



Total Music Kit Manual

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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1. System Overview

This section gives a brief overview of the musical equipment used and how it is connected.

MIDIcreator

The key to the system is the box with the coloured front panel called MIDIcreator. This takes the inputs from the switches and sensors, and converts them to the information needed to drive the sound generating boxes (via MIDI). The slot on the left hand side accepts *smart cards* called Theme Cards, which tell the MIDIcreator to send signals to the sound boxes and set the equipment up ready for use. Each card is labelled with the theme name.



Edirol MA-10 Speakers

High quality music speakers. You can also plug headphones in for private practice!



2. About MIDIcreator

MIDIcreator takes electrical signals from switches and sensors and converts them to MIDI data. Very simply, MIDI allows electronic musical instruments to talk to each other.

2.1 Switches & sensors

MIDIcreator takes two different types of sensors – switched & proportional. A switch is just like a light switch; it has two states, on and off. Proportional sensors are like dimmer controls for lights with lots of positions between on and off.

2.2 What can it do?

There are two rows of eight sockets on the front panel of MIDIcreator. The top row can only produce switched output responses, whilst the bottom can produce both switched and proportional outputs i.e. you can't play a series of notes with a sensor plugged into the top row.

Switched sockets can play:	Proportional sockets can play:
<ul style="list-style-type: none">▪ Single notes▪ Chords – on one or several instruments▪ Drums▪ Trigger samples	<ul style="list-style-type: none">▪ Single notes▪ Chords – on one or several instruments▪ Drums▪ Trigger samples▪ Scales – different types in different keys▪ Series of notes – notes played in any order▪ Multiple chords – up to four chords▪ Effects controls – change volume, reverb (echo) and other effects

3. Theme Cards

A collection of sounds that have been configured onto a card are called a 'Theme'. There are two main types of theme available, although you can combine both methods at the same time.

3.1 MIDI Theme

MIDI themes use pre-recorded musical instrument and special effect sounds stored on the internal sound module. 128 different sounds are available from pianos and strings to brass and percussion.

Configuration cards define which sounds are played by each sensor and control settings such as volume, pitch and reverb. By using the software provided with MIDIcreator, you can configure your own cards to make themes.

3.2 Sample Theme

A sample theme uses a Smart Media memory card to store samples, which are accessed through a SP-303 sampler. You can record your own sound samples using the microphone to make themes or use one of the IMS pre-recorded themes.

Two templates are included in the Theme pack section of the folder, for you to photocopy and use to record the details of your themes.

3.3 Triggering methods for playing back sound

Method	Description
One Hit	A one hit sample triggered by a sensor or switch will play for the duration of the sample and then end. If the sample is triggered again before it has time to finish, it will start immediately again from the beginning.
Gated	This refers to a one hit sample that will only play whilst the sensor or switch is being operated. For example, the sound will be heard whilst you are standing on a floorpad, or within the triggering point of a beam and will stop when you step off the floorpad or out of the beam.
Loop	A Loop is a sample that once triggered by a sensor or switch, will continue playing and repeating until triggered again to stop.
Gated Loop	Combining both the loop and gated methods of triggering, the gated loop will continue playing and repeating only whilst the sensor or switch is in operation.

4. Advanced use of MIDIcreator

4.1 Installing the MIDIcreator Configuration Builder software

To begin programming your own configuration cards for MIDIcreator, you will need to install the software provided.

1. Insert the MIDIcreator CD into a PC.
2. The CD should autorun on insertion. Alternatively, click the 'Start' button and select 'Run'.
 - a. When the 'Run' window appears, type 'd:\setup' into the space provided, and press return.
3. The MIDIcreator configuration builder set-up program will start. Follow the on-screen instructions to complete the installation.

Once the Configuration Builder has been installed, you can begin to configure your own themes using MIDI.

4.2 Composing themes for MIDIcreator

4.2.1 Drums

1. Select a socket from the front panel image of MIDIcreator by clicking on it.
2. Click on Drum Configuration in the drop down window marked 'Configuration:'
3. Select the drum sound by either clicking on a note from the keyboard image or from the drop down window underneath.
4. Select the volume by dragging the slider that controls the note velocity.
5. When you have completed your selection, click on the 'Apply' button to save the changes you have made.

4.2.2 Chords

1. Select a socket from the front panel image of MIDIcreator by clicking on it.
2. Click on 'Chord Builder' in the configuration window.
3. The chord of C major will be highlighted automatically, which you can deselect by clicking on the individual notes.
4. You can either click on a pre-defined chord using the drop down windows, or click on the notes of the chord that you would like to apply. You can use a maximum of eight notes from any of the 16 MIDI channels, which are selectable by clicking on a number, 1-16 in the row marked 'Channel'. Red notes indicate that they are on the current channel and blue notes show that they have been selected from another channel.
5. Click 'Apply' when you have selected the desired chord for that socket.

4.2.3 Scales

1. Select a socket on the front panel image of MIDIcreator by clicking on it.
2. Click on 'Scale Selection' in the configuration window.
3. Click on a pre-defined scale from the drop down windows provided.
4. Select the position in which you would like the scale to play by holding the left mouse button on the lowest note of your desired scale and dragging the cursor along to the highest note. Notes that appear red are those belonging to the pre-defined scale. When configuring scales, you can only use one MIDI channel per socket.
5. Click 'Apply' when you have selected the desired scale for that socket.

4.2.4 Sequences

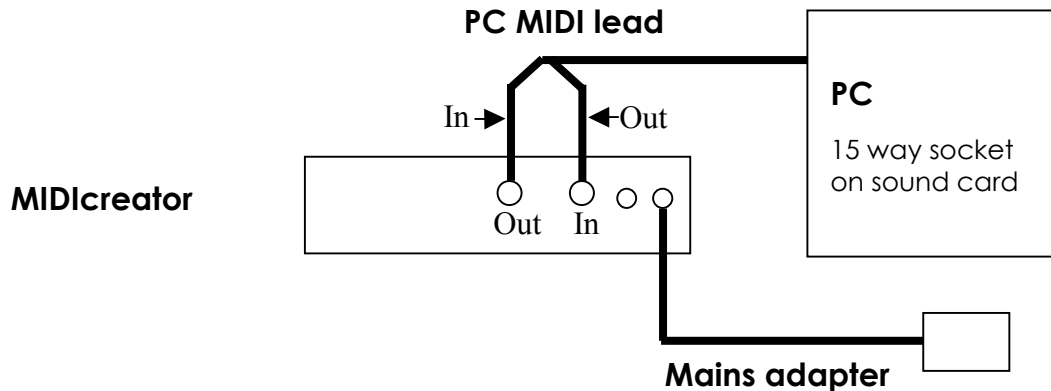
1. Select a socket on the front panel image of MIDIcreator by clicking on it.
2. Click on 'User defined scale' in the configuration window.
3. Sequences will be highlighted on the keyboard and also listed in order in the window. To remove the pre-settings, click on the notes within the window and press 'Delete'.
4. To begin and add to a sequence, click on the individual notes in the desired order.
5. When configuring your own sequences, you can only use one MIDI channel per socket.
6. Click 'Apply' when you have selected the desired sequence for that socket.

4.3 Saving a theme onto a card

In order to programme a configuration card with a new theme, you will need access to a PC in which there is a sound card with MIDI output or a separate USB MIDI interface. The Total Music Kit comes with a cable to connect it to a 15-way socket on a standard sound card and a separate USB MIDI Interface.

If your computer does not have a 15-Way connector on the soundcard, connect the USB MIDI Interface to a spare USB port and follow the onscreen instructions for setting it up.

Connect the PC MIDI lead to MIDIcreator and a PC, as in the diagram.



If using the USB Interface, follow the connection instruction on the cables.

1. Run the MIDIcreator Configuration Builder software.
2. Check the 'Setup/Input' and 'Setup/Output' menu options. They should specify the appropriate MIDI devices connected to MIDIcreator. NB You may need to set the 'Audition' device to 'Nothing' to allow the correct MIDI IN/OUT to be selected.
3. Load up the theme configuration that you want to write to the card.
4. Insert a formatted or blank memory card into the slot on the front panel of MIDIcreator.
5. Select the 'Programming/Write configuration to card' menu option. Click 'Yes' to confirm writing to the memory card.
6. The red LED on MIDIcreator will flash to show that it is communicating.
7. Click 'OK' when the configuration has been successfully written to the MIDIcreator memory card.

Appendix 1 - MIDIcreator+ Instrument Maps

No.	Instrument Name	No.	Instrument Name
Piano		Bass	
1	Acoustic Grand Piano	33	Acoustic Bass
2	Bright Acoustic Piano	34	Electric Bass (finger)
3	Electric Grand Piano	35	Electric Bass (pick)
4	Honky Tonk Piano	36	Fretless Bass
5	Electric Piano 1	37	Slap Bass 1
6	Electric Piano 2	38	Slap Bass 2
7	Harpsichord	39	Synth Bass 1
8	Clavi	40	Synth Bass 2
Chromatic Percussion		Solo Strings	
9	Celesta	41	Violin
10	Glockenspiel	42	Viola
11	Music Box	43	Cello
12	Vibraphone	44	Contrabass
13	Marimba	45	Tremolo Strings
14	Xylophone	46	Pizzicato Strings
15	Tubular Bells	47	Orchestral Harp
16	Dulcimer	48	Timpani
Organ		Ensemble	
17	Drawbar Organ	49	String Ensemble 1
18	Percussive Organ	50	String Ensemble 2
19	Rock Organ	51	Synth Strings 1
20	Church Organ	52	Synth Strings 2
21	Reed Organ	53	Choir Aahs
22	Accordion	54	Voice Oohs
23	Harmonica	55	Synth Voice
24	Tango Accordion	56	Orchestra Hit
Guitar		Brass	
25	Acoustic Guitar (nylon)	57	Trumpet
26	Acoustic Guitar (steel)	58	Trombone
27	Electric Guitar (jazz)	59	Tuba
28	Electric Guitar (clean)	60	Muted Trumpet
29	Electric Guitar (muted)	61	French Horn
30	Overdriven Guitar	62	Brass Section
31	Distortion Guitar	63	Synth Brass 1
32	Guitar Harmonics	64	Synth Brass 2

General MIDI Melodic Instrument Map

(MIDI channels 1-9, 11-16)

No.	Instrument Name	No.	Instrument Name
	Reed		Synth Effects
65	Soprano Saxophone	97	FX 1 (rain)
66	Alto Saxophone	98	FX 2 (soundtrack)
67	Tenor Saxophone	99	FX 3 (crystal)
68	Baritone Saxophone	100	FX 4 (atmosphere)
69	Oboe	101	FX 5 (brightness)
70	English Horn	102	FX 6 (goblins)
71	Bassoon	103	FX 7 (echoes)
72	Clarinet	104	FX 8 (sci-fi)
	Pipe		Ethnic
73	Piccolo	105	Sitar
74	Flute	106	Banjo
75	Recorder	107	Shamisen
76	Pan Flute	108	Koto
77	Blown Bottle	109	Kalimba
78	Shakuhachi	110	Bag Pipe
79	Whistle	111	Fiddle
80	Ocarina	112	Shanai
	Synth Lead		Percussive
81	Lead 1 (square)	113	Tinkle Bell
82	Lead 2 (sawtooth)	114	Agogo
83	Lead 3 (calliope)	115	Steel Drums
84	Lead 4 (chief)	116	Woodblock
85	Lead 5 (charang)	117	Taiko Drum
86	Lead 6 (voice)	118	Melodic Tom
87	Lead 7 (fifths)	119	Synth Drum
88	Lead 8 (bass + lead)	120	Reverse Cymbal
	Synth Pad		Sound Effects
89	Pad 1 (new age)	121	Guitar Fret Noise
90	Pad 2 (warm)	122	Breath Noise
91	Pad 3 (polysynth)	123	Seashore
92	Pad 4 (choir)	124	Bird Tweet
93	Pad 5 (bowed)	125	Telephone Ring
94	Pad 6 (metallic)	126	Helicopter
95	Pad 7 (halo)	127	Applause
96	Pad 8 (sweep)	128	Gunshot

General MIDI Melodic Instrument Map

(MIDI channels 1-9, 11-16)

Note No.	Drum Sound	Note No.	Drum Sound
35	Acoustic Bass Drum	59	Ride Cymbal 2
36	Bass Drum 1	60	Hi Bongo
37	Side Stick	61	Low Bongo
38	Acoustic Snare	62	Mute Hi Conga
39	Hand Clap	63	Open Hi Conga
40	Electric Snare	64	Low Conga
41	Low Floor Tom	65	High Timbale
42	Closed Hi-Hat 1	66	Low Timbale
43	High Floor Tom	67	High Agogo
44	Pedal Hi-Hat 1	68	Low Agogo
45	Low Tom	69	Cabassa
46	Open Hi-Hat 1	70	Maracas
47	Low Mid Tom	71	Short Whistle
48	Hi-Mid Tom	72	Long Whistle
49	Crash Cymbal 1	73	Short Guiro
50	High Tom	74	Long Guiro
51	Ride Cymbal 1	75	Claves
52	Chinese Cymbal	76	Hi Wood Block
53	Ride Bell	77	Low Wood Block
54	Tambourine	78	Mute Cuica
55	Splash Cymbal	79	Open Cuica
56	Cowbell	80	Mute Triangle
57	Crash Cymbal 2	81	Open Triangle
58	Vibraslap		

General MIDI Drum Map

(MIDI Channel 10)

Appendix 2 - Help Section

2.1 Glossary

Configuration

This refers to the set up of the theme cards used in MIDIcreator. They are programmed or 'configured' using computer software with information about which MIDI channels are to be used for the theme. These MIDI channels are used to specify the instrument, note and volume.

MIDI

This is an abbreviation for 'Musical Instrument Digital Interface'. MIDI can be described as a language that allows electronic musical devices such as keyboards and other sound modules to communicate with each other.

Sensor

Also known as a 'proportional sensor', these can be likened to a light dimmer switch as there are lots of different levels or degrees between on and off. Like the switch, the sensor translates a gesture into a MIDI message. It can allow a sequence of notes to be played during movement and also vary other parameters such as volume or reverb.

Switch

Switches are like light switches with only two positions, on or off. A single gesture such as stepping on a floorpad or hitting a block will trigger a sample or single note, sound or chord.

2.2 Frequently Asked Questions

1. What are switch adapters for?

Switch adapters are used for converting switches that are not traditionally used with MIDIcreator into suitable inputs, e.g. standard assistive technology switches. They are supplied with either a ¼" or 3.5mm jack input.

2. What happens if I plug one of my own assistive technology switches into MIDIcreator without using a switch adapter?

Switches, other than those supplied by IMS, will only work with MIDIcreator when using a switch adapter. If you plug a switch into an input without one, the display light for that row of inputs will go out, indicating a fault. Some sounds may be heard but operation will be random.

3. How can I record the musical output from a group to make a composition?

The most effective way of doing this, so as to capture the acoustics and atmosphere of a room as well as instrumentation and vocals, is by using a minidisc or CD recorder and an omnidirectional microphone.

4. How can I help someone relate their sound to their switch?

LEDs are available in different colours, which can be plugged into a switch socket (on the top row) and then triggered by another sensor. The light can then be mounted in front of the player to indicate when their sound is being played. To set up a socket to light an LED, see the section on digital outputs in the MIDIcreator manual (on the CD).

5. How do I program cards from a laptop computer?

The configuration software used to programme cards is the same on a laptop as it is on a PC. However, you will require a USB MIDI interface in order to connect to MIDIcreator, rather than plugging straight into a sound card port as you would with a desktop PC.

6. I am using a proportional sensor as a switch. How can I change the point at which the sound is triggered?

The programming software contains an 'Advanced Properties' window where you can adjust the points at which a sound is triggered. This only applies if the sensor is plugged into the bottom row.

7. What does 'Filter' do on a digital output?

A filter on a digital output will prevent the trigger note being used from creating a sound i.e. only the light will be activated.

8. Why are there two power sockets at the back of MIDIcreator?

The additional power socket is for use with sensors such as the MIDIGesture, which requires its own power source. Instead of one lead plugging into a MIDIcreator input, the MIDIGesture has two, one of which can be plugged into one of the power sockets on the back of MIDIcreator.

9. How can I extend sensor cables?

There are cable extensions available to allow you more freedom of movement with a sensor. Most standard 3.5mm stereo jack extension leads will work, but it is best to check before buying in quantity.

10. What does positive and negative triggering mean?

Positive triggering is when a sample or MIDI sound is triggered by activating a switch or sensor. Negative triggering is when the sensor is set to play the sound on releasing the switch or moving away from the sensor.

11. When I hit my MIDIblock, the sound doesn't stop. How can I set it to trigger differently so that it does?

In the 'Advanced Properties' window you will find a 'Trigger Threshold' box used for adjusting the trigger points of a sensor. Simply change this from 'Falling' to 'Rising'.

12. What is 'Time Out'?

When a sound is activated, it will continue sounding until the user removes their hand from the sensor or switch. Musically this may not be desirable, so the 'Time Out' function allows you to specify the maximum length of a note in seconds. The length of a note or sound can be altered in the 'Advanced Properties' window from 0.5 to 5.0 seconds.

Appendix 3 - Other information

Equipment Serial Numbers

Equipment	Serial Number
MIDIcreator	
Edirol MA-10 Speakers	

Switch and Sensor Serial Numbers

Switch / Sensor	Serial Number

i m m e r s i v e
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inspiring technology for sensory experiences

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