

Delta, DPA Series, 4/5 Series, DC/Ti1048

DPanel-8: Remote Programmable Wall Panel

Introduction

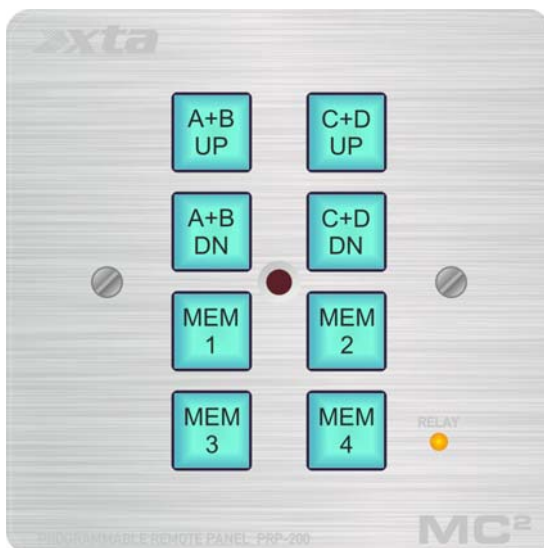
The DPanel-8 is a stand-alone remote panel, operating using the RS485 bus for comms and using either the GPIO port of an MC² Delta DSP amplifier or XTA DPA amplifier, or an external 5V source for a power supply.

The DPanel-8 is also fitted with an isolated SPDT relay to control external equipment such as projector screens or blind/drape motor systems.

It may be programmed "in situ" whilst plugged into Delta or DPA amplifier, or may be connected directly to a PC (via a suitable RS485 adapter) for programming. It uses the "simple remote protocol" embedded in the firmware of all Delta DSP or DPA amplifiers and all 4 or 5 Series XTA products, as well as the DC1048 and Ti1048 installation management systems. Multiple panels may be connected to a system, and the panels can coexist with AudioCore connected via Ethernet or USB.

Capabilities of the DPanel-8

The eight buttons on the panel can be programmed to operate in three "key modes":



- 1) Momentary (used for gain adjustments)
- 2) Toggle (used for mutes and standby)
- 3) Interlock (used for memory recall)

The "simple remote protocol" allows control of the following functions of an amplifier or processor:

- 1) Gain set (absolute setting of any input or output channel's gain value)
- 2) Gain inc/dec (adjust gain in programmable steps relative to current setting, with max/min range capping)
- 3) Mute (any input or output or combination)
- 4) System mute (all outputs muted when enabled, restored to original settings when disabled)
- 5) Standby (amplifiers only)
- 6) Memory recall (currently this is only for "Everything" type memories on all amplifiers or processors to ensure compatibility)
- 7) Relay on/off (isolated relay control on DPanel)

Multiple commands to different devices can be programmed as a macro assigned to a single button.

The DPanel-8 also has an IR sensor and is compatible with many generic IR remote controls, and additional features may be programmed using the IR Remote to extend the capabilities of the panel, or it may be used to replicate the buttons' functions, on a button-by-button basis. The panel may also be locked to prevent unwanted tampering (including/excluding IR access).

The buttons feature removable caps and are backlit with programmable colour options (cyan/red/magenta) so may be labelled according to their function. The panel also features additional background illumination for use in low light environments. The brightness of the backlighting and buttons is also user programmable and the backlighting may be disabled if required.

The panel is designed to fit into a UK single pattress box and may be either surface mounted or embedded into a wall. The front face is silver brushed 3mm aluminium to blend into any décor.

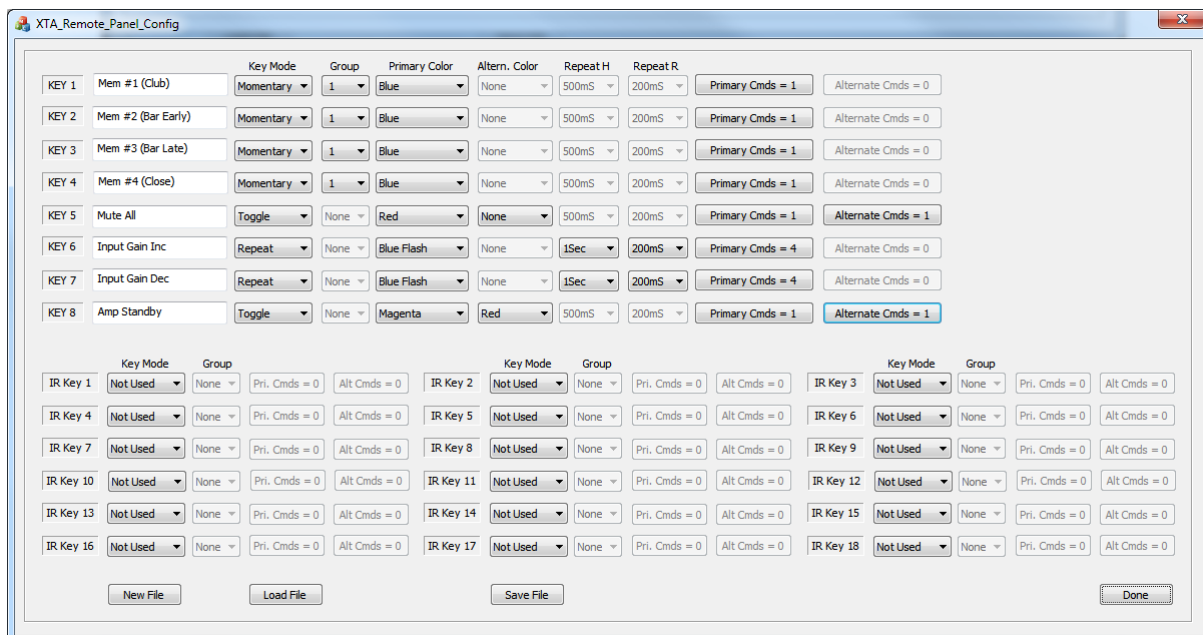
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Configuring the DPanel-8

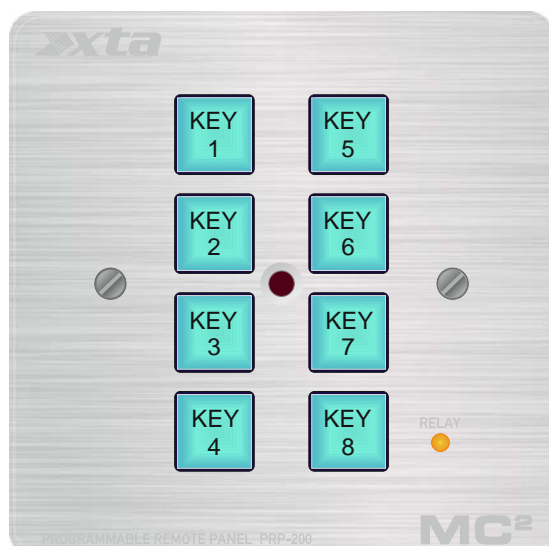
Panel configuration templates are designed off-line to the panel, saved and then loaded using the standard XTA firmware loaded with the panel connected to the RS485 bus on a DPA or MC² Delta DSP amplifier. Download the software from the XTA website at

<https://www.audiocore.co.uk/support/tech-notes/#remotes>

The configuration app presents a single window as shown below:



The Key Mapping is as below:



To set up the function of a key, select its mode first –

“Momentary” is for use with memory recalls (or a single action such as switching standby ON, with the OFF being on a separate button). When using buttons for memory recalls it is preferable to group buttons together so pressing one in a group selects it, and cancels the last one pressed in the group. Choose the same group number to combine buttons in this way.

“Toggle” is for actions that have two states such as a mute on/off action or a standby on/off action.

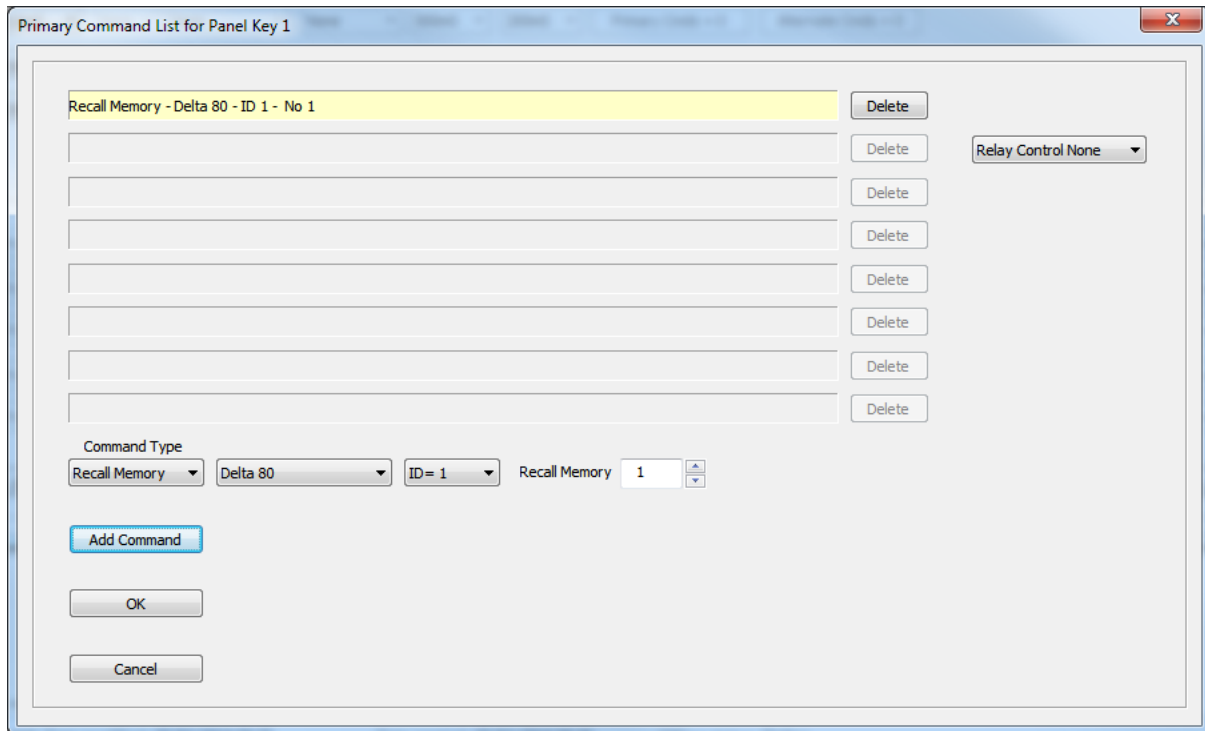
“Repeat” is for sending increment or decrement gain commands which continue whilst the button is held in.

The time before the repeats start can be set – “Repeat H” (hold time) and the speed of the repeats can be set – “Repeat R” (repeat rate)

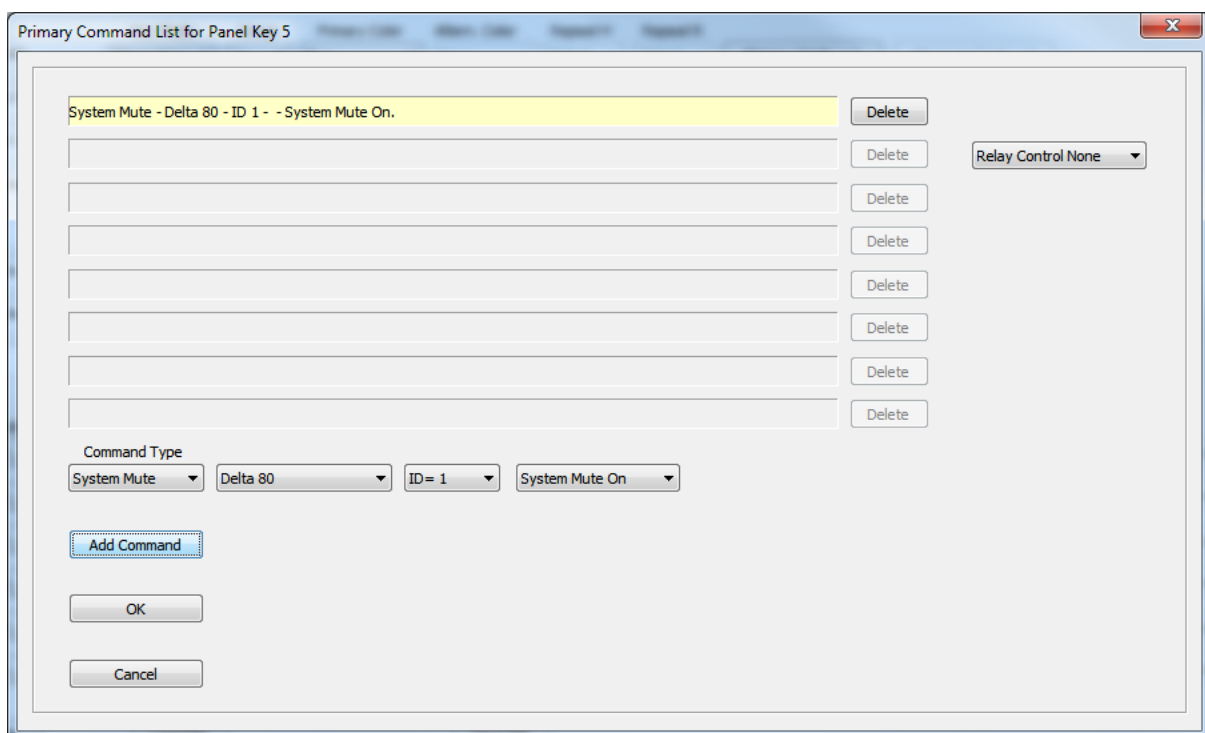
Once the function for a key has been chosen, the commands to be transmitted must be chosen so the button actually controls some external equipment. Depending on the key function, it may have primary and alternate actions – toggle functions have a primary and alternate command set that will swap each time it is pressed. Press the “Primary Cnds” button associated with the key to start configuring the commands.

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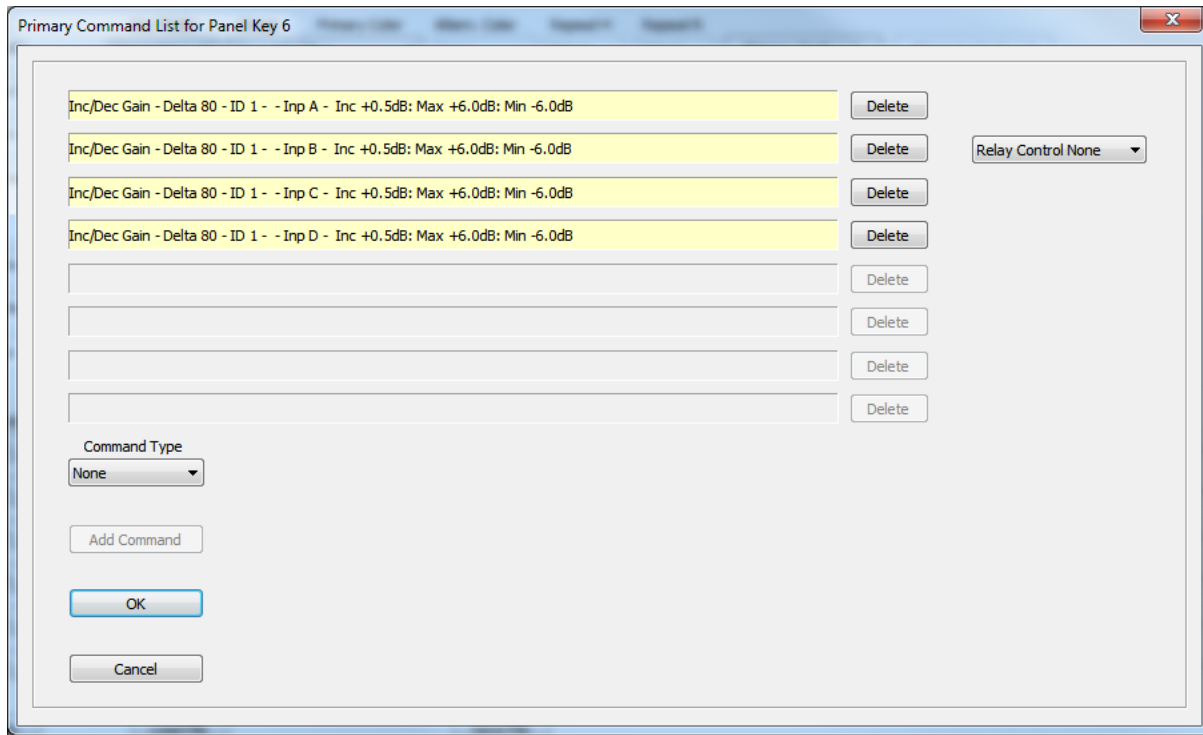
To set up a memory recall function, choose “Recall Memory” from the command type and then select the device to control, including its ID. There are some “group” command addresses which can also be used with global IDs to address multiple units but remember that up to eight commands can be triggered from a single key press so use the global addresses with care!



Choose the memory number to recall and then press “Add Command” to include it in the list (as shown in yellow). For buttons set to a “Toggle” function, you will be able to set the primary function as the alternate function – for example this is the primary setting for a System Mute to an individual Delta 80 on ID1:



To increment or decrement gains on multiple channels of an amplifier, several commands must be sent, one for each channel that is to be adjusted. For example, this command set is for incrementing all the inputs on a single amplifier:



The “Relay Control” can be applied as an additional function on any key, to set the state of the changeover relay fitted to the panel – the contacts are brought out onto a connector beside the main panel connections for power and data.

When the configuration is complete, save the file and close the app.

Labelling the DPanel-8 Buttons

The transparent tops of the buttons can be removed by gently prising them off or using a piece of double-sided tape to pull them off. The final page of this document has a template for the default labels and sets of blanks. The label size is 11mm square should you wish to make your own.

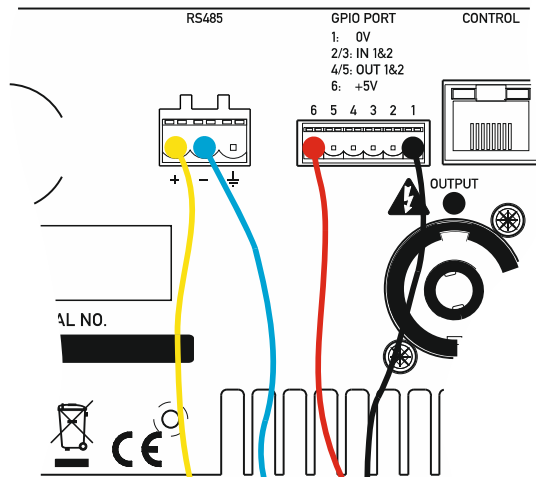
When printing this template out, make sure the page is set to “Print Actual Size” at A4, not “Fit to Page” or they will not be the correct dimensions.

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Connecting the DPanel-8 and programming the panel.

Programming is performed “in situ” with the panel connected to an amplifier via the RS485 bus. Make sure the amplifier’s interface mode is set to Ethernet or USB (as required for connection from PC to amplifier), and the RS485 mode is set to “Simple” mode, at 115200 speed. Please see the amplifier’s manual for further details.

Connect the panel as shown below:



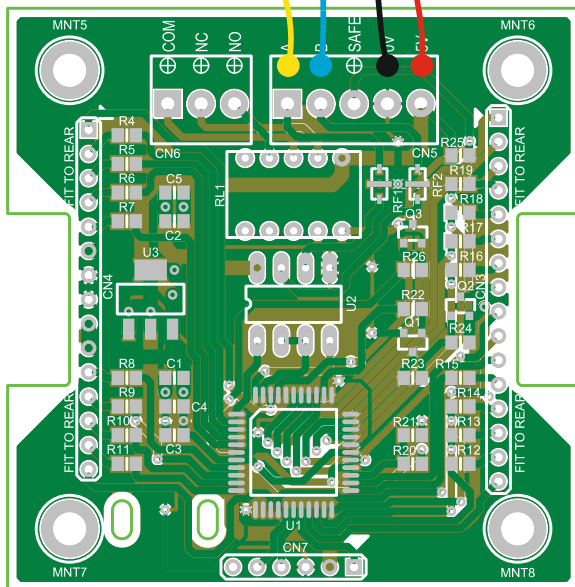
A four core cable is required to connect the two data wires to the RS485 bus (which can be relayed to other devices so the panel can address multiple units), and to the GPIO port to derive its power supply from pins 1 and 6. Alternatively, any 5V power supply will work if this is not convenient.

If your amplifier has an XLR for the RS485 connection, it should be wired

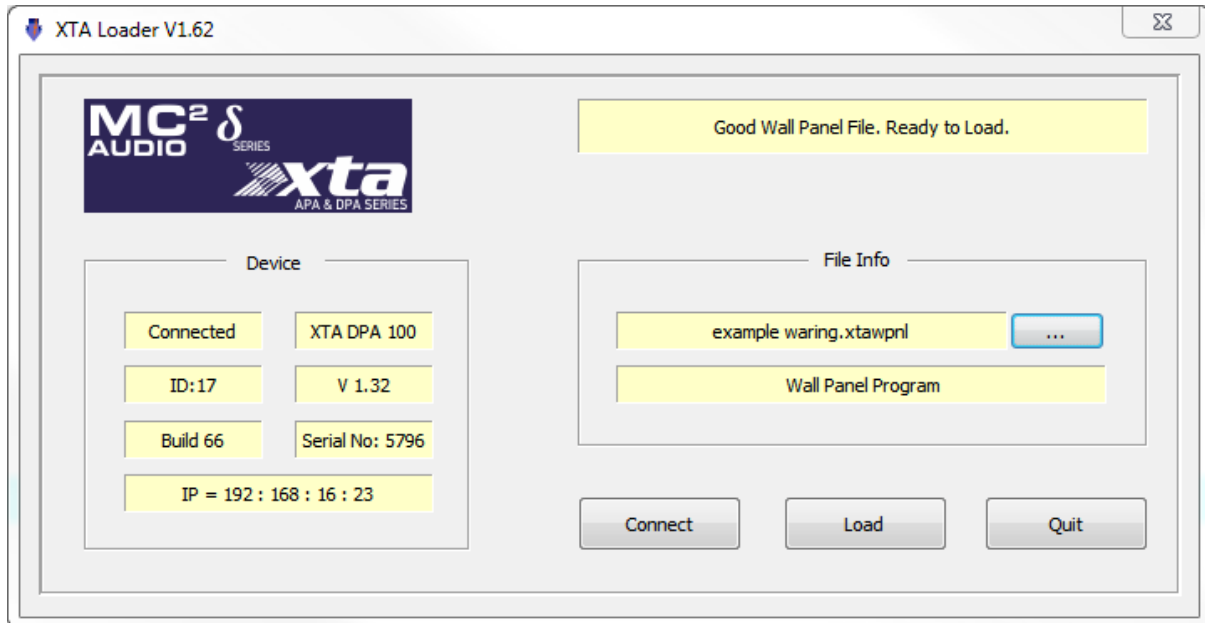
- Pin 2 – panel “A”
- Pin 3 – panel “B”

Switch the amplifier on and press buttons 1+2+3+4 on the wall panel at the same time – this will force it into programming mode – a light chase will indicate this mode.

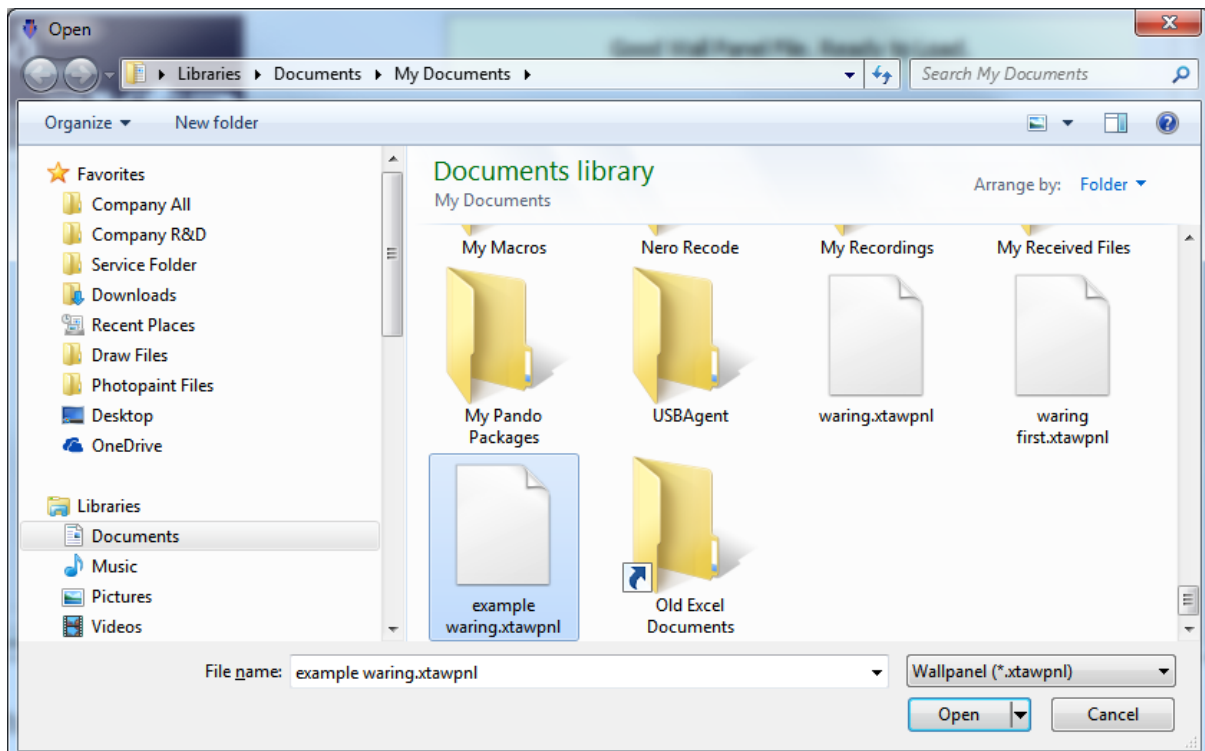
Note: GPIO port labelling may be reversed on your amplifier compared to that shown in this document – please use the wiring shown here!



Start the loader application and connect to the amplifier:




Press the “...” button and then choose a file type of “Wall Panel” instead of “Firmware/Preset” and choose the “.xtawpnl” file previously saved.



Select Load on the main loader window to complete the process. The wall panel will drop out of programming mode approx. 30 seconds after the upload is complete. Reboot the amplifier (to reboot the panel) to complete the process.

A+B UP	C+D UP	A+B DN	C+D DN	MEM 1	MEM 2	MEM 3	MEM 4
A+B UP	C+D UP	A+B DN	C+D DN	MEM 1	MEM 2	MEM 3	MEM 4
A+B UP	C+D UP	A+B DN	C+D DN	MEM 1	MEM 2	MEM 3	MEM 4

 **xta**

DPanel 8 Label Template.
Labels are 11mm square.
Print at ACTUAL SIZE on A4,
not "Fit to Page".

MC²