TerraTec

MIDI MASTER USB

Programmable USB-MIDI Keyboard

English Manual

Version: 08.05.02

CE Declaration

We:

TerraTec Electronic GmbH, Herrenpfad 38, D-41334 Nettetal, Germany

hereby declare that the product:

MIDI Master USB

to which this declaration refers is in compliance with the following standards or standardizing documents:

EN 55022 : 1998

EN 55024 : 1998

EN 61000-3-2 : 2000

EN 61000-3-3 : 1995

The following are the stipulated operating and environmental conditions for said compliance:

Residential, business and commercial environments and small-company environments.

This declaration is based on:

Test report(s) of the EMC testing laboratory

Contents

Welcome!

We are pleased that you have chosen a TerraTec product and would like to congratulate you on your decision. We are certain our product in the years to come will prove very useful to you and provide you a ton of fun.

An extremely easy-to-play, touch-sensitive 49-key keyboard with pitch and modulation wheel, bright LED display and ergonomically placed control sliders and function keys turn the MIDI MASTER USB into the musical system control center in a home or project studio. Many meaningful details, such as MIDI controller commands freely assigned to controls, adjustable curves for key-strike sensitivity, MIDI reset and octave switches as well as a numeric 10-key keypad are professional features that you will certainly not want to miss any time soon.

The manual provided tells you in complete detail all about the MIDIMASTER USB Keyboard and how to use it correctly.

Scope of delivery

The scope of delivery of the MIDIMASTER USB is:

1. MIDIMASTER USB Keyboard (MK-249)

2. Operating manual

3. 3-meter USB cable (type A – type B)

4. Customer service card

5. TerraTec registration card

6. Installation and driver CD

Power supply

There are various ways to supply power to the keyboard. Normally, you would connect the keyboard to your computer's USB port. In this case, the MIDIMASTER USB draws its operating voltage directly through the USB port (bus-powered). If your computer is not equipped with a USB port, or if you simply want to connect the keyboard to external MIDI devices through the MIDI-out jacks, you can also plug in your keyboard using an optional power pack (+9 volts, DC, not included in delivery).

Connecting to the computer's USB port / installing the drives
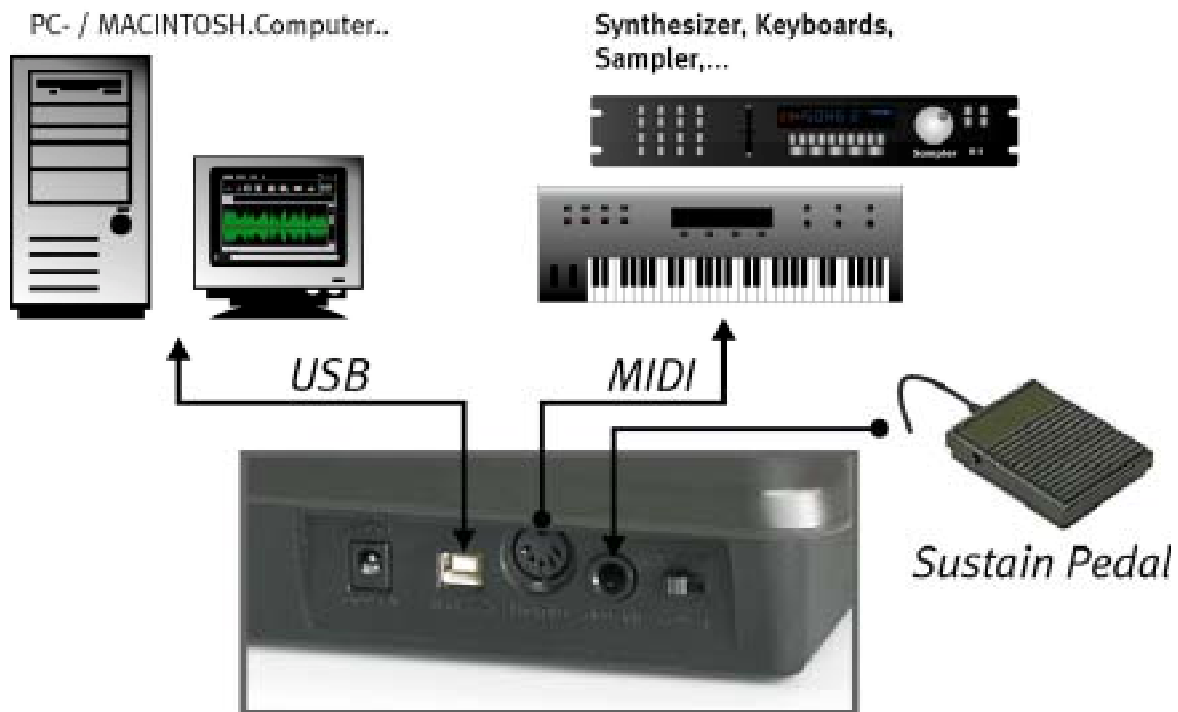
If your computer has a USB port, you can connect the keyboard to the computer using the USB cable provided with the keyboard. Both ends of this cable are labeled with the USB symbol. With the computer switched on, plug the flat terminal (type A) into the computer and the more rectangular terminal (type B) into the USB jack on the keyboard. Now switch the keyboard on. The red LED lights up.

The following guides you through the installation of two drivers, which are required to operate the MIDIMASTER USB with a PC or MAC.

Widows 98 SE installation

Insert the MIDIMASTER USB Drivers CD into your CD-ROM drive.

- The first time you switch the keyboard on, Windows displays a message indicating that the hardware wizard has detected a new hardware component.

- Start searching for the correct driver by clicking "Next".

- Then select the "Search for the best driver for your device" option and click "Next" again.

- On the next screen, enter the location of the driver as <CD>:\driver\pc\terratecUSBb and confirm the location by clicking "Next".

- The next screen tells you that the wizard is looking for the "TerraTec MIDIMASTER USB" driver.

- Windows then displays a message that the driver has been installed. Confirm by clicking "Finish".

- The hardware wizard automatically opens again, because now the second driver has to be installed. Repeat the above instructions to install the second driver. Afterwards, the MIDIMASTER USB Keyboard will be available.

Windows ME installation

Insert the MIDIMASTER USB Drivers CD into your CD-ROM drive.

- The first time you switch the keyboard on, Windows displays a message indicating that the hardware wizard has detected a new hardware component.

- The select the "Search for the best driver for your device" option and click "Next" again.

- Windows now searches for the driver automatically and installs the best driver for the device.

- Windows then displays a message that the driver has been installed. Confirm by clicking "Finish".

- The hardware wizard automatically opens again, because now the second driver has to be installed. Repeat the above instructions to install the second driver. Afterwards, the MIDIMASTER USB Keyboard will be available.

Windows 2000 installation

The first time you switch the keyboard on, Windows displays a message indicating that the hardware wizard has detected a newly connected USB audio device. Windows automatically installs a standard Windows driver for the device. When this is complete, reboot the system."

- Open the Windows Device Manager (Start / Settings / Control Panel / System / Hardware / Device Manager) and double-click the "USB Audio Device" element (labeled with an exclamation point) and check whether the driver is assigned to the MIDIMASTER USB Keyboard (MK-249 USB MIDI Keyboard).

- Select the "Driver" index and then click "Update Driver". This opens the Hardware Update Wizard. Click "Next" to begin.

- Select "Display a list of the known drivers for this device... " and then click "Next".

- Click "Have Disk" and enter the path for the driver as *<CD>:\DRIVER\PC\TERRATECUSBB*. If you like, you can use the "Browse" function to locate the driver.

- On the next screen, select the corresponding "TerraTec MIDI MASTER" element and then click "Next".

- The hardware wizard now tells you that it has completed installing the software for this device. Close the wizard by clicking "Finish".

- The hardware wizard now informs you that it has found another, unknown hardware component. Now select the "Search for a suitable driver for my device..." option and click "Next".

- Select "Specify a location". Here, enter again the path to the CD: *<CD>:\DRIVER\PC\TERRATECUSBB* and confirm by clicking "Next".

- When you see the message "The software you are about to install does not contain a Microsoft digital signature...", click the "Continue Setup" option.

- After the second driver has been successfully installed, click "Finish".

Afterwards, the MIDIMASTER USB Keyboard will be available.

Windows XP installation

The first time you switch the keyboard on, Windows displays a message indicating that the hardware wizard has detected a newly connected USB audio device. Windows automatically installs a standard Windows driver for the device. This driver lets you use the keyboard right away. We recommend, however, using the special MIDIMASTER USB driver that we have provided on the product CD. This driver offers better support, for example when installing MIDI/USB audio devices later, and furthermore, our driver displays the drivers (TerraTec MIDI MASTER USB) and keyboard devices (MK-249 USB MIDI IN/OUT) correctly in the integrated software application.

For a new installation, follow these steps:

- Open the Windows Device Manager (Start / Settings / Control Panel / System / Hardware / Device Manager) and click the "+" symbol next to "Sound, video and game controllers".

- Double-click the "USB Audio Device" element and check whether the driver is assigned to the MIDIMASTER USB Keyboard (MK-249 USB MIDI Keyboard).

- Select the "Driver" index and then click "Update Driver". This opens the Hardware Update Wizard.

- Select "Install from a list or specific location" and confirm by clicking "Next".

- On the next screen, select "Don't search. I will choose the driver to install" and again click "Next".

- Click "Have Disk" and enter the path for the driver as *<CD>:\DRIVER\PC\TERRATECUSBB*. If you like, you can use the "Browse" function to locate the driver.

- On the next screen, select the corresponding "TerraTec MIDI MASTER" element and then click "Next".

- When you see the message "...Software has not passed Windows XP Logo testing...", click the "Continue Anyway" option.

- The hardware wizard now tells you that it has completed installing the software for this device. Close the wizard by clicking "Finish".

- The hardware wizard now informs you that it has found another, unknown hardware component. Again select "Don't search. I will choose the driver to install" and then click "Next".

- Select "Search for the best driver in these locations" and "Include this location in the search". Here, enter again the path to the driver on the CD:
<CD>:\DRIVER\PC\TERRATECUSBB and confirm by clicking "Next".

- After the second driver has been successfully installed, click "Finish".

Afterwards, the MIDIMASTER USB Keyboard will be available.

Installation for MAC OS 9

Please ensure that your TerraTec USB MIDI keyboard is NOT connected before proceeding with the installation of the drivers. If you do not have OMS installed, please run the OMS installer first (to be found within the OMS folder on the product CD). Once OMS is installed, install the keyboard Mac USB drivers.

- The SIT (Stuffit) File contains three files which must be copied to two different locations within your systems folder.

- Please copy the "Terratec MIDI Driver" and the "Terratec MIDI shim" to the Extensions folder inside the System Folder.

- The third file called "Terratec OMS Driver" needs to be copied to the OMS Folder inside the System Folder.

- Once you have completed copying the files please restart your Macintosh. Now connect your Keyboard to the USB port on your Macintosh. Use the correct USB cable to ensure that the new drivers are loaded.

- Run the OMS Setup program and select new studio setup. The program will search for the drivers and once these are located, it will create a studio setup. Save this and make current.

Connecting via the MIDI-Out jack

Synthesizer, Keyboards, Sampler,...

(optional)

9Volt DC

MIDI

Sustain Pedal

The functions of the MIDIMASTER USB

Please note: If more than 5 seconds pass before a key is pressed, every input menu is automatically closed and the LED display shows the program selection number selected last. If you enter undefined or invalid values, the last used, valid settings remain intact. !

Pitch bend wheel

Moving this wheel sends MIDI pitch bend commands to the connected equipment. This changes the pitch of the addressed sounds up and down. The distance of the pitch change can be configured using the tone generator.

Modulation wheel (MIDI controller freely programmable)

Use this wheel to add various effects to your music. This lets you assign various functions in the form of MIDI controllers. To configure the modulation wheel for a new effect, press both "Wheel Assign" buttons at the same time (Memory and Program). The LED display begins to blink and you can enter the number of the desired MIDI controller using the number keys or, alternatively, you can use the +/- keys to select the desired number. See page 16 (MIDI controller list) for a list of all common MIDI controllers.

By default, this playing aid is programmed as a modulation wheel.

Volume control (MIDI controller freely programmable)

You can also assign various function in the form of MIDI controllers to the volume controller. To configure the volume controller for a new effect, press both "Slider Assign" buttons at the same time (program and LSB bank). The LED display begins to blink and you can enter the number of the desired MIDI controller using the number keys or, alternatively, you can use the +/- keys to select the desired number. See page 16 (MIDI controller list) for a list of all common MIDI controllers.

By default, this playing aid is programmed as a volume controller.

Program selection (selecting an instrument)

To select an instrument on a connected device (such as a sound card or MIDI expander), press the "Program" button. The LED display begins to blink. Now enter the number of the desired instrument using the number keys or, alternatively, you can use the +/- keys to select the desired number. See page 17 (GM set) for a list of a common general MIDI (GM) set.

Bank selection

To select a new instrument bank on a connected device (such as a sound card or MIDI expander), MSB and/or LSB messages can be sent.

To send the LSB number, press the "BANK LSB" button. The LED display begins to blink. Now enter the number of the desired instrument using the number keys or, alternatively, you can use the +/- keys to select the desired number.

To send the MSB number, press the "BANK MSB" button. The LED display begins to blink. Now enter the number of the desired instrument using the number keys or, alternatively, you can use the +/- keys to select the desired number.

Program and bank selection storage

Program and bank selection numbers (LSB / MSB) can be stored in the MIDIMASTER USB, allowing you to send them subsequently using the number keys (0-9).

Select a program, bank LSB or bank MSB number as described in the previous chapter. Then press the "Memory" keys. The LED display begins to blink. Now press the desired number key (0-9). Note that the previously selected program and bank selection numbers are always assigned together to a single number key.

Octave selection

The "Octave" keys (+/-) shift the tone pitch of the clavier one octave up or down respectively. The LED display shows the pitch of the shift while you modify the octave. If you press both "Octave" keys simultaneously, the tone is reset to the standard octave.

Transposing

You can transpose the keyboard in 12 halftone steps. To do so, press the "Transpose" button. The LED display begins to blink. You can now use the + and – keys to transpose the keyboard by halftone steps. Here, too, the LED display indicates the current value.

If you press both the + and - keys simultaneously, the transposition is reset to the standard value. Switching the MIDIMASTER USB on always resets the transposition to its standard.

MIDI transmit channels

There are 16 different MIDI channels to which the MIDIMASTER USB can transmit MIDI data. Always make sure that the receiver, for example your external MIDI expander or similar computer software, is set to the same channel or, if desired, is set to listen to all 16 channels all the time. Now enter the number of the desired MIDI transmit channel using the number keys or, alternatively, you can use the +/- keys to select the desired number.

When the keyboard is switched on, channel 1 is set.

Key-strike dynamics (velocity curves)

The keyboard of the MIDIMASTER USB measures the amount of force applied when striking the keys and sends this data to the external MIDI equipment. Because there is a direct correlation between the strike force and the key acceleration, this is sometimes called the "velocity" measurement.

Through a transmitted velocity controller, for example, a connected e-piano can control tone volume based on the strike force. To allow you to optimally customize the strike force to your personal playing style, the MIDIMASTER USB 10 (0-9) provides various key-strike characteristics (called velocity curves).
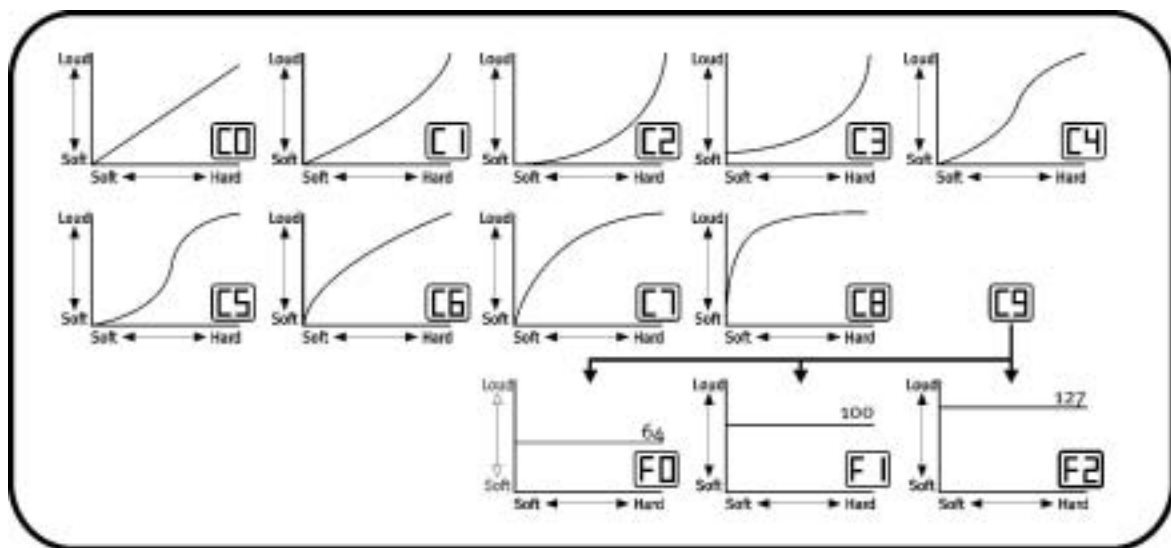
Press the "Wheel Assign" and "Channel" buttons at the same time. The LED display begins blinking and the currently configured curve is displayed. Now enter the number of the desired velocity curve using the number keys or, alternatively, you can use the +/- keys to select the desired number. Furthermore, you can set the key-strike dynamics to one of three fixed values (F0-F2), meaning the same velocity value is always transmitted regardless of the strike force.

This can be very useful, for example, when playing in drum sounds.

MIDI-Out via USB

This interesting feature lets you use the MIDI output on the keyboard as a computer USB MIDI interface. When activated, the MIDI information generated by the keyboard are not sent through the MIDI-out jack. Since the

USB-MIDI driver of the MIDIMASTER USB can also receive data from the computer, this data is sent directly to the MIDI-out jack on the keyboard when the "MIDI-out through USB" function is enabled. This lets you use the MIDIMASTER USB, for example, as a recording keyboard and, at the same time, as a MIDI interface for other external equipment.

To activate this feature, press the "Bank MSB" and "Transpose" simultaneously and then press the "+" key. When done correctly, "YES" appears on the LED display. Deactivate the

feature by pressing "Bank MSB" and "Transpose" simultaneously and then pressing the "-" key. This is confirmed with "NO" on the LED display.

GM (General MIDI) reset

Use this function to send a general MIDI reset.

Press and hold the "Bank LSB" and "Bank MSB" keys at the same time for at least 2 seconds.

Technical data

- 49 strike-sensitive keys with variable velocity

- Pitch-bend wheel and modulation wheel (controller assignable)

- Data entry slider (horizontal, MIDI controller assignable)

- USB MIDI-out interface

- 3 x 7 segment LED display

- Connection for optional sustain pedal

- 10 non-volatile memory positions

- 13 selectable velocity curves

- Integrated demo songs

- Current input (500 mA) via USB

- Connection for optional power supply (9 V DC)

- Transpose function (transposing)

- Octave up/down button

- +/- keys

- 6 function keys

- 10 numeric keys

- USB MIDI driver for Windows 98, SE, ME, Windows 2000 and XP and Mac OS9 with OMS

- 3 m USB cable

- Dimensions: 1,205 x 205 x 84 mm

- Weight: 7.8 lbs. (3.5 kg)

System requirements (in USB operation)

- Windows 98/98SE/ME/2000/XP

- MAC OS9

MIDI controller list

STANDARD CONTROLLER NUMBERS

No.	Controller	No.	Controller	No.	Controller
00	Bank Select	43	Expression LSB	86	Controller 86
01	Modulation	44	Controller 44	87	Controller 87
02	Breath Control	45	Controller 45	88	Controller 88
03	Controller 3	46	Controller 46	89	Controller 89
04	Foot Control	47	Controller 47	90	Controller 90
05	Porta Time	48	Gen Purpose 1 LSB	91	Reverb Depth
06	Data Entry	49	Gen Purpose 2 LSB	92	Tremelo Depth
07	Channel Volume	50	Gen Purpose 3 LSB	93	Chorus Depth
08	Balance	51	Gen Purpose 4 LSB	94	Celeste (De-tune)
09	Controller 9	52	Controller 52	95	Phaser Depth
10	Pan	53	Controller 53	96	Data Increment
11	Expression	54	Controller 54	97	Data Decrement
12	Effects Controller 1	55	Controller 55	98	Non-Reg Param LSB
13	Effects Controller 2	56	Controller 56	99	Non-Reg Param MSB
14	Controller 14	57	Controller 57	100	Reg Param LSB
15	Controller 15	58	Controller 58	101	Reg Param MSB
16	Gen Purpose 1	59	Controller 59	102	Controller 102
17	Gen Purpose 2	60	Controller 60	103	Controller 103
18	Gen Purpose 3	61	Controller 61	104	Controller 104
19	Gen Purpose 4	62	Controller 62	105	Controller 105
20	Controller 20	63	Controller 63	106	Controller 106
21	Controller 21	64	Sustain Pedal	107	Controller 107
22	Controller 22	65	Portamento	108	Controller 108
23	Controller 23	66	Sostenuto	109	Controller 109
24	Controller 24	67	Soft Pedal	110	Controller 110
25	Controller 25	68	Legato Pedal	111	Controller 111
26	Controller 26	69	Hold 2	112	Controller 112
27	Controller 27	70	Sound Variation	113	Controller 113
28	Controller 28	71	Resonance	114	Controller 114
29	Controller 29	72	Release Time	115	Controller 115
30	Controller 30	73	Attack Time	116	Controller 116
31	Controller 31	74	Cutoff Frequency	117	Controller 117
32	Bank Select LSB	75	Controller 75	118	Controller 118
33	Modulation LSB	76	Controller 76	119	Controller 119
34	Breath Control LSB	77	Controller 77	*Channel Mode Messages*	
35	Controller 35	78	Controller 78	120	All Sound off
36	Foot Control LSB	79	Controller 79	121	Reset all Controllers
37	Porta Time LSB	80	Gen Purpose 5	122	Local Control
38	Data Entry LSB	81	Gen Purpose 6	123	All Notes Off
39	Channel Volume LSB	82	Gen Purpose 7	124	Omni Off
40	Balance LSB	83	Gen Purpose 8	125	Omni On
41	Controller 41	84	Portamento Control	126	Mono On (Poly Off)
42	Pan LSB	85	Controller 85	127	Poly On (Mono Off)

GM set

Piano	Bass	Reed	Synth Effects
0 Acoustic Grand Piano	32 Acoustic Bass	64 Soprano Sax	96 SFX Rain
1 Bright Acoustic Piano	33 Electric Fingered Bass	65 Alto Sax	97 SFX Soundtrack
2 Electric grand Piano	34 Electric Picked Bass	66 Tenor Sax	98 SFX Crystal
3 Honky Tonk Piano	35 Fretless Bass	67 Baritone Sax	99 SFX Atmosphere
4 Electric Piano 1	36 Slap Bass 1	68 Oboe	100 SFX Brightness
5 Electric Piano 2	37 Slap Bass 2	69 English Horn	101 SFX Goblins
6 Harpsichord	38 Syn Bass 1	70 Bassoon	102 SFX Echoes
7 Clavinet	39 S n Bass 2	71 Clarinet	103 SFX Sci-fi
Chromatic Percussion	**Strin s/Orchestra**	**Pie**	**Ethnic**
8 Celesta	40 Violin	72 Piccolo	104 Sitar
9 Glockenspiel	41 Viola	73 Flute	105 Banjo
10 Music Box	42 Cello	74 Recorder	106 Shamisen
11 Vibraphone	43 Contrabass	75 Pan Flute	107 Koto
12 Marimba	44 Tremolo Strings	76 Bottle Blow	108 Kalimba
13 Xylophone	45 Pizzicato Strings	77 Shakuhachi	109 Bag Pipe
14 Tubular bells	46 Orchestral Harp	78 Whistle	110 Fiddle
15 Dulcimer	47 Timpani	79 Ocarina	111 Shanai
Organ	**Ensemble**	**Synth Lead**	**Percussive**
16 Drawbar Organ	48 String Ensemble 1	80 Syn Square Wave	112 Tinkle Bell
17 Percussive Organ	49 String Ensemble 2	81 Syn Sawtooth Wave	113 Agogo
18 Rock Organ	(Slow)	82 Syn Calliope	114 Steel Drums
19 Church Organ	50 Syn Strings 1	83 Syn Chiff	115 Woodblock
20 Reed Organ	51 Syn Strings 2	84 Syn Charang	116 Taiko Drum
21 Accordion	52 Choir Aahs	85 Syn Voice	117 Melodic Tom
22 Harmonica	53 Voice Oohs	86 Syn Fifths Sawtooth	118 Syn Drum
23 Tango Accordion	54 Syn Choir	Wave	119 Reverse Cymbal
	55 Orchestral Hit	87 Syn Brass & Lead	
Guitar	**Brass**	**Synth Pad**	**Sound Effects**
24 Nylon Acoustic Guitar	56 Trumpet	88 New Age Syn Pad	120 Guitar Fret Noise
25 Steel Acoustic Guitar	57 Trombone	89 Warm Syn Pad	121 Breath Noise
26 Jazz Electric Guitar	58 Tuba	90 Polysynth Syn Pad	122 Seashore
27 Clean Electric Guitar	59 Muted Trumpet	91 Choir Syn Pad	123 Bird Tweet
28 Muted Electric Guitar	60 French Horn	92 Bowed Syn Pad	124 Telephone Ring
29 Overdrive Guitar	61 Brass Section	93 Metal Syn Pad	125 Helicopter
30 Distorted Guitar	61 Syn Brass 1	94 Halo Syn Pad	126 Applause
31 Guitar Harmonics	62 Syn Brass 2	95 Sweep Syn Pad	127 Gun Shot

MIDI implementation table

Function		Transmitted	Received	Remarks
Basic :Default Channel :Changed		1-16 1-16		
Mode	:Default :Messages :Altered	--------- X *********		
Note Number :True Voice		0-127 *********		
Velocity :Note ON :Note OFF		O X		
After :Key´s Touch :Ch´s		X ⊗		
Pitch Bend		O		
Control Change	0,32 1 6 7 64 1-31 33-95 102-121	⊗ ⊗ ⊗ O O ⊗ ⊗ ⊗		Bank Select Modulation Data Entry Volume Hold 1 Mod Wheel Assign
Program Change :True Number		0-127 *********		
System Exclusive		X		
Common	:Song Position :Song Select :Tune	X X X		
System :Clock Exclusive:Commands		X X		

Aux   :Local ON/OFF
Messages :All Notes OFF
            :Active Sense
            :Reset
		X
		X
		O
		X		

Notes:				