disklavier

SERVICE MANUAL

MX-100B

MX-100B

CONTENTS

PP 008556

YAMAHA CORP.
HAMAMATSU, JAPAN
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IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

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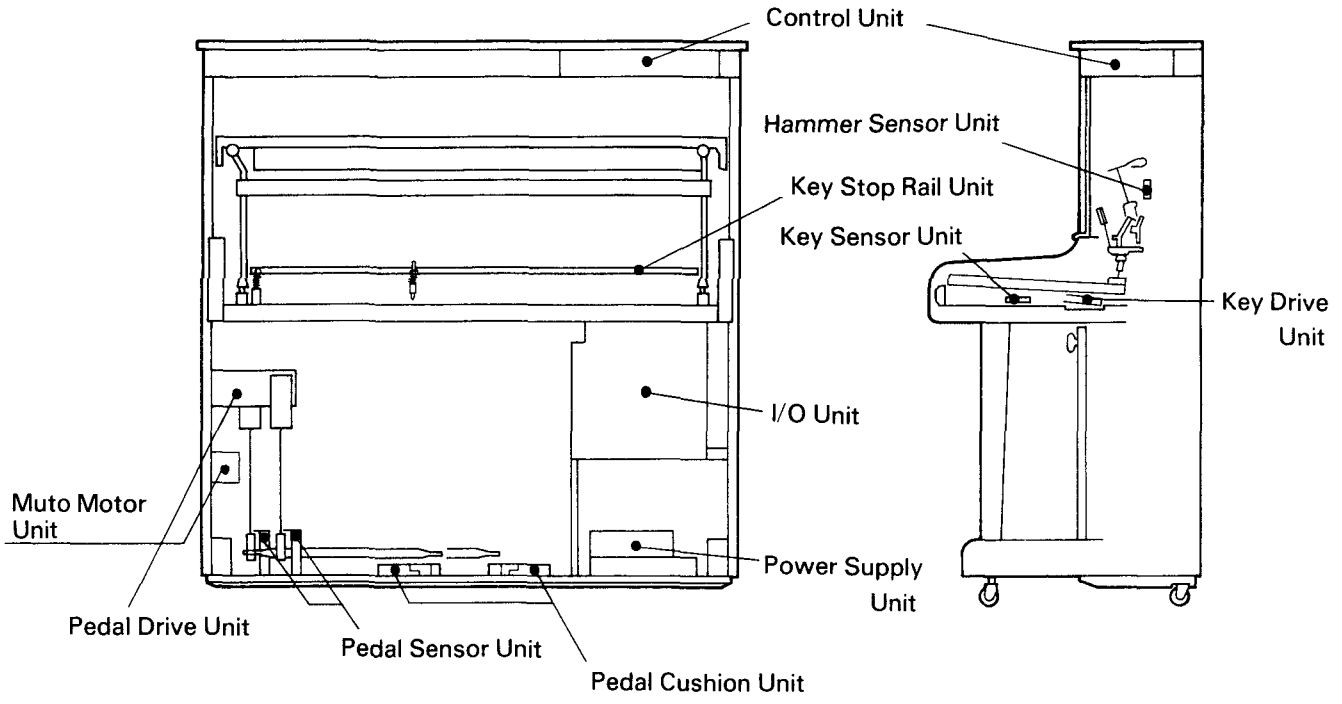
The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

The Disklavier Design



Specifications

Design

Control unit	• Key switches	18
	• LCD	Dot matrix (16 characters x 2 lines)
	• LED indicators	Power, Record, Volume, Tempo, Transposition, Metronome, MIDI.
	• LED display	7 segments x 2 digits
	• Disk drive	3.5 inch micro-floppy disk drive
	• Jacks	MIDI IN/OUT, foot switch phone jack (Excluding the unit with Specifications for West Germany)
	• Media	Double sided, double density, double track 3.5 inch microfloppy disks Memory capacity: 628 kbytes Number of pieces: 60 Music titles: 32 characters Disk titles: 64 characters
Solenoid unit	• Polyphonic voices	16
Sensor unit	• Polyphonic voices	16

Power supply

• Power requirement	Local AC voltage
• Ambient temperature	4°C (40°F) ~ 40°C (104°F)

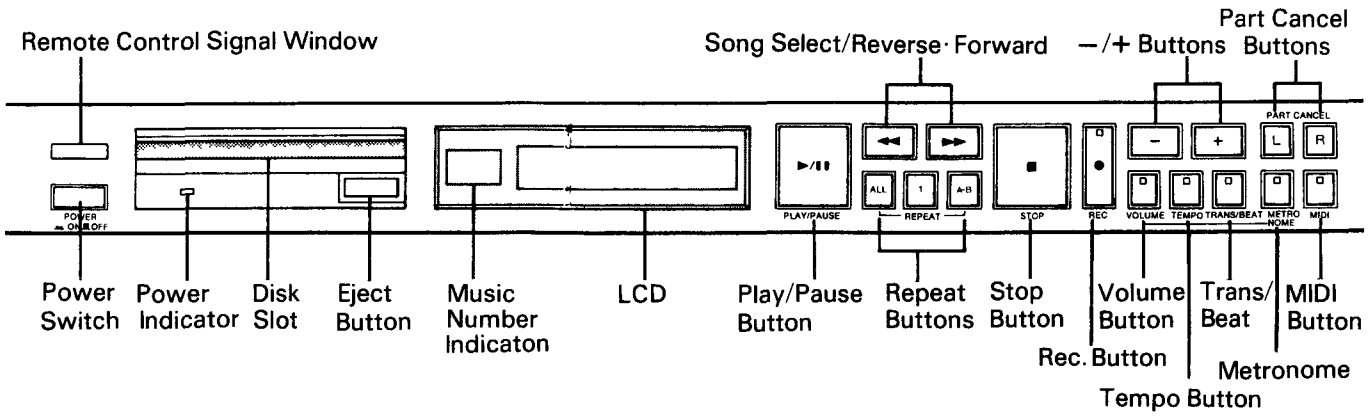
Standard equipment

- Wireless remote control unit
- Prerecorded floppy disk
- Blank floppy disk

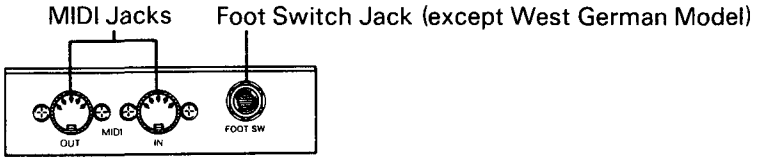
* Specifications and exterior design are subject to change without notice.

■ Panel Layout

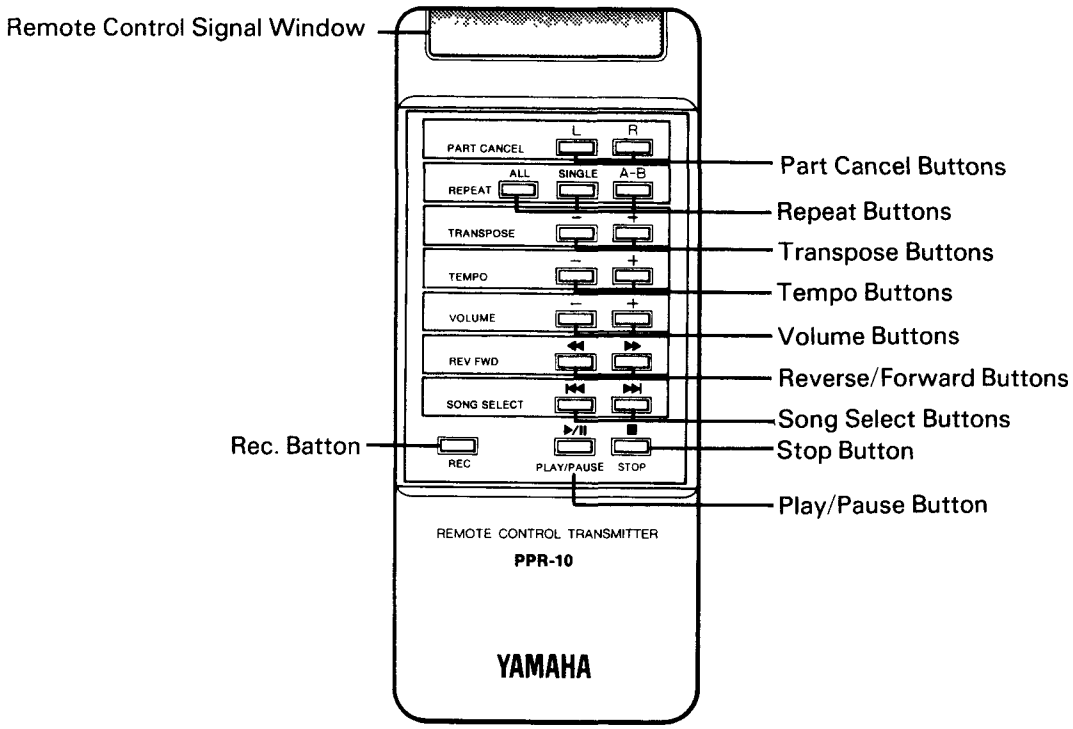
• Front Panel



• External MIDI Panel

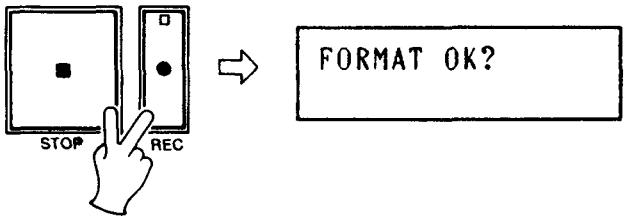


• Remote Control Unit

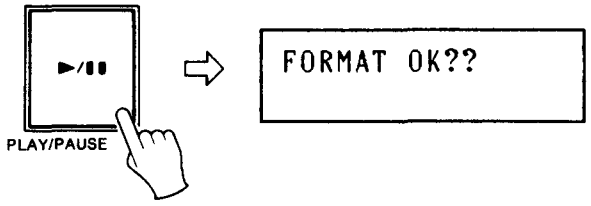


■ How to Format Disks

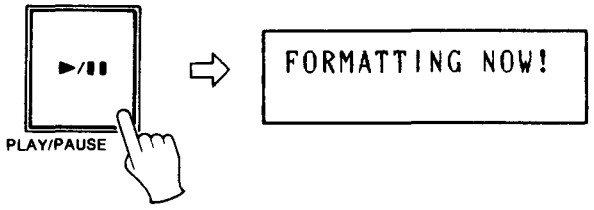
① After inserting a disk, press the Rec. button while keeping the Stop button depressed. You can release these buttons when the display reads "FORMAT OK?".



② In answer to the above message, press the Play/Pause button. (If you should decide not to proceed with formatting, remove the disk instead.)

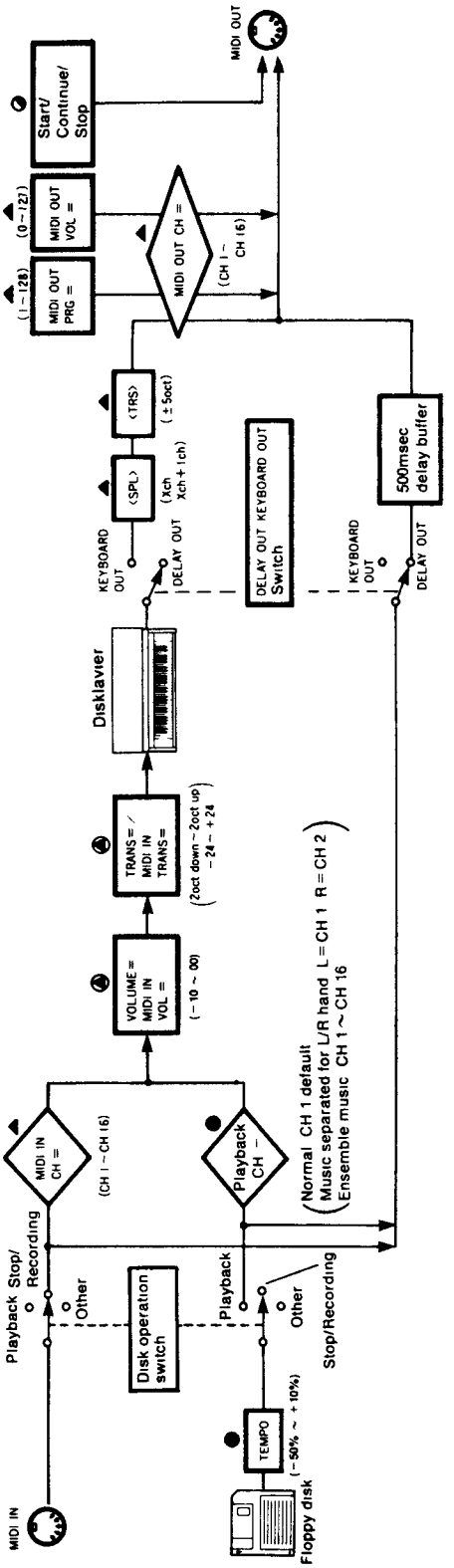


③ Reconfirm the above question by again pressing the Play/Pause button. (If you decide not to proceed with formatting, remove the disk instead.)



④ After a few minutes, formatting is completed and the display will change as follows.

■MIDI Block Diagram

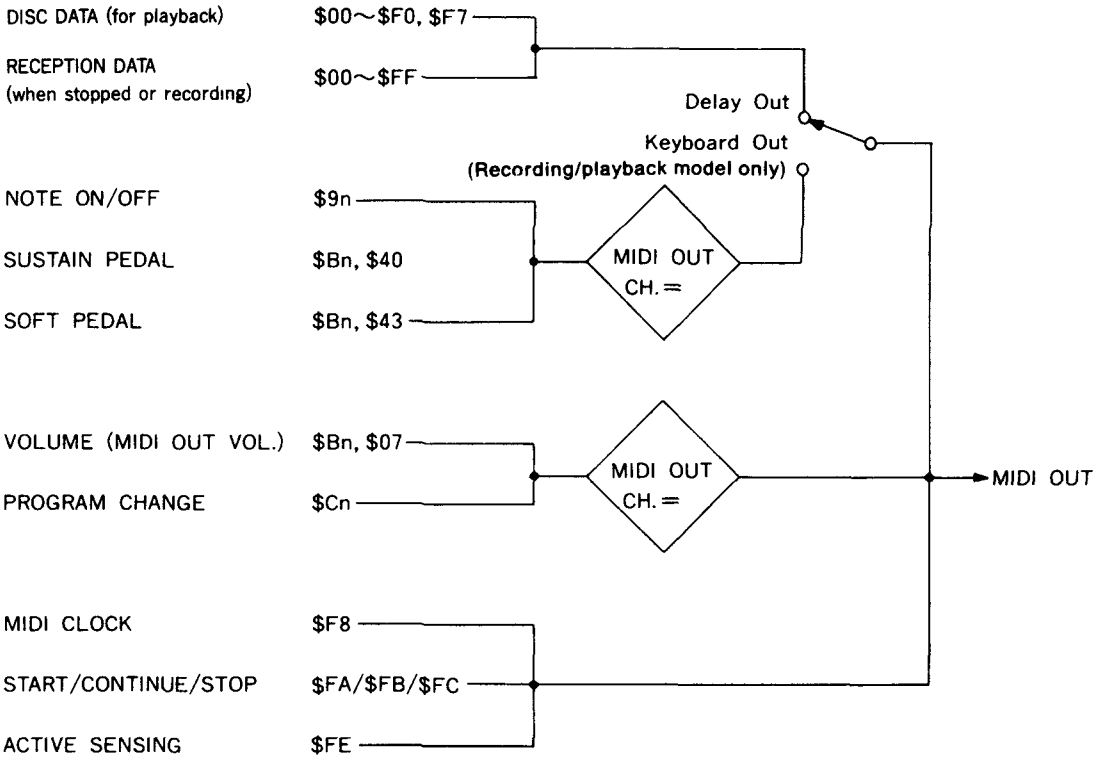


* This block diagram shows the MIDI functions in block form

◕ Can be set in normal mode or MIDI Setup Mode
● Can be set in normal mode
▲ Can be set in MIDI Setup Mode
◔ Produced during metronome operation

■MIDI Data Format

1. Transmission Conditions



2. Transmission Data

- **CHANNEL INFORMATION**

1) CHANNEL VOICE MESSAGES

① Key On/Off

Status	1 0 0 1 n n n n (9n)	n = channel number (0 ~ 15)
Note No.	0 k k k k k k k	k = 21(A_{-1}) ~ 108 (C_7): Note 1
Velocity	0 v v v v v v v	v = 0: key off
		v=1 ~ 127: key on

Note 1: Transposition is also limited to this range.

② Control Change

Status	1 0 1 1 n n n n(Bn)	n = channel number (0 ~ 15)
Control No.	0 c c c c c c c	
Control value	0 v v v v v v v	

Control No	Control value
c = 7 volume (MIDI OUT VOL.)	v = 0 ~ 127
c = 64 Sustain pedal	v = 0: off, 31: on
c = 67 Soft pedal	v = 0: off, 31: on

③ Program Change

Status	1 1 0 0 n n n n (Cn)	n = channel number (0 ~ 15)
Program No.	0 p p p p p p p	p = 0 ~ 127

- **SYSTEM INFORMATION**

1) SYSTEM REALTIME MESSAGES

① Timing clock

Status 1 1 1 1 1 0 0 0 (F8): Note 2

Note 2: The clock tempo can be changed within a variable range of ♩ = 40 ~ 230.

② Start

Status 1 1 1 1 1 0 1 0 (FA)

③ Continue

Status 1 1 1 1 1 0 1 1 (FB)

④ Stop

Status 1 1 1 1 1 1 0 0 (FC)

⑤ Active sensing

Status 1 1 1 1 1 1 1 0 (FE): Note 3

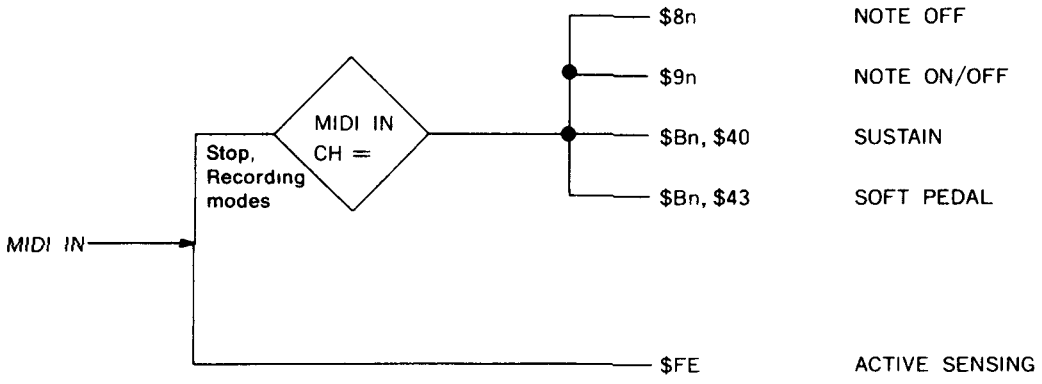
Note 3: When the preferred data, including active sensing, has been transmitted, if data is not transmitted within an interval of approximately 80 milli seconds, the main clock is transmitted.

* The system realtime messages Timing Clock, Start, Continue, and Stop can be transmitted only when the metronome function is ON.

* When playing back a disk recorded on another system (E-seq), all system information as well as system exclusive messages can be transmitted.

* In MIDI OUT = DELAY OUT conditions, and also in Stop or Recording mode, delay the data received through MIDI IN by 500msec, and merge it with MIDI OUT without any changes.

3. Reception Conditions



4. Reception Data

- **CHANNEL INFORMATION**

1) CHANNEL VOICE MESSAGES

① Key Off

Status	1 0 0 0 n n n n (8n)	n = channel number (0 ~ 15)
Note No.	0 k k k k k k k	k = 21 ($A-_1$) ~ 108(C_7)
Velocity	0 v v v v v v v	v= ignored

② Key On/Off

Status	1 0 0 1 n n n n (9n)	n = channel number
Note No.	0 k k k k k k k	k = 21 ($A-_1$) ~ 108(C_7)
Velocity	0 v v v v v v v	v = 0: key off
		v= 1 ~ 127: key on

③ ControlChange

Status	1 0 1 1 n n n n (Bn)	n = channel number (0 ~ 15)
Control No.	0 c c c c c c c	
Control Value	0 v v v v v v v	

Control No.	**Control Value**
c = 64 Sustain pedal	v = 0: off, 31: on
c = 67 Soft pedal	v = 0: off, 31: on

- **SYSTEM INFORMATION**

1) SYSTEM REALTIME MESSAGES

① Active Sensing

Status 1 1 1 1 1 1 1 0 (FE): Note 4

Note 4: When this code is received, sensing begins. If there is neither status nor data for an interval of 300msec, the piano keyboard and pedals become OFF, as do the Note ON of MIDI OUT and the Sustain Pedal ON.

MIDI Implementation Chart

[DISKLAVIER] Date : 15/5, 1990

Model MX100B MIDI Implementation Chart Version : 2.30

Function ...	Transmitted	Recognized	Remarks
Basic Default	1	1	
Channel Changed	1 - 16	1 - 16	
Mode Default	3	3	
Messages	x	x	
Altered	**********	x	
Note Number : True voice	21 - 108 *1 **********	21 - 108 21 - 108	
Velocity Note ON	o 9nH,v=1-127	o v=1-127 .	
Note OFF	x 9nH,v=0 *1	x	
After Touch Key's	x	x	
Ch's	x *1	x	
Pitch Bender	x *1	x	
Control Change 7	o	x	
64	o	o	
67	o	o	
	*1		
Prog Change : True #	o 0 - 127 *1 **********	x	
System Exclusive	x *1	x	
System Common : Song Pos	x	x	
: Song Sel	x	x	
: Tune	x	x	
System Real Time : Clock	o	x	if Metronome is used
: Commands	o	x	
Aux Mes- sages : Local ON/OFF	x	x	
: AllNotesOFF	x	x	
: Active Sense	o	o	
: Reset	x	x	

Notes: All recognized data are transmitted 500msec later if controler mode is STOP or RECORD and DELAYOUT mode is on.

*1 = All data are enabled to transmitted as record data if other E_seq disk is used and DELAYOUT mode is on.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

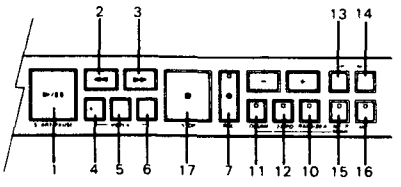
■Test program

This tests the control functions and the playback and recording systems of the disklavier.

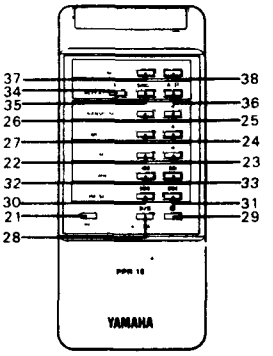
	Item	Operation	Display / contents of test
A	Start the test program	• Remove the disk • While pressing the L/R button, • turn the power ON.	③ Version no. ④ Trimmer value [ ] [VI.30 621027 tr4 UP004 Rec] ① Piano type UP or GP upright grand ② Controller type Rec or Ply record playback • Check that the piano type and controller type match (①, ②) • The ROM version and trimmer value will be displayed (③- ④) * ① ② can be switched using the DIP switch on the CPU board.
B	Contents of each test 1. 7 segment LED test	press the [+] key	[11] [(1)7SEG&LED TEST] ⑤ 00, 11~99 • Check that the LED lights ⑤ (00, 11~99), each switch
	2. LCD test	press the [+] key	[ ] [(2)LCD TEST **************** ****************] ➡⑥ • Check the LCD ⑥ The checkered pattern blinks
	3. Buzzer test	press the [+] key	[ ] [(3) BUZZER TEST EXECUTING!!] ➡⑦ • Check the metronome buzzer. The buzzer sounds in synchronization with the blinking ⑦ EXECUTING!!
	4. Switch test	press the [+] key to the next test	[01] [(4) SW TEST (Sw&Rmcn&FootSw)] ⑧ 01~40 (8, 9, 18, 20, and 39 omitted) • Check the switch no. for each button on the control panel and remote control, and the foot switches. ➡ When the buttons in the diagram below are pressed, the LED will display the corresponding number.

To advance to the next test press the [+] button. To return to the previous test press [−] button.

Switch no.

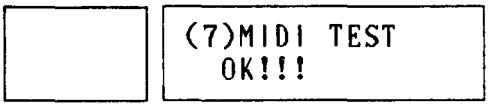


Foot sw. no. = 40



<table>
<tr><th></th><th>Item</th><th>Operation</th><th>Display / contents of test</th></tr>
<tr><td rowspan="4">B</td><td>5. RAM test</td><td>press the [+] Key</td><td> 

➡ ⑨ OK (normal) or NG (faulty)
• Check whether RAM is OK or NG</td></tr>
<tr><td>6. ROM test</td><td>press the [+] key</td><td> 

➡ ⑩ OK (normal) or NG (faulty)
• Check whether ROM is OK or NG</td></tr>
<tr><td>7. MIDI test</td><td>press the [+] key
*connect MIDI IN/ OUT with a cable
*remove the cable</td><td> 

➡ ⑪ OK (normal) or NG (faulty)
• Check whether MIDI functions are OK or NG
• If a MIDI cable is not connected, NG will be displayed</td></tr>
<tr><td>8. Piano test</td><td>press the [+] key
to the next test</td><td> 

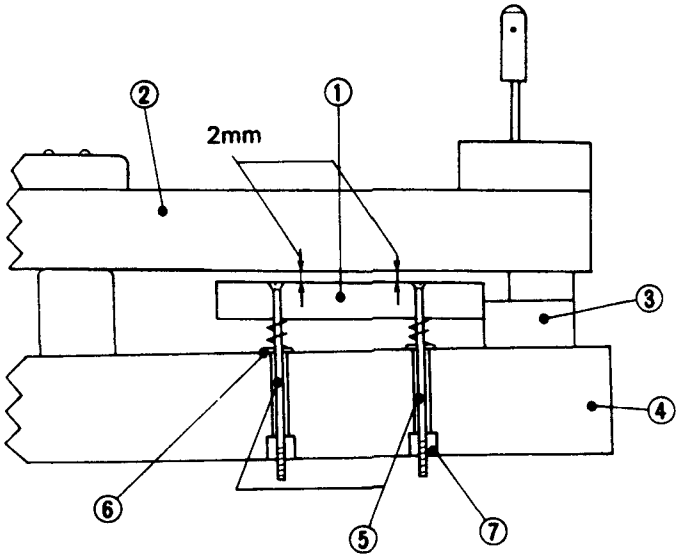
⑫ 01~88, 90, 91
• Playback system test: repeat playback in the order of keys 1~88, D/S pedal
• Record system test: in synchronization with the above playback, display ⑫
* If an error occurs, the LCD will display the error number and the LCD will indicate the meaning.
<table>
<tr><th>Error no.</th><th>Meaning</th></tr>
<tr><td>66</td><td>Get circuit error (receive over run)</td></tr>
<tr><td>67</td><td>Get key over</td></tr>
<tr><td>68</td><td>Get circuit error (parity/framing error)</td></tr>
<tr><td>69</td><td>Invalid get data</td></tr>
</table></td></tr>
<tr><td></td><td>9. FDD test
* execute the FDD test only when necessary</td><td>press the [+] key
* Insert a (formatted) FD (the test will start in 5 seconds)</td><td> 

Track No. Side No. Sector No.
⑬ number of test times 00~
• FDD write/read/verify test
• LED LCD display contents test
• FDD test is repeated continuously for tracks 0~79
• If an error occurs it will be displayed in the LCD
<table>
<tr><th>Error display</th><th></th></tr>
<tr><td>DISK NOT READY</td><td>a disk has not been inserted</td></tr>
<tr><td>SEEK ERROR</td><td></td></tr>
<tr><td>READ ERROR</td><td></td></tr>
<tr><td>WRITE ERROR</td><td>also displayed when the disk is protected</td></tr>
<tr><td>VERIFY ERROR</td><td></td></tr>
</table></td></tr>
</table>

■ Adjusting the Various Units

1. Adjusting the key drive unit
2. Adjusting the key stop rail
3. Adjusting the pedal drive unit
4. Adjusting the pedal cushion unit
5. Adjusting the hammer sensor unit
6. Adjusting the key sensor unit
7. Adjusting the pedal sensor unit
8. Adjusting the mute unit

1. Adjusting the key drive unit



① Key Drive unit
② Keyboard
③ Key back rail
④ Key bed
⑤ Adjustment screws 4 x 75
⑥ Spacer
⑦ Nut

Forward/backward adjustment
Push the unit against the front surface of the key back rail.

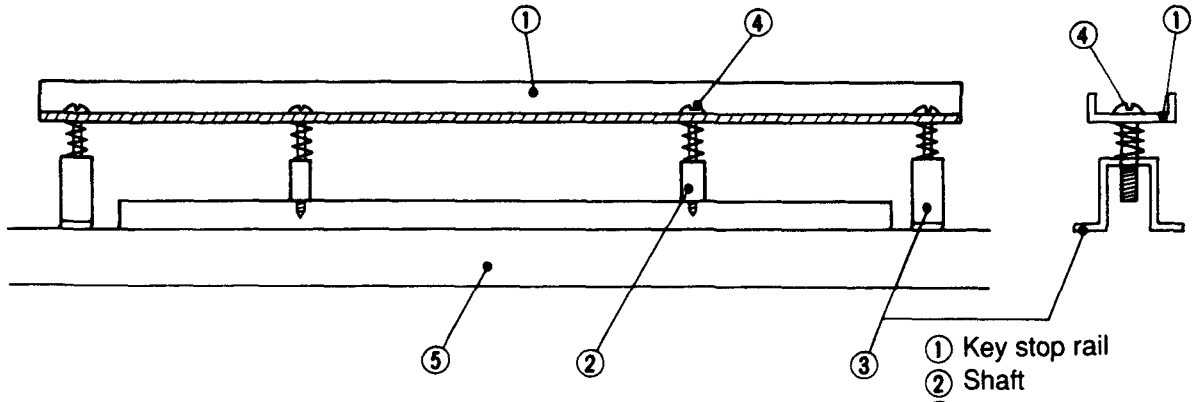
Left/right adjustment
Install keys 2, 50, and 87, then align the key drive unit so that each solenoid is the center of the corresponding key.

Height adjustment

Install keys except for those located at the adjustment screws ⑤, and adjust the screws ⑤ so that the gap at the upper surface of the key drive unit is 2 mm.

Procedures marked with ☐ are very important processes for bringing out the full capabilities of the disklavier.

2. Adjusting the key stop rail



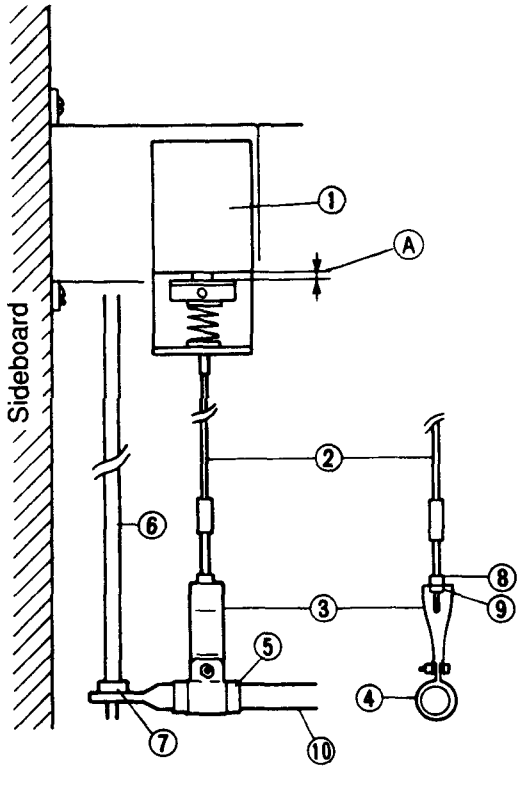
Height adjustment

Adjust the mounting screws ④ so that the gap between the top of the black keys and the key stop rail is 0 (visually).

* If the screws are excessively tightened ... the key touch will become heavy.
* If the screws are insufficiently tightened .. the keys will pop up during playback

} notes will not sound correctly

3. Adjusting the pedal drive unit



① Pedal solenoid
② Wire
③ Pedal lever hook
④ Pedal lever clamp
⑤ Pedal level rubber
⑥ Pedal rod
⑦ Pedal rod dowel
⑧ Hex nut M4
⑨ Hex nut M4
⑩ Pedal lever

Adjust the length of the wire so that the gap at Ⓐ is

5 mm.... for the soft pedal
3 mm.... for the damper pedal

After adjusting the nut ⑨, tighten the nut ⑧.

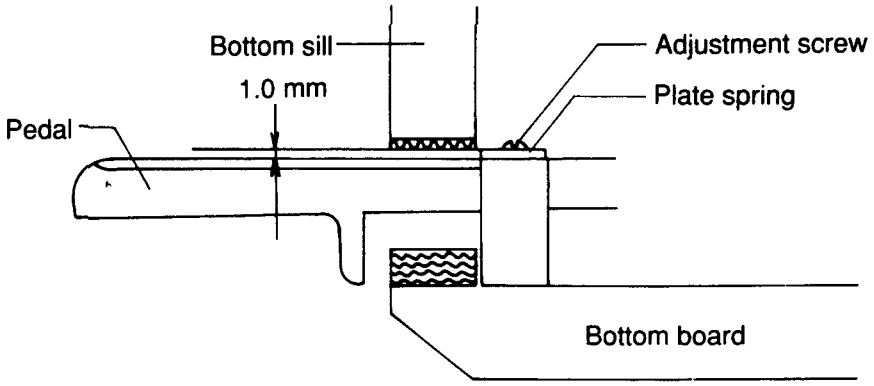
* Set the wire so that it is vertical in both the front/back and left/right directions.

⬇

If the wire is slanted, the solenoid axis will be off center, causing mechanical noise.

4. Adjusting the pedal cushion unit

Use the adjustment screw to adjust the clearance between the pedal and the bottom sill to 1.0 mm.

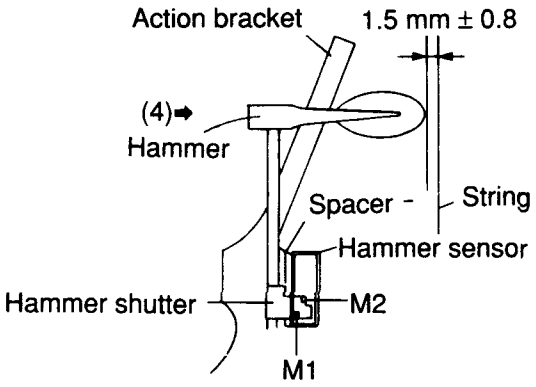


5. Adjusting the hammer sensor unit

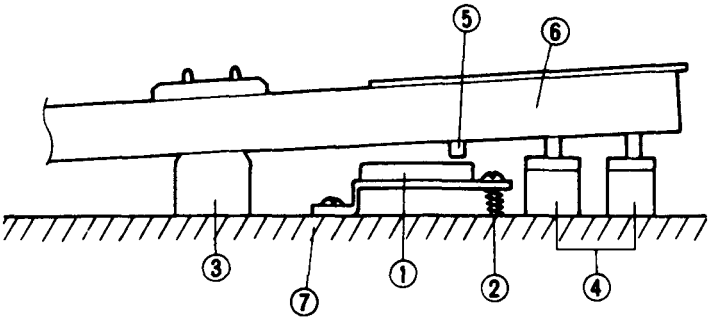
The hammer sensor position is adjusted according to the ON position of the M2 sensor. Press the hammer forward and use the spacer to make adjustments so that the M2 is ON when there is a 1.5+/-0.8 mm gap between the string and the tip of the hammer.

Procedure

(1) While pressing the L/R buttons, turn the power switch ON and the test program will begin.
(2) Press the + button 8 times to move to the Piano Test (keyboard playback will begin).
(3) Press the STOP button to stop playback.
(4) Manually press the hammer to move it toward the string.
(5) When M2 turns on, the buzzer will sound. This allows you to adjust the sensor position.



6. Adjusting the key sensor unit



① Key sensor unit
② Height adjustment screw
③ Balance rail
④ Front rail
⑤ Key shutter
⑥ Keyboard
⑦ Key bed

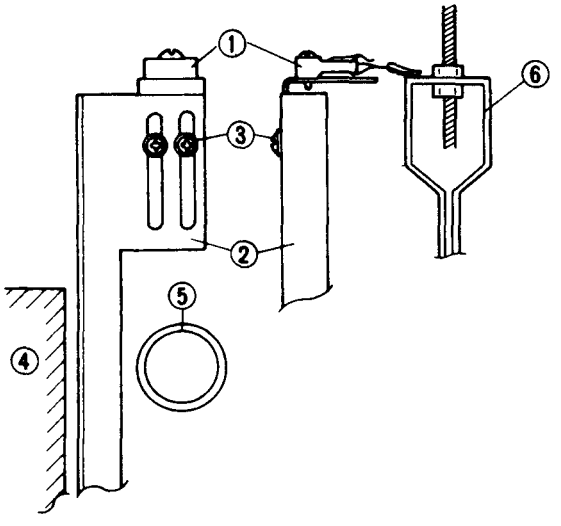
Adjust the height adjustment screws ② (four locations) so that the key sensor turns ON when a white key is pressed 4.5 +/-0.5 mm.

- If ON is too soon (shallow) .... tighten the screw.
- If ON is too late (deep) ..... loosen the screw.

Procedure (from the condition of Piano Test)

(1) Press a key nearby the height adjustment screw.
(2) Slowly release the key.
(3) Adjust the position at which the buzzer stops (key off).

7. Adjusting the pedal sensor unit



① Pedal sensor
② Sensor bracket
③ Adjustment screw
④ Bottom sill
⑤ Pedal lever
⑥ Pedal lever hook

Use the adjustment screw ③ to raise and lower the sensor so that it turns ON at the following positions.

- Damper pedal.... when the damper felt is 1 mm above the string (near the 49th key).
- Soft pedal ..... when 2—3 mm above the hammer rail
  - if ON is too soon ..... raise the sensor.
  - if ON is too late ..... lower the sensor.

Procedure

(1) Individually depress the damper and soft pedals, and make adjustments.
(2) The buzzer will sound at the ON position. Adjust the sensor accordingly.

* If the buzzer does not sound even when the test program is in Piano Test (old ROM version), refer to the service manual and make adjustments using a MIDI instrument or a MIDI sensor checker.

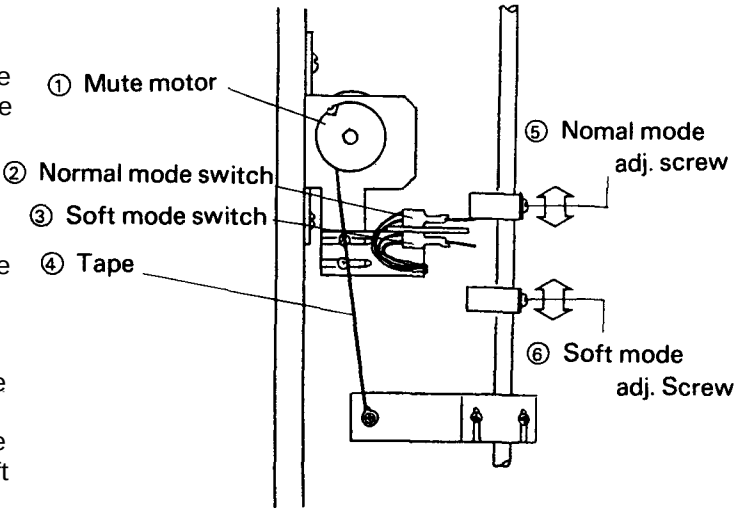
8. Adjusting the mute unit

[Tape tension adjustment]
Adjust the tape holder to a position where the tape is not excessively loose or tight when the soft mode is off, and fasten it in place.

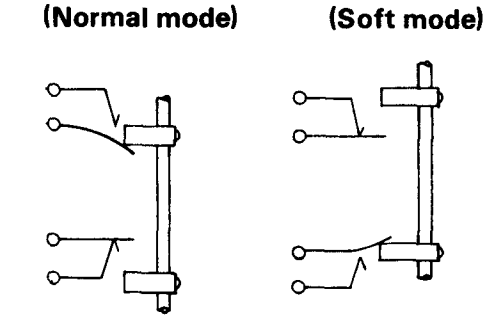
[Adjusting the soft sensor]

① **Adjusting the normal mode switch**
Adjust the screw ⑤ to open the normal mode switch in the normal mode [VOL.0 ~ - 8].

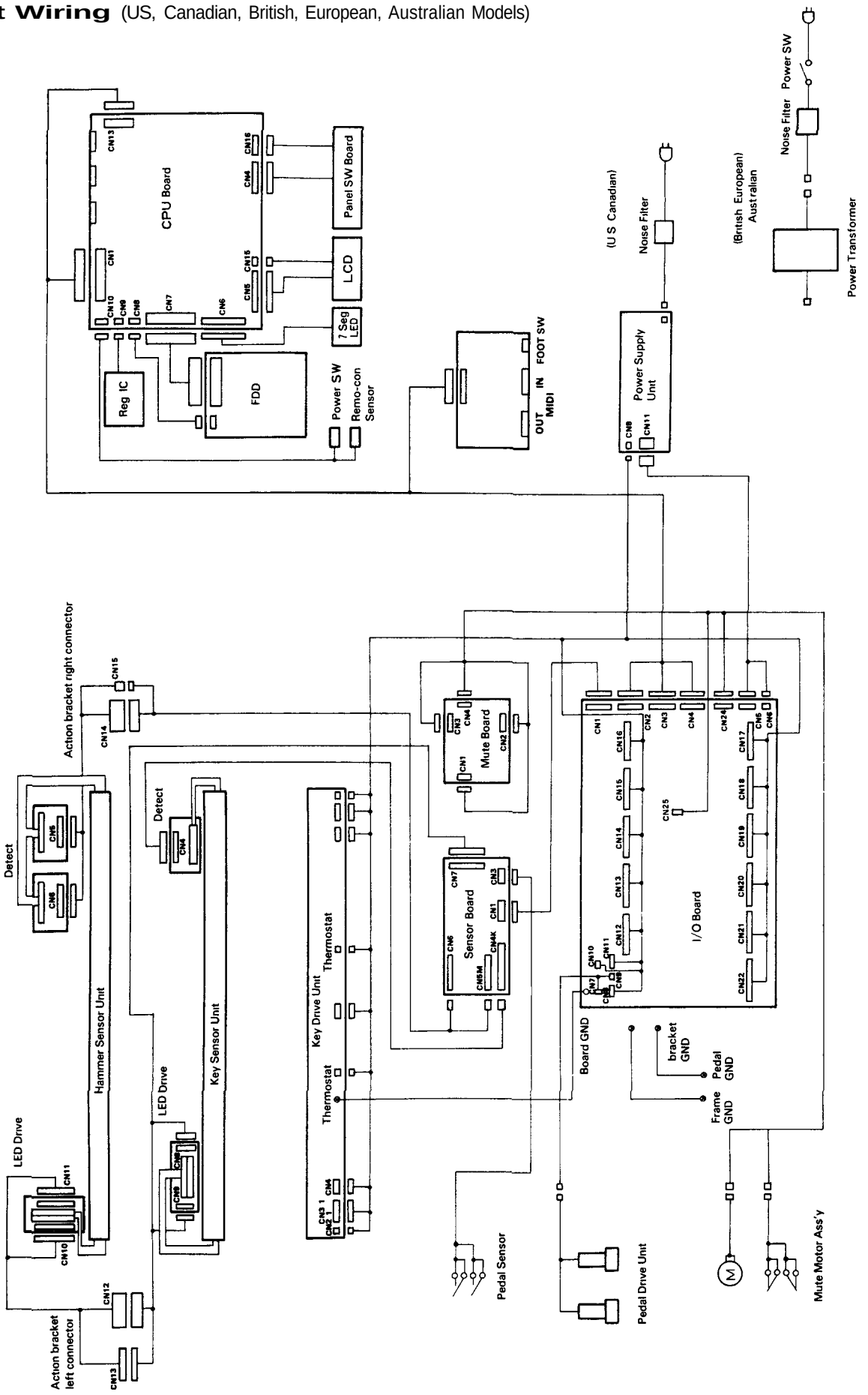
② **Adjusting the soft mode switch**
Set the volume to the soft mode [VOL. -9 ~ -10]. And adjust the screw ⑥ the open the soft mode switch when the hammer blow distance is 1 7mm+/-3 in soft mode.



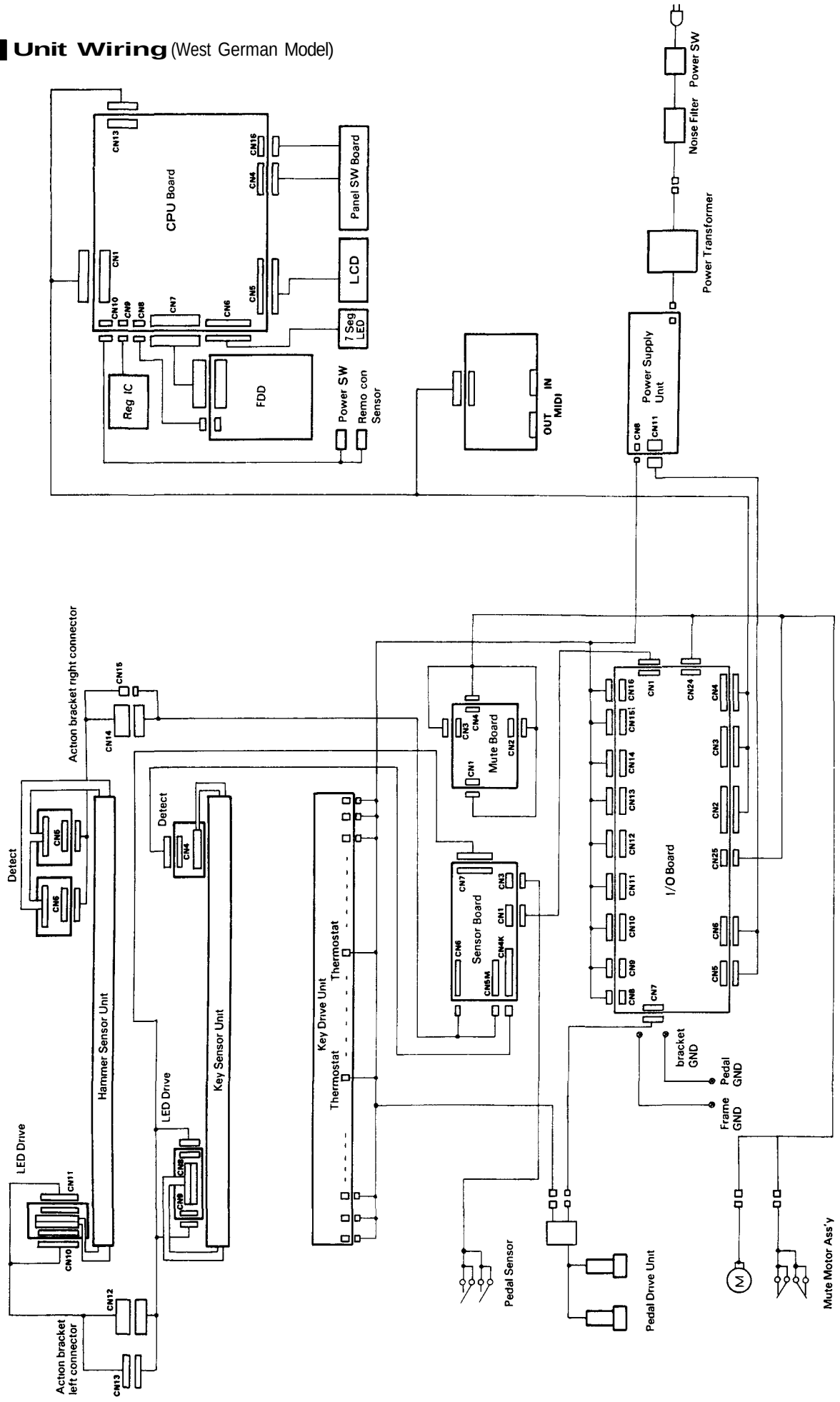
Switch Condition



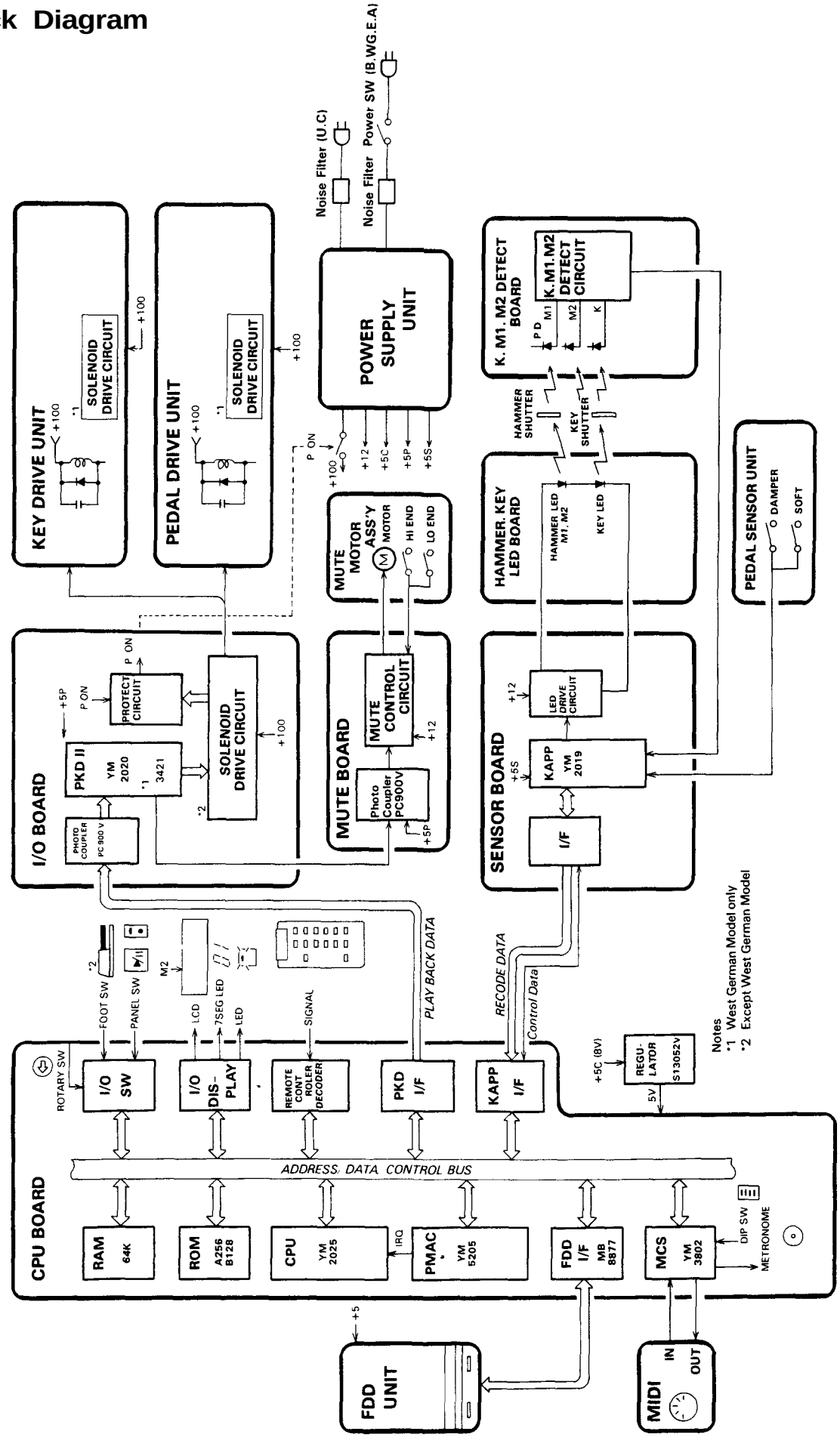
Unit Wiring (US, Canadian, British, European, Australian Models)



Unit Wiring (West German Model)



Block Diagram



MX-100B

■ Circuit Boards

• CPU Board

CN6

No	Name
7	LED 6
6	LED 5
5	LED 4
4	LED 3
3	LED 2
2	LED 1
1	+5V

CN4

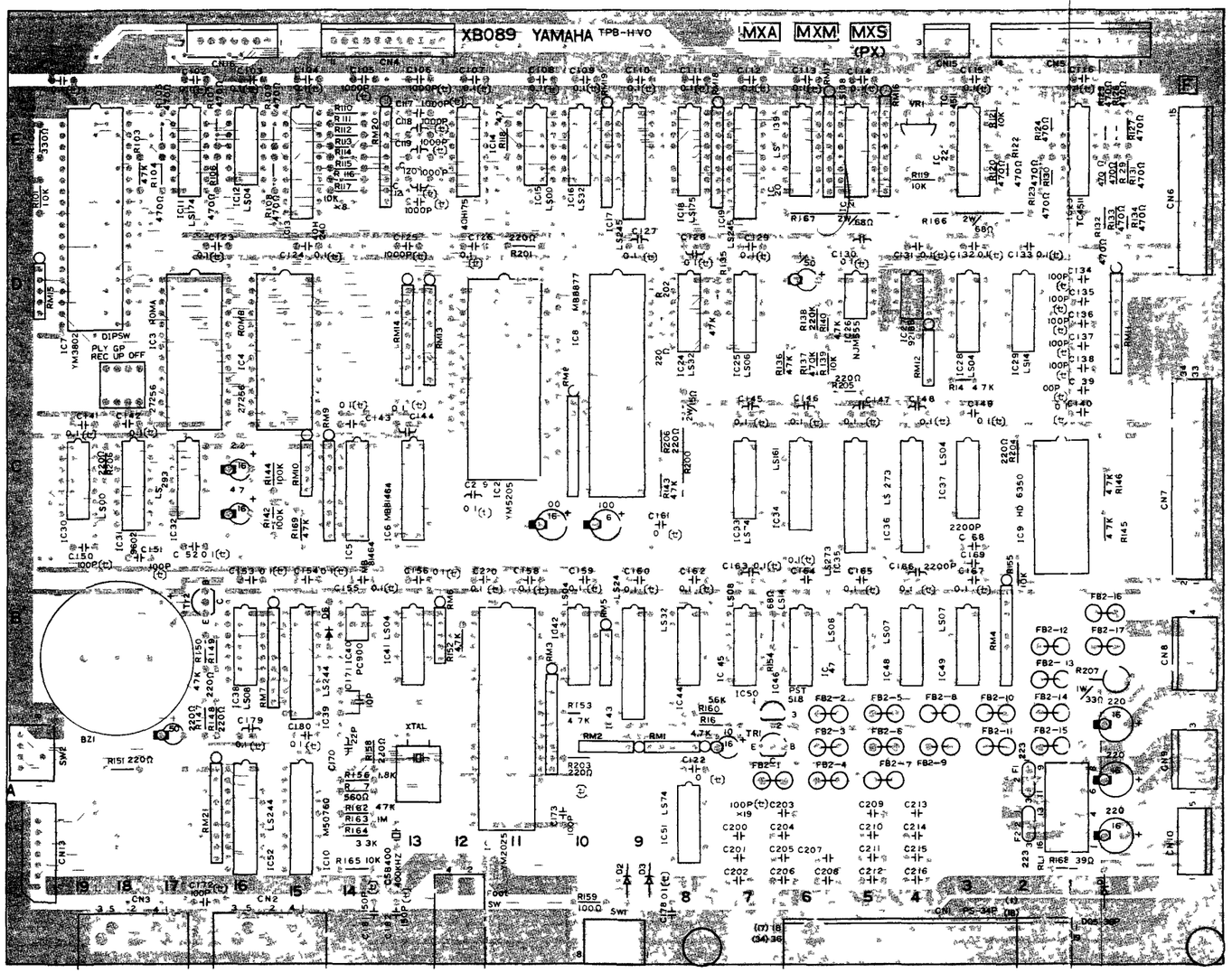
No	Name
11	SW10/SW18/SW8
10	SW9/SW17
9	SW7/SW13
8	SW6/SW12
7	SW5/SW15
6	SW4/SW14
5	SW3/SW16
4	SW2/SW11
3	Q1
2	Q2
1	Q3

CN15

No	Name
3	GND
2	GND
1	+12V

CN5

No	Name
14	D7
13	D6
12	D5
11	D4
10	D3
9	D2
8	D1
7	D0
6	E
5	R/W
4	RS
3	CSS
2	VCC
1	GND



CN6

No	Name
15	A2
14	B2
13	C2
12	D2
11	E2
10	F2
9	G2
8	COM
7	A1
6	B1
5	C1
4	D1
3	E1
2	F1
1	G1

CN7

No	Name	No	Name
34	READY	33	GND
32	SID SEL	31	GND
30	RD	29	GND
28	WPRT	27	GND
26	TR00	25	GND
24	WTGAT	23	GND
22	WTDAT	21	GND
20	STEP	19	GND
18	DIRC	17	GND
16	MOTOR	15	GND
14	NC	13	GND
12	NC	11	GND
10	DRIVE SELO	9	GND
8	INDEX	7	GND
6	GND	5	NC
4	NC	3	GND
2	DISC IN	1	NC

CN8

No	Name
4	+5V
3	GND
2	GND
1	+12V

CN9

No	Name
3	+5V (+8)
2	+5V
1	GND

CN10

No	Name
5	GND
4	SI
3	+5V
2	P2
1	P1

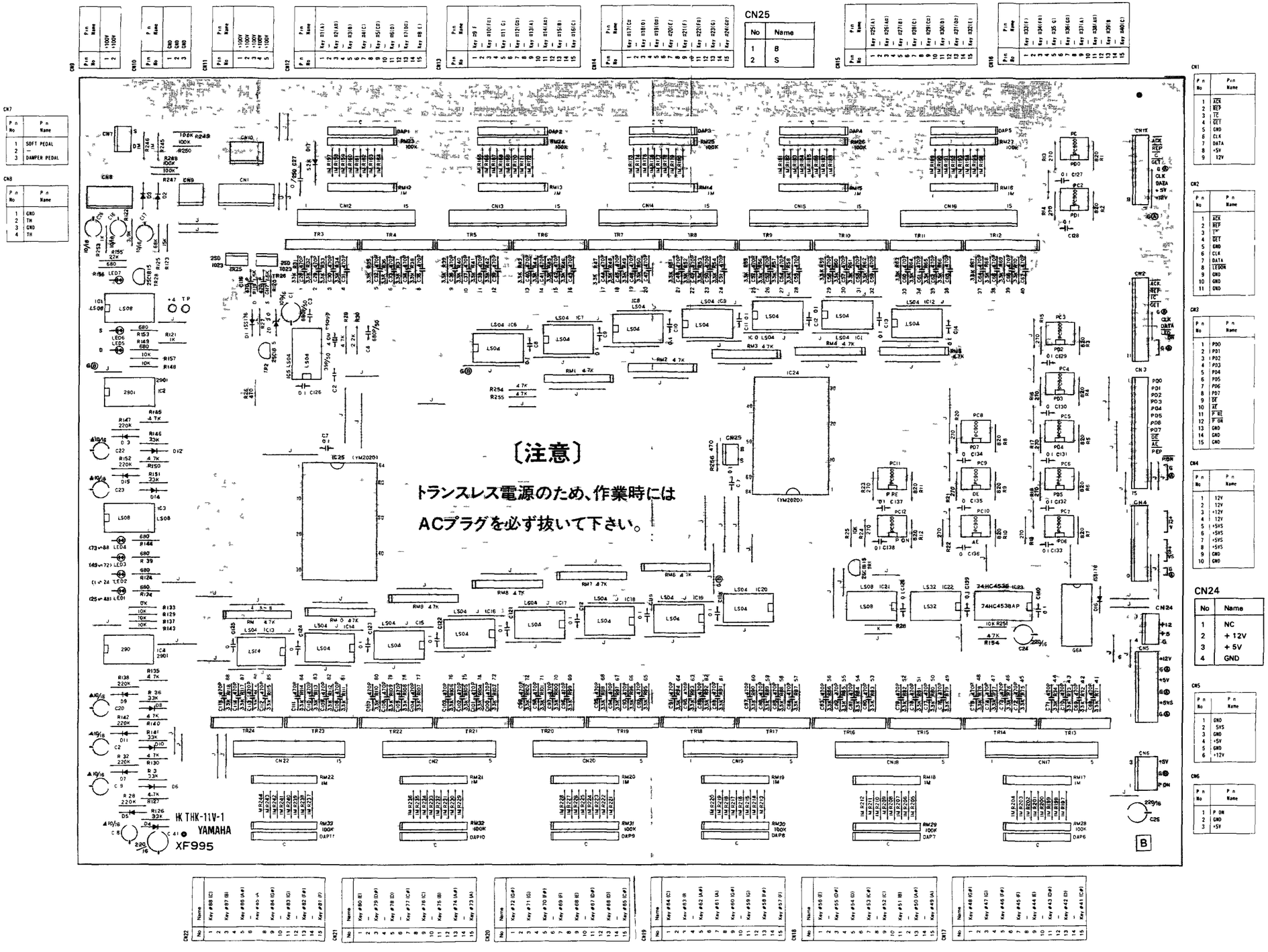
CN13

No	Name
7	–
6	FOOT SW
5	MIDI Pin#5
4	MIDI Pin#4
3	GND
2	MIDI Pin#5
1	MIDI Pin#4

No	Name	No	Name
34	PD7	17	AE
33	PD6	16	DE
32	PD5	15	LEDON
31	PD4	14	DATA
30	PD3	13	CLK
29	PD2	12	GND
28	PD1	11	GET
27	PD0	10	IC
26	P.RES	9	REP
25	P.ON	8	ACK
24	GND	7	+12
23	GND	6	+12
22	GND	5	+12
21	GND	4	+12
20	GND	3	+5
19	GND	2	+5
18	GND	1	+5

MX-100B

- **I/O Board** ***(Except West German Model)***



MX-100B

• I/O Board *(West German model)*

CN9

No.	Name
1	NC
2	NC
3	Key# 1
4	Key# 2
5	Key# 3
6	Key# 4

CN11

No.	Name
1	Key# 17
2	Key# 18
3	Key# 19
4	Key# 20
5	Key# 21
6	Key# 22
7	Key# 23
8	Key# 24
9	Key# 25
10	Key# 26
11	Key# 27
12	Key# 28
13	GND

CN13

No.	Name
1	Key# 41
2	Key# 42
3	Key# 43
4	Key# 44
5	Key# 45
6	Key# 46
7	Key# 47
8	Key# 48
9	Key# 49
10	Key# 50
11	Key# 51
12	Key# 52
13	GND

CN15

No.	Name
1	Key# 65
2	Key# 66
3	Key# 67
4	Key# 68
5	Key# 69
6	Key# 70
7	Key# 71
8	Key# 72
9	Key# 73
10	Key# 74
11	Key# 75
12	Key# 76
13	GND

CN8

No.	Name
1	TH
2	TR(KEY)
3	+5V
4	GND

CN10

No.	Name
1	Key# 5
2	Key# 6
3	Key# 7
4	Key# 8
5	Key# 9
6	Key# 10
7	Key# 11
8	Key# 12
9	Key# 13
10	Key# 14
11	Key# 15
12	Key# 16
13	GND

CN12

No.	Name
1	Key# 29
2	Key# 30
3	Key# 31
4	Key# 32
5	Key# 33
6	Key# 34
7	Key# 35
8	Key# 36
9	Key# 37
10	Key# 38
11	Key# 39
12	Key# 40
13	GND

CN14

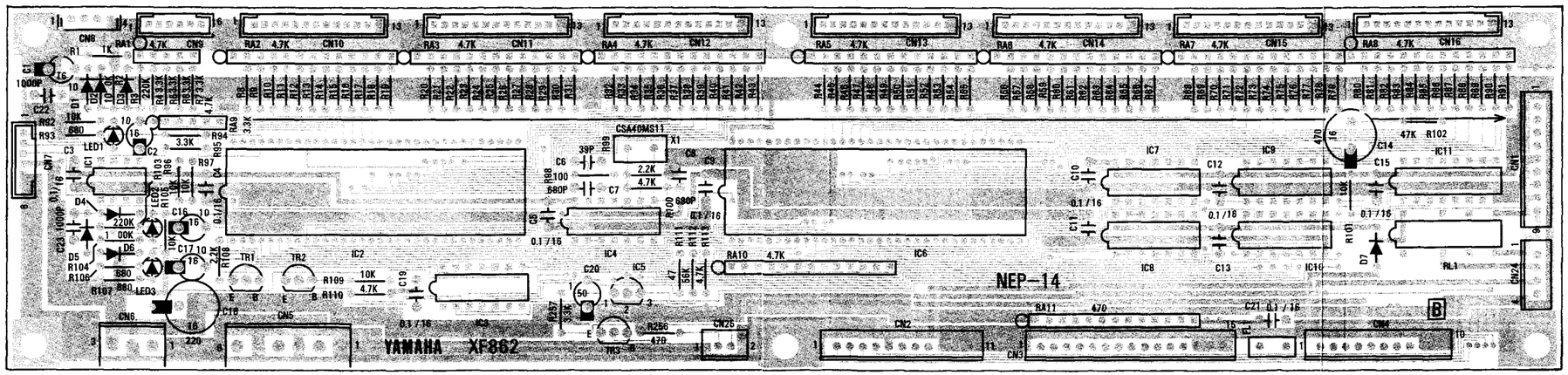
No.	Name
1	Key# 53
2	Key# 54
3	Key# 55
4	Key# 56
5	Key# 57
6	Key# 58
7	Key# 59
8	Key# 60
9	Key# 61
10	Key# 62
11	Key# 63
12	Key# 64
13	GND

CN16

No.	Name
1	Key# 77
2	Key# 78
3	Key# 79
4	Key# 80
5	Key# 81
6	Key# 82
7	Key# 83
8	Key# 84
9	Key# 85
10	Key# 86
11	Key# 87
12	Key# 88
13	GND

CN7

No.	Name
1	S.PD
2	D.PD
3	TR(PD)
4	+5V
5	GND
6	GND



CN1

No.	Name
1	$\overline{ACK}$
2	$\overline{REP}$
3	$\overline{IC}$
4	$\overline{GET}$
5	GND
6	CLK
7	DATA
8	+5V
9	+12V

CN24

No.	Name
1	NC
2	+12
3	+5
4	GND

CN6

No.	Name
3	+5V
2	GND
1	P.ON

CN5

No.	Name
6	+12V
5	GND
4	+5V
3	GND
2	+5V
1	GND

CN25

No.	Name
1	B
2	S

CN2

No.	Name
1	$\overline{ACK}$
2	$\overline{REP}$
3	$\overline{IC}$
4	$\overline{GET}$
5	GND
6	CLK
7	DATA
8	LEDON
9	GND
10	GND
11	GND

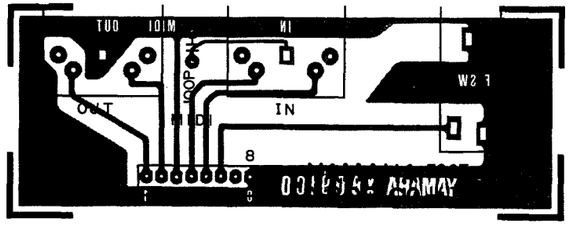
CN3

No.	Name
1	PD 0
2	PD 1
3	PD 2
4	PD 3
5	PD 4
6	PD 5
7	PD 6
8	PD 7
9	$\overline{DE}$
10	AE
11	PRES
12	P.ON
13	GND
14	GND
15	GND

CN4

No.	Name
1	+12V
2	+12V
3	+12V
4	+12V
5	+5V
6	+5V
7	+5V
8	+5V
9	GND
10	GND

• MIDI Board



Pin. No.	Pin. Name
1	MIDI OUT Pin #4
2	MIDI OUT Pin #5
3	GND
4	MIDI IN Pin #4
5	MIDI IN pin #5
*6	FOOT SW Pin #2
7	–
8	GND

* West German: NC

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• Mute Board

CN3

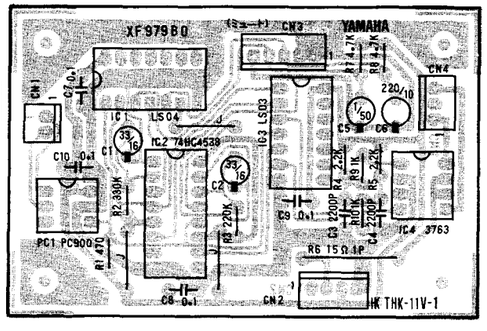
No.	Name
5	GND
4	SL
3	SU
2	GND
1	GND

CN1

No.	Name
1	B
2	S

CN4

No.	Name
1	AO
2	NC
3	BO



CN2

No.	Name
1	NC
2	+12V
3	+5V
4	GND

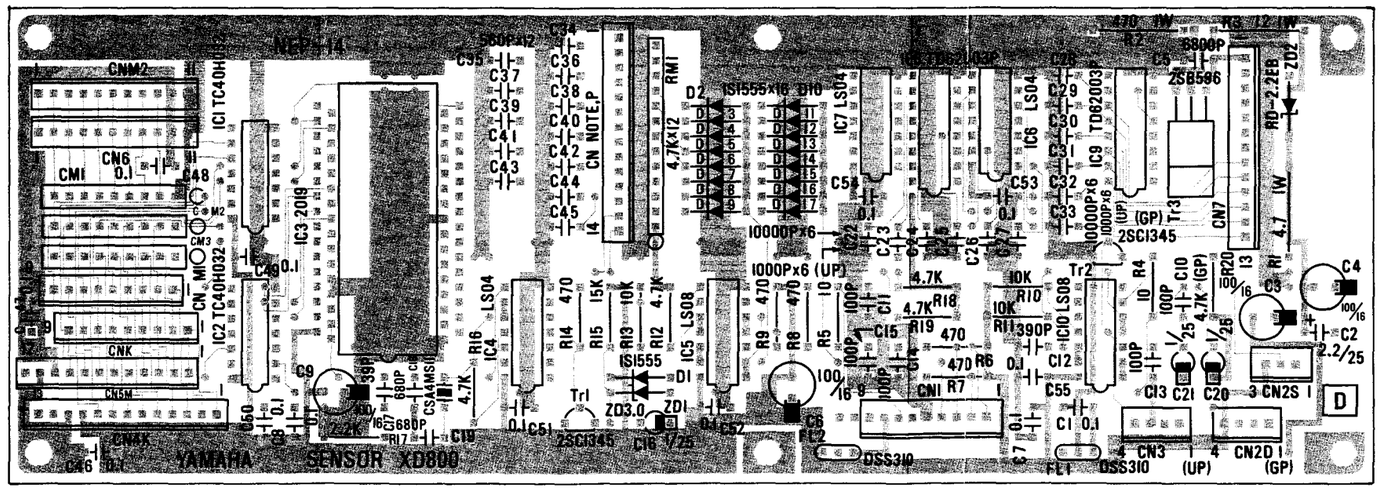
• Sensor Board

CN6

No.	Name
1	
2	0 Oct
3	1 Oct
4	2 Oct
5	3 Oct
6	4 Oct
7	5 Oct
8	6 Oct
9	7 Oct
10	+5V
11	GND

CN5M

No.	Name
1	
2	0 Oct
3	1 Oct
4	2 Oct
5	3 Oct
6	4 Oct
7	5 Oct
8	6 Oct
9	7 Oct
10	+5V
11	GND
12	GND



CN4K

No.	Name
13	GND
12	GND
11	GND
10	+5V
9	7 Oct
8	6 Oct
7	5 Oct
6	4 Oct
5	3 Oct
4	2 Oct
3	1 Oct
2	0 Oct
1	

CN1

No.	Name
9	+12V
8	+5V
7	DATA
6	CLK
5	GND
4	GET
3	IC
2	REP
1	ACK

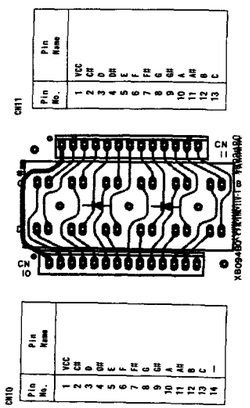
CN3

No.	Name
4	SP2
3	GND
2	GND
1	SP1

CN7

No.	Name
1	VCC
2	C#
3	D
4	D#
5	E
6	F
7	F#
8	G
9	G#
10	A
11	A#
12	B
13	C

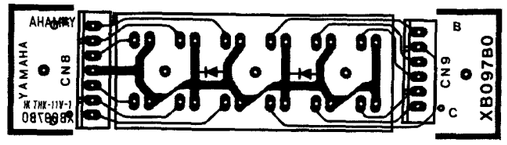
• Hammer LED Drive Board



• Key LED Drive Board

CN7

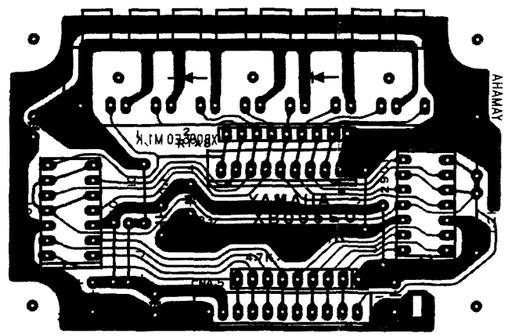
No.	Name
7	F
6	D#
5	C#
4	VCC
3	D
2	E
1	F#



CN9

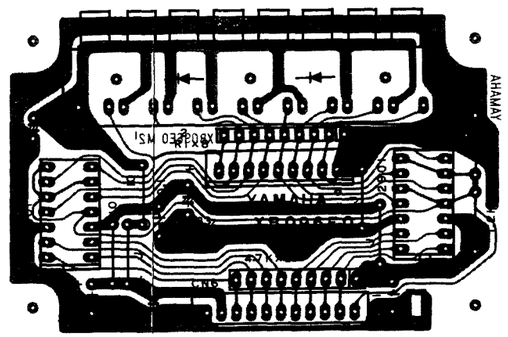
No.	Name
6	G
5	G#
4	A
3	B
2	C
1	A#

• M1, K Detect Board



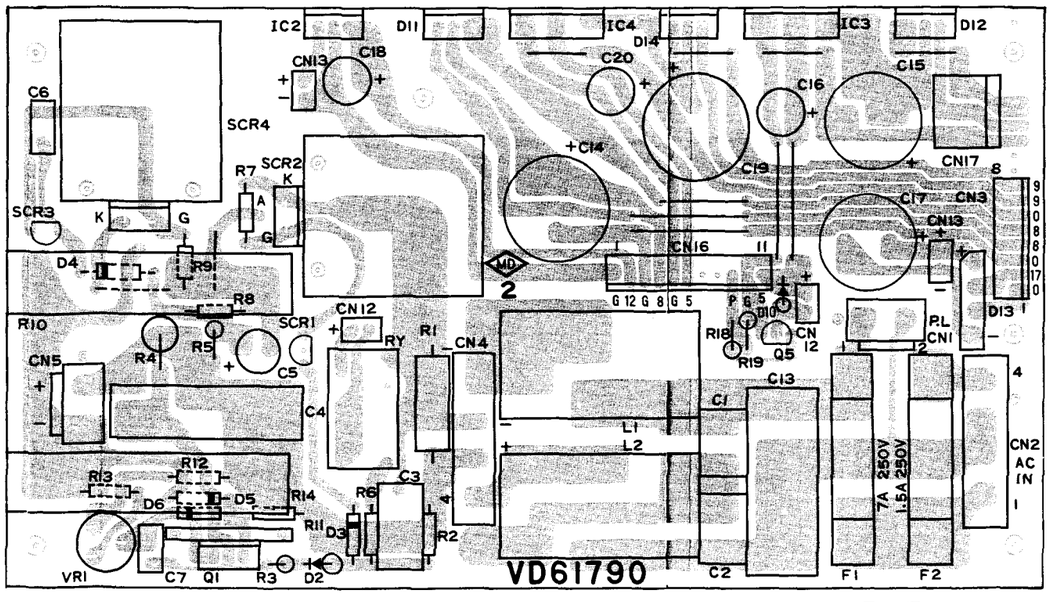
Pin No.	Pin Name
1	0 Oct
2	1 Oct
3	2 Oct
4	3 Oct
5	4 Oct
6	5 Oct
7	6 Oct
8	7 Oct
9	+5V
10	GND
11	

• M2 Detect Board



Pin No.	Pin Name
1	0 Oct
2	1 Oct
3	2 Oct
4	3 Oct
5	4 Oct
6	5 Oct
7	6 Oct
8	7 Oct
9	+5V
10	GND
11	

• Power Supply Board *(US, Canadian Model)*



CN5

No.	Name
1	DC100V
2	GND

CN16

No.	Name
1	GND
2	+12V
3	GND
4	+5VS
5	GND
6	+5V
7	NC
8	NC
9	P.ON
10	GND
11	+5V

CN1

No.	Name
1	PL +
2	PL −

CN3

No.	Name
8	Transformer
7	Transformer
6	Transformer
5	Transformer
4	Transformer
3	Transformer
2	Transformer
1	Transformer

CN2

No.	Name
4	Transformer
3	Transformer
2	AC IN
1	AC IN

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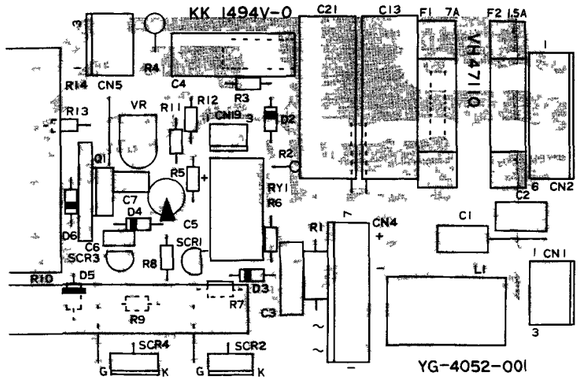
• Power Supply Board *(British, West German, European, Australian Model)*

CN5

No	Name
3	DC 100V
2	–
1	GND

CN19

No	Name
3	Relay +
2	–
1	Relay –



CN2

No	Name
3	AC IN
2	–
1	AC IN

CN1

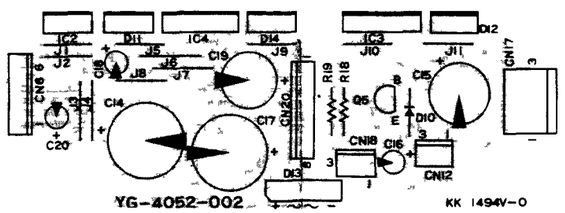
No	Name
3	PL –
2	–
1	PL +

CN4

No	Name
7	Diode
6	–
5	Diode
4	–
3	Diode
2	–
1	Diode

CN6

No	Name
6	GND
5	12V
4	GND
3	8V
2	GND
1	5V



CN17

No	Name
1	Transformer
2	Transformer
3	Transformer

CN20

No	Name
1	Transformer
2	Transformer
3	Transformer
4	Transformer
5	Transformer
6	Transformer
7	Transformer
8	Transformer

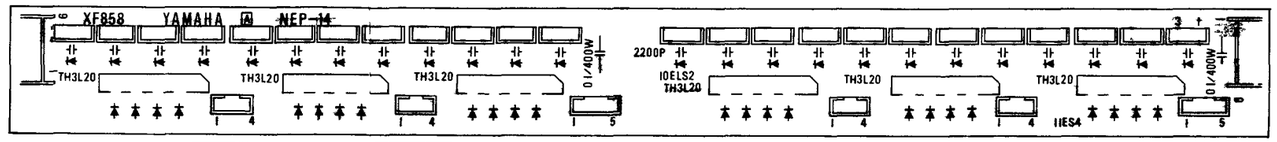
CN18

No	Name
1	5V
2	GND
3	P ON

CN12

No	Name
1	Relay +
2	–
3	Relay +

• Drive B Board *(West German Model)*



No	Name
6	DC 100V
5	DC 100V
4	NC
3	TR
2	GND
1	GND

No	Name
1	Key# 17 41 65
2	Key# 18 42 66
3	Key# 19 43 67
4	Key# 20 44 68

No	Name
1	Key# 21 45 69
2	Key# 22 46 70
3	Key# 23 47 71
4	Key# 24 48 72

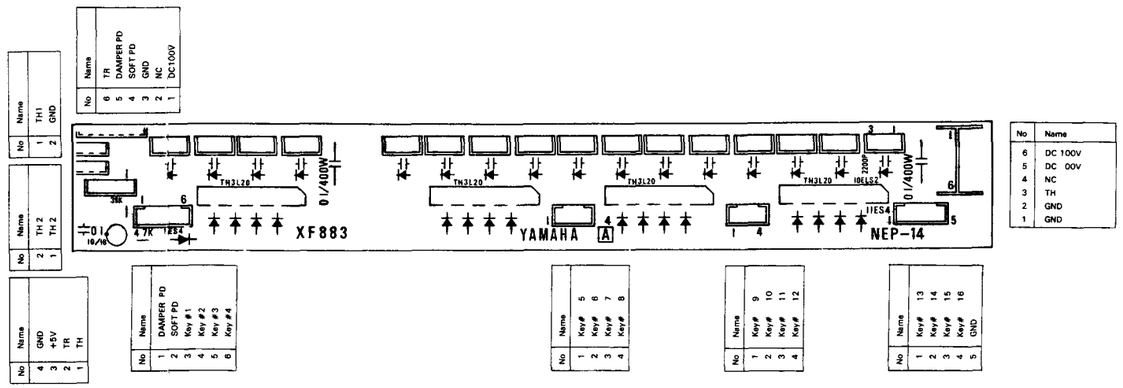
No	Name
1	Key# 25 49 73
2	Key# 26 50 74
3	Key# 27 51 75
4	Key# 28 52 76
5	GND

No	Name
1	Key# 29 53 77
2	Key# 30 54 78
3	Key# 31 55 79
4	Key# 32 56 80

No	Name
1	Key# 33 57 81
2	Key# 34 68 82
3	Key# 35 59 83
4	Key# 36 60 84
5	GND

No	Name
1	Key# 37 61 85
2	Key# 38 62 86
3	Key# 39 63 97
4	Key# 40 64 88
5	GND

• Drive C Board *(West German Model)*



No	Name
6	T/R
5	DAMPER PD
4	SOFT PD
3	GND
2	NC
1	DC100V

No	Name
1	TH1
2	GND

No	Name
2	TH 2
1	TH 2

No	Name
4	GND
3	+5V
2	TR
1	TH

No	Name
1	DAMPER PD
2	SOFT PD
3	Key #1
4	Key #2
5	Key #3
6	Key #4

No	Name
1	Key# 5
2	Key# 6
3	Key# 7
4	Key# 8

No	Name
1	Key# 9
2	Key# 10
3	Key# 11
4	Key# 12

No	Name
1	Key# 13
2	Key# 14
3	Key# 15
4	Key# 16
5	GND

No	Name
6	DC 100V
5	DC 00V
4	NC
3	TH
2	GND
1	GND

disklavier

MX-100B

PARTS LIST

Market
U; US C; Canadian B; British
E; European WG; West German
A; Australian

Electrical Parts

	Ref. No.	Part No.	Description		部 品 名	Remarks
			Control Unit		コントロールユニット	
*		VJ580100	Circuit Board, CPU		CPUシート	
		XF750A00	IC	RP65C02G	IC	CPU →iT202500
		iT520500	IC - Superced IT520501	YM5205	IC	PMAC
		XA591001	IC	YM3802	IC	MCS
		XA457001	IC	MB81464-12	IC	RAM(64kX4bit)
		iG132700	IC	HD6350	IC	ACIA
		iG057300	IC	MB8877	IC	FDC
		iG137800	IC	FDC9216B	IC	Data Separater
		XA513002	IC	M50760-463	IC	RMCN Decoder
		iG067210	IC	TC4511BP	IC	BCD to 7 Latch
		iG068100	IC	TC40H240	IC	OCT.Buff.Inverter
		iG096700	IC	TC40H175	IC	Quad. D F-F.
		iG057400	IC	F9602	IC	Multi Vibrator
		iG044200	IC	LS138	IC	3 to 8 Decoder
		iG049900	IC	LS139	IC	Dual 2-4 Decoder
		iG060000	IC	LS244	IC	Oct. Bus Driver
		iG044600	IC	LS245	IC	Oct. Tranceiver
		iG050100	IC	LS175	IC	Quad. D F-F.
		iG044000	IC	LS74	IC	Edge Trigger
		iG060200	IC	LS273	IC	Oct. D F-F.
		iG050300	IC	LS293	IC	4bit Counter
		iG044400	IC	LS161	IC	4bit Counter
		iG049600	IC	LS14	IC	Hex Schmitt Trigger
		iG049800	IC	LS32	IC	Quad 2 IN NOR
		iG043700	IC	LS08	IC	Quad 2 IN AND
		iG027010	IC	LS04	IC	Hex Inverter
		iG026910	IC	LS00	IC	Quad 2 IN NAND
		iG050000	IC	LS174	IC	Hex D F-F.
		iG059100	IC	SN74LS06N	IC	Hex Inverter
		iG152700	IC	MB74LS07P	IC	Hex Buffer
		iG044500	IC	LS240	IC	Oct Buffer
		iG116200	IC	PST518	IC	Reset IC
		iG063500	IC	NJM555	IC	Timer
*		XH900A00	IC	256K	IC	ROM A
*		XH901A00	IC	128K	IC	ROM B
		VG181900	Photo Coupller	PC900V	フォトカプラー	
		HL324150	Metal Oxide Film Resistor	15Ω2W	酸金抵抗	
		HL324680	Metal Oxide Film Resistor	65Ω2W	酸金抵抗	
		HL314330	Metai Oxide Film Resistor	33Ω 1W	酸金抵抗	
		VB350500	Resistor Array	470ΩX8	抵抗モジュール	
		VB350600	Resistor Array	1KΩX8	抵抗モジュール	
		HZ003350	Resistor Array	4.7KΩX4	抵抗モジュール	
		HZ002940	Resistor Array	4.7KΩX8	抵抗モジュール	
		HZ003370	Resistor Array	10KΩX4	抵抗モジュール	
		HZ003380	Resistor Array	10KΩX8	抵抗モジュール	
		FZ004100	Semi-Conductive Cera. Cap.	0.1AμF16V	半導体セラコン	
		iC181520	Trnsistor	2SC1815	トランジスタ	
		VA106500	Diode	1SS176	ダイオード	
		HT370010	Semi-Variable Resistor	B1K Ω	半固定ボリューム	
		VD017000	DIP Switch	51D-0401	DIPスイッチ	
		QU001400	Quartz Crystal	8MHz	水晶発振子	
		QU003500	Ceramic Resonator	CSB400MT	セラロック	
		FZ006970	EMI Filter	0.022μF	エミフィル	

*** New Parts**

	Ref. No.	Part No.	Description		部 品 名	Remarks
		VJ107300	Buzzer	PKB30SPC-2001	圧電ブザー	→VB353000
		VB293400	Relay	G6A-274	リレー	
		KA501760	Rotary Switch		ロータリースイッチ	
		GE300670	Ferrite Bead	BL02RN2-R62T4	フェライトビーズ	
		LB604730	IC Socket	IC30-2806G4	ICソケット	
		LB021030	Connector LP Type, Top	3P	LPコネクタ	
		LB021050	Connector LP Type, Top	5P	LPコネクタ	
		LB021070	Connector LP Type, Top	7P	LPコネクタ	
		LB021110	Connector LP Type, Top	11P	LPコネクタ	
		LB021140	Connector LP Type, Top	14P	LPコネクタ	
		LB021150	Connector LP Type, Top	15P	LPコネクタ	
		LB916070	Connector, Top	7P	コネクタ	
		LB932030	Connector VH Type, Top	3P	VHコネクタ	
		LB932040	Connector VH Type, Top	4P	VHコネクタ	
		LB604400	Connector	34P JAE	コネクタ	FDD
		VB316200	Connector	34P	PSコネクタ	I/O
*		VJ580200	Panel Switch Unit	BL	キーボードユニット	BL, WN
*		VJ580300	Panel Switch Unit	WH	キーボードユニット	WH
		iF000040	Diode	1S1555	ダイオード	
		iF008730	LED	SLR-34URC3H3	LED	Red
		iF008740	LED	SLR-34MC3H3	LED	Green
		VG922200	LED 7Seg. Indicator		7セグメント表示器	
		KX550100	Power Switch		パワースイッチ	
		KX550640	Micro Switch		MTスイッチ	
		JX550060	Sensor, Remote Controller		リモコン受光器	
		VH410100	FDD	JU253-163M	FDD	3.5'
		VH203400	LCD		LCD	
		iG136200	IC	SI-3052V	IC	2A5V Regurator
		MZ501260	Cable, CPU-FDD		CPU-FDDケーブル	
*		Vi220100	Cable, CPU-I/O		34芯接続ケーブル	
		VE514700	Remote Control Unit		リモコンユニット	

Ref. No.	Part No.	Description		部 品 名	Remarks
	VH388600	Key Drive Unit		キードライブユニット	U, C, E, B, A
	VH590200	Key Drive Unit		キードライブユニット	WG
	VG927100	Coil Ass'y (A)	ℓ=60 BL	PPコイルキット(A)	ODD Key
	VG927200	Coil Ass'y (B)	ℓ=35 WH	PPコイルキット(B)	EVEN Key
	VG967300	Coil Ass'y (AL)	ℓ=75 BL	PPコイルキット(AL)	Key# 1,17,39
	VG967400	Coil Ass'y (BL)	ℓ=50 WH	PPコイルキット(BL)	Key# 40
*	VH650000	Thermostat	110℃	サーモスタット	
	iX554340	Diode	D1K20	ダイオード	
	VG915200	Circuit Board, Drive (B)	24key	ドライブ(B)シート	WG
	VG915300	Circuit Board, Drive (C)	16key	ドライブ(C)シート	WG
	VH097200	First Recovery Diode	10ELS4	ファストリカバリダイオード	
	VB481900	Diode	11ES4	ダイオード	
	VB293700	TR Array	TH3L20	トランジスタアレイ	
	FC045100	Mylar Film Capacitor	0.1μF/400V	マイラーコンデンサ	
	VC014700	Connector, EH Type Top	3P	EHコネクタ	
	VD650500	Connector, EH Type Top	4P	EHコネクタ	
	VC016400	Connector, EH Type Side	6P	EHコネクタ	
	VD650400	Connector, EH Type Top	2P	EHコネクタ	
	VC015000	Connector, EH Type Top	6P	EHコネクタ	
	VB390000	Connector, PH Type Top	4P	PHコネクタ	
	VB390100	Connector, PH Type Top	5P	PHコネクタ	
	VB390200	Connector, PH Type Top	6P	PHコネクタ	
	VF729400	Key Sensor Unit		キーセンサーユニット	U, C, E, B, A,
*	VJ579400	Key Sensor Unit		キーセンサーユニット	WG
	VE471400	Circuit Board, LED Drive		キー発光シート	
	VB434100	LED	H1000	LED	
	CB502580	Socket		発光ブロック	
	LB918060	Connector XH Type, Top	6P	XHコネクタ	
	LB918070	Connector XH Type, Top	7P	XHコネクタ	
	VE471200	Circuit Board, M1/K Detect		M1/K受光シート	
	iG036100	IC	NJM2901	IC	
	VB434400	Photo Diode	S2506-02	フォトダイオード	
	VB433900	Resistor Array	33KΩ	抵抗アレイ	
	HZ003190	Resistor Array	4.7KΩ	抵抗アレイ	
	HV753470	Frame Proof Carbon Resistor	4.7Ω 1/4W	不燃化カーボン抵抗	
	FZ005030	Semi-Conductive Cera. Cap.	0.1 μ F25V	半導体セラコン	
	CB502590	Socket		受光ブロック	
	LB918090	Connector XH Type, Top	9P	XHコネクタ	
	LB918110	Connector XH Type, Top	11P	XHコネクタ	
*	VJ579000	Hammer Sensor Unit		ハンマーセンサーユニット	U, C, B, E, A
*	VJ579100	Hammer Sensor Unit		ハンマーセンサーユニット	WG
	VE470900	Circuit Board, LED Drive		ハンマー発光シート	
	VB434100	LED	H1000	発光ダイオード	
	CB502580	Socket		発光ブロック	
	LB918130	Connector XH Type, Top	13P	XHコネクタ	
	LB918140	Connector XH Type, Top	14P	XHコネクタ	
	VE471200	Circuit Board, M1/K Detect		M1/K受光シート	
	VE471300	Circuit Board, M2 Detect		M2受光シート	

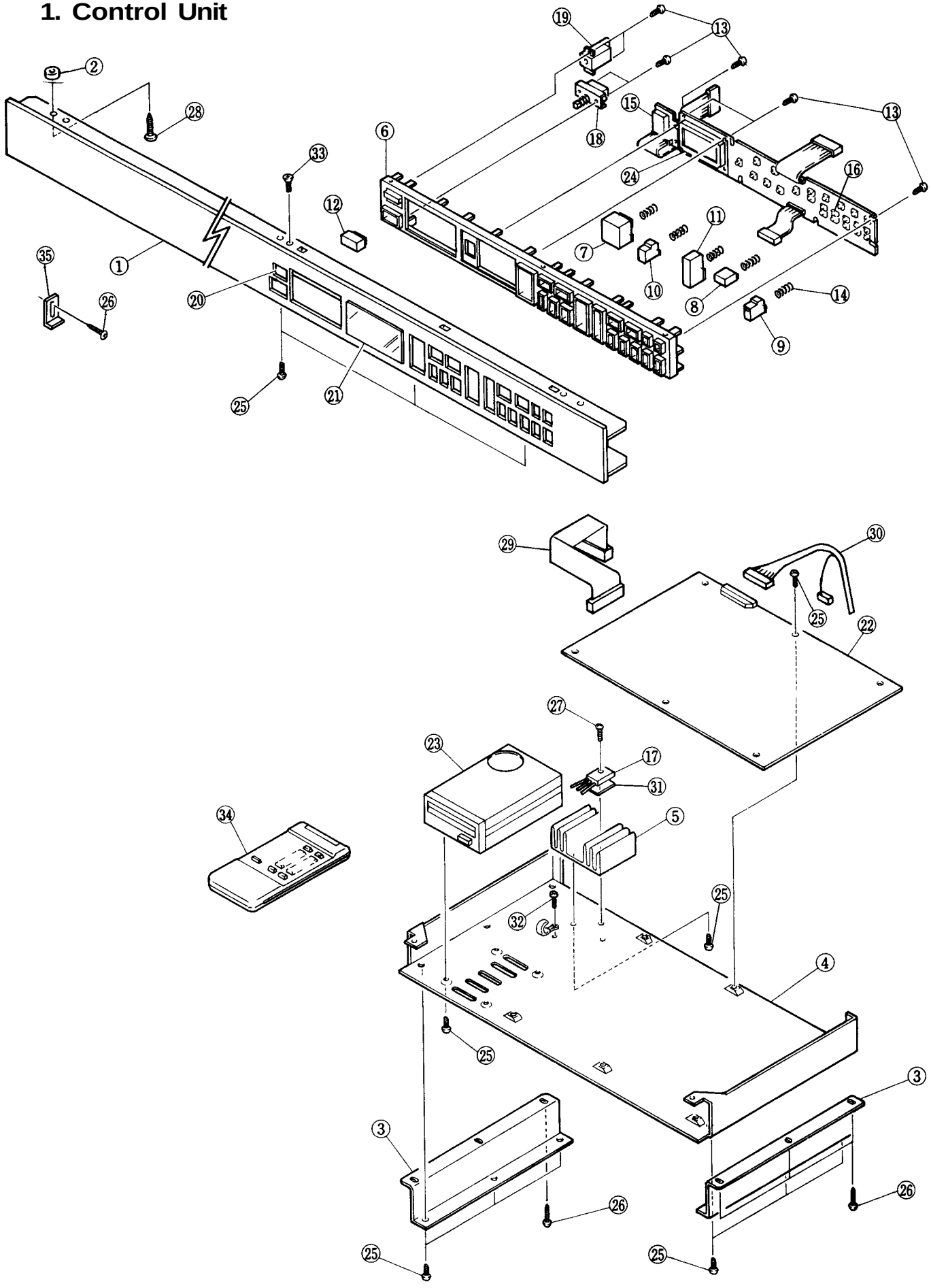
Ref. No.	Part No.	Description		部 品 名	Remarks
	iG036100	IC	NJM2901	IC	
	VB434400	Photo Diode	S2506-02	フォトダイオード	
	VB433900	Resistor Array	33KΩ	抵抗アレイ	
	HZ003190	Resistor Array	4.7KΩ	抵抗アレイ	
	HV753470	Frame Ploof Carbon Resistor	4.7Ω1/4W	不燃化カーボン抵抗	
	FZ005030	Semi-Conductive Cera. Cap.	01μF/25V	半導体セラコン	
	CB502590	Socket		受光ブロック	
	LB918090	Connector XH Type, Top	9P	XHコネクタ	
	LB918110	Connector XH Type, Top	11P	XHコネクタ	
	VG392200	Pedal Drive Unit		ペダルドライブユニット	U, C, B, E, A
	VH590400	Pedal Drive Unit		ペダルドライブユニット	WG
	iD102300	Transistor	2SD1023	トランジスタ	WG
	VB481900	Diode	11ES4	ダイオード	WG
*	VH407900	Mute Motor Ass'y		ミュートモーターAss'y	
	VH648700	Motor, Mute		ミュートモーター	
	NB037050	Tablet Switch	M	タブレットスイッチ	
	NB513260	Pedal Sensor Unit		ペダルセンサーユニット	
	NB137040	PK Switch	1T	PKスイッチ	
		I/O Unit		I/Oユニット	
*	VH065000	Circuit Board, I/O		I/Oシート	U, C, B, E, A
	iT202000	IC	YM2020 PWM	IC	Digital PWM
	iG027010	IC	HD74LS04P	IC	Hex Inverter
	iG043700	IC	HD74LS08P	IC	Quad 2in AND
	iG049800	IC	HD74LS32	IC	Quad 2in NOR
	iG036100	IC	NJM2901	IC	Quad Comparator
*	XG275A00	IC	TC74HC4538AP	IC	
	iG057400	IC	F9602	IC	Multi Vibrator
	iC181520	Transistor	2SC1815	トランジスタ	
	iD102300	Transistor	2SD1023	トランジスタ	
	VB293700	Transistor Array	TH3L20	トランジスタアレイ	
	HZ002940	Resistor Array	4.7Ω	抵抗アレイ	RM8-472
	VB307500	Resistor Array	100KΩ	抵抗アレイ	RM8-104
	VB307600	Resistor Array	1MΩ	抵抗アレイ	RM8-105
	VA106500	Diode	1SS176	ダイオード	
	VB295700	Diode Array	DAP-801	ダイオードアレイ	
	iF001840	Zener Diode	RD3.0EB	ツェナーダイオード	
	iF001220	First Recocvery Diode	S2K20	ファストリカバリダイオード	
	FZ004100	Semi-Conductive Cera. Cap.	0.1μF16V	半導体セラコン	
	FP337100	Tantalum Capacitor	10μF16V	タンタルコン	
	FZ000680	MM Capacitor	01μF250V	MMコン	
	iF008530	LED	GL-IHD201	LED	
	VB293300	Ceramic Resonator	CSA4.0MG11	セラロック	
	VB293400	Relay	G6A-274P DC5V	リレー	

Ref. No.	Part No.	Description		部 品 名	Remarks
	VG181900	Photo Coupller	PC900V	フォトカプラー	
	LB932020	Connector VH Type, Top	2P	VHコネクタ	
	LB932030	Connector VH Type, Top	3P	VHコネクタ	
	LB932040	Connector VH Type, Top	4P	VHコネクタ	
	LB932050	Connector VH Type, Top	5P	VHコネクタ	
	LB932060	Connector VH Type, Top	6P	VHコネクタ	
	LB916020	Connector, Top	2P	コネクタ	
	LB916030	Connector, Top	3P	コネクタ	
	LB916040	Connector, Top	4P	コネクタ	
	LB916090	Connector, Top	9P	コネクタ	
	LB916100	Connector, Top	10P	コネクタ	
	LB916110	Connector, Top	11P	コネクタ	
	LB916150	Connector, Top	15P	コネクタ	
*	VJ580000	Circuit Board, I/O		I/Oシート	WG
	iT342100	IC	YM3421	IC	Digital PWM
	iG027010	IC	HD74LS04P	IC	Hex Inverter
	iG043700	IC	HD74LS08P	IC	Quad 2in AND
	iG115200	IC	HD74LS123	IC	Dual Mono Multi
	iG031000	IC	NJM2903	IC	Comparator
	iG116200	IC	PST518	IC	Reset IC
	iC181520	Transistor	2SC1815	トランジスタ	
	VA106500	Diode	1SS176	ダイオード	
	FZ004100	Semi-Conductive Cera. Cap.	0.1μF16V	半導体セラコン	
	iF008530	LED	GL-IHD201	LED	
	VB293300	Ceramic Resonator	CSA4.0MG11	セラロック	
	VB293400	Relay	G6A-274P DC5V	リレー	
	HZ004700	Resistor Array	4.7KΩX12	抵抗アレイ	
	VA069700	Resistor Array	4.7KΩX4	抵抗アレイ	
	VH997200	Resistor Array	470ΩX12	抵抗アレイ	
	VB835000	Coil	5R200	FLコイル	
	LB932030	Connector VH Type, Top	3P	VHコネクタ	
	LB932060	Connector VH Type, Top	6P	VHコネクタ	
	LB916020	Connector, Top	2P	コネクタ	
	LB916040	Connector, Top	4P	コネクタ	
	LB916090	Connector, Top	9P	コネクタ	
	LB916100	Connector, Top	10P	コネクタ	
	LB916110	Connector, Top	11P	コネクタ	
	LB916150	Connector, Top	15P	コネクタ	
	VB219300	Connector PH Type, Top	6P	PHコネクタ	
	VF283100	Connector PH Type, Top	13P	PHコネクタ	
	VD650500	Connector EH Type, Top	4P	EHコネクタ	
	VE470400	Circuit Board, Sensor (A)		センサーシート(A)	
	iT201900	IC	YM2019	IC	KAPP
	iG027010	IC	HD74LS04	IC	Hex Inverter
	iG043700	IC	HD74LS08	IC	Quad 2IN AND
	iG052800	IC	TC40H032	IC	Quad 2IN OR
	HZ004700	Resistor Array	4.7KΩX12	抵抗アレイ	
	HL313470	Metal Oxide Resistor	4.7Ω1/2W	酸金抵抗	
	HL314120	Metal Oxide Resistor	12Ω1W	酸金抵抗	
	HL315470	Metal Oxide Resistor	470Ω1W	酸金抵抗	
	iC181520	Transistor	2SC1815	トランジスタ	

Ref. No.	Part No.	Description		部 品 名	Remarks
	iB059630	Transistor	2SB596	トランジスタ	
	VH441500	IC	MC1413P	IC	TR Array
	VA106500	Diode	1SS176	ダイオード	
	iF001840	Zener Diode	RD-3.0EB	ツェナーダイオード	
	VB434900	Zener Diode	RD-2.2EB1	ツェナーダイオード	
	FZ006970	EMI Filter	DSS310 0.022	EMIフィルター	
	VB293300	Ceramic Resonator	CSA4.0MG11	セラロック	
	VH867700	Capacitor Aray	220P X 8	コンデンサアレー	B9HC0117-15N
	GE300670	Ferrite Bead	BL02RN2-R62T4	フェライトビーズ	
	LB918040	Connector XH Type, Top	4P	コネクタ	
	LB918090	Connector XH Type, Top	9P	コネクタ	
	LB918110	Connector XH Type, Top	11P	コネクタ	
	LB918120	Connector XH Type, Top	12P	コネクタ	
	LB918130	Connector XH Type, Top	13P	コネクタ	
	LB918140	Connector XH Type, Top	14P	コネクタ	
*	VH065600	Circuit Board, Mute		ミュートシート	
*	XG275A00	IC	TC74HC4538AP	IC	
	iG103100	IC	LS03	IC	
	iG027010	IC	LS04	IC	
	XF880A00	IC	MB3763	IC	
	VG181900	Photo Coupller	PC900V	フォトカプラー	
	HL324150	Metal Oxide Film Resistor	15 Ω 2P	酸金抵抗	
	FZ005010	Semi-Conductive Cera. Cap.	0.1 μ F	半導体セラコン	
	LB918020	Connector XH Type, Top	2P	コネクタ	
	LB918030	Connector XH Type, Top	3P	コネクタ	
	LB918040	Connector XH Type	4P	コネクタ	
	LB918050	Connector XH Type	5P	コネクタ	
		MIDI Unit		MIDI外部ユニット	
	VE471700	Circuit Board, MIDI		MIDIシート	
	LB500520	DIN Socket		DINソケット	

Ref. No.	Part No.	Description		部 品 名	Remarks
	VD617900	Power Supply Unit		電源ユニット	U, C
	VH471100	Power Supply Unit		電源ユニット	B, E, A, WG
	iG083400	IC	AN7812	IC	12V Regurator IC2
	iG136200	IC	SI-3052V	IC	5V Regurator IC3,4
	iC223840	Transistor	2SC2238B	トランジスタ	Q1
	iC181520	Transistor	2SC1815	トランジスタ	Q5
	iH000390	Bridge Diode	KBH2504	ダイオードブリッジ	D1
	iX603810	Diode	10E4	ダイオード	D2
	iX554290	Diode	1S1585	ダイオード	D3
	iF000040	Diode	1S1555	ダイオード	D4, 6, 10
	iF001470	Zener Diode	RD6.2EB2	ダイオード	D5
	iX554300	Diode	C10P10F	ダイオード	D11, 12, 14
	iX800830	Diode	S1VB20	ダイオード	D13
	iX554310	Diode	BS08A	ダイオード	SCR1
	iH001050	Diode	AC16DGM	サイリスタ	SCR2, 4
	iH000420	Diode	CR02AM4	サイリスタ	SCR3
	FX551650	Electrolytic Cap.	4700μF200V	ケミコン	C8
	FX551560	Metallized Mylar Film Cap.	0.15μF 250V	MMコン	C3
	FZ005250	Metallized Mylar Film Cap.	0.22μF 125V	MMコン	C13
	FX550990	Metallized Mylar Film Cap.	0.22μF 250V	MMコン	C4
	HL327220	Metal Oxide Film Resistor	22K Ω 2W	酸金抵抗	R1
	HL327100	Metal Oxide Film Resistor	10K Ω 2W	酸金抵抗	R4
	HX500030	Cement Mold Resistor	12 Ω 10W	セメント抵抗	R10
	HX500040	Cement Mold Resistor	4.7K Ω 10W	セメント抵抗	R14
	KX550680	Relay	AW62199	リレー	RY1
	HX551730	Potentiometer	B10KΩ	半固定VR	H1021A VR1
	KX550630	Switch	SDA3SA-1	シーソーSW	SW1 U, C
	KX550690	Fuse	7A 250V	ヒューズ	F1 U, C
	KB002740	Fuse	1.5A 250V	ヒューズ	F2 U, C
	KB002370	Fuse (miniature)	2.5A 250V	ミニチュアヒューズ	F2 B, E, A, WG
	CX558570	Fuse Holder	19627	ヒューズホルダー	B, E, A, WG
	CX558580	Fuse Holder Cap	19628	ヒューズホルダー蓋	B, E, A, WG
	JX550080	Pilot Lamp	108-RN 120V	パイロットランプ	P.L.
	GX550630	Choke Coil	SK-16-100	チョークコイル	L1, L2 U, C
	GX550680	Coil	7A 1.5mH	チョークコイル	L1 B, E, A, WG
	GX550670	Power Transformer	N36-506	電源トランス	T1 U, C
	GX550690	Power Transformer	N36-651N	電源トランス	B, E, A, WG
	VF729100	Power Transformer Ass'y	XF175A0	電源トランスAss'y	B, E, A, WG
	VH419400	AC Cord Ass'y		電源付属品Ass'y	A
	VH419100	AC Cord Ass'y		電源付属品Ass'y	B, E
	VH599600	AC Cord Ass'y		電源付属品Ass'y	WG
	MG000820	AC Cord		電源コード	U, C
	VF757900	AC Cord		電源コード	B, E
	VF758000	AC Cord		電源コード	A
	VH412800	Power Switch	1802,1123	シーソースイッチ	B, E, A
	VE555800	Noise Filter	PBF-1206-/YA	ノイズフィルター	
	Fi383330	SP Capacitor DE7120-F-332M	3300pF 400V	コンデンサ	B, E

1. Control Unit

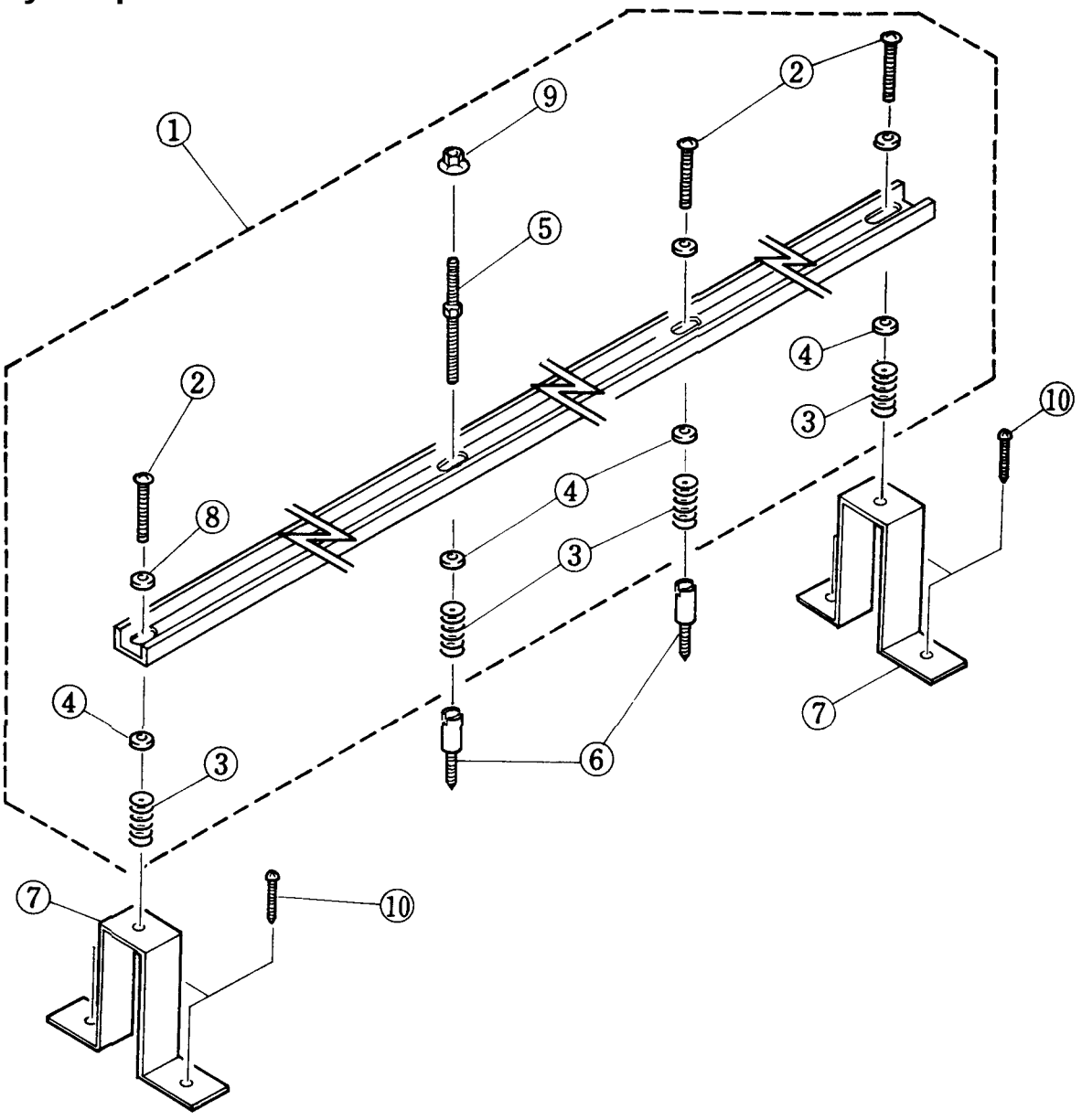


1 . Control Unit

	Ref. No.	Part No.	Description		部 品 名	Remarks
*	1	VJ652400	Front Panel		フロントパネル	BL
*	1	VJ652500	Front Panel		フロントパネル	WH
*	1	VJ652600	Front Panel		フロントパネル	WN
	2	VF156400	Spacer, Control Unit		ｺﾝﾄﾛｰﾗ取付ｽﾍﾟｰｻ	
	3	AA503110	Holder, Controller		コントローラー取付金具	
	4	AA503080	Bottom Cover		コントロールボトム	
	5	VB496400	Heat Sink		放熱板	
	6	CX558110	Sub Panel		ハウジング	BL,WN
	6	CX558120	Sub Panel		ハウジング	WH
	7	CX557810	Button, Switch	START	キートップ(A)	BL
	7	CX557820	Button, Switch	START	キートップ(A)	WH
	7	CX557830	Button, Switch	STOP	キートップ(A)	BL
	7	CX557840	Button, Switch	STOP	キートップ(A)	WH
	8	CX557850	Button, Switch	BWD	キートップ(C)	BL
	8	CX557860	Button, Switch	BWD	キートップ(C)	WH
	8	CX557870	Button, Switch	FWD	キートップ(C)	BL
	8	CX557880	Button, Switch	FWD	キートップ(C)	WH
	8	CX557890	Button, Switch	-	キートップ(C)	BL
	8	CX557900	Button, Switch	-	キートップ(C)	WH
	8	CX557910	Button, Switch	+	キートップ(C)	BL
	8	CX557920	Button, Switch	+	キートップ(C)	WH
	9	CX557930	Button, Switch	Vol/Tempo	キートップ(F)	BL
	9	CX557940	Button, Switch	Vol/Tempo	キートップ(F)	WH
	10	CX557950	Button, Switch	ALL	キートップ(D)	BL
	10	CX557960	Button, Switch	ALL	キートップ(D)	WH
	10	CX557970	Button, Switch	1	キートップ(D)	BL
	10	CX557980	Button, Switch	1	キートップ(D)	WH
	10	CX557990	Button, Switch	A-B	キートップ(D)	BL
	10	CX558000	Button, Switch	A-B	キートップ(D)	WH
	10	CX558010	Button, Switch	L	キートップ(D)	BL
	10	CX558020	Button, Switch	L	キートップ(D)	WH
	10	CX558030	Button, Switch	R	キートップ(D)	BL
	10	CX558040	Button, Switch	R	キートップ(D)	WH
	11	CX558050	Button, Switch	REC.	キートップ(B)	BL
	11	CX558060	Button, Switch	REC.	キートップ(B)	WH
	12	CX558070	Button, Switch	POWER	キートップ(E)	BL
	12	CX558080	Button, Switch	POWER	キートップ(E)	WH
	13	Ei020066	Bind Head Tapping Screw	2X6 YE	バインドタッピングネジ	
	14	AX550300	Spring		コイルスプリング	
	15	VG922200	7-Seg. LED Indicator		7セグメント表示器	
	16	KX550640	Micro Switch		MTスイッチ	
	17	iG136200	IC	SI-3052V	IC	2A5V Regurator
	18	KX550100	Power Switch		パワースイッチ	
	19	JX550060	Sensor, Remote Controller		リモコン受光器	
	20	CX558150	Window, Remote Controller		フィルター(A)	
	21	CX558160	LCD Panel		表示板	
*	22	VJ580100	Circuit Board, CPU		CPUシート	
	23	VH410100	FDD	3.5'	FDD	
	24	VH203400	LCD		LCD	
	25	Ei330066	Bind Tapping Screw	3X6 BL	バインドタッピングネジ	
	26	EX550126	Truss Tapping Screw	4X12 BL	トラスタッピングネジ	
	27	ED330086	Bind Screw	3X8 BL	バインド小ネジ	
	28	EX500176	Truss Tapping Screw	4X25 BL	トラスタッピングネジ	
	29	MZ501260	Cable, CPU-FDD	34P	CPU-FDDケーブル	
*	30	Vi220100	Cable, CPU-I/0	34P	34芯接続ケーブル	

Ref. No.	Part No.	Description		部 品 名	Remarks
31	VB578600	Spacer, Heat Sink		放熱板シート	
32	ED330056	Bind Screw	3X5 BL	バインド小ネジ	
33	EB026056	Flat Head Screw	2.6X5 YE	皿小ネジ	
34	VE514700	Remote Control Unit		リモコンユニット	
35	AA504370	Stopper, Upper Front Board		上前板止め金具	

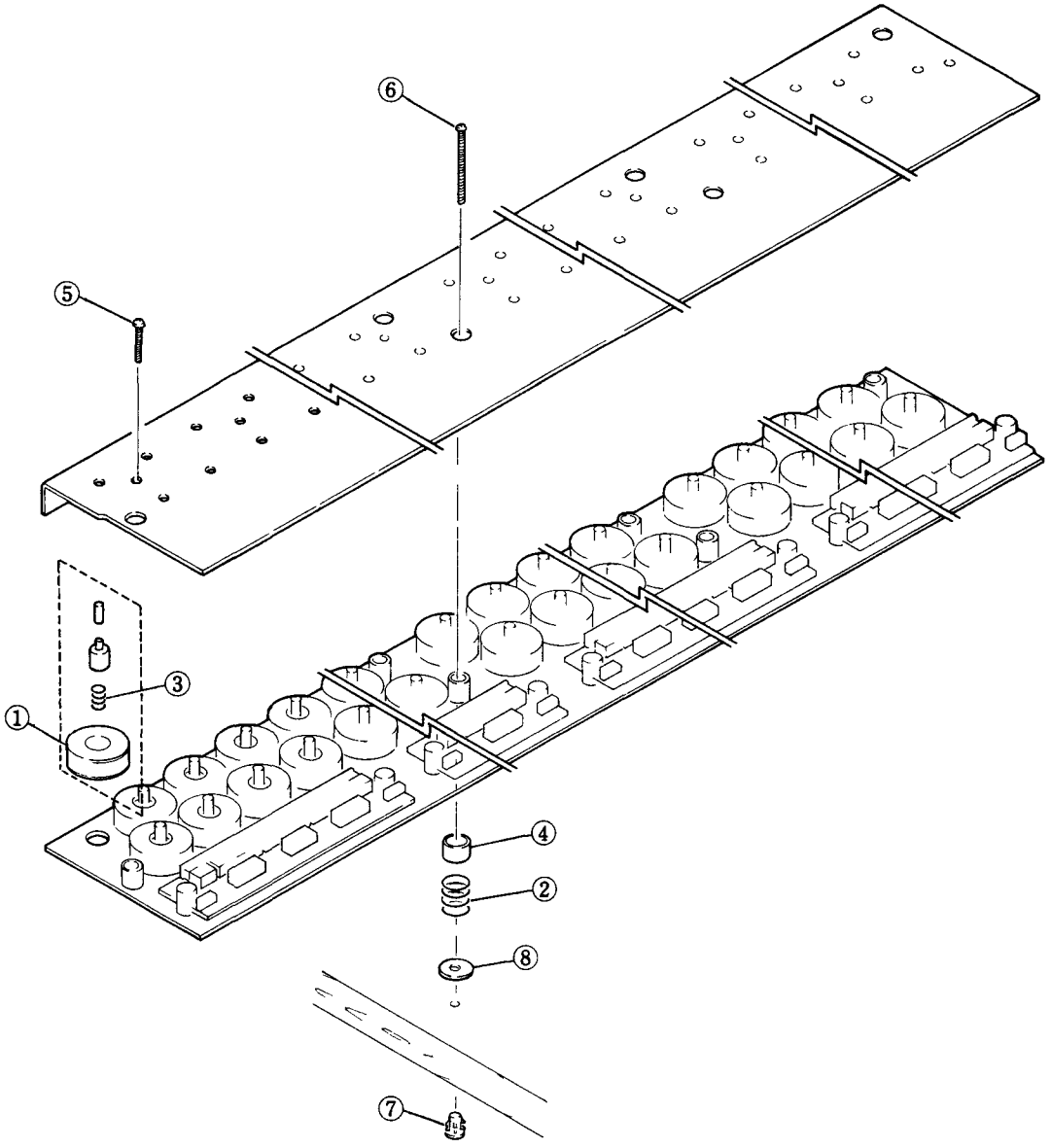
2. Key Stop Rail Unit



2. Key Stop Rail Unit

Ref. No.	Part No.	Description		部 品 名	Remarks
1	NB513830	Key Stop Rail Unit		鍵盤押えユニット	BL, WH
1	Vi925900	Key Stop Rail Unit		鍵盤押えユニット	WN
2	EA050256	Pan Head Screw	5X25 YE	ナベ小ネジ	
3	AA504740	Spring		鍵盤押え調整バネ	
4	EV200066	Flat Washer	φ6 YE	平座金	
5	AA504056	Bolt		鍵盤押えｽｸﾘｭｰﾎﾞﾙﾄ	
6	AA504040	Shaft		鍵盤押え固定シャフト	
7	AA504130	Angle		鍵盤押え支持台	
8	EX550100	Washer	5X8x0.5t	ポリスライダワッシャー	
9	EV100056	Hexagonal Nut	φ5	六角ナット	
10	EX500116	Truss Head Tapping Screw	4X12 YE	トラスタッピングネジ	

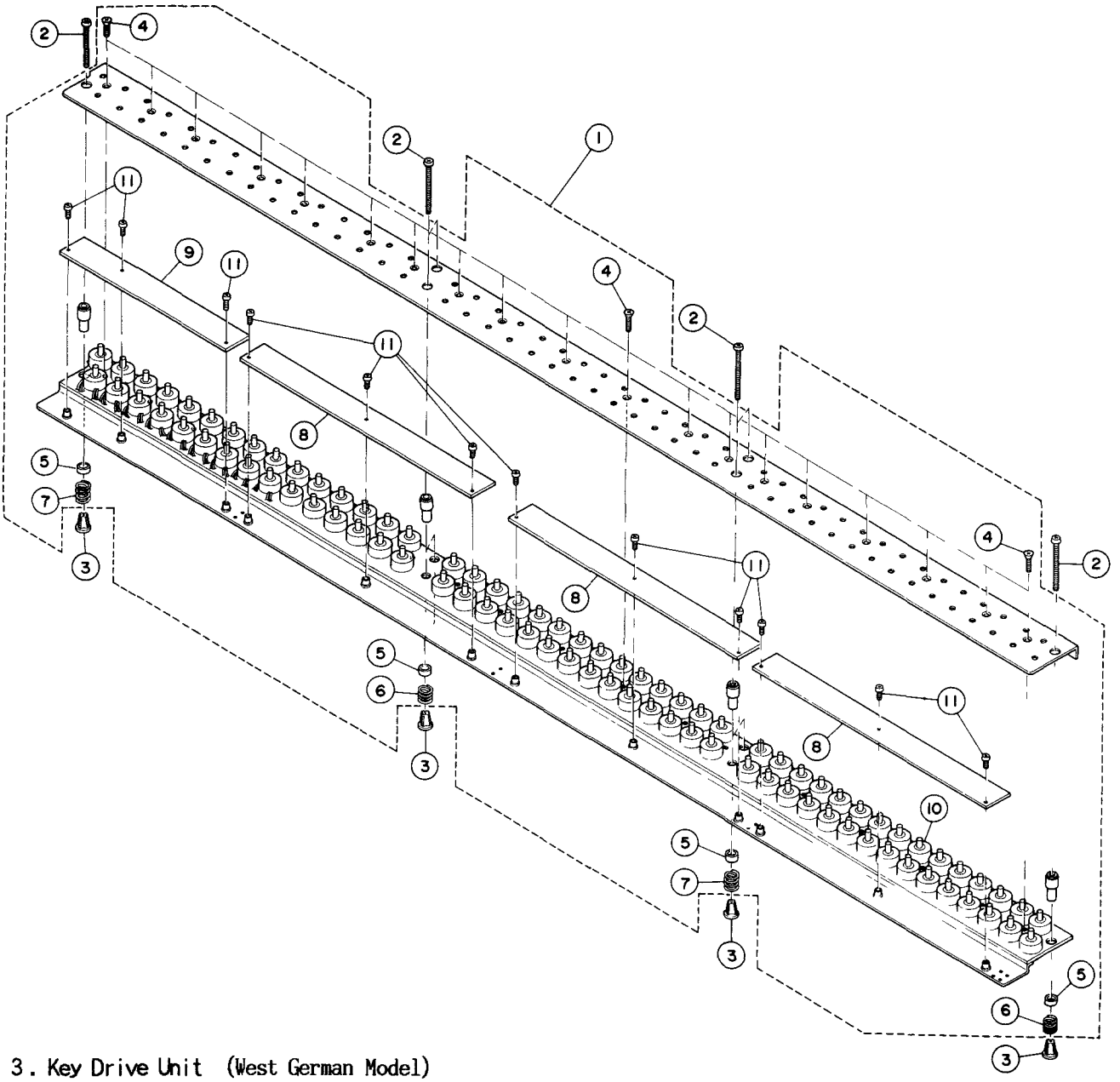
3. Key Drive Unit (Except West German Model)



3. Key Drive Unit (Except West German Model)

Ref. No.	Part No.	Description		部 品 名	Remarks
	VH388600	Key Drive Unit		キードライブユニット	
1	VG927100	Coil Ass'y (A)	ℓ=60 BL	PPコイルキット(A)	ODD Key
1	VG927200	Coil Ass'y (B)	ℓ=35 WH	PPコイルキット(B)	EVEN Key
2	AX500620	Spring (C)		クッションスプリング(C)	22mm
3	AX550350	Spring		コイルスプリング	
4	CX558220	Bushing, Spring		スプリング固定ブッシュ	
5	EX550050	Screw	M4	共通ヨーク固定ネジ	
6	EA040556	Pan Head Screw	4X55 YE	ナベ小ネジ	
7	EX550110	Insert Nut	B4X9.5 YE	鬼目ナット	
8	AA504100	Spacer	2t	スペーサ	

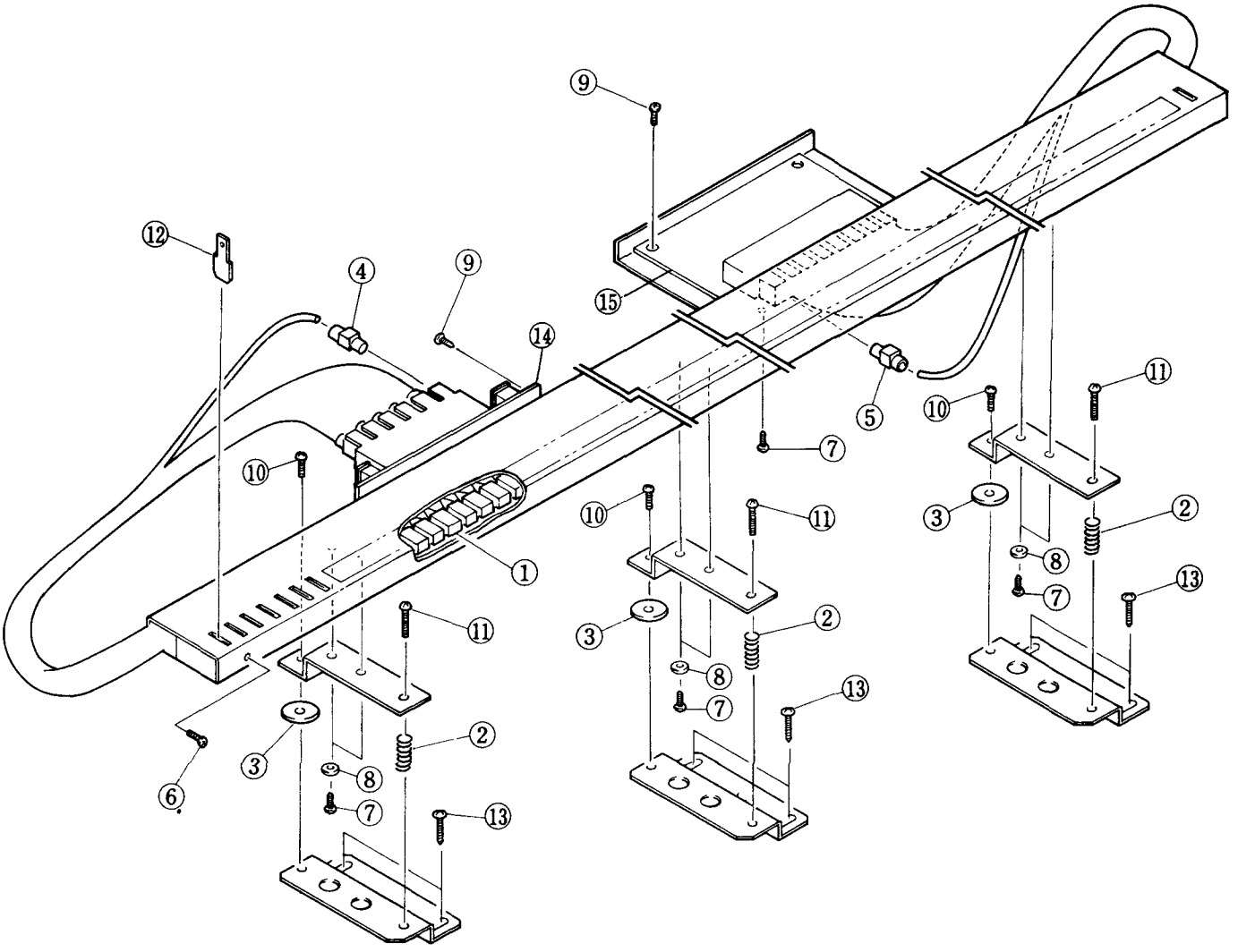
3. Key Drive Unit (West German Model)



3. Key Drive Unit (West German Model)

Ref. No.	Part No.	Description		部 品 名	Remarks
1	VH590200	Key Drive Unit		キードライブユニット	
2	EA040556	Pan Head Screw	4X55 YE	ナベ小ネジ	
3	EX550110	Insert Nut	B4X9.5 YE	鬼目ナット	
4	EB040186	Flat Head Screw	4X18 YE	Ⅲ小ネジ	
5	VG927000	Bushing, Spring		スプリング固定ブッシュ	
6	VG925300	Cushion Spring (A)	18mm WH	クッションスプリング(A)	Rear
7	VG925400	Cushion Spring (B)	22mm YE	クッションスプリング(B)	Front
8	VG915200	Circuit Board, Drive (B)	24Key	ドライブ(B)シート	
9	VG915300	Circuit Board, Drive (C)	16Key	ドライブ(C)シート	
10	VG927100	Coil Ass'y (A)	ℓ=60 BL	PPコイルキット(A)	ODD Key
10	VG927200	Coil Ass'y (B)	ℓ=35 WH	PPコイルキット(B)	EVEN Key
10	VG967300	Coil Ass'y (AL)	ℓ=75 BL	PPコイルキット(AL)	Key# 1,17,39
10	VG967400	Coil Ass'y (BL)	ℓ=50 WH	PPコイルキット(BL)	Key# 40
11	ED030066	Bind Head Screw	3X6 YE	バインド小ネジ	

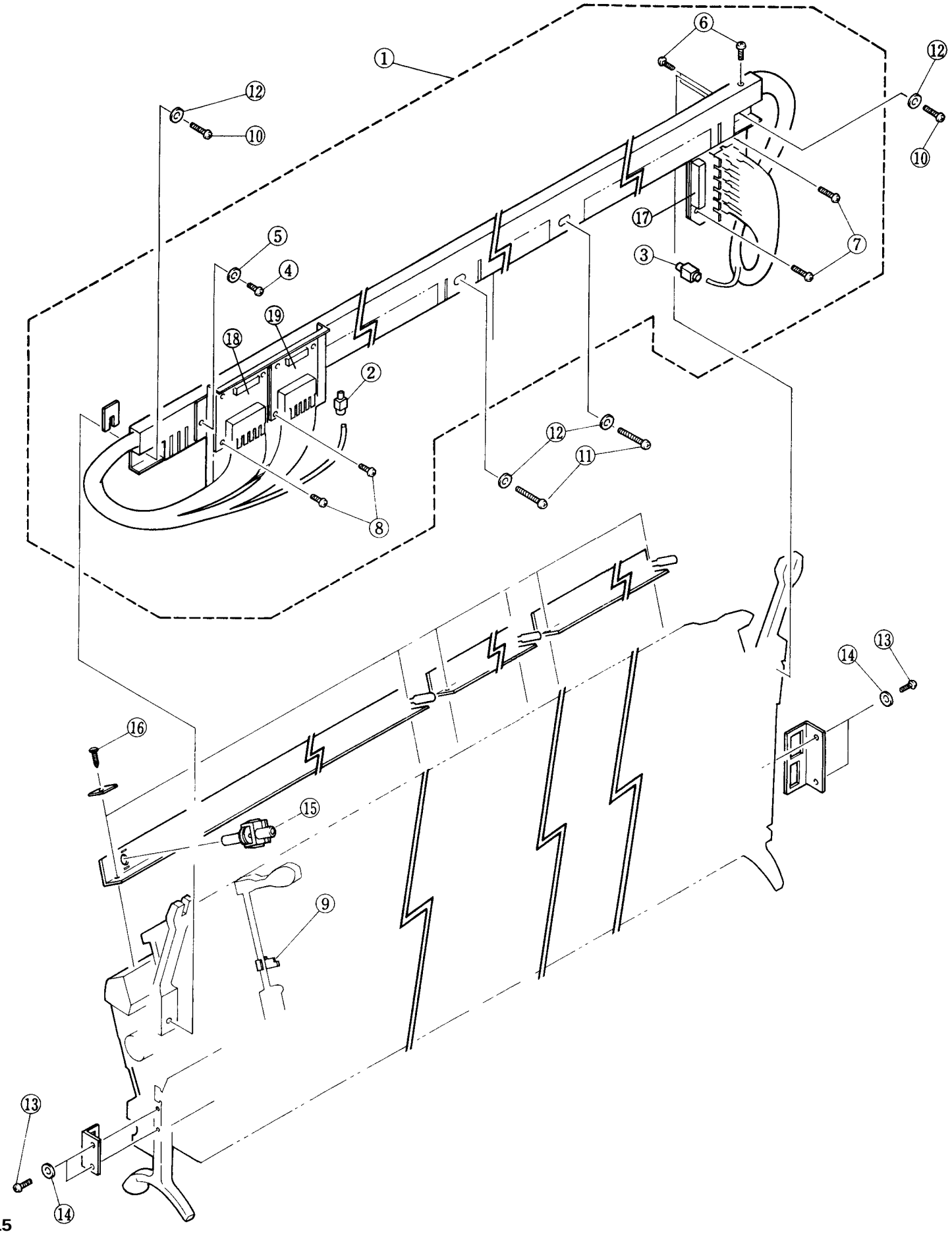
4. Key Sensor Unit



4. Key Sensor Unit

Ref. No.	Part No.	Description		部 品 名	Remarks
	VF729400	Key Sensor Unit		キーセンサーユニット	Except WG
*	VJ579400	Key Sensor Unit		キーセンサーユニット	WG
1	CB502790	Sensor Head (B)		センサーヘッド(B)	
2	AA503970	Spring (A)		高さ調整バネ(A)	
3	CB502800	Spacer (A)		ゴムスペーサ(A)	
4	CB502650	Plug	Emitter	発光プラグ	
5	CB502700	Plug	Receiver	受光プラグ	
6	EA330046	Pan Head Screw	3X4 BL	ナベ小ネジ	
7	ED330036	Bind Head Screw	3X3 BL	バインド小ネジ	
8	EV203036	Flat Washer	φ 3	平座金	
9	ED330056	Bind Head Screw	3X5 BL	バインド小ネジ	
10	ED330086	Bind Head Screw	3X8 BL	バインド小ネジ	
11	ED330166	Bind Head Screw	3X16 BL	バインド小ネジ	
12	BB500690	Key Shutter		キーシャッター	
13	EX550126	Truss Head Tapping Screw	4X12 BL	トラスタッピングネジ	
14	VE471400	Circuit Board, LED Drive		キー発光シート	Except WG
14	VH866000	Circuit Board, LED Drive		キー発光シート	WG
15	VE471200	Circuit Board, M1/K Detect		キー受光シート	

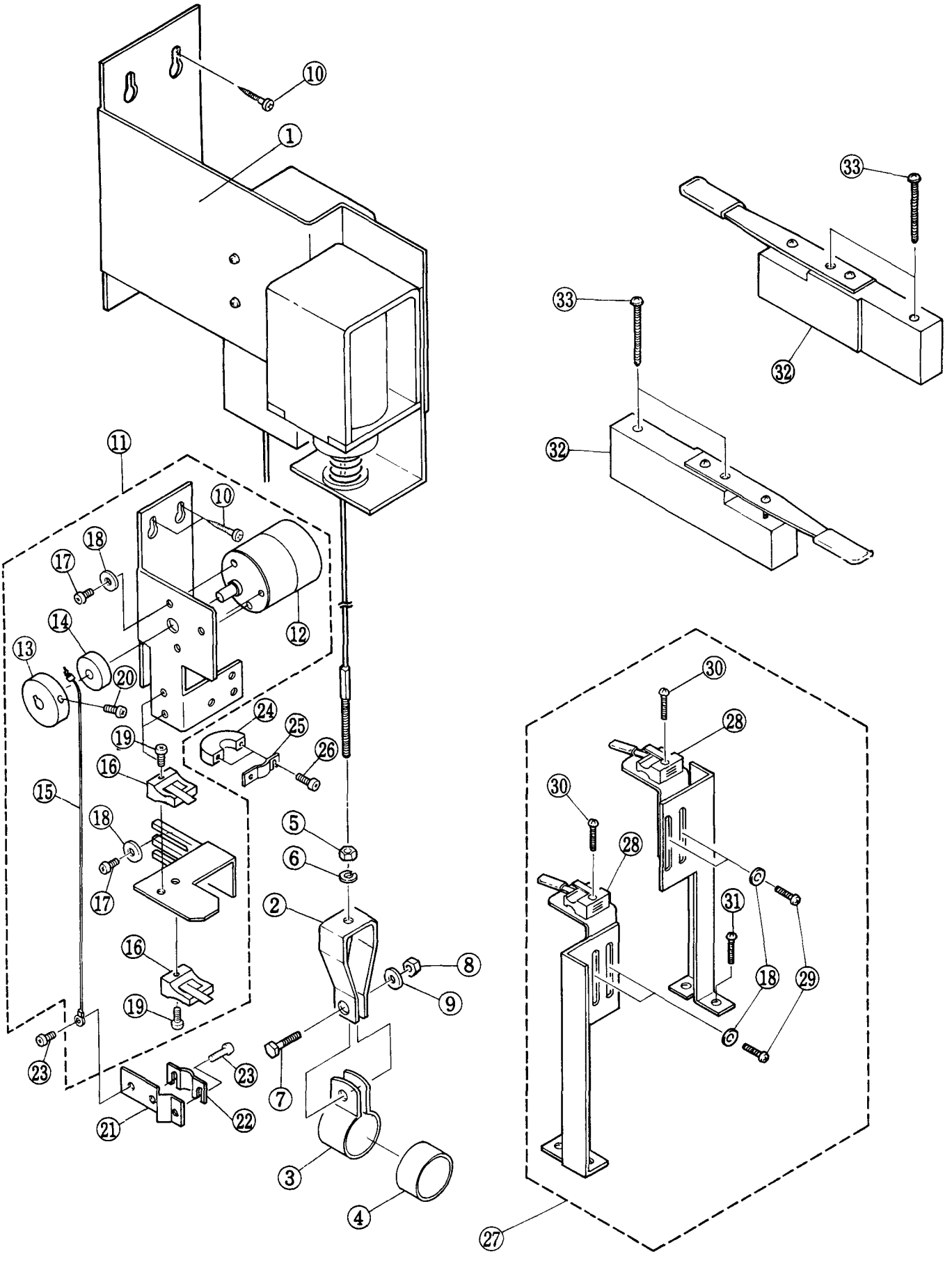
5. Hammer Sensor Unit Air Damper Unit



5. Hammer Sensor Unit, Air Damper Unit

Ref. No.	Part No.	Description		部 品 名	Remarks
* 1	VJ579000	Hammer Sensor Unit		ハンマーセンサーユニット	Except WG
* 1	VJ579100	Hammer Sensor Unit		ハンマーセンサーユニット	WG
	CB502790	Sensor Head (B)		センサーヘッド B	
2	CB502700	Plug	Receiver	受光プラグ	
3	CB502600	Plug	Emitter	発光プラグ	
4	EA030036	Pan Head Screw	3X3 YE	ナベ小ネジ	
5	EV200036	Flat Washer	φ3 YE	平座金	
6	ED030046	Bind Head Screw	3X4 YE	バインド小ネジ	
7	EA030106	Pan Head Screw	3X10 YE	ナベ小ネジ	
8	ED030056	Bind Head Screw	3X5 YE	バインド小ネジ	
9	BB500670	Hammer Shutter (A)		ハンマーシャッター A	
10	EA040106	Pan Head Screw	4X10 YE	ナベ小ネジ	
11	EA040206	Pan Head Screw	4X20 YE	ナベ小ネジ	
12	EV200046	Flat Washer	φ4 YE	平座金	
13	EA030046	Pan Head Screw	3X4 YE	ナベ小ネジ	
14	EV200036	Flat Washer	φ3 YE	平座金	
15	NX509820	Air Damper		エアダンパー	
16	EH040100	Truss Head Tapping Screw	4X10YE	トラスタッピングネジ	
17	VE470900	Circuit Board, LED Drive		ハンマー発光シート	
18	VE471200	Circuit Board, M1/K Detect		M1/K 受光シート	
19	VE471300	Circuit Board, M2 Detect		M2受光シート	

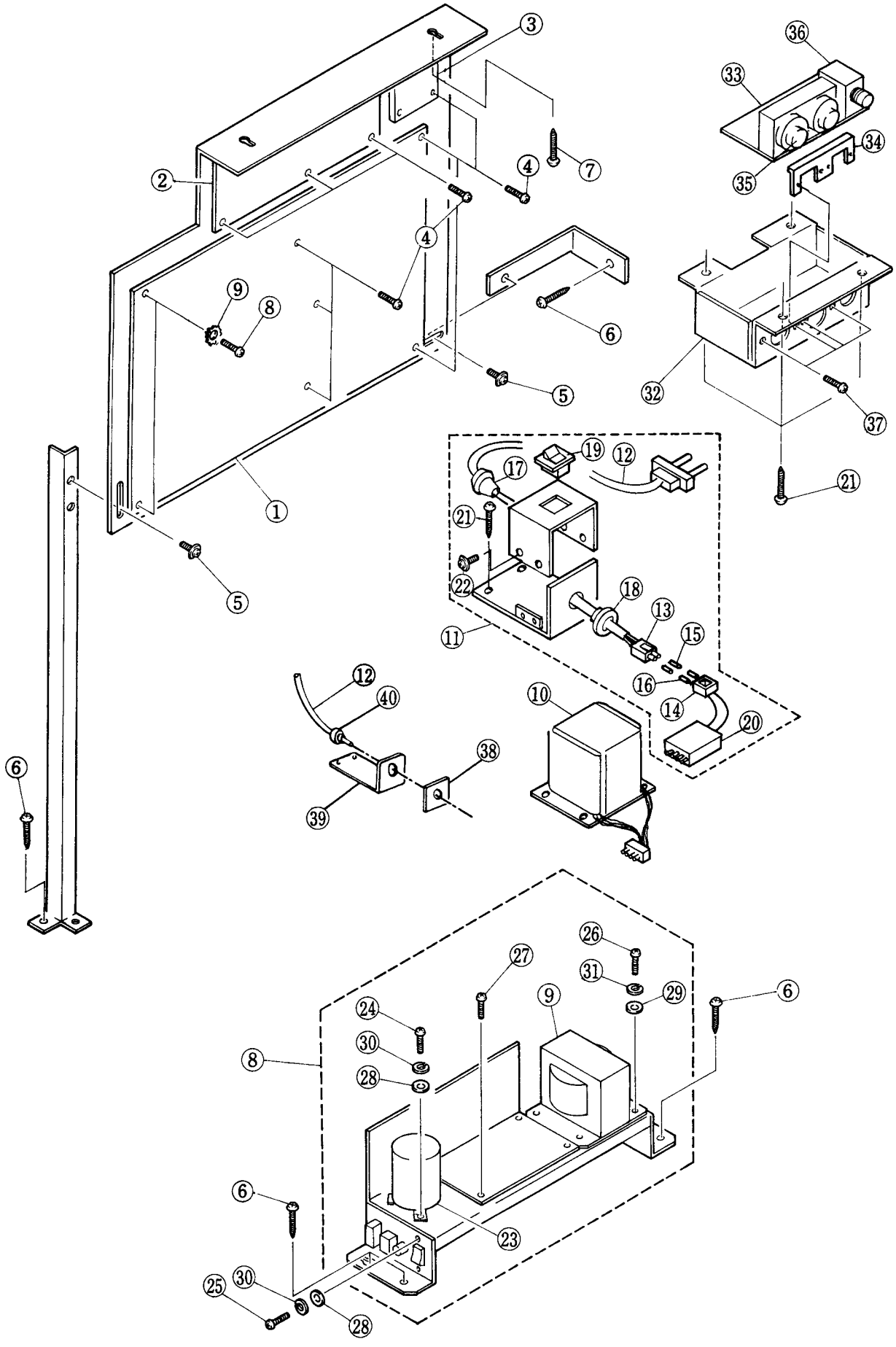
6. Pedal Drive Unit, Pedal Sensor Unit, Mute Moter Unit, Pedal Cushion Unit



6. Pedal Drive Unit, Pedal Sensor Unit, Mute Motor Unit, Pedal Cushion Unit

Ref. No.	Part No.	Description		部 品 名	Remarks
1	VG392200	Pedal Drive Unit		ペダルドライブユニット	Except WG
1	VH590400	Pedal Drive Unit		ペダルドライブユニット	WG
2	AA504080	Pedal Lever Hook		天秤止め金具	
3	AA504590	Pedal Lever Clamp		天秤吊バンド	
4	VF851400	Pedal Lever Spacer		天秤用絶縁ゴム	
5	EV100046	Hexagonal Nut	M4 YE	六角ナット	
6	EV300046	Spring Washer	φ4 YE	バネ座金	
7		Hexagonal Bolt	M5X15 YE	六角ボルト	
8	EV100056	Hexagonal Nut	M5 YE	六角ナット	
9	EV300056	Spring Washer	φ5 YE	バネ座金	
10	EH040166	Truss Head Tapping Screw	4X16 YE	トラスタッピングネジ	
* 11	VH407900	Mute Motor Ass'y		ミュートモーターAss'y	
12	VH648700	Motor, Mute		ギヤードモーター	
13	VG923900	Collar, Mute Motor		モーター用カラー	
14	VH222100	Felt Collar		フェルトカラー	
15	VG924000	Cord, Mute Motor		モーター巻上げテープ	
16	NB037050	Tablet Switch	M	タブレットスイッチ	
17	EA030056	Pan Head Screw	3X5 YE	ナベ小ネジ	
18	EV200036	Flat Washer	φ3 YE	平座金	
19	EA330126	Pan Head Screw	3X12 BL	ナベ小ネジ	
20	EJ030106	Pan Head Tapping Screw	3X10 YE	ナベタッピングネジ	
21	VG925200	Cord Holder		テープ止め金具	
22	VG926300	Stopper, Cord Holder		テープ止め金具押え	
23	ED030066	Bind Head Screw	3X6 YE	バインド小ネジ	
24	VG926700	Sensor Ring		センサーリング	
25	VH470400	Spring, Sensor Ring		センサーリング固定バネ	
26	Ei030106	Bind Head Tapping Screw	3X10 YE	バインドタッピングネジ	
27	NB513260	Pedal Sensor Unit		ペダルセンサーユニット	
28	NB137040	PK Switch	1T	PKスイッチ	
29	EA030046	Pan Head Screw	3X4 YE	ナベ小ネジ	
30	ED030126	Bind Head Screw	3X12 YE	バインド小ネジ	
31	EX550126	Truss Head Tapping Screw	4X12 BL	トラスタッピングネジ	
32	NB513620	Pedal Cushion Ass'y		ペダルクッションAss'y	
33	EK940406	Truss Head Tapping Screw	4X40 YE	トラスタッピングネジ	

7. I/O Unit, Power Supply Unit, MIDI Unit



7. I/O Unit, Power Supply Unit, MIDI Unit

Ref. No.	Part No.	Description		部 品 名	Remarks
1	VH065000	Circuit Board, I/O		I/Oシート	Except WG
* 1	VJ580000	Circuit Board, I/O		I/Oシート	WG
2	VE470400	Circuit Board, Sensor (A)		センサーシート A	
* 3	VH065600	Circuit Board, Mute		ミュートシート	
4	ED330066	Bind Head Screw	3X6 BL	バインド小ネジ	
5	EK365020	BW Head Screw	4X6 YE	BWHネジ	
6	EX500116	Truss Head Tapping Screw	4X12 YE	トラスタッピングネジ	
7	EH040166	Truss Head Tapping Screw	4X16 YE	トラスタッピングネジ	
8	VD617900	Power Supply Unit		電源ユニット	U, C
8	VH471100	Power Supply Unit		電源ユニット	B, WG, E, A
9	GX550670	Power Transformer	N36-506	電源トランス	U, C
9	GX550690	Power Transformer	N36-651A	電源トランス	B, WG, E, A
10	VF729100	Power Transformer Ass'y		電源トランスAss'y	B, WG, E, A
11	VH419400	AC Cord Ass'y		電源付属品Ass'y	A
11	VH419100	AC Cord Ass'y		電源付属品Ass'y	E
11	VH599600	AC Cord Ass'y		電源付属品Ass'y	WG
11	VJ678900	AC Cord Ass'y		電源付属品Ass'y	B
12	MG000820	AC Cord		電源コード	U, C
12	VF757900	AC Cord		電源コード	WG, E
12	VF758000	AC Cord		電源コード	A
12	VH895700	AC Cord		電源コード	B
13	LB201430	Connector	LP-02-1V	コネクタ	
14	LB201710	Connector	LR-02-V	コネクタ	
15	LB100670	Contact Pin	SLF-21T-2.0S	コンタクトピン	
16	LB100680	Contact Pin	SLM-21T-2.0	コンタクトピン	
17	CB620190	Cord Stopper	CM-22B	コードストッパー	B, WG, E, A
18	VH412700	Bushing	MP5006	ブッシング	B, WG, E, A
19	VH412800	Power Switch	1802,1123	シーソースイッチ	B, WG, E, A
20	VE555800	Noise Filter	PBF-1206-22	ノイズフィルター	
21	EX550126	Truss Tapping Screw	4X12 BL	トラスタッピングネジ	
22	EK365110	BWH Screw	3X6 BL	BWH小ネジ	
	VH413000	Terminal	MDH48-2P	端子台	B, WG, E, A
23	FX551650	Electolytic Capacitor	4700μF/200V	ケミコン	
24	EA040066	Pan Head Screw	4X6 YE	ナベ小ネジ	
	EA030186	Pan Head Screw	3X18 YE	ナベ小ネジ	Bridge Diode
	EA030106	Pan Head Screw	3X10 YE	ナベ小ネジ	TR
25	EA030066	Pan Head Screw	3X6 YE	ナベ小ネジ	
26	EA050066	Pan Head Screw	5X6 YE	ナベ小ネジ	
27	ED030046	Bind Head Screw	3X4 YE	バインド小ネジ	
28	EV200036	Flat Washer	φ3 YE	平座金	
29	EV200056	Flat Washer	φ5 YE	平座金	
30	EV300036	Spring Washer	φ3 YE	バネ座金	
31	EV300056	Spring Washer	φ5 YE	バネ座金	
	EV100036	Hexagonal Nut	M3 YE	六角ナット	Bridge Diode
32	VE512700	Panel, MIDI Socket		MIDI外部ユニットパネル	Except WG
32	VH589900	Panel, MIDI Socket		MIDI外部ユニットパネル	WG
33	VE471700	Circuit Board, MIDI		MIDIシート	Except WG
33	VH590000	Circuit Board, MIDI		MIDIシート	WG
34	AA831250	Holder, DIN Socket		DINソケットホルダー	
35	LB500520	DIN Socket	5P	DINソケット	
36	LB202930	Phone Jack		フォンジャック	Except WG
37	EA330066	Pan Head Screw	3X6 BL	ナベ小ネジ	
38	VE545100	Spacer Rubber		止め金具防振板	U, C
39	VE545200	Cord Stopper		電源コード止め金具	U, C
40	VF776600	Cord Bushing		コードブッシュ	U, C

disklavier Overall Circuit Diagram (CPU Section)

MX-100B *(West German Model)*

CPU

to FDD Unit

to I/O Circuit Board CN2 3 4

Power on Relay

Remote Controller Decoder

Solenoid Drive Data

Rec Data Control

CPU Error Reset

Panel SW Scan

LED DRIVE

LCD DATA

LCD Visual Angle Adj.

7 Seg Upper

7 Seg Lower

Rotary Encoder

Volume Adj. Trimmer

Noise Filter D-03C 2/2

Noise Filter D-03C 1/2

MIDI

MIDI EXTERNAL UNIT

Phone Jack for Foot SW (Except W. German Model)

METRONOME

BUZZER

■1 DIP SWITCH CONDITION

REC — PLY → 4 Turn ON (Recording & Playback type)
UP — GP → 3 Turn ON (For Upright)
UL — USA → 2 For USA Turn ON; For other countries Turn OFF
CEE — 1 Not used

IC1 RP6502G(CPU)
IC2 YM3205 (FMAC)
IC3 4 MB8464-12 (DRAM A)
MB27128-252 (ROM B)
IC5 6 MB8464-12 (DRAM)
IC7 YM3802 (MCS)
IC8 MB8877C (FDC)
IC9 HD6850 (ACIA)
IC10 MB8877C (FDC)
IC11 HD74LS174P
IC12 HD74LS04P
IC13 TC40H040
IC14 TC40H125
IC15 HD74LS138P
IC16 HD74LS32P
IC17 SN74LS245N
IC18 HD74LS175P
IC19 SN74LS240N
IC20 HD74LS139P
IC21 HD74LS244P
IC22 23 TC4A118M
IC24 HD74LS32P
IC25 SN74LS05P
IC26 NJM555
IC27 HD74LS76B
IC28 HD74LS04P
IC29 HD74LS14P
IC30 HD74LS00

IC31 P9602
IC32 HD74LS293P
IC33 HD74LS123P
IC34 HD74LS161A
IC35 36 HD74LS273P
IC37 HD74LS04P
IC38 HD74LS74A
IC39 HD74LS244P
IC40 42 HD74LS04P
IC41 42 HD74LS04P
IC43 HD74LS240P
IC44 HD74LS32P
IC45 HD74LS08P
IC46 HD74LS14P
IC47 48 HD74LS07P
IC49 HD74LS07P
IC50 PST51B
IC51 HD74LS74A
IC52 HD74LS244P

TRI 2 2SC1815 (Y)

D1 2 3 6 1SS176

SW 1 POWER
2 ▶/II(START/PAUSE)
3 ■(INI)
4 ▶▶(FF)
5 ALL
6 ↑
7 A→B
8 ■(STOP)
9 ●(REC)
10 —

SW 11 ↑
12 ↓
13 R
14 VOLUME
15 TEMPO
16 TRANS/BEAT
17 METRONOME
18 MIDI

LED 1 ●(REC)
2 VOLUME
3 TEMPO
4 TRANS/BEAT
5 METRONOME
6 MIDI

POWER SW

Remote Controller Sensor

7 SEG

LCD UNIT

KEYBOARD

(Note) D side LED RED 1S1555 SLR-343MC3H3 GREEN SLR-346MC3H3

disklavier Overall Circuit Diagram (I/O, Sensor Section) MX-100B (*West German Model*)