

Delta Series, DPA Series, APA Series

Starting the Software and Getting Online, and New Basics



Introduction

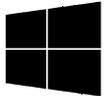
AudioCore is XTA's mature remote control software application, that runs under Windows operating system and offers advanced control and monitoring facilities for an array of XTA signal processing devices.

The Amped Edition is an extension of this application and is designed to monitor and control the Delta Series DSP amplifiers from MC² and the APA and DPA Series amplifiers from XTA.

It does not replace the latest release of AudioCore available on the XTA website, as it does not support XTA signal processor control (DP224/6/6i/DC1048/4 Series/5 Series and all OEM variants).

It primarily connects to devices using an Ethernet data connection, although it will also connect via a USB connection or RS485 (with suitable converter).

The software has been tested for compatibility with the following Windows versions:



Windows XP

Windows 7: 32 and 64 bit editions

Windows 8.1

Windows 10: 32 and 64 bit editions



Are you a mac user?

If you would like to experience remote control of your amplifiers on an iPad, please search for and download DeltaDirect from the App Store.

Purpose of this Guide

This document is designed to introduce the new features and concepts that are included in the Amped Edition of AudioCore. It assumes familiarity with the use of AudioCore for editing DSP parameters. If you are unfamiliar with AudioCore, please download the user manual from our website here:

<http://www.audiocore.co.uk/wp-content/uploads/2014/04/Audiocore-Manual-Version-8.40.pdf>

Please ensure that your amplifiers have the required firmware running to ensure that you experience the best possible performance from the software. Details of the firmware and software versions required are kept up to date on both MC²'s and XTA's websites.

If you have any questions about anything in this guide please email us at tech@xta.co.uk.

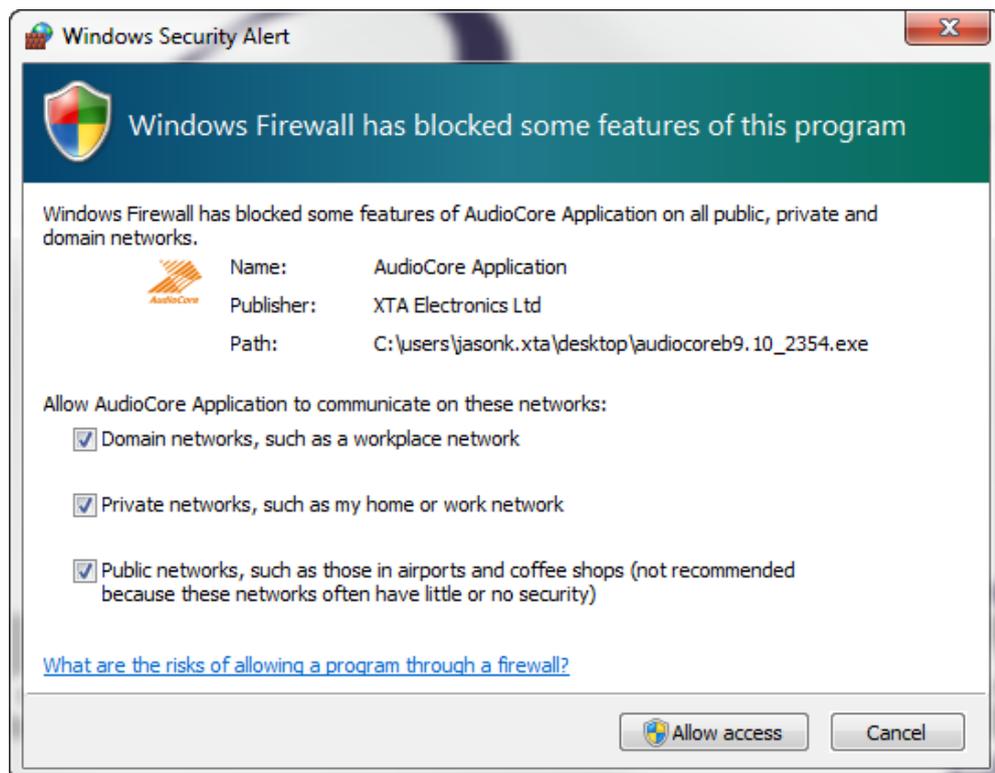
Thanks and we hope you enjoy using it!

Starting the Software and Getting Online

If you're an AudioCore user you'll find the Amped Edition works a little differently to what you will be used to. The quickest way to get online is to let the software discover all devices and upload the current settings and/or memories from all amplifiers that it finds.

IMPORTANT – ALLOWING NETWORK ACCESS TO AUDIOCORE IS ESSENTIAL

The very first time the software is used, it will default to checking for units on an Ethernet connection only. This procedure happens automatically whilst the splash screen is displayed. You will see a security warning from Windows asking if it's OK to allow this application to access your network:



This will only appear once and you must give AudioCore access to all networks, to cover use over wired and wireless networks. Tick all three boxes and then press "Allow Access". If you accidentally miss this and cancel instead then AudioCore will NOT connect via Ethernet or Wifi connections.

Choosing Connection Method

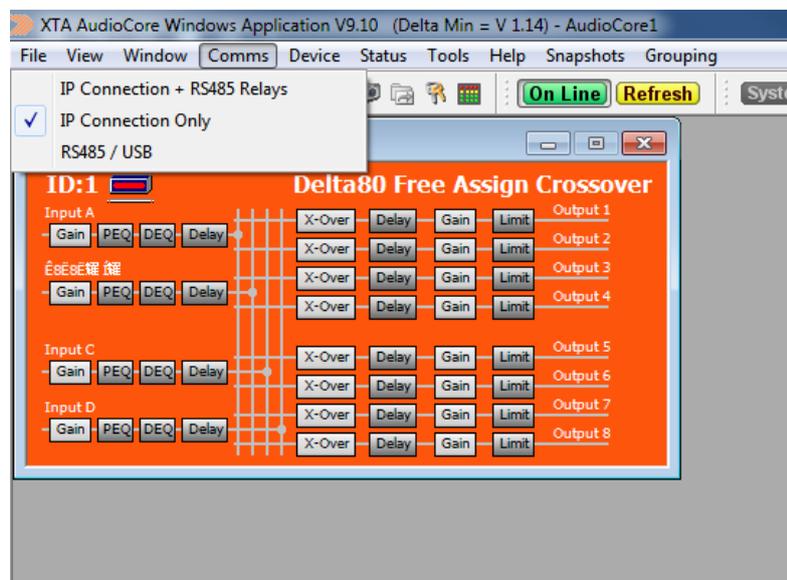
As with the amplifier hardware, the method chose to connect must be selected in AudioCore. By default, this is "IP Connection (Ethernet or Wifi) + RS485 Relay", but this is easily changed in the Comms Menu prior to going online.

If you are not using RS485 Relay Mode, and only Ethernet connections, then choose "IP Connection Only" – this makes the scanning process quicker when going online and when starting the software (scanning is undertaken automatically during the splash screen display).

Using a USB connection or RS485 relay mode

DPA and Delta amplifiers can be controlled via their USB connections on the front panel. Control can then be daisy-chained via RS485 connections on the rear panels.

Using a USB connection, or even a direct RS485 connection requires AudioCore to scan the system differently and so this connection mode must be selected:



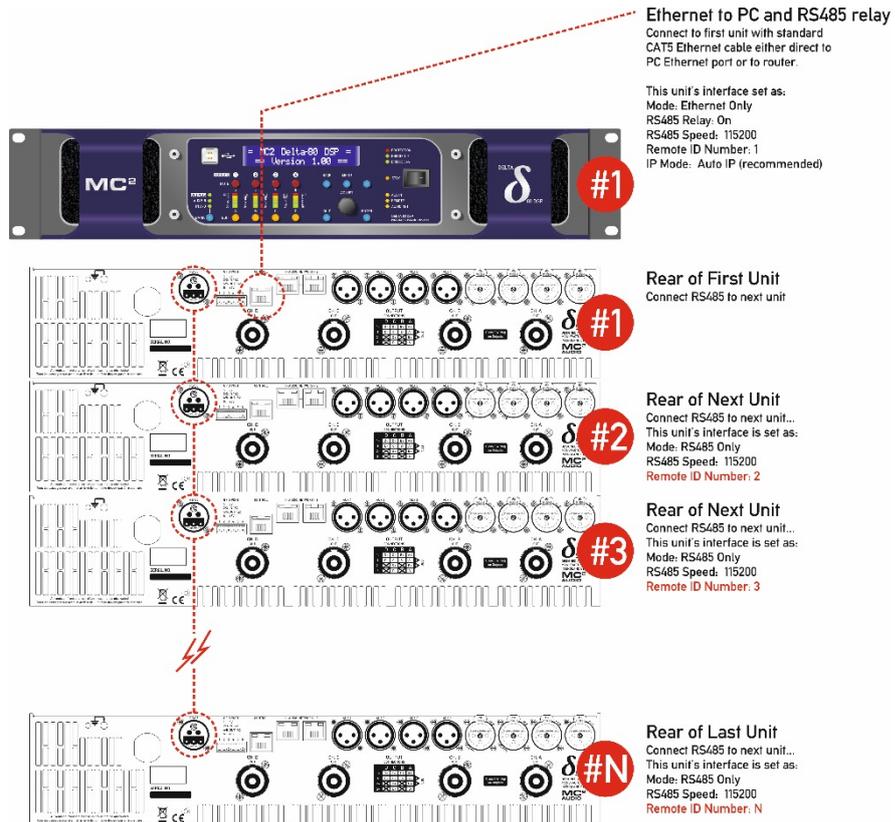
Choose RS485/USB from the Comms menu when using a direct USB connection or a USB-RS485 adapter.

Do not leave a USB connection plugged into an amplifier at the same time as an Ethernet connection - this will cause comms conflicts and unpredictable results.

RS485 relay mode can be used in both USB and Ethernet systems – with USB systems it is seamless and all amplifiers will be discovered via the single RS485 chain from the rear of the “Master” unit.

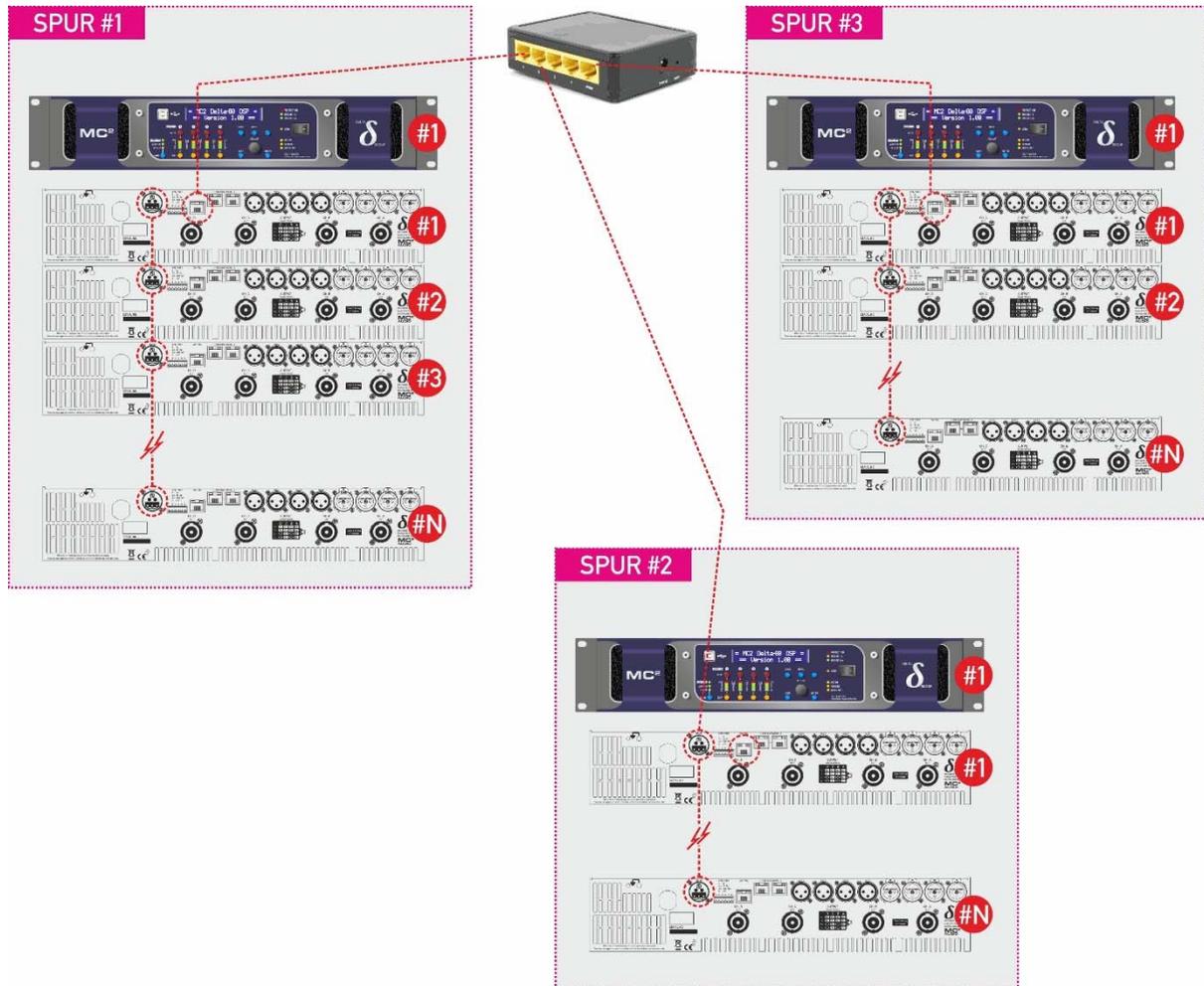
In the case of Ethernet systems, one unit can assume the role of a “Master” as with a USB connection, with subsequent “downstream” units being connected via the RS485 bus:

This would be a useful connection scenario when the number of Ethernet switch ports is limited, or a single wireless router is being directly used with only a few ports available.



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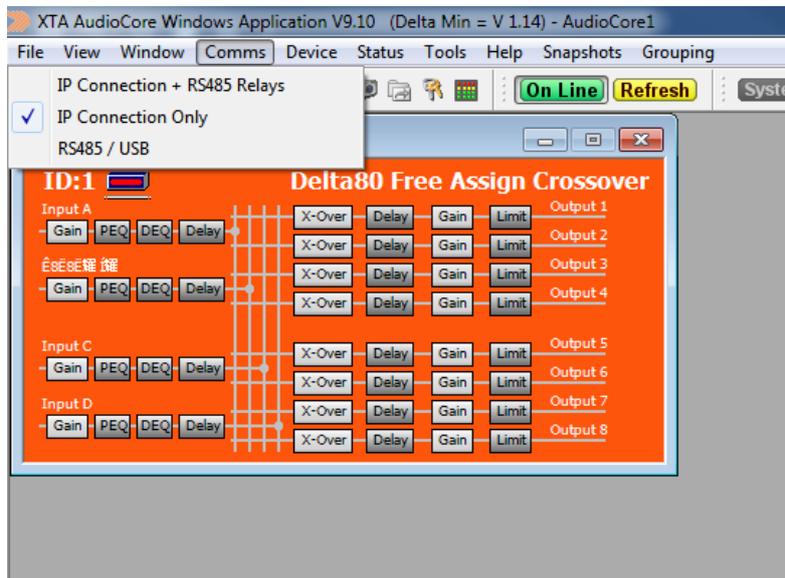
It is also possible to have multiple "spurs" of Ethernet connected "Masters" with daisy-chained units on RS485 from each "Master" amplifier. This is only possible with Delta and DPA amplifiers – remember APA amplifiers must be individually connected to a switch/router via the Ethernet "Control" port (USB and RS485 remote control is not an option on APA amplifiers).



Note that the total number of IDs on the system must not exceed 32 amplifiers, and that ID numbers cannot be repeated, even on the individual spurs as in the example system above.

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When using any mode of RS485 relay, AudioCore again needs to be configured accordingly:



Choose "IP Connection + RS485 Relays" from the Comms menu to ensure all "Spurs" are checked for downstream amplifiers.

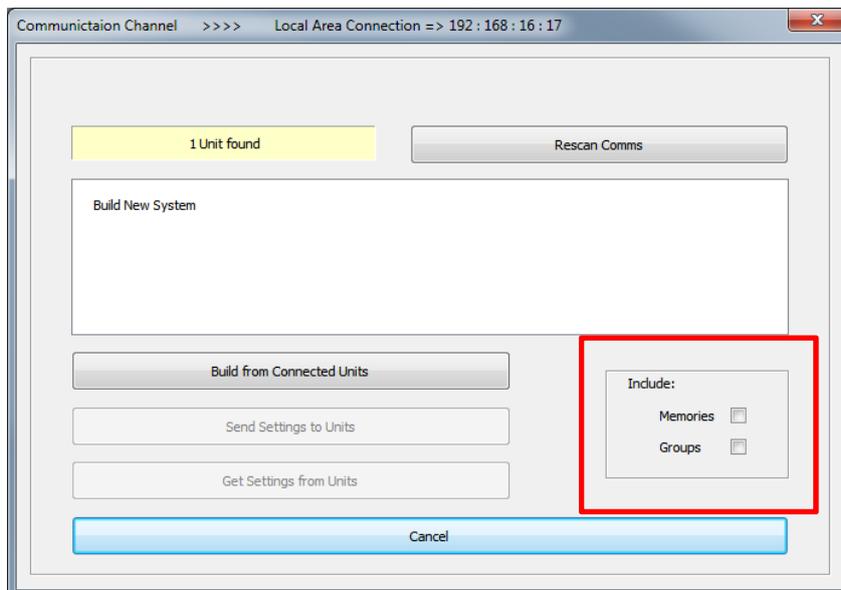
If using only directly connected Ethernet amplifiers, choose "IP Connection Only" to increase the speed of device discovery at start-up.

Starting from a blank workspace...

The software opens with a blank workspace and no units are present:



Pressing the Online button will display the Comms Control window, which shows the current connection type in the title bar and a variety of status and options:



As there are no pre-existing units in the workspace, the only option is to “Build System from Connected Units” – the yellow pane shows that one has been discovered, and the status window shows that the Build New System is available.

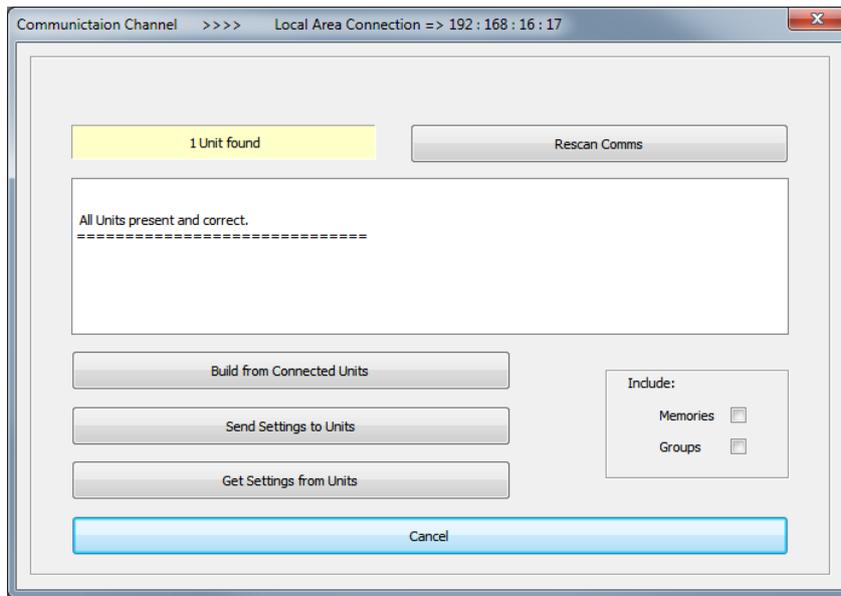
Note the two tick boxes to include unit memories and group data in the upload which will start when the “Build System From Connected Units” button is pressed.

If you only need the current unit settings (what you are listening to) then leave the “Memories” tick box unchecked. If you have not used grouping before or are unsure, leave “Groups” unchecked. After pressing the “Build...” button, the unit will appear in the workspace. Control of the unit from this point is very similar to the control of a 4 Series processor, with some changes according to the amplifier model and type. These differences are detailed later in this guide, but we will continue with

the other options on the Comms Control window.

From a pre-existing workspace...

You may have designed a system off-line, or have reloaded an existing system that has been modified off-line, and wish to connect to this system and send the changes to the amplifier(s). The same workflow applies – press the On Line button to connect:



The difference now is that AudioCore compares the amplifier line-up (so models and types against ID numbers) and reports back the difference between the off-line workspace and the system that has just been discovered on-line.

In this example, the two match, so “All units present and correct” is shown.

There are now more options available as there is data to send from the off-line workspace if required, as well as the option to overwrite the off-line data with the settings in the discovered system.

“Build System from Connected Units” will clear the off-line system, and build a new one (including any other previously unincluded amplifiers). This will add all connected amplifiers to the workspace and sync setting from them.

“Send Settings to Units” will send the offline workspace settings to the connected amplifiers. This can be used even if other amps are discovered and only those that exist in the off-line workspace will receive data.

“Get Settings from Units” will receive the settings from the connected amplifiers to update the workspace settings, but only for the amps that currently exist in the workspace. If additional amplifiers are on the network they will not be added to the workspace.

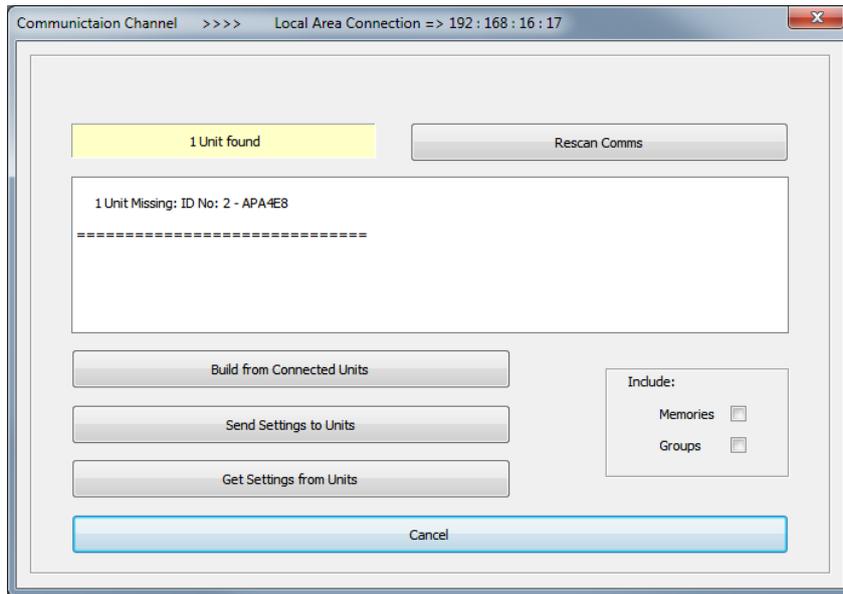
In the circumstance where the off-line system workspace doesn't match the discovered on-line system, the Comms Control window will detail the mismatch:

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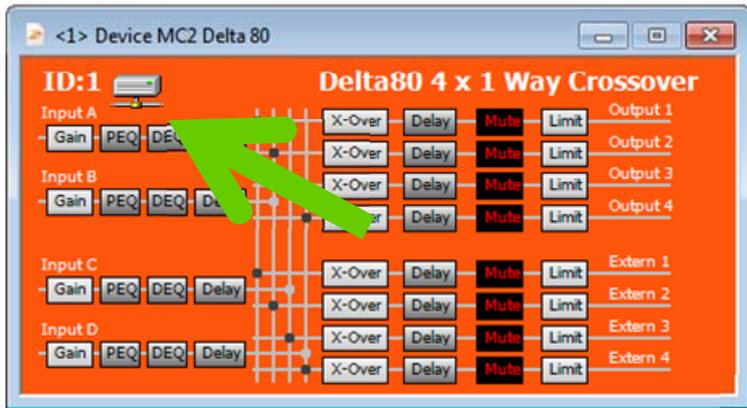
In this case, the off-line system contained an APA on ID2 that wasn't found when trying to sync the system.

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New Device Properties

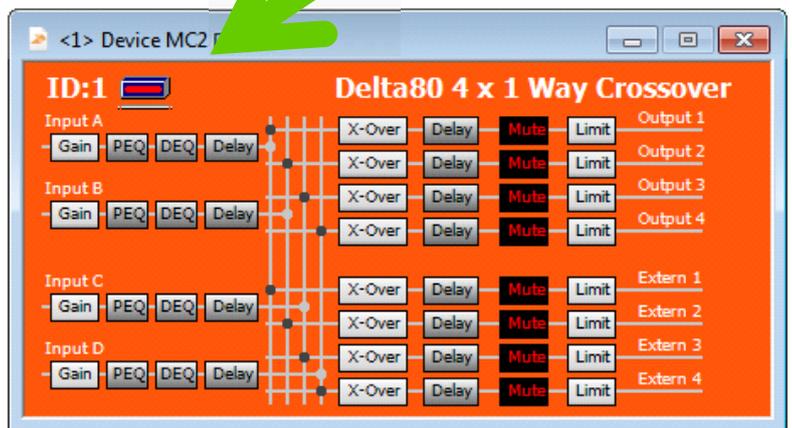
DPA and Delta amplifiers are identical in their DSP feature set and so can be considered as operating in the same way. APA amplifiers have a slightly different DSP topology and so will be dealt with separately.

Delta and DPA Amplifiers



The signal processing layout is presented as four inputs on the left and two sets of four outputs to the right, the power amplifier outputs and the auxiliary (Extern) outputs.

Note the new addition of the online status icon beside the ID number top left. This will show a red bar if the amplifier loses connection with the network:



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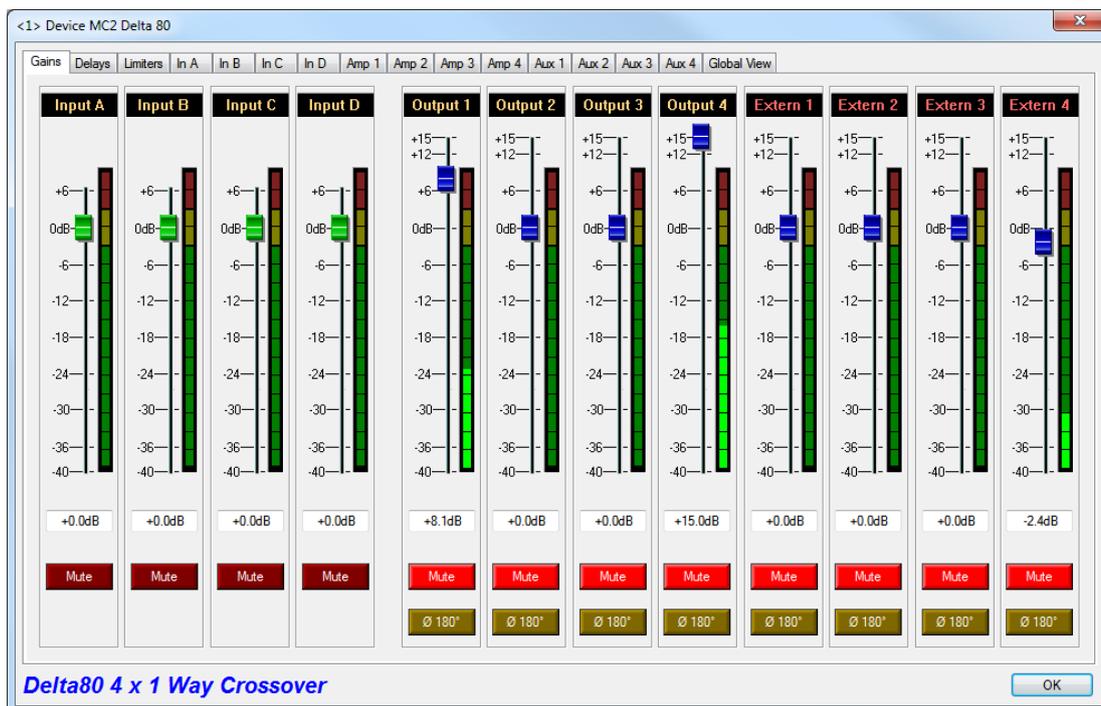
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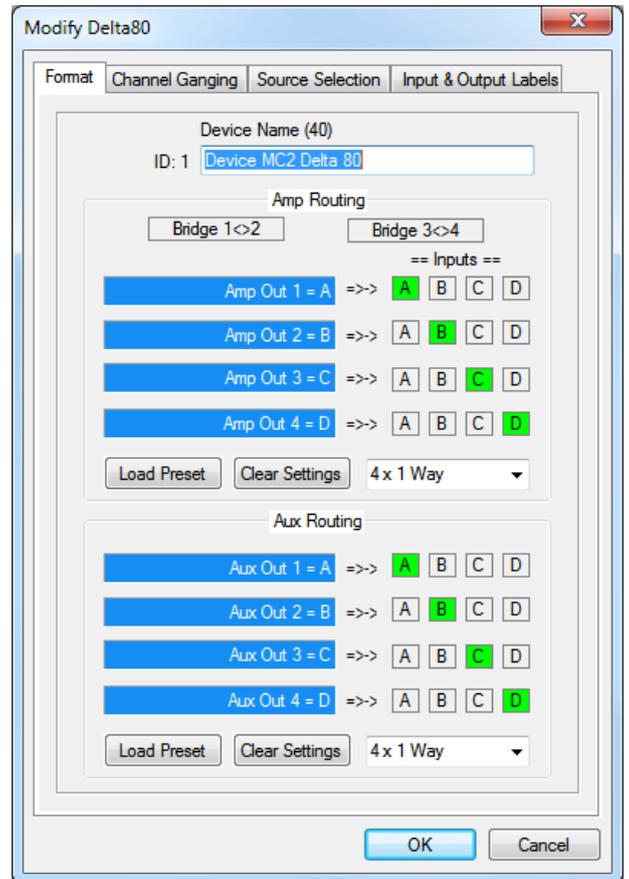
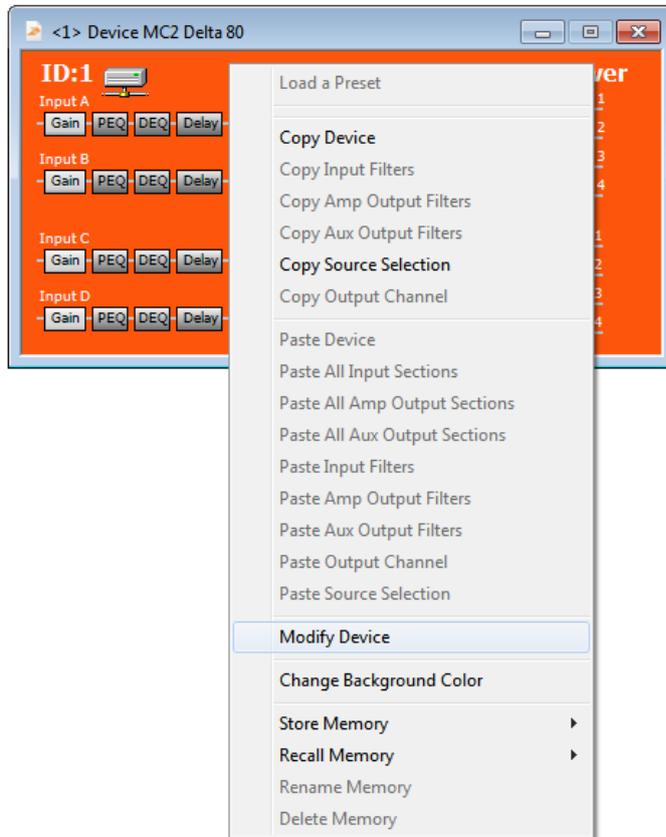
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Opening up a device for editing by clicking on the required processing block will show the familiar AudioCore editing tabbed window.

Modification of the DPA or Delta's amplifier specific features is accessed through a right click on the device window and choosing Modify Device, or from the top menu bar – Device > Modify



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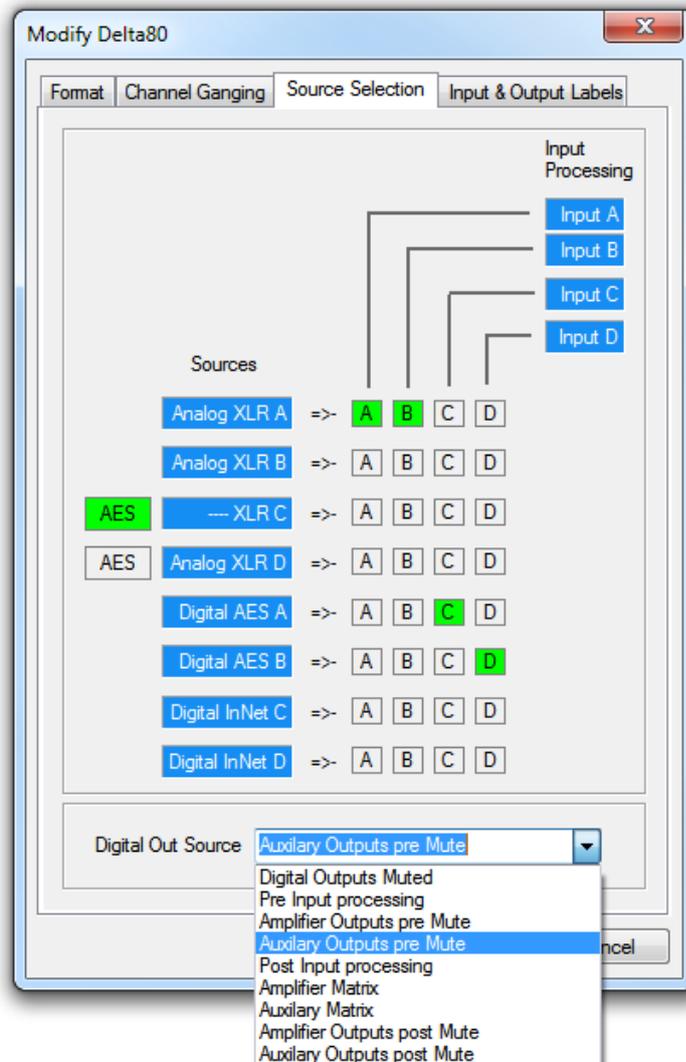


The amplifier routing from the input processing to output processing is defined on the first tab, along with setting the power amp outputs' bridge modes pairs switches. Note the outputs are still "split" into power amp outputs and aux outputs and are treated like this for the purposes of copy and paste procedures and memory handling – in a bank of four.

Channel ganging (again across a bank of four, not the whole amplifier) is on the second tab, and the fourth tab is where input and output labels can be defined.

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The third tab is specific to Delta and DPA amplifiers and relates to the selection of signal sources to drive the input processing:



Each processing input channel can select from any analogue source, but be aware that there are several illegal combinations due to hardware configurations.

- 1) If AES is selected, the corresponding pair of analogue input becomes unavailable (as it shares the hardware socket) - for example AES is selected on input XLR C, so analogue inputs C is now unavailable.
- 2) Only four digital sources are available as choices in total – selecting an AES source will replace a pair of digital network sources - for example Network A&B are no longer available if AES A&B is selected.
- 3) Only one source can be selected for each input – this is not a mixing matrix, it is a switching matrix.

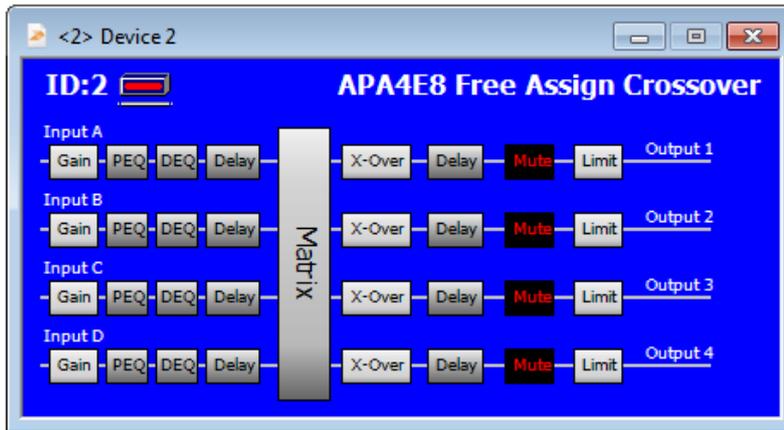
The digital (network) output source pick-off point is also selected from the drop-down list on this tab – remember this is a bank of four channels, so choices are for ALL Auxes or ALL Power Amp outputs.

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APA Amplifiers

APA operates a little differently to the Delta and DPA amplifiers, in as much as there are no aux outputs, and independent network outputs can be freely mixed output by output via their own matrix.

The initial device window looks similar (with only 4 channels of output processing):



Right clicking on the device window or choosing Device > Modify from the menus will display the properties for the amplifier, and the first tab shown is the format tab.

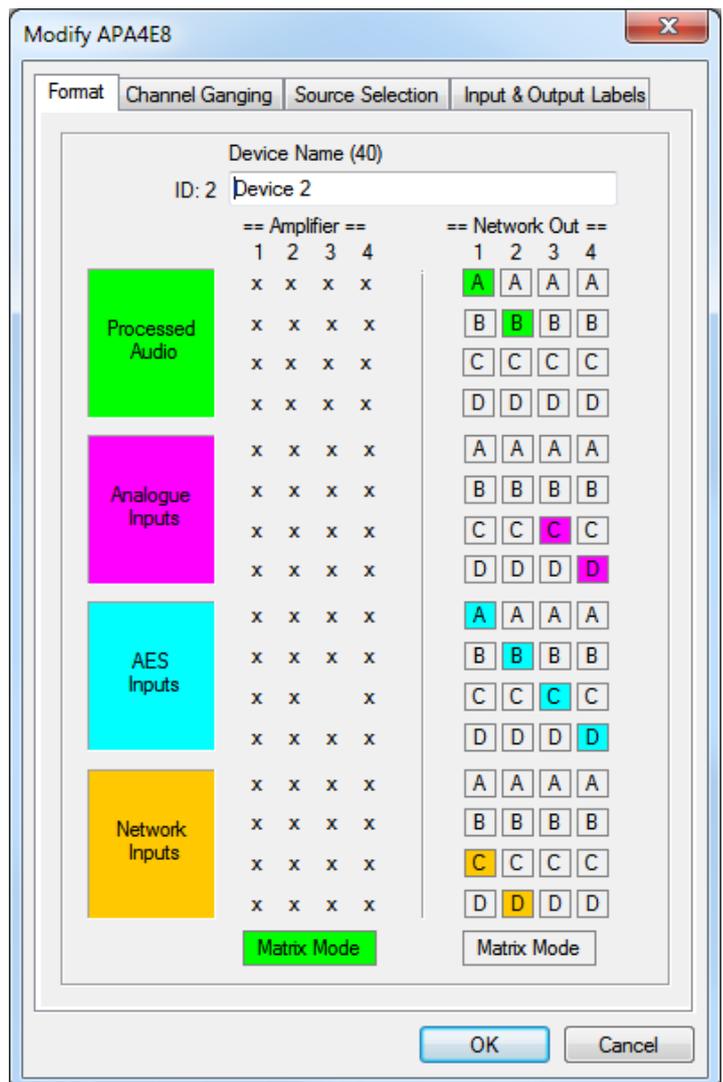
The amplifier and network outputs have completely independent choices for format – this tab is an overview of the matrix tab shown as part of the normal editing window.

If the matrix mode is set to OFF (as with the network output side in this example) sends to the output can be added by clicking on the channel crosspoint in the matrix.

Any combination of sends can feed any output, so for example, network output 1 can be fed from a combination of processed audio input (wherever it's sourced from) and AES input A.

Up to four sends can be switched in like this. Remember the same restrictions apply when using AES due to physical sockets on the amplifier – so using AES A or B means analogue inputs A&B are no longer available, and similarly with AES C or D will disable analogue C and D.

The matrix will not restrict these selections in software so remember how the hardware is configured!

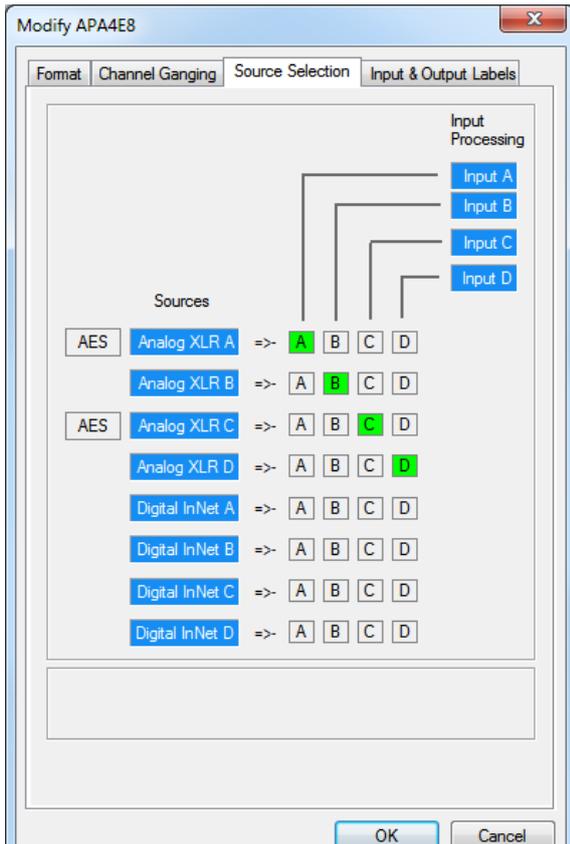


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Enabling Matrix Mode allows fully variable mixing of all possible sends – this is accessed via the matrix tab of the main amplifier editing window.

Source selection is the same as for Delta and DPA amplifiers, except that the AES selections affect different physical sockets:

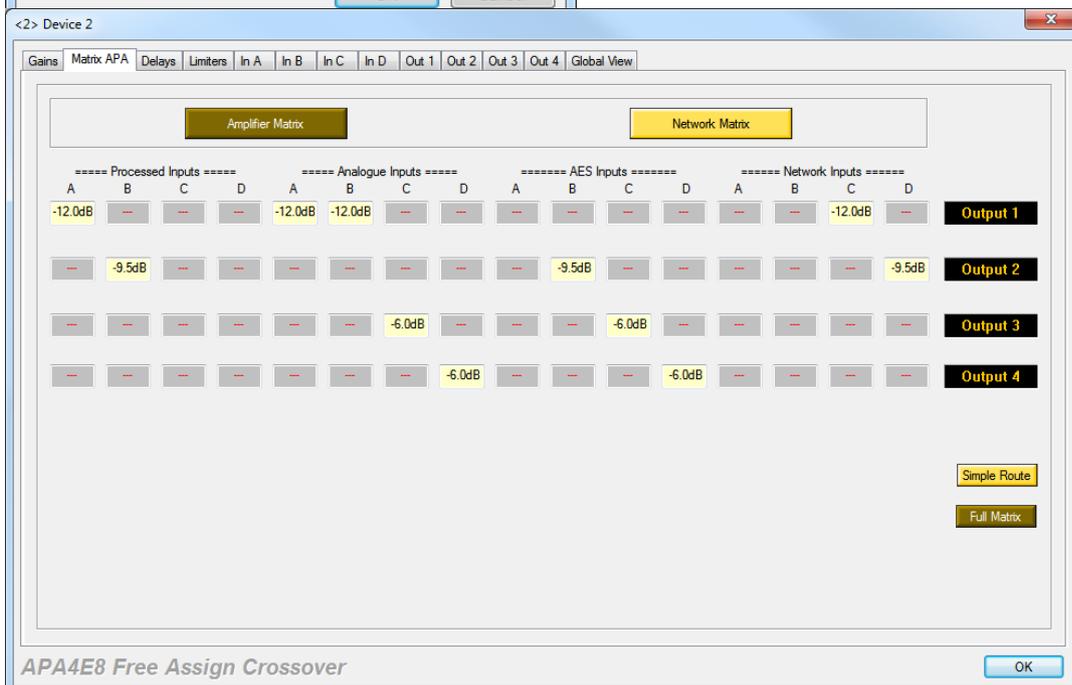
APA Source Selection



This follows similar rules as for DPA and Delta:

- 1) If AES is selected, the corresponding pair of analogue inputs become unavailable - for example AES is selected on input XLR C, so analogue inputs C&D are now unavailable.
- 2) Only one source can be selected for each input – this is not a mixing matrix, it is a switching matrix.

The restriction of only four digital sources being available at any one time is lifted and all possible sources can be selected (that is 4 x AES and 4 x Network Audio).



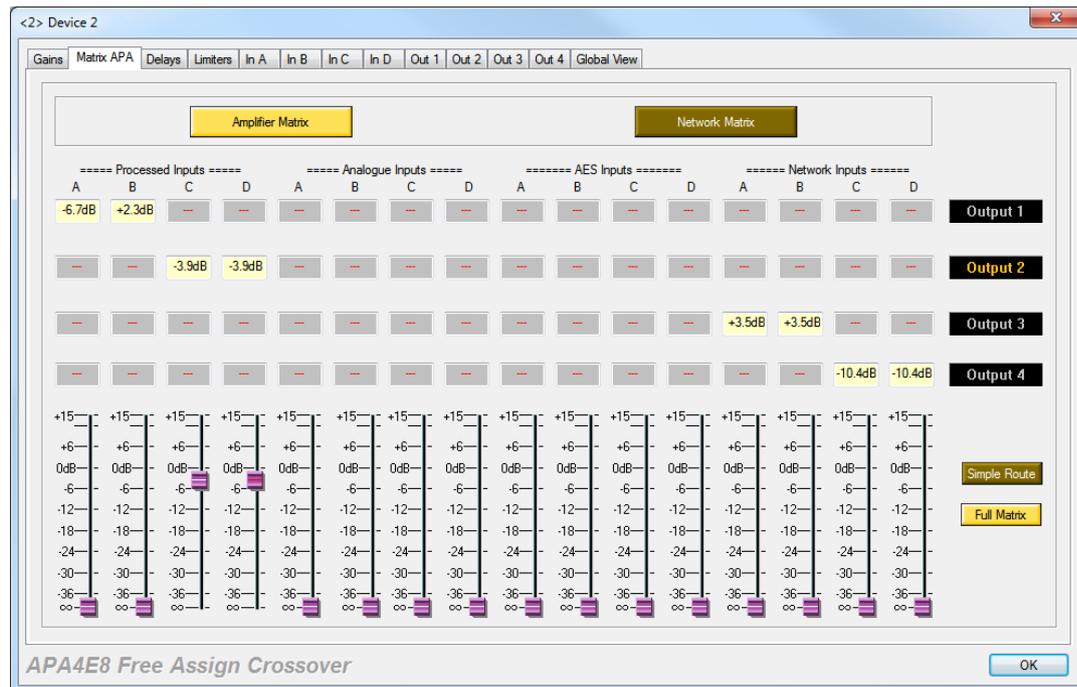
The device edit tabbed window has one additional control tab to configure the amplifier and network matrices in more detail than is permitted on the device properties window above:

Amplifier and network matrices are identical in operation and offer

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simple mode where a double click on any “crosspoint” will enable it, and up to four sends can be added in this way, with automatic scaling of the send levels to maintain a 0dB summed signal path.

This is sufficient, in many cases, as a working method, but if required, the matrix can become a fully variable mix matrix with all source available at the same time.



The output labels on the right-hand side of this window now become selection buttons to choose what the fader bank at the bottom of the window displays.

Pulling a fader to minimum mutes the send from that source.

EQ and Other Differences

Note the following operation differences between APA, and Delta or DPA amplifiers:

- APA amplifiers have 18 bands of input EQ per channel, as opposed to the 8 bands on a Delta or DPA model
- APA amplifiers do not feature input mutes
- DEQ is currently not implemented on APA, Delta or DPA amplifiers but is under development for a future firmware release
- Delay is not pooled as on 4 Series – there is 650mS available on both inputs and outputs on all amplifiers
- Limiter thresholds are referenced to the maximum output of the amplifier model, and so will vary between devices. The aux outputs on Delta and DPA amplifiers are referenced to the line level output available as on 4 Series systems
- Auto limiter time constants are selectable separately for power amp outputs and aux outputs on Delta and DPA amplifiers

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