

PLD Amplifier



Quick Start Guide

EXPLANATION OF TERMS AND SYMBOLS

The term “**WARNING!**” indicates instructions regarding personal safety. If the instructions are not followed the result may be bodily injury or death.

The term “**CAUTION!**” indicates instructions regarding possible damage to physical equipment. If these instructions are not followed, the result might be equipment damage that is not covered under the warranty.

The term “**IMPORTANT!**” indicates instructions or information that are vital to the successful completion of the procedure.

The term “**NOTE**” indicates additional useful information.



The lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may constitute a risk of electric shock to humans.



The exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.



NOTE: This Quick Start Guide assumes starting with the amplifier's basic factory configuration, with four separate inputs and four separate outputs. For detailed instructions for custom configurations refer to the PLD User Guide (TD-000368).

Installation

The following steps are written in the recommended installation order.

Rack Mount the Amplifier

The PLD Series amplifiers are designed to mount in a standard 19-inch equipment rack. The amplifiers are 2RU high. The PLD4.3 and PLD4.5 are 381 mm (15 in) deep, while the PLD4.2 is 229 mm (9 in) deep.

1. Secure the amplifier in the rack with eight screws (not supplied)—four in front and four in back. For complete instructions refer to document TD-000050, *Rear Rack Ears Installation Guide*, which can be found on the QSC website (www.qsc.com)



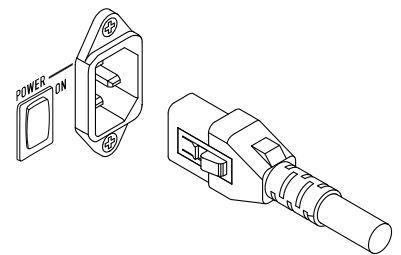
CAUTION!: Be sure that nothing blocks the front or rear ventilation openings and that each side has a clearance of at least 2 cm.

AC Mains



WARNING!: When the AC power is on, there may be potentially dangerous voltage at the output terminals on the rear of the amplifier. Be careful not to touch these contacts. Turn off the AC mains disconnect switch before making any connections.

1. Make sure the power switch on the rear of the amplifier is off.
2. Plug the IEC power cord into the AC receptacle. (Figure 1)



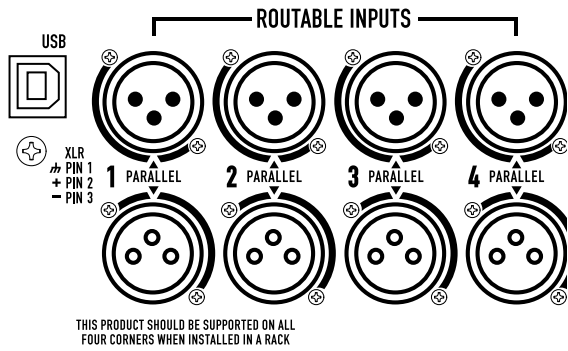
– Figure 1 –

TD-000351-00-E



TD-000351-00-E

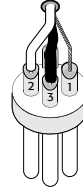
Inputs



– Figure 2 –

Balanced Inputs

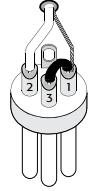
Ground	⏏	1
Positive	+	2
Negative	-	3



– Figure 3 –

Unbalanced Inputs

Ground	⏏	1+3
Positive	+	2



– Figure 4 –

The audio inputs are four female XLR connectors labeled 1 through 4; any one can be routed to one or more outputs. The inputs have an impedance of 10 k Ω balanced or unbalanced, and a selectable sensitivity of either +4 or +14 dBu (1.23 V rms or 3.9 V rms). The four male XLR connectors are in parallel with the female connectors for daisy chaining signals to the inputs of other amplifiers.

1. Make sure your audio source devices are turned off.
2. Connect the audio sources to the female XLR connectors. (Figure 2)



NOTE: On the PLD Series amplifiers, each input's signal is routable to any of the the output channels. Make sure that your input connections match your configuration of the amplifier.

Outputs

The PLD amplifiers have four configurable outputs. You can set power, combine outputs (bridged and parallel), and adjust the DSP for each one. The output connections are enabled by relays, and they follow the configuration selected by the user. Use Figures 5 through 7 as references for wiring the loudspeakers.

Separate Channels (A B C D)

Up to four separate loudspeaker loads

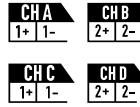
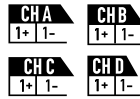
Use up to four two-wire cables; connect to

- 1+/1- on outputs A through D as needed

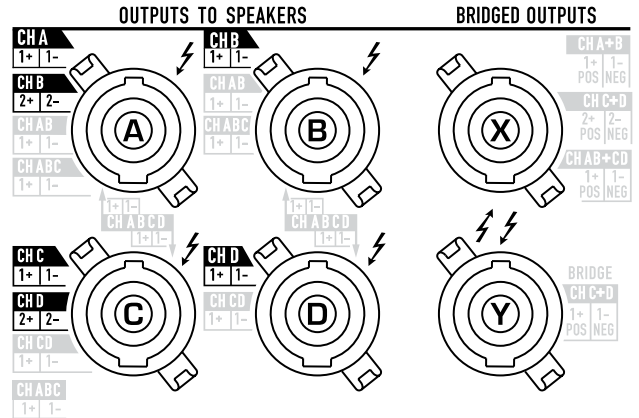
Bi-amp operation

Use four-wire cables; connect to

- 1+/1- (CH A) and 2+/2- (CH B) on output A
- 1+/1- (CH C) and 2+/2- (CH D) on output C



A	B	C	D
8.0	8.0	8.0	8.0
625	625	625	625
625	625	625	625



– Figure 5 –

Bridged (A+B) and Separate (C D) Channels

Bridged (A+B)

Use two-wire cable; connect to

- 1+/1- on output X

Separate C & D

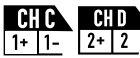
Use two-wire cables; connect to

- 1+/1- (CH C) on output C
- 1+/1- (CH D) on output D

Bi-amp C and D

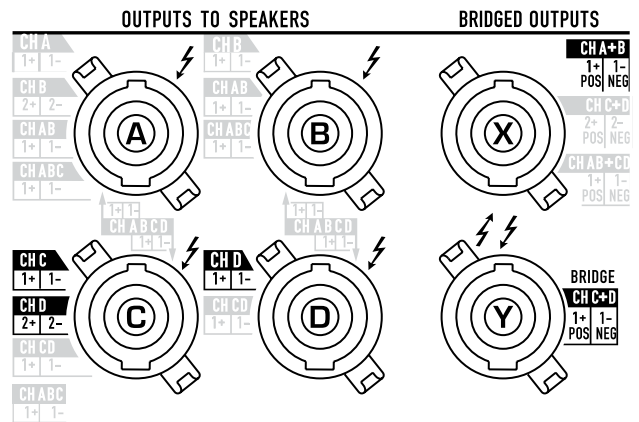
Use four-wire cable; connect to

- 1+/1- (CH C) and 2+/2- (CH D) on output C



A+B	C	D
8.0	8.0	8.0
1250	625	625
1250	625	625

A+B	C+D	BRIDGE	BRIDGE
8.0	8.0	CH A+B	CH C+D
1250	1250	1+ 1- POS NEG	1+ 1- POS NEG
1250	1250		



– Figure 6 –

Parallel Channels (ABCD)

Multiple parallel loudspeaker loads

Use up to four two-wire cables; connect to

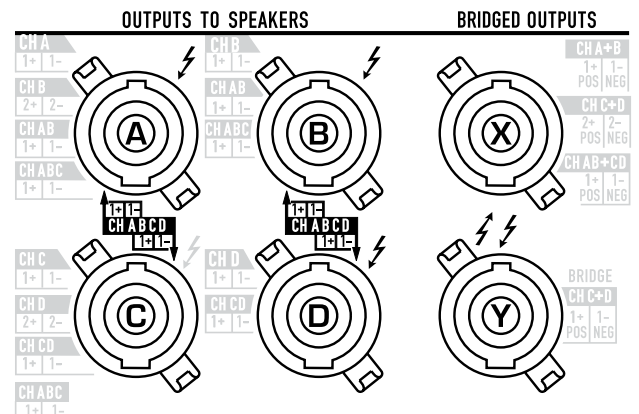
- 1+/1- on outputs A through D as needed

Single loudspeaker load

Use two-wire cable; connect to

- 1+/1- on output A, B, C, or D

A B C D
8.0
2500
2500



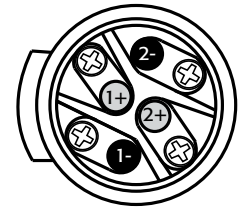
– Figure 7 –

EN

Connect the Loudspeakers



WARNING! When the AC power is on, there can be potentially dangerous voltage at the output terminals on the rear of the amplifier. Be careful not to touch these contacts. Turn off the AC mains disconnect switch before making any connections.

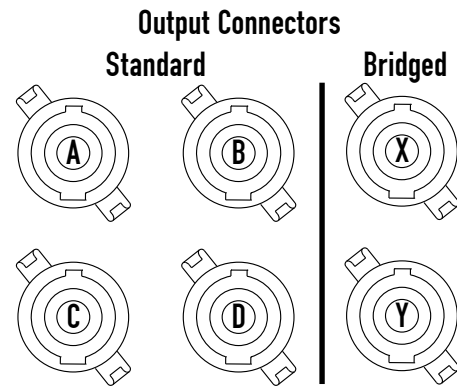


Male NL4 Wiring
– Figure 8 –

1. Turn off the AC mains power switch on the back of the amplifier.
2. Wire the loudspeaker cables to male NL4 connectors (Figure 8) as needed for your amplifier's configuration. Refer to Table 1 for details.
3. Plug the cables into the appropriate chassis NL4 connectors on the rear of the amplifier. Refer to Figure 5 through Figure 7 for connection diagrams.

The following table shows you which pins on which output you can use for each mode. Where there is more than one connector for a given mode, the PLD allows you to use one, all, or some of the available connectors. For example, in ABCD Parallel mode, you can use pins 1+ and 1- of outputs A through D in any combination; the pins of all the outputs are in parallel and electrically the same. It is recommended that where the pins are electrically the same, you use all available pins whether by jumpers between pins, or direct wiring to each loudspeaker

NL4	Mode			
	Separate	AB Parallel	ABC Parallel	ABCD Parallel
A	Ch A 1+ / 1- Ch B 2+ / 2- ¹	1+ / 1-	1+ / 1-	1+ / 1-
B	1+ / 1-	1+ / 1-	1+ / 1-	1+ / 1-
CD Parallel				
C	Ch C 1+ / 1- Ch D 2+ / 2- ¹	1+ / 1-	1+ / 1-	1+ / 1-
D	1+ / 1-	1+ / 1-	1+ / 1-	1+ / 1-



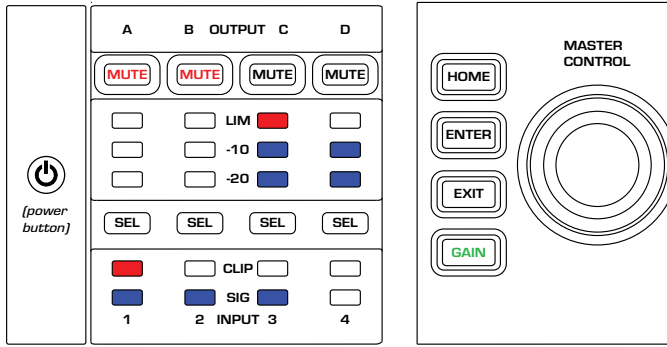
– Figure 9 –

	A+B Bridged	C+D Bridged	AB+CD Bridged
X	1+ / 1-	2+ / 2- ¹	1+ / 1-
Y		1+ / 1-	

– Table 1 –

¹ For Bi-Amp operation.

Amplifier Control



– Figure 10 –

Off Mode

- When the rear power switch is off, the amplifier is not operable. The front panel power button is not illuminated. The switch is the AC mains disconnect.
- When you turn the power switch on, the amplifier enters the mode it was in when power was removed. The power button will illuminate according to the mode.



Run Mode

- From Standby or Mute All modes, press and release the power button on the front panel.
- The power button will illuminate in blue.
- The amplifier is fully operable and can pass audio.



Standby Mode

- From Mute All or Run modes, press and hold the power button on the front panel for two to three seconds.
- The power button will illuminate solid red.
- The front panel LCD will shut off.
- The amplifier is not operable and will not pass audio.



Mute All Mode

- From the Run Mode, press and release the power button quickly.
- The power button will flash red.
- The outputs will mute on all channels.
- The front panel and DSP functionality are still fully operable, and you can make any changes you need to. Any settings you make will be saved and effected when you put the amplifier into Run Mode.



MASTER CONTROL Knob

- Scrolls up/down and right/left to select menu items and parameters
- Adjusts settings on selected parameters



ENTER Button

- Navigates into the menu structure
- Enters the edit mode for adjusting parameters
- Confirms the changes made



EXIT Button

- Navigates out of the menu structure and parameter selection.
- In the edit mode, pressing EXIT reverts the value back to its prior state, and exits the edit mode.



HOME Button

- If you are on the Home screen, pressing HOME displays the alternate Home screen. Pressing HOME again returns you to the primary Home screen.
- If you are on a navigation screen, pressing HOME takes you Home.
- If you are on an edit screen, pressing HOME will confirm any value being edited and take you to the HOME screen.



GAIN Button

- Pressing the GAIN button from any screen takes you to the output gain screen for the most recently accessed output channel.
- Pressing GAIN again confirms the gain change and returns to the screen you were on when you pressed GAIN.



SEL Buttons

- Use these buttons to navigate between input channels or output channels. For example, if you are adjusting output gain on channel A, pressing the channel B SEL button will then take you to the gain adjustment for channel B.
- These buttons change both INPUT and OUTPUT selection at the same time. For example, if you select OUTPUT A then switch to an Input screen, you are on Input 1.
- The SEL buttons are active on any Input or Output screen as indicated by an illuminated SEL button, and a label in the upper right corner of the screen (Input 1–4 or Output A–D).
- The SEL buttons illuminate in blue for output channels, and amber for input channels.



EN

MUTE Buttons

- Use these buttons to mute individual output channels.
- When the amplifier's output configuration changes, the MUTE buttons engage automatically. You must manually unmute the channels.



LIM LEDs

- Illuminates red when the limiter engages.



-10 and -20 LEDs

- Indicates the output level of the channel in relation to its maximum.



CLIP LEDs

- Illuminates red when the input section clips.

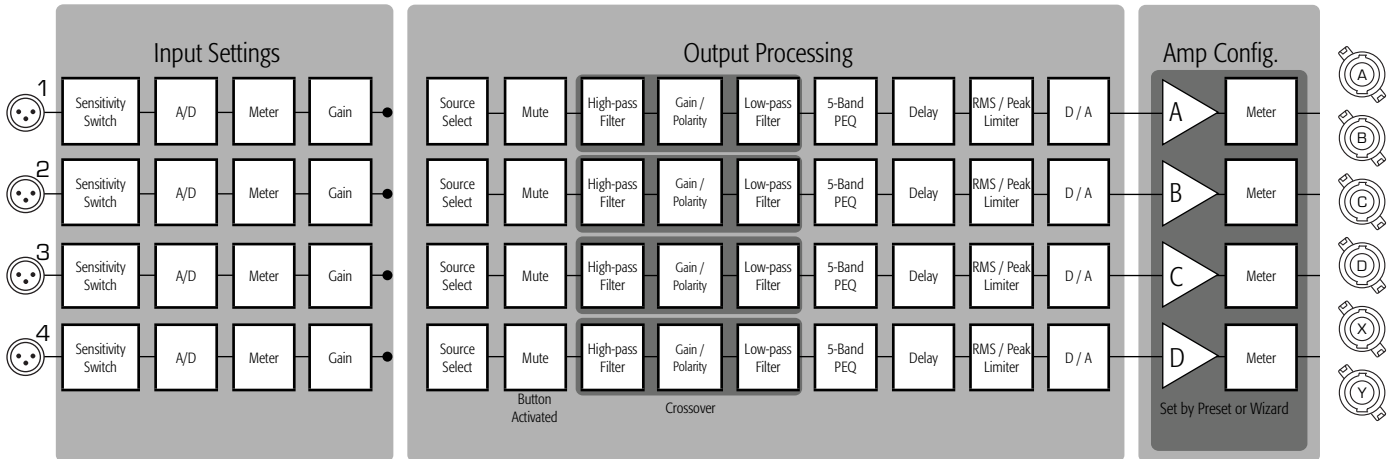


SIG LEDs

- Illuminates blue when an input signal higher than -40 dB is present.



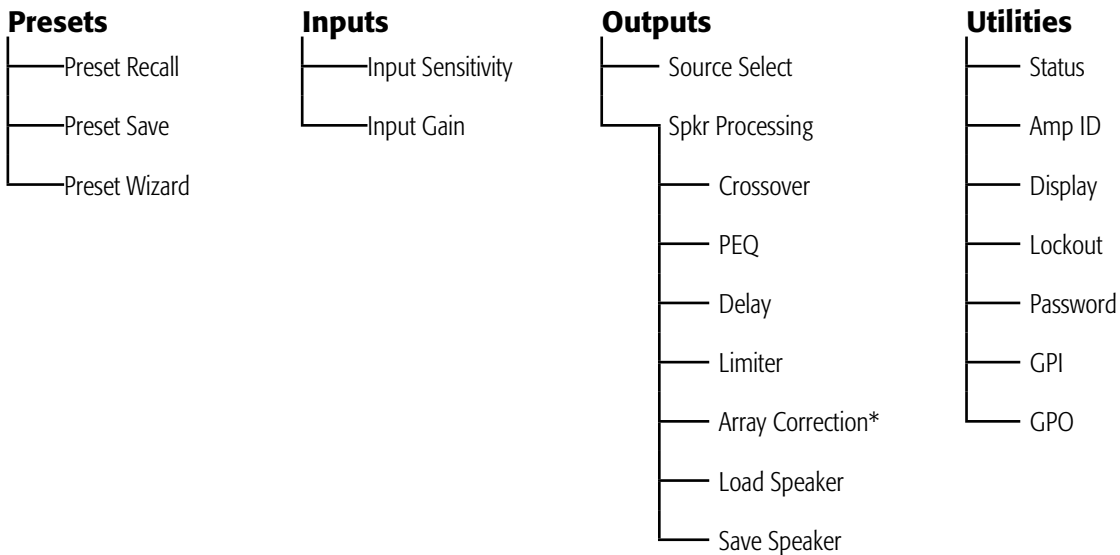
PLD Amplifier Signal Flow



– Figure 11 –

EN

Menu Tree



*For QSC line array loudspeakers only.

AC Power On

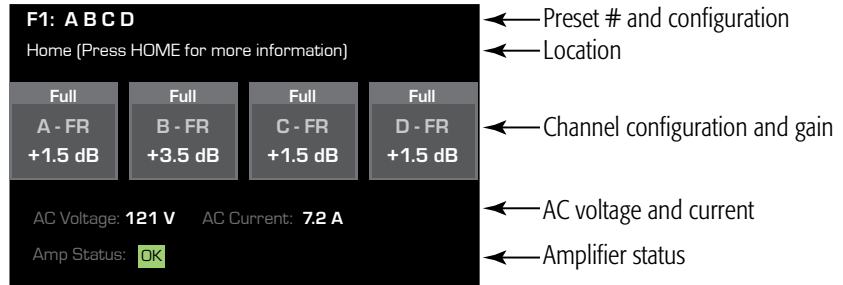
After connecting the outputs to the loudspeakers, you may turn the amplifier on.

1. Make sure the outputs levels on all audio source devices (CD players, mixers, instruments, etc.) are all the way down.
2. Turn on all the audio sources.
3. Turn on the AC mains power switch on the back of the amplifier. The amplifier will resume the state it was in when power was removed. If the amplifier is in Standby or Mute All mode (Power button LED solid red or blinking), press the Power button to change the amplifier into Run mode.
4. You can now raise up the output levels of the audio sources.

Screen Types

Informational

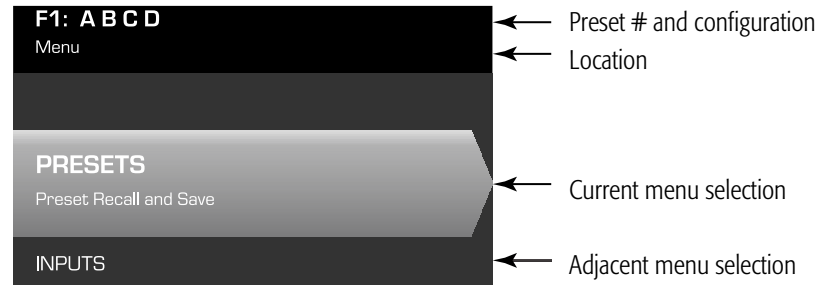
Informational screens, like the HOME screen, are designed to provide you with a good amount of useful information at a glance.



– Figure 12 –

Navigational

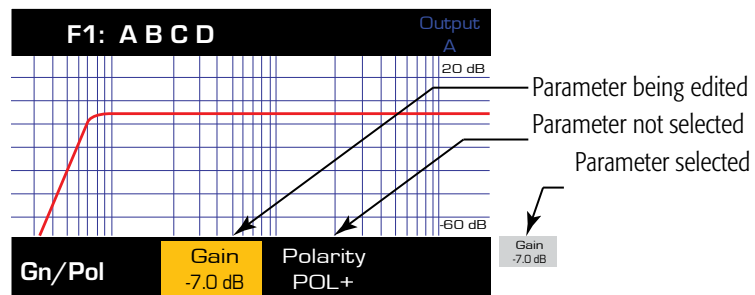
Navigational screens provide the means to move around and select menu items. Use the Master Control knob, ENTER, and EXIT buttons for navigation. This is one type of navigational screen among many.



– Figure 13 –

Parameter Editing

Parameter Editing screens allow you to select, edit, and confirm changes for various system parameters. Use the ENTER button to edit and confirm changes to parameters. Use the Master Control knob to select parameter, and make adjustments. Use the EXIT button to exit the edit mode without saving changes.



– Figure 14 –

About Presets

The PLD amplifiers are driven by presets, and understanding how they work will help you get the most out of the amplifiers. A preset, in the context of the PLD amplifiers, is a combination of amplifier configuration (inputs and outputs), DSP, and loudspeaker assignments. When a preset is recalled it can change the output routing and any of the DSP settings.

The PLD amplifiers come with 20 unchangeable factory presets, as well as 50 slots for user-defined presets. The factory presets are starting points for creating the settings you need for your particular installation. Factory presets F1 through F9 have no DSP or loudspeaker assignments—only routing and output configurations. Factory presets F10 through F20 include basic DSP settings along with the routing and output configurations.

User-defined Presets

Presets U1 through U50 are all factory-configured the same as factory preset F1. Anytime you save a preset, it overwrites one of the user-defined slots. There are three ways of creating user-defined presets.

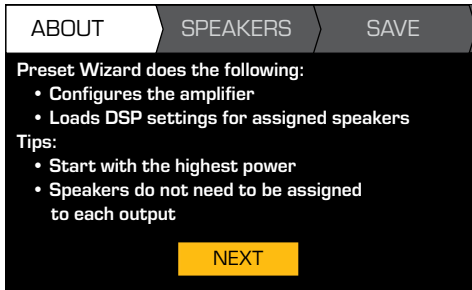
- You can recall a user-defined preset, modify its parameters, and then either use SAVE (which will overwrite the one you recalled) or SAVE AS (to create a new user-defined preset in a different slot).
- You can recall a factory preset, modify its parameters, and then use SAVE AS to make it a user-defined preset. The SAVE function is disabled for factory presets.
- You can use the Preset Wizard to set the output configuration, power output, and other parameters, and then use SAVE AS to store them in one of the user-defined preset slots.

Preset Wizard

The Preset Wizard simplifies the preset creation process, allowing you to create a preset from the ground up. The Preset Wizard first asks you to designate the desired power levels and load impedances; from that information it will assign a suitable amplifier configuration. Then you may select and assign loudspeakers to each output.

HOME > PRESETS > PRESET WIZARD > ENTER

STEP 1 – About the PRESET WIZARD



Preset Wizard does the following:

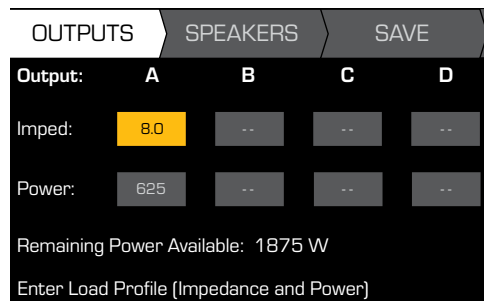
- Configures the amplifier
- Loads DSP settings for assigned speakers

Tips:

- Start with the highest power
- Speakers do not need to be assigned to each output

To continue, press

STEP 2 – Adjust Impedance and Power



Adjust impedance based on the total loudspeaker load connected to the channel.

← Default = 8 Ω

← Default = min. for amp

Impedance and power settings are dynamically linked.

Scroll to select (Impedance or Power)

To edit, press

Turn to adjust parameter

To confirm, press

Repeat for remaining output channels

HOME > PRESETS > PRESET WIZARD > ENTER > (ENTER)

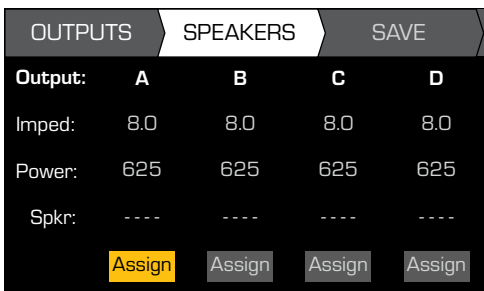
Power	A	B	C	D	Com	A+B	C	D	he	AB	CD	d	A+B	C	D	A+B	C+D	ABC	D	AB + CD	ABCD
*	25%	25%	25%	25%		50%	25%	25%		50%	50%		50%	25%	25%	50%	50%	75%	25%	100%	100%

Modes: A B = Separate Channels / A+B = Bridge Mode / AB = Parallel Mode

*Percentages are used to represent the power for different amplifier models.

– Figure 15 –

STEP 3 – Select Output Channel for Speaker Assignment



When you are finished setting the impedance and power for each output, scroll to the SPEAKERS tab.

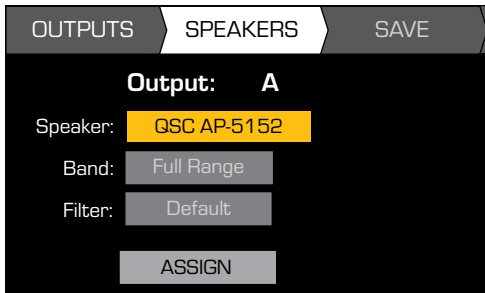
Loudspeaker assignment is optional. You may assign a loudspeaker to one or more channels, or none at all.

Scroll to select the output channel.

To assign a loudspeaker, press

Continue to the next step.

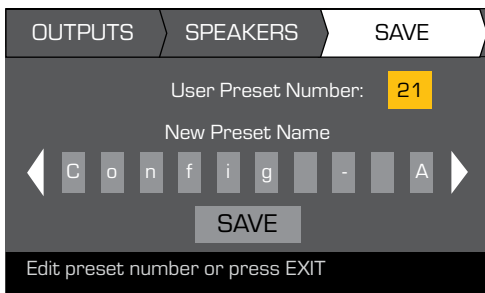
STEP 4 – Select Speaker Type for Channel



Select the loudspeaker model first; it will determine the band and filter selections offered. When you have finished assigning loudspeakers, scroll to the SAVE tab.

- To edit speaker, press
- Scroll to select a speaker model
- To confirm, press
- Scroll to select (Band, Filter)
- To edit, press
- Turn to adjust parameter
- To confirm, press
- Scroll to select ASSIGN
- To assign the speaker to the output channel, press

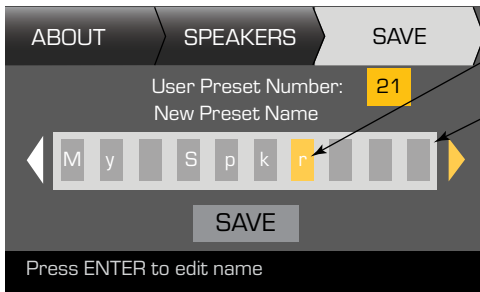
STEP 5 – Select User Preset Number



- Scroll to the SAVE screen
- To edit User Preset Number, press
- Turn to adjust parameter
- To confirm, press
- Scroll to the New Preset Name

EN

STEP 6 – Assign New User Preset Name



Character being edited
Indicates "Speaker Profile Name" is selected
Up to 21 characters
A - Z / a - z / 0 - 9 /
_ / - / space

- To add speaker Preset Name, press
- Scroll to desired letter position press
- Turn to select desired character press
- When finished with lettering, press twice
- When finished, scroll to SAVE press
- To RECALL preset, press
- To not RECALL preset, press

Modify Presets

To modify a preset, start with the desired output configuration, and then modify the input and output parameters as desired. Then save the preset. You may also save the preset at intermediate points in the creation process.

Recall a Preset

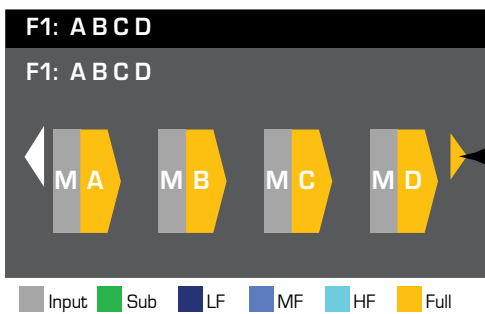
A preset includes the output configuration, input parameters, and loudspeaker profiles (DSP, load, and assignments). The amplifier includes 20 factory presets that can be recalled but not overwritten and 50 slots for user-defined presets that may be recalled and overwritten. The factory default settings in U1 through U50 are the same as in factory preset F1 (A B C D).


- Factory presets F1 through F9 are output configurations only; they involve no DSP settings.
- Factory presets F10 through F20 are output configurations along with basic DSP settings.
- The 50 user preset slots can be recalled, modified, and overwritten as desired.

Recalling a preset changes the configuration of the amplifier.

HOME > PRESETS > PRESET RECALL (ENTER)

STEP 1 – Select Preset

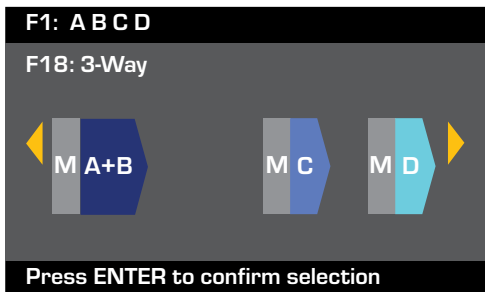




Scroll to desired preset 
20 factory and 50 user-defined

Indicates presets available by scrolling

EN

STEP 2 – Confirm Selection



To select the preset configuration, press 
To confirm the selection, press 

The text at the bottom changes to: Recalling Preset now...
You may hear relays clicking inside the amplifier!

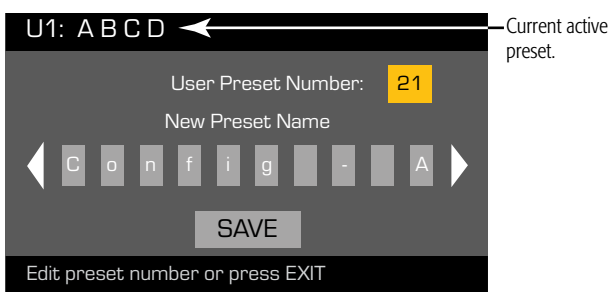
Save a Preset




After modifying the inputs and outputs for all channels, save the current settings as one of the 50 user-defined presets (U1 through U50). If you start with a factory preset, use SAVE AS. If you start with a user-defined preset, you may overwrite it using SAVE or write to a different one using SAVE AS.

SAVE AS

HOME > PRESETS > PRESET SAVE > PRESET SAVE AS > (ENTER)

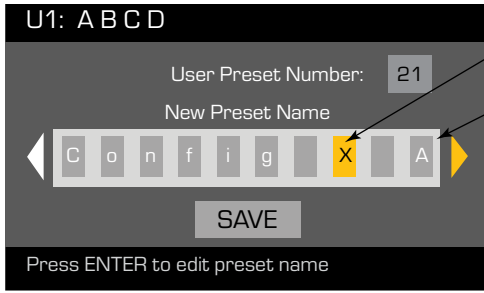
STEP 1 – Save a New Preset – Select and Edit Preset Number



To edit User Preset Number, press 
Turn to select desired number (1 through 50) 
To confirm, press 

Current active preset.

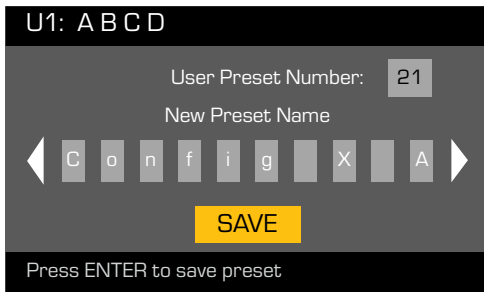
STEP 2 – Name the Preset



Indicates editing
Indicates "Speaker Profile Name" is selected.
Up to 21 characters
A - Z / a - z / 0 - 9 /
_ / - / space

Scroll to New Preset Name press
Scroll to desired letter position press
Turn to select desired character press

STEP 3 – Save Preset



Once the preset is saved, it also becomes the active preset.

When you have finished the name, press
Scroll to SAVE
Press
To confirm SAVE, press

SAVE

HOME > PRESETS > PRESET SAVE > SAVE (ENTER)

Overwrite Preset



To save, press
To exit without saving, press
To confirm SAVE, press

Utilities

The Utilities section provides the following amplifier information and functionality: Please refer to the PLD User Manual (TD-000368) for complete details.

- STATUS
- ID
- Serial Number
- LOCKOUT
- PASSWORD.