☰Roland

MIDI KEYBOARD CONTROLLER

MKB-1000/300

OWNER'S MANUAL

"Warning — This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception."

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such an interference in a residetial installation.

However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:
● Disconnect other devices and their input/output cables one at time. If the interference stops, it is caused by either the other device or its I/O cable.

These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:
● Turn the TV or radio antenna until the interference stops.
● Move the equipment to one side or the other of the TV or radio.
● Move the equipment farther away from the TV or radio.
● Plug the equipment into an outlet that is no a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
● Consider installing a rooftop television antenna with coaxial calbe lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.
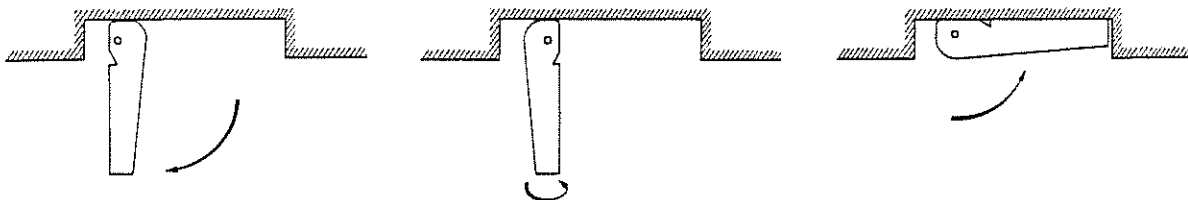
KEY LOCK of the MKB-1000

The MKB-1000 features the Key Lock system to prevent key action disorder caused in transit. When the MKB-1000 is released from the manufacturer, it is locked (with the two levers on the bottom of the body). You are required to unlock them before using the MKB-1000. Also, be sure to lock the MKB-1000 again when transporting it.
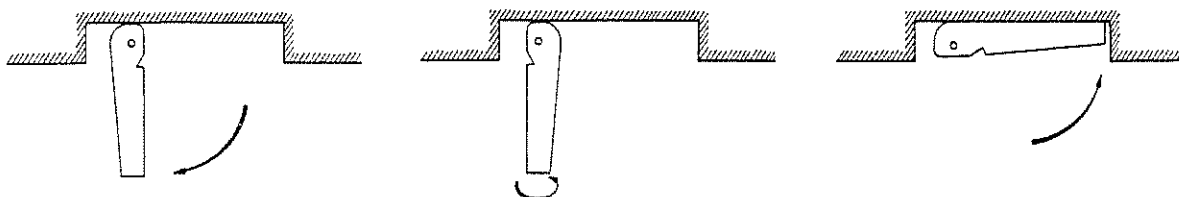
★How to unlock the Key Lock

① Place the MKB-1000 on a stand.

② Straighten the lever to the virtical position.

③ Rotate the lever half circle.

④ Return the lever to the horizontal position.

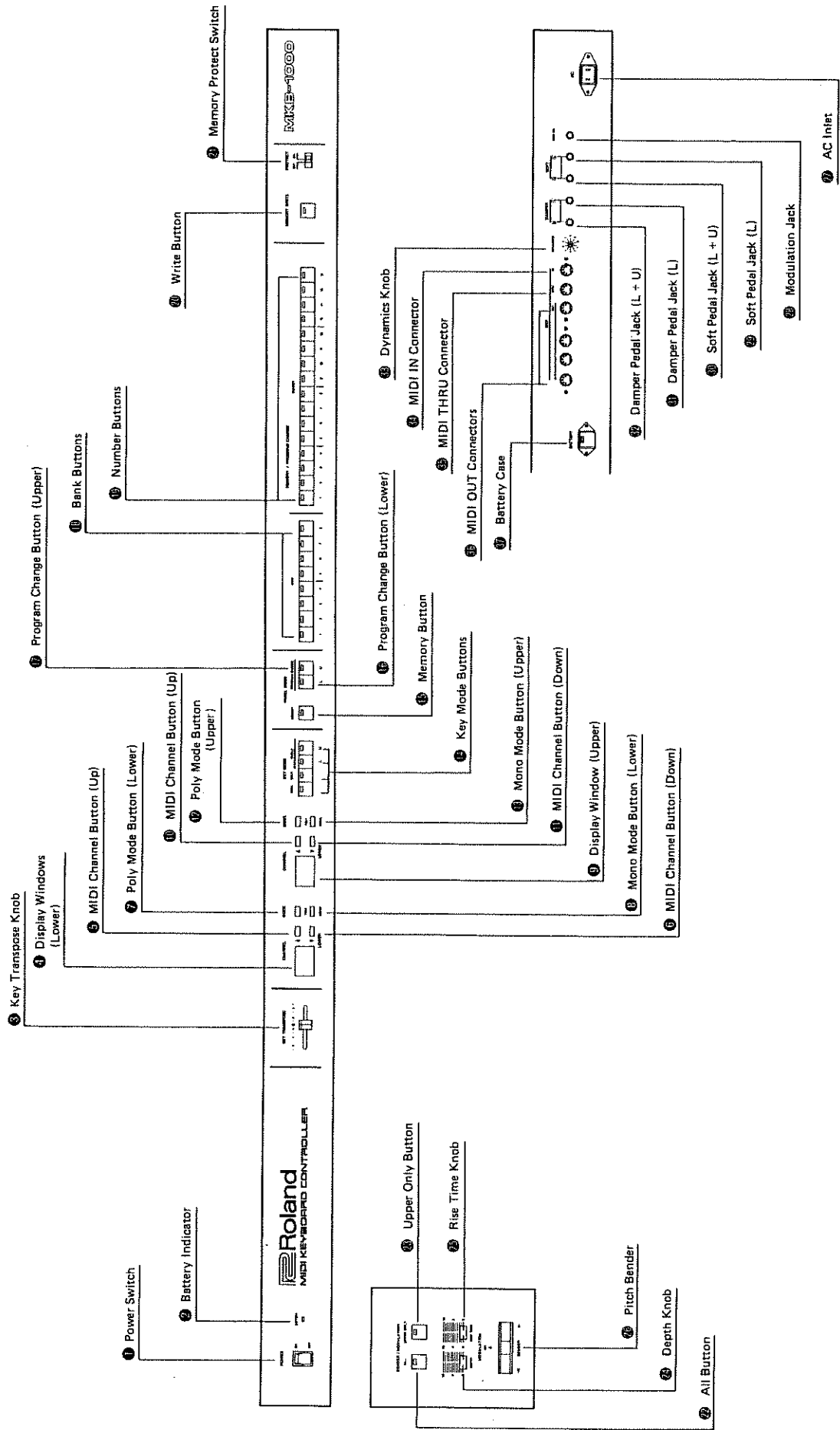★How to lock the Key Lock

To lock the key, take the inverted procedure.

Roland
MIDI KEYBOARD CONTROLLER

MKB-1000

1 Power Switch
2 Battery Indicator
3 Key Transpose Knob
4 Display Windows (Lower)
5 MIDI Channel Button (Up)
6 MIDI Channel Button (Upper)
7 Poly Mode Button (Lower)
8 Poly Mode Button (Upper)
9 Program Change Button (Upper)
10 Bank Buttons
11 Number Buttons
12 Program Change Button (Lower)
13 Memory Button
14 Key Mode Buttons
15 Mono Mode Button (Upper)
16 MIDI Channel Button (Down)
17 Display Window (Upper)
18 MIDI Channel Button (Down)
19 Mono Mode Button (Lower)
20 Write Button
21 Memory Protect Switch
22 Dynamics Knob
23 MIDI IN Connector
24 MIDI THRU Connector
25 MIDI OUT Connectors
26 Battery Case
27 Damper Pedal Jack (L + U)
28 Damper Pedal Jack (L)
29 Soft Pedal Jack (L + U)
30 Soft Pedal Jack (L)
31 Modulation Jack
32 AC Inlet
33 Upper Only Button
34 Rise Time Knob
35 Pitch Bender
36 Depth Knob
37 All Button

* The picture used here is the MKB-1000's. The MKB-300 is slightly shorter than the MKB-1000.

- The MKB is a keyboard which can control MIDI equipped Sound Modules and instruments.

- The MKB can use 2 MIDI Channels, therefore simultaneously play two Sound Modules or MIDI instruments.

- The MKB transmits various MIDI messages to the Sound Modules and MIDI instruments; some can receive all the messages sent and some cannot, depending on the functions featured in each device.

CONTENTS

INPORTANT NOTES

Power Supply

- Be sure the line voltage in your country meets that shown on the name plate on the rear panel of the MKB.

- Do not use the same socket that is used for any noise generating device, such as a motor, or variable lighting system.

- When setting up the MKB, be sure that all the units are turned off.

- This unit might not work properly if turned on immediately after turned off, or if the power cable is plugged in with the unit turned on. If this happens, simply turn the unit off, and turn it on again in a few seconds.

Location

- Operating the MKB near a neon or fluorescent lamp may cause noise interference. If so, change the angle or position of the MKB.

- Avoid using the MKB in extreme heat or humidity or where it may be affected by dust.

Cleaning

- Use a soft cloth and clean only with a mild detergent.

- Do not use solvents such as paint thinner.

Other Notes

- This unit might get hot while operating, but there is nothing to worry about it.

- Save the data in memory onto a cartridge or make a synthesize memo of each tone color, before having the MKB repaired. The data may be accidentally lost during repairing process, and if it happens, there is no way to retrieve it.
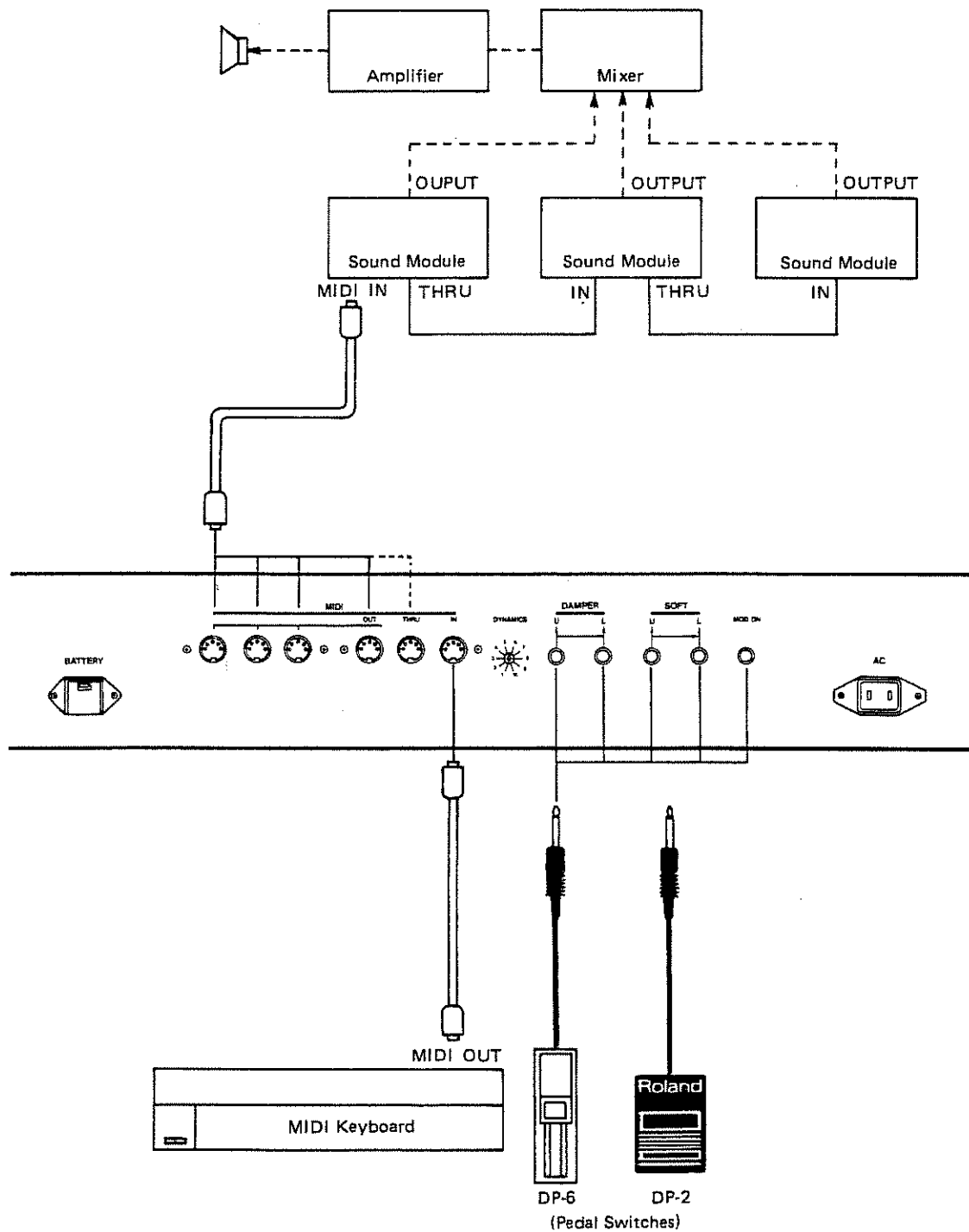
3 OPERATION

A. OUTLINE OF THE MKB

●The MKB can simultaneously use 2 Channels, thereby control two Sound Modules (or MIDI instruments) at a time.
   ⇨ MIDI Channel setting (P. 8)

●Each MIDI Channel can be independently assigned to Mono or Poly.
   ⇨ Assign Mode setting (P. 8)

●Each of 2 MIDI Channels can be assigned to the Key mode you like (Whole U, Whole L, Split).
   ⇨ Key Mode setting (P. 9)

●The MKB can select any patch program in the connected Sound Modules (or MIDI instruments).
   ⇨ Program Change message (P. 12)

●The MKB features memory capacity that retains 128 patch programs with different settings of above 4 elements: MIDI Channel, Assign Mode, Key Mode and program numbers.
   ⇨ Memory Function (P. 14)

●There are 10 different level settings of Velocity Sensitivity available for the player to choose.
   ⇨ Dynamics (P. 17)

●The MKB transmits Bender message.
   ⇨ Controller (P. 17)

●The MKB transmits Soft Pedal and Damper Pedal messages.
   ⇨ Remote Control (P. 18)

●Key Transposition is easily done.
   ⇨ Key Transpose (P. 19)

●The message received from the MIDI IN can be sent to the MIDI OUT's.
   ⇨ MIDI Connectors (P. 19)

●The MKB features Auto Tune function.
   ⇨ Tune Request (P. 19)

●Pressing a pedal switch changes the patch numbers.
   ⇨ Number Shift (P. 20)

On power-up, the MKB defaults to patch program 1-1 (bank 1, number 1). Current patch program's setting can be easily glasped by the Display Window and indicators on the panel.
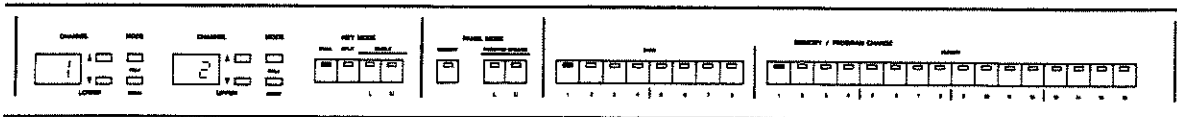
B. NECESSARY SETTING BEFORE PLAYING MUSIC

a. MIDI Channel setting

A MIDI sound module or instrument (receiver) cannot receive message from the MKB (transmitter), unless their Channel numbers match.

The following are how to set the Channel number.

By using the MIDI Channel Button ❺, ❻, ❿ and ⓫, set the desired MIDI Channels. (⟋)

* Pressing the Up Button forwards a number, and pressing the Down Button backs up one.

* Channel number 16 is followed by the Channel 1.
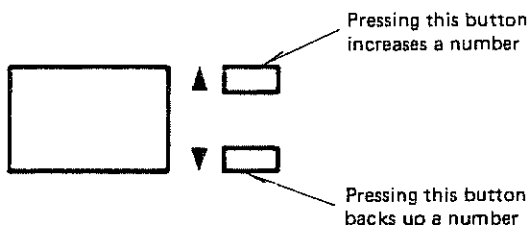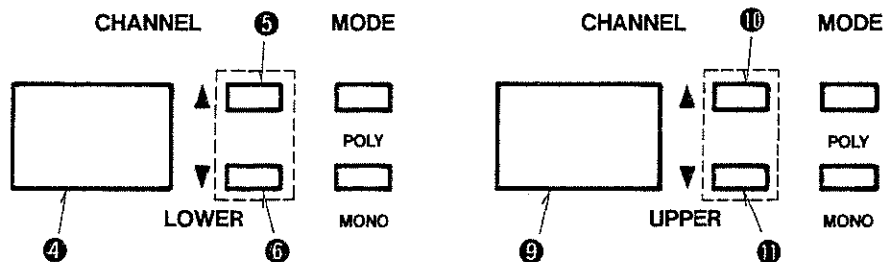
b. Assign Mode setting

The MKB can assign the connected Sound Modules (or MIDI instruments) to the polyphonic or monophonic modes.

(NOTE)
Some Sound Modules (or MIDI instruments) do not play in the Mono mode.

Operation
By using the Mode Button ❼, ❽, ⓬ and ⓭, set each Channel to Poly or Mono.

Use the Mode Buttons ❼, ❽, ⓬ and ⓭

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c. Key Mode setting

1) WHOLE U

When the Whole U Button is pressed, the MKB's front panel responds as shown below, and all receivable messages are sent on the MIDI Channel assigned by the Upper section.

Dark   Bright   KEY MODE

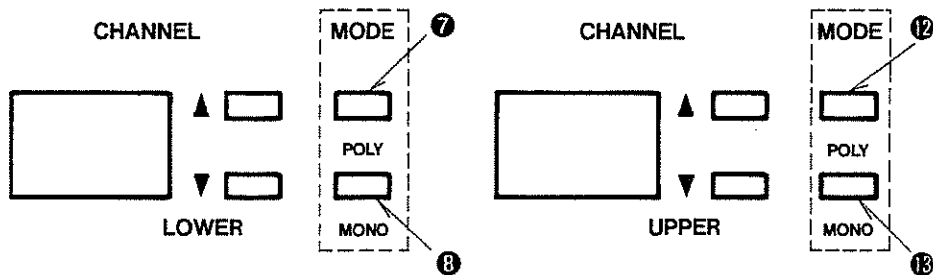Without a dot   Dot lighting

OUT   IN   THRU

LOWER CH 1	MIDI CH 1	MIDI CH 2
UPPER CH 2	(Not operating)	(Operating)
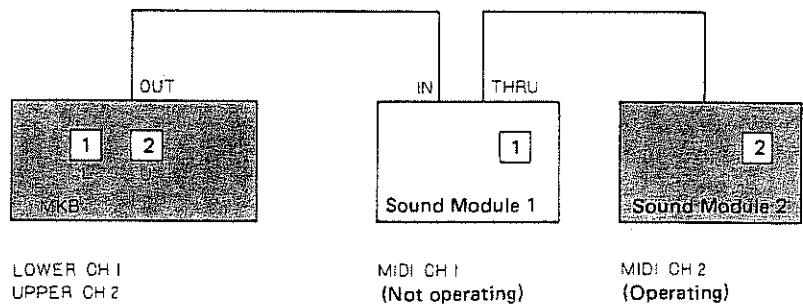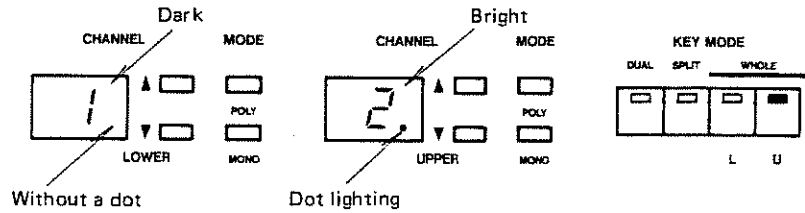
2) WHOLE L

When the Whole L Button is pressed, the MKB's front panel responds as shown below, and all receivable messages are sent on the MIDI Channel assigned by the Lower section.

Bright   Dark   KEY MODE

Dot lighting   Without a dot

When a dot is lighted, the corresponding Sound Module is operating.

OUT   IN   THRU

LOWER CH 1	MIDI CH 1	MIDI CH 2
UPPER CH 2	(Operating)	(Not operating)

9
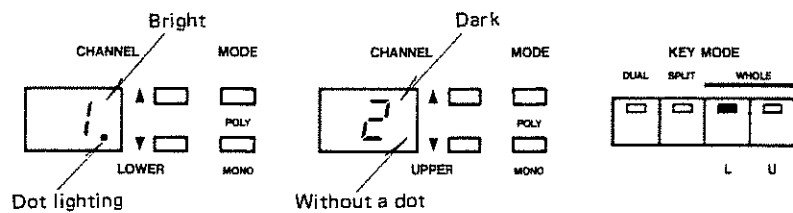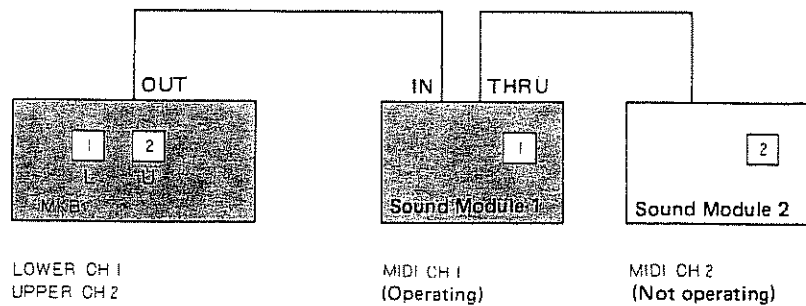
3) SPLIT

Voice messages are sent separately on the MIDI Channel assigned by each Upper and Lower section of the keyboard. Where the keyboard is devided into the Uppwer and Lower sections is called "Split Point". It is initially set to C4 by the manufacturer, the keyboard higher than C4 being the Upper section and lower than B3, the Lower section.

LOWER CH I
UPPER CH 2

MIDI CH I
(Operating)
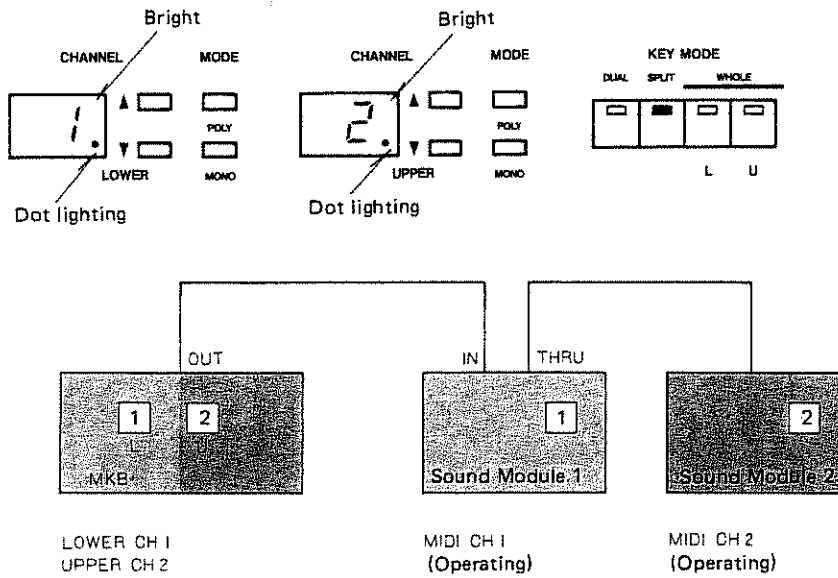
MIDI CH 2
(Operating)

4) DUAL

In the Dual mode, the same voice messages are simultaneously sent on the two MIDI Channels assigned by the Upper and Lower sections.

When a dot is lighted, the corresponding Sound Module is operating.

LOWER CH I
UPPER CH 2

MIDI CH I
(Operating)
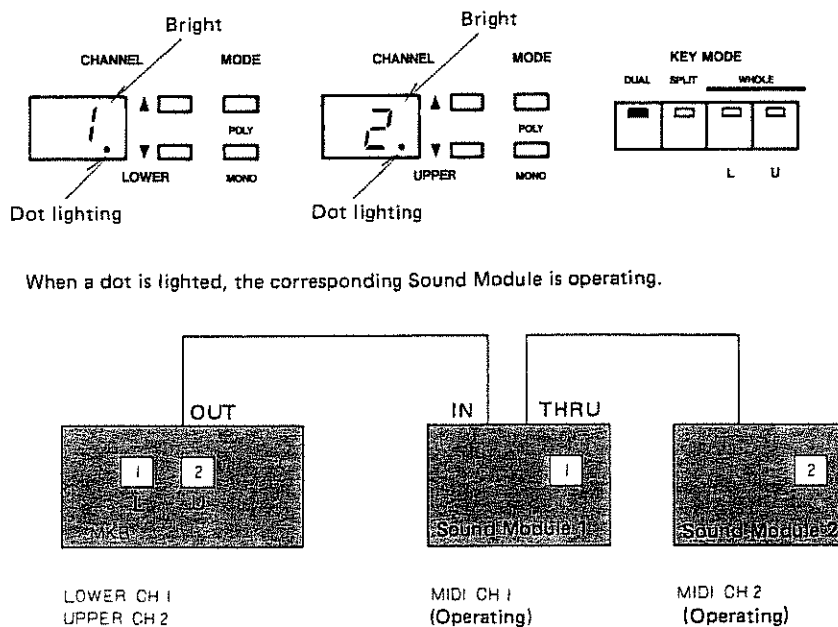
MIDI CH 2
(Operating)

(NOTE)

MIDI Voice messages include Note On/Off, Program Change, Control Change, Pitch Bender, etc. Refer to the separate volume "MIDI".

5) Changing Split Point

① Hold the Split Button ⑭ down, and the right Display Window shows the split point currently set.

*Split Point set to C4.


```
CHANNEL    MODE        CHANNEL    MODE        KEY MODE
                                              DUAL  SPLIT    WHOLE
  5P   ▲□   □            C4   ▲□   □          □    ■■   □    □
       ▼□   POLY              ▼□   POLY
            □                      □                    L    U
  LOWER     MONO          UPPER    MONO
```

Holding this button down

C4

$A_0 \sim B_3 \rightarrow$ Transmitting Note ON/OFF message on the Channel assigned by the Lower section.

$C_4 \sim C_8 \rightarrow$ Transmitting Note ON/OFF message on the Channel assigned by the Upper section.
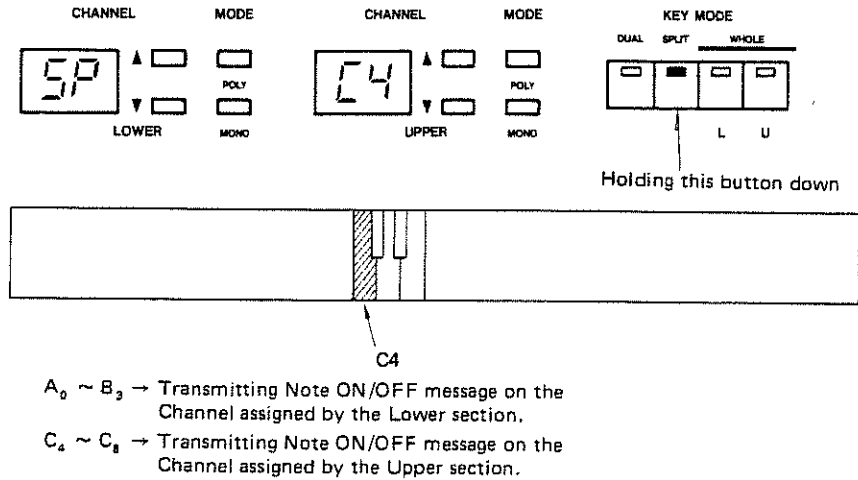
② Without releasing the Split Button, press the key for the new split point. The Display shows the new sprit point.

* Changing the Split Point to C#4.


```
CHANNEL    MODE        CHANNEL    MODE        KEY MODE
                                              DUAL  SPLIT    WHOLE
  5P   ▲□   □            C.4  ▲□   □          □    □    □    □
       ▼□   POLY              ▼□   POLY
            □                      □                    L    U
  LOWER     MONO          UPPER    MONO
```

New Split point C#4   Holding this button down
"●" lighting represents #

Press C#4 key.

$A_0 \sim C_4 \rightarrow$ Transmitting Note ON/OFF message on the Channel assigned by the Lower section.

$C\#4 \sim C_8 \rightarrow$ Transmitting Note ON/OFF message on the Channel assigned by the Upper section.
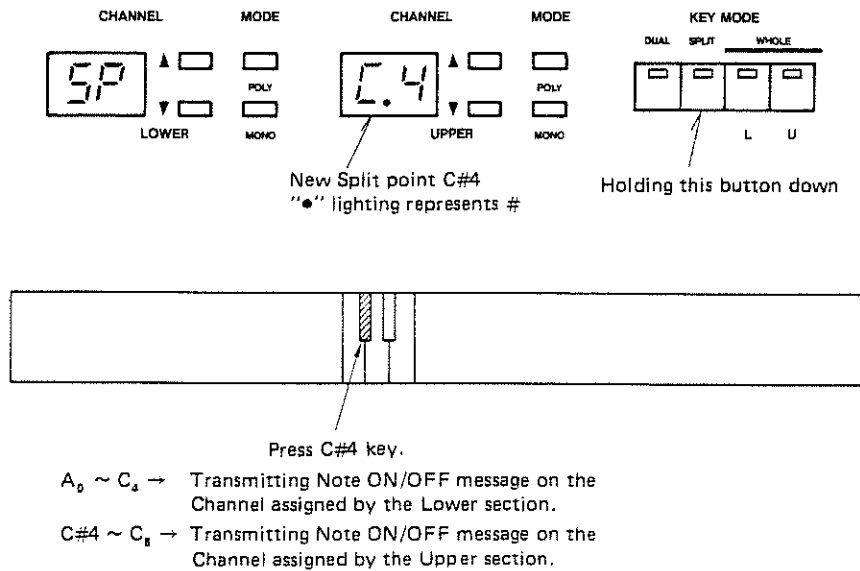
③ Release the Split Button.

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d. Program Change Message

Program Change message (0 to 127) is transmitted from the MKB to the connected Sound Modules or MIDI instruments, selecting a patch program to be in use. Refer to the separate volume "MIDI".

Program Change Message and Program Number

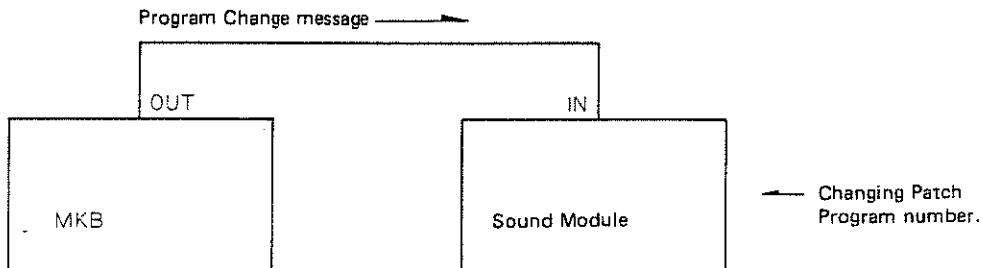| BANK \ NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
4	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
5	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
6	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
7	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
8	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127

e.g) Pressing the Bank Button 1 and the Number Button 1 will select the Program Change message "0".

Program Change message ⟶

| OUT | IN |
| MKB | Sound Module |

⟵ Changing Patch Program number.

Operation

① To transmit the Program Change message on the MIDI Channel assigned by the Lower section, press the Button ⑯ . And to transmit on the Channel assigned by the Upper section, press the Button ⑰ .

When sending messages
on the Channel assigned
by the Lower section

MEMORY   PROGRAM CHANGE

L   U

When sending messages on
the Channel assigned by
the Upper section.

MEMORY   PROGRAM CHANGE

L   U

② By pressing a Bank Button ⑱ and a Number Button ⑲, assign the Program Change number.

BANK

NUMBER

Here, Key Mode should be set as shown below.

When sending messages on
the Channel assigned by
the Lower section.

DUAL   SPLIT   WHOLE

L   U

When sending messages on
the Channel assigned by
Upper section.

DUAL   SPLIT   WHOLE

L   U

(NOTE)
Program Change message cannot be sent on the two channels at the same time.

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C. MEMORY FUNCTION

The MKB features memory capacity that retains 128 different combinations of four kinds of elements; MIDI Channel setting, Assign Mode setting, patch program number and Key Modes of Dual, Split, Whole L or Whole U.

a. Combination Program

〈Writing〉
① Make a program with combination of those four elements; MIDI Channel, Assign Mode, Key Mode and patch program number.

    a. Set the MIDI Channel number, Key Mode and Assign mode.

CHANNEL	MODE	CHANNEL	MODE	KEY MODE

DUAL   SPLIT   WHOLE

▲ POLY   ▲ POLY

▼ MONO   ▼ MONO

LOWER   UPPER   L   U
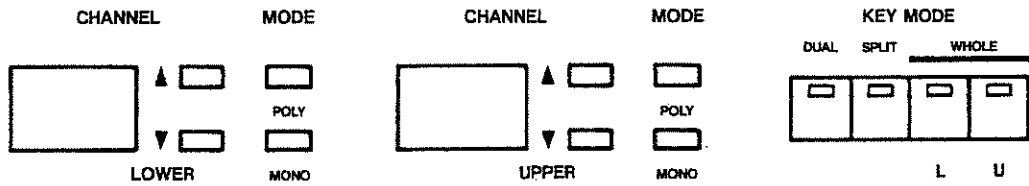
    b. Press the Program Change Button to select a program change number.

MEMORY   PROGRAM CHANGE   MEMORY   PROGRAM CHANGE

L   U   L   U

    c. Press the Bank Button and the Number Button.
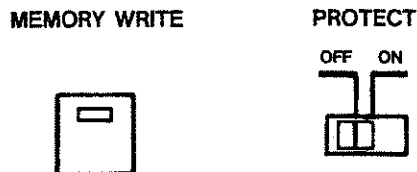
BANK   NUMBER

    * In the Dual or Split mode, repeat steps b and c.

② Press the Memory Button.

MEMORY   PROGRAM CHANGE

③ Set the Protect Switch to the OFF position.   **MEMORY WRITE**   **PROTECT**

OFF   ON

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④ Press the Write Button.

*At this stage, you can cancel the writing mode by pressing the Write Button again, or returning the Protect Switch to the ON position. (The running flash goes out.)

⑤ By pressing the Bank Button **⑱** and the Number Button **⑲** , select any of the program number 1 to 128 to write the combination you have made.

BANK   NUMBER

*Writing is done the moment the Number Button is pressed. When the writing is done, the indicator on the Write Button goes out and flashing indicators all go out leaving the indicators on the Bank Button and the Number Button of the written program lighted.

⑥ Return the Memory Protect Switch to the ON position. Always be sure to set the Memory Protect Switch to the ON position except when you wish to rewrite a program.

MEMORY WRITE   PROTECT

OFF   ON

(Recalling)
① Press the Memory Button **⑯**

② By pressing the Bank Button **⑱** and the Number Button **⑲** , select a program to be recalled (1 to 128).

(NOTE)
If you call a combination program later and edit it, the indicator of the Number Button of that program will start flashing telling you that the program currently in use differs from the one in memory.

b. Memory Backup

The MKB adopts the memory backup system that retains the data in memory even when switched off. This back up system is fully supported by batteries.
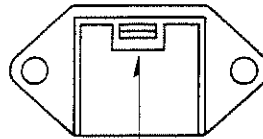
When the batteries get flat, the Battery Indicator ❷ flashes. Then replace them with a new set.

POWER

ON

OFF

BATTERY
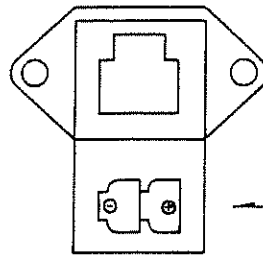
████ ──────This flashes when the batteries get flat.
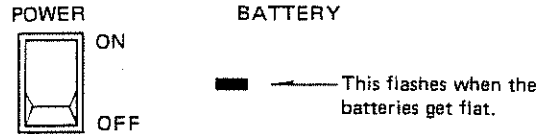
Battery Replacement

① Push the knob downward to open the cover, then take the exhausted batteries out.

Battery Case (Rear Panel)

Push the knob downward to open the cover.

② Place the new set of batteries

Here is the illustration of correct polarity.

(NOTE)

Be sure that polarity of each battery is correct.

Use two of the button type batteries (LR-44, 1.5V)

The battery consumption differs depending how often you use the MKB, but the batteries usually last for about 2 years.

The data in memory is retained for about 10 minutes even after the batteries are disconnected from the MKB.

D. FUNCTIONS FOR PERFORMANCE

a. Dynamics

Ten different levels of dynamics are optional depending on your taste. The same dynamics message, however, affect differently depending on the velocity sensitivity of the receiver (Sound Module or MIDI instrument).

Operation

While playing the keyboard, try changing the position of the Dynamics Switch ㊷ , and set it where you like.

b. Controller

The MKB can assign the Bender Modulation message on two Channels at a time, or only to the Channel assigned by the Upper section.

1) Bender Lever ㊱

Bend the Bender Lever to the left or right, and Pitch Bender message is transmitted. Also, pushing the lever forward, you can send Modulation message.

2) Depth Knob ㊕

This knob controls the depth of modulation.

3) Rise Time Knob ㊖

This knob sets the rise time of the pitch bend modulation. Longer rise time setting allows smoother pitch elevation.

4) All Button ㊗

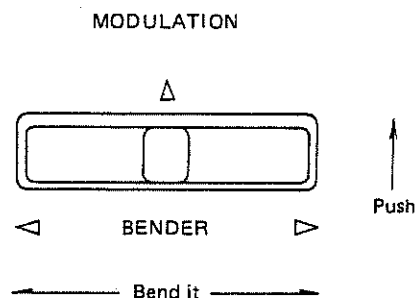Press this button to send the Bender or Modulation message to both Channels assigned by the Upper and Lower sections.

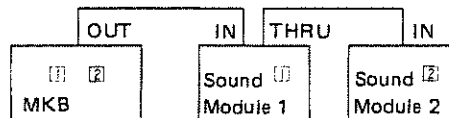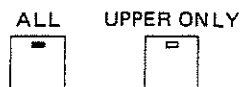*At power up, the MKB defaults to All Button On.

5) Upper Only Button ㊘

Press this button to send the Pitch Bender/ Modulation message to only the Channel assigned by the Upper section.
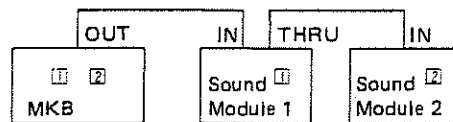
MODULATION

* In All mode

Both Modules take on the Bender and the Modulation effects.

* In Upper Only mode.

Only the Module for the Upper section takes on the Bender and the Modulation effects.

(NOTE)

Adjust the sensitivity of Pitch Bender or Modulation effect with the relevant controls on the Sound Modules or MIDI instruments connected to the MKB.

c. Remote Control

1) Modulation Jack ㉘
Connect a Pedal Switch to this jack, and Modulation message can be transmitted by pressing the pedal, without using the Bender Lever.

2) Soft Pedal Jack (L) ㉙
Connect a Pedal Switch to this jack, and Soft Pedal message can be sent on the Channel assigned by the Lower Section by pressing the pedal.

3) Soft Pedal Jack (L + U) ㉚
Connect a Pedal Switch to this jack, and Soft Pedal message can be sent on both Channels assigned by the Lower and Upper sections.

*These jacks can work at a time, transmitting Soft Pedal message independently on each channel.

4) Damper Pedal Jack (L) ㉛
Connect a Pedal Switch to this jack, and Damper Pedal message can be sent on the Channel assigned by the Lower section, by pressing the pedal.

5) Damper Pedal Jack (L + U) ㉜
Connect a Pedal Switch to this jack, and Damper Pedal message can be sent on both Channels assigned by the Lower and Upper sections, by pressing the pedal.

*These jacks ㉛ and ㉜ can work at the same time, transmitting Damper Pedal message independently on each Channel.

MOD ON

MODULATION
ON
△

◁ BENDER ▷ Push
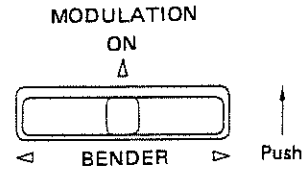
The Modulation effect can be
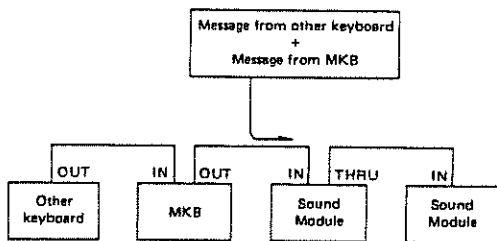obtained by pressing the pedal.

Pedal Connections
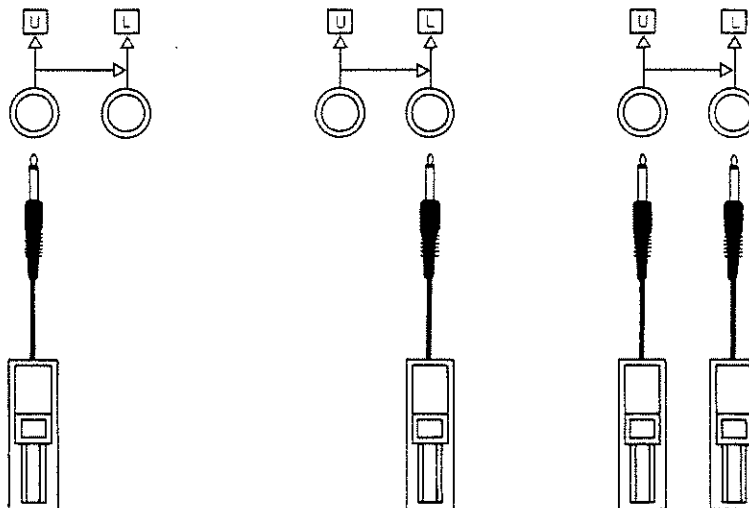
d. Key Transpose

MKB features the Key Transpose function that allows you to transpose the entire keyboard in semi tone steps up to the perfect 4th or diminished 5th.

To transpose from C key, set the knob ❸ to the key to which you wish to transpose. But to transpose from any other key, set the position of the knob depending on how many keys you wish to transpose. For example, to transpose from G to A key, set the knob to the "D" position.

e. MIDI Connectors

Unlike most of other MIDI devices, the MKB transmits the message received through MIDI IN to the MIDI OUT's. Therefore, if the MKB and a MIDI keyboard are played simultaneously, the mixed message from the two keyboards will be sent to the Sound Modules (or MIDI instruments).

* Transposition in Split Mode

When the MKB is in the Split mode, the set split point does not change even if transposition is done.

The MKB features 4 MIDI OUT's which send exactly same messages.


f. Auto Tune

Tune Request message from the MKB works only on the synthesizer featuring the Auto Tune function. To send the Tune Request message, set the Memory Protect Switch to the ON position and press the Write Button.
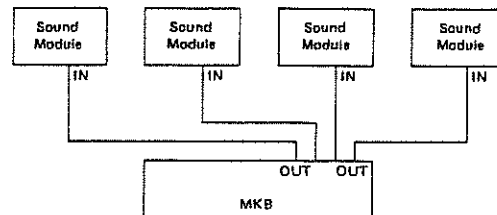
g. Number Shift Function

Instead of pressing the Number Button, you may use a Pedal Switch to change the patch numbers. In this case, however, soft pedal function is not obtained. And note that the bank number cannot be changed by depressing the pedal switch.
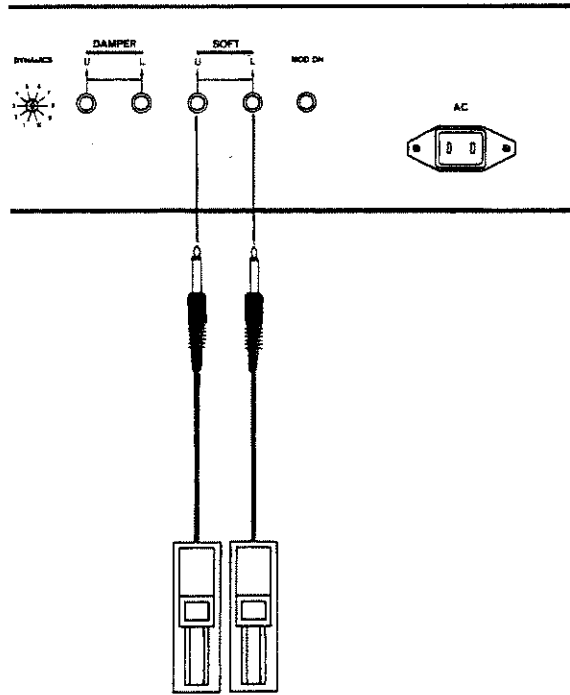
2 DP-6's alternatively 2 DP-2's

① Connect Pedal Switches to the Soft Pedal Jacks ㉙ and ㉚ .

⑲ Number Button

└ While holding the Number Button 1, turn the Power Switch on.
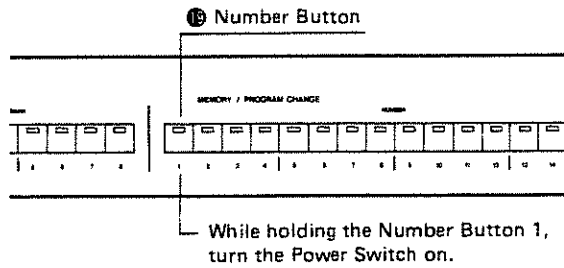
② Press the Number Button 1, and while still holding it down, turn the MKB on. Now, depressing the Pedal Switch connected to the Jack ㉚ will increase a number, and depressing the one connected to ㉙ will decrease a number.

*Please be sure to connect to the both jacks. If either jack is left open, this Number Shift function is not obtained.

*Holding the pedal down does not change the number continuously. Release and press the pedal, instead of holding down.

*If you wish to cancel this mode to return the usual soft pedal function, simply turn the MKB off and turn it on again.

■ SPECIFICATIONS

●MKB-1000/300   MIDI Keyboard Controller
6
●Keyboard   MKB-1000: 88 keys (Wooden)
                       MKB-300:   76 keys

●Buttons
   MIDI Channel Buttons (Lower):
      Up and Down Buttons
   MIDI Channel Buttons (Upper):
      Up and Down Buttons
   Mono Mode Button (Lower)
   Poly Mode Button (Lower)
   Mono Mode Button (Upper)
   Poly Mode Button (Upper)
   Key Mode Buttons
      Whole U
      Whole L
      Dual
      Split
   Memory Button
   Program Change Button (Lower)
   Program Change Button (Upper)
   Bank Buttons
   Number Buttons
   Write Button
   Upper Only Button
   All Button

●Switches
   Power Switch
   Memory Protect Switch

●Controls
   Pitch Bender
   Rise Time Knob
   Depth Knob
   Key Transpose Knob

●Display and Indicator
   Display Window (Upper)
   Display Window (Lower)
   Battery Indicator

■Rear Panel
   AC Inlet
   Modulation Jack
   Soft Pedal Jacks x 2
   Damper Pedal Jacks x 2
   Dynamics Selector Knob
   MIDI IN Connector
   MIDI OUT Connectors x 4
   MIDI THRU Connector
   Battery Case

《 MKB-1000 》

●Dimensions   1471(W) x 584(D) x 145(H) mm
                      57-15/16"(W) x 23"(D) x 5-11/16"(H)

●Weight   49.5 kg/109 lb 2 oz

●Consumption   117V   → 11W
                      220, 240V → 12W

●Accessories
   DP-6 x 1
   Power Cord x 1

■ OPTIONS
   Stand   KS-1000
   Hard Case   TB-10
   Attachment   DP Plate

《 MKB-300 》

●Dimensions   1252(W) x 431(D) x 115(H) mm
                      49-5/16"(W) x 16-15/16"(D) x 4-1/2"(H)

●Weight   18.5 kg/40 lb 12 oz

●Consumption   117V → 11W
                      220, 240V → 12W

●Accessories   DP-2 x 1
                      Power Cord x 1

■ OPTIONS
   Stand   KS-5
   Hard Case   TB-3

MIDI Keyboard

MODEL MKB-1000/300 MIDI Implementation Chart

Function	Transmitted	Recognized	Remarks
Basic Channel — Default	1-16	all ch	memorized
Basic Channel — Changed	1-16	×	
Mode — Default	3 or 4	×	memorized
Mode — Messages	OMNI OFF, M, P	OMNI OFF, M, P	OMNI ON ignored
Mode — Altered	**************		
Note Number	15-113(MKB-1000) 22-108(MKB-300)	0-127	
Note Number : True voice	**************		
Velocity — Note ON	○ 9n v=1-127	○	n=0-$F
Velocity — Note OFF	× 9n v=0	○	
After Touch — Key's	×	○	
After Touch — Ch's	×	○	
Pitch Bender	○	○	
Control Change — 1	○		
Control Change — 64	○		
Control Change — 67	○*		
Control Change — 1-121		○	* can be changed to 65
Prog Change	○ (0-127)	○	
Prog Change — True #	**************	0-127	
System Exclusive	×	○	
System Common — Song Pos	×	○	
System Common — Song Sel	×	○	
System Common — Tune	×	○	
System Real Time — Clock	○	○	
System Real Time — Commands	○	○	
Aux Messages — Local ON OFF	×	○	
Aux Messages — All Notes OFF	○ (123)	○ (123-127)	
Aux Messages — Active Sense	○	○ **	** not sent
Aux Messages — Reset	×	○ **	
Notes	When power up, or CH or MODE is changed OMNI OFF for all ch's, MONO or POLY for the basic ch are sent. Recognized mess are only merged into MIDI OUT.		

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

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

MIDI Keyboard

MODEL MKB-1000/300 MIDI Implementation

1.   RECOGNIZED RECEIVE DATA

Status	Second	Third	Description	
1000 nnnn	0kkk kkkk	0vvv vvvv	Note OFF	*1
1001 nnnn	0kkk kkkk	0000 0000	Note OFF	*1
1001 nnnn	0kkk kkkk	0vvv vvvv	Note ON	*2
1010 nnnn	0kkk kkkk	0vvv vvvv	Polyphonic Key Pressure	
1011 nnnn	0ccc cccc	0vvv vvvv	Control Change	
1100 nnnn	0ppp pppp		Program Change	
1101 nnnn	0vvv vvvv		Channel Pressure	
1110 nnnn	0vvv vvvv	0vvv vvvv	Pitch Wheel Change	
1011 nnnn	0111 1011	0000 0000	ALL NOTES OFF	*3
1011 nnnn	0111 1100	0000 0000	OMNI OFF	*4
1011 nnnn	0111 1101	0000 0000	OMNI ON	*5
1011 nnnn	0111 1110	0mmm mmmm	MONO ON	*6
1011 nnnn	0111 1111	0000 0000	POLY ON	*6
1111 0000	0xxx xxxx	0...	Exclusive message	
......	1111 0111 (EOX)			
1111 0010	0ppp pppp	0ppp pppp	Song Position Pointer	
1111 0011	0sss ssss		Song Select	
1111 0110			Tune Request	
1111 1000			Timing Clock	
1111 1010			Start	
1111 1011			Continue	
1111 1100			Stop	
1111 1110			Active Sensing	*7
1111 1111			Reset	*7

notes: Voice messages and mode messages are always recognized in ALL CHANNELS.

All recognized messages, except the following, are transmitted as they are received.

*1 Note OFF
When the same channel is used, and the same key is pressed on the keyboard, this OFF is not sent out.

*2 Note ON
When the same channel is used, and the same key is pressed on this keyboard, the Note OFF of the key is sent once, then this ON is sent.

*3 ALL NOTES OFF
If any notes are ON by MIDI IN, the note OFF's are sent for those ON notes first, then this ALL NOTES OFF is transmitted.

If no note has been turned ON in the channel since an ALL NOTES OFF was recognized and transmitted, the received ALL NOTES OFF will be ignored

When any keys are pressed on the MKB's keyboard, and the same channel is used, these are not transmitted.

*4 OMNI OFF
Recognized conditionally as ALL NOTES OFF (*3), then this message and the ALL NOTES OFF will be sent.

*5 OMNI ON
Recognized conditionally as ALL NOTES OFF (*3), then the ALL NOTES OFF will be transmitted. This message itself will not be sent out.

*6 MONO ON, POLY ON
Transmitted with OMNI OFF in the same channel.

When any keys are pressed on the MKB's keyboard, and the same channel is used, the note OFF's of the pressed keys are sent first, then the following mode messages are sent.
   a. OMNI OFF in the channel
   b. this message (MONO ON or POLY ON)
   c. ALL NOTES OFF in the channel

*7 Active Sensing, Reset
Only recognized, not being transmitted.

2.   TRANSMITTED DATA

2.1   All recognized receive messages.

2.2   Created messages.

Status	Second	Third	Description	
1001 nnnn	0kkk kkkk	0000 0000	Note OFF	*1
1001 nnnn	0kkk kkkk	0vvv vvvv	Note ON	*1
1011 nnnn	0000 0001	0vvv vvvv	modulation	
			vvvvvvv = 0 thru 127	
1011 nnnn	0100 0000	0000 0000	damper pedal off	
	0100 0000	0111 1111	on	
1011 nnnn	0100 0011	0000 0000	soft pedal off	*2
	0100 0011	0111 1111	on	
1100 nnnn	0ppp pppp		Program Change	*3
1110 nnnn	0vvv vvvv	0vvv vvvv	Pitch Bender Change	*4
1011 nnnn	0111 1011	0000 0000	ALL NOTES OFF	*5
1011 nnnn	0111 1100	0000 0000	OMNI OFF	*6
1011 nnnn	0111 1110	0000 0001	MONO ON	*6
1011 nnnn	0111 1111	0000 0000	POLY ON	*6
1111 0110			Tune Request	*7
1111 1110			Active Sensing	*8

Notes : *1 kkkkkkk = 22 thru 108   (MKB-300)
kkkkkkk = 15 thru 113   (MKB-1000)
If TRANSPOSE switch is at 'C',
kkkkkkk = 28 thru 103   (MKB-300)
kkkkkkk = 21 thru 108   (MKB-1000)

*2 When the power switch is turned ON while holding the 'MEMORY' button down, value of the second byte will be changed to 01000001 b (= 65 or 41 hex).

*3 ppppppp = 0 thru 127

*4 0vvvvvvv, 0vvvvvvv = LSB, MSB of value

*5 When all notes are turned OFF on this keyboard and all notes of MIDI IN are turned OFF by Note OFF messages received in this channel, this ALL NOTES OFF message is sent.

*6 When CHANNEL or MODE is changed, or the power is first applied, the following messages are transmitted.
   a. (When the channel is changed) Note OFF's for ON notes, Damper OFF, Soft OFF, Modulation 0, Pitch Bender 0 in previous channel.
   b. OMNI OFF for all channels (except the channel in which any NOTEs are ON).
   c. Either one of MONO ON or POLY ON in corresponding basic channel of this keyboard.

*7 When the 'WRITE' button is pressed in PROTECT mode.

*8 Transmitted within every 300 ms, whenever there is no other transmission on MIDI OUT.

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