

**Delta Series, DPA Series**

Setting Up for Remote Control



### Introduction

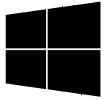
AudioCore is XTA's mature remote control software application, that runs under Windows operating system and offers advanced control and monitoring facilities for an array of XTA signal processing devices.

The Amped Edition is an extension of this application and is designed to monitor and control the Delta Series DSP amplifiers from MC<sup>2</sup> 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.

#### Hardware Set-up – Delta and DPA Amplifiers

Your amplifier is equipped with multiple options for remote control. It can operate as a single device via a USB connection to the front panel, and this can also be used as a converter to an RS485 network, where other Delta/DPA amplifiers may be connected.

It may also be controlled via an Ethernet connection and again will relay data onto an RS485 network if required.

The Ethernet and USB connections can be used in an intelligent switchover mode, where the Ethernet connection is active, but will be overridden by a USB connection, allowing quick connection to a system via the front panel without needing to reconfigure the current remote interface setup.

The RS485 network can be used on its own as third means of communication, if the amplifier is part of a bigger system and an Ethernet connection is not available.

Using an Ethernet connection, multiple amplifiers can be connected directly to a standard Ethernet switch, or WiFi router, allowing for wireless communication. Connection to a WiFi router is required to control amplifier(s) with the DeltaDirect app.

#### *Remote Control Software Choices*

Your amplifier is designed to be fully configured via AudioCore, our fast, intuitive software platform that works alongside the DeltaDirect app for Apple iPad devices.

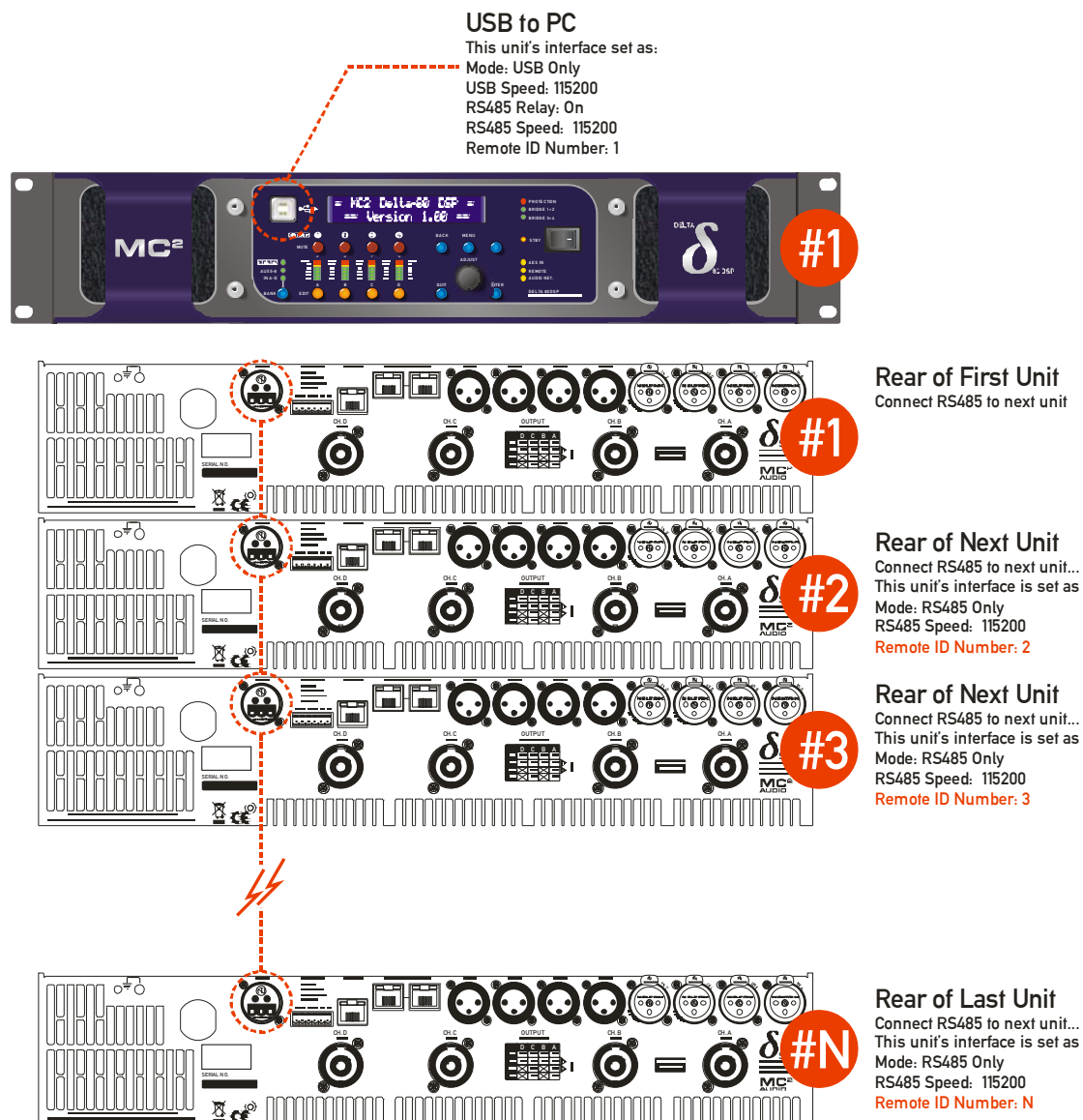
Main configuration is performed via AudioCore, either with a wired connection via Ethernet, USB or RS485. Connection to amplifiers is also possible wirelessly using the Ethernet connection if this is via a wireless router.

Tuning of a system can then be performed wirelessly (via a WiFi connection) using just the iPad, which allows full adjustment of all aspects of a network of amplifiers.

### Choosing the Best Remote Control Method for your Application

#### Direct USB

The simplest method to connect to computer is with a simple USB cable via the front panel of a Delta/DPA amplifier. APA amplifiers can only be connected via an Ethernet connection. If you are working exclusively with Delta/DPA amplifiers then as long as the first device can be near the computer, this will allow all other amplifiers to be daisy-chained from the RS485 bus:

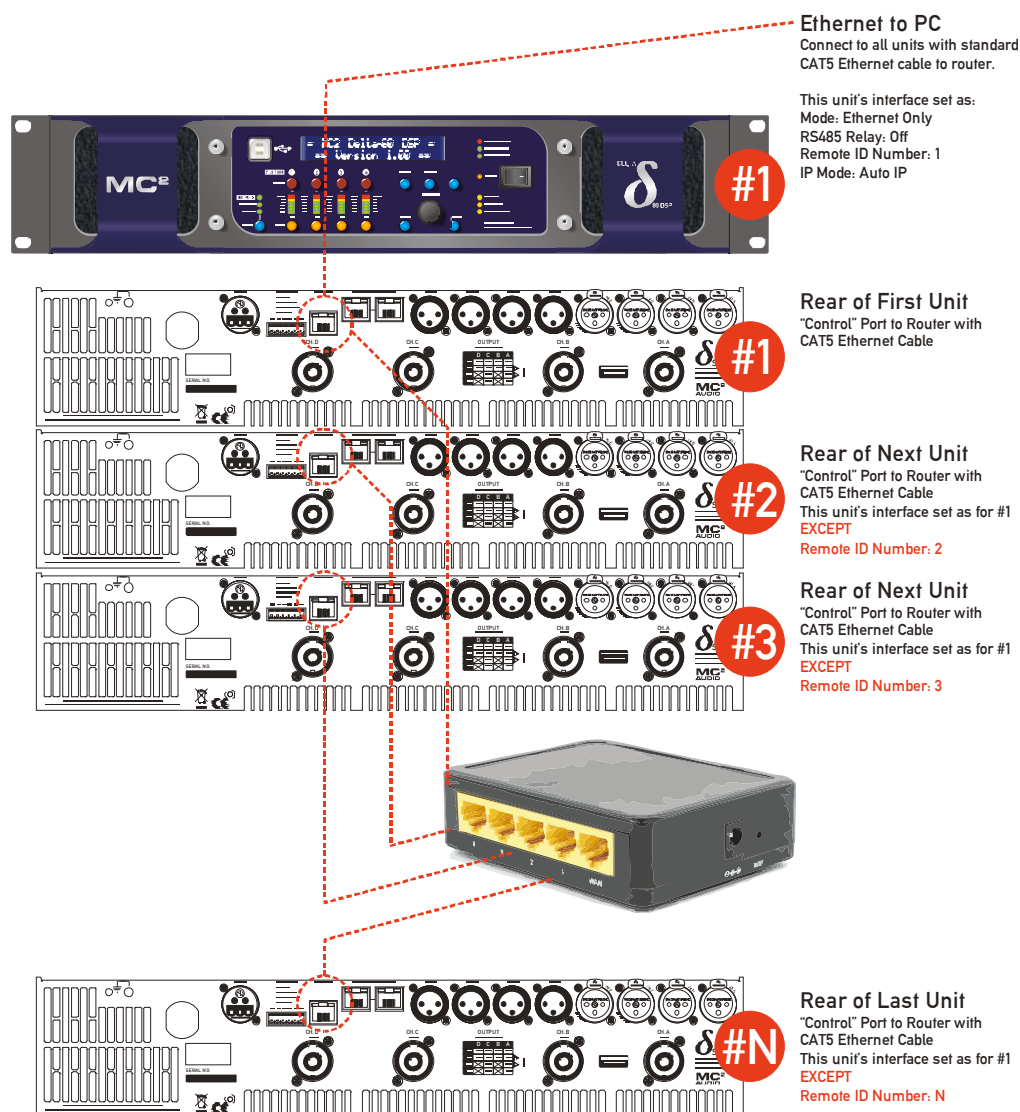


The only disadvantage is that this connection method cannot work with DeltaDirect – our iPad app, as there is no way to establish a wireless control connection. Remember that the total length of an RS485 bus is 1000m from the first device to the last – not 1000m per interconnect!

### Ethernet Only

Connecting using a standard Ethernet cable either direct to a PC, or via a LAN is the method most widely used as it is still low cost and uses standard cables and existing infrastructure. Connection using a switch will be required for multiple amplifiers unless RS485 relay mode is used, which will be covered in a subsequent section.

If your system includes APA amplifiers, the Ethernet connection is the only method that can be used.



Remember that the recommended max distance for a point to point Ethernet connection is 100m – beyond this a switch must be used to extend the distance. Make sure that there is only one DHCP server on a network if multiple switches or routers are being used (especially if a Wifi router is connected as well).

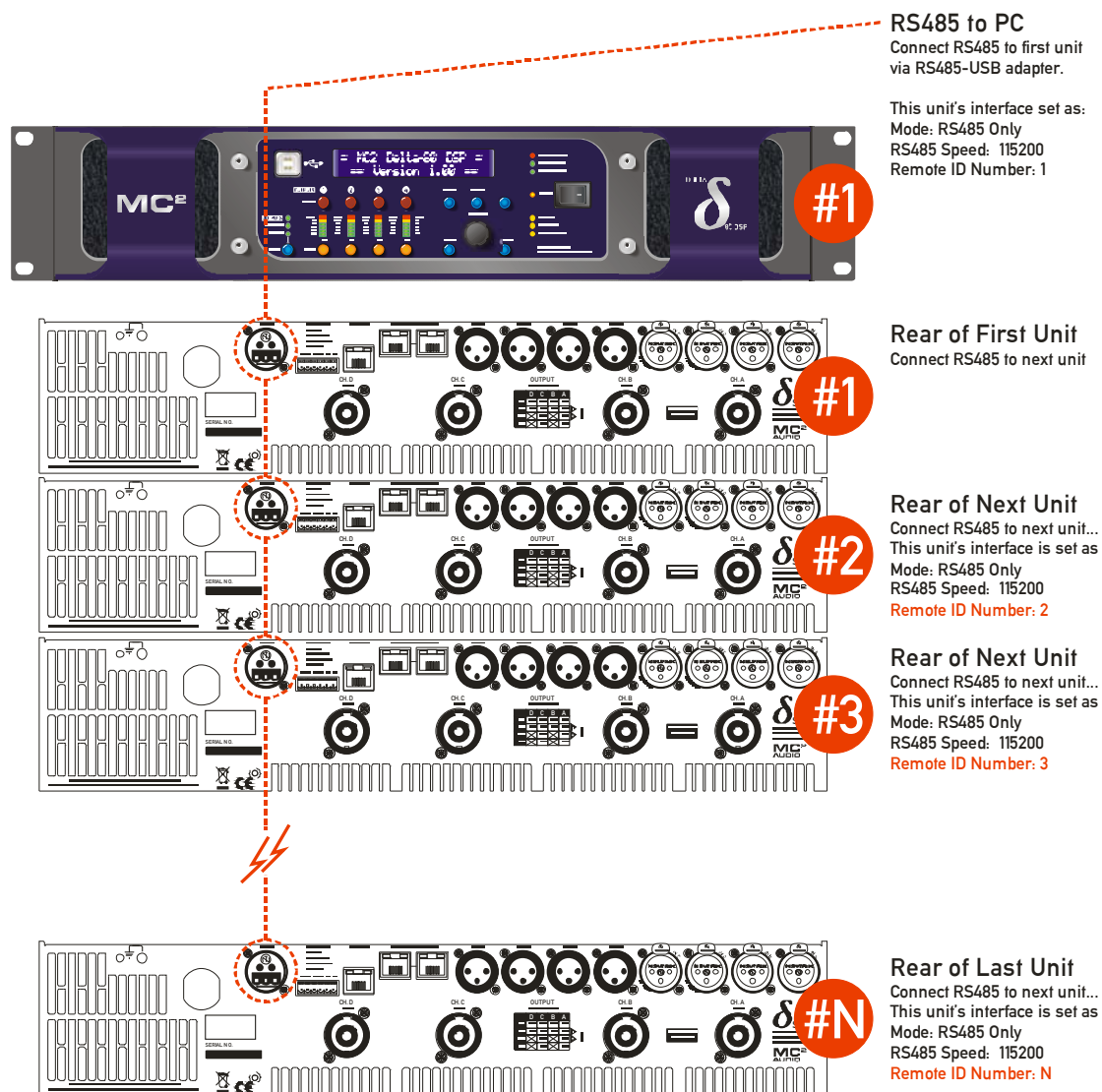
This method, if using a Wifi router, will also allow use of DeltaDirect – our iPad app, but be aware it cannot be online at the same time as AudioCore! AudioCore can also connect wirelessly and this is a seamless change from the wired connection as long as the Wifi network is setup on the PC.

### RS485 Only

RS485 mode is useful in situations where there may be long distances required between connected units, and it is not possible or practical to use the Ethernet method of connection. RS485 can cover up to 1000m (greater distances if the baud rate is reduced), but remember this distance figure is the total for the bus, not the distance between devices.

It will require a USB to RS485 converter (this is an intelligent adapter, not just a cable adapter) – please ask us about this or read the interface guide on XTA's website here:

[http://www.audiocore.co.uk/wp-content/uploads/2015/06/remote\\_interface-\\_guide\\_15.pdf](http://www.audiocore.co.uk/wp-content/uploads/2015/06/remote_interface-_guide_15.pdf)



Remember that APA amplifiers cannot connect via RS485 (despite having the RS485 socket on the rear panel – this is for test diagnostic purposes only)

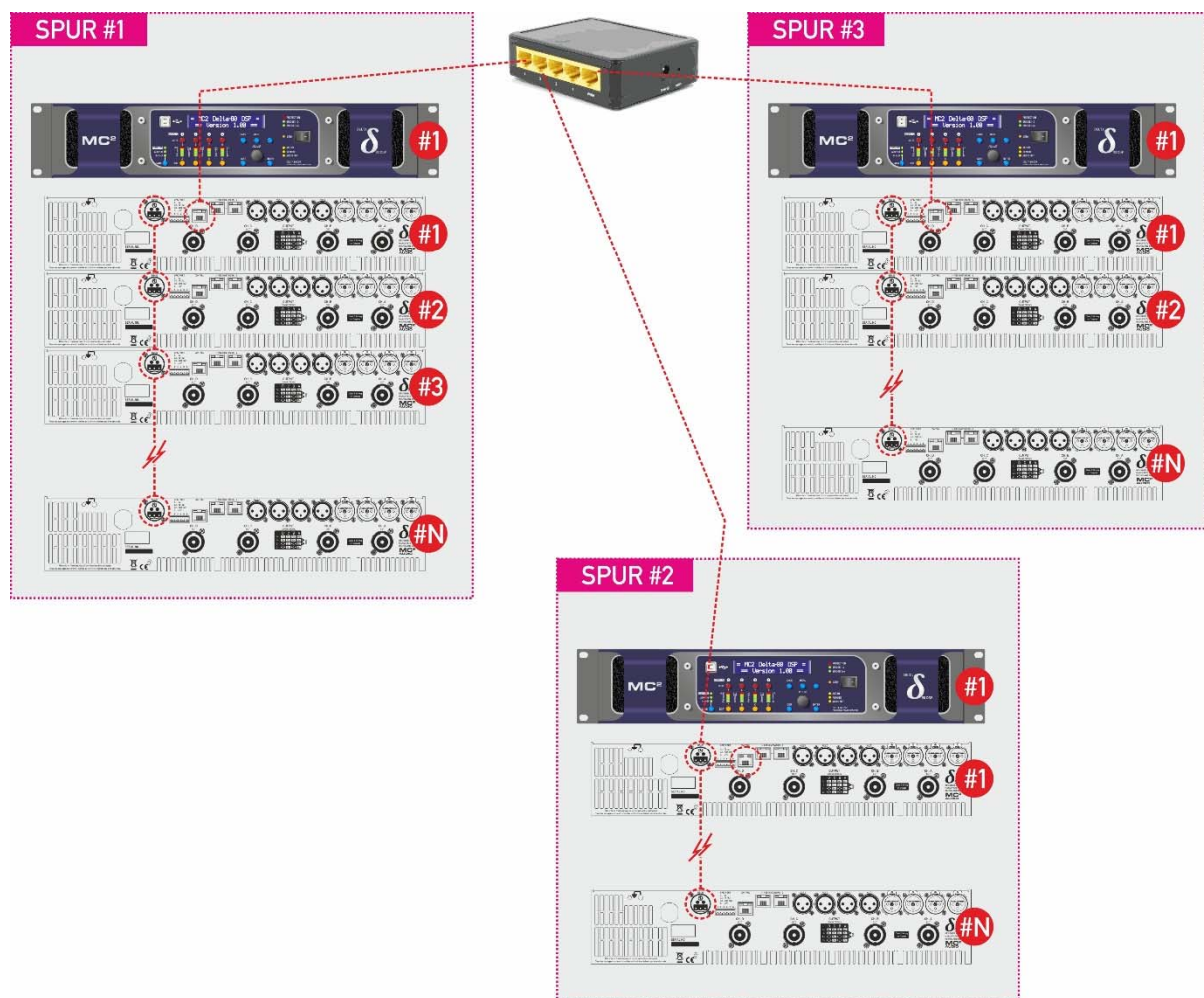
#### *What About RS485 Relay Mode?*

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:

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 cannot be used with APA amplifiers).

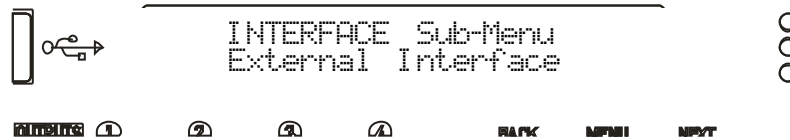
This would be a useful connection scenario when the number of Ethernet switch ports is limited, or a single wireless router is being directly used with only a few ports available.



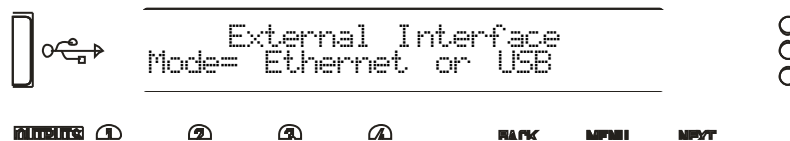
Note that the total number of IDs on the system must not exceed 32 amplifiers, and that ID numbers cannot be repeated, even on the individual spurs as in the example system above.

### *Configuration of the Remote Interface (Delta and DPA)*

To configure the remote interface, from the home screen, press MENU, choose the INTERFACE Sub-Menu and press ENTER.



Use the encoder or BACK and NEXT keys to select External Interface and press ENTER.



Use the encoder or BACK and NEXT keys to choose the required interface and press ENTER. This will invoke a series of further options depending on the interface chosen – these are explained below:

**Mode = OFF:** Interface is disabled and no external comms are active. This is useful if you need to fully secure your amplifier as well as locking the front panel (for more information on security and locking see the operator's manual.)



**Mode = Ethernet Only:** The Ethernet control port on the rear panel is active. Selecting this choice will then ask for the following further information to be confirmed:

**RS485 Relay:** Choose ON to relay all remote control data onto the RS485 network for connection to further devices (other Delta DSP amplifiers)

**RS485 Speed:** Only shown if RS485 Relay = ON: set RS485 baud rate (recommended to use 115200)

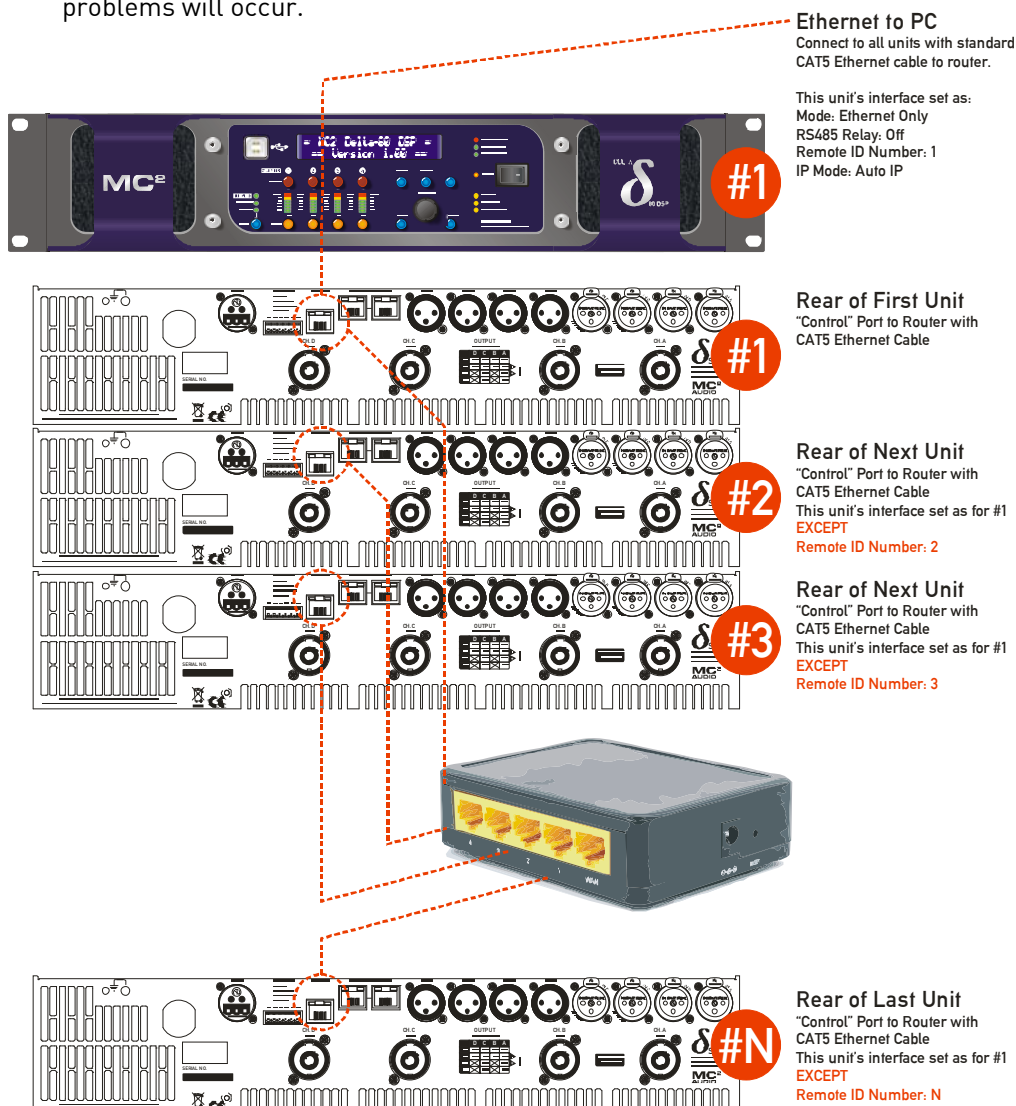
**Remote ID Number:** Set a device ID (still required even on Ethernet connections). This must be unique to the connected unit – setting the same ID on multiple units may cause comms problems for all devices.

**IP Mode:** Choose either Static or Auto IP. Auto IP will generate an IP address based on unique hardware features such as MAC address. Choose Static if you need to select the IP address to lie within a specific range, for instance when working within a larger infrastructure.

**Gateway:** The gateway address is used for external access to the Internet and should be left at the default setting.

**Subnet:** The subnet mask is used to subdivide IP addresses into groups that allow further sub-groups addressing to be defined, so further extending the address range. Leave at default 255.255.255.0 unless specifically required.

**IP:** The IP address specifies the amplifier's unique identifier on the Ethernet network. It is used in conjunction with the amplifier's Remote ID number to identify individual devices on the network. Make sure this is not set to the same value as any other devices or comms problems will occur.



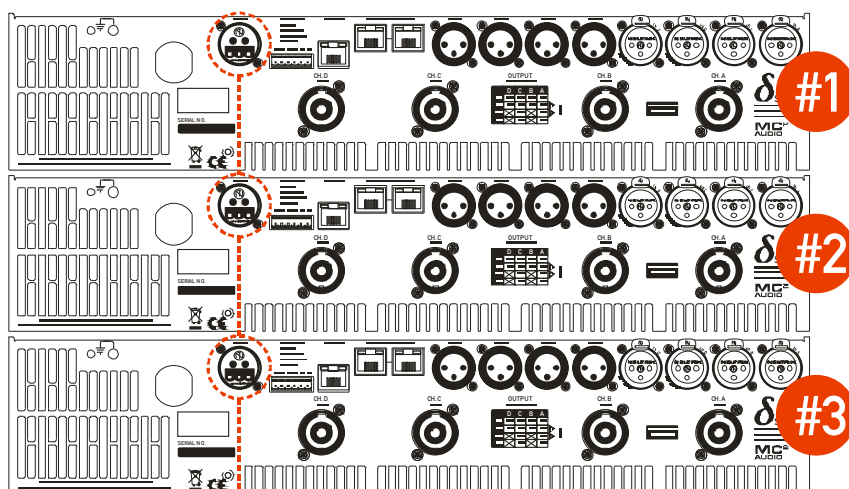
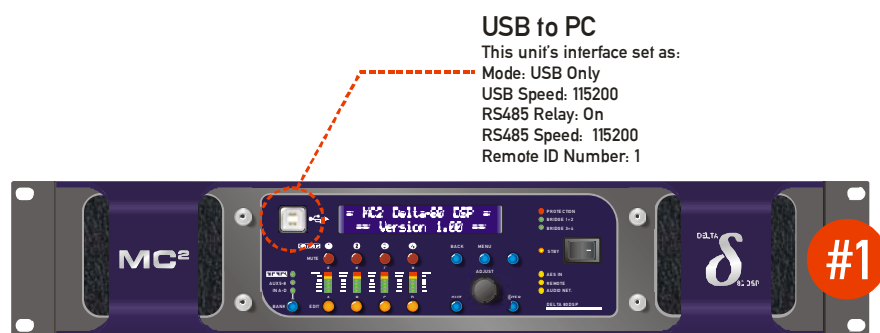
**Mode = USB Only:** The USB socket on the front panel is active. Selecting this choice will then ask for the following further information to be confirmed:

**USB Speed:** As the USB connection appears as a virtual COM port in remote software, it still has an associated serial speed. Leave at the default of 115200. This is not the actual USB serial data rate – it's the virtual COM port data rate!

**RS485 Relay:** Choose ON to relay all remote control data onto the RS485 network for connection to further devices (other Delta DSP amplifiers)

**RS485 Speed:** Only shown if RS485 Relay = ON: set RS485 baud rate (recommended to use 115200)

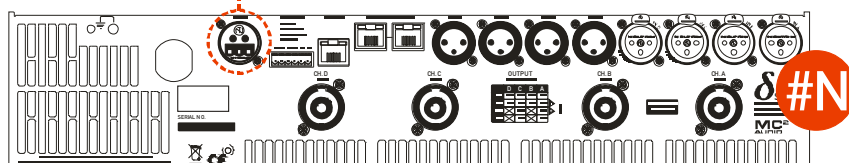
**Remote ID Number:** Set a device ID (still required even on Ethernet connections). This must be unique to the connected unit – setting the same ID on multiple units may cause comms problems for all devices.



**Rear of First Unit**  
Connect RS485 to next unit

**Rear of Next Unit**  
Connect RS485 to next unit...  
This unit's interface is set as  
Mode: RS485 Only  
RS485 Speed: 115200  
Remote ID Number: 2

**Rear of Next Unit**  
Connect RS485 to next unit...  
This unit's interface is set as  
Mode: RS485 Only  
RS485 Speed: 115200  
Remote ID Number: 3



**Rear of Last Unit**  
Connect RS485 to next unit...  
This unit's interface is set as  
Mode: RS485 Only  
RS485 Speed: 115200  
Remote ID Number: N

Mode = Ethernet Or USB: The Ethernet control port on the rear panel is active, so long as the amplifier is not connected via USB, whereupon it automatically takes priority. Selecting this choice will then ask for the following further information to be confirmed:

RS485 Relay: Choose ON to relay all remote control data onto the RS485 network for connection to further devices (other Delta DSP amplifiers)

USB Speed: As the USB connection appears as a virtual comm port in remote software, it still has an associated serial speed. Leave at the default of 115200. This is not the actual USB serial data rate – it's the virtual COM port data rate!

RS485 Speed: Only shown if RS485 Relay = ON: set RS485 baud rate (recommended to use 115200)

Remote ID Number: Set a device ID (still required even on Ethernet connections). This must be unique to the connected unit – setting the same ID on multiple units may cause comms problems for all devices.

IP Mode: Choose either Static or Auto IP. Auto IP will generate an IP address based on unique hardware features such as MAC address. Choose Static if you need to select the IP address to lie within a specific range, for instance when working within a larger infrastructure.

Gateway: The gateway address is used for external access to the Internet and should be left at the default setting.

Subnet: The subnet mask is used to subdivide IP addresses into groups that allow further sub-groups addressing to be defined, so further extending the address range. Leave at default 255.255.255.0 unless specifically required.

IP: The IP address specifies the amplifier's unique identifier on the Ethernet network. It is used in conjunction with the amplifier's Remote ID number to identify individual devices on the network. Make sure this is not set to the same value as any other devices or comms problems will occur.

**Remember that this mode is purely an automatic priority switching version of an Ethernet or USB connection – it is not possible to interconnect amplifiers via the Ethernet cables either directly or via a router – use the RS485 bus for device interconnection.**

**All three connection methods will relay data either explicitly (RS485 using the hardware bus connection) or electronically (USB or Ethernet through the processor) if required.**

**Mode = RS485 Only:** The RS485 port on the rear panel is active. Selecting this choice will then ask for the following further information to be confirmed:

**RS485 Speed:** Set RS485 baud rate (recommended to use 115200 unless working with older DP224 and DP226 processors in which case use 38400)

**Remote ID Number:** Set a device ID (still required even on Ethernet connections).

This must be unique to the connected unit – setting the same ID on multiple units may cause comms problems for all devices.

