

The Musical Instrument Digital Interface (MIDI) is a system that allows different electronic instruments to talk to each other. In the music industry, MIDI enables musicians to make keyboards sound like guitars, and guitars sound like bass drums. Our MIDI Box draws on this industry standard, to make special switches and motion produce sounds ranging from a pipe organ to a telephone!

Up to eight special switches selected to suit the user's physical abilities as well as our infra red position sensor can be plugged into the MIDI Box. These inputs operate notes, chords and sound effects.

The MIDI Box is designed to work with the General MIDI standard. It will work with non-standard MIDI instruments as well, but the sounds you hear may vary from those listed below.

The MODE switch selects the way the MIDI Box operates. Pressing the mode switch cycles through the eight options. A LED on the front panel shows which mode is currently selected.

Invisible Keyboard

A rocker switch changes between Invisible Keyboard mode and switch mode. In Invisible Keyboard mode, moving in front of the sensor produces the main sounds, and the switches make percussion sounds. The mode lights flash when in Invisible Keyboard Mode.

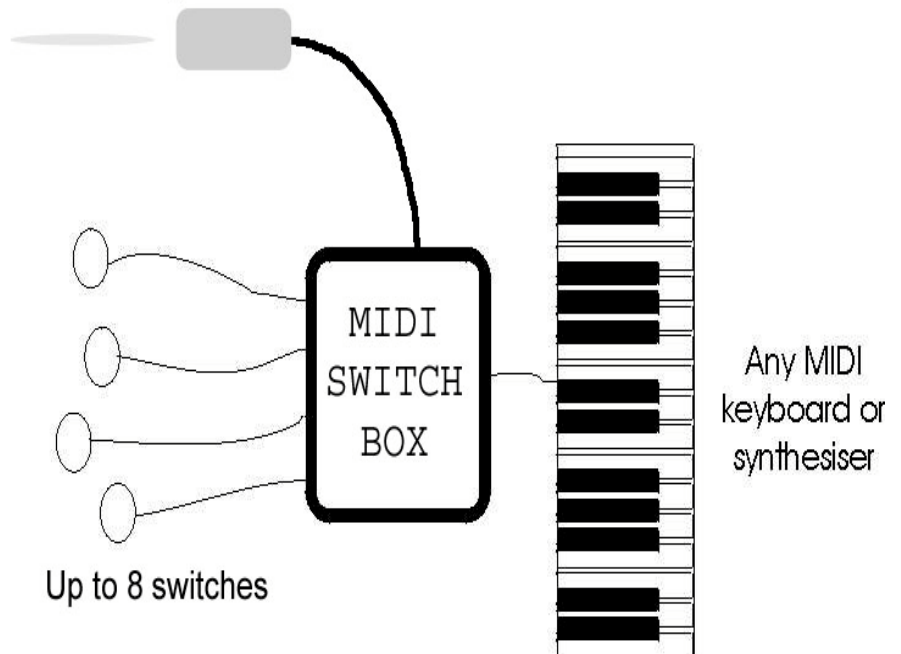
MIDI Switch Box

Special Switches plug into the sockets labeled switch 1 – 8. In Switch mode, these are the main 'music' triggers, and activate different sounds depending on the mode that has been selected. The switch chart lists the many options. The mode lights are steady when in switch mode.

OPERATION

- Connect a MIDI lead between the MIDI out socket on the MIDI Box and the MIDI in socket on your keyboard or synthesiser.
- Plug the infra red sensor into the socket at the back of the Midi Box. (It only fits one socket!)
- Plug as many switches into the switch input sockets on the front of the MIDI box as you need.
- Turn on the synthesiser, and if needed make sure it is set to receive MIDI commands.
- Turn on the MIDI Box. You will hear a brief arpeggio if everything is working.
- Select the mode you want the MIDI Box to operate in by pressing the MODE switch (refer to the chart below) The MIDI Box will always start in Mode 1.
- Press the special switches, or move in front of the sensor to make music!

Invisible Keyboard Sensor



Invisible Keyboard and MIDI Switch Box

SWITCH MODE

Mode	Effect	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
1	Sequence of notes – each switch plays a different instrument	Celestea	Jazz Guitar	Tinkle Bell	Trumpet	Voice Oohs	Charang	Piccolo	Tele-phone
2	Each switch plays a different percussion instrument								
3	C Major scale, over 2 octaves	Note: Middle C	Note: E.	Note: G	Note: B	Note: D	Note: F	Note: A	Note: C
4	C Major scale, starting at middle C	Note: Middle C	Note: D	Note: E	Note: F	Note: G	Note: A	Note: B	Note: C
5	C Major scale, one octave above middle C	Note: C	Note: D	Note: E	Note: F	Note: G	Note: A	Note: B	Note: C
6	C Major chords	Notes: C	Notes: D	Notes: E	Notes: F	Notes: G	Notes: A	Notes: B	Notes: C
7	Arpeggio								
8	Instrument change. This changes the type of instrument you will hear when using modes 3 - 7	Selects General MIDI patch no. 8 - Celesta	Selects General MIDI patch no. 26 - Jazz Guitar	Selects General MIDI patch no. 112- Tinkle Bell	Selects General MIDI patch no. 56 - Trumpet	Selects General MIDI patch no. 53 - Voice Oohs	Selects General MIDI patch no. 84 - Charang	Selects General MIDI patch no. 72 - Piccolo	Selects General MIDI patch no. 124- Tele-phone

INVISIBLE KEYBOARD MODE

Mode	Invisible Keyboard Effect	Switches
1	Full range of notes, on MIDI channel 1. Instrument sound is set on MIDI unit.	Percussion sounds
2	Pitch Bend. Step into the beam, then wiggle to make the pitch vary. Instrument sound is set on MIDI unit.	
3	Restricted range of notes. (Larger movement required to change sounds) Instrument sound is set on MIDI unit.	
4	C Major Scale (one octave). Instrument sound is set on MIDI unit.	
5	Space Choir	
6	Recorder sound	
7	Wide range of percussion sounds. (Small movement makes lots of different sounds)	
8	Restricted range of percussion sounds. (Larger movement required to change sounds)	

MORE ABOUT THE INVISIBLE KEYBOARD

The Invisible Keyboard senses the distance a person or object is from it by sending out a beam of invisible infra red light. It can sense up to 1.8 metres. Make sure there are no objects inside this range, because the sensor will respond to them.

The sensor has a very sensitive zone between 20 and 200mm from its face. This is ideal for people with limited movement, and for using actions such as head rotation.

Experiment! Have Fun!

PROBLEM SOLVING

- If you hear nothing, and the Mode light is not showing, check the MIDI Box power supply.
- If you hear nothing, and the Mode light is showing, check the switches and the MIDI lead to the synthesiser. Check the synthesiser volume is turned up.
- If the sound from the synthesiser is distorted, the problem will be in the synthesiser, and not the MIDI Box. The MIDI Box only tells the synthesiser to make a sound; the actual sound is made in the synthesiser.

We will be providing additional manuals and activity suggestions free of charge to Invisible Keyboard users who request them. Please send us an email or fax with your contact details to register for this free service.

Find us on the web. www.tecsol.com.au