

AW4416 basic Routing

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Because many times questions about routing are asked by new users in the AW4416 forum, I wrote this little tutorial.

Basics

It helps to recognize the different components in your AW4416. See it as a studio with a mixer, patch panel, recorder and effects rack.

The heart of the AW4416 is the mixer. It has 24 Input Channels, 2 dedicated stereo Effect Return Channels, 16 recorder track Monitor Channels, and a Stereo master Channel. So although the AW at first sight looks like a 16 channel machine, it has actually a $24+2+2+16=44$ channel mixer.

To access the faders of all these channels there are 3 layers:

- + Input 1-16
- + Input 17-24 & effect returns
- + Monitor (recorder track output channels)

Each of those channels has 8 aux sends, which can be used as effect sends or monitor mixes when routed to any outputs on the AW4416. The two internal effects are standard connected to aux 7 & 8 though, and I suggest you leave them that way until you have a good reason not to.

The three layers each have 8 aux send mixes. That makes 24. If you add to that the three layers you come to 27(!) different things that the fader settings can represent. Therefore first time users (and not only those) are frequently confused about what they're actually looking at.

Routing

Routing deals with sending signals from the inputs through the mixer channels through the busses (a bus is where signals are actually being mixed together) to any output or recorder track. The AW4416 has extremely versatile routing which can be confusing as well.

Before all, make sure the Stereo Track fader is up, and switched ON, and adjust headphone and/or monitor pots to a normal level.

To record an incoming signal from a mic, instrument, or other source, you first choose an input. Standard there are 8 analog inputs, two of which have XLR connectors with phantom power (needed for condenser mics) and inserts. All of these are balanced, meaning they have shield, +, and – contacts, also the TRS (jack) inputs. It is advisable to use balanced cables as much as possible. Get or make some XLR female to TRS (stereo jack) mic cables for connecting dynamic mics to input 3-8. They help getting rid of hum and noise.

The following routing explanation goes also for any other input (spdif, optional ADAT, optional AD) as well.

First of all you assign the input of your choice to a channel. This is done on the Setup/Patch IN (top half) page. Pick a channel and set the input. See page 14 of the reference guide for all possible input types and their abbreviations. At first it is easier to keep their numbers corresponding (input 1 to channel 1).

To hear what is coming in, you need to route the Input Channel you chose to the Stereo Bus. This is done on the PanRoute/Pan 1-16 page (or Pan 17-24 for the higher numbered input channels).

Send in a healthy signal (synths usually fully open) keeping an eye on the peak led. Set the Input Channel fader to zero (that is not at the bottom!). Check the incoming signal level on the Home/1-24Rt page. Adjust the gain for maximum input without clipping.

Next you choose which channel you want to record on. This is done on the Setup/Patch IN (bottom half) page. Pick a Track and select the channel number (Dir1-16) of the channel. Again, it is less confusing if you record from Channel 1 to Track 1, but soon enough you might have/want to deviate from that. At this point you can decide if you want the Direct Out Extract Position to be Pre EQ, Pre Fader or Post Fader. You'll find this setting on the Utility/Prefer.1 page. I suggest you use pre everything for the straightest path (Pre EQ), especially when importing tracks that you want unchanged. I tend to record everything straight first, and adjust what I want in the mix. You can also decide to add EQ while recording, in which case you to switch to Post Fader.

Arm the track you want to record on record Track Select buttons under the LED Meter Panel.

Now you're ready to record. In my opinion this is the easiest way, but there are other possibilities. I've bypassed the busses. In my opinion you need those only if you want to record several signals to the same track, for instance when making submixes. But others will prefer to use the busses to route signals to the recorder.

To hear the recorded material, bring up the fader on the Home/Monitor layer and make sure the Track is routed to the Stereo Track on the PanRoute/Pan Moni page. Note that if you do this while recording, you'll hear the signal twice: from the Input Channel and from the Monitor Channel. In contrary to the Input Channels, the Monitor Channels are fixed to their equally numbered Tracks.

It is essential you fully grasp the above before diving deeper into the AW's routing possibilities. Once familiar, you can start thinking about effect inserts and other routing applications. Much can be learned from studying the Block diagram in the back of the Reference Guide.

To sum up the path from source to recorder:

- + Source > Input > any Mixer Channel > any Recorder Track. Or:
- + Source > Input > any Mixer Channel > any Bus > any Recorder Track.
- + Everytime I wrote "any", you have to make a choice, and therefore you can find a cause for confusion!

Trouble shooting

If you don't hear a signal that you think you're supposed to hear, here are some things to check:

Headphone/Monitor Pots

Stereo Track fader

Stereo Track On

Track mutes (on Track page)

Stereo selected on PanRoute pages (both Pan 1-16 and Pan Moni pages)

Input faders (are you on the right layer?)

Monitor faders (are you on the right layer?)