DJ-70 MK II SAMPLING WORKSTATION

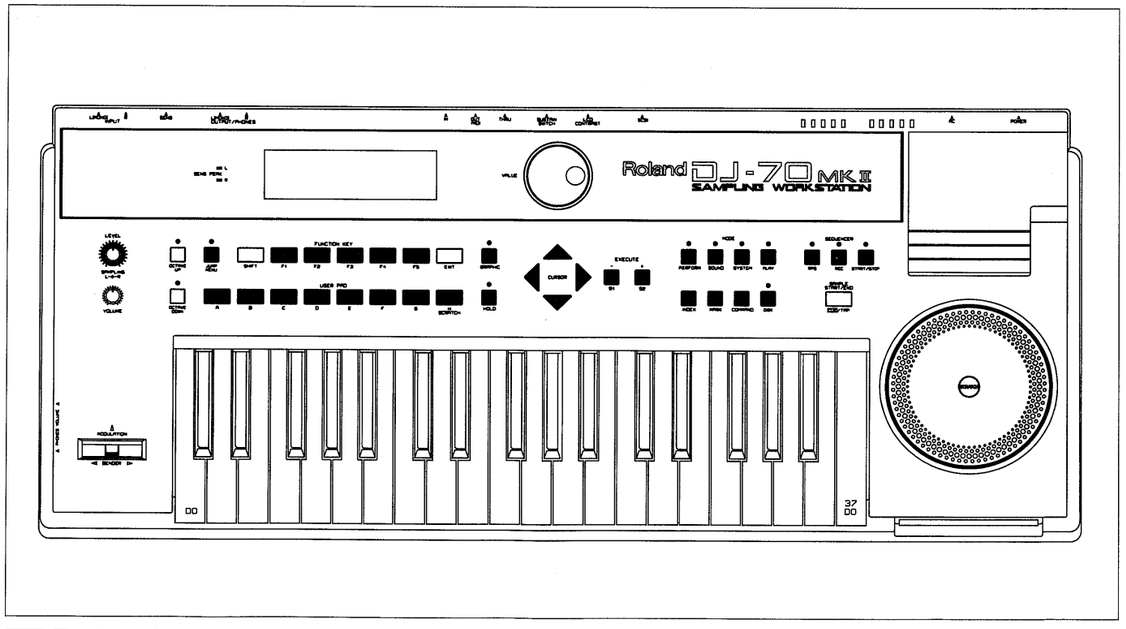
SERVICE NOTES

First Edition

Issued by RES

TABLE OF CONTENTS

ATTENTION : The DJ-70MKII is different from DJ-70 only in some details such as digital boards, top and bottom cabinet, etc.
In this manual we have only listed the differences between the two instruments. It is really necessary to refer to the DJ-70 Service Notes (RJA code : 17059654) for a deep knowledge of this instrument.
In the Parts List (pag.5) this symbol " # " will help you to find the new parts used for the DJ-70MKII Sampling Workstation.



SPECIFICATIONS

- **KEYBOARD** : 37 Keys with velocity
- **MAX POLYPHONY** : 24 Voices
- **INPUT IMPEDANCE** : 10K ohm
- **INPUT LEVEL** : +4 dB to -50 dBm continuous variance.
- **OUTPUT IMPEDANCE** : 200 ohm (stereo, out, R, L)
- **RESIDUAL NOISE** : More than -80 dBm. (Volume : Max., Input shored, IHF-A type)
- **INTERFACE** : SCSI Connector

-Sampling System-

- **SAMPLING RATE** : 44.1KhZ, 22.05kHz
- **DATA FORMAT** : 16 bit Linear with DI method.
- **A/D** : 16 bit
- **D/A** : 20 bit
- **SOUND MEMORY** : Standard : 2M byte (Fully expanded : 32M byte by 8/16 Mbyte 72 pins SIMMs)
- **SIGNAL PROCESSING** : TVF (LPF, BPF, HPF, RING), TVA on 24 bit
- **FREQUENCY RESPONSE** : 20 Hz to 20kHz (+0/-3dB)
- **DINAMIC RANGE** : More than 87 dB (1 Voice at rated output)
- **TOTAL HARMONIC DISTORSION** : Less than 0.01%. (A/D + D/A)

-Disk Drive System-

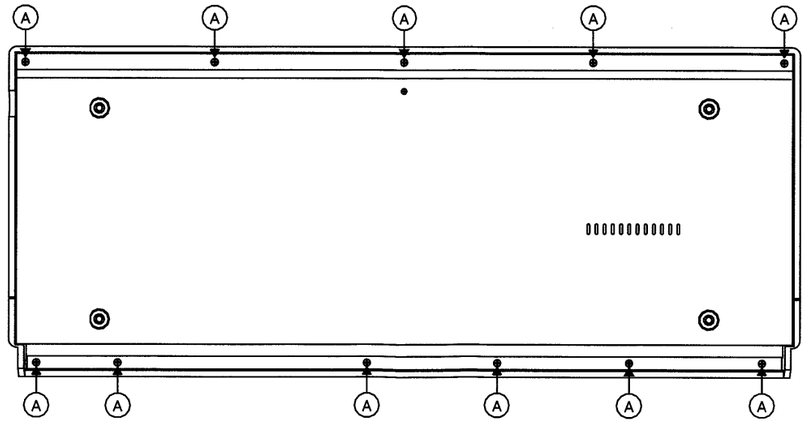
- **FLOPPY DISK DRIVER** :FDD FZ-357 338F1DR

-Display System-

- **DISPLAY** : LCD (64 x 240 dots)

- **POWER CONSUMPTION** : 25W (110V)
  : 28W (117V)
  : 37W (230V, 230VE, 240VA)
- **DIMENSIONS** : 30-23/32(W) X 12-3/32(H) X 4-3/8(D) inches
  780(W) X 330(H) X 126(D) mm
- **WEIGHT** : 18lbs 15 oz. / 8.6 Kg.
- **ACCESSORIES (STANDARD)** : Owners Manual (E) (K6018125)
  : Owners Manual (I/E/D/F) (K6018228)
  : Demo Disk (K2378105)
  : Compact Disk w/Sample Sound (K2378102)

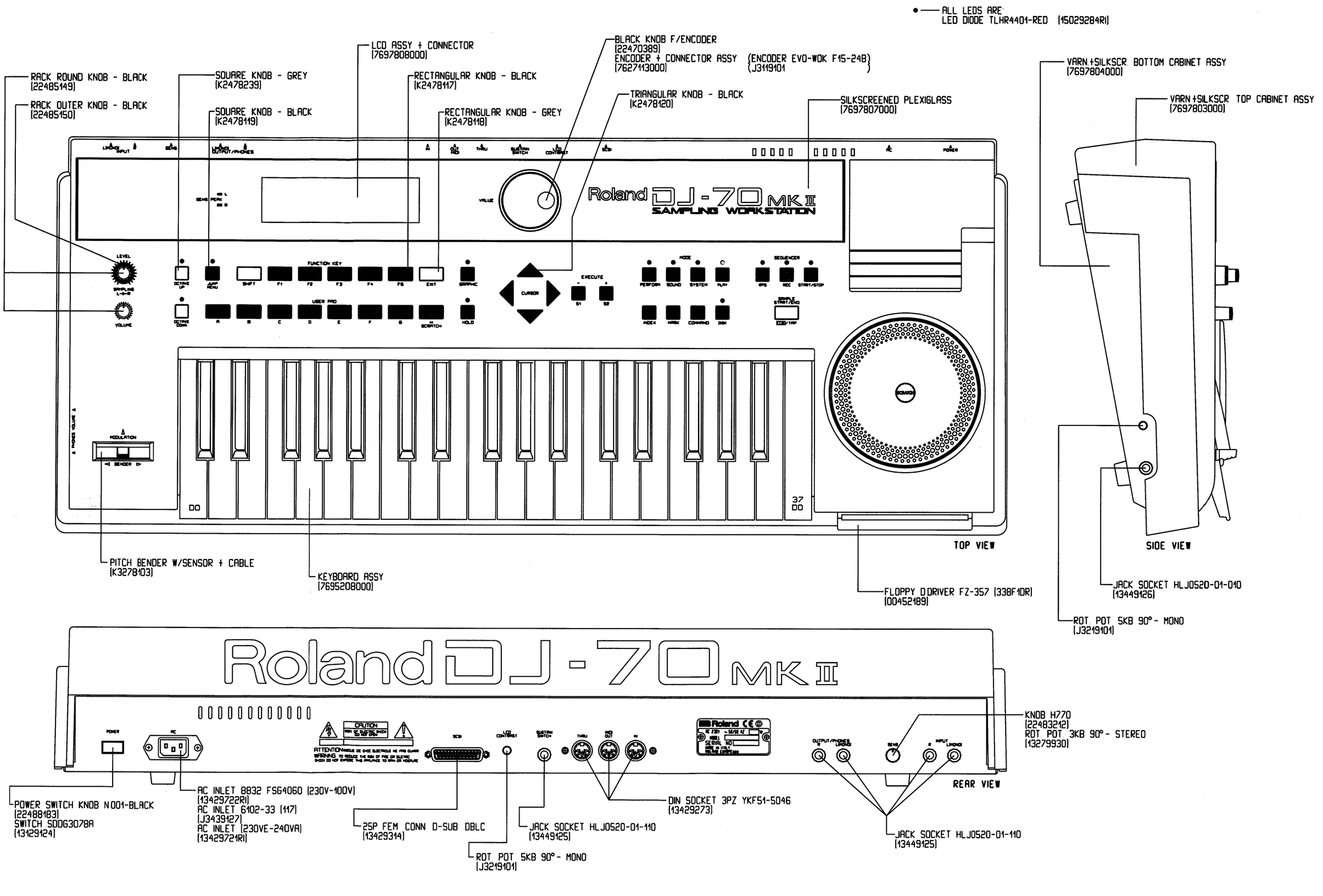
DISASSEMBLY



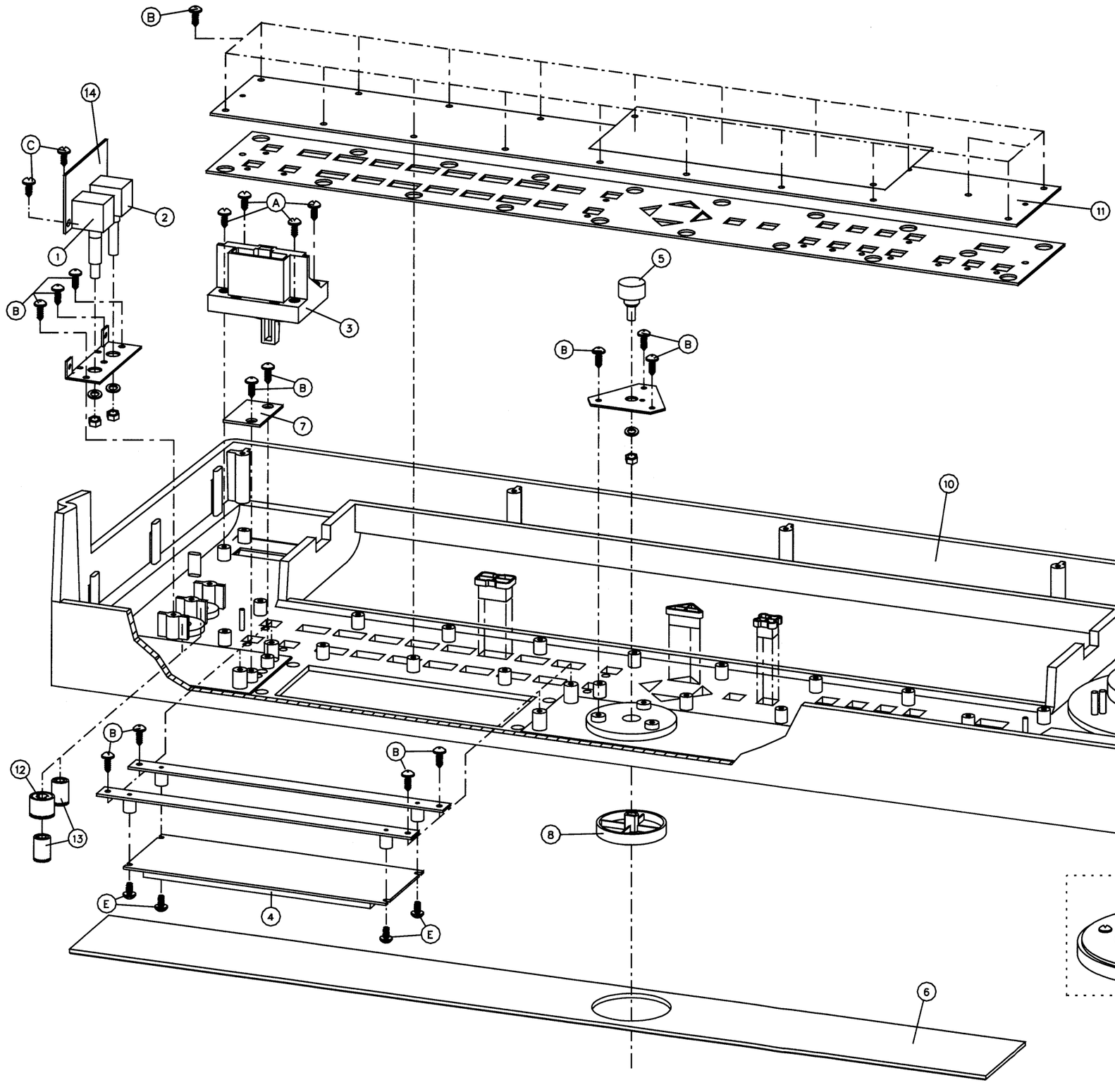
Silkscreened Bottom Cabinet Assy removal screw (A) x 11 pcs

(A) : 3.5x19 mm Self tap. screw TCTCPRBZ

LOCATION OF CONTROLS



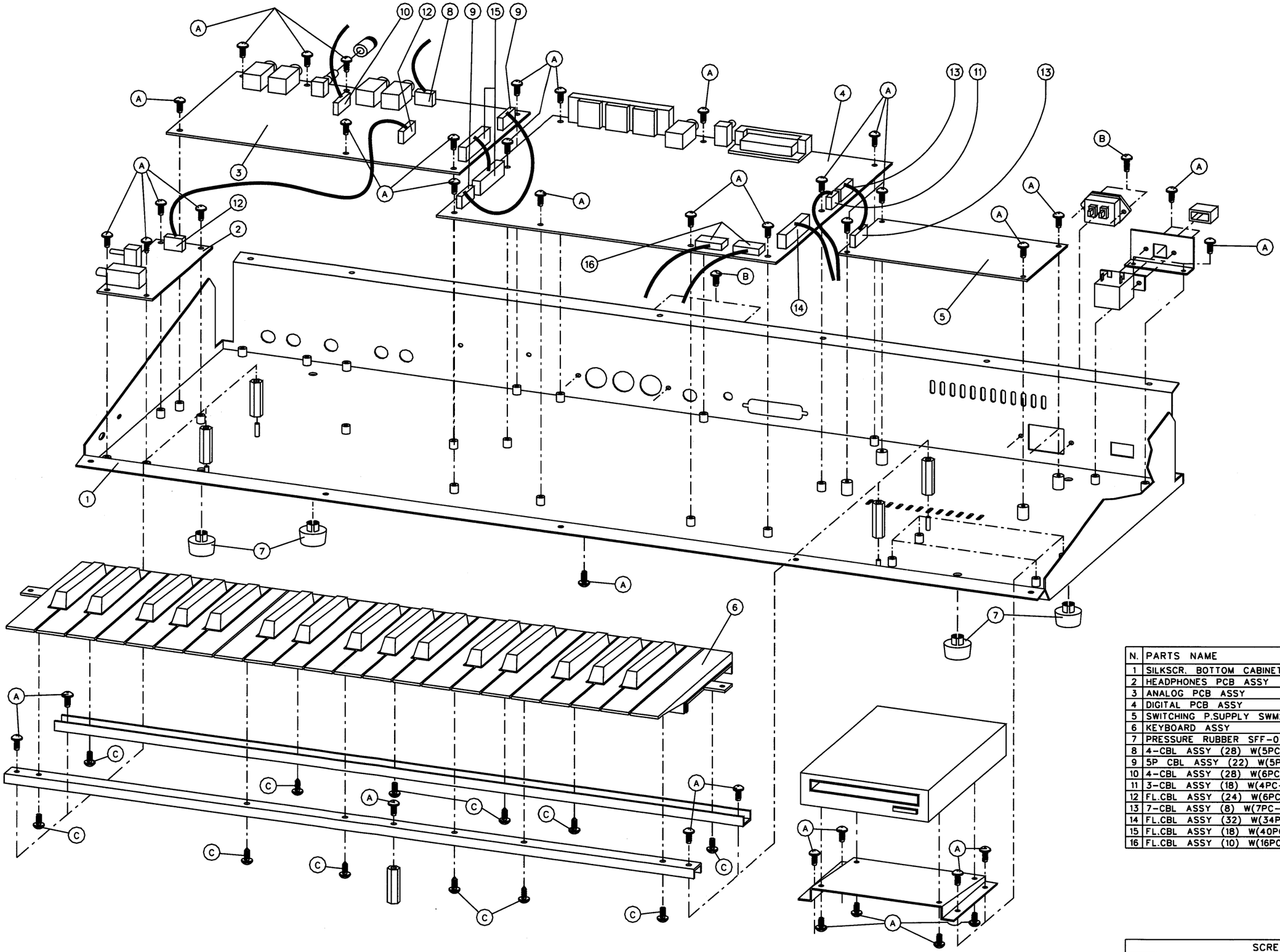
EXPLODED VIEW N.1



N.	PARTS NAME	PARTS N.
1	ROT. POT. 10KB - RK18122F0	13239137
2	ROT. POT. 10KB - RK18112A0	13239138
3	PITCH BENDER W/SENSOR + CABLE	K3278103
4	LCD ASSY + CONNECTOR	7697808000
5	ENCODER EVQ-WQK F15-24B	J3119101
6	SILKSCREENED PLEXIGLASS	7697807000
7	LED PCB ASSY	7695206000
8	BLACK KNOB F/ENCODER	22470389
9	SCRATCH ASSY	7695228000
10	SILKSCR. TOP CABINET ASSY	7697803000
11	CONTROLS PCB ASSY	7695203000
12	RACK OUTER KNOB - BLACK	22485150
13	RACK ROUND KNOB - BLACK	22485149
14	POTENTIOMETER PCB ASSY	7695204000

SCREW		
A	SELF TAP.SCREW 2.9x10 TCTCPRBZ	J2289125
B	SELF TAP.SCREW 3.5x9.5 TCPRTFR H.8	J2289115
C	SELF TAP.SCREW 2.9x6 TCTC	J2289101
D	SELF LOCK.SCREW M4x14 TCTC H.9.5	J2289109
E	SELF LOCK.SCREW M3x6 TCTC H.6	J2289193

EXPLODED VIEW N.2



N.	PARTS NAME	PARTS N.
1	SILKSCR. BOTTOM CABINET ASSY	7697804000
2	HEADPHONES PCB ASSY	7695205000
3	ANALOG PCB ASSY	7695202000
4	DIGITAL PCB ASSY	7697801000
5	SWITCHING P.SUPPLY SWM25N UNIV.	K2458136
6	KEYBOARD ASSY	7695208000
7	PRESSURE RUBBER SFF-018	J2359105
8	4-CBL ASSY (28) W(5PC-5PC)	7695215000
9	5P CBL ASSY (22) W(5PC-5PC)	7695219000
10	4-CBL ASSY (28) W(6PC-6PC)	7695220000
11	3-CBL ASSY (18) W(4PC-4PC)	7697802000
12	FL.CBL ASSY (24) W(6PC-6PC)	7316406000
13	7-CBL ASSY (8) W(7PC-7PC)	7695222000
14	FL.CBL ASSY (32) W(34PC-34PC)	7695225000
15	FL.CBL ASSY (18) W(40PC-40PC)	7695226000
16	FL.CBL ASSY (10) W(16PC-16PC)	7695223001

SCREW		
A	SELF LOCK.SCREW M3x6 TC TC H.6	J2289193
B	SELF TAP.SCREW 2.9x10 TC TC	J2289102
C	SELF TAP.SCREW 2.9x10 TCTCPRBZ	J2289125

PARTS LIST DJ-70MKII (117V/230V/230VE/240VA)

SAFETY PRECAUTIONS :

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

CONSIDERATION ON PARTS ORDERING

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

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

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

NOTE : The parts marked "#" are new (Initial Parts).
The parts marked ⚠ have Safety - Related characteristics.
Use only listed parts for replacement.

<< EMI >> : Component for EMC.

DB = DIGITAL BOARD **AB** = ANALOG BOARD
HB = HEADPH.BOARD **LB** = LED BOARD
PB = POTENT.BOARD **CB** = CONTR.BOARD
CTB = CONTACT BOARD

CASING

#	7697803000	VARN+SILK. TOP CABINET	DJ70MK2
#	7697804000	VARN+SILK. BOTTOM CABINET	DJ70MK2
#	7697807000	SILKSCR. PLEXIGLASS	DJ70MKII

KNOB BUTTON

	22470389	BLACK KNOB F/ENCODER	
	22485149	RACK ROUND KNOB	BLACK
	22485150	RACK OUTER KNOB	BLACK
	22483212	KNOB H770	
	K2478117	RECTANGULAR KNOB	BLACK
	K2478118	RECTANGULAR KNOB	GREY
	K2478119	SQUARE KNOB	BLACK
	K2478120	TRIANGULAR KNOB	BLACK
#	K2478239	SQUARE BUTTON	(GREY)
	22488183	POWER SWITCH KNOB N.001	BLACK

SWITCH

	1312975301	SWITCH	EVQ-QSB 05K GR.160 on CB
	13129124	SWITCH	SDDG3078A

JACK, SOCKET

	13449125	JACK SOCKET	HLJ0520-01-110 JK1>JK4 on AB/JK2 on DB
	13449126	JACK SOCKET	HLJ0520-01-010 JK1 on HB
	13429273	DIN SOCKET	3PZ YKF51-5046 JK1 on DB
	13479420	PIN FR JACK TO RCA	
	13429550RI	I.C. SOCKET	28P
	J3429103	I.C. SOCKET	32P
	J3429107	68P SOCKET F/ PLCC	(IC30, IC31 on DB)
	J3429117	32P SOCKET AZ-TN-SPBA32T2	(IC22 on DB)
#	J3429118	SOCKET DOUBLE F/SIMM M (72P)	(IC32, IC33 on DB)

DISPLAY UNIT

	7697808000	LCD ASSY + CONNECTOR
	NOTE :	Replacement LCD ASSY + CONNECTOR should be made on a unit bassis. No replacements available for individual parts.Replacement only be a unit.

DISK DRIVE UNIT

	00452189	FDD FZ-357 (338F1DR)
	NOTE :	Replacement FDD FZ-357 (338F1DR) should be made on a unit bassis. No replacements available for individual parts.Replacement only be a unit.

POWER SUPPLY UNIT

#	K2458136	SWITCHING P.SUPPLY SWM25N UNIV.
	NOTE :	Replacement SWITCHING P.SUPPLY SWM25N UNIV should be made on a unit bassis. No replacements available for individual parts.Replacement only be a unit.

BENDER UNIT

	K3278103	PITCH BENDER W/SENSOR + CABLE
	NOTE :	Replacement PITCH BENDER W/SENSOR + CABLE should be made on a unit bassis. No replacements available for individual parts.Replacement only be a unit.

KEYBOARD

	7695208000	KEYBOARD ASSY (37 KEYS)
	7695207000	CONTACT PCB ASSY W/RUBBER
	22185238	12P RUBBER CONTACT
	22185239	13P RUBBER CONTACT

NOTE : See " KEYBOARD PARTS LIST " in the DJ-70 SERVICE NOTES

PCB ASSY

	7695205000	HEADPHONES PCB ASSY
	7695206000	LED PCB ASSY
	7695204000	POTENTIOMETER PCB ASSY
	7695202000	ANALOGUE PCB ASSY
E #	7697801000	DIGITAL PCB ASSY
	7695203000	CONTROLS PCB ASSY

IC

15229718RI	PHOTO-COUPLER 6N 137	IC29 on DB
J5159101	I.C. 74 AC 14E	IC7 on DB
15169514RI	I.C. 74 HC 04	IC12 on DB
15169547RI	I.C. 74 HC 08	IC8 on DB
J5159103	I.C. 74 HC 123	IC2 on AB
J5159110	I.C. 74 HC 126 DIP	IC39 on DB
15169550RI	I.C. 74 HC138	IC3 on CB
15169552RI	I.C. 74 HC 245	IC17, IC18 on DB
15169512	I.C. 74 HCU 04P	IC26 on DB / IC9 on AB
15239124	I.C. SSC1000-15239124 FLAT	IC10 on DB
15239118	I.C. HG62E33B08F FLAT	IC1 on DB
15239131	I.C. UPD65012GF4733B9 FLAT	IC9 on DB
15239169	I.C. MB87424A FLAT	IC11 on DB
1523912100	I.C. TC23SC100AF-502 FLAT	IC13 on DB
15239109	I.C. MB87422 FLAT	IC14 on DB
15239137	I.C. MB87423A FLAT	IC15 on DB
J5259106	I.C. MB89352 PF FLAT	IC40 on DB
J5159111	I.C. TMS 44400DJ-70 SOJ	IC34, IC35, IC36, IC37 on DB
K5258115	I.C. M5M44256BJ7 70NS SOJ	IC3, IC4, IC5, IC6 on DB
15179820	I.C. EPROM 1K SER.93LC46	IC21 on DB
J5229101	I.C. EPROM 4M 100NS (Blank)	IC22 on DB
J5179101	I.C. 80C196KB12-PLCC FLAT	IC30 on DB
15209131	I.C. UPD72068GF-3B9 FLAT	IC16 on DB
15159113	I.C. 4051 BCP	IC4 on AB
J5159105	I.C. 4053 BCPD	IC15 on AB
15259887	I.C. TC7SU04F FLAT	IC41 on DB
J5169104	I.C. 74F245P	IC38 on DB
15189228RI	I.C. TL 082 P	IC25 on DB
15219183	I.C. M51953 A STANDING	IC2 on DB
15199559RI	I.C. TD 62506P	IC1 on CB
15199560RI	I.C. TD 62305AP	IC2 on CB
15189251	I.C. M5218 P	IC1 on HB / IC12, IC16, IC19 on AB
15219162	I.C. PCM-54MP DAC	IC1 on AB
15189233	I.C. AD847JN	IC8 on AB
15209158	I.C. AK9201A-VP	IC11 on AB
15189193	I.C. M5238P	IC18, IC20 on AB
15189186	I.C. UPC 4570C	IC21 on AB
15189197	I.C. NJM 5532 DD	IC2 on HB / IC13, IC14, IC17 on AB
15199198RI	I.C. UA 7905 SCNC	IC10 on AB
15199197RI	I.C. UA 7805 SCNC	IC5 on AB
15199180	I.C. AN78L08 ATA	IC6 on AB
15199181	I.C. AN79L08 ATA	IC7 on AB
7695235000	I.C. ROL-GAL. 002	IC27 on DB
# 7697805000	I.C. EPROM 4M (Program.)	IC22 DJ70MKII
# 7697806000	I.C. ADELE	IC31 DJ70MKII

TRANSISTOR

15119155RI	TRANSISTOR	BC/560-B	Q6 on AB / Q2 on DB
15119154RI	TRANSISTOR	BC/549-B	AB / Q3 on DB
15129136	TRANSISTOR	2SC-2878-A/B	Q2, Q3 on AB
15129602	TRANSISTOR	2SD-667C	Q1 on DB

DIODE

15019159RI	DIODE	1N-4148	CB / CTB / AB
15039174	DIODE	S2S6M	D7 on DB
15029284RI	LED DIODE TLHR4401	RED	CTB / LB
J5019104	ZENER DIODE BZX79C 12V		D8 on AB

RESISTOR

J3919101	RESISTOR ARRAY S.L.8X1K +C	RA11 on DB
13910103RI	RESISTOR ARRAY S.L.8X10K +C	RA12, RA16, RA17 on DB
13919253RI	RESISTOR ARRAY S.L.8X15K +C	RA1, RA14 on DB
13919190	RESISTOR ARRAY RGHD12Z331J221J	RA18, RA19, RA20 on DB
J3919106	RESIST. ARRAY 2512 8X3.3K +2C	RA2>RA10, RA13, RA15 on DB
13819132RI	UNINFL.RES. 100 OHM 0.6W 5%	R11, R12 on HB / R6, R15 on AB
13819131RI	UNINFL.RES. 10 OHM 0.6W 5%	R17,R20 on AB

POTENTIOMETER

J3219101	ROT.POT. 5KB 90ø	MONO	VR1 on DB / VR1 on HB
13279930	ROT.POT. 3KB 90ø	STEREO	VR4 on AB
13239137	ROT.POT. 10KB	RK18122FO	VR2 on PB
13239138	ROT.POT. 10KB	RK18112AO	VR1 on PB
13299197	TRIMMER CERMET	100K 5X5 OR	VR1, VR2, VR3 on AB

CAPACITOR

13649668RI	ELECTRL.COND.-H	47UF 25V
13639154	ELECTRL.COND.-V	1000UF 16V
13639179RI	ELECTRL.COND.	100U 25V RAD
J3629103	ELECTRL.COND.	100U 25V P5
J3629136	ELECT. COND.	220U 35V P5
J3629104	ELECTRL.COND.	10U 50V P5
J3629105	ELECTRL.COND.	47U 50V P5
J3629106	ELECTRL.COND.	4.7U 63V P5
J3629107	ELECTRL.COND.	1UF 100V P5
00677356	TANTAL. COND.	3.3U 16V HIFI
13649103J0	UNPOL.COND.	10U 16 P5
13589514	SPEC.COND.	100NF HIFI
13589513	SPEC.COND.	HIFI 5P

INDUCTOR, COIL, FILTER

<<EMI>>	12449370	NOISE SUP.	SBT-0160W	L2>L5 on DB / L1 on HB
<<EMI>>	12449326	NOISE SUP.	SBT-0460	L6 on DB / L2 on HB
<<EMI>>	13529187	NOISE SUP.	ELKTR391CA	AB / DB
<<EMI>>	12449380	NOISE SUP.	EXC-ELDR25V	L1>L4 on AB
<<EMI>>	12449368	FILTER	4502-066B 9368	FL2, FL4 on AB
<<EMI>>	12449367	FILTER	4502-066B 9367	FL3, FL5 on AB
<<EMI>>	12449369	FILTER	4502-069 9369	FL6, FL7 on AB / FL1 HB

CRYSTAL, RESONATOR

15299123	QUARTZ	25MHZ - CA-301	X1 on AB
15299120	QUARTZ	32 MHZ	X2 on DB
15299106	QUARTZ	12MHZ - CA-301	X3 on DB
15299160	QUARTZ	32.28MHZ - CA-301	X4 on AB
15299112RI	CERAMIC RESONATOR	8 MHZ	X1, X2 on DB

ENCODER

J3119101	ENCODER	EVQ-WQK F15-24B
7627113000	ENCODER + CONN. ASSY	

CONNECTOR

13419677RI	16P FEM. CONN.	AMP 1.27
13429314	25P FEM. CONN.	D-SUB. DBLC
J3439110	20P MALE CONN.	P. 1.27
13369550RI	40P MALE CONN.	P. 1.27
J3439111	5P MALE CONN.	P 2.5 M 90ø
13369688RI	4P MALE CONN.	P 2.5 M
J3439103	6P MALE CONN.	P 2.5 M
J3439109	5P MALE CONN.	P 2.5 M
J3439112	2P MALE CONN.	P 2.5 M
J3439113	7P MALE CONN.	P 2.5 M
J3439143	34P MALE CONN.	P. 1.27 M
J3439123	6P MALE CONN.	P. 2 M 90ø
J3459102	FEM. TERMINAL 4089C CON.	P.2.5
J3459103	FEM. TERMINAL 40445 CON.	P. 2.5

WIRING, CABLE

⚠	13499149RI	CABLE XVII-H03VVH2F-2X0.75-VII		(230V)
⚠	J3439128	CABLE 498/3SJT 2X18 AWG-C17		(117V)
⚠	13499152RI	CABLE BS/13/H05VV-F3G0.75-V		(230VE)
⚠	13499150RI	CABLE SAA/3-0D3CCFC 3X0.75-V		(240VA)
	7695219001	5P CABLE (22)	2C	CN10 on CPU to CN6 on AB
	7695223001	16P FLAT CABLE (10)	2C	CN1, CN2 on DB to CN1, CN2 on CTB
	7695215000	4-CBL ASSY (28)	W(5PC-5PC)	CN2 on AB to CN2 on PB
	7695220000	4-CBL ASSY (28)	W(6PC-6PC)	CN4 on AB to CN4 on PB
#	7697802000	3-CBL ASSY (18)	W(4PC-4PC)	CN4 on DB to FDD
	7316406000	FL.CBL ASSY (24)	W(6PC-6PC)	CN3 on AB to CN1 on HB
	7695222000	7-CBL ASSY (8)	W(7PC-7PC)	CN7 on AB from POW.SUPP.
	7695225000	FL.CBL ASSY (32)	W(34PC-34PC)	CN3 on DB to FDD
	7695226000	FL.CBL ASSY (18)	W(40PC-40PC)	CN8 on DB to CN1 on AB

TRANSFORMER

12449584	TRANSFORMER	NEL-D32-49

AC INLET

13429722RI	AC INLET 8832.FSG.40.60	(230V)
J3439127	AC INLET 6102-33	(117V)
13429721RI	AC INLET 6100-33	(230VE,240VA)

SCREW

J2289101	SELF TAP.SCREW	2.9X 6 TC TC
J2289102	SELF TAP.SCREW	2.9X10 TC TC
J2289126	SELF TAP.SCREW	2.9X 8 TCTCPRBZ
J2289125	SCREW	2.9X10 TC TC PR TROP
J2289128	SELF TAP.SCREW	3.5X19 TCTCPRBZ
J2289120	SELF TAP.SCREW	2.9X13 TCTSPPR
J2289109	SELF LOCK.SCREW	M4X14 TCTC H. 9.5
J2289193	SELF LOCK.SCREW	M3X6 TC TC H.6
J2289115	SELF TAP.SCREW	3.5X9.5 TCPRTFR H.8
J2289157	SCREW	M3X8 TC1 OVAL HEADED

PACKING

	K2638124	RIGHT POLYST. END-SIDE	
	K2638125	LEFT POLYST. END-SIDE	
#	K2618162	OUTER PACKING	DJ-70MKII

MISCELLANEOUS

K2168102	SPACER FOR LED H.2.8 D.E. 5.5
K2168101	SPACER H.11.5
J2359105	PRESSURE RUBBER SFF-018
J2259101	VEOLENE K600 SHEET

SCRATCH

	7695228000	SCRATCH ASSY
	7695212000	SCRATCH ENCODER ASSY
	K2328101	SCRATCH WHEEL
	K2148102	SCRATCH MOVEMENT GROUP
	J3119102	OPTICAL ENCODER HRPG/56R

NOTE : See " PARTS LIST FOR EXPLODED VIEW OF SCRATCH " In the DJ-70 SERVICE NOTES.

ACCESSORIES

	K6018125	OWNER'S MANUAL (E)	DJ-70
#	K6018228	OWNER'S MANUAL (I/E/D/F)	DJ70MKII
#	K2378105	DEMO DISK	DJ-70MKII
	K2378102	COMPACT DISK W/SAMPLE SOUNDS	
	13479420	PIN FR JACK TO RCA	

DJ-70MKII TEST MODE

Equipment required:

Foot switch (DP2 or equivalent).
Midi cable.
2 SIMM memory modules.
A formatted DD or HD floppy disk.
A monitor speaker.
A stereo headphone.
An oscilloscope.

Entering TEST MODE

While pressing the "**^**" button on the front panel,turn the power on.
The LCD display will show:

```
**  DJ70MKII TEST MODE  **

VER XX.XX      MM/DD/YY

Program DRAM OK
```

VER = Release Number of TEST MODE S/W

Program DRAM Test is automatically run and the result is displayed.
If nothing is displayed any problem on Program DRAM may be present and the test program cannot be run.

After 5/6 seconds the display will show:

```
            ** MAIN MENU **

A = MEMORY              D = KEYBOARD
B = PANEL               E = FLOPPY DD
C = CONTROLS            F = ANALOG BOARD

     TURN OFF THE INSTRUMENT TO EXIT
```

This is the TEST MAIN MENU.

Exiting TEST MODE

Turn the power off.

MEMORY TEST

Pressing the "**A**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
            ** MEMORY MENU **

A = BOOT ROM            C= WAVE DRAM SHORT
B = EEPROM              D= WAVE DRAM LONG


        PRESS EXIT TO MAIN MENU
```

This is the MEMORY TEST MENU.

Pressing "**EXIT**" you will come back to the MAIN MENU.

Memory Menu - A

Pressing "**A**" the display will show:

```
          ** BOOT ROM TEST **


            Ic22 = xxxxx


        PRESS EXIT TO MEMORY MENU
```

XXXXX = OK (In case of normal condition)
XXXXX = ERROR (In case of Error condition)

Pressing "**EXIT**" you will come back to the MEMORY TEST MENU.

Memory Menu - B

Pressing "**B**" the display will show:

```
** EEPROM TEST **

DATA WILL BE CLEARED
ARE YOU SURE?

YES=S1                NO=EXIT
```

Pressing "**EXIT**" this TEST will be aborted and you will come back to the MEMORY TEST MENU.

Pressing "**S1**" the display will show:

```
** EEPROM TEST **

Ic21 = XXXXX

PRESS EXIT TO MEMORY MENU
```

XXXXX = OK (In case of normal condition)
XXXXX = ERROR (In case of Error condition)

Pressing "**EXIT**" you will come back to the MEMORY TEST MENU.

Memory Menu - C/D

Pressing "**C**" or "**D**" the display will show:

```
** WAVE MEMORY MENU **

A = MEMORY TYPE
B = MEMORY CHECK
C = MEMORY VERIFY

PRESS EXIT TO MEMORY MENU
```

This is the WAVE MEMORY TEST MENU.

If "**D**" is pressed in the Memory Menu, the Wave Memory Check and/or Verify will be more accurate but longer in time. In most of cases, short wave test ("**C**" in the Memory Menu) will be sufficient.

Pressing "**EXIT**" you will come back to the MEMORY TEST MENU.

Wave Memory Menu - A

Pressing "**A**" the display will show:

```
** WAVE MEMORY TYPE **

TYPE = [ttttttttttttttttt]
ADDRESS =     ssssssh~eeeeeeh

PRESS EXIT TO WAVE MEMORY MENU
```

ttttttttttttttttt is the description of wave memory configuration.
ssssssh is the wave memory start address (hex)
eeeeeeh is the wave memory end address (hex)

Pressing "**EXIT**" you will come back to the WAVE MEMORY TEST MENU.

Wave Memory Menu - B

Pressing "**B**" the display will show:

```
** WAVE MEMORY CHECK

WRITE ADDRESS = wwwwwwh wwwwh
READ  ADDRESS = rrrrrrh rrrrh
ERROR ADDRESS = eeeeeeh eeeeh

PRESS EXIT TO WAVE MEMORY MENU
```

wwwwwwh wwwwh is the running wave memory write address and data (hex)
rrrrrrh rrrrh is the running wave memory read address and data (hex)
eeeeeeh eeeeh is the wave memory error address and data (hex) (if any)

Pressing "**EXIT**" you will come back to the WAVE MEMORY TEST MENU.

Wave Memory Menu - C

Pressing "**C**" the display will show:

```
        ** WAVE MEMORY VERIFY **

    WRITE ADDRESS  =
    READ  ADDRESS  = rrrrrrh rrrrh
    ERROR ADDRESS  = eeeeeeh eeeeh

    PRESS EXIT TO WAVE MEMORY MENU
```

rrrrrrh rrrrh is the running wave memory read address and data (hex)
eeeeeeh eeeeh is the wave memory error address and data (hex) (if any)

Pressing "**EXIT**" you will come back to the WAVE MEMORY TEST MENU.

PANEL TEST

Pressing the "**B**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
        ** PANEL TEST MENU **

    A = SWITCHES    B = LED    C = LCD

        PRESS EXIT TO MAIN MENU
```

This is the PANEL TEST MENU.

Pressing "**EXIT**" you will come back to the MAIN MENU.

Panel Menu - A

Pressing "**A**" the display will show:

```
        HIT ANY BUTTON

    XXXXXXXXXXXX = OOO

    PRESS SHIFT & EXIT TO PANEL MENU
```

XXXXXXXXXXXX = Name of the pressed button.
OOO = ON (if pressed) / OFF (if released)

Pressing together "**SHIFT**" and "**EXIT**" you will come back to the PANEL TEST MENU.

Panel Menu - B

Pressing "**B**" the display will show:

```
        ** LEDS TEST **


    PRESS EXIT TO PANEL MENU
```

This is the LEDS TEST MENU.

All leds are lighted ON sequentially and, at the end of the sequence, all leds will light simultaneously.

Pressing "**EXIT**" you will come back to the PANEL TEST MENU.

Panel Menu - C

Pressing "**C**" the display will show:

```
            ** LCD TEST **

    A = LCD ON              D = CROSS DOTS 2
    B = LCD OFF             E = CROSS DOTS 3
    C = CROSS DOTS 1        F = RETURN

        PRESS EXIT TO PANEL MENU
```

This is the LCD TEST MENU.

Pressing "**A**" all dots are turned ON (SOLID BLACK)
Pressing "**B**" all dots are turned OFF (SOLID WHITE)
Pressing "**C**" dots are turned ON/OFF alternatively
Pressing "**D**" characters are turned ON/OFF alternatively
Pressing "**E**" characters are turned ON/OFF alternatively (opposite way of previous)
Pressing "**F**" you will come back to the LCD TEST MENU

Pressing "**EXIT**" you will come back to the PANEL TEST MENU.

CONTROLS TEST

Pressing the "**B**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
        ** CONTROLS TEST MENU **

A = PANEL CONTROLS          B = MIDI

        PRESS EXIT TO MAIN MENU
```

This is the CONTROLS TEST MENU

Controls Menu - A

Pressing "**A**" the display will show:

```
        ** PANEL CONTROLS MENU **

MOD   BEND   ENCODER   SCRATCH   FOOTSW

MMM   BBBB     EEE        SSS        FFF

        PRESS EXIT TO CONTROLS MENU
```

MMM = Modulation value from 0 to 127
BBBB = Pitch Bender value from -127 to +127
EEE = Alpha Dial value from 0 to 127
SSS = Scratch Wheel value from 0 to 127
FFF = ON (if DP2 pressed) / OFF (if DP2 not pressed)

NOTE: Connect the DP2 Footswitch to the FOOTSWITCH jack.

Pressing "**EXIT**" you will come back to the CONTROLS TEST MENU.

Controls Menu - B

Pressing "**B**" the display will show:

```
        ** MIDI TEST **

    CONNECT MIDI OUT TO MIDI IN
    AND PRESS S1 BUTTON TO START
          MIDI = XXXXX

    PRESS EXIT TO CONTROLS MENU
```

XXXXX = OK (In case of normal condition) / ERROR (In case of error condition)

Pressing "**EXIT**" you will come back to the CONTROLS TEST MENU.

KEYBOARD TEST

Pressing the "**D**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
        ** KEYBOARD TEST MENU **

            HIT ANY KEY

    KEY = KKK          VELOCITY = VVV

        PRESS EXIT TO MAIN MENU
```

KKK = Key name from C3 to C6
VVV = Velocity value from 0 to 127

NOTE: When any key is released VVV = 0; if more than one key is pressed or released, the last will be recognized.

Pressing "**EXIT**" you will come back to the MAIN MENU.

SCSI/FLOPPY DISK DRIVER TEST

Pressing the "**E**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
        ** SCSI/FLOPPY TEST MENU **

    A = SCSI (ID=0)          B = FLOPPY

        PRESS EXIT TO MAIN MENU
```

This is the SCSI/FLOPPY TEST MENU.

SCSI/Floppy Menu - A

Pressing "**A**" the display will show:

```
*** SCSI TEST ***

MMMMMMMMMMMMMMMM

PRESS EXIT TO SCSI/FLOPPY MENU
```

MMMMMMMMMM = SCSI TEST OK (all is OK)
SCSI Connection Error (Error during device connection)
SCSI Device Error (Error reading Disk ID)

NOTE: Be sure to set ID Number of external SCSI device to ID=0.

Pressing "**EXIT**" you will come back to the SCSI/FLOPPY TEST MENU.

SCSI/Floppy Menu - B

Pressing "**B**" the display will show:

```
** FLOPPY DISK TEST **

DISK XX TESTING
TRACK = TT     SECTOR = SS OOOOOO

MMMMMMMMMMM

PRESS EXIT TO SCSI/FLOPPY MENU
```

XX = DD / HD TT = Track number SS = Sector number

OOOOOO = LOADING / SAVING / VERIFY

MMMMMMM = DISK TEST OK (all is OK)
DISK TEST ERROR (floppy disk error)
NO DISK ! (no disk into driver or cables disconnected)
NOT FORMATTED

This test writes data to the floppy disk and then reads it.
However if the write protect slides of the inserted floppy disk is ON,the display will show "protected",and the test will not be executed. In this case,set the write protect slider OFF,and execute the test.When the test is executed,Save,Load and Verify operations will be automatically performed at three locations on the disk: track 1 sector 1,track 40 sector 8 and track 79 sector 16. If all operations are ok, the test will be exited automatically. If an error occurs,testing will halt .

Pressing "**EXIT**" you will come back to the SCSI/FLOPPY TEST MENU.

ANALOG BOARD TEST

Pressing the "**F**" button of the front panel while the TEST MAIN MENU is shown, the display will show:

```
** ANALOG BOARD TEST **

A = D/A MSB ADJUST
B = D/A CHECK
C = A/D OFFSET ADJUST

PRESS EXIT TO MAIN MENU
```

This is ANALOG BOARD TEST MENU

Pressing "**EXIT**" you will come back to the MAIN MENU.

Analog Board Menu - A

Pressing "**A**" the display will show:

```
** D/A MSB ADJUST **

INSERT STEREO PHONES ON PHONES JACK
& SET PHONES VOLUME TO MAX

A=VOICE START          EXIT=RETURN
```

This test allows you to adjust the MSB of the D/A converter.
Before entering this test,connect a stereo phones to the PHONES jack and set phones volume to maximum position.
When you press "**A**" a continous tone will be output from the PHONES jack.
Adjust the trimmer potentiometer (VR1) on the analog board to reduce the continous tone to the lowest possible volume.

When you press"**B**" the continous tone will be stopped.

When you have completed the operation press "**EXIT**" to exit to return to ANALOG BOARD TEST MENU.

Analog Board Menu - B

Pressing "**B**" the display will show:

```
          ** SINE D/A CHECK **

 OUT LEFT   = 880Hz        PHONES = 440Hz
OUT RIGHT = 1760Hz

    LEVEL   = XX    (S1=DEC : S2 = INC)

   A=VOICE START        EXIT=RETURN
```

XX = 1 - 13

This test checks the operations of the D/A converter.
Before you enter this test, connect a monitor speaker and an oscilloscope (1V/div., 0.2mS/div.) to the rear panel STEREO OUT L (mono) jack, and set the front panel VOLUME knob to maximum (MAX).
Use the panel switches, "**S1**" to decrement and "**S2**" to increment, to adjust the displayed level over the range 1-13, and the level of the continous tone, being output from OUT will change accordingly.
The level will double for each increment and, at the maximum (13), it will be equal to ~4 Vpp.
Connect the oscilloscope to the PHONES jack, set the PHONES volume to MAX and decrement the displayed level to 12 using "**S1**" button.
The level of the continous tone will be equal to ~13 Vpp.

Pressing "**EXIT**" you will come back to the ANALOG BOARD TEST MENU.

Analog Board Menu - C

Pressing "**C**" the display will show:

```
          ** D/A OFFSET ADJUST **

VR3 _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
     +
VR2 _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

               EXIT TO RETURN
```

This test allows you to adjust the offset of the A/D converter input.
While viewing the bar graph display in the LCD,rotate the trimmer potentiometer in the analog board (VR2 for the left channel, VR3 for the right channel) so that the "+" mark is at the center (+).

When you have completed the operation press "**EXIT**" to return to the ANALOG BOARD TEST MENU.

WAVE MEMORY EXPANSION - (SIM72-8 / SIM72-16)

SIM72-8 8 Mbyte SIMM
SIM72-16 16 Mbyte SIMM

These SIMMs are 72 pin type, 1.27 mm pitch, and not interchangeable with 30 pin type SIMMs, 2.54 mm pitch (OMS-770, OMS-750, SIM-8, SIM-2).

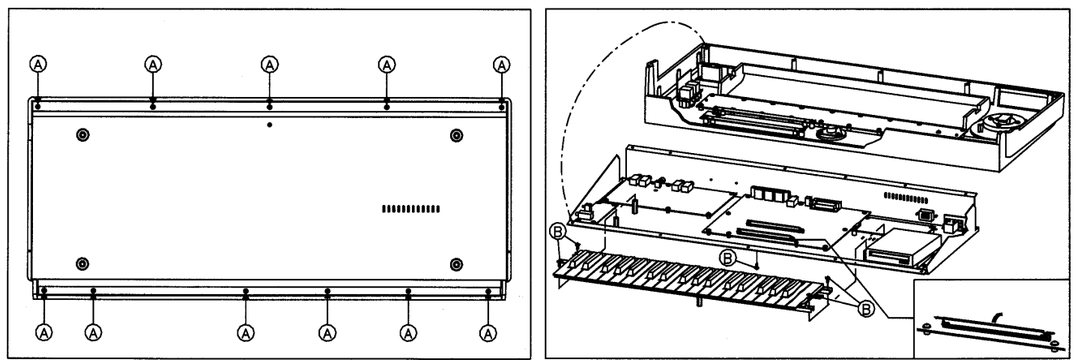
Allowed combinations

Do not use them in any other combinations then listed above.

Standard (2M)	Socket IC32	Socket IC33	Total Memory	Mono Sampling Time (44.1KHz)
0	empty	empty	2 M	22.5 sec
0	SIM72-8	empty	10 M	113.5 sec
0	SIM72-16	empty	18 M	204.6 sec
0	SIM72-8	SIM72-16	26 M	295.6 sec
X	SIM72-16	SIM72-16	32 M	363.8 sec

Tab 1

Installing procedure



CAUTION!

No.1: Remove the screws (11pcs) as indicated by " A " arrows to open cabinet of DJ-70 MKII, and rotate top cover (see fig1).

No.2: Remove the screws (5pcs) as indicated by " B " arrows to take out the keyboard (see fig2)

No.3: Install the SIMMs (Tab.1) into the sockets as shown in Fig.3 and press them until you hear a click.

No.4: Verify the expanded memory capacity by following the procedure shown below.
Turn on DJ-70MKII and the LCD will read the amount of currently operative memory immediately after the initial screen. In this case, the value should be as shown in Tab1.

Testing Wave Memory

While pressing the "^" button on the front panel,turn the power on.
The LCD display will show:

```
** DJ70MKII TEST MODE **

VER XX.XX  MM/DD/YY

Program DRAM OK
```

VER = Release Number of TEST MODE S/W

After 5/6 seconds the display will show:

```
** MAIN MENU **

A = MEMORY          D = KEYBOARD
B = PANEL           E = FLOPPY DD
C = CONTROLS        F = ANALOG BOARD

TURN OFF THE INSTRUMENT TO EXIT
```

Pressing the "A" button of the front panel the display will show:

```
** MEMORY MENU **

A = BOOT ROM        C= WAVE DRAM SHORT
B = EEPROM          D= WAVE DRAM LONG

PRESS EXIT TO MAIN MENU
```

Pressing "C" or "D" the display will show:

```
** WAVE MEMORY MENU **

A = MEMORY TYPE
B = MEMORY CHECK
C = MEMORY VERIFY

PRESS EXIT TO MEMORY MENU
```

Pressing “A” the display will show:

```
** WAVE MEMORY TYPE **

TYPE = [ttttttttttttttttt]
ADDRESS =     ssssssh~eeeeeeh


PRESS EXIT TO WAVE MEMORY MENU
```

ttttttttttttttttt is the description of wave memory configuration

Configuration	Total Memory	Mono Sampling Time (44.1 kHz)
2M+0M+0M	2 M bytes	22.5 sec
2M+8M+0M	10 M bytes	113.5 sec
2M+16M+0M	18 M bytes	204.6 sec
2M+8M+16M	26 M bytes	295.6 sec
0M+16M+16M	32 M bytes	363.8 sec

ssssssh is the wave memory start address (hex)
eeeeeeh is the wave memory end address (hex)

NOTE:

If 0M + 16M + 0M is displayed when one SIM72-8 and one SIM72-16 are installed, check connection of SIM72-8 at Socket IC32.
If 0M + 16M + 0M is displayed when one SIM72-16 is installed, remove the SIM72-16 from Socket IC33 and insert it into Socket IC32.
When two SIM72-16s are installed, the display should show 0M + 16M + 16M , indi cating that available wave memory is 32 Mbytes (standard memory is not used).

Turn off the instrument to exit from test mode.

Replacements

SIM72-8 and SIM72-16 are not available as spare parts but as commercial products.

Guarantee

A label bearing the Roland logo is attached on the SIM72-8 and SIM72-16.
Roland Corp. will not assure proper performance if a SIM72-8 or SIM72-16 having no Roland label is used.

SIMMs having no Roland label

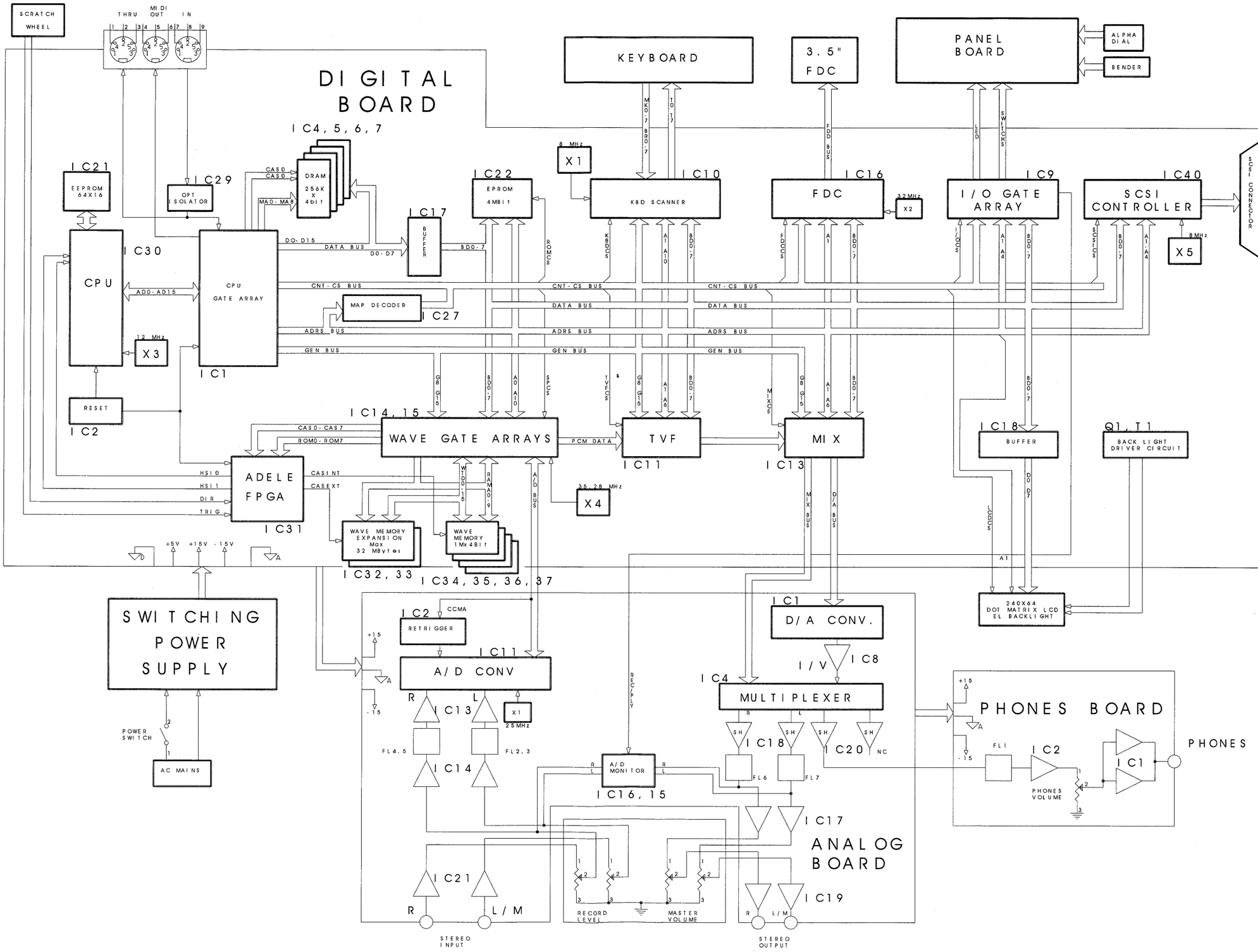
The SIMMs listed below may be used with the DJ-70 mkII but Roland will not assure correct performance of the SIMMs and DJ-70 mkII.

8 Mbyte SIMM
72 pin, 2 Mword x 32 bits D-RAM module
4 Mbit D-RAM x 16
Access time 80 ns or better
Suggested: THM322020AS-70

16 Mbyte SIMM
72 pin, 4 Mword x 32 bits D-RAM module
16 Mbit D-RAM x 8
Access time 80 ns or better
Suggested: THM324000BSG-70

NOTE:
OMS-770, OMS-750, SIM-8 and SIM-2 cannot be used with the DJ-70 mkII.
16 Mbyte SIMMs with 32 4-Mbit D-RAMs cannot be used with the DJ-70 mkII.

BLOCK DIAGRAM

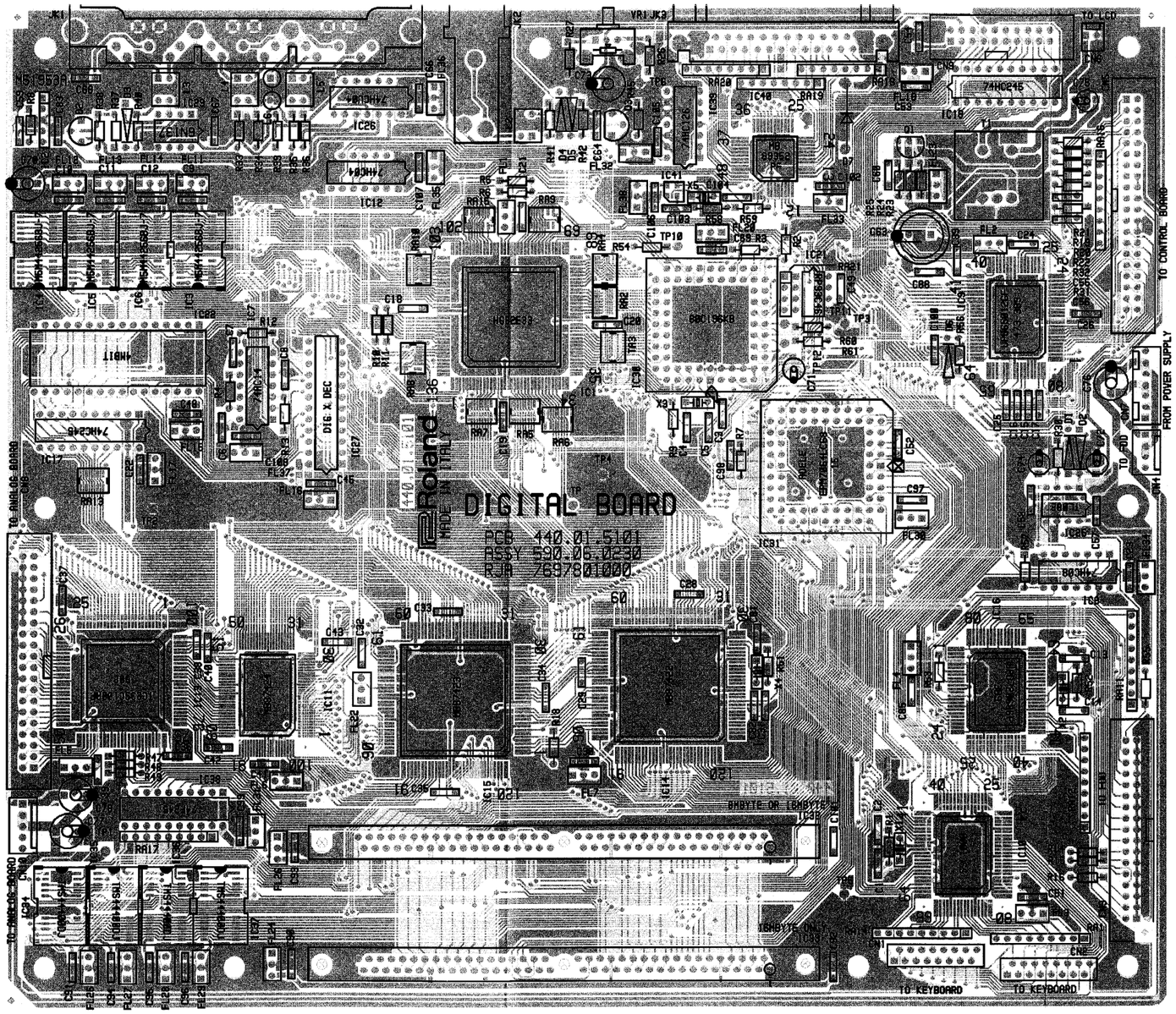


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

A B C D E F G H I J K L M N O P Q R S T U

DIGITAL PCB ASSY

ASSY 7697801000



CIRCUIT DIAGRAM (DIGITAL PCB ASSY)