSRYB103K50
C	301	(A,51,215)	CQMA152J50	C	413	(B,157,78)	CKSRYB103K50
C	302	(A,46,201)	CQMA152J50	C	414	(B,168,76)	CKSRYB224K16
C	303	(A,118,211)	CQMA152J50	C	415	(B,163,76)	CKSRYB223K50
C	304	(A,136,208)	CQMA152J50	C	416	(B,135,84)	CKSRYB154K10
C	305	(B,133,193)	CKSRYB223K50	C	417	(B,133,76)	CKSRYB472K50
C	306	(A,133,197)	CKSRYB223K50	C	418	(B,124,72)	CKSRYB334K10
C	307	(B,125,200)	CKSRYB223K50	C	419	(B,127,78)	CKSRYB103K50
C	308	(A,130,197)	CKSRYB223K50	C	420	(B,168,116)	CCSRCH180J50
C	309	(A,104,183)	CEANP100M25	C	421	(B,168,112)	CCSRCH150J50
C	310	(A,109,189)	CEANP100M25	C	422	(A,171,59)	CKSRYB103K50
C	311	(A,87,177)	CEAT101M25	C	423	(A,177,63)	CEAT470M10
C	312	(A,80,179)	CEAT101M25	C	424	(B,116,53)	CKSRYB103K50
C	313	(B,64,181)	CKSRYB103K50	C	425	(A,142,102)	CEAT470M10
C	314	(B,70,181)	CKSRYB103K50	C	426	(B,90,50)	CKSRYB104K25
C	315	(B,99,175)	CCSRCH220J50	C	427	(B,89,68)	CKSRYB104K25
C	316	(B,97,189)	CCSRCH220J50	C	428	(B,80,69)	CKSRYB104K25
C	317	(A,108,174)	CEAT101M25	C	429	(B,80,56)	CKSRYB104K25
C	318	(A,87,171)	CEAT101M25	C	430	(A,44,46)	CEAT470M10
C	319	(B,99,182)	CKSRYB103K50	C	431	(B,74,56)	CKSRYB104K25
C	320	(B,97,182)	CKSRYB103K50	C	432	(B,89,57)	CKSRYB104K25
C	321	(A,85,184)	CEANP100M25	C	433	(A,151,55)	CKSRYB103K50
C	322	(A,88,190)	CEANP100M25	C	434	(A,152,55)	CKSRYB103K50
C	323	(A,94,171)	CEANP100M25	C	435	(A,154,55)	CKSRYB103K50
C	324	(A,100,171)	CEANP100M25	C	436	(A,155,55)	CKSRYB103K50
C	325	(A,73,171)	CQMA392J50	C	437	(A,157,55)	CKSRYB103K50

Mark No.	Description	Part No.
C 438	(A,158,55)	CKSRYB103K50
C 439	(A,160,55)	CKSRYB103K50
C 440	(A,49,72)	CEAT470M10
C 441	(A,51,53)	CKSRYB105K10
C 442	(B,126,52)	CKSRYB103K50
C 443	(B,132,97)	CKSRYB103K50
C 444	(B,102,73)	CKSRYB103K50
C 445	(B,46,60)	CKSRYB104K25
C 446	(A,158,129)	CKSRYB103K50
C 447	(B,47,45)	CKSRYB103K50
C 448	(B,160,114)	CKSRYB103K50
C 449	(B,64,63)	CKSRYB104K25
C 450	(B,38,43)	CKSRYB103K50
C 451	(B,151,104)	CKSRYB103K50
C 452	(A,58,59)	CKSRYB105K10
C 453	(B,158,104)	CKSRYB103K50
C 454	(A,67,46)	CEAT100M50
C 455	(B,61,45)	CKSRYB103K50
C 456	(B,63,45)	CKSRYB104K25
C 457	(B,167,100)	CKSRYB103K50
C 458	(B,136,110)	CKSRYB103K50
C 459	(B,127,108)	CCSRCH150J50
C 460	(B,127,112)	CCSRCH120J50
C 462	(B,158,201)	CKSRYB103K50
C 463	(A,164,141)	CKSRYB103K50
C 464	(B,157,134)	CKSRYB103K50
C 465	(B,167,134)	CKSRYB103K50
C 466	(B,97,99)	CKSRYB103K50
C 467	(A,45,71)	CKSRYB103K50
C 468	(B,50,60)	CKSRYB104K25
C 469	(B,52,60)	CKSRYB104K25
C 470	(B,44,60)	CKSRYB104K25
C 471	(A,62,43)	CKSRYB103K50
C 472	(A,152,115)	CEAT470M10
C 473	(A,85,111)	CKSRYB105K10
C 474	(A,43,66)	CKSRYB103K50
C 475	(A,131,120)	CKSRYB103K50
C 476	(B,55,64)	CKSRYB102K50
C 477	(B,59,57)	CKSRYB104K25
C 478	(A,132,66)	CKSRYB105K10
C 479	(A,163,63)	CKSRYB105K10
C 481	(A,159,119)	CKSRYB104K25
C 482	(A,175,67)	CKSRYB104K25
C 483	(A,126,66)	CKSRYB104K25
C 484	(A,148,71)	CKSRYB104K25
C 485	(A,156,66)	CKSRYB104K25
C 487	(A,110,60)	CKSRYB103K50
C 488	(A,145,119)	CKSRYB103K50
C 490	(A,64,56)	CKSRYB103K50
C 500	(A,90,136)	CKSRYB103K50
C 501	(B,108,115)	CKSRYB103K50
C 502	(B,101,115)	CKSRYB103K50
C 503	(A,79,129)	CKSRYB334K10
C 504	(A,81,98)	CEAT101M10
C 505	(A,98,117)	CEAT101M10
C 506	(B,49,112)	CKSRYB104K25
C 507	(A,44,132)	CKSRYB104K25
C 508	(B,70,130)	CKSRYB104K25
C 509	(B,49,116)	CKSRYB104K25
C 510	(B,49,120)	CKSRYB104K25
C 511	(B,66,130)	CKSRYB104K25
C 512	(B,54,107)	CKSRYB104K25
C 513	(B,63,130)	CKSRYB104K25
C 514	(B,49,124)	CKSRYB104K25
C 515	(B,71,102)	CKSRYB104K25
C 516	(B,52,124)	CKSRYB104K25
C 517	(B,59,130)	CKSRYB104K25
C 518	(B,69,112)	CKSRYB104K25
C 519	(B,57,130)	CKSRYB104K25
C 520	(B,67,124)	CKSRYB104K25
C 521	(B,52,130)	CKSRYB104K25
C 522	(B,26,82)	CKSRYB104K25
C 523	(B,22,82)	CKSRYB104K25
C 524	(B,29,82)	CKSRYB104K25
C 525	(B,33,81)	CKSRYB104K25
C 526	(B,39,80)	CKSRYB104K25
C 527	(A,36,97)	CKSRYB104K25
C 528	(B,44,130)	CKSRYB104K25
C 529	(B,79,130)	CKSRYB104K25
C 530	(A,89,133)	CEAT101M10
C 532	(A,83,133)	CEAT101M10
C 533	(A,34,97)	CKSRYB102K50
C 534	(A,81,137)	CCSRCH150J50
C 535	(A,39,134)	CEAT101M10
C 536	(B,44,125)	CKSRYB104K25
C 537	(B,69,124)	CKSRYB104K25
C 538	(B,49,107)	CKSRYB104K25
C 539	(B,44,121)	CKSRYB104K25
C 540	(B,52,107)	CKSRYB104K25
C 541	(B,44,116)	CKSRYB104K25
C 542	(B,57,107)	CKSRYB104K25
C 543	(B,41,98)	CKSRYB104K25
C 544	(B,61,107)	CKSRYB104K25
C 545	(B,44,112)	CKSRYB104K25
C 546	(B,44,107)	CKSRYB104K25
C 547	(B,64,107)	CKSRYB104K25
C 548	(B,49,102)	CKSRYB104K25
C 549	(B,69,107)	CKSRYB104K25
C 550	(B,44,103)	CKSRYB104K25
C 551	(B,54,102)	CKSRYB104K25
C 552	(B,58,102)	CKSRYB104K25
C 553	(B,69,116)	CKSRYB104K25
C 554	(B,63,102)	CKSRYB104K25
C 555	(A,85,115)	CKSRYB104K25
C 556	(B,66,102)	CKSRYB104K25
C 557	(B,74,105)	CKSRYB104K25
C 558	(B,74,109)	CKSRYB104K25
C 559	(B,74,114)	CKSRYB104K25
C 560	(B,69,120)	CKSRYB104K25
C 561	(B,74,119)	CKSRYB104K25
C 562	(B,74,123)	CKSRYB104K25
C 563	(A,101,122)	CKSRYB102K50
C 566	(A,149,54)	CKSRYB103K50
C 1401	(B,51,175)	CKSRYB104K25
C 1402	(A,138,146)	CCSRCH221J50
C 1424	(B,138,133)	CKSRYB104K25
C 1425	(B,138,137)	CKSRYB224K16
C 1475	(A,135,124)	CCSRCH121J50
C 1503	(A,127,98)	CCSRCH470J50
C 1504	(B,104,136)	CCSRCH470J50

Mark No.	Description	Part No.
C 1508(A,163,128)		CCSRCH820J50
C 1510(B,70,91)		CCSRCH101J50
C 1511(B,68,91)		CCSRCH101J50
C 1512(B,62,73)		CKSRYB103K50
C 1515(B,27,55)		CKSRYB103K50
C 1516(A,62,89)		CCSRCH101J50
C 1517(A,89,78)		CKSRYB103K50

B CTRL ASSY

MISCELLANEOUS

IC 701 (A,109,24)	PROTECTOR(500MA)	AEK7005
IC 703 (B,86,65)	IC	TC74VHC04FS1
IC 705 (B,162,74)	FDRIVER IC	UPD16306B
Q 702 (B,57,174)	TRANSISTOR	2SD2114K
Q 704 (B,70,174)	TRANSISTOR	2SD2114K
Q 706 (B,44,174)	TRANSISTOR	2SD2114K
Q 708 (B,32,174)	TRANSISTOR	2SD2114K
Q 710 (B,70,192)	TRANSISTOR	2SD2114K
Q 712 (B,56,192)	TRANSISTOR	2SD2114K
Q 714 (B,42,115)	TRANSISTOR	2SD2114K
Q 716 (B,35,192)	TRANSISTOR	2SD2114K
Q 717 (B,133,30)	DIGITATRANSISTOR	DTA143EUA
Q 718 (B,136,35)	CHIP TRANSISTOR	DTC114EUA
Q 719 (A,130,39)	TRANSISTOR	2SB1243
Q 720 (A,120,39)	TRANSISTOR	2SB1243
Q 721 (B,100,52)	TRANSISTOR	2SA1037K
Q 722 (B,105,87)	TRANSISTOR	2SA1037K
Q 723 (B,52,50)	TRANSISTOR	2SA1037K
Q 724 (B,31,34)	TRANSISTOR	2SA1037K
Q 725 (B,77,102)	TRANSISTOR	2SA1037K
Q 726 (B,190,193)	TRANSISTOR	2SA1037K
Q 727 (B,245,193)	TRANSISTOR	2SA1037K
Q 728 (B,233,193)	TRANSISTOR	2SA1037K
Q 729 (B,226,193)	TRANSISTOR	2SA1037K
Q 730 (B,220,193)	TRANSISTOR	2SA1037K
Q 731 (B,210,193)	TRANSISTOR	2SA1037K
Q 732 (B,204,193)	TRANSISTOR	2SA1037K
Q 733 (B,133,198)	TRANSISTOR	2SA1037K
Q 734 (B,133,189)	TRANSISTOR	2SA1037K
Q 735 (B,118,198)	TRANSISTOR	2SA1037K
Q 736 (B,118,189)	TRANSISTOR	2SA1037K
Q 737 (B,108,198)	TRANSISTOR	2SA1037K
Q 738 (B,108,189)	TRANSISTOR	2SA1037K
Q 739 (B,96,195)	TRANSISTOR	2SA1037K
Q 740 (B,96,186)	TRANSISTOR	2SA1037K
Q 741 (B,202,174)	DIGITATRANSISTOR	DTA143EUA
Q 742 (B,196,174)	DIGITATRANSISTOR	DTA143EUA
Q 743 (B,190,174)	DIGITATRANSISTOR	DTA143EUA
Q 744 (B,222,174)	DIGITATRANSISTOR	DTA143EUA
Q 745 (B,215,174)	DIGITATRANSISTOR	DTA143EUA
Q 746 (B,209,174)	DIGITATRANSISTOR	DTA143EUA
Q 747 (B,242,174)	DIGITATRANSISTOR	DTA143EUA
Q 748 (B,235,174)	DIGITATRANSISTOR	DTA143EUA
Q 749 (B,228,174)	DIGITATRANSISTOR	DTA143EUA
Q 750 (B,262,174)	DIGITATRANSISTOR	DTA143EUA
Q 751 (B,255,174)	DIGITATRANSISTOR	DTA143EUA
Q 752 (B,249,174)	DIGITATRANSISTOR	DTA143EUA
Q 753 (B,281,174)	DIGITATRANSISTOR	DTA143EUA
Q 754 (B,275,174)	DIGITATRANSISTOR	DTA143EUA
Q 755 (B,268,174)	DIGITATRANSISTOR	DTA143EUA
Q 757 (B,294,174)	DIGITATRANSISTOR	DTA143EUA
Q 758 (B,288,174)	DIGITATRANSISTOR	DTA143EUA
Q 762 (B,58,166)	DIGITATRANSISTOR	DTC124EUA
Q 763 (B,71,166)	DIGITATRANSISTOR	DTC124EUA
Q 764 (B,44,166)	DIGITATRANSISTOR	DTC124EUA
Q 765 (B,32,166)	DIGITATRANSISTOR	DTC124EUA
Q 766 (B,70,185)	DIGITATRANSISTOR	DTC124EUA
Q 767 (B,56,185)	DIGITATRANSISTOR	DTC124EUA
Q 768 (B,39,97)	DIGITATRANSISTOR	DTC124EUA
Q 769 (B,35,186)	DIGITATRANSISTOR	DTC124EUA
D 701 (B,192,174)	DIODE	1SS355
D 702 (B,199,174)	DIODE	1SS355
D 703 (B,205,174)	DIODE	1SS355
D 704 (B,212,174)	DIODE	1SS355
D 705 (B,218,174)	DIODE	1SS355
D 706 (B,225,174)	DIODE	1SS355
D 707 (B,231,174)	DIODE	1SS355
D 708 (B,238,174)	DIODE	1SS355
D 709 (B,245,174)	DIODE	1SS355
D 710 (B,252,174)	DIODE	1SS355
D 711 (B,258,174)	DIODE	1SS355
D 712 (B,265,174)	DIODE	1SS355
D 713 (B,271,174)	DIODE	1SS355
D 714 (B,278,174)	DIODE	1SS355
D 715 (B,284,174)	DIODE	1SS355
D 716 (B,291,174)	DIODE	1SS355
D 717 (B,297,174)	DIODE	1SS355
D 718 (B,100,26)	DIODE	UDZS5R1(B)
D 722 (B,125,31)	DIODE	DAN202K
D 723 (B,98,31)	CHIP DIODE	RB501V-40
D 726 (B,83,100)	DIODE	1SS355
D 727 (B,182,190)	DIODE	1SS355
D 728 (B,248,188)	DIODE	1SS355
D 729 (B,236,188)	DIODE	1SS355
D 736 (B,50,192)	DIODE	RB160L-40
D 737 (B,120,206)	DIODE	RB160L-40
D 738 (B,179,186)	DIODE	RB160L-40
D 739 (B,81,188)	DIODE	RB160L-40
D 740 (B,39,174)	DIODE	RB160L-40
D 741 (B,101,91)	DIODE	RB160L-40
D 742 (B,71,158)	DIODE	RB160L-40
D 743 (B,113,139)	DIODE	RB160L-40
D 744 (B,229,186)	DIODE	1SS355
D 745 (B,223,186)	DIODE	1SS355
D 746 (B,213,185)	DIODE	1SS355
D 747 (B,207,186)	DIODE	1SS355
D 748 (B,140,198)	DIODE	1SS355
D 749 (B,138,185)	DIODE	1SS355
D 750 (B,125,198)	DIODE	1SS355
D 751 (B,125,186)	DIODE	1SS355
D 752 (B,113,193)	DIODE	1SS355
D 753 (B,113,184)	DIODE	1SS355
D 754 (B,101,190)	DIODE	1SS355
D 755 (B,101,181)	DIODE	1SS355
D 756 (B,73,67)	DIODE	1SS355
D 801 (A,64,40)	LED(BLUE)	SLR-343BBT(HJKL)

Mark No.	Description	Part No.
D 802	(A,74,30) LED(BLUE)	SLR-343BBT(HJKL)
D 803	(B,105,202) DIODE	1SS355
D 804	(A,129,213) LED(RED)	SLI-343URCW(RST)
D 805	(A,137,213) LED(RED)	SLI-343URCW(RST)
D 806	(A,129,206) LED(RED)	SLI-343URCW(RST)
D 807	(A,137,206) LED(RED)	SLI-343URCW(RST)
D 808	(A,145,213) LED(RED)	SLI-343URCW(RST)
D 809	(A,145,206) LED(RED)	SLI-343URCW(RST)
D 810	(A,152,213) LED(GREEN)	TLGE68TG(NP)
D 811	(A,152,206) LED(GREEN)	TLGE68TG(NP)
D 812	(A,159,213) LED(GREEN)	TLGE68TG(NP)
D 813	(A,159,206) LED(GREEN)	TLGE68TG(NP)
D 814	(A,165,213) LED(GREEN)	TLGE68TG(NP)
D 815	(A,165,206) LED(GREEN)	TLGE68TG(NP)
D 816	(A,172,213) LED(GREEN)	TLGE68TG(NP)
D 817	(A,172,206) LED(GREEN)	TLGE68TG(NP)
D 818	(A,178,213) LED(GREEN)	TLGE68TG(NP)
D 819	(A,178,206) LED(GREEN)	TLGE68TG(NP)
D 820	(A,185,213) LED(GREEN)	TLGE68TG(NP)
D 821	(A,185,206) LED(GREEN)	TLGE68TG(NP)
D 822	(A,191,213) LED(GREEN)	TLGE68TG(NP)
D 823	(A,191,206) LED(GREEN)	TLGE68TG(NP)
D 824	(A,198,213) LED(GREEN)	TLGE68TG(NP)
D 825	(A,198,206) LED(GREEN)	TLGE68TG(NP)
D 826	(A,204,213) LED(YELLOW)	SLI-343YCW(RST)
D 827	(A,204,206) LED (YELLOW)	SLI-343YCW(RST)
D 828	(A,211,213) LED (YELLOW)	SLI-343YCW(RST)
D 829	(A,211,206) LED (YELLOW)	SLI-343YCW(RST)
D 830	(A,217,213) LED (YELLOW)	SLI-343YCW(RST)
D 831	(A,217,206) LED (YELLOW)	SLI-343YCW(RST)
D 832	(A,224,213) LED (YELLOW)	SLI-343YCW(RST)
D 833	(A,224,206) LED (YELLOW)	SLI-343YCW(RST)
D 834	(A,230,213) LED (RED)	SLI-343URCW(RST)
D 835	(A,230,206) LED (RED)	SLI-343URCW(RST)
D 836	(A,237,213) LED (RED)	SLI-343URCW(RST)
D 837	(A,237,206) LED (RED)	SLI-343URCW(RST)
D 840	(A,258,208) LED (BLUE)	SLR-343BBT(HJKL)
D 841	(A,276,208) LED (RED)	SLI-343URCW(RST)
D 842	(A,190,181) LED	EBR5074X
D 843	(A,197,181) LED	EBR5074X
D 844	(A,203,181) LED	EBR5074X
D 845	(A,210,181) LED	EBR5074X
D 846	(A,217,181) LED	EBR5074X
D 847	(A,223,181) LED	EBR5074X
D 848	(A,230,181) LED	EBR5074X
D 849	(A,236,181) LED	EBR5074X
D 850	(A,243,181) LED	EBR5074X
D 851	(A,250,181) LED	EBR5074X
D 852	(A,256,181) LED	EBR5074X
D 853	(A,263,181) LED	EBR5074X
D 854	(A,269,181) LED	EBR5074X
D 855	(A,276,181) LED	EBR5074X
D 856	(A,283,181) LED	EBR5074X
D 857	(A,289,181) LED	EBR5074X
D 858	(A,296,181) LED	EBR5074X
D 863	(A,17,160) LED(YELLOW)	SLI-343YCW(RST)
D 864	(A,23,160) LED(YELLOW)	SLI-343YCW(RST)
D 865	(A,38,160) LED(YELLOW)	SLI-343YCW(RST)
D 866	(A,44,160) LED(YELLOW)	SLI-343YCW(RST)
D 867	(A,60,160) LED(YELLOW)	SLI-343YCW(RST)
D 868	(A,66,160) LED(YELLOW)	SLI-343YCW(RST)
D 869	(A,81,160) LED(YELLOW)	SLI-343YCW(RST)
D 870	(A,87,160) LED(YELLOW)	SLI-343YCW(RST)
D 871	(A,103,160) LED(YELLOW)	SLI-343YCW(RST)
D 872	(A,109,160) LED(YELLOW)	SLI-343YCW(RST)
D 873	(A,124,160) LED(YELLOW)	SLI-343YCW(RST)
D 874	(A,130,160) LED(YELLOW)	SLI-343YCW(RST)
D 875	(A,146,160) LED(YELLOW)	SLI-343YCW(RST)
D 876	(A,152,160) LED(YELLOW)	SLI-343YCW(RST)
D 877	(A,176,160) LED(YELLOW)	SLI-343YCW(RST)
D 878	(A,182,160) LED(YELLOW)	SLI-343YCW(RST)
D 879	(A,197,160) LED(YELLOW)	SLI-343YCW(RST)
D 880	(A,203,160) LED(YELLOW)	SLI-343YCW(RST)
D 881	(A,219,160) LED(YELLOW)	SLI-343YCW(RST)
D 882	(A,225,160) LED(YELLOW)	SLI-343YCW(RST)
D 883	(A,240,160) LED(YELLOW)	SLI-343YCW(RST)
D 884	(A,246,160) LED(YELLOW)	SLI-343YCW(RST)
D 885	(A,262,160) LED(YELLOW)	SLI-343YCW(RST)
D 886	(A,268,160) LED(YELLOW)	SLI-343YCW(RST)
D 887	(A,283,160) LED(YELLOW)	SLI-343YCW(RST)
D 888	(A,289,160) LED(YELLOW)	SLI-343YCW(RST)
D 889	(A,305,160) LED(YELLOW)	SLI-343YCW(RST)
D 890	(A,311,160) LED(YELLOW)	SLI-343YCW(RST)
D 891	(A,32,139) LED(RED)	SLR-343VC(NPQ)
D 892	(A,59,139) LED	EBR5074X
D 893	(A,83,139) LED	EBR5074X
D 894	(A,107,139) LED	EBR5074X
D 895	(A,63,111) LED	EBR5074X
D 896	(A,86,111) LED	EBR5074X
D 897	(A,52,107) LED (RED)	SLI-343URCW(RST)
D 898	(A,74,113) LED (RED)	SLI-343URCW(RST)
D 899	(A,97,107) LED (RED)	SLI-343URCW(RST)
D 900	(A,222,139) LED	EBR5074X
D 901	(A,246,139) LED	EBR5074X
D 902	(A,270,139) LED	EBR5074X
D 903	(A,292,139) LED (RED)	SLR-343VC(NPQ)
D 904	(A,42,100) LED	EBR5074X
D 905	(A,106,100) LED	EBR5074X
D 906	(A,35,91) LED (RED)	SLI-343URCW(RST)
D 907	(A,113,91) LED (RED)	SLI-343URCW(RST)
D 908	(A,31,80) LED	EBR5074X
D 909	(A,54,72) LED	EBR5074X
D 910	(A,119,81) LED	EBR5074X
D 911	(A,94,72) LED (BLUE)	SLR-343BBT(HJKL)
D 912	(A,29,68) LED (RED)	SLI-343URCW(RST)
D 913	(A,119,68) LED (RED)	SLI-343URCW(RST)
D 914	(A,31,56) LED	EBR5074X
D 915	(A,74,50) LED (BLUE)	SLR-343BBT(HJKL)
D 916	(A,84,40) LED (BLUE)	SLR-343BBT(HJKL)
D 917	(A,119,58) LED	EBR5074X
D 918	(A,113,46) LED (RED)	SLI-343URCW(RST)
D 919	(A,37,47) LED (RED)	SLI-343URCW(RST)
D 920	(B,254,200) DIODE	1SS355
D 921	(B,278,186) DIODE	1SS355
D 924	(B,30,158) DIODE	1SS355
D 925	(B,33,158) DIODE	1SS355
D 926	(B,57,154) DIODE	1SS355
D 927	(B,79,151) DIODE	1SS355
D 928	(B,112,154) DIODE	1SS355
D 929	(B,121,154) DIODE	1SS355

Mark	No.	Description	Part No.
	D	930 (B,155,154) DIODE	1SS355
	D	931 (B,185,152) DIODE	1SS355
	D	932 (B,206,153) DIODE	1SS355
A	D	933 (B,228,152) DIODE	1SS355
	D	934 (B,249,152) DIODE	1SS355
	D	935 (B,271,152) DIODE	1SS355
	D	936 (B,295,157) DIODE	1SS355
	D	937 (B,300,154) DIODE	1SS355
	D	938 (B,42,123) DIODE	1SS355
	D	939 (B,55,132) DIODE	1SS355
	D	940 (B,77,131) DIODE	1SS355
	D	941 (B,101,131) DIODE	1SS355
	D	942 (B,200,139) DIODE	1SS355
	D	943 (B,187,152) DIODE	1SS355
B	D	944 (B,208,156) DIODE	1SS355
	D	945 (B,230,152) DIODE	1SS355
	D	946 (B,282,133) DIODE	1SS355
	D	947 (B,35,102) DIODE	1SS355
	D	948 (B,59,126) DIODE	1SS355
	D	949 (B,86,128) DIODE	1SS355
	D	950 (B,112,112) DIODE	1SS355
	D	951 (B,27,78) DIODE	1SS355
	D	952 (B,126,89) DIODE	1SS355
	D	955 (B,48,73) DIODE	1SS355
C	D	957 (B,101,72) DIODE	1SS355
	D	958 (B,29,50) DIODE	1SS355
	D	961 (B,80,35) DIODE	1SS355
	D	962 (B,122,52) DIODE	1SS355
	D	963 (B,299,203) DIODE	DAN217U
	D	964 (B,149,125) DIODE	DAN217U
	D	965 (B,165,122) DIODE	DAN217U
	D	966 (B,145,115) DIODE	DAN217U
	D	967 (B,183,102) DIODE	DAN217U
	D	968 (B,144,40) DIODE	DAN217U
	D	969 (B,183,43) DIODE	DAN217U
D	D	975 (B,61,206) DIODE	1SS355
	D	976 (B,59,206) DIODE	1SS355
	D	977 (B,76,212) DIODE	1SS355
	D	978 (B,74,212) DIODE	1SS355
	D	979 (B,55,202) DIODE	1SS355
	D	980 (B,102,33) DIODE	1SS355
	VR701	(A,301,211) ROTARY VR	DCS1086
	VR702	(A,146,130) POTENTIONETER	DCS1065
	VR703	(A,182,130) POTENTIONETER	DCS1065
	VR704	(A,146,98) POTENTIONETER	DCS1065
	VR705	(A,182,98) POTENTIONETER	DCS1065
E	VR706	(A,146,26) POTENTIONETER	DCS1065
	VR707	(A,182,26) POTENTIONETER	DCS1065
	S 701	(A,69,215) SLIDE SWITCH	DSH1062
	S 702	(A,89,215) SLIDE SWITCH	DSH1062
	S 708	(A,34,26) 12MM GS ENCODER	DSX1064
	S 801	(A,109,203) TACT SWITCH	DSG1079
	S 802	(A,257,202) TACT SWITCH	DSG1079
	S 803	(A,275,202) TACT SWITCH	DSG1079
	S 804	(A,17,152) TACT SWITCH	DSG1079
	S 805	(A,39,152) TACT SWITCH	DSG1079
F	S 806	(A,60,152) TACT SWITCH	DSG1079
	S 807	(A,82,152) TACT SWITCH	DSG1079
	S 808	(A,103,152) TACT SWITCH	DSG1079
	S 809	(A,125,152) TACT SWITCH	DSG1079

Mark	No.	Description	Part No.
	S 810	(A,146,152) TACT SWITCH	DSG1079
	S 811	(A,176,152) TACT SWITCH	DSG1079
	S 812	(A,198,152) TACT SWITCH	DSG1079
	S 813	(A,219,152) TACT SWITCH	DSG1079
	S 814	(A,241,152) TACT SWITCH	DSG1079
	S 815	(A,262,152) TACT SWITCH	DSG1079
	S 816	(A,284,152) TACT SWITCH	DSG1079
	S 817	(A,305,152) TACT SWITCH	DSG1079
	S 819	(A,53,136) TACT SWITCH	DSG1079
	S 820	(A,77,136) TACT SWITCH	DSG1079
	S 821	(A,101,136) TACT SWITCH	DSG1079
	S 822	(A,203,139) TACT SWITCH	DSG1079
	S 823	(A,217,136) TACT SWITCH	DSG1079
	S 824	(A,241,136) TACT SWITCH	DSG1079
	S 825	(A,265,136) TACT SWITCH	DSG1079
	S 827	(A,35,106) TACT SWITCH	DSG1079
	S 828	(A,59,120) TACT SWITCH	DSG1079
	S 829	(A,87,120) TACT SWITCH	DSG1079
	S 830	(A,111,106) TACT SWITCH	DSG1079
	S 831	(A,24,79) TACT SWITCH	DSG1079
	S 832	(A,127,79) TACT SWITCH	DSG1079
	S 833	(A,24,52) TACT SWITCH	DSG1079
	S 834	(A,49,65) TACT SWITCH	DSG1079
	S 837	(A,73,40) TACT SWITCH	DSG1079
	S 838	(A,97,65) TACT SWITCH	DSG1079
	S 840	(A,127,52) TACT SWITCH	DSG1079
	S 842	(A,49,207) SWITCH	ASH1014
	S 843	(A,73,72) TACT SWITCH	DSG1089
	0	VOPLATE TIME	DNF1711
	0	FLANGE NUT M9	DBN1008
	0	VOPLATE LEVEL	DNF1721
	0	VOPLATE MAIN	DNF1709
	0	2P CABLE HOLDER	51048-0200
	CN701	(A,134,14) CONNECTOR 10P	52492-1020
	CN705	(A,180,14) CONNECTOR 28P	52492-2820
	CN713	(A,186,55) CONNECTOR	S4B-PH
	CN715	(A,166,177) 20P CONNECTOR	VKN1280

RESISTORS

R 700	(B,127,169)	RS1/16S152J
R 701	(B,125,169)	RS1/16S152J
R 702	(B,123,173)	RS1/16S152J
R 703	(B,57,179)	RS1/16S472J
R 705	(B,143,199)	RS1/16S221J
R 706	(B,144,218)	RS1/16S221J
R 707	(B,70,179)	RS1/16S472J
R 709	(B,153,218)	RS1/16S820J
R 710	(B,160,218)	RS1/16S820J
R 711	(B,44,179)	RS1/16S472J
R 713	(B,166,218)	RS1/16S820J
R 714	(B,173,218)	RS1/16S820J
R 715	(B,32,179)	RS1/16S472J
R 717	(B,179,218)	RS1/16S820J
R 718	(B,186,218)	RS1/16S820J
R 719	(B,70,197)	RS1/16S472J
R 721	(B,192,218)	RS1/16S820J
R 722	(B,199,218)	RS1/16S820J
R 723	(B,57,197)	RS1/16S472J
R 725	(B,205,218)	RS1/16S820J

Mark No.	Description	Part No.
R 726	(B,212,218)	RS1/16S820J
R 727	(B,43,110)	RS1/16S472J
R 729	(B,218,218)	RS1/16S820J
R 730	(B,223,218)	RS1/16S820J
R 731	(B,42,192)	RS1/16S472J
R 733	(B,245,210)	RS1/16S221J
R 734	(B,248,210)	RS1/16S221J
R 735	(B,150,199)	RS1/16S820J
R 736	(B,158,199)	RS1/16S820J
R 737	(B,163,199)	RS1/16S820J
R 738	(B,168,199)	RS1/16S820J
R 739	(B,181,199)	RS1/16S820J
R 740	(B,186,199)	RS1/16S820J
R 741	(B,105,51)	RS1/16S242J
R 742	(B,103,51)	RS1/16S103J
R 743	(B,107,81)	RS1/16S242J
R 744	(B,104,81)	RS1/16S103J
R 745	(B,58,50)	RS1/16S242J
R 746	(B,56,50)	RS1/16S103J
R 747	(B,37,33)	RS1/16S242J
R 748	(B,35,33)	RS1/16S103J
R 749	(B,81,100)	RS1/16S102J
R 750	(B,73,101)	RS1/16S103J
R 751	(B,191,188)	RS1/16S102J
R 752	(B,189,188)	RS1/16S103J
R 753	(B,246,188)	RS1/16S102J
R 754	(B,244,188)	RS1/16S103J
R 755	(B,234,188)	RS1/16S102J
R 756	(B,232,188)	RS1/16S103J
R 757	(B,227,188)	RS1/16S102J
R 758	(B,225,188)	RS1/16S103J
R 759	(B,221,188)	RS1/16S102J
R 760	(B,219,188)	RS1/16S103J
R 761	(B,211,188)	RS1/16S102J
R 762	(B,209,188)	RS1/16S103J
R 763	(B,204,188)	RS1/16S102J
R 764	(B,202,188)	RS1/16S103J
R 765	(B,138,198)	RS1/16S102J
R 766	(B,136,198)	RS1/16S103J
R 767	(B,138,189)	RS1/16S102J
R 768	(B,136,189)	RS1/16S103J
R 769	(B,123,198)	RS1/16S102J
R 770	(B,121,198)	RS1/16S103J
R 771	(B,123,189)	RS1/16S102J
R 772	(B,121,189)	RS1/16S103J
R 773	(B,113,198)	RS1/16S102J
R 774	(B,111,198)	RS1/16S103J
R 775	(B,113,189)	RS1/16S102J
R 776	(B,111,189)	RS1/16S103J
R 777	(B,101,195)	RS1/16S102J
R 778	(B,99,195)	RS1/16S103J
R 779	(B,101,186)	RS1/16S102J
R 780	(B,99,186)	RS1/16S103J
R 781	(B,192,199)	RS1/16S820J
R 782	(B,199,199)	RS1/16S820J
R 783	(B,205,199)	RS1/16S820J
R 784	(B,212,199)	RS1/16S820J
R 785	(B,218,199)	RS1/16S820J
R 786	(B,223,199)	RS1/16S820J
R 787	(B,201,167)	RS1/16S222J
R 788	(B,195,167)	RS1/16S222J
R 789	(B,189,167)	RS1/16S222J
R 790	(B,221,167)	RS1/16S222J
R 791	(B,214,167)	RS1/16S222J
R 792	(B,208,167)	RS1/16S222J
R 793	(B,241,167)	RS1/16S222J
R 794	(B,234,167)	RS1/16S222J
R 795	(B,227,167)	RS1/16S222J
R 796	(B,261,167)	RS1/16S222J
R 797	(B,254,167)	RS1/16S222J
R 798	(B,248,167)	RS1/16S222J
R 799	(B,281,167)	RS1/16S222J
R 800	(B,274,167)	RS1/16S222J
R 801	(B,268,167)	RS1/16S222J
R 803	(B,294,167)	RS1/16S222J
R 804	(B,287,167)	RS1/16S222J
R 808	(B,173,57)	RS1/16S103J
R 809	(B,229,199)	RS1/16S221J
R 810	(B,236,199)	RS1/16S221J
R 811	(B,177,58)	RS1/16S103J
R 812	(B,245,204)	RS1/16S122J
R 813	(B,273,208)	RS1/16S331J
R 814	(B,25,166)	RS1/16S101J
R 815	(B,68,139)	RS1/16S820J
R 816	(B,85,133)	RS1/16S820J
R 817	(B,109,133)	RS1/16S820J
R 818	(B,125,173)	RS1/16S152J
R 819	(B,123,169)	RS1/16S152J
R 820	(B,146,199)	RS1/16S221J
R 821	(B,146,218)	RS1/16S221J
R 822	(B,152,199)	RS1/16S820J
R 823	(B,151,218)	RS1/16S820J
R 824	(B,156,199)	RS1/16S820J
R 825	(B,158,218)	RS1/16S820J
R 826	(B,161,199)	RS1/16S820J
R 827	(B,164,218)	RS1/16S820J
R 828	(B,166,199)	RS1/16S820J
R 829	(B,171,218)	RS1/16S820J
R 830	(B,179,199)	RS1/16S820J
R 831	(B,177,218)	RS1/16S820J
R 832	(B,184,199)	RS1/16S820J
R 833	(B,184,218)	RS1/16S820J
R 834	(B,190,199)	RS1/16S820J
R 835	(B,190,218)	RS1/16S820J
R 836	(B,197,199)	RS1/16S820J
R 837	(B,197,218)	RS1/16S820J
R 838	(B,203,199)	RS1/16S820J
R 839	(B,203,218)	RS1/16S820J
R 840	(B,210,199)	RS1/16S820J
R 841	(B,210,218)	RS1/16S820J
R 842	(B,216,199)	RS1/16S820J
R 843	(B,216,218)	RS1/16S820J
R 844	(B,225,199)	RS1/16S820J
R 845	(B,225,218)	RS1/16S820J
R 846	(B,231,199)	RS1/16S221J
R 847	(B,243,210)	RS1/16S221J
R 848	(B,238,199)	RS1/16S221J
R 849	(B,250,210)	RS1/16S221J
R 850	(B,229,139)	RS1/16S820J
R 851	(B,253,139)	RS1/16S820J

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
R	852	(B,248,204)	RS1/16S122J	R	912	(B,287,138)	RS1/16S101J
R	853	(B,270,208)	RS1/16S331J	R	913	(B,43,94)	RS1/16S680J
R	854	(A,105,119)	RD1/2VM151J	R	914	(B,55,102)	RS1/16S331J
R	855	(B,128,139)	RS1/16S471J	R	915	(B,64,106)	RS1/16S680J
R	856	(B,123,111)	RS1/16S471J	R	916	(B,88,106)	RS1/16S680J
R	857	(B,128,107)	RS1/16S471J	R	917	(B,108,95)	RS1/16S680J
R	858	(A,108,119)	RD1/2VM151J	R	918	(B,117,97)	RS1/16S331J
R	859	(B,127,165)	RS1/16S471J	R	919	(A,28,98)	RD1/2VM471J
R	860	(B,123,135)	RS1/16S471J	R	920	(B,46,89)	RS1/16S680J
R	861	(A,194,194)	RD1/2VM151J	R	921	(B,123,63)	RS1/16S331J
R	862	(A,198,194)	RD1/2VM151J	R	922	(B,117,63)	RS1/16S680J
R	863	(A,215,194)	RD1/2VM151J	R	923	(B,111,53)	RS1/16S331J
R	864	(A,239,194)	RD1/2VM151J	R	924	(B,74,108)	RS1/16S331J
R	865	(A,260,195)	RD1/2VM151J	R	925	(B,41,89)	RS1/16S331J
R	866	(A,283,195)	RD1/2VM151J	R	926	(B,40,80)	RS1/16S680J
R	867	(A,279,195)	RD1/2VM151J	R	927	(B,40,69)	RS1/16S331J
R	868	(B,28,166)	RS1/16S101J	R	928	(B,128,115)	RS1/16S102J
R	869	(B,66,139)	RS1/16S820J	R	929	(B,40,60)	RS1/16S680J
R	870	(B,83,133)	RS1/16S820J	R	930	(B,40,52)	RS1/16S331J
R	871	(B,107,133)	RS1/16S820J	R	931	(B,35,40)	RS1/16S102J
R	872	(B,231,139)	RS1/16S820J	R	932	(A,16,64)	RD1/2VM471J
R	873	(B,255,139)	RS1/16S820J	R	933	(A,19,74)	RD1/2VM471J
R	874	(B,277,139)	RS1/16S820J	R	934	(B,98,102)	RS1/16S331J
R	875	(B,285,138)	RS1/16S101J	R	935	(B,56,80)	RS1/16S680J
R	876	(B,62,106)	RS1/16S680J	R	944	(B,127,173)	RS1/16S152J
R	877	(B,77,108)	RS1/16S331J	R	945	(B,128,135)	RS1/16S471J
R	878	(B,90,106)	RS1/16S680J	R	946	(B,125,135)	RS1/16S471J
R	879	(B,53,102)	RS1/16S331J	R	947	(B,123,165)	RS1/16S471J
R	880	(B,100,102)	RS1/16S331J	R	948	(B,125,165)	RS1/16S471J
R	881	(B,47,94)	RS1/16S680J	R	949	(B,123,107)	RS1/16S471J
R	882	(B,110,95)	RS1/16S680J	R	950	(B,126,107)	RS1/16S471J
R	883	(B,114,97)	RS1/16S331J	R	951	(B,128,111)	RS1/16S471J
R	884	(B,43,89)	RS1/16S331J	R	952	(B,126,111)	RS1/16S471J
R	885	(B,38,80)	RS1/16S680J	R	953	(B,123,139)	RS1/16S471J
R	886	(B,49,89)	RS1/16S680J	R	954	(B,125,139)	RS1/16S471J
R	887	(B,54,80)	RS1/16S680J	R	955	(B,125,131)	RS1/16S102J
R	888	(A,24,98)	RD1/2VM471J	R	956	(B,128,131)	RS1/16S102J
R	889	(B,38,69)	RS1/16S331J	R	957	(B,87,25)	RS1/16S223J
R	890	(B,121,63)	RS1/16S331J	R	958	(B,90,25)	RS1/16S223J
R	891	(B,123,131)	RS1/16S102J	R	959	(B,127,36)	RS1/16S221J
R	892	(A,16,55)	RD1/2VM471J	R	960	(B,27,40)	RS1/16S102J
R	893	(B,38,60)	RS1/16S680J	R	961	(B,125,36)	RS1/16S182J
R	894	(B,32,40)	RS1/16S102J	R	962	(B,127,40)	RS1/16S472J
R	895	(A,16,89)	RD1/2VM471J	R	963	(B,125,40)	RS1/16S472J
R	896	(B,114,63)	RS1/16S680J	R	965	(B,30,40)	RS1/16S102J
R	897	(B,38,52)	RS1/16S331J	R	966	(B,250,204)	RS1/16S122J
R	898	(B,109,53)	RS1/16S331J	R	967	(B,187,30)	RS1/16S0R0J
R	899	(B,86,77)	RS1/16S333J	R	968	(B,194,110)	RS1/16S0R0J
R	900	(B,82,82)	RS1/16S333J	R	969	(B,285,132)	RS1/16S0R0J
R	901	(B,89,86)	RS1/16S333J	R	970	(B,228,218)	RS1/16S0R0J
R	902	(B,68,84)	RS1/16S333J	R	971	(B,100,218)	RS1/16S0R0J
R	903	(B,70,77)	RS1/16S333J	R	972	(B,27,32)	RS1/16S0R0J
R	904	(B,88,54)	RS1/16S333J	R	975	(B,98,21)	RS1/16S472J
R	905	(B,88,77)	RS1/16S113J	R	976	(B,100,21)	RS1/16S472J
R	906	(B,66,84)	RS1/16S113J	R	977	(B,138,18)	RS1/16S0R0J
R	907	(B,79,82)	RS1/16S113J	R	978	(B,140,22)	RS1/16S0R0J
R	908	(B,68,77)	RS1/16S113J	R	979	(B,184,92)	RS1/16S0R0J
R	909	(B,87,86)	RS1/16S113J	R	980	(B,185,30)	RS1/16S0R0J
R	910	(B,86,54)	RS1/16S113J	R	981	(B,155,42)	RS1/16S0R0J
R	911	(B,279,139)	RS1/16S820J	R	982	(B,156,36)	RS1/16S0R0J

Mark	No.	Description	Part No.
R	983	(B,152,42)	RS1/16S0R0J
R	984	(B,153,36)	RS1/16S0R0J
R	985	(B,133,43)	RS1/16S0R0J
R	986	(B,158,31)	RS1/16S0R0J
R	987	(B,158,27)	RS1/16S0R0J
R	988	(B,159,43)	RS1/16S0R0J
R	989	(B,155,48)	RS1/16S0R0J
R	990	(B,162,31)	RS1/16S0R0J
R	991	(B,162,26)	RS1/16S0R0J
R	992	(B,164,32)	RS1/16S0R0J
R	993	(B,167,37)	RS1/16S0R0J
R	994	(B,167,32)	RS1/16S0R0J
R	995	(B,166,26)	RS1/16S0R0J
R	996	(B,170,37)	RS1/16S0R0J
R	997	(B,169,26)	RS1/16S0R0J
R	998	(B,175,40)	RS1/16S0R0J
R	999	(B,173,36)	RS1/16S0R0J
R	1700	(B,172,26)	RS1/16S0R0J
R	1701	(B,176,30)	RS1/16S0R0J
R	1702	(B,176,36)	RS1/16S0R0J
R	1703	(B,177,40)	RS1/16S0R0J
R	1704	(B,186,19)	RS1/16S0R0J
R	1705	(B,184,19)	RS1/16S0R0J
R	1706	(B,154,30)	RS1/16S0R0J
R	1707	(B,135,18)	RS1/16S0R0J
R	1708	(B,133,24)	RS1/16S0R0J
R	1709	(B,117,12)	RS1/16S0R0J
R	1710	(B,112,23)	RS1/16S0R0J
R	1711	(B,114,23)	RS1/16S0R0J
R	1712	(B,107,16)	RS1/16S0R0J
R	1713	(B,114,19)	RS1/16S0R0J
R	1714	(B,112,19)	RS1/16S0R0J
R	1901	(B,121,29)	RS1/16S182J
R	1902	(B,117,30)	RS1/16S182J
R	1903	(B,310,210)	RS1/16S0R0J
R	1904	(B,270,217)	RS1/16S0R0J
R	1905	(B,292,210)	RS1/16S0R0J
R	1906	(B,292,205)	RS1/16S0R0J
R	1907	(B,307,202)	RS1/16S0R0J
R	1960	(B,269,214)	RS1/16S0R0J
R	1961	(B,271,214)	RS1/16S0R0J

CAPACITORS

C	701	(B,78,64)	CKSRYB103K50
C	702	(B,142,75)	CKSRYB103K50
C	703	(B,160,53)	CKSRYB103K50
C	704	(A,127,25)	CEAT221M10
C	705	(B,180,66)	CKSRYB103K50
C	706	(B,161,93)	CKSRYB103K50
C	707	(A,118,27)	CEAT471M16
C	709	(A,173,51)	CEAL100M35
C	710	(B,124,25)	CKSRYB103K50
C	711	(B,152,125)	CKSRYB103K50
C	712	(B,168,122)	CKSRYB103K50
C	713	(B,149,115)	CKSRYB103K50
C	714	(B,186,102)	CKSRYB103K50
C	715	(B,148,40)	CKSRYB103K50
C	716	(B,186,43)	CKSRYB103K50
C	717	(B,303,203)	CKSRYB103K50
C	723	(A,143,86)	CEAL100M35
C	724	(A,163,46)	CEAL100M35
C	725	(B,179,53)	CKSRYB103K50
C	726	(B,98,36)	CKSRYB103K50
C	727	(B,98,26)	CKSRYB103K50

C SW2 ASSY

MISCELLANEOUS

J	702	(A,296,126) JUMPER WIRE	D20PYY0205E
S	704	(A,308,121) LEVER SWITCH	DSK1016
0		2P CABLE HOLDER	51048-0200

D SW1 ASSY

MISCELLANEOUS

J	701	(A,30,123) JUMPER WIRE	D20PYY0205E
S	703	(A,20,121) LEVER SWITCH	DSK1016
0		2P CABLE HOLDER	51048-0200

E 7 SEG ASSY

MISCELLANEOUS

D	601	(A,204,194) LED(RED)	SML-212VT(QR)
D	602	(A,204,199) LED(RED)	SML-212VT(QR)
D	603	(A,204,182) LED(RED)	SML-212VT(QR)
D	604	(A,204,186) LED(RED)	SML-212VT(QR)
D	605	(A,199,192) LED(RED)	SML-212VT(QR)
D	606	(A,199,196) LED(RED)	SML-212VT(QR)
D	608	(A,203,127) LED(RED)	SML-212VT(QR)
D	612	(A,205,154) LED	NKR131S
D	613	(A,205,162) LED	NKR131S
D	614	(A,205,169) LED	NKR131S
D	615	(A,205,177) LED	NKR131S
D	616	(A,205,93) LED	NKR131S
D	617	(A,205,101) LED	NKR131S
D	618	(A,205,108) LED	NKR131S
D	619	(A,205,120) LED	NKR131S
D	620	(A,203,132) LED (RED)	SML-212VT(QR)
CN601		(A,205,67) CONNECTOR	SFW20R-1ST

RESISTORS

R	601	(B,204,194)	RS1/16S471J
R	602	(B,211,194)	RS1/16S471J
R	603	(B,209,184)	RS1/16S391J
R	604	(B,212,180)	RS1/16S391J
R	605	(B,212,175)	RS1/16S391J
R	606	(B,209,169)	RS1/16S391J
R	607	(B,209,162)	RS1/16S391J
R	608	(B,208,153)	RS1/16S391J
R	609	(B,205,137)	RS1/16S391J
R	610	(B,198,137)	RS1/16S391J
R	611	(B,208,129)	RS1/16S391J
R	613	(B,201,129)	RS1/16S471J

Mark	No.	Description	Part No.
R	614 (B,198,129)		RS1/16S471J
R	644 (B,209,180)		RS1/16S391J
R	645 (B,209,175)		RS1/16S391J
R	646 (B,212,169)		RS1/16S391J
R	647 (B,212,162)		RS1/16S391J
R	648 (B,211,153)		RS1/16S391J
R	649 (B,208,137)		RS1/16S391J
R	650 (B,201,137)		RS1/16S391J
R	651 (B,205,129)		RS1/16S391J
R	655 (B,206,194)		RS1/16S471J
R	656 (B,209,194)		RS1/16S471J
R	657 (B,212,184)		RS1/16S391J

F MIDI ASSY

MISCELLANEOUS

IC	1001(A,263,32)	IC	PC900V0NSZX
IC	1002(B,242,29)	IC	TC7SH08FUS1
Q	1000(B,232,27)	CHIP TRANSISTOR	DTC114EUA
Q	1001(B,236,27)	CHIP TRANSISTOR	DTC114EUA
Q	1002(B,272,25)	TRANSISTOR	2SC2412K
Q	1003(B,236,21)	CHIP TRANSISTOR	DTC114EUA
D	1002(B,253,31)	DIODE	1SS355
D	1003(B,287,33)	DIODE	DAN217U
D	1004(B,281,33)	DIODE	DAN217U
D	1005(B,277,33)	DIODE	DAN217U
D	1006(B,231,21)	DIODE	DAN217U
D	1007(B,303,32)	DIODE	DAN217U
D	1008(B,308,32)	DIODE	DAN217U
D	1010(B,220,33)	ZENER DIODE	NNCD6.2MF
D	1012(B,271,30)	DIODE	DAN217U
L	1000(B,217,30)	CHIP BEADS	VTL1108
L	1001(B,227,30)	CHIP BEADS	VTL1108
L	1002(B,217,23)	CHIP BEADS	VTL1108
L	1003(B,290,32)	CHIP BEADS	VTL1108
L	1004(B,277,38)	CHIP BEADS	VTL1105
L	1005(B,284,33)	CHIP BEADS	VTL1108
L	1006(B,274,42)	CHIP BEADS	VTL1099
JA	1000(A,261,52)	CONNECTOR	DKN1188
JA	1001(A,220,52)	CONNECTOR	DKN1188
JA	1002(A,286,52)	MINI DIN SOCKET 8P	DKN1035
KN	1000(A,238,36)	WRAPPING TERMINAL	VNF1084
S	1000(A,307,47)	SLIDE SWITCH	DSH1063
CN	1001(A,285,22)	12PJUMPER CONNECTOR	52147-1210

RESISTORS

R	1001(B,255,21)		RS1/16S561J
R	1002(A,250,33)		RD1/2VM221J
R	1003(A,227,26)		RD1/2VM221J
R	1004(A,210,29)		RD1/2VM221J
R	1008(B,252,21)		RS1/16S561J
R	1009(B,268,21)		RS1/16S680J
R	1010(B,266,21)		RS1/16S221J
R	1012(B,276,24)		RS1/16S122J
R	1013(B,281,24)		RS1/16S102J
R	1014(B,308,37)		RS1/16S102J
R	1015(B,301,37)		RS1/16S102J
R	1018(B,233,22)		RS1/16S103J
R	1020(B,283,28)		RS1/16S181J

CAPACITORS

C	1002(B,245,30)		CKSRYB103K50
C	1003(A,298,35)		CEAT470M10
C	1004(B,274,33)		CKSRYB103K50
C	1005(B,268,32)		CKSRYB104K25
C	1006(B,222,23)		CKSRYB103K50
C	1007(A,219,26)		CEAT470M10
C	1008(B,236,33)		CKSRYB223K50
C	1011(B,311,26)		CKSRYB223K50
C	1013(B,290,38)		CKSRYB223K50
C	1014(B,208,37)		CCSRCH221J50
C	1015(B,210,37)		CCSRCH221J50

G ACIN ASSY

MISCELLANEOUS

AN	1101(A,253,107)	AC INLET 1P	XKP3041
J	1	CONNECTOR ASSY	DKP3726
0		PCB BINDER	VEF1040

H ENCB ASSY

MISCELLANEOUS

D	105 (A,225,79)	ENCODER	RPI-2150N
CN	104 (A,211,87)	CONNECTOR	S4B-PH

RESISTORS

R	140 (B,209,71)		RS1/16S331J
R	141 (B,212,71)		RS1/16S331J
R	142 (B,212,81)		RS1/16S221J
R	143 (B,209,81)		RS1/16S221J

CAPACITORS

C	141 (B,205,81)		CKSRYB104K16

I MVR ASSY

MISCELLANEOUS

VR	1201(A,292,75)	POTENTIOMETER	DCS1089
CN	1201(A,311,78)	CONNECTOR 10P	52492-1020

J POWER SUPPLY UNIT

This assembly has no service part.

6. ADJUSTMENT

• There is no information to be shown in this chapter.

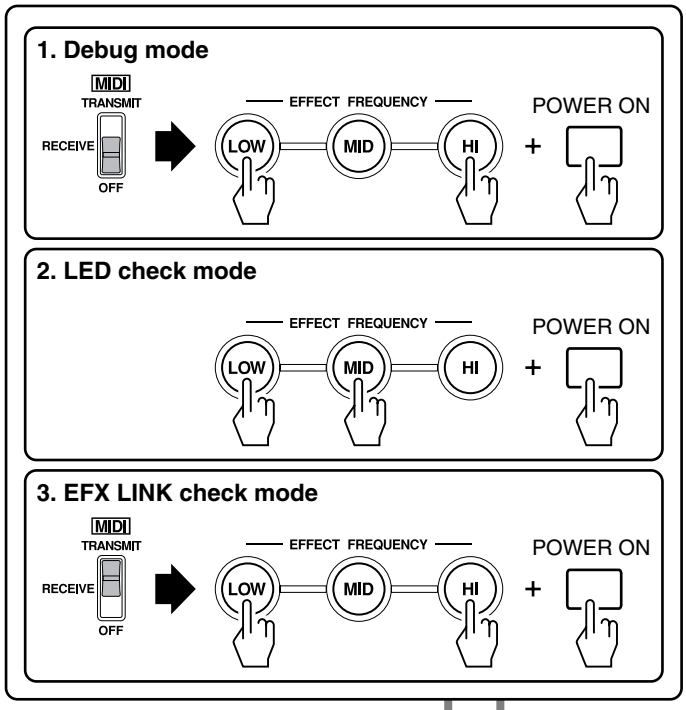
7. GENERAL INFORMATION

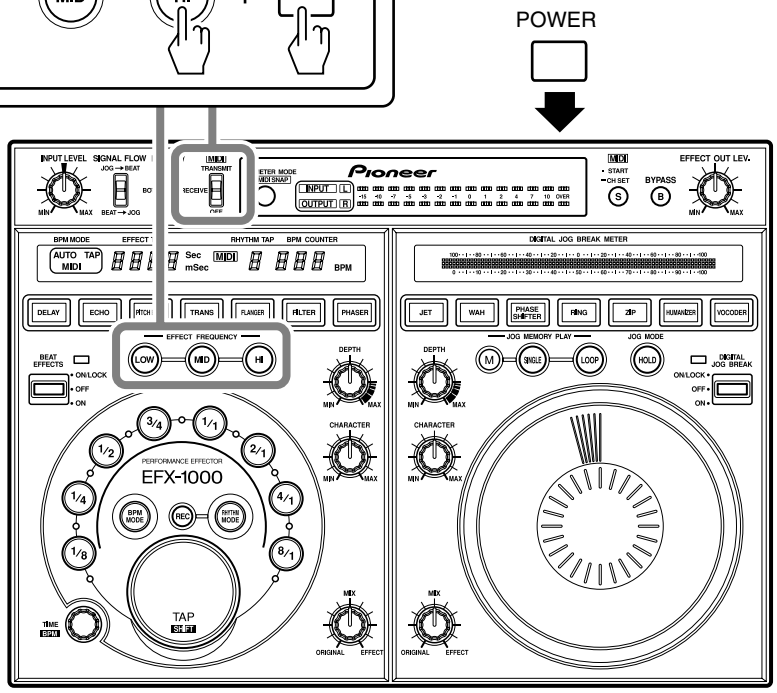
7.1 DIAGNOSIS

7.1.1 TEST MODE

■ List of Test Mode

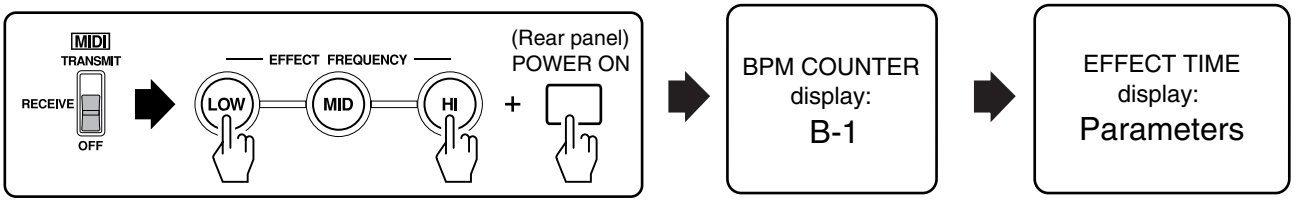
Test Mode Name	How to Enter	Description
1. Debug mode	Check the MIDI mode select switch position is "OFF". While holding the "LOW" and "HI" buttons of EFFECT FREQUENCYselect buttons pressed, press to set the Power button to ON.	To confirm the version and display the internal information
2. LED check mode	While holding the "LOW" and "MID" buttons of EFFECT FREQUENCY select buttons pressed, press to set the Power button to ON.	To check lighting of individual or all LEDs and the 7-segment LEDs
3. EFX LINK check mode	Check the MIDI mode select switch position is "TRANSMIT" or "RECEIVE". While holding the "LOW" and "HI" buttons of EFFECT FREQUENCYselect buttons pressed, press to set the Power button to ON.	To check EFX links (the fader link and sound link), using another EFX-1000



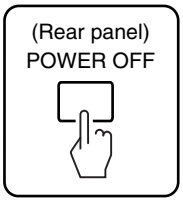


1. Debug mode

Debug mode : ON



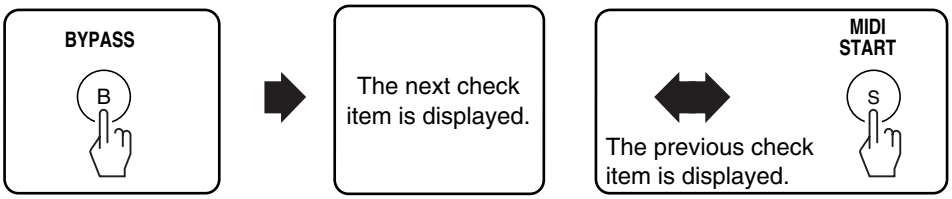
Debug mode : CANCEL



① Description of the Debug mode

- In Debug mode, a check item is displayed on the BPM COUNTER display, and its parameters are displayed in the EFFECT TIME display. (Immediately after Debug mode is entered, "B-1" is displayed on the BPM COUNTER display, and the DPF (BEAT EFFECT DEPTH control) value is displayed in hexadecimal on the EFFECT TIME display.)
- When a digital signal is input, the BYPASS indicator lights.
- Other than the above, operations are the same as in Normal mode.

② How to change check items in Debug mode



- Each time the BYPASS button is pressed, the next check item is displayed.
- Each time the MIDI START button is pressed, the previous check item is displayed.

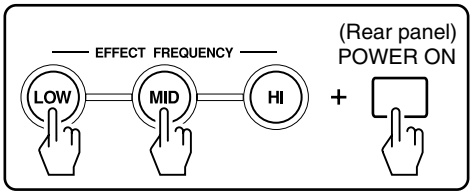
② List of check items in Debug mode

BPM COUNTER display	Check items
B - 1	Value of the BEAT EFFECT DEPTH control
B - 2	Value of the BEAT EFFECT CHARACTER control
B - 3	Value of the BEAT EFFECT MIX control
J - 1	Value of the DIGITAL JOG BREAK EFFECT DEPTH control
J - 2	Value of the DIGITAL JOG BREAK EFFECT CHARACTER control
J - 3	Value of the DIGITAL JOG BREAK EFFECT MIX control
0 - 0	Value of the EFFECT-output-level adjustment control
1 - 0	Value of the input-level adjustment control
E - C	Number of errors generated during command communication between the microcomputer and the DSP
L E L	Input level of the left side
L E r	Input level of the right side
d S P	DSP version
U P C	Microcomputer version
J o g	Value of the jog-dial setting (Continue displaying a value in HOLD ON)

BPM COUNTER display	Check items
E A r	Number of DSP reception errors (from ADC [analog input])
E A t	Number of DSP transmission errors (to DAC [analog output])
E d r	Number of DSP reception errors (from SRC for input [digital input])
E d t	Number of DSP transmission errors (to SRC for output [digital output])
S t S	No. of DSP starting sequences ("1000" displayed for normal startup)
	0000: Starting Reset Vector (SP setting), initialization of GPIO
	0010: Initialization of the Chip Support LIB
	0020: Invalidation of interrupt (Global INT)
	0030: Software-version setting completed
	0040: Device-configuration setting completed
	0050: Initialization of global interrupt (Disable & Req clear)
	0060: PLL (CPU CLK/SDRAM/serial) setting completed
	0070: Initialization of cache configuration completed
	0080: External Memory IF (EMIF) setting completed
	0090: First-half process of McASP (transmission/reception-SRC serial communication) initialization completed
	00A0: First-half process of McBSP (ADC/DAC-serial communication) initialization completed
	00B0: Initialization of DMA (settings for EDMA/QDMA, DMA interlocked with serial communication) completed
	00C0: Initialization of timer interrupt completed
	00D0: Validation of interrupt (Global INT)
	00E0: Second-half process of McASP (transmission/reception-SRC serial communication) initialization completed
	00F0: Second-half process of McBSP (ADC/DAC-serial communication) initialization completed
	0100: Initialization of the Host Port Interface completed
	0110: No process
	0200: Initialization of the DSP Device completed (return from the initialization function to the main function)
	0210: No process (for evaluation board)
	0220: Initialization of RAM on the Beat Effect side completed
	0230: Initialization of RAM on the Jog Break side completed
	1000: Notification of completion of initialization to the main CPU (completion of the initialization sequence)
A / D	Number of switching A/D inputs
	Destination of the audio input (Rhythm TAP indication: "0" = analog, "1" = digital)
d - 1	DSP detection counter (High band for auto BPM) (1 count = 100 μs)
d - 2	DSP detection counter (Middle band for auto BPM) (1 count = 100 μs)
d - 3	DSP detection counter (Low band for auto BPM) (1 count = 100 μs)
d - 4	Counter for DSP debugging
d - 5	Counter for DSP debugging
S r 1	Interrupt 1 register for SRC for input (07h)
S r 2	Receive-error register for SRC for input (10h)
S r 3	Sampling-rate register for SRC for input (1eh)
S r 4	Error accumulation counter for SRC for input
S r 5	Number of unlock recoveries for SRC for input
S r 6	Number of parity errors for SRC for input
E r 1	General-purpose counter for debugging (MIDI serial errors)
E r 2	General-purpose counter for debugging (illegal commands received by MIDI)
E r 3	General-purpose counter for debugging (illegal data received by MIDI)
E r 4	General-purpose counter for debugging (buffer overflow received by MIDI)
E r 5	General-purpose counter for debugging (buffer overflow transmitted by MIDI)
E r 6	General-purpose counter for debugging (overflow of the DSP write buffer)
0ch	DSP SDRAM check (Normal: "0000 → increase of the count → 0100", abnormal: "FFFF")

2. LED Check mode

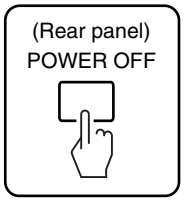
Check mode : ON



(5 sec or more)

All LEDs go dark.

Check mode : CANCEL



■ How to execute an LED Check

Press the TAP button. "**LE**d **CHE**" will be displayed on the 7-segment LED display.

• Individual LED mode

As you press each key, the corresponding LED will light. (See Fig. 1.)

No. of the key	Key	No. of the LED	LED to be lit	No. of the key	Key	No. of the LED	LED to be lit
①	1/8	❶	1/8 LED, 8/1 LED	㉔	RING	㉔	RING LED
②	1/4	❷	1/4 LED, 4/1 LED	㉕	ZIP	㉕	ZIP LED
③	1/2	❸	1/2 LED, 2/1 LED	㉖	HUMANIZER	㉖	HUMANIZER LED
④	3/4	❹	3/4 LED, 4/3 LED	㉗	VOCODER	㉗	VOCODER LED
⑤	1/1	❺	1/1 LED, 1/1 LED	㉘	SINGLE	㉘	SINGLE LED
⑥	2/1	❻	2/1 LED, 2/1 LED	㉙	LOOP	㉙	LOOP LED
⑦	4/1	❼	4/1 LED, 4/1 LED	㉚	HOLD	㉚	DIGITAL JOG BREAK LED
⑧	8/1	❽	8/1 LED, 8/1 LED, +8/1 LED	㉛	LINK	㉛	LINK LED
⑨	RHYTHM-MODE	❾	RHYTHM-MODE LED	㉜	BYPASS	㉜	BYPASS LED
⑩	BPM-MODE	❿	BPM-MODE LED	㉝	METER MODE	㉝	INPUT / OUTPUT / L / R / LEVEL METER LED
⑪	LOW	⓫	LOW LED				
⑫	MID	⓬	MID LED	㉞	JOG MEMORYDIGITAL	㉞	DIGITAL JOG BRESK METER LED
⑬	HI	⓭	HI LED				
⑭	DELAY	⓮	DELAY LED,BEAT EFFECTS LED	㉟	TAPTAP	㉟	TAP LED
⑮	ECHO	⓯	ECHO LED	㊱	INPUT LEVEL VR	㊱	Level meter in the upper row
⑯	PITCH ECHO	⓰	PITCH ECHO LED	㊲	EFFECT OUT. LEV VR	㊲	Level meter in the lower row
⑰	TRANS	⓱	TRANS LED	㊳	JOG DIAL	㊳	If you rotate the jog dial counterclockwise, the left half of the jog meter will light. If you rotate the jog dial clockwise, the right half of the jog meter will light.
⑱	FLANGER	⓲	FLANGER LED				
⑲	FILTER	⓳	FILTER LED				
⑳	PHASER	⓴	PHASER LED				
㉑	JET	㉑	JET LED				
㉒	WAH	㉒	WAH LED				
㉓	PHASE SHIFTER	㉓	PHASE SHIFTER LED				

• All LEDs lit/unlit mode

Each time the Rhythm REC key is pressed, all LEDs light then go dark, then the 7-segment LEDs light (LEd CHE), and this cycle is repeated. To quit this mode, press any key other than the Rhythm REC key. Then Individual LED mode is invoked.

• Locations of keys and LEDs

① - ㊳ : Locations of keys
❶ - ❸❽ : Locations of LEDs

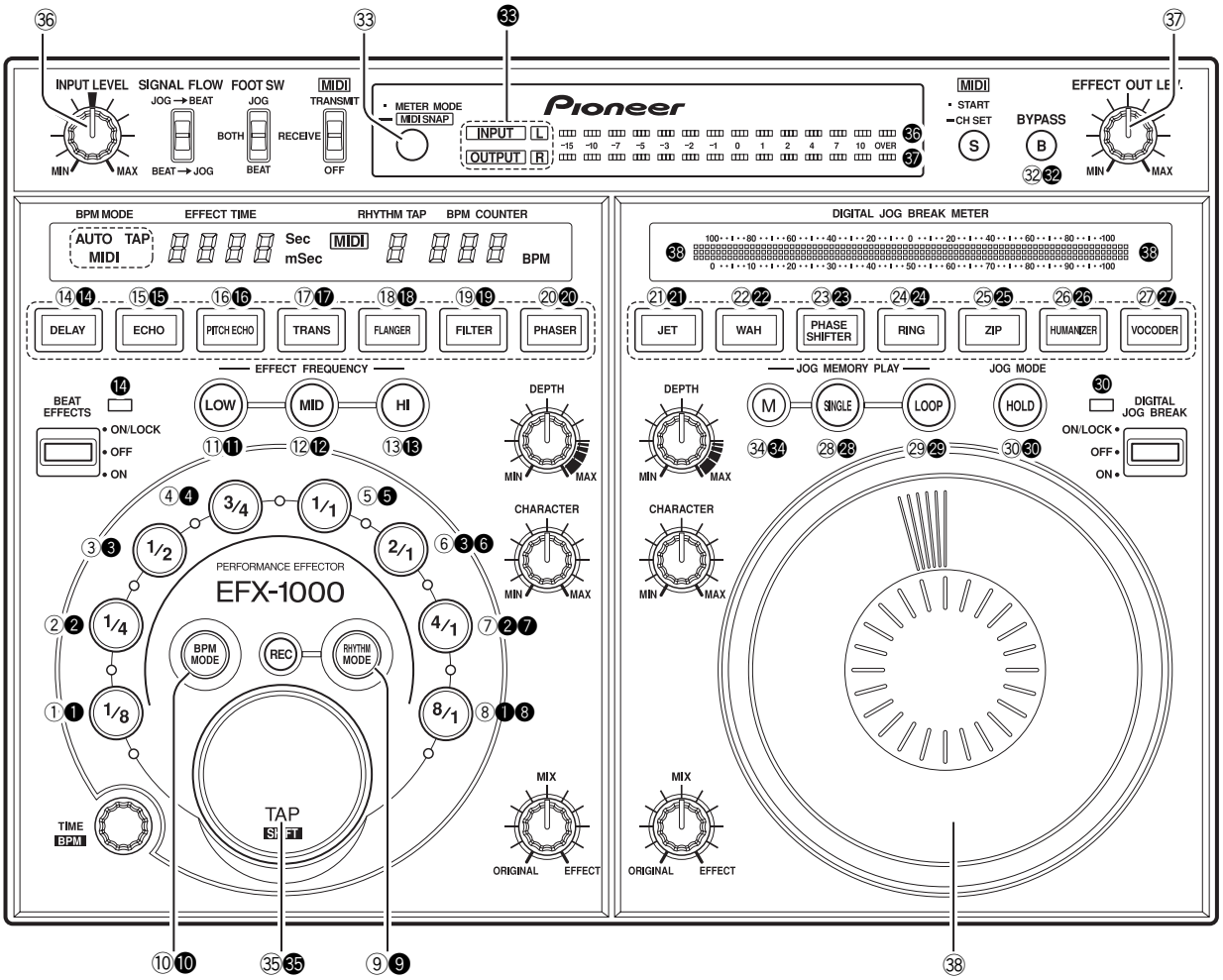


Fig. 1

3. EFX Links (Fader Link and Sound Link) Check Mode

• Overview

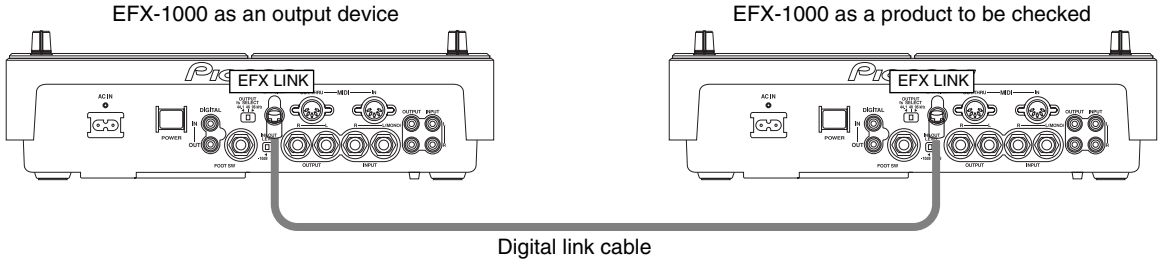
EFX links (fader link and sound link) can be checked, using another EFX-1000 as an output device.
Connect two EFX-1000s, using a digital link cable.

• Products to be used

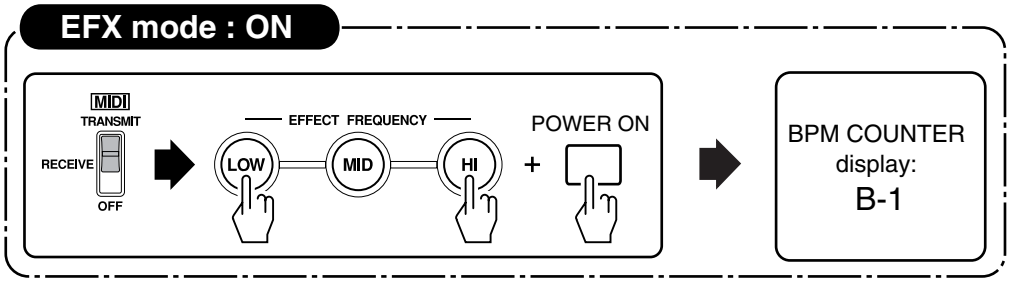
1 Two EFX-1000s
2 Digital link cable: DKP3724

• Connection

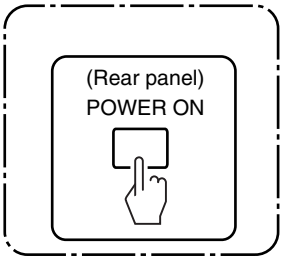
Connect the DKP3724 digital link cable to the EFX LINK connector of each EFX-1000.

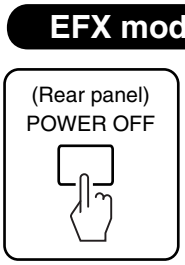


• How to start the EFX-1000 as an output device



• How to start the EFX-1000 to be checked





• How to switch operation modes

Fader Link and Sound Link modes can be switched, using the MIDI mode switch. See the table below.

• Operation modes

Position of the MIDI mode switch	Operation modes
OFF	OFF
RECEIVE	Fader link
TRANSMIT	Sound link

• Test items

Sound-link test: Output the BPM value "150" from the EFX-1000 as an output device.
On the BPM COUNTER display of the EFX-1000 to be checked, "150" will be displayed.

Fader-link test: Output rotation changes of the jog dial from the EFX-1000 as an output device.
The jog meter of the EFX-1000 to be checked will light according to rotation changes of the jog dial on the EFX-1000 as an

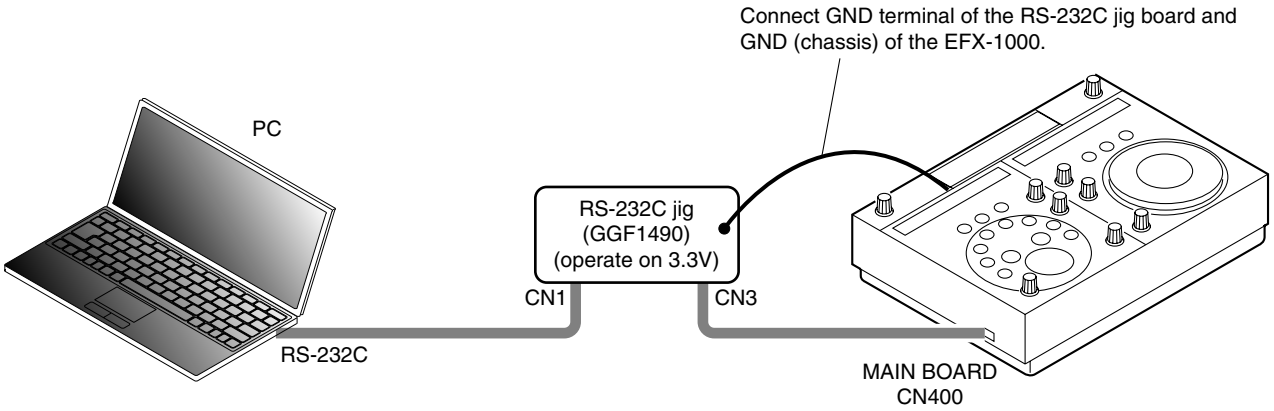
7.1.2 REWRITING THE FIRMWARE

Items required

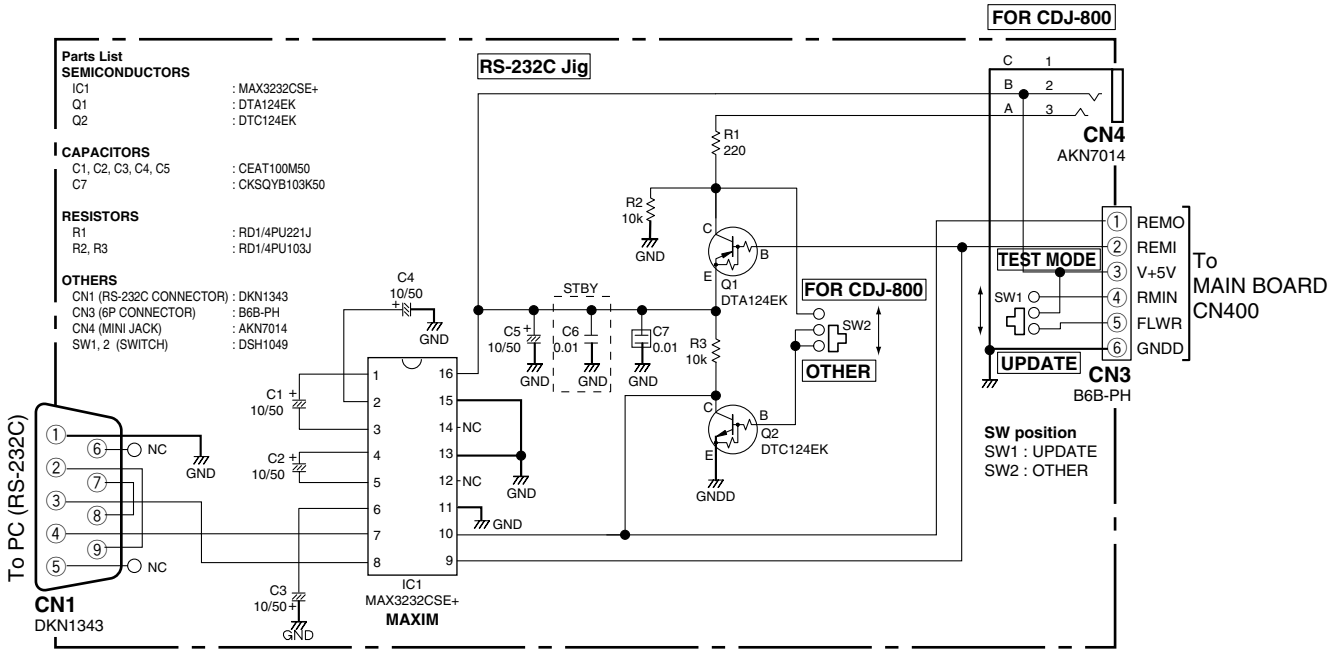
- EFX-1000 (This model)
- PC (Windows 98, XP, 2000)
- RS-232C jig (GGF1490)
- Flash Development Tool Kit (ver. 3.3)
- Program Flash File

About these softwares (Flash Development Tool kit and Program Flash Files)
To obtain these software, contact your nearest Pioneer service center.

Connections



RS-232C jig (GGF1490) Schematic diagram



Installing Flash Development Toolkit

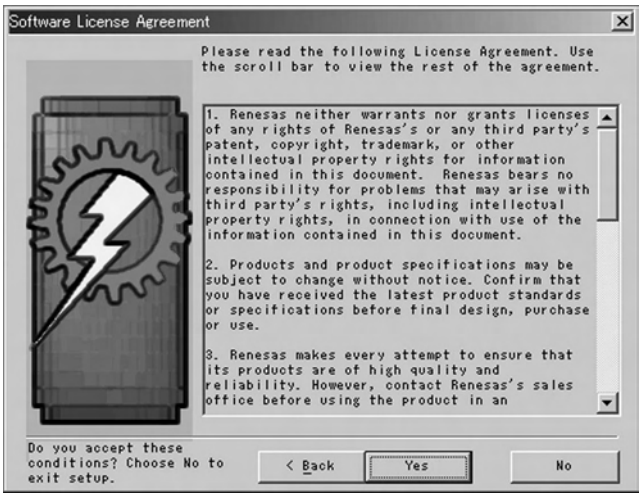
1. Installation

1.1 Installation

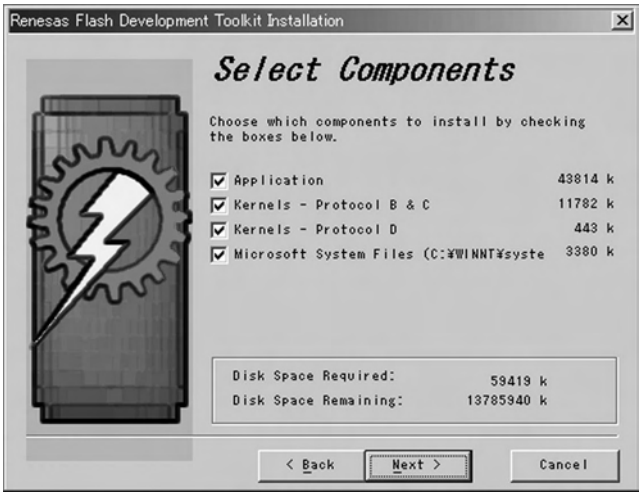
Double-click on the fdt3_3.exe file icon. The window shown below will open.
Click on Next.

Select International (English), then click on Next.

Read the Software License Agreement, and if you accept the conditions, click on Yes.

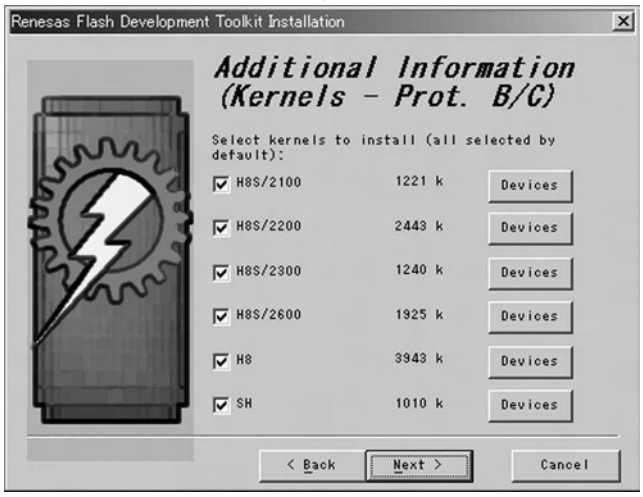


Leave the check boxes as they are and click on Next.



Leave the check boxes as they are and click on Next.

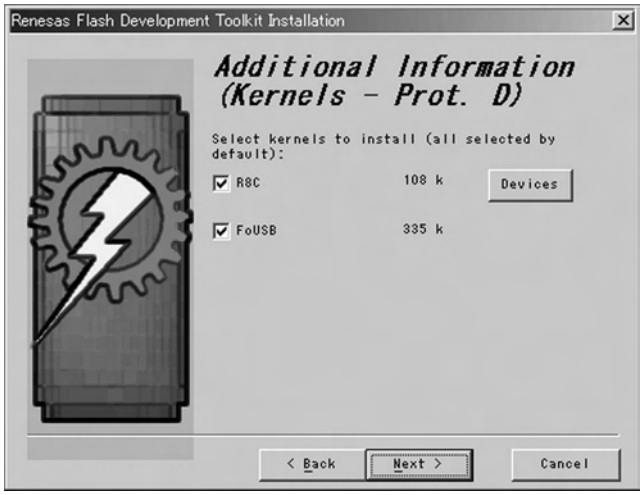
Leave the check boxes as they are and click on Next.



The location where Flash Development Tool Kit 3.3 is to be installed will be displayed.

With the default setting, the program will be installed under Program Files on Drive C. You may change the location. If you do not wish to change the location, skip to Step 1.3.

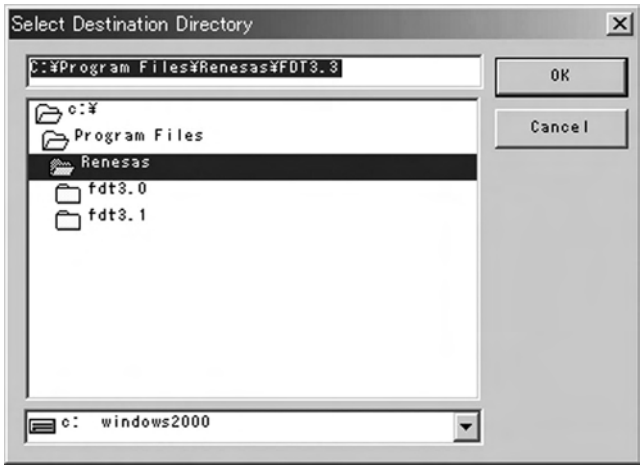
Leave the check boxes as they are and click on Next.



1.2 Changing the location for installation

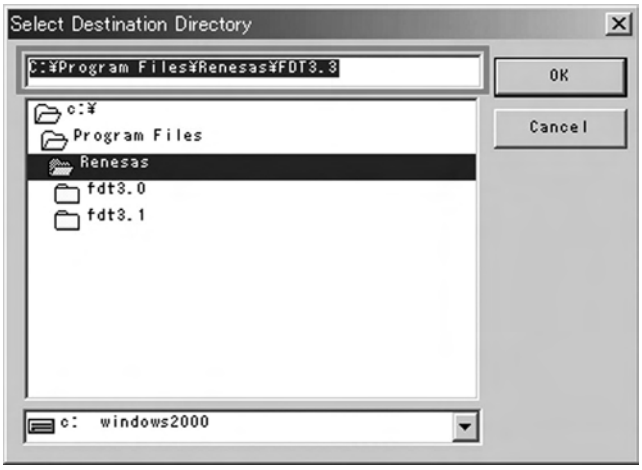
Click on Browse....

The window shown below will open.



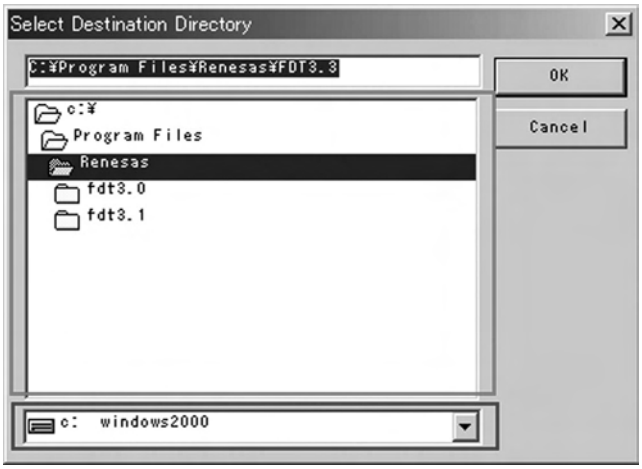
Method ①

You can directly enter the location for installation in the box enclosed in the frame in the illustration below:



Method ②

You can select the drive in the box enclosed in the lower frame and the folder in the box enclosed in the upper frame in the illustration below:

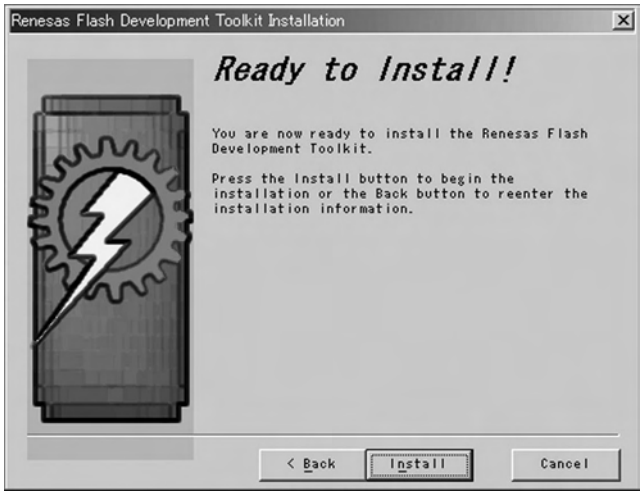


After designating the location for installation, click on OK. Then the Select Destination Directory window will close.

1.3 The location where the backup directory will be created is displayed.

If you wish to change the location, you can change it in the same manner as in Step 1.2.
Normally, leave the location setting as it is and click on Next.

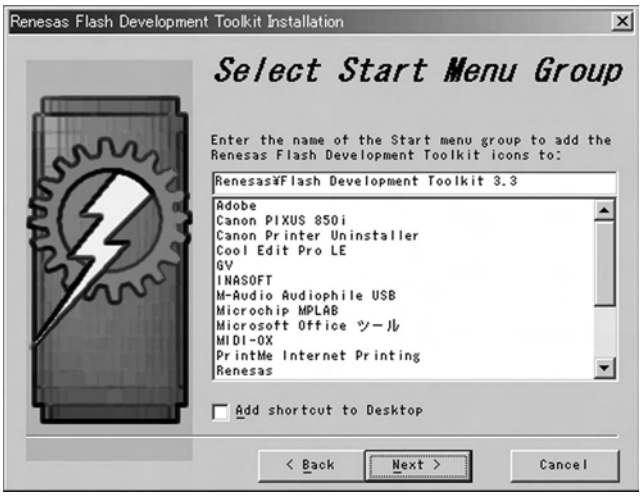
Click on Install. Installation starts.



During installation, the display shown below indicates the progress of installation.

1.4 You can register the program on the Start menu.

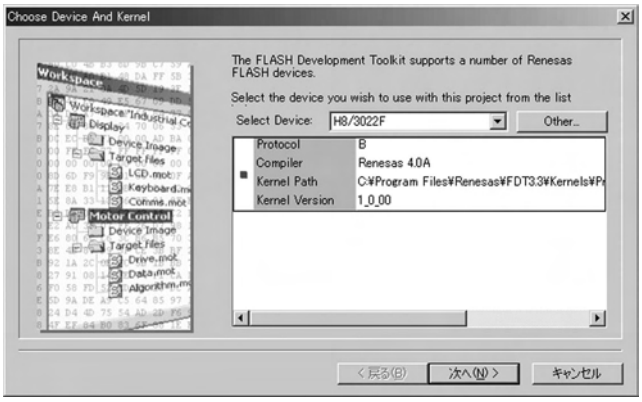
Normally, leave the setting as it is and click on Next.



When installation is completed, the message shown below will be displayed. Click on Finish. Installation is completed.

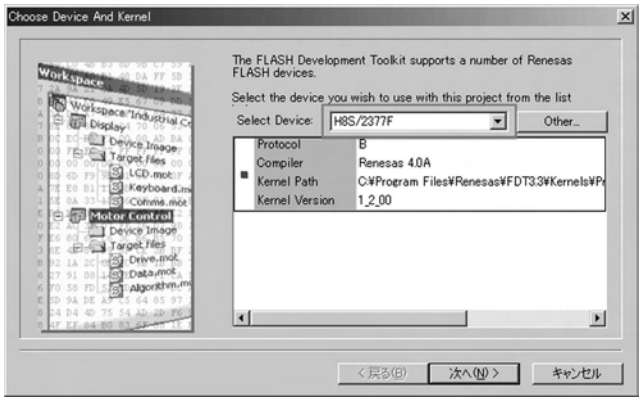
2. Initial settings

Click on Start, and select Program, Renesas, Flash Development Tool Kit 3.3, then Flash Development Tool Kit 3.3 Basic. The program will start up, and the window shown below will open.



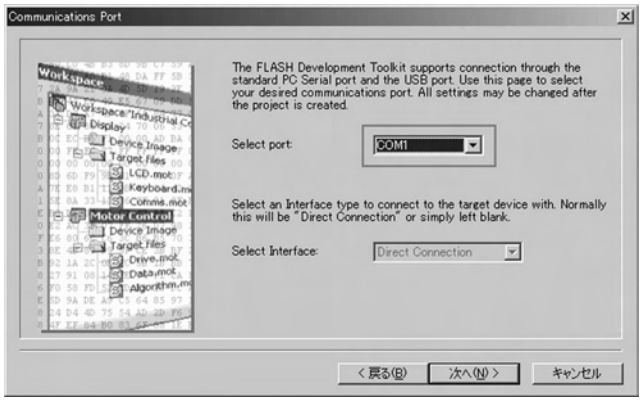
2.1 Selection of the device and kernel

Select H8S/2377F in the Select Device: box then click on Next.



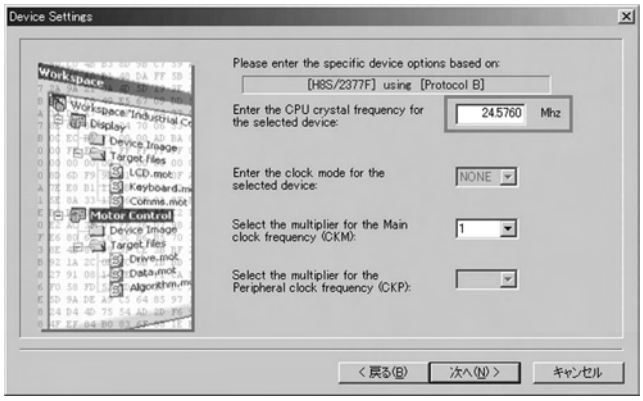
2.2 Selection of the port

Select the port to be used in the Select port: box then click on Next.



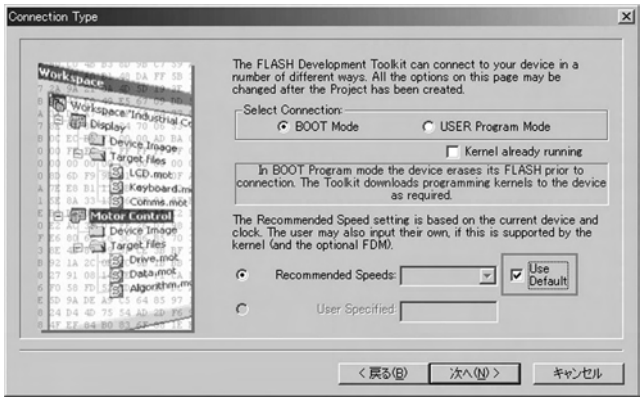
2.3 Device setting

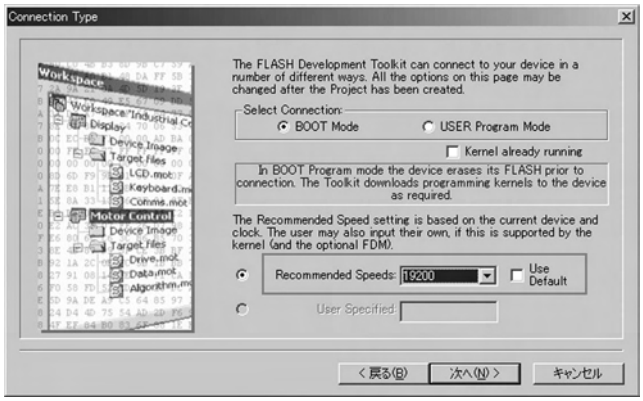
Enter 24.5760 in the Enter the CPU crystal frequency for the selected device: box. Leave other settings as they are. Click on Next.



2.4 Connection type

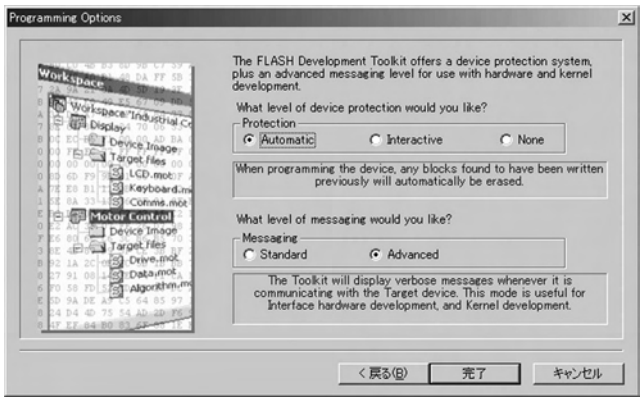
Click on the Use Default check box to remove the check mark for this option. Select 19200 in the Recommended Speeds: box.



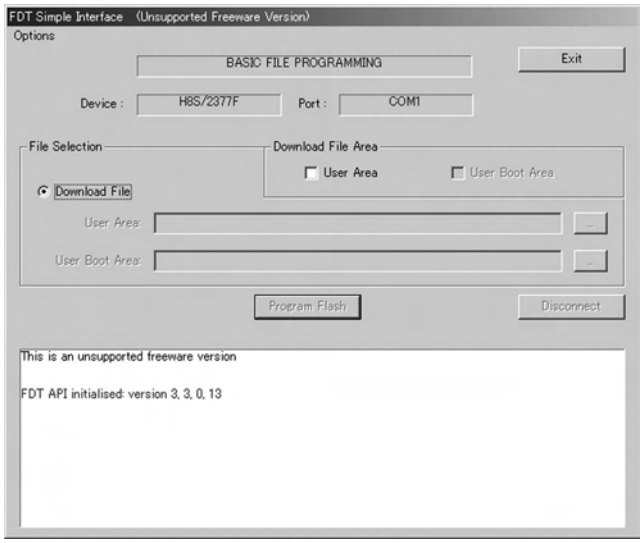


2.5 Registering the initial settings

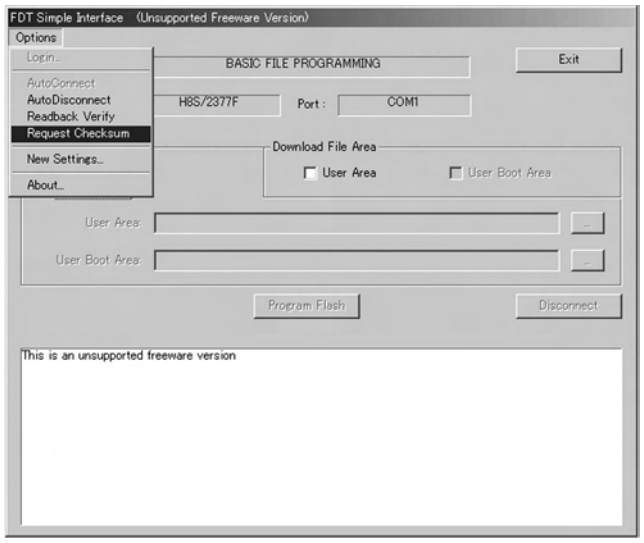
Click on Finish to register the initial settings.



The program starts.



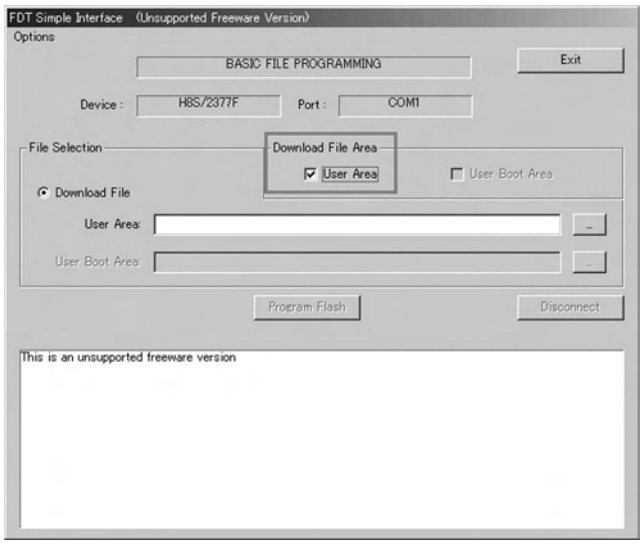
Click on Options then click to place a check mark in the Request Checksum check box.



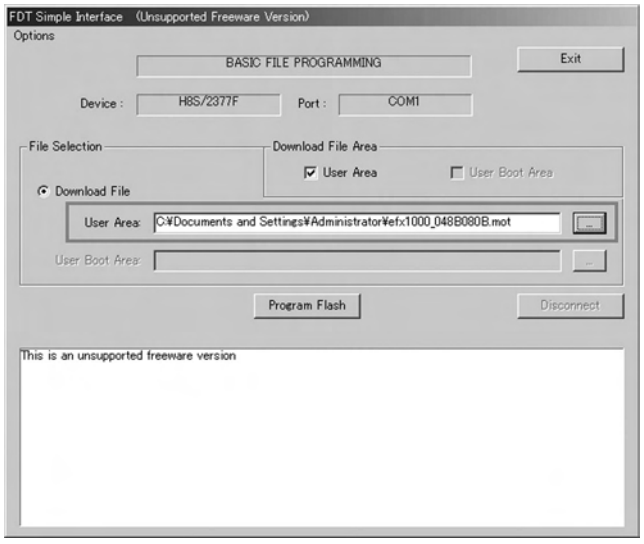
Now installation and registration of the initial settings have been completed.

3. How to use

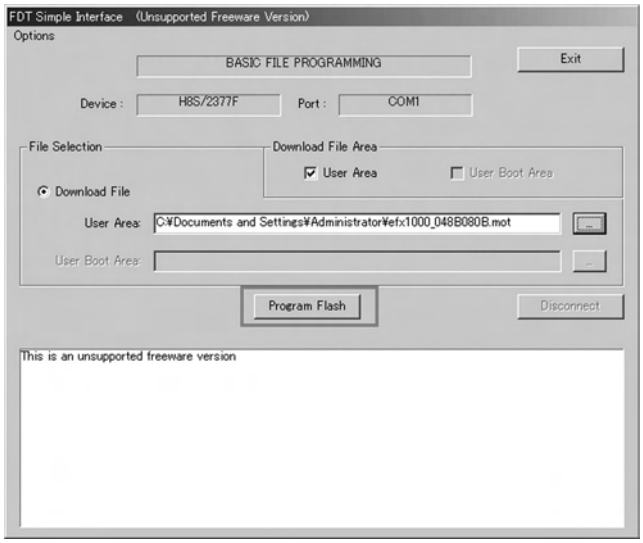
Click on the User Area check box in Download File Area to place a check mark in the check box.



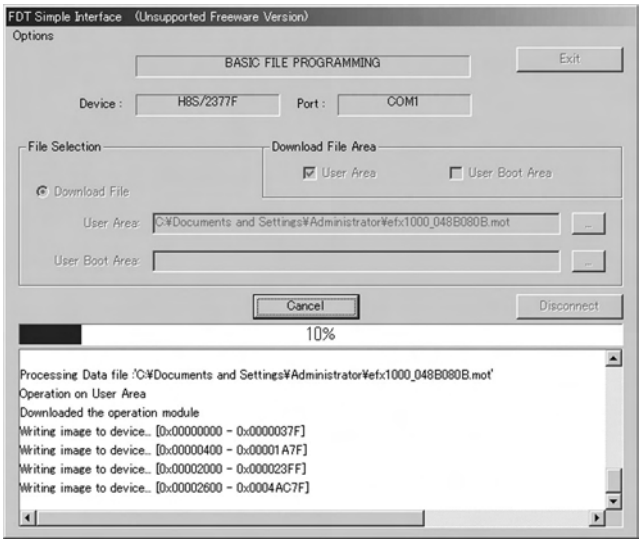
Designate the file in the User Area: box in File Selection.



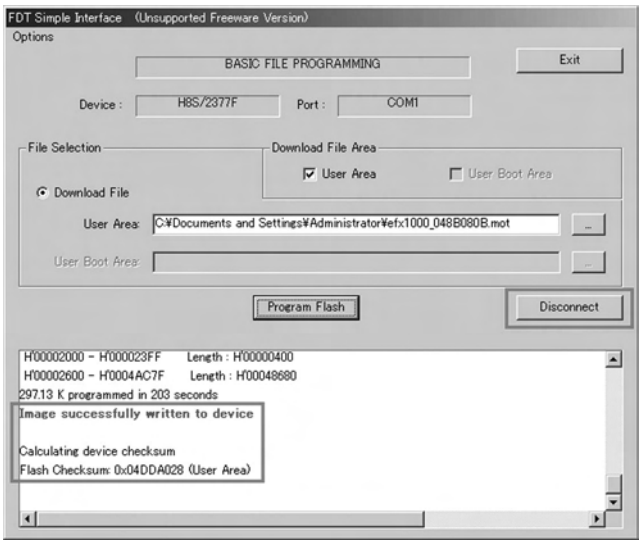
Click on Program Flash.



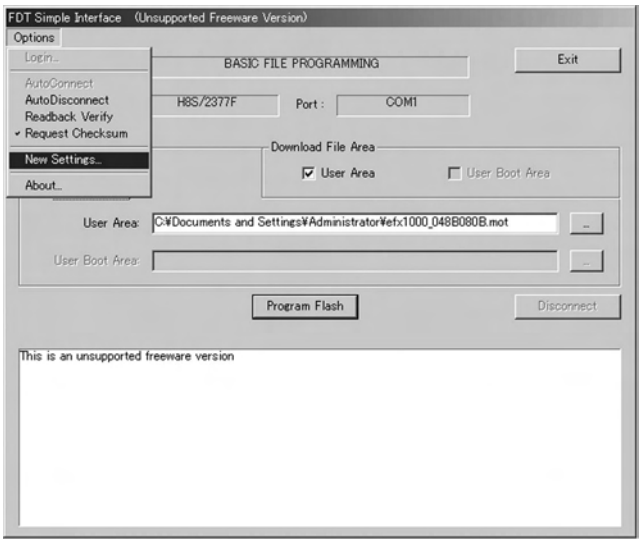
Downloading will start.



When downloading is finished, click on Disconnect. After confirming that "Disconnected" is displayed in the window, turn off the EFX-1000.



If you wish to change the device or port settings, select Options then New Settings.
Change settings, referring to "2. Initial settings."

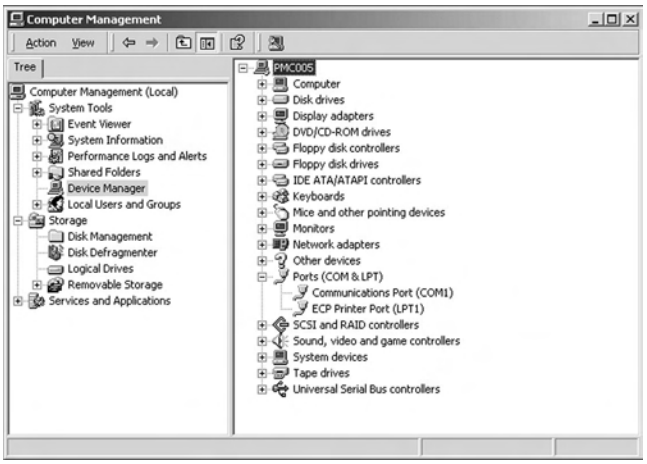


Instruction Manual for Flash Development Tool Kit

Preparation: Connect the EFX-1000 and your PC, using the RS-232C jig.
Note: After the above connection is made, when the EFX-1000 is turned on, it will enter Writing mode. In Writing mode, all the LEDs remain unlit. However, when the EFX-1000 is turned on or off, it clicks.

• How to confirm the port to be used on your PC

Double-click on System in Control Panel, or right-click on My Computer and select System Properties. Click on the Hardware tab and select Device Manager. You can confirm the port at Port (COM and LPT).



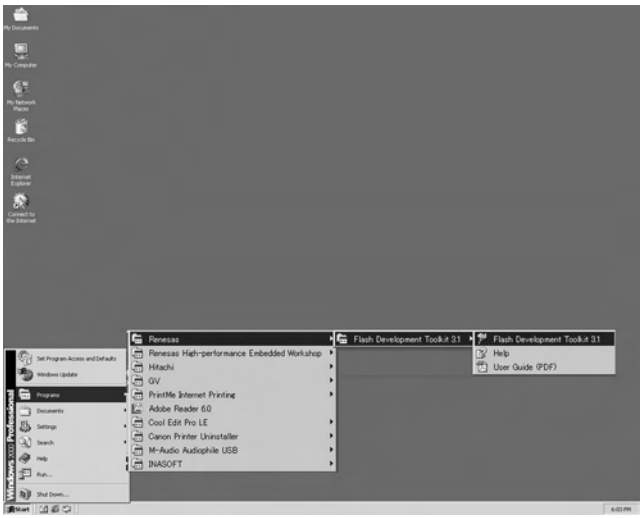
Set the baud rate of the port to be used to 19200.
Example: COM1
Double-click on the port name to be used.

Click on the Port Setting tab and select 19200 in the bps box.

Click on OK. The setting is completed.

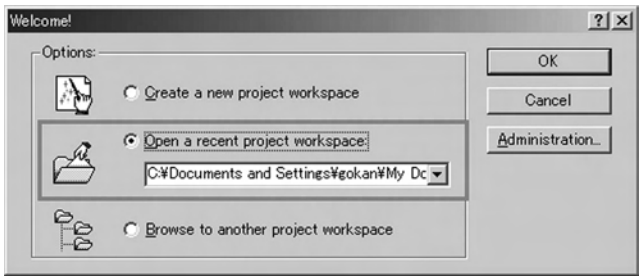
1. Starting the program

Click on Start, and select Program, Renesas, Flash Development Tool Kit 3.1, then Flash Development Tool Kit 3.1.

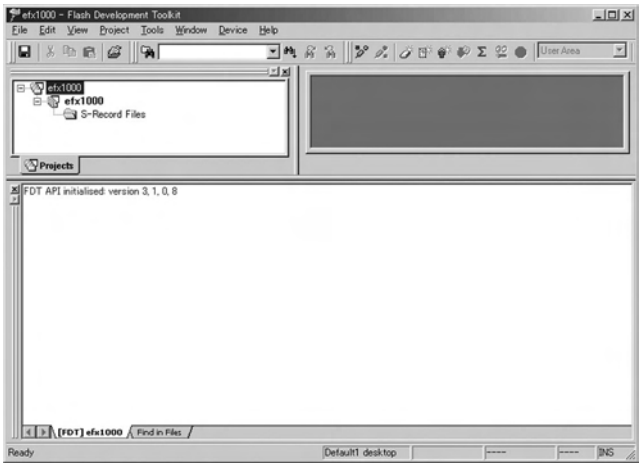


When the program starts, the following message will be displayed.
Click on OK.

Then the window shown below will be displayed.
Select Open a recent project workspace then click on OK.

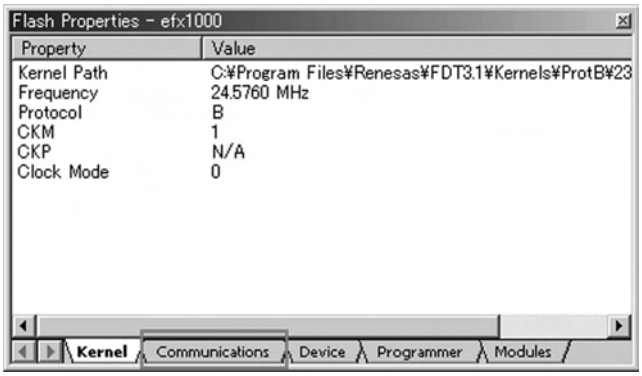


The workspace will open.

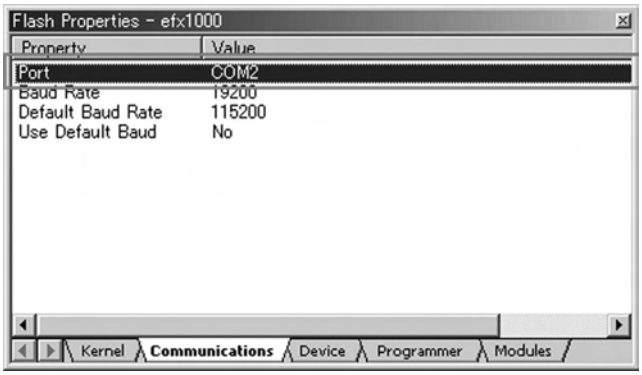


To change the port where the RS-232C jig is to be connected, modify the setting in the following way (if the port does not need to be changed, skip to "2. Selecting the .mot file to be downloaded into the EFX-1000"):
Click on the Configure Flash Project icon.

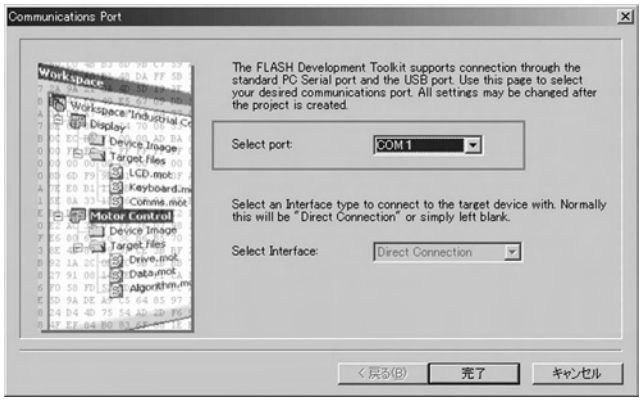
The Flash Properties window will be displayed.



Click on the Communications tab. The screen shown below will be displayed. Click on Port.

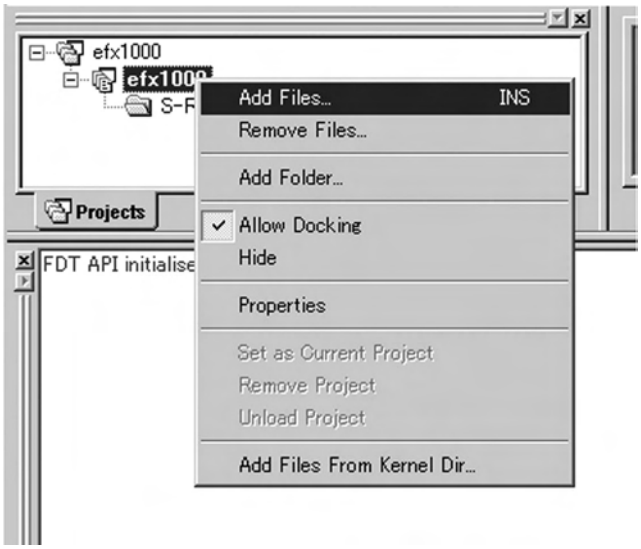


The window shown below will open. Designate the port then click on Finish. The Communications Port window will then close.

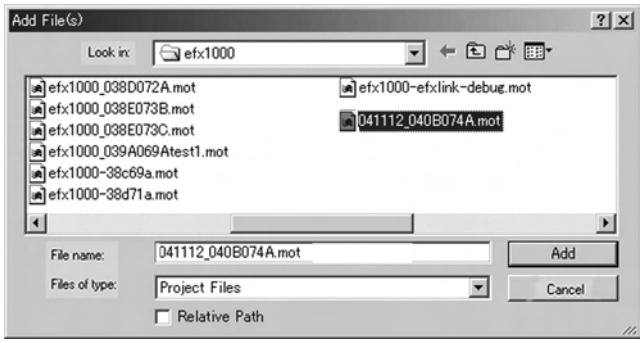


2. Selecting the .mot file to be downloaded into the EFX-1000

Right-click on the project name and select Add Files....



Select a .mot file to be downloaded from the folder then click on Add.



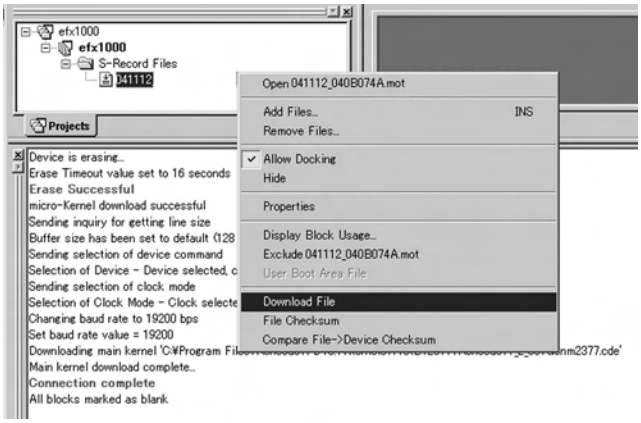
The .mot file to be downloaded will be added.

3. Downloading the .mot file into the EFX-1000

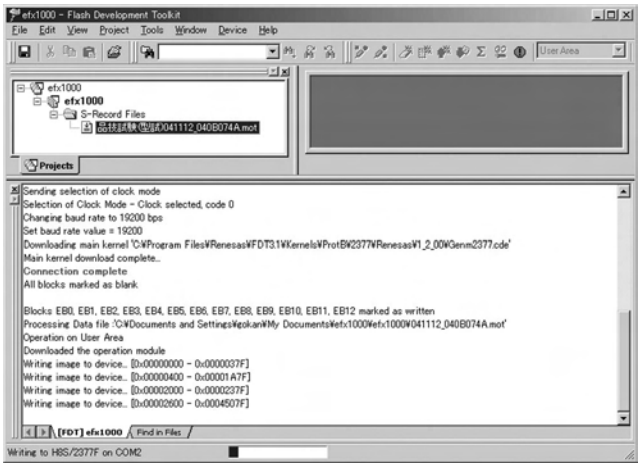
Turn on the EFX-1000. Click on the Connect icon to activate connection of the EFX-1000 with the PC.

If the display shown below appears, the connection has been successfully made.

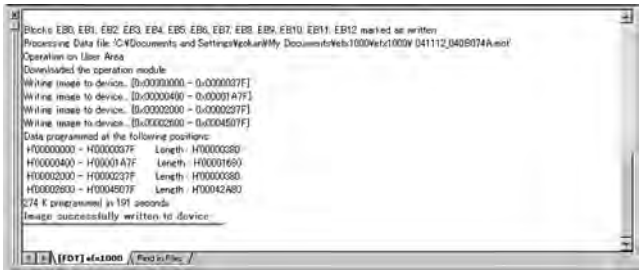
Right-click on the .mot file and select Download File.



Downloading will start.

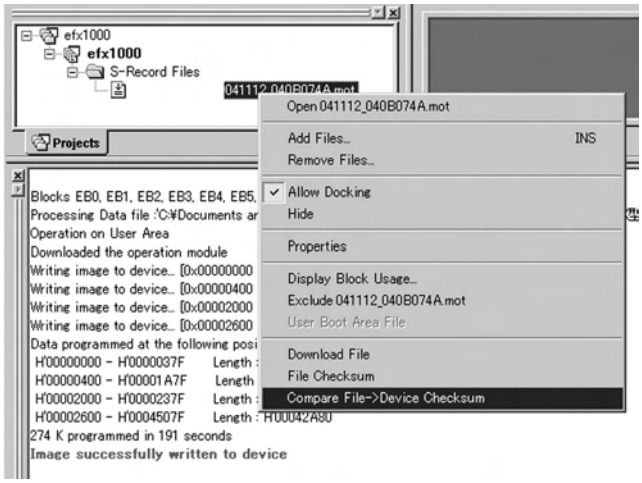


When the message "Image successfully written to device" is displayed, downloading has been finished.

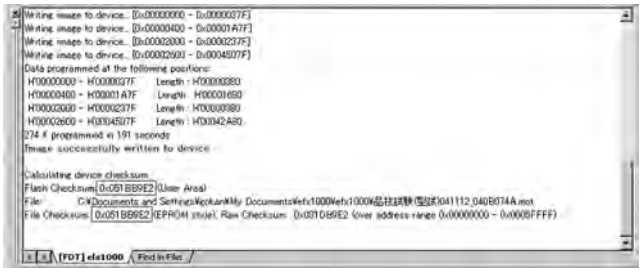


- **Confirming if downloading has been successfully completed**

Right-click on the .mot file, and select Compare File → Device Checksum.



Check the values enclosed in the frames in the illustration below. If these two values are the same, downloading has been successfully completed.



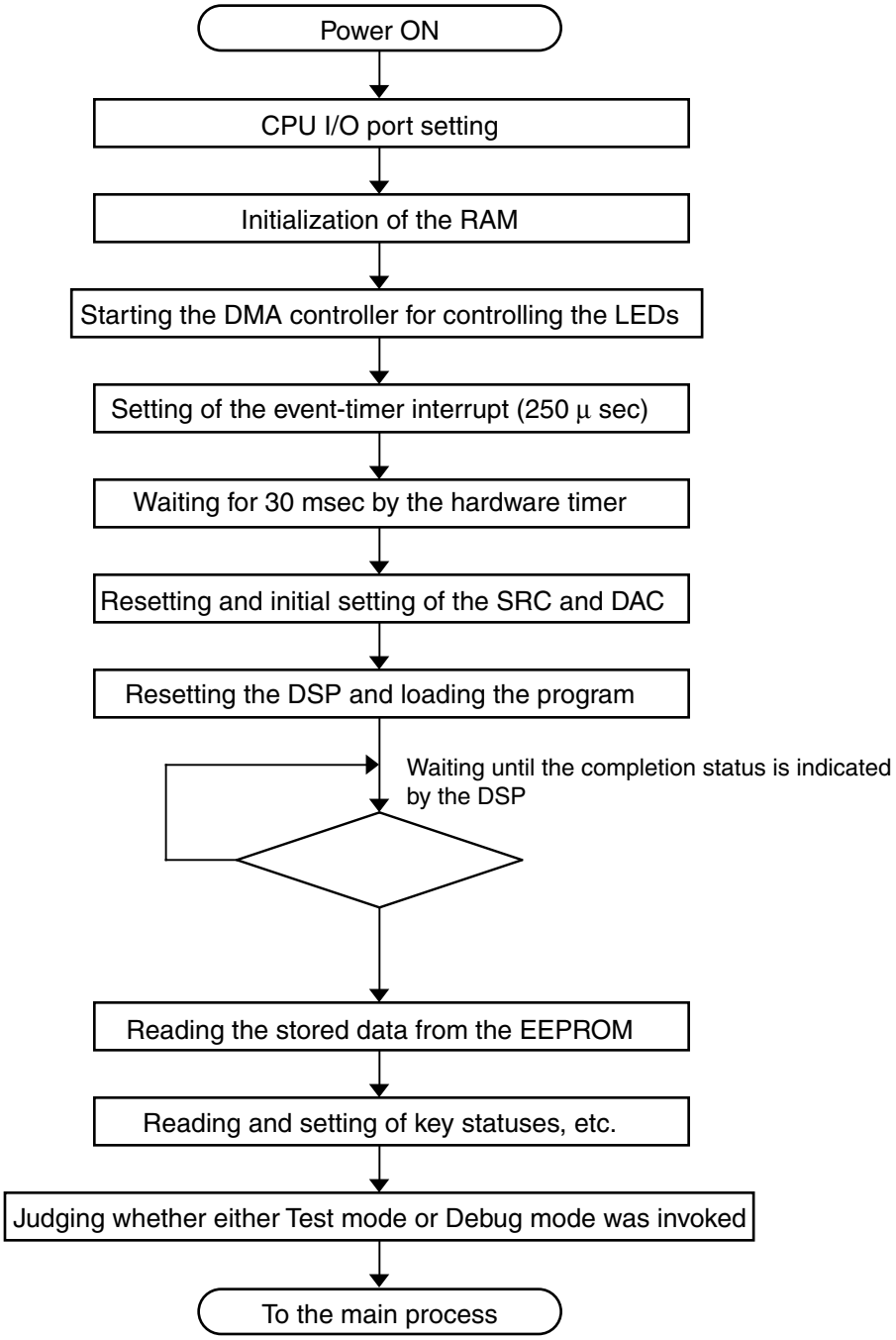
4. Exiting from the program

Click on the Disconnect icon to deactivate connection of the EFX-1000 with the PC.

Turn off the EFX-1000, and unplug the cables of the RS-232C jig.

7.1.3 POWER ON SEQUENCE

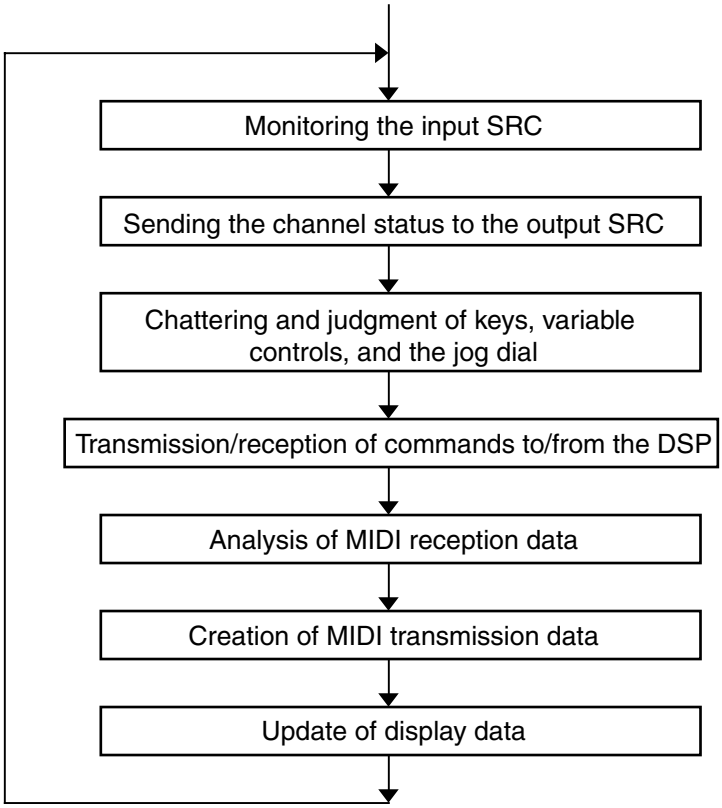
■ POWER ON



■ Main process

With the 2-ms-cycle main loop (counted by the 250-μ sec timer), monitoring of key statuses, VR status, and JOG status, and chattering are performed. The user can update display data, control the DSP and SRC (digital input/output), and perform transmission/reception with MIDI and EFX-LINK.

● Main process



● Interrupt process of the 250-μ sec event timer

- Updating counters of the various timers
- Starting/stopping an A/D-conversion interrupt and acquiring the data
- Updating displays, starting/stopping DMAC for acquiring key input, and acquiring the key data

● Interrupt of serial transmission/reception for MIDI

- Transmitting MIDI data created by the buffer in the main process
- Storing received MIDI data in the buffer

● Interrupt of serial transmission/reception for the EFX-LINK

- Processing EFX-LINK commands, as needed

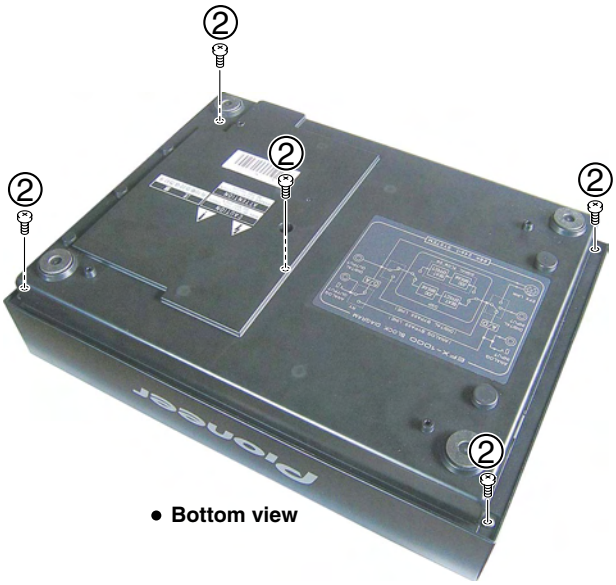
7.1.4 DISASSEMBLY

Note : Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

1 Control Panel Section

① Remove the knob VOL.

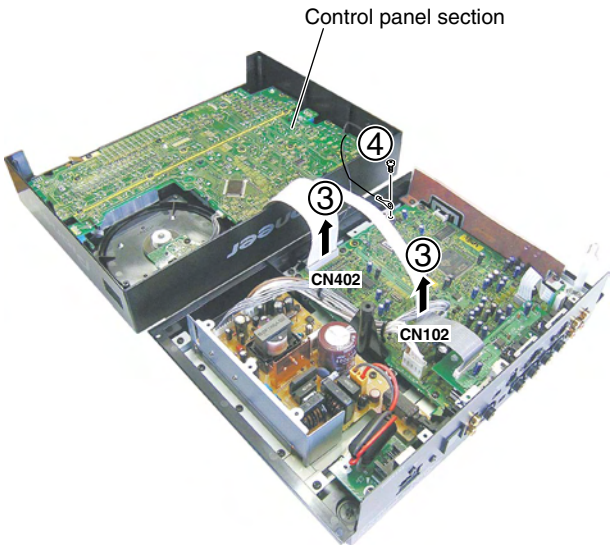
② Remove the five screws.

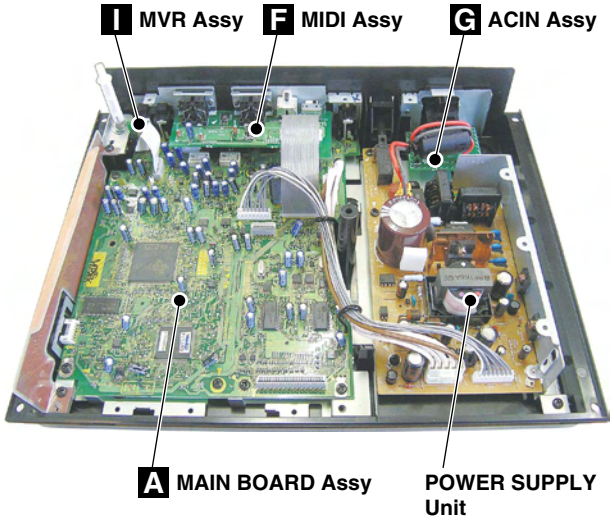


● Bottom view

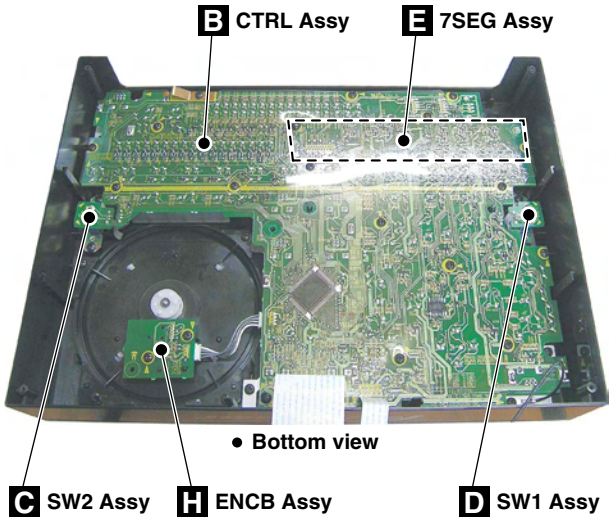
③ Disconnect the two flexible cables.

④ Remove the earth lead wire.

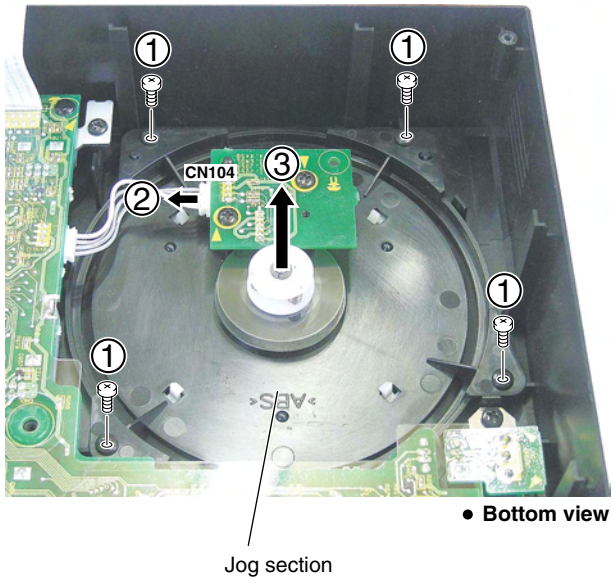




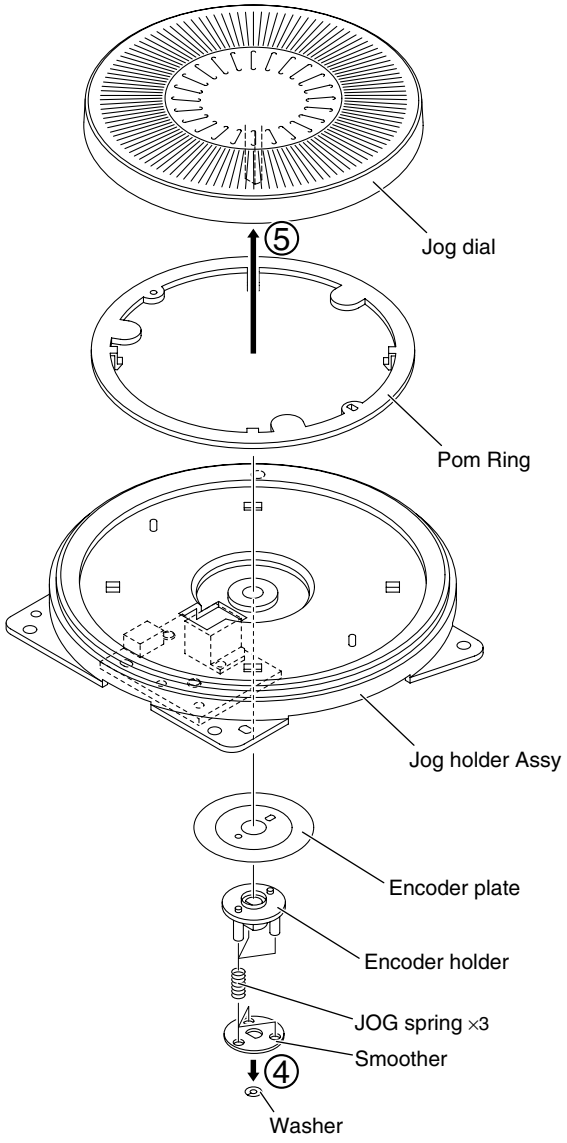
2 Jog Section



① Remove the four screws.
② Disconnect the connector.
③ Remove the jog section.



④ Remove the washer.
⑤ Remove the jog dial.



7.2 PARTS
7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

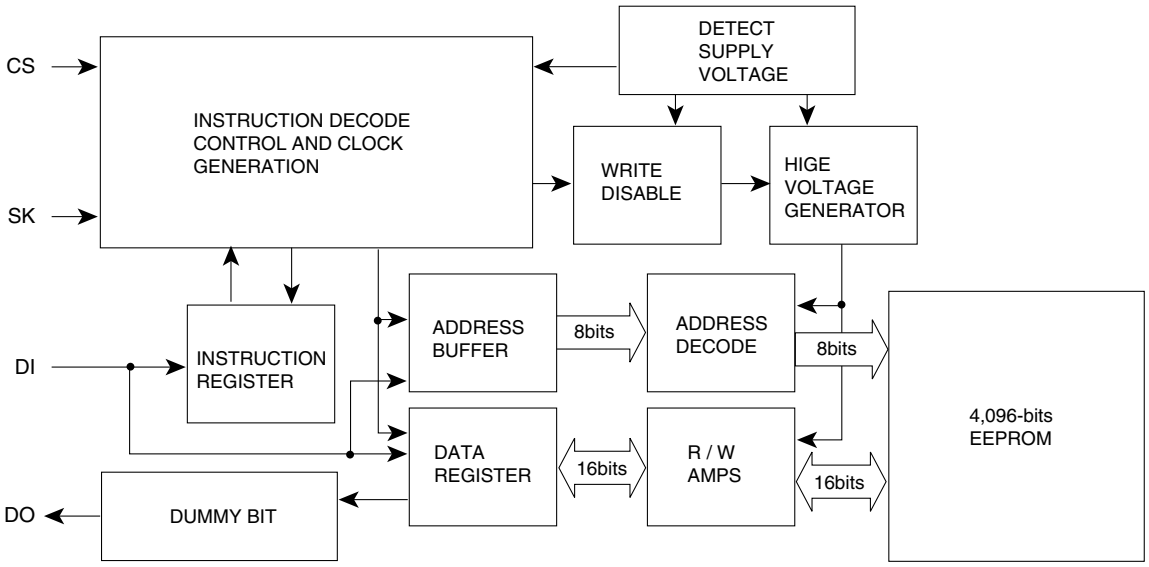
● **List of IC**

BR93L66F-W, CS8420-CSZD1, TC74HC74VHC125FTS1, TC74VHC161FT

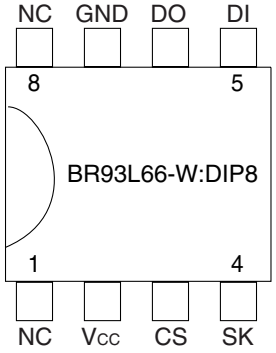
■ BR93L66F-W (MAIN BOARD ASSY: IC415)

• 256 x 16bits EEPROM

● **Block Diagram**



● **Pin Assignment**



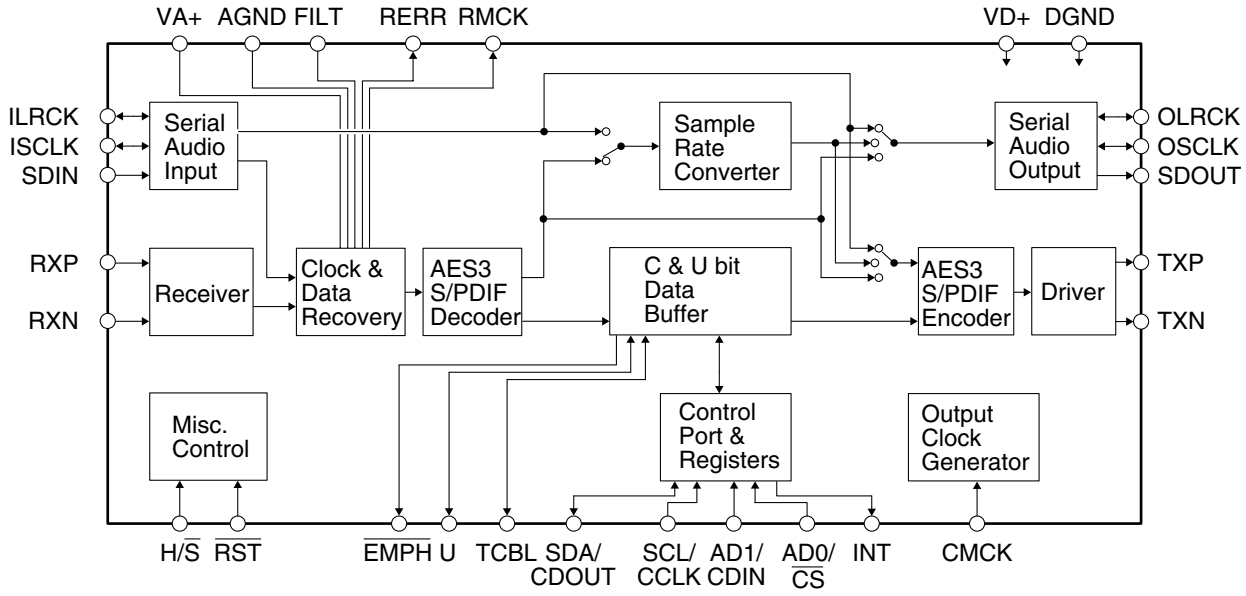
● **Pin Function**

Pin Name	I/O	Pin Function
Vcc	–	Power Supply
GND	–	Ground (0V)
CS	I	Chip Select control
SK	I	Serial Data Clock Input
DI	I	Start Bit ,Op.code,Address,Serial Data Input
DO	O	Serial Data Output,Ready / $\overline{\text{Busy}}$ Status Output
NC	–	No Connection (Vcc or GND or OPEN)

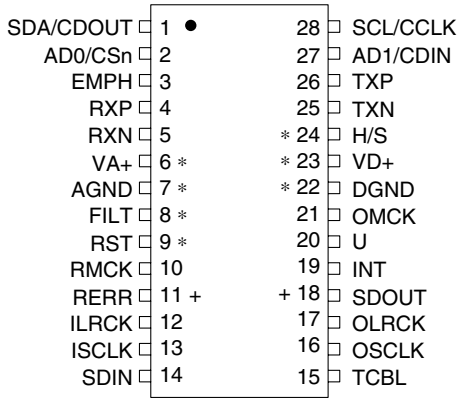
■ CS8420-CSZD1 (MAIN BOARD ASSY: IC401, IC402)

• Digital Audio Sample Rate Converter

● Block Diagram



● Pin Assignment



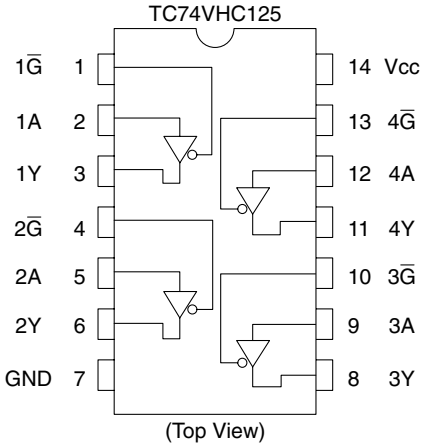
Note :

- * pins which remain the same function in all modes.
- + pins which require a pull up or pull down resistor to select the desired startup option.

TC74VHC125FTS1 (MAIN BOARD ASSY (IC407, IC411, IC412)

• CMOS LOGIC IC

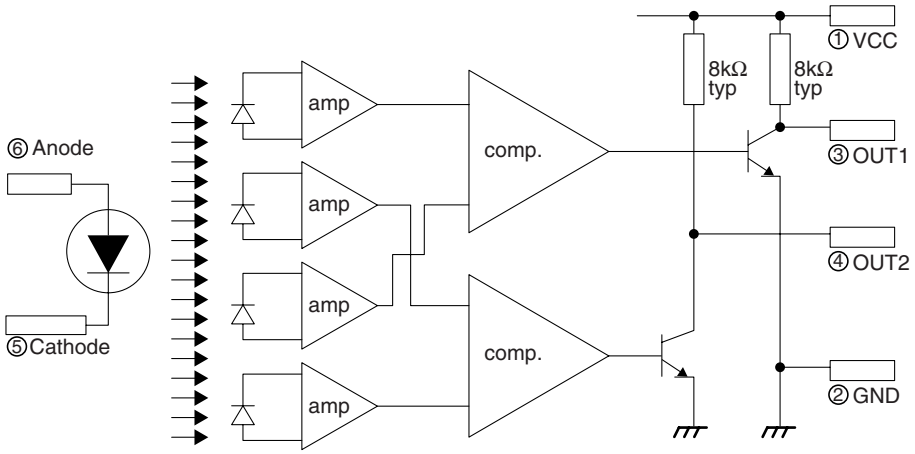
● **PIn Assignment**



RPI-2150N (ENCB ASSY: D105)

• Encoder

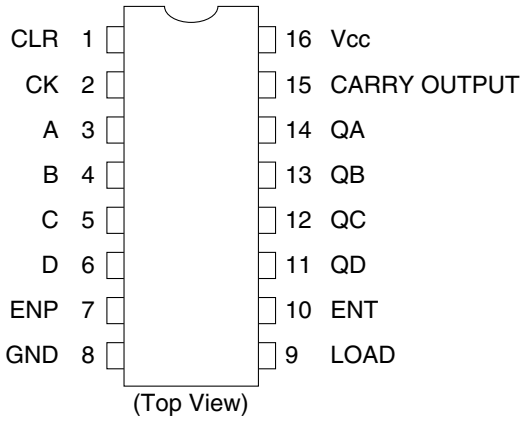
● **Block Diagram**



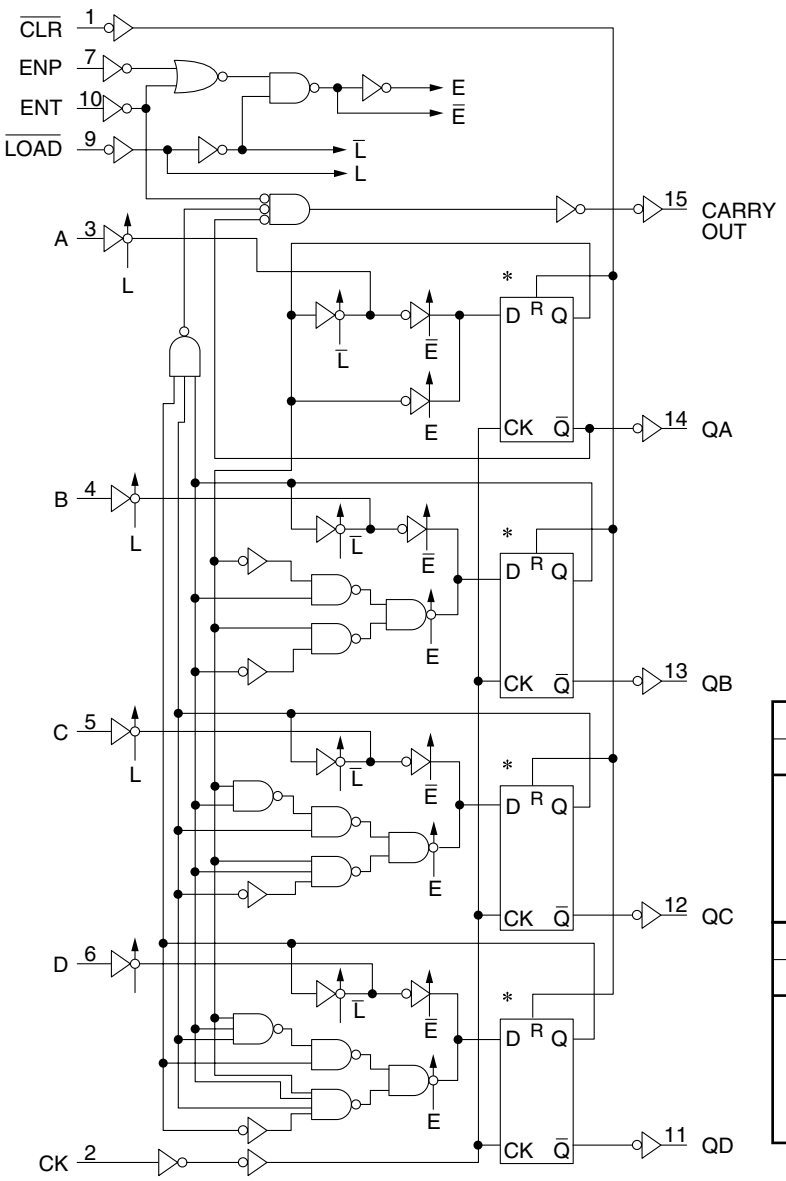
TC74VHC161FT (MAIN BOARD ASSY: IC413, IC414)

• Synchronous Presettable 4-bit Counter

● Pln Assignment



● Block Diagram



* TRUTH TABLE OF INTERNAL F/F

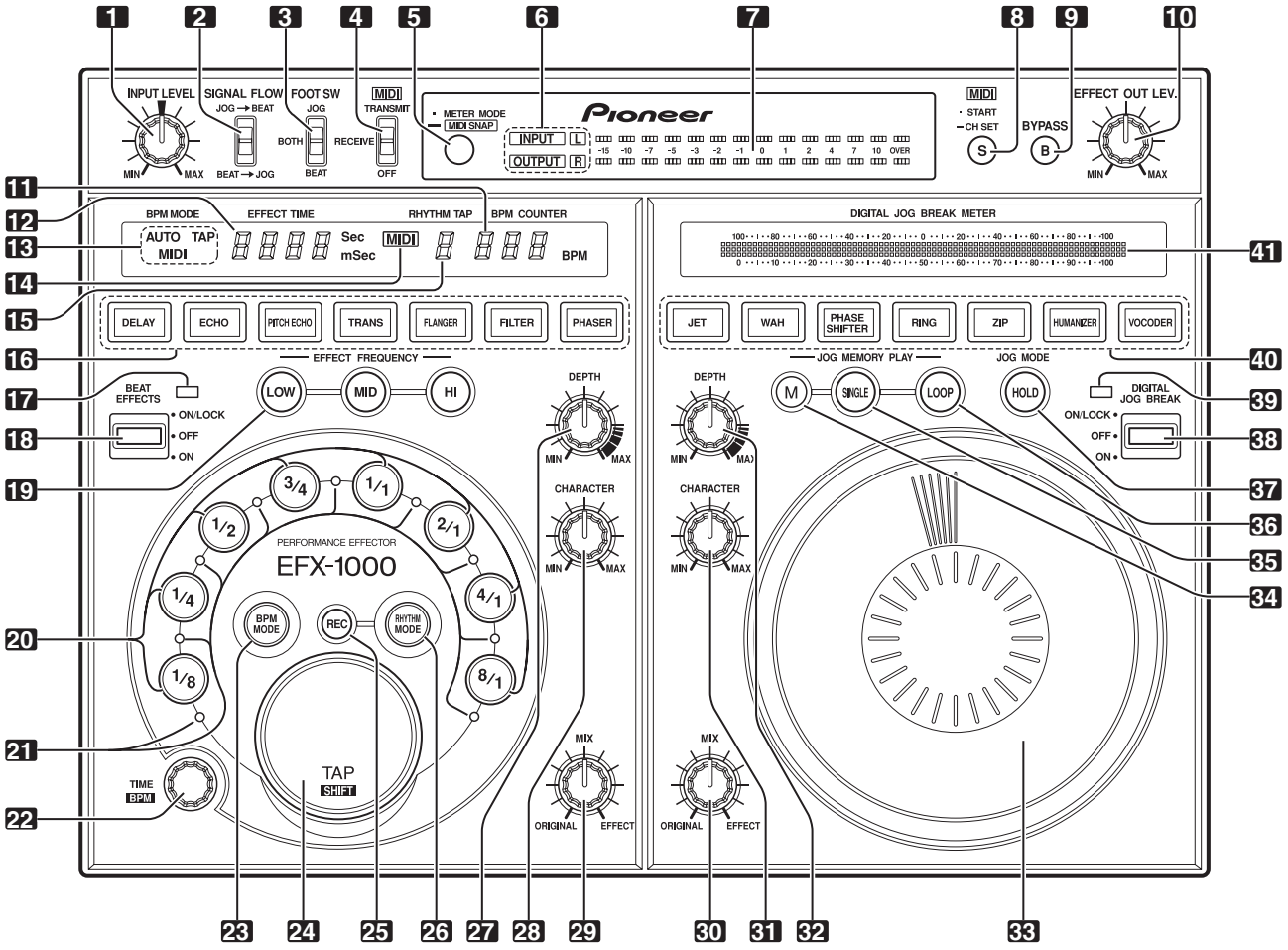
TC74VHC161				
D	CK	R	Q	$\bar{Q}$
X	X	H	L	H
L	↑	L	L	H
H	↑	L	H	L
X	↓	L	NO CHANGE	

TC74VHC163				
D	CK	R	Q	$\bar{Q}$
X	↑	H	L	H
L	↑	L	L	H
H	↑	L	H	L
X	↓	X	NO CHANGE	

X : Don't Care

8. PANEL FACILITIES

• Control Panel



1 INPUT LEVEL dial

Use to adjust the input level. Adjustment range is –∞ to +9dB with analog inputs, and –∞ to 0dB with digital inputs.

2 SIGNAL FLOW switch

Use to select the order of signal flow between beat effect and digital jog break sections.

JOG → BEAT:
Signals travel through the digital jog break section before passing to the beat effect section.

BEAT → JOG:
Signals travel through the beat effect section before passing to the digital jog break section.

3 Foot switch mode selector (FOOT SW)

Use to select which function is controlled (ON/OFF) by an attached foot switch (pedal switch).

BEAT:
Attached foot switch controls beat effect function (ON/OFF).

JOG:
Attached foot switch controls digital jog break function (ON/OFF).

BOTH:
Attached foot switch controls both beat effect function and digital jog break function (ON/OFF).

4 MIDI mode select switch

Select MIDI communication between computer and other instruments, etc.

TRANSMIT:
Acts as MIDI controller

RECEIVE:
Effector can be controlled by MIDI signals.

OFF:
Acts as effector (communication OFF)

5 METER MODE/MIDI SNAP button

[Use to switch the function of the level meter display.]
Each time the button is pressed, the level meter display switches between input and output monaural display, input stereo display, and output stereo display.

[MIDI Snapshot Mode]
When this button is held depressed with the MIDI mode set to [**TRANSMIT**], a snapshot will be sent to the external MIDI component.

6 Level meter mode display (INPUT, OUTPUT, L, R)

Input and output monaural display:
Both [**INPUT**] and [**OUTPUT**] indicators light.

Input stereo display:
[**INPUT**] and [**L**], [**R**] indicators light.

Output stereo display:
[**OUTPUT**] and [**L**], [**R**] indicators light.

7 Level meter display

8 MIDI START/CH SET button / indicator
[MIDI START]
If this button is pressed when MIDI mode is set to [**TRANSMIT**], the MIDI start/stop signal is output.
Lights steadily with START, and goes out with STOP.
[MIDI channel setting (CH SET)]
If this button is held depressed when MIDI mode is set to [**TRANSMIT**] or [**RECEIVE**], the MIDI indicator flashes and the MIDI setting mode is enabled.

9 BYPASS button / indicator
When this button is set to ON, the audio input connector signals are fed directly to the output connectors, bypassing the effector circuits.
When the audio input/output connectors are connected directly in this way, the indicator flashes.

10 EFFECT OUT LEV. dial
When effects are set to ON, this dial can be used to control the effect output level. Adjustment range is –∞ to +6dB.

Beat Effect section

11 BPM COUNTER display
Displays the beats-per-minute of the input source, or the TAP input. The indicator flashes during automatic BPM calculation. When power is first turned on, the counter will flash [**120 BPM**].

12 EFFECT TIME display
Displays actual effect time.
When power is first turned on, defaults to [**500 mSec**].

13 BPM measurement mode display (AUTO, MIDI, TAP).
Displays the BPM measurement mode.

14 MIDI display
Lights when handling MIDI data.

15 RHYTHM TAP display
Displays the tap count input in the rhythm mode.

16 Beat effect select button / indicator (DELAY, ECHO, PITCH ECHO, TRANS, FLANGER, FILTER, PHASER).
Use to select the beat effect. All buttons light, and selected effect button flashes.
When power is turned ON, DELAY flashes.

17 BEAT EFFECTS indicator
Lights when beat effects are ON.

18 BEAT EFFECTS lever switch (OFF/ON/ON-LOCK)
Pull the lever toward you [**ON**] to output beat-effected sounds.
In the middle position beat effects are [**OFF**]; push the lever away from you to lock the lever in the [**ON/LOCK**] position (effects are locked ON). When pulled to the [**ON**] position, beat effects are output only while the lever is held; when your finger is released, the lever returns to middle [**OFF**] position.

19 EFFECT FREQUENCY select buttons (LOW/MID/HI)
Use to select the frequency band of the sounds to which beat effects will be applied. The button of the selected band will light.
When power is first turned ON, all three of the ranges **LOW**, **MID**, and **HI** are selected. If all three range buttons are OFF, no beat effects will be applied to sounds.

20 Beat select buttons / indicators (1/8, 1/4, 1/2, 3/4, 1/1, 2/1, 4/1, 8/1)
[During BPM mode]
When a BPM is measured automatically or input manually, the beat select button [**1/1**] is selected by default. The effect is synchronized automatically to the BPM, and the corresponding effect time is displayed.
If a beat select button is then pressed, the effect is newly synchronized to the corresponding multiple of the BPM (1/8, 1/4, 1/2, 3/4, etc.), thus allowing one-touch change of the BPM synchronization multiple. In turn, the selected beat select button lights, thus showing to what multiple of the actual BPM the effect is synchronized, as well as the multiple of the time parameter.
[During RHYTHM mode]
When the rhythm input with the TAP button is established, [**1/1**] is selected and a multiple of the rhythm can be selected with the beat select buttons.

21 Beat effect beat-interval indicators
The indicators light to show the period of the effect time.

22 Beat effect TIME/BPM dial
When rotated the effect time selected with the beat select buttons can be changed as desired.
If the dial is rotated while depressing the **TAP** button, the BPM can be set as desired (BPM manual input).

23 BPM MODE button / indicator
Use to turn BPM mode ON, and to select tempo measurement mode (AUTO/MIDI/TAP). During BPM mode, the button lights.
If the **TAP** button is pressed (tapped) during BPM mode, the mode switches to manual BPM measurement mode.
When power is first turned, the mode defaults to AUTO measurement mode.

24 TAP/SHIFT button / indicator
[During BPM mode]
When this button is tapped, the BPM manual measurement mode is selected, and the interval between two taps (maximum interval 2 seconds) is measured;the corresponding **EFFECT TIME** and **BPM** count is displayed, and the beat select button [**1/1**] is selected.
If the **TIME/BPM** dial is rotated while pressing this button, the BPM can be adjusted to an optional value (BPM manual input).
[During RHYTHM mode]
When this button is tapped, the rhythm is input (maximum tap interval 2 seconds, up to maximum rhythm count 8). The beat select button [**1/1**] is selected.
[Tap indicator]
Lights during normal use; goes out only when TAP is pressed.

25 Rhythm REC button
Clears the currently input rhythm and allows input of a new rhythm.

26 RHYTHM MODE button / indicator
When this button is pressed, the **RHYTHM** mode is selected, and the button lights.

27 Beat effect DEPTH dial
Allows adjustment of effect feedback and timing parameters in accordance with the amount of rotation.

28 Beat effect CHARACTER dial
Allows adjustment of parameters other than those set with the beat effect **DEPTH** dial.

29 Beat effect MIX dial
Rotate to adjust the mixing balance of original and effect sounds. When rotated fully to the [**ORIGINAL**] side, the original (un-effected) sound will be output; as the dial is rotated toward the [**EFFECT**] side, the effect sound is amplified and the original sound decreases.

Digital Jog Break section

30 Digital jog break effect MIX dial
Rotate to adjust the mixing balance of original and effect sounds. When rotated fully to the [**ORIGINAL**] side, the original (un-effected) sound will be output; as the dial is rotated toward the [**EFFECT**] side, the effect sound is amplified and the original sound decreases.

31 Digital jog break effect CHARACTER dial
Allows adjustment of parameters other than those set with the digital jog break **DEPTH** dial.

32 Digital jog break DEPTH dial
Allows adjustment of effect feedback and timing parameters in accordance with the amount of rotation.

33 Jog dial
Effect parameters change in response to the rotation of the dial.

34 Jog memory button (M)
If the Jog dial is rotated while holding this button depressed, the parameter change in response to the movement is recorded to memory, to a maximum 8 seconds. Recording to memory is not possible during jog memory play.

35 Jog memory SINGLE play button / indicator
If the button is pressed while the button indicator is lighted, the parameter change previously recorded in memory in response to the Jog dial movement is reproduced (played back) one time only.
Indicator lights when the jog operation is stored in memory. Indicator flashes during jog memory single play (playback).

36 Jog memory LOOP play button / indicator
If the button is pressed while the button indicator is lighted, the parameter change previously recorded in memory in response to the Jog dial movement is reproduced (played back repeatedly).
Press again to end Jog memory loop play.
Indicator lights when the jog operation is stored in memory. Indicator flashes during jog memory loop play (playback).

37 Jog HOLD button / indicator
When this button is pressed so that its indicator lights, the effect produced when rotating the Jog dial is maintained even if you remove your hand from the dial (when the hold function is OFF, the effect returns to normal if your hand is removed from the dial). When power is first turned on, the button defaults to jog hold OFF (indicator is off).

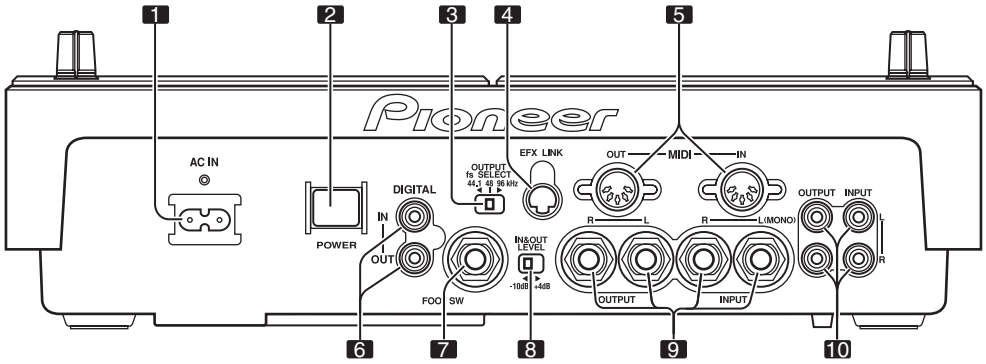
38 DIGITAL JOG BREAK effect lever switch (OFF/ON/ON-LOCK)
Pull the lever toward you [**ON**] to output effected sounds. In the middle position effects are [**OFF**]; push the lever away from you to lock the lever in the [**ON/LOCK**] position (effects are locked ON). When pulled to the [**ON**] position, effects are output only while the lever is held; when your finger is released, the lever returns to middle [**OFF**] position.

39 DIGITAL JOG BREAK effect indicator
Lights when digital jog break effect is ON.

40 Digital jog break effect selector buttons / indicators (JET, WAH, PHASE SHIFTER, RING, ZIP, HUMANIZER, VOCODER)
Press to select a desired digital jog break effect. All the buttons light, and the select effect button flashes.
When power is turned ON, JET flashes.

41 DIGITAL JOG BREAK METER
During operation of the Jog dial, and during jog memory play, this meter lights to display the corresponding movement.

• Connection Panel



1 Power input socket (AC IN)
Use the provided power cord to connect this socket to anAC outlet.

2 POWER switch

3 Digital OUTPUT fs SELSECT switch
Use to change the digital output frequency sampling rate (fs) (44.1kHz/48kHz/96kHz).(default : 96kHz)

4 Link input/output connector (EFX LINK)
When the accessory digital link cable is used to connect this connector to the DJ-mixer DJM-1000 (with digital link support), digital link functions can be used, permitting a variety of new functions.

CAUTION:
The EFX LINK connector is designed to be connected via the provided digital link cable ONLY to a component equipped with the designated digital link function. The unit may be damaged if this connector is mistakenly connected to any other component.

5 MIDI input/output connectors (MIDI OUT, MIDI IN)
Use to connect the effector to a MIDI component .

6 Digital input/output connectors (DIGITAL IN, DIGITAL OUT)
Use to connect the effector to a component provided with coaxial digital input/output connectors.

7 Foot switch jack (FOOT SW)
Can be connected to a ON/OFF type foot switch with 6.3mm phone plug to allow ON/OFF control of effects. Foot switches are available in several types, including press-ON, press-OFF, and latching-type ON/OFF.
loops as this will cause circuit oscillations which could damage the speakers.
[Example of connections that must not be performed]

8 Input/output gain select switch (IN&OUT LEVEL)
Use to select the input/output gain (–10dB / +4dB). (default : –10dB)

9 Audio INPUT/OUTPUT jacks
Uses 6.3mm phones plug. For monaural inputs, connect L input channel only for output on both L and R channels. Audio inputs are throughput (output) even when the unit's power is turned OFF.

10 Audio INPUT/OUTPUT jacks
INPUT/OUTPUT connectors using RCA pin jacks. Audio inputs are throughput (output) even when the unit's power is turned OFF.

CAUTION:
Do not make any connections that may create signal loops as this will cause circuit oscillations which could damage the speakers.

■ Jigs List

Name	Jig No.	Remark
EFX-1000 Product Jig	————	Refer to 7.1.1 TEST MODE "3. EFX LINK Check mode".
Digital Link Cable	DKP3724	
RS-232C Jig	GGF1490	Refer to 7.1.2 REWRITING THE FIRMWARE.
PC (Windows 98, XP, 2000)	————	**About these softwares (Flash Development Tool kit and Program Flash Files)** To obtain these software, contact your nearest Pioneer service center.
Flash Development Tool Kit (ver. 3.3)	————	
Program Flash File	————	