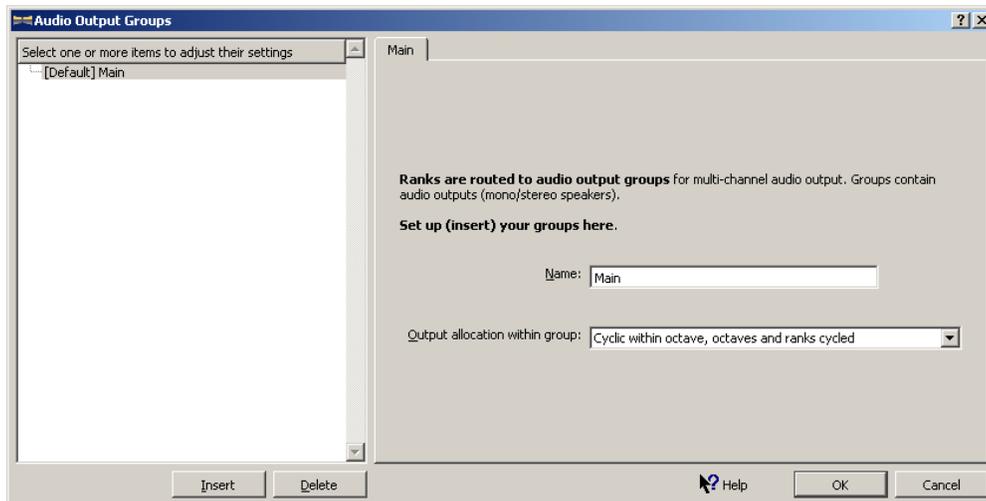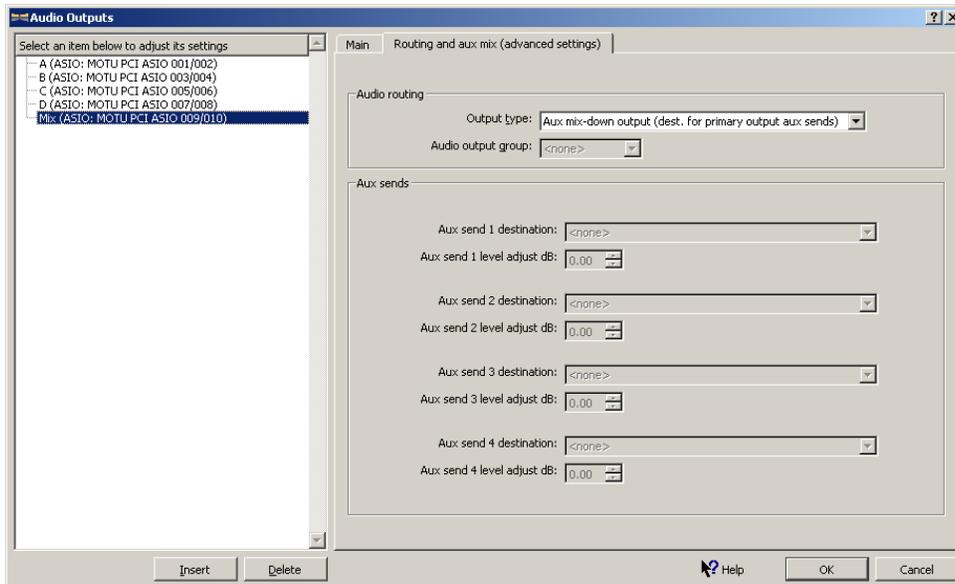# Paramount Organ Works
Recommended Audio Configuration

Paramount series Virtual Theatre Pipe Organs have been optimize to take advantage of Hauptwerk's "Cyclic within octave, octaves and ranks cycled" audio routing algorithm. This will make the most efficient use of speakers possible. Eight speakers will perform as well as thirty-two. It minimizes both "signal mixing" caused by similar ranks sharing the same audio channel rather than being "mixed in the air", and Intermodulation Distortion caused by notes sharing the same audio channel. The ideal is to have four pairs of identical speakers and a subwoofer. One pair or two pairs of speakers will also work, just not as well.
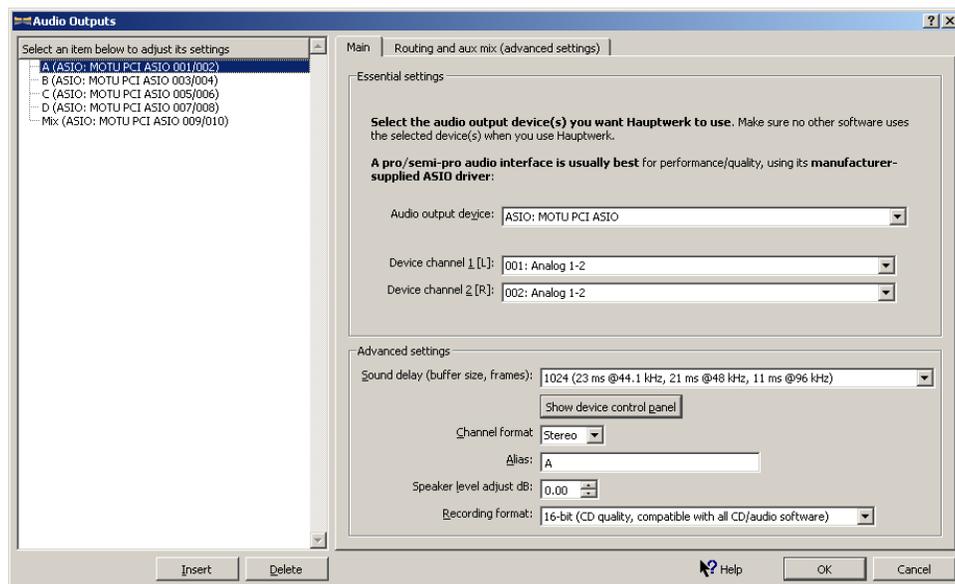

In General Settings, verify that one Output Group is defined. It should be "[Default] Main" and set to "Cyclic within octaves, octaves and ranks cycled". These are the defaults, so no changes should be needed.
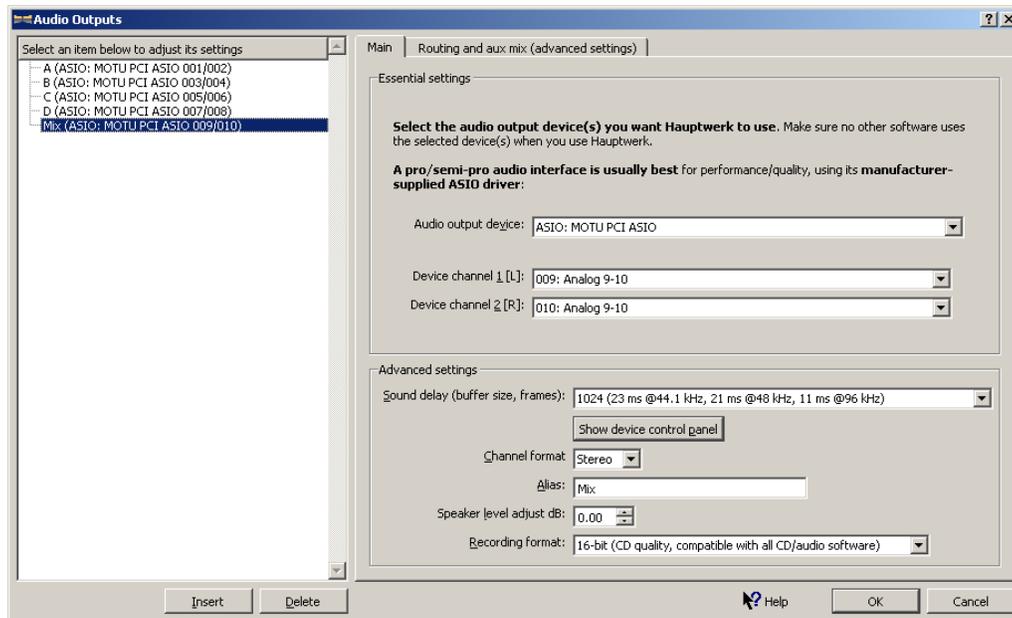
Next configure a "Mix" in the Audio Outputs. Assign it to channels 9 and 10 on your sound card and on the "Routing and aux mix (advanced settings) tab, choose "Aux mix-down output (dest. for primary output aux sends)" as the "Output Type".
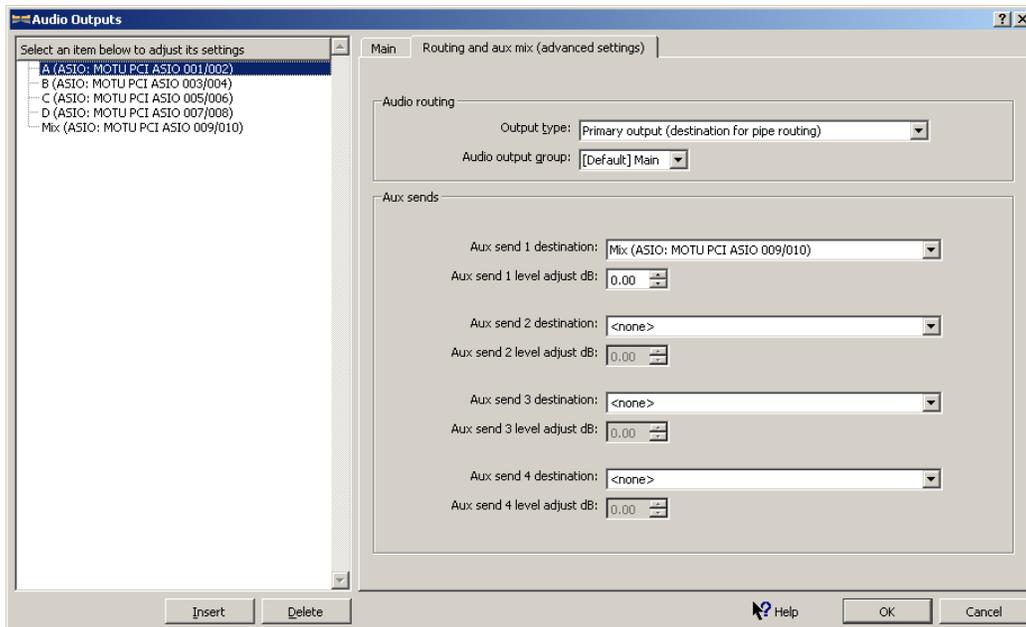
Audio Outputs

Select an item below to adjust its settings
A (ASIO: MOTU PCI ASIO 001/002)
B (ASIO: MOTU PCI ASIO 003/004)
C (ASIO: MOTU PCI ASIO 005/006)
D (ASIO: MOTU PCI ASIO 007/008)
Mix (ASIO: MOTU PCI ASIO 009/010)

Main | Routing and aux mix (advanced settings)

Audio routing
Output type: Aux mix-down output (dest. for primary output aux sends)
Audio output group: <none>

Aux sends
Aux send 1 destination: <none>
Aux send 1 level adjust dB: 0.00

Aux send 2 destination: <none>
Aux send 2 level adjust dB: 0.00

Aux send 3 destination: <none>
Aux send 3 level adjust dB: 0.00

Aux send 4 destination: <none>
Aux send 4 level adjust dB: 0.00

Insert   Delete   Help   OK   Cancel

Now set up four stereo output pairs labeled A, B, C, and D. Start by typing "A" in the "Alias" field then choose "Device channels" 1 and 2 of your selected "Audio output device", then click the "Insert" button. Repeat for B, C, and D, assigned to channel 3&4 5&6 and 7&8 respectively.

Audio Outputs

Select an item below to adjust its settings
A (ASIO: MOTU PCI ASIO 001/002)
B (ASIO: MOTU PCI ASIO 003/004)
C (ASIO: MOTU PCI ASIO 005/006)
D (ASIO: MOTU PCI ASIO 007/008)
Mix (ASIO: MOTU PCI ASIO 009/010)

Main | Routing and aux mix (advanced settings)

Essential settings

Select the audio output device(s) you want Hauptwerk to use. Make sure no other software uses the selected device(s) when you use Hauptwerk.

A pro/semi-pro audio interface is usually best for performance/quality, using its **manufacturer-supplied ASIO driver**:

Audio output device: ASIO: MOTU PCI ASIO

Device channel 1 [L]: 001: Analog 1-2
Device channel 2 [R]: 002: Analog 1-2

Advanced settings
Sound delay (buffer size, frames): 1024 (23 ms @44.1 kHz, 21 ms @48 kHz, 11 ms @96 kHz)
Show device control panel
Channel format Stereo
Alias: A
Speaker level adjust dB: 0.00
Recording format: 16-bit (CD quality, compatible with all CD/audio software)

Insert   Delete   Help   OK   Cancel

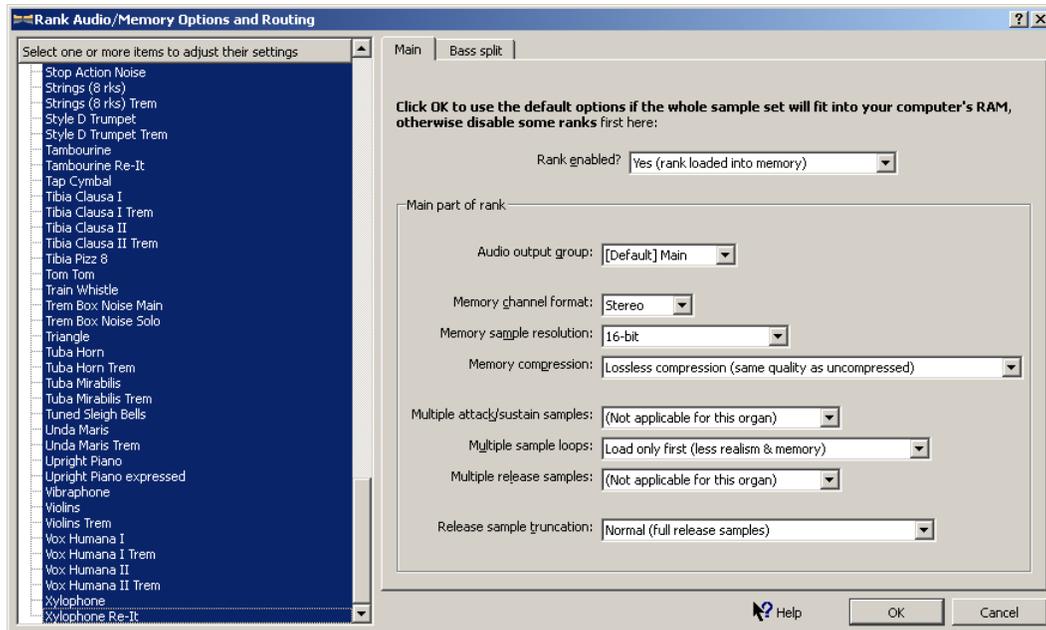Next set the output channels for "Mix" to 9 and 10.

Select A and click the "Routing and aux mix (advanced settings)" tab. Select "Mix" for "Aux send 1 destination". Repeat for B, C, and D.

The Mix output will contain a mix down of all the audio signals. It is used to drive a subwoofer. It can also be used to drive an external reverb unit.

Now load a Paramount organ by choosing "Organ" / "Load organ, adjusting rank audio routing". The Audio output group should already be set to "[Default] Main". Leave all other settings with their defaults. Click "OK". Hauptwerk will read the samples and save them to a cache so that the next time you load the organ, it will be much faster.

Connect your speakers as depicted at the beginning of this guide. You are now ready to play your Paramount. If you have selected good quality, low coloration speakers, the sound will be simply phenomenal. Enjoy!