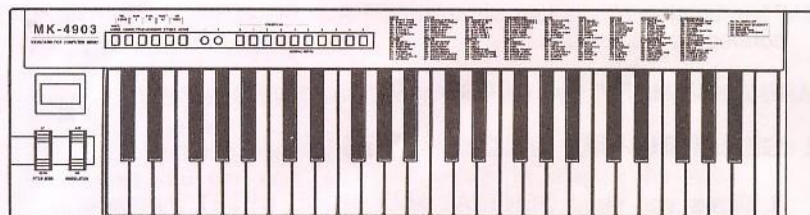# MK-4903

MIDI KEYBOARD MANUAL

1. POWER SUPPLY

1-1 DC Power - Batteries (not included)
This unit is powered by 6 "C" (R-14) size batteries. Weak batteries will result to poor performance. When the power is getting weaker, replace the worn out batteries as follow:

1. Remove the battery compartment cover and take out the batteries.
2. Insert new batteries and make sure that the polarity is correct.
3. It is advisable to replace all 6 batteries at the same time and never mixed batteries. It is recommend to use alkaline batteries for maximum performance.
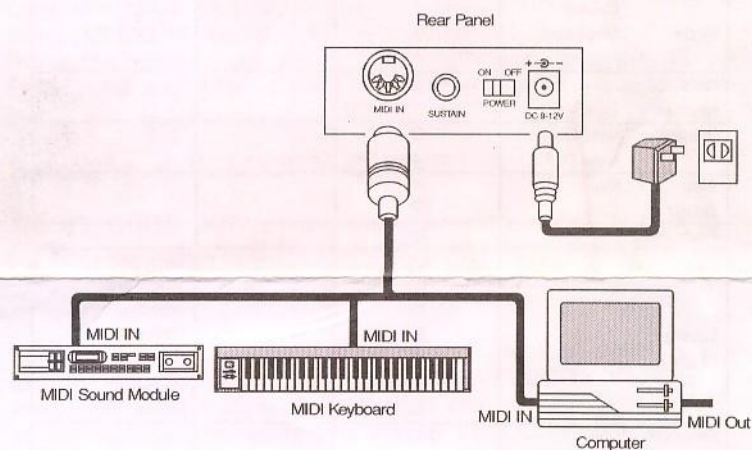
1-2 AC Power
You can also use AC adaptor with the following specification : 9-12V DC output, 250-300mA, centre positive.

Note: Do not leave the adaptor plugged in for long periods of time if the unit is not in use.

2. Preparation

2-1 Connect the unit with other MIDI equipments

2-2 Turn on the POWER switch.
2-3 Turn all other equipments' power on.

3. Setting the MIDI TRANSMIT Channel

There are 16 MIDI transmit channels available. The value is 1 to 16. Set the unit's MIDI channel. The unit sends all MIDI messages on this MIDI channel. Be sure to match the channel with the RECEIVE channel of connected equipment.

3-1 Press CHANNEL switch, LED show the present TRANSMIT channel.
3-2 Press one (or two) of the numeric keys to change the channel. LED changes to the pressed number.

3-3 Also you can use +/- switches to increase or decrease the value.

Note: * If there is no key action after step 4-1 for about 5 seconds, LED will return to show the present PROGRAM CHANGE number.
* The default CHANNEL IS 1 when power is turned on.

4. PITCH BEND WHEEL

Moving the PITCH BEND WHEEL transmits MIDI BENDER (PITCH BEND) messages to connected equipment. This allows you to bend the pitch of sound up (or down) to personalize your performance.

4-1 To bend up the pitch : Move the WHEEL away from you.
4-2 To bend down the pitch : Move the WHEEL towards you.

5. WHEEL ASSIGN

Use WHEEL to transmit MIDI CONTROL CHANGES. You can select and assign 119 types of MIDI functions (1-31, 33-95, 102-121, 128-132)

Number	Functions
1-127	Standard MIDI controllers
128	Pitch Bend Sensitivity
129	Fine Tune
130	Choarse Tune
131	Channel Pressure
132	Velocity

5-1 Press WHEEL ASSIGN switch, LED starts to flash showing the number of present MIDI function.
5-2 Press numeric keys 0-9 to select a MIDI function. Also you can use +/- switches to increase as decrease the value of number.

Note: * If there is no key action for 5 seconds, LED will return to show the present PROGRAM CHANGE number.
* If the number you press is not in the range of defined numbers, it is invalid. Previous number of function will be retained.
* When you assign 120 or 121 MIDI function, you should move MODULATION over mid-value then return to minimum value to send relative MIDI message.

6. TRANSPOSE

This function allows you to shift the entire pitch of the unit in semitone units. You can transpose the pitch by 24 half steps (12 higher/12 lower).

6-1 Press X'POSE switch, LED shows the current TRANSPOSE value.
6-2 Press "+" or "-" switch to change the TRANSPOSE value. Each time you press + or - the keyboard is transposed an additional half step.

* Press + and - switches simultaneously to reset the pitch to preset level.

Note: Turning the power off always resets the shifted pitch to preset value.

7 OCTAVE CHANGE

This function allows you to shift the entire pitch one octave higher or lower.

7-1 Press OCTAVE switch, LED starts to flash showing the current OCTAVE value.
7-2 Press "+" or "-" switch, the entire pitch will be shifted one octave higher or lower. LED shows current OCTAVE value.
* Press + and - switches simultaneously to reset the pitch to preset level.

Note: If "+" or "-" switch is not pressed for 5 seconds, LED return to show the number of PROGRAM CHANGE.

8. Sending a PROGRAM CHANGE number

Using PROGRAM switch and the numeric keys, you can send any MIDI PROGRAM CHANGE 0-127.

8-1 Press PROGRAM switch, LED starts to flash showing the current PROGRAM CHANGE number.
8-2 Press the numeric keys to set the PROGRAM CHANGE number to be sent. Also you can use "+" or "-" switch to change the value.

> Note: * If there is no key action for 5 seconds, LED stop flash and show current PROGRAM CHANGE number.
> * If the number you press is larger than 127, it will return to previous PROGRAM CHANGE number.

9. Sending BANK MSB and LSB message

It allows you send any value of MSB or LSB each from 0-127.

9-1 Press CHANNEL and PROGRAM switches simultaneously. LED starts to flash showing current value of LSB. Press numeric keys to change the LSB value. Or you can use "+" or "-" switches to change the value.
9-2 Press PROGRAM and MEMORY switches simultaneously. LED starts to flash showing current value of MSB. Press numeric keys to change the MSB value. Or you can use "+" or "-" key to change the value.

> Note: * If there is no key action for 5 seconds, LED will return to show current PROGRAM CHANGE number.
> * If the number you input is over 127, it will return to previous LSB or MSB.

10. PROGRAM & BANK CHANGE MEMORY

You can assign a selected PROGRAM CHANGE as well as a BANK LSB and a BANK MSB to one of six numeric keys (0-5). Simply pressing one the numeric keys will then send the desired PROGRAM and BANK CHANGE.

10-1 Select the design PROGRAM CHANGE, BANK LSB and MSB. Please refer to relative chapter.
10-2 Press MEMORY switch, LED start to flash.
10-3 Press the numeric key (from 0 to 5) you wish to assign to. Now, the PROGRAM and BANK CHANGE is memorized on the selected numeric key.

11. Selecting a VELOCITY CURVE

The VELOCITY CURVEs determine the relationship between how hard the keys are struck and the corresponding velocity that the unit transmits.

This unit allows you to select from 10 VELOCITY CURVEs.

11-1 Simultaneously press WHEEL ASSIGN and CHANNEL switches, LED starts to flash showing the current number of VELOCITY CURVE.
11-2 Press one of the numeric keys (0-9) to select a VELOCITY CURVE. The 10 key numbers correspond to the 10 VELOCITY CURVEs as follows:
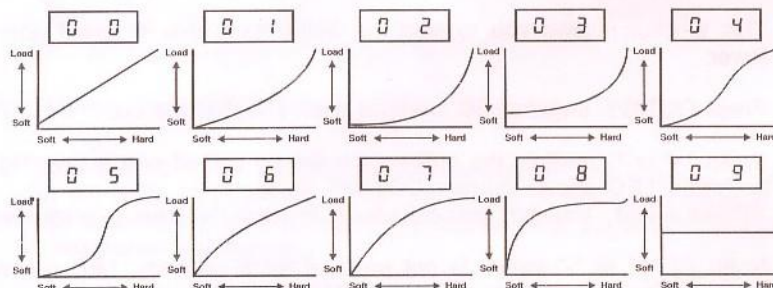
Also you can use "+" or "-" switch to change the number.

> Note: If there is no key action after LED starts to flash, LED will return to show current PROGRAM CHANGE number.

12. RESET-ALL CONTROLLERS

This function allows you send RESET-ALL CONTROLLERS message to connected equipment.

12-1 Press MEMORY and X'POSE switches simultaneously.

13. GENERAL MIDI MODE RESET

It allows you send GENERAL MIDI MODE RESET message.

13-1 Press X'POSE and OCTAVE switches simultaneously.

14. SPECIFICATIONS

1. Keyboard : 49 standard keys (Velocity sensitive)
2. Control : Switches (WHEEL, MIDI CHANNEL, PROGRAM, MEMORY, TRANSPOSE, OCTAVE, VEL CURVE, BANK LSB, BANK MSB, RESET-AC, GM-RESET)
   PITCH BEND WHEEL
   MODULATION WHEEL
   POWER SWITCH
   Numeric Keys (0-9)
3. Display : 3 digit LED
4. Jack : DC IN (DC 9V), MIDI OUT, HOLD
5. Dimension : 805 x 205 x 84 (mm)
6. Weight : 3.2 kg

Note : Specification are subject to change without prior notice.

APPENDIX

MIDI IMPLEMENTATION CHART

Function		Transmitted	Received	Remarks
Basic	: Default	1-16		
Channel	: Changed	1-16		
	: Default	--------------------------		
Mode	: Messages	X		
	: Altered	**********************		
Note		12-120		
Number	: True Voice	**********************		
Velocity	: Note ON	O		
	: Note OFF	X		
After	: Key's	X		
Touch	: Ch's	※		
Pitch Bend		O		
	0,32	※		Bank select
	1	※		Modulation
	2	※		Breath control
Control	6	※		Data entry
Change	7	O		Volume
	10	※		Panpot
	64	O		Hold 1
Program		0-127		
Change	: True Number	**********************		
System Exclusive		X		
	: Song Position	X		
Common	: Song Select	X		
	: Tune	X		
System	: Clock	X		
Exclusive	: Commands	X		
Aux	: Local ON/OFF	X		
Messages	: All Notes OFF	X		
	: Active Sense	O		
	: Reset	X		
Notes:		※ :Can be set to O or X		