GXD Amplifier

Quick Start Guide

QSC™

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, it may result in damage to the equipment that may not be covered under the warranty.

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

The term "**NOTE**" is used to indicate additional useful information.

The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of un-insulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

The intent of 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.

⚠ IMPORTANT SAFETY INSTRUCTIONS ⚠

⚡ **WARNING!:** TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. The appliance coupler, or the AC Mains plug, is the AC mains disconnect device and shall remain readily operable after installation.
15. Adhere to all applicable, local codes.
16. To prevent electrical shock, the power cord shall be connected to a mains socket outlet with a protective earthing connection.
17. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.
18. Do not use any aerosol spray, cleaner, disinfectant or fumigant on, near or into the apparatus. Clean only with a dry cloth.
19. Do not unplug the unit by pulling on the cord, use the plug.
20. Do not submerge the apparatus in water or liquids.
21. Keep ventilation opening free of dust or other matter.

Maintenance and Repair

⚠ **WARNING!:** Advanced technology, e.g., the use of modern materials and powerful electronics, requires specially adapted maintenance and repair methods. To avoid a danger of subsequent damage to the apparatus, injuries to persons and/or the creation of additional safety hazards, all maintenance or repair work on the apparatus should be performed only by a QSC authorized service station or an authorized QSC International Distributor. QSC is not responsible for any injury, harm or related damages arising from any failure of the customer, owner or user of the apparatus to facilitate those repairs.

FCC Statement

⚠ **NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an AC outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

⚠ **NOTE:** This Quick Start Guide is based on the basic configuration as the amplifier comes from the factory. For detailed instructions for custom configurations refer to the GXD User Manual.

Rack-Mount the Amplifier

Secure the amplifier in the rack with eight screws (not supplied), four in front, four in back. Typically, you will need a rear-ear mounting kit to mount the amplifier. Contact QSC Technical Services Group for more information about the kits. There are two different kits available. Follow the instructions included with the kit.

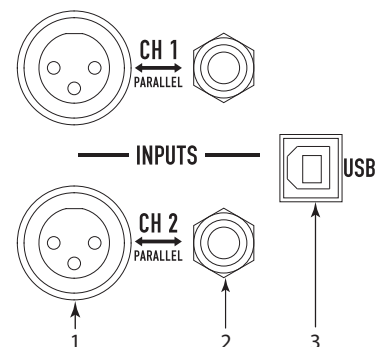## Connections

Inputs (Channels 1 & 2)

See Figure 1

Input Impedance: 20 kΩ Balanced, 10 kΩ Unbalanced See — Table 1 for wiring.

1. XLR female
2. ¼" female TRS Phone Jack
3. USB Standard B connector - Used for updating the amplifier firmware, refer to the GXD User Manual for details.

Input Wiring

Connector	POS	NEG	GROUND
XLR	2	3	1
1/4"	TIP	RING	SLEEVE

— Table 1 —

— Figure 1 —

Outputs (Channels A & B)

See Figure 2

4Ω or 8Ω impedance

⚠️ **CAUTION!:** Do not combine the audio outputs in any way. Do not connect the audio outputs to ground.

Wiring

Be sure to observe polarity.

- NL4 connector – See Figure 3
- Binding Posts - Use banana plugs or wire directly

AC Power

⚡ **WARNING!:** The power cord shall be connected to a mains socket outlet with a protective earthing connection.

See Figure 4

Connect the IEC power cord to the AC receptacle on the rear of the amplifier.

Push to reset Breaker when necessary.

Power Output

Amplifier	8Ω	4Ω	Max Peak
GXD 4	400 W	600 W	1600 W
GXD 8	800 W	1200 W	4500 W

— Table 2 —

OUTPUTS TO SPEAKERS
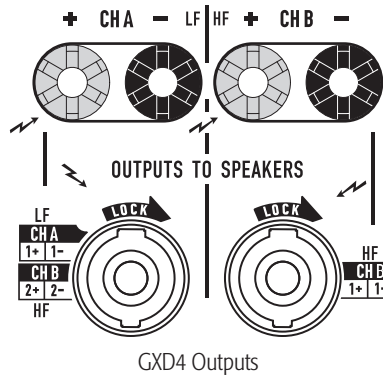
GXD4 Outputs

— Figure 2 —
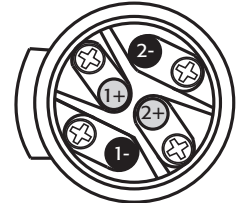
Male NL4 Wiring

— Figure 3 —

Power Consumption

Amplifier	Voltage	Current	Frequency
GXD 4	100–240 VAC	~3.3 A – 1.6 A	50/60 Hz
GXD 8	100–240 VAC	~6.3 A – 3.6 A	50/60 Hz

— Table 3 —

— Figure 4 —

Controls and Indicators

See Figure 5

1. Channel A CLIP indicator – illuminates red when the input is high enough to cause the channel to clip.
2. Channel A SIG (signal) present indicator – illuminates green when there is a signal applied to the input.
3. Power Switch/LED on/off – Illuminates blue when on.
4. Adjust Channel A GAIN
5. User Interface
   a. **HOME** – go to HOME screen / view current PRESET
   b. **ENTER** – select highlighted item and/or confirm parameter change
   c. **EXIT** – return to previous screen and/or undo parameter change
6. Adjust Channel B GAIN, selects and adjusts controls
7. Channel B SIG (signal) present indicator – illuminates green when there is a signal applied to the input.
8. Channel B CLIP indicator – illuminates red when the input is high enough to cause the channel to clip.
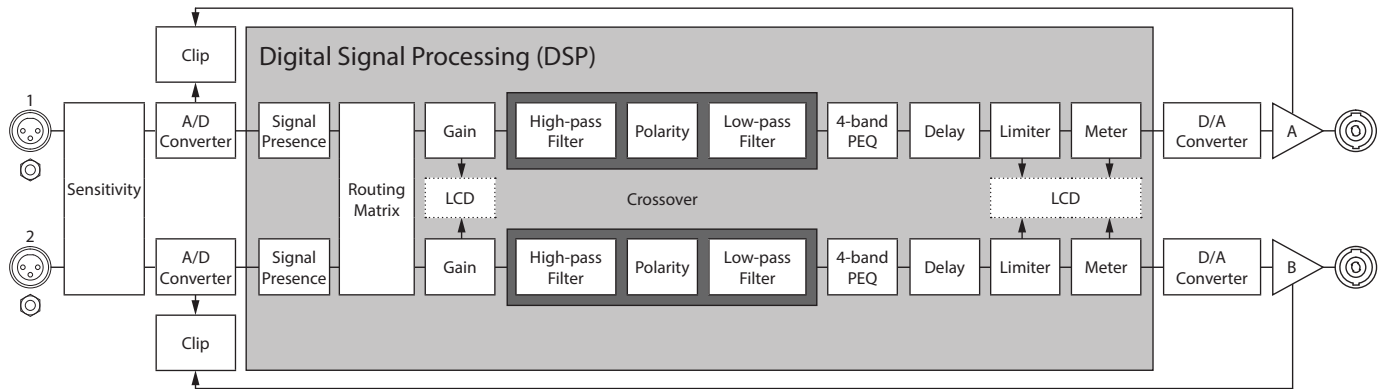

— Figure 5 —

GXD Signal Flow

– Figure 6 –

Setup and Operation

Menu Tree

PRESET

—— PRESET RECALL

—— PRESET SAVE

—— PRESET SAVE AS

* STEREO DSP and DSP A / DSP B
depend on the selected configuration.

STEREO DSP*

—— SENSITIVITY
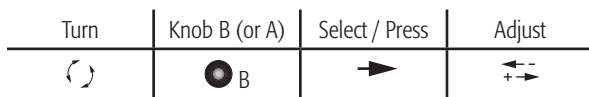
—— CROSSOVER

—— EQ

—— DELAY

—— LIMITER

DSP A / DSP B*

—— SENSITIVITY

—— CROSSOVER

—— EQ

—— DELAY

—— LIMITER

UTILITIES

—— STATUS

—— CONTRAST

—— TIMEOUT

—— LOCKOUT

—— RESET

– Figure 7 –

Navigation Key

Turn	Knob B (or A)	Select / Press	Adjust
⟳	● B	→	← − / + →

Home Screen

See Figure 8

From any screen → [HOME]

1. Asterisk (*) indicating an unsaved change to the Preset

2. Currently active preset location (P1) and name

3. Output channel letter A and B

4. Limiter level indicator (Channels A and B)

5. LIMIT and CLIP indicators

6. Output meter A and B (visual)

7. Output gain (digital) range = -100 to +10 dB (Channels A and B)

8. Amplifier STATUS
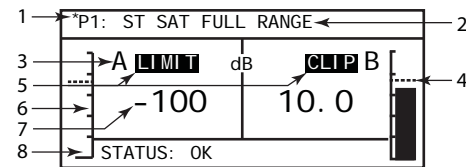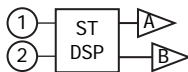

– Figure 8 –
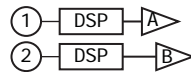
Main Navigation Menu

See Figure 9

From HOME ➡ [ENTER]

1. Previous selection – PRESETS
2. Currently selected – STEREO DSP (or DSP A and DSP B)
3. Next selection – UTILITIES
4. Instructions

```
P1:  ST SAT FULL RANGE
1 ─→ PRESETS
2 ─→  STEREO  DSP        ▶
3 ─→ UTILITIES
4 ─→ ENTER  TO  SELECT
```
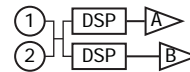
— Figure 9 —

Configurations

There are four basic types of configuration:

— Figure 10 —   — Figure 11 —   — Figure 12 —   — Figure 13 —
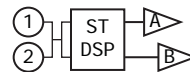
- Figure 10 – 2-channels in, stereo DSP, 2-channels out – Channel controls are linked, audio signals are not combined. (P1 through P7)
- Figure 11 – 2-channels in, separate DSP, 2-channels out – Channel controls are not linked except Sensitivity. (P8 through P10)
- Figure 12 – 1 or 2-channels in (mono summing), separate DSP, 2-channels out – Channel controls are not linked except Sensitivity. (P11 through P18)
- Figure 13 – 1 or 2-channels in (mono summing), stereo DSP, 2-channels out – Channel controls are linked, audio signals are combined. (P19 and P20)

The configurations are selected using the presets. Refer to the GXD User Manual for details of all 20 available configurations.
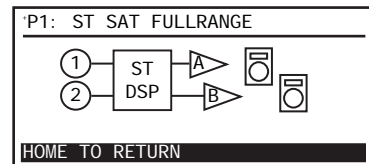
PRESETS

A preset configures the inputs and outputs, along with setting the DSP. When you make changes to the DSP, you can save your setup in any of the 20 preset locations.

View Current Preset Configuration

From HOME ➡ [HOME]

To return ➡ [HOME]

```
*P1:  ST SAT FULLRANGE
     1 ─ ST  ─A▷ ▭
         DSP ─B▷ ▭
     2
HOME  TO  RETURN
```
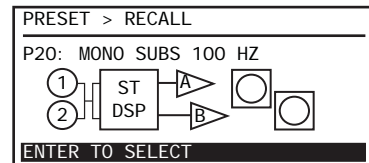
— Figure 14 —

PRESET RECALL

Recall a preset to configure the amplifier to meet the requirements of your loudspeakers and installation. There are 20 Presets. See Figure 15

1. From HOME ➡ [ENTER]
2. ⟲ ● B ➡ PRESET, ➡ [ENTER]
3. ⟲ ● B ➡ PRESET RECALL, ➡ [ENTER]
4. ⟲ ● B ➡ the preset you want, ➡ [ENTER] [ENTER]

```
PRESET > RECALL
P20:  MONO SUBS 100 HZ
     1 ─ ST  ─A▷ ◯
         DSP ─B▷ ◯
     2
ENTER  TO  SELECT
```
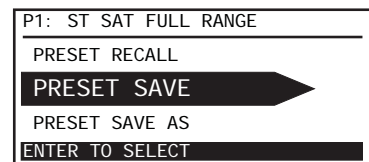
— Figure 15 —

PRESET SAVE

Saves the active preset with any DSP changes. See Figure 16

1. From HOME [ENTER]
2. ⟲ ● B ➡ PRESET, ➡ [ENTER]
3. ⟲ ● B ➡ PRESET SAVE, ➡ [ENTER] [ENTER]

```
P1:  ST SAT FULL RANGE
   PRESET  RECALL
   PRESET  SAVE          ▶
   PRESET  SAVE  AS
ENTER  TO  SELECT
```
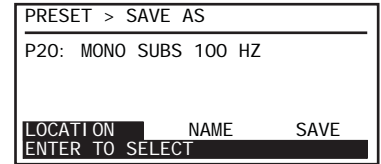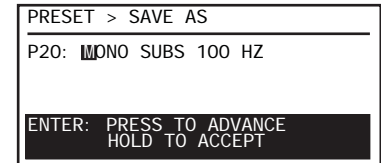
— Figure 16 —

PRESET SAVE AS

Select the LOCATION and/or change the NAME to save changes you make to the DSP.
See Figure 17 and Figure 18

1. From HOME [ENTER]
2. ◯◑ ● B ➤ PRESET, ➤ [ENTER]
3. ◯◑ ● B ➤ PRESET SAVE AS, ➤ [ENTER]
4. ◯◑ ● B ➤ LOCATION ➤ [ENTER]
5. ◯◑ ● B ➤ the LOCATION (P1 to P20), ➤ [ENTER]
6. ◯◑ ● B ➤ NAME, ➤ [ENTER]
7. ◯◑ ● B ➤ letter, number, hyphen, or space ➤ [ENTER] repeat. When finished ➤ [EXIT]
8. ◯◑ ● B ➤ SAVE, ➤ [ENTER] [ENTER]

```
PRESET > SAVE AS
─────────────────────────
P20: MONO SUBS 100 HZ



LOCATION    NAME    SAVE
ENTER TO SELECT
```
– Figure 17 –

```
PRESET > SAVE AS
─────────────────────────
P20: MONO SUBS 100 HZ


ENTER: PRESS TO ADVANCE
       HOLD TO ACCEPT
```
– Figure 18 –

STEREO DSP or DSP A and DSP B

STEREO DSP is set for both channels equally, at the same time. Separate DSPs (DSP A and DSP B) are set independently for each channel. The Sensitivity controls are linked in both Stereo DSP and dual mono DSP. Switching between Stereo DSP and Separate DSP is done by recalling presets that are either stereo or dual mono.

Any changes you make are made in real time – you hear the change as it is being made.
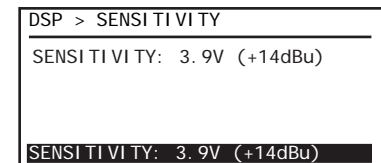
⚠️ **NOTE:** The term "STEREO DSP" is used in this document as a generic term to mean either STEREO DSP or DSP A/DSP B, unless specifically noted.

SENSITIVITY

See Figure 19

1. From HOME ➤ [ENTER]
2. ◯◑ ● B ➤ STEREO DSP, ➤ [ENTER]
3. ◯◑ ● B ➤ SENSITIVITY, ➤ [ENTER]
4. ◯◑ ● B ⇌ 1.2 V (+4 dBu), 3.9 V (+14 dBu), or TouchMix™, ➤ [ENTER]

```
DSP > SENSITIVITY
─────────────────────────
SENSITIVITY: 3.9V (+14dBu)



SENSITIVITY: 3.9V (+14dBu)
```
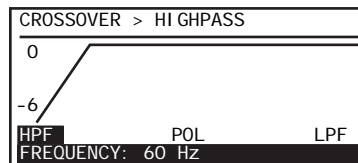– Figure 19 –

CROSSOVER and POLARITY

See Figure 20 through Figure 22.

1. From HOME ➤ [ENTER]
2. ◯◑ ● B ➤ STEREO DSP, ➤ [ENTER]
3. ◯◑ ● B ➤ CROSSOVER, ➤ [ENTER]
4. ◯◑ ● B ➤ HPF, ➤ [ENTER]
5. ◯◑ ● B ⇌ FREQUENCY (BYPASS, 20 Hz to 4 kHz), ➤ [ENTER]
6. ◯◑ ● B ➤ LPF, ➤ [ENTER]
7. ◯◑ ● B ⇌ FREQUENCY (BYPASS, 60 Hz to 4 kHz), ➤ [ENTER]
8. ◯◑ ● B ➤ POL, ➤ [ENTER]
9. ◯◑ ● B ➤ positive (+) or negative (-), ➤ [ENTER] [HOME]

```
CROSSOVER > HIGHPASS
─────────────────────────
 0

-6
HPF        POL        LPF
FREQUENCY: 60 Hz
```
– Figure 20 –

```
CROSSOVER > LOWPASS
─────────────────────────
 0

-6
HPF        POL        LPF
FREQUENCY: 2000 Hz
```
– Figure 21 –
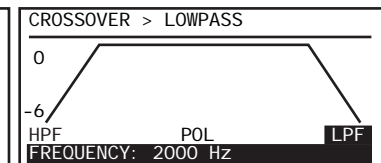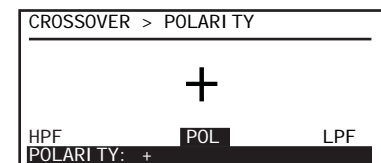
```
CROSSOVER > POLARITY
─────────────────────────

         +

HPF        POL        LPF
POLARITY: +
```
– Figure 22 –

EQ

See Figure 23 through Figure 25.

1. From HOME ➤ [ENTER]
2. ◯ ● B ➤ STEREO DSP ➤ [ENTER]
3. ◯ ● B ➤ EQ ➤ [ENTER]
4. ◯ ● B ➤ BAND1, BAND2, BAND3, or BAND4 ➤ [ENTER]
5. ◯ ● B ➤ GAIN, ➤ [ENTER]
6. ◯ ● B ⇄ GAIN (-12 dB to +12 dB), ➤ [ENTER]
7. ◯ ● B ➤ FREQUENCY, ➤ [ENTER]
8. ◯ ● B ⇄ FREQUENCY (20 Hz to 20 kHz), ➤ [ENTER]
9. ◯ ● B ➤ BW (bandwidth), ➤ [ENTER]
10. ◯ ● B ⇄ BANDWIDTH (0.1 Oct to 3.0 Oct), ➤ [ENTER] [HOME]

```
BAND 1 > GAIN
 12
  0 _____.ıllı._____
-12
GAIN: 8.0 dB
```
— Figure 23 —

```
BAND 1 > FREQUENCY
 12
  0 _____.ıllı._____
-12
FREQUENCY: 1200 Hz
```
— Figure 24 —
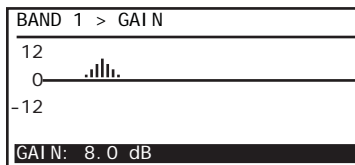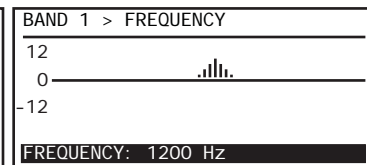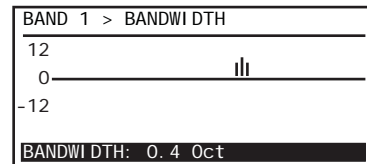
```
BAND 1 > BANDWIDTH
 12
  0 _____ılı_____
-12
BANDWIDTH: 0.4 Oct
```
— Figure 25 —

DELAY

See Figure 26

1. From HOME ➤ [ENTER]
2. ◯ ● B ➤ STEREO DSP, ➤ [ENTER]
3. ◯ ● B ➤ DELAY, ➤ [ENTER]
4. ◯ ● B ⇄ DELAY (0.00 to 56.30 FT, or 17.16 M, or 50 MS), ➤ [ENTER] [HOME]
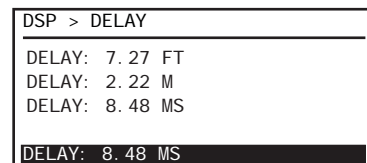
```
DSP > DELAY
DELAY: 7.27 FT
DELAY: 2.22 M
DELAY: 8.48 MS
DELAY: 8.48 MS
```
— Figure 26 —

LIMITER

See Figure 27 and Figure 28

1. From HOME ➤ [ENTER]
2. ◯ ● B ➤ STEREO DSP, ➤ [ENTER]
3. ◯ ● B ➤ LIMITER, ➤ [ENTER]
4. ◯ ● B ➤ TYPE, ➤ [ENTER]
5. ◯ ● B ➤ MILD, MEDIUM, or AGGRESSIVE ➤ [ENTER]
6. ◯ ● B ➤ POWER, ➤ [ENTER]
7. ◯ ● B ⇄ POWER (see — Table 4), ➤ [ENTER]
8. ◯ ● B ➤ IMPEDANCE (4 Ω or 8 Ω), ➤ [ENTER] [HOME]

```
LIMITER > TYPE
TYPE: AGGR
POWER: 125 W
IMPEDANCE: 4 Ω
TYPE:  AGGRESSIVE
```
— Figure 27 —
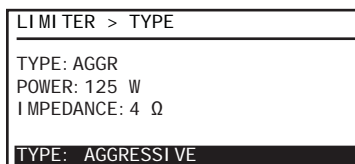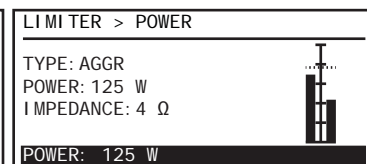
```
LIMITER > POWER
TYPE: AGGR
POWER: 125 W
IMPEDANCE: 4 Ω
POWER:  125 W
```
— Figure 28 —

Model	4Ω	8Ω
GXD 4	5 W – 600 W	5 W – 400 W
GXD 8	5 W – 1200 W	5 W – 800 W

— Table 4 —

Utilities

The following utilities are available on the GXD user interface. Refer to the GXD User Guide for details.

STATUS – Amplifier status including AMP TOTAL RUN TIME, HARDWARE version, and FIRMWARE version

CONTRAST – Sets the contrast of the front-panel LCD

TIMEOUT – Sets the time for the LCD to turn off. Using any control turns the LCD on.

LOCKOUT – LOCK DSP, LOCK ALL, UNLOCK

RESET – Sets all amplifier parameters to the factory defaults, including all DSP parameters

If you would like a full copy of the GXD User manual, visit the QSC Audio Products website at www.qsc.com

Si desea obtener una copia completa del manual del usuario de la GXD, visite el sitio web de QSC Audio Products en www.qsc.com

Pour obtenir un exemplaire complet du manuel d'utilisation de la GXD, allez sur le site Web QSC Audio Products à www.qsc.com

Ein vollständiges Exemplar des Benutzerhandbuchs für die GXD finden Sie auf der QSC Audio Products-Website unter www.qsc.com.

如果您需要 GXD 产品用户手册的完整副本，请访问 QSC 音频产品网站 www.qsc.com

Вы можете получить полную копию руководства пользователя GXD, посетив веб-сайт QSC Audio Products, расположенный по адресу www.qsc.com, либо связавшись со службой поддержки по телефону +1-714-957-71-50 или позвонив на бесплатную линию (только для США) по номеру (800)-772-28-34, чтобы получить копию руководства по почте.

إذا كنت ترغب في الحصول على نسخة كاملة من دليل المستخدم الخاص بسلسلة GXD، قم بزيارة الموقع الإلكتروني لشركة QSC Audio Products على الرابط www.qsc.com أو الاتصال بخدمة العملاء على الرقم 7150-714957 1+ أو رقم الهاتف المجاني (الولايات المتحدة الأمريكية فقط) 2834-772 (800) لتلقي نسخة عن طريق البريد.