



MIDI with WERSI

by Bill Gray

NOTE: The article was written using OAS 7.1 R43; however it will apply to all OAS from OAS 5 onwards

What is Midi?

It is a connection that allows one piece of Midi equipment to operate another piece of Midi equipment as if it was all contained in one box.

What Midi is not

It is not an audio connection; therefore you will always need to plug the external device into a separate amplifier or your keyboard/Organ via an audio cable. (Exceptions are if it has its own inbuilt amp/speakers)

How does Midi do all this?

There is an excellent article on basic Midi here http://www.tweakheadz.com/how_to_get_started_with_midi.html which I would suggest you have a look at first. (Although I will give a brief description as I go through the buttons)

What Midi does a Wersi OAS Instrument have?

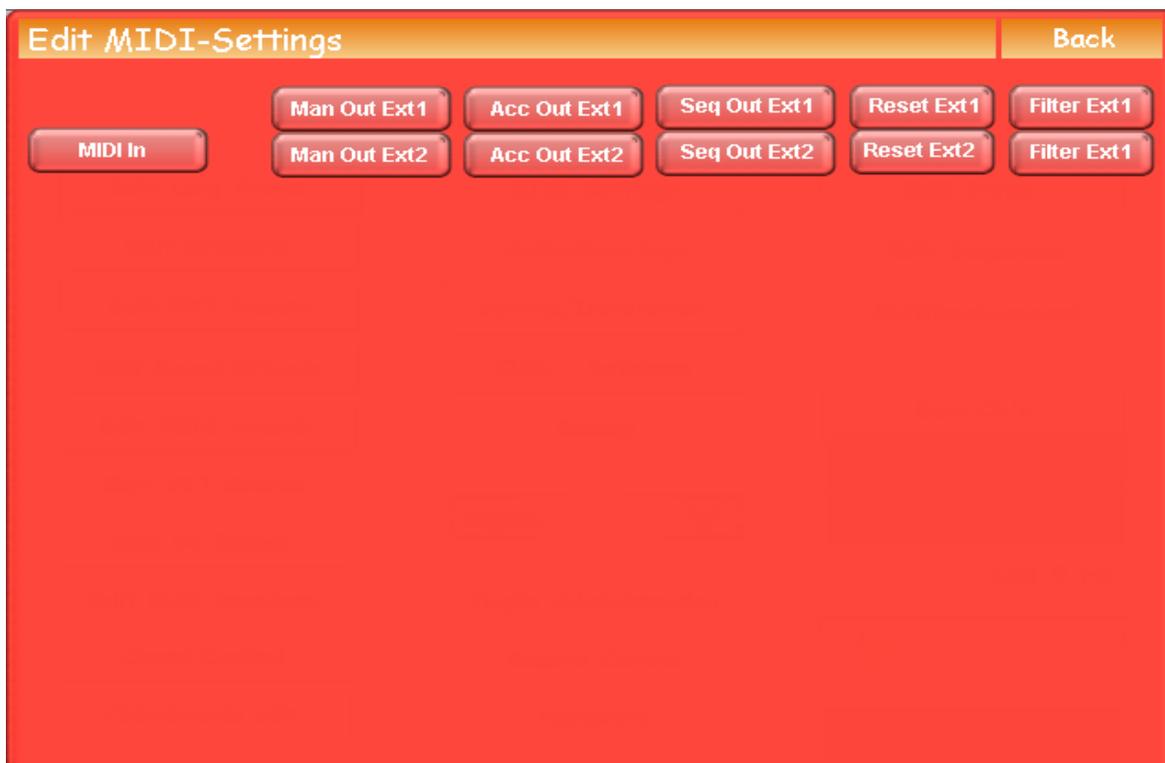
If you look on the rear of your OAS instrument, you will find 6 Midi sockets:

2 x Midi In: These allow external Midi equipment to control your OAS instrument.

2. X Midi Through: These pass whatever information is fed into Midi In, straight through to other external Midi equipment that is connected to these sockets.

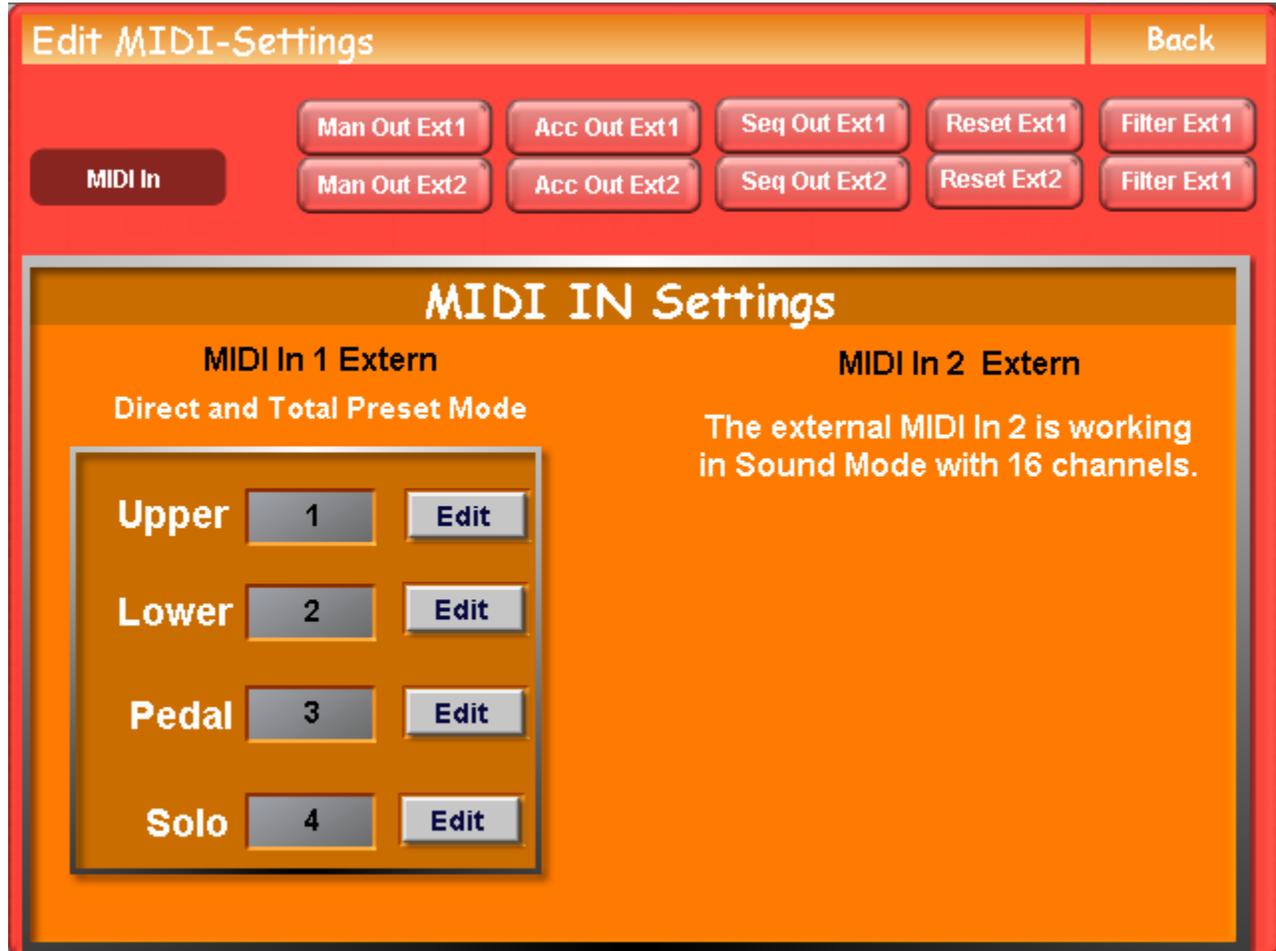
2 x Midi Out: These are the sockets that your OAS Instrument uses to control external Midi Equipment.

Basic Midi Screen: Touch the Midi Settings button in the OAS settings screen



I will go through the buttons individually, however as external 1&2 operate the same (Just remember to use the buttons to the Midi Out you have chosen to use) I will just use EXT 1 for descriptions.

Midi in Screen



As you can see, Midi in 1 & 2 are treated a little differently to allow different types of Midi equipment/software to control your OAS Instrument.

Midi In 1

Equipment connected to Midi In 1, act like the manuals & pedals on your OAS instrument, in that you can still control what happens on your instrument, even though you are using a separate keyboard or pedal board.

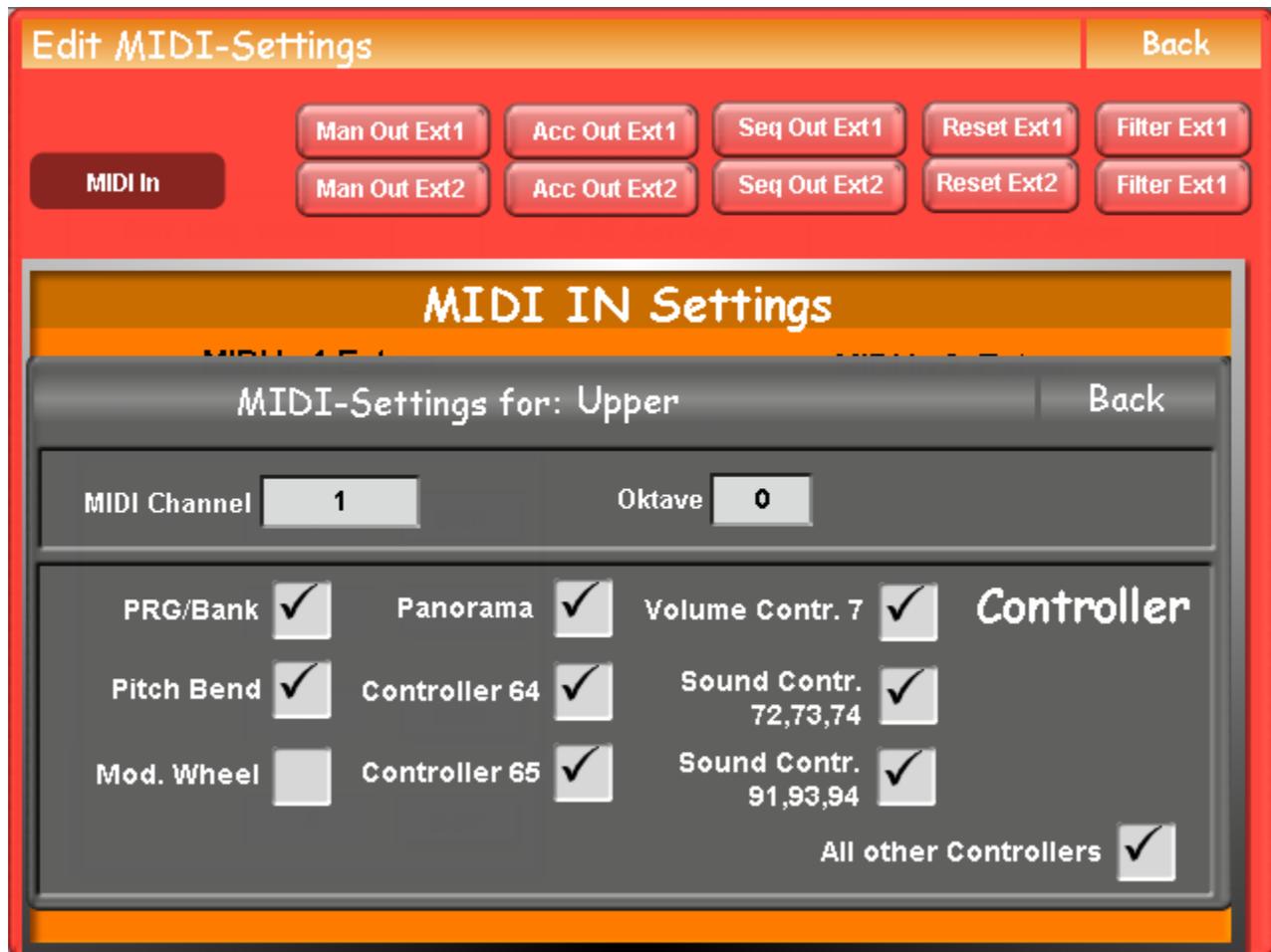
NOTE: The above applies whether you play normally (Direct) or use a Total Pre-set.

Midi In 2

Equipment connected to Midi In 2 has full and independent control of your OAS instrument, and so it is ideal for external sequencers such as Cubase <http://www.steinberg.net/en/products/cubase/start.html> (Think of when you play along to a Midi file, where everything in the file is controlled by the Wersi sequencer completely independent of what you play or do on the manuals)

NOTE: Solo is normally just for the Louvre, however if you understand the advanced capabilities of Midi and OAS Instruments, it can be used to further enhance your OAS Instrument.

Midi in 1 Edit screen: Touch any of the Edit buttons to access



Midi Channel (Midi can send and receive on up to 16 separate channels)

This determines which channel from the external equipment controls which part of your instrument, (In the case shown the upper manual) and can be thought of as having 16 different external manuals connected to your instrument (1 – 16) all sending on a different Midi channel, and you choose which of the 16 manuals you wish to control the currently selected (Upper shown here) section of your instrument.

Octave

This performs the same as the octave button on your instrument, but only for externally connected manuals.

Controller

Each Controller on you instrument (Pitch bend,/Modulation Wheels, volume drawbars etc.) have a controller code attached to it, which can also be controlled by external Midi equipment, however you may not wish to have them altered by external equipment, and so by un-ticking the appropriate box you can prevent this happening.

NOTE: Not all external equipment is capable of sending all the codes your instrument can receive.

For details on controller codes, see this article here http://www.tweakheadz.com/midi_controllers.htm

Midi In 2: No settings are available here, as everything is controlled by the externally connected Midi equipment.

Example 1: Turning an Abacus into a Duo for Synth or Piano players

1. You purchase a Midi keyboard and Midi Pedal board which has no sound system on-board.

NOTE: Piano Players can choose an 88 note Hammer Action keyboard, and Synth Players can choose a light action 61 note keyboard (Providing it has Midi Out, any type of keyboard can be used).

2. You connect the Midi Out connector of the Pedal board to the Midi In connection of the Midi keyboard and then connect the Midi Out of the Midi keyboard to Midi in 1 of the Abacus.

NOTE: You will need to adjust the Midi Keyboard to allow the Midi In from the Pedal board, to pass through its information to the Midi Out of the keyboard (If your external keyboard does not allow this (Some cheaper ones don't) then you can use a Midi Merge box instead, such as <http://www.midisolutions.com/prodmrg.htm>).

3. From the Operating Manual of the Midi Pedal and keyboard, You find out what channel they transmit on (Most can also be altered so that the channels don't clash) and set these channels in the Abacus Midi in 1 settings for Lower & Pedal.

4. Un-tick the controller boxes for the items that you do not want the external Pedal board/Keyboard to control, and then return to the main screen.

5. You can now use your Abacus as if it was the Duo version, with whatever size and type of Midi Pedal board/Keyboard you want. (Piano, Synth etc.)

NOTE: Controller code details can be found here http://www.tweakheadz.com/midi_controllers.htm.

Example 2: You add an additional arranger keyboard to our OAS Instrument (Tyros, PA2x etc.)

1. Connect the Midi out of your Arranger Keyboard to the Midi In 1 of your instrument, and the Audio out of your arranger keyboard to Audio In 1 of your OAS instrument.

NOTE: You will need to set the mixer settings of your arranger keyboard and OAS instrument to match. (You will need to look in both instruments operating manuals for this information, however normally it just requires matching of volume levels.)

2. Find out from the manual what channels the arranger keyboards right and left hand keyboard sections transmit on.

3. Set your Midi in 1 Upper to the right hand channel number, and the Lower to the Left hand channel number, and activate Midi Out on your arranger keyboard.

4. Un-tick the controller boxes for any items you do not wish the arranger keyboard to control.

5. Setup your OAS instrument how you wish, and do the same for the arranger keyboard.

6. Play your OAS instrument and you will have the glorious OAS sound, however play your arranger keyboard and you will hear both the sound of your OAS instrument and the arranger keyboard, thus giving you the best of both worlds. (More advanced uses are beyond this basic introduction.)

Example 3: You use an external computer sequencer with our OAS instrument

As you are aware, if we load or record a Midi file into our OAS instrument, we can play along to it, however unless we go into the Sequence edit screen, it will not change whatever we do or play on our instrument. (Exception is Tempo change.)

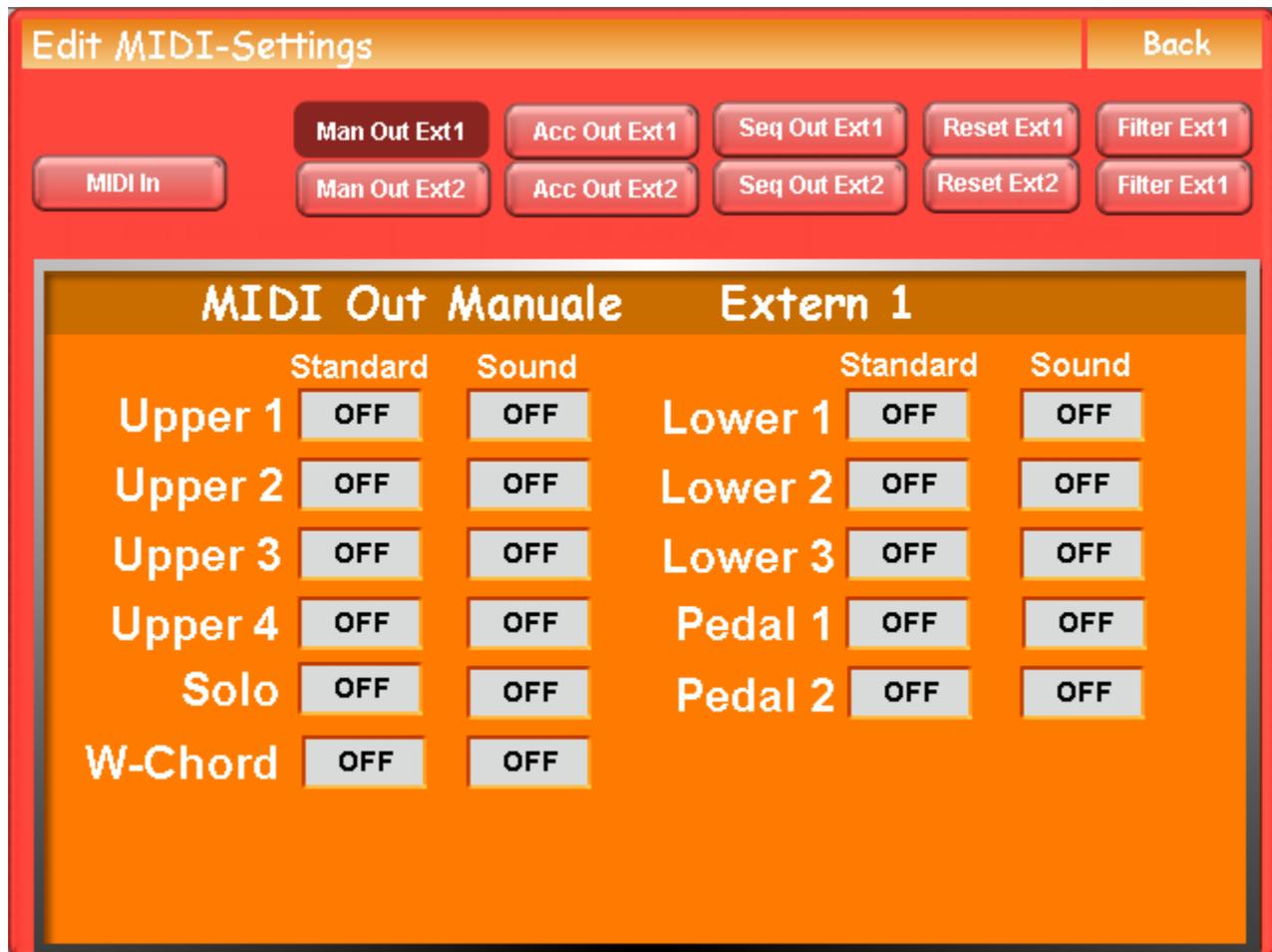
This of course is as it should be, as you wouldn't want a pre-recorded (Recorded by yourself or commercial) backing to change. (If you did there would be no point in pre-recording it.)

When you decide to edit the Midi file however, while everything you need to achieve this is contained in the Wersi Sequencer, those that have used a computer based sequencer on a computer with a much larger screen, will know how much easier it is.

Midi In 2 allows your connected external Midi sequencer to operate your OAS instrument as if it was the internal Wersi Midi Sequencer, thus giving you all the advantages that your external sequencer provides. When your project is completed, you can save it to your OAS instrument confident in the knowledge that it will work perfectly, (No editing required) as you have been using your OAS instrument for the sounds. (Including any VST Instruments loaded.)

NOTE: If you had used your external computers sounds, you would then have had to edit the file to match your OAS instrument sounds, thus creating extra work.

TIP: For more advanced users, this input can also be used to allow your external arranger styles to use the Wersi Sounds. (The LSB/MSB/PRG Numbers to access the Internal Wersi Voices are in the back of the Wersi manual, and can also be shown by touching the "123" button in the OAS Database Sound Manager.)

Manual Out Screen

NOTE: Upper 4, Lower 3 and Pedal 2 are only currently available for use on the Scala, Louvre and OAS Instruments with the Selector Plus Package. (Selector Plus Option available from OAS 7.1 R43)

Solo is currently only available for use on the Louvre.

Standard

This determines what channel the OAS manuals transmit on (Touch off and use the scroll wheel to choose the channel) and allows the external equipment to be played in combination with the OAS voices.

Example

If you connect a Midi cable from the OAS Midi Out to an Arranger keyboard, and then set the OAS Midi Upper 1 channel to the channel the Arranger keyboard receives information on, (Check in the Arranger Keyboards manual) when you play the Arranger keyboard you get just its own sounds playing, however when you play the upper keyboard on your OAS instrument, you here both your OAS instrument and the Arranger Keyboard together.

Sound

Similar to standard, but only switches the selected channel on, when a Midi voice is selected, (See Midi Sound Edit later in the tutorial) thus allowing the external equipment voices to be selected as if it was an internal voice. (IE not at the same time as the OAS voice.)

Note: Do not to use Standard & Sound on the same manual without a thorough understanding of how Midi works, (A basic understanding is not enough) so make sure you always set one or the other to OFF when using this screen.

TIP: Standard is ideal for use with an Arranger Keyboard as this will have its own controls, and Sound is ideal for use with a Midi Module which normally have limited controls.

Accompaniment Out Screen

The operation of this screen is the same as the manuals, but is controlled by the accompaniment instead.

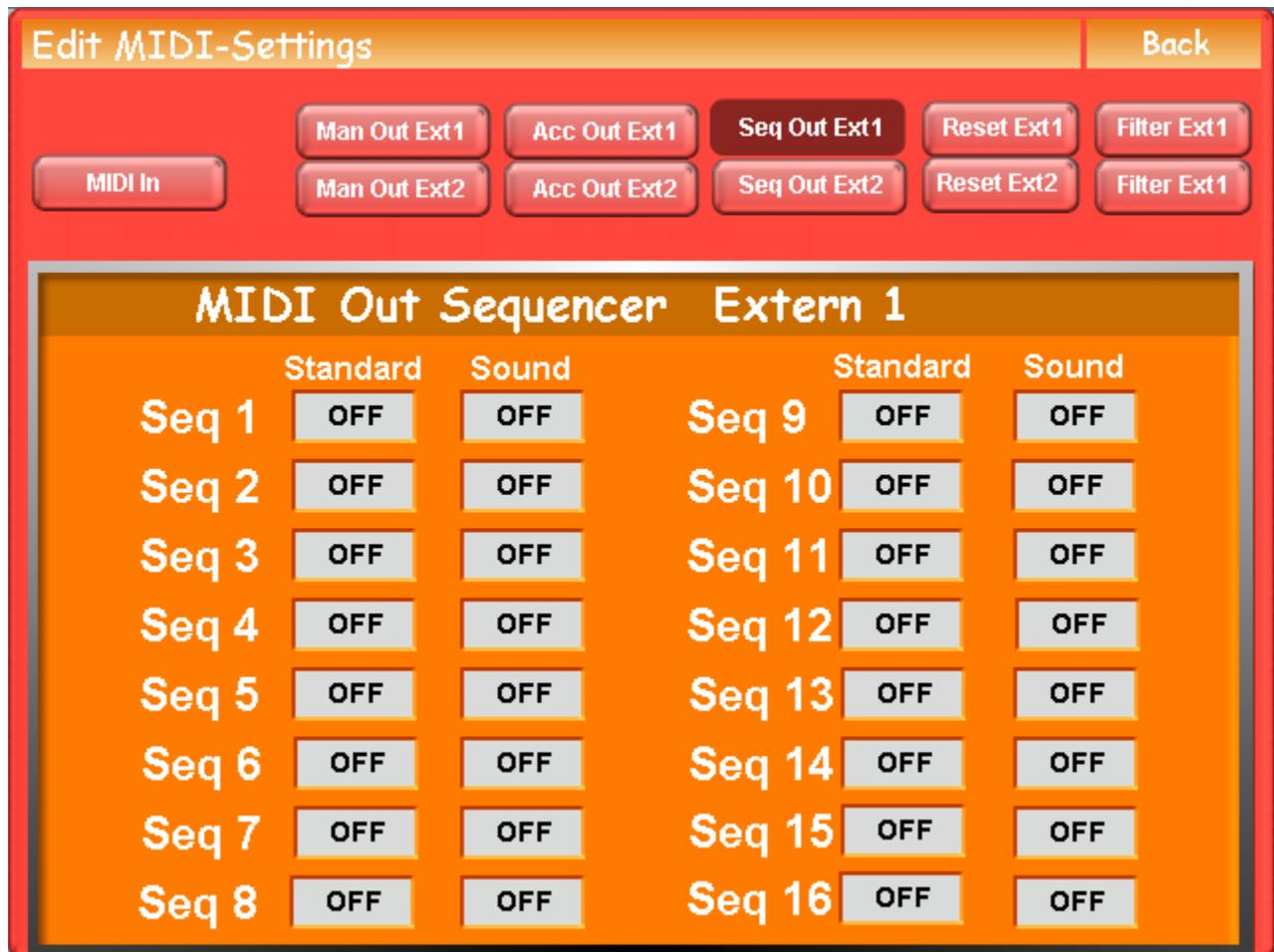
Drums 1 & 2

These should only be used for drum sounds, as they do not transpose like the Bass and Acc voices.

Example: When you change chord on the lower manual the notes of the accompaniment voices change, however the notes on the Drum channels do not. (You would get different drum sounds if they did.)

NOTE: Unless you have an advanced understanding of Midi, only use one Drum Channel at a time. (Set the other to OFF.)

TIP: Most drum sounds on the Wersi use Drums 1.

Sequence out Screen

This operates the same as the Manual & Accompaniment Screens, but is controlled by the Wersi Sequencer (IE. Independent of what you play on your OAS Instrument.)

Seq 10

This is the GM Midi Standard Channel that is used for drums, and unless you have advanced knowledge of Midi, and understand fully the Wersi Sequencer, only use channel 10 for drums.

Reset Button

This sets all Midi settings back to the factory default (Shown in all the screens in this article).

Midi out Filter Screen

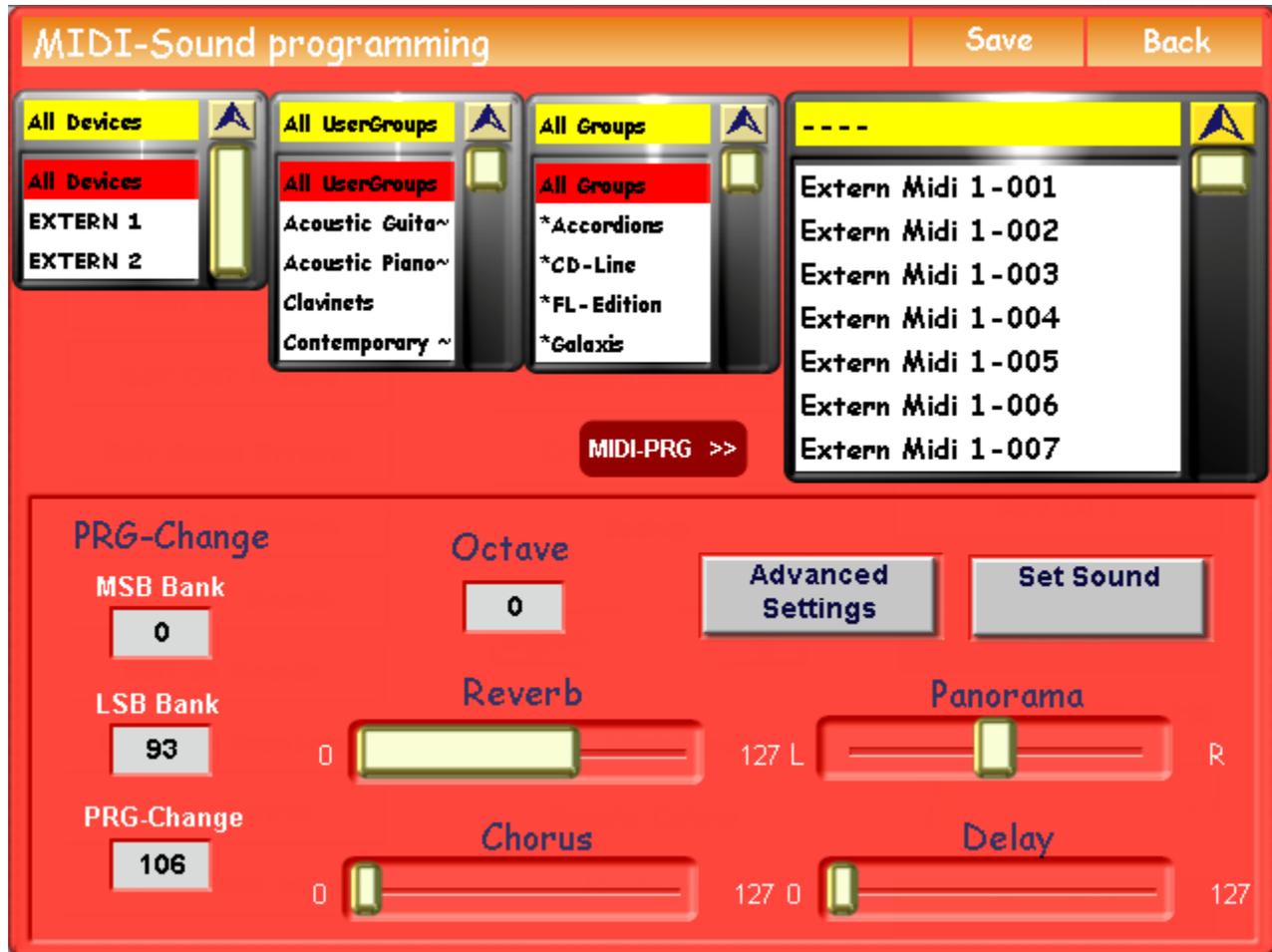
This screen determines what controller information your OAS instrument will send to external equipment, therefore if you do not wish to send a certain controller, un-tick the box.

Example: If you were playing strings on your OAS instrument (Which uses the Expression pedal to provide greater realism) while at the same time a Piano was selected on your external equipment, (And set to sound at the same time as the String sound on your OAS Instrument) you would Un-Tick the Expression pedal (cc11) so that it would not alter the piano sound. (Pianos do not have an expression pedal.)

NOTE: Not all external equipment can receive all the Controller Codes that your OAS instrument can send.

Details of Controller codes and what they do can be found here http://www.tweakheadz.com/midi_controllers.htm

Midi Sound Programing Screen: Accessed using the Midi Sound Edit Button in the Settings Screen.



OAS users will notice that this screen looks similar to the Voice Edit Screen, which in actual effect it is, however the Voice Edit only affects internal voices, whereas the Midi Sound Edit affects voices in equipment that is connected to the Midi Out Sockets.

There are however one or two other differences which are explained below.

Sound Select

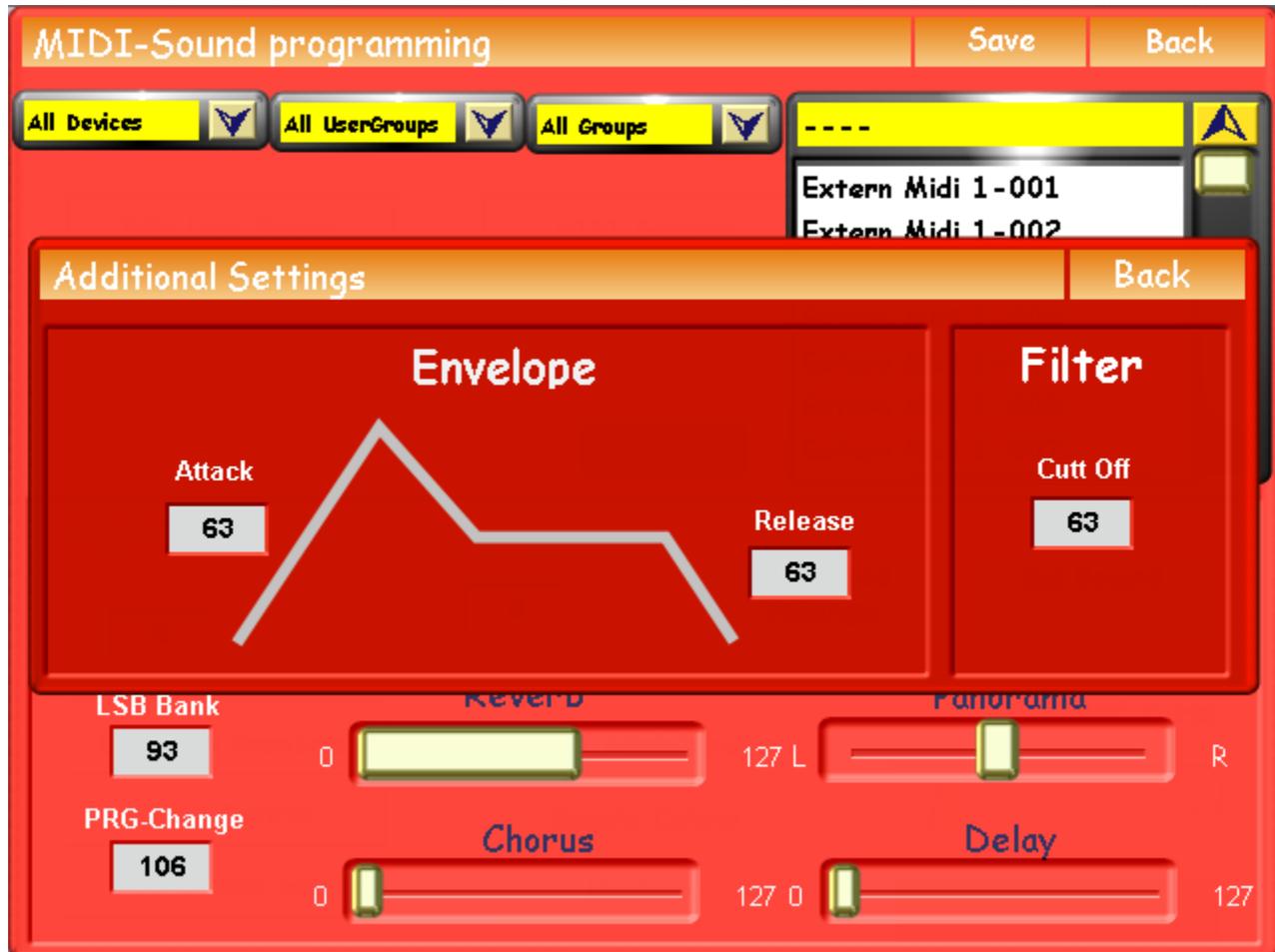
You will notice that there are no sound names in the right hand box, just an indication of which Midi Output it goes to, this is because not all external equipment allocates voices in the same position, (there is a standard called GM (General Midi) that defines numbers for sounds, but they are normally just average sounds and not the best that the equipment can provide) therefore you have to name them manually. (The Onscreen keyboard will appear when you save the Midi Sound.)

Program Change

Each Midi sound bank can store up to 128 sounds, however most external equipment can have many more sounds than this, so to use them you have to select the bank as well as the program number, (The numbers will be contained in the External equipment's Manual) by setting the appropriate numbers in the MSB/LSB/PRG boxes. (Touch a sound number and the box and use the scroll wheel to change.)

NOTE: After any adjustments in the Sound Programing screen, you will need to touch the Set Sound button to send the changes to the external equipment.

Additional Settings



As with internal sounds there are additional settings that can be made which follow the standard Mid CC codes, and you can change these from this screen.

NOTE: The appropriate controllers in the Midi Out Filter Settings Screen have to be ticked before any controller information can be sent.

NOTE: Not all external equipment can receive all the information that your OAS instrument can send, so you will need to check in the manual of your external equipment to see what can & cannot be used.

Example: You connect a Ketron SD2 Sound Module to your OAS Instrument

<http://www.ketronmusic.co.uk/products/ketronSD2.html>

NOTE: As the SD2 does not have any external controls, (except for a volume control) the advanced Midi capabilities of your OAS Instrument are ideal for controlling it.

1. Connect the Midi Out 1 of your OAS Instrument to the Midi In of the SD2.
2. Connect an Audio cable from the SD2 Audio Out to the Audio In 1 of your OAS Instrument.
3. Set the SD2 volume about half way, and set Audio In 1 to ON in your OAS Mixer Settings.
4. From the Midi Edit Screen, Select Manual Out 1.
5. Set Upper 1 Sound to Channel 1.
6. Touch the Filter Out 1 Button on the Midi Settings Screen.
7. Un-Tick Sound Control 72, 73, 74 (These are for editing the sounds and are not required at this stage).
8. Un-Tick Controller 65 (This is used for Portamento and is not required at this stage).
9. Un-Tick All Other Controllers box (These are used for more advanced features).
10. Go back to the Settings Screen and Touch Midi Sound Edit.

Setting the Sound

1. Look in the SD2 Manual for a voice you wish to play and note the LSB/MSB/PRG numbers beside it.
2. Touch the External Midi 001 in the right hand panel.
3. Enter the LSB/MSB/PRG numbers you obtained from the SD2 manual under the PRG Change section of the Midi Programming Screen.
4. Touch Set Sound and play the Upper Manual, you should hear the selected SD2 Sound (You may need to adjust the SD2 Volume to suit).
5. Adjust Reverb, Chorus etc. to taste (You will probably need to touch the set sound button before you can hear the effects of the changes).
6. Touch the Save Button at Top Right and choose the Folder/Group you wish to save the voice in, and rename it by touching the Name Button at the Top (The name will remain stored until you change it).
7. Touch the Save Button to store the settings.
8. Touch and Highlight External Midi 002 and perform operations 1 – 7 above.
9. Follow 1 – 8 to add any more sounds you wish (Max 128).

From the Main Screen

1. Make sure Upper 1 is highlighted and Touch Quick Load.
2. Touch the Sound Tab and choose Ext Mid 1 in the Device Drop down List.
3. Select one of the voices you have saved (You may need to scroll down the voice list) and Touch Load.
4. Highlight Position 2 in the voice section of the main screen and load a Wersi Voice.
5. Highlight Position 3 and again choose a Wersi Voice.
6. Highlight Position 4 and choose another voice from the Ext Midi 1 List.
7. Play the upper manual, and select the voices you have just loaded, and you will find the sounds will play just as if they were all stored in your instrument (Effectively the SD2 has become invisible).

NOTE: To play the SD2 sounds on another section (Upper 2, Pedal, Accompaniment etc.) assign another Midi Channel to them using the Midi Ext 1 out Screens.

WARNING: Do not use the same channel for more than 1 section, or you will get unpredictable results.

To Finish

There are many more ways to use the Midi Settings on your OAS Instrument that are beyond the scope of this article, (Which is just an explanation of what the various buttons do) but hopefully this article will inspire you to experiment further.

Also don't forget to read the article on MIDI http://www.tweakheadz.com/how_to_get_started_with_midi.html

Above All Have Fun

Bill Gray
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