BECOS

TS8-MS
OVERDRIVE
MIDI SWITCHING

TS8-MS Quick Setup

For full product information go to http://midi-overdrive-switcher.becosfx.com/

1. Power off pedal (battery or DC power adapter) and set the Multi Function rotary HEX switch inside to a position corresponding to the desired setup setting.
2. Push and hold the Footswitch while power on pedal and continue to hold the Footswitch for at least 3 seconds, until visual indication of LED's confirm saving the setting.
3. Power off pedal. The setting is saved. Power on pedal and start using it.

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Set the type of Bypass

Bypass Type	Multi Function Switch Position*	Visual Indication**	Notes
Buffered Bypass (factory default)	HEX = A	⚪ OFF ⚪ OFF 🟢 1 BLINK 🟡 ON	Silent "soft switching" using FET transistors placed between input and output buffers. No sound loss even with long connection cables. Recommended and used as factory default.
Relay True Bypass	HEX = B	⚪ OFF ⚪ OFF 🟢 2 BLINKS 🟡 ON	Mechanical switching using relays controlled by a microcontroller. In bypass or without power, signal goes directly from input to output. Avoid long connection cables.

Set the switching mode of External Switching Relays

Switching Type	Multi Function Switch Position*	Visual Indication**	Notes
Latching Switching (factory default)	HEX = 0	🔴 ON 🔴 ON ⚪ OFF 🟡 ON	External Relay switching with latching. When relays are ON, Tip-to-Ground or/and Ring-to-Ground are shorted and mentained until OFF command is initiated.
Momentary Switching	HEX = 1	🔴 1 BLINK 🔴 1 BLINK ⚪ OFF 🟡 ON	External Relay switching is momentary ON. Tip-to-Ground or/and Ring-to-Ground in the External Switching 1/4TRS Connector are shorted momentarely (100ms ON, then OFF) for either "ON" or "OFF" relay commands.

Reset to Factory Defaults

Reset	Multi Function Switch Position*	Visual Indication**	Notes
Factory Defaults	HEX = F	🔴 BLINKING 🔴 BLINKING 🟢 BLINKING 🟡 BLINKING	Pedal settings are restored to factory defaults.

* After setting procedure is finished (power off), you may need to set the Multi Function switch to a different in operation position than the one used for setup.
** During setup, LED blinking is continuous until power off. Steady lit LED's remain as such until power off.

Footswitch Action
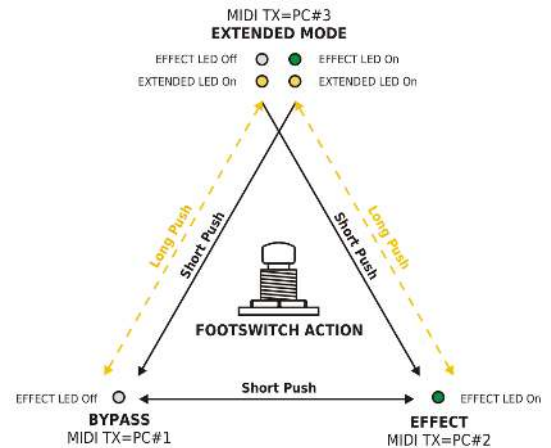
You can use pedal footswitch to perform the following actions:

1. Change pedal state: Bypass / Overdrive / Extended (long-push; pedal state is preserved; only External Switching Relays are affected).
2. Switch amp channel with each pedal state - see **Multi Function** switch and **External Switching Relay** switching pattern Table 1.
3. Transmit MIDI Program Change with each pedal state - see **Multi Function** switch.

Multi Function Switch

The Multi Function switch inside pedal has 16 positions and it is used to:

1. Set MIDI Channel for Transmit or Receive function (see: How to set pedal to transmit or receive MIDI).
2. Assign External Switching Relays switching pattern, when pedal footswitch is used.

MULTI FUNCTION SWITCH			BYPASS		EFFECT		EXTENDED	
			MIDI Transmit = PC# 1		MIDI Transmit = PC# 2		MIDI Transmit = PC# 3	
	MIDI Ch. Transmit	MIDI Ch. Receive	External Switching Relay 1	External Switching Relay 2	External Switching Relay 1	External Switching Relay 2	External Switching Relay 1	External Switching Relay 2
0	16	OMNI	Off	Off	Off	Off	On	On
1	1	1	Off	Off	On	Off	Off	On
2	2	2	Off	Off	Off	On	On	On
3	3	3	Off	Off	On	On	On	Off
4	4	4	On	Off	Off	Off	On	On
5	5	5	On	Off	On	Off	On	On
6	6	6	On	Off	Off	On	Off	Off
7	7	7	On	Off	On	On	Off	On
8	8	8	Off	On	Off	Off	On	Off
9	9	9	Off	On	On	Off	On	On
A	10	10	Off	On	Off	On	On	Off
B	11	11	Off	On	On	On	Off	Off
C	12	12	On	On	Off	Off	Off	On
D	13	13	On	On	On	Off	Off	Off
E	14	14	On	On	Off	On	On	Off
F	15	15	On	On	On	On	Off	On

Table 1 - Footswitch Action - External Switching Relays switching pattern and MIDI Channel select based on Multi Function switch position set (and MIDI Socket used on circuit board: TX or RX)

Note: External Switching Relay 1 = Tip-To-Ground, External Switching Relay 2 = Ring-To-Ground

Set TS8-MS pedal to transmit or receive MIDI

Inside the pedal there are two small 4-pin sockets: one socket is for MIDI Receive function (factory default) and another for MIDI Transmit function. The external 5-pin MIDI connector is connected to the circuit board on one socket or the other, through a 4-wire jumper cable. Only one function can be used at a time.

MIDI Control - Program Change

TS8-MS pedal is pre-programmed to respond to the following Program Change numbers:

Program Change Number	Bypass / Effect Relay	Switching Relay 1 Tip-To-Gnd	Switching Relay 2 Ring-To-Gnd
#50	Bypass	Off	Off
#51	Bypass	On	On
#52	Bypass	Off	On
#53	Bypass	On	Off
#54	Effect	Off	Off
#55	Effect	On	On
#56	Effect	Off	On
#57	Effect	On	Off

Table 2 - MIDI Program Change switching options in TS8-MS

MIDI Control - Control Change

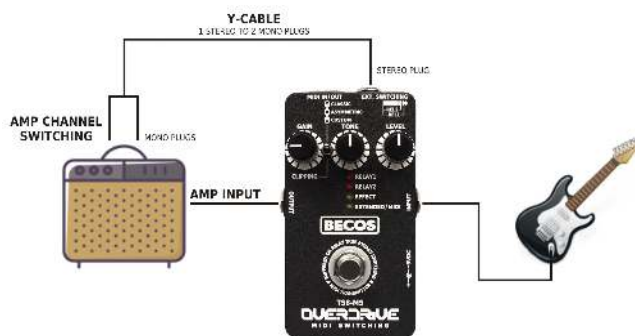TS8-MS pedal is pre-programmed to respond to the following MIDI Control Change numbers:

Control Change Number	Relays Controlled	Relay/LED OFF	Relay/LED ON
		CC Value	CC Value
80	Bypass	0-63	64-127
81	R1		
82	R2		
83	Bypass, R1, R2		
84	Bypass, R1		
85	R1, R2		
86	Bypass, R2		

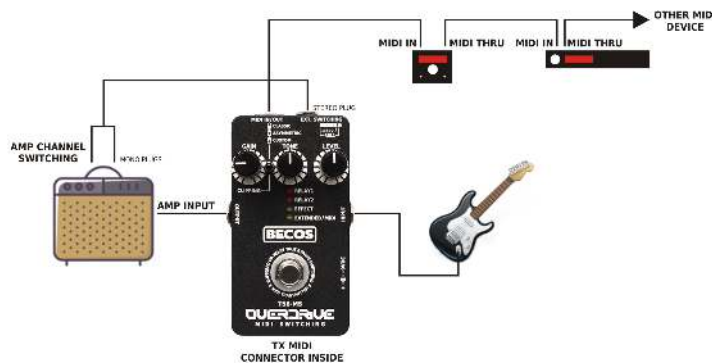**Table 3 - MIDI Control Change switching options in TS8-MS**

*Note: **Bypass** = Effect/Bypass Relay. **R1** = External Switching Relay 1 (Tip-to-Ground). **R2** = External Switching Relay 2 (Ring-to-Ground).*
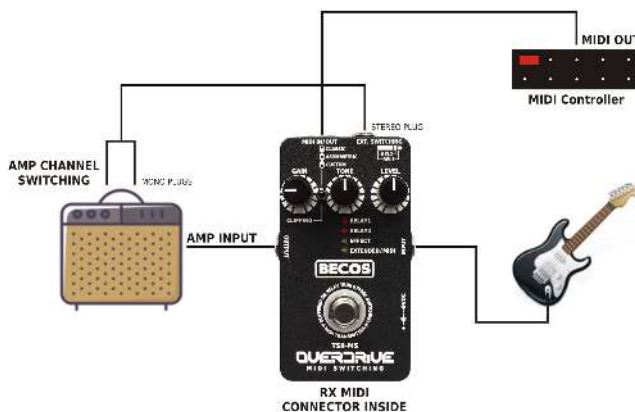
How to use TS8-MS

TS8-MS is an analog overdrive pedal which can be enabled with midi, is a MIDI switcher and a MIDI transmitter in a box. All of the above function simultaneously in either setup mode. Here are several examples of how you can use it:

Footswitch Action - use TS8-MS as analog overdrive and amp channel switcher

**Footswitch Action - use TS8-MS as analog overdrive, switch amplifier channels
and transmit MIDI Program Change messages, all at once**

External MIDI Control - switch TS8-MS analog overdrive and amp channels with an external MIDI Controller