

2488 Digital Portastudio™

MIDI Parameter Mapping

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THIS DOCUMENT IS FOR EXPERIENCED MIDI USERS ONLY. This document is written under the presumption that the reader has created a MIDI controller maps in the past, or has the equivalent understanding of MIDI controllers. This allows the advanced user to "cut to the chase" on the programming, rather than scan past pages of minutiae on what controllers are, what parameter ranges are, etc. If you are a beginner on this subject, rest assured that TASCAM is planning to release a more detailed document with more explanation at a later time.

Setting the 2488 for External MIDI Control

MENU > SYNC/MIDI > REMOTE

This menu decides what external control is going to be allowed. The key settings for external MIDI control are:

MIDI IN - Selects target for incoming MIDI note messages and control parameters

MODE:

OFF: Ignores messages

TG: Sends all messages to the internal General MIDI Chip

REMOTE: Interprets incoming messages for mixer automation

REMOTE CONTROL - Enables/Disables Specific MIDI Messages

PROGRAM CHANGE SCENE: Allows scene libraries to be recalled

PROGRAM CHANGE EFF: Allows effect presets to be recalled

CONTROL CHANGE: Allows individual parameter control over effects/mixer.

For the purposes of external control for mixer automation, the MIDI IN MODE should be set to REMOTE, and all of the REMOTE CONTROL settings should be ON.

2488 Parameter Banking

One of the challenges in the 2488 was to overcome the mismatch between mixer channels and MIDI channels. The 2488 actually has 32 channels, and there are only 16 MIDI channels. The engineers dealt with this by offering a special MIDI command to "shift" the target of the MIDI commands in blocks of 8 channels. This "banking" concept is used not only with mixer channels, but also with various effect processors, and other functions. (The various bank switches do not affect each other though - mixer banks and effect banks are independent.)

```

-----:-----:-----:-----:-----:
MIXER CH :           : 1 1 1 1 1 1 1:1 1 1 2 2 2 2 2:           :
          :1 2 3 4 5 6 7 8:9 0 1 2 3 4 5 6:7 8 9 0 1 2 3 4:A B C D E F G H:
-----:-----:-----:-----:-----:
MIDI CH  :1 2 3 4 5 6 7 8:1 2 3 4 5 6 7 8:1 2 3 4 5 6 7 8:1 2 3 4 5 6 7 8:
-----:-----:-----:-----:-----:
BANK     :           0           :           1           :           2           :           3           :
-----:-----:-----:-----:-----:

```

The same volume control message (parameter 7) on channel 1 can affect channel 1, 9, 17, or INPUT A. The destination depends on which bank was last activated. (The bank commands does not need to be sent each time.) Just to make sure the concept is clear, a chart is given below to offer an example of how this works. You'll notice that MIDI channel 15, controller 0 is the controller used to change between the banks of channels for MIDI control.

```

:-----:-----:-----:-----:-----:
: SEND  : MIDI  : CNTR  : VAL   : RECOGNIZED FUNCTION :
: ORDER : CH    : #     :       :                      :
:-----:-----:-----:-----:-----:
:   1   : 15    : 00    : 0     : Select Mixer Bank 0 - Channels 1-8 :
:   2   : 1     : 10    : 127   : Set PAN on CH1 to hard right      :
:   3   : 15    : 00    : 0     : Select Mixer Bank 1 - Channels 9-16 :
:   4   : 1     : 10    : 127   : Set PAN on CH9 to hard right      :
:   5   : 4     : 10    : 64    : Set PAN on CH12 to center         :
:   6   : 15    : 00    : 0     : Select Mixer Bank 0 - Channels 1-8 :
:   7   : 8     : 07    : 100   : Set VOLUME on CH8 to nominal (0dB) level :
:-----:-----:-----:-----:-----:

```

Mixer Channel Controls

Mixer channels 1-24 and inputs A-H all offer individual control, using the bank switching method explained previously. The parameters are listed in the chart on the next page. Some key notes on it are below.

Tone Generator - Does Not Bank

You may notice that the Tone Generator mixer channel also offers the same functions, including the 3-band EQ, effect sends, volume, etc. The audio channel for the tone generator will receive MIDI control messages on channel 13 at any time, independent of bank switching for normal channels. Keep in mind that this only affects the mixer channel that is fed by the Tone Generator - TG. This is not affecting the individual channels inside the Generator.

The 2488 does not allow you to have external control over every internal Tone Generator function and the 2488 mixer controls at the same time. On page 2 of this document, mention is given to set MIDI IN MODE to REMOTE, which routes MIDI control messages to the mixer, instead of the General MIDI chip.

Stereo Bus & Aux Send Masters - Does Not Bank

Like the TG channel, the Stereo bus has a fader, 3-band EQ, and so on. For any functions applicable on the Stereo or Master Effects Send, those will be active on channel 16. Like the Tone Generator controls, the Stereo bus controls are independent of bank switching. These functions are active at all times on MIDI channel 16.

In the chart, parameters that will map to the Stereo Bus functions are labeled ST. The functions that map as Aux Send masters are labeled MST.

PARAMETER NAME	CONT #	RANGE	DESCRIPTION	APPLIES TO TG	ST/MST
CH BANK	00	0- 3	CHANNEL 15 only; 0=1-8, 1=9-16, 2=17-24, 3=A-H		
FADER LEVEL	07	0-127	0=-∞, 100=0dB, 127=+6dB	X	ST
PAN	10	1-127	1=L63, 64=C, 127=R63	X	
PAD/GAIN	11	0- 8		X	
PHASE INV	84	0- 1	0=NORMAL, 1=INVERT	X	
LOW FREQ	16	0- 31		X	ST
LOW GAIN	17	0- 24	0=-12dB, 12=0dB, 24=+12dB	X	ST
MID FREQ	18	0- 63		X	ST
MID GAIN	19	0- 24	0=-12dB, 12=0dB, 24=+12dB	X	ST
MID Q	20	0- 6		X	ST
HI FREQ	21	32-63		X	ST
HI GAIN	22	0- 24	0=-12dB, 12=0dB, 24=+12dB	X	ST
EQ IN/OUT	80	0- 1	0=OUT, 1=IN	X	ST
LOOP FX LVL	23	0-127		X	MST
EFF1 LEVEL	24	0-127		X	MST
EFF2 LEVEL	25	0-127		X	MST
LOOP FX POS	81	0- 2	0=OFF, 1=PRE, 2=POST	X	
EFF1 POS	82	0- 2	0=OFF, 1=PRE, 2=POST	X	
EFF2 POS	83	0- 2	0=OFF, 1=PRE, 2=POST	X	

TG - TONE GENERATOR AUDIO CHANNEL RECEIVES ON MIDI CH 13

ST - STEREO BUS RECEIVES ON MIDI CHANNEL 16

MST - AUX MASTER CONTROL RECEIVES ON MIDI CHANNEL 16