



24 Channel Digital Mixer



Operating Manual

ASHLY AUDIO INC.

847 Holt Road Webster, NY 14580-9103 Phone: (585) 872-0010

Toll-Free: (800) 828-6308 Fax: (585) 872-0739 ashly.com

All Trademarks referred to herein are the property of their respective owners

©2016-2019 Ashly Audio, Inc. • All rights reserved worldwide

**This owner's manual corresponds to digiMIX24 mixers with firmware version v5.0 or higher.*

Important Safety Instructions Consignes de sécurité à lire attentivement



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the device.

Le symbole de la foudre dans un triangle équilatéral symbolisant la foudre est prévu pour sensibiliser l'utilisateur à la présence de tension de voltage non isolée à l'intérieur de l'appareil. Elle pourrait constituer un danger de risque de décharge électrique pour les utilisateurs. Le point d'exclamation dans le triangle équilatéral alerte l'utilisateur de la présence de consignes qu'il doit d'abord consulter avant d'utiliser l'appareil.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
6. Do not use this apparatus near water.
7. Clean only with dry cloth.
8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus.
10. 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.
11. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
12. Only use attachments/accessories specified by the manufacturer.
13. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. 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.

1. Lisez ces instructions.
2. Conservez ces instructions.
3. Observez les avertissements.
4. Suivez ces instructions.
5. Pour réduire le risque de feu ou la décharge électrique, ne pas exposer cet appareil pour pleuvoir ou l'humidité.
6. Ne pas utiliser l'appareil près de l'eau.
7. Le nettoyer à l'aide d'un tissu sec.
8. Ne pas bloquer les ouvertures de ventilation, installer selon les consignes du fabricant.
9. Éloigner des sources de chaleur tel: radiateurs, fourneaux ou autres appareils qui produisent de la chaleur.
10. Ne pas modifier ou amputer le système de la mise à terre. Une prise avec mise à terre comprend deux lames dont une plus large ainsi qu'une mise à terre: ne pas la couper ou la modifier. Si la prise murale n'accepte pas la fiche, consulter un électricien pour qu'il remplace la prise défectueuse.
11. Protéger le cordon de secteur contre tous bris ou pincement qui pourraient l'endommager, soit à la fiche murale ou à l'appareil.
12. N'employer que les accessoires recommandés par le fabricant.
13. N'utiliser qu'avec les systèmes de fixation, chariots, trépied ou autres, approuvés par le fabricant ou vendus avec l'appareil.
14. Débrancher l'appareil lors des orages électriques ou si inutilisé pendant une longue période de temps.
15. Un entretien effectué par un centre de service accrédité est exigé si l'appareil a été endommagé de quelque façon: si il a été exposé à la pluie, l'humidité ou s'il ne fonctionne pas normalement ou qu'il a été échappé.

Table of Contents

1 Introduction and Important digiMIX24 tips.	4
2 Mixer Controls	6
3 Rear Panel Features	13
4 Getting Started.	15
5 System Functions	21
6 Other Mixer Functions (Firmware Update, Preset Backup/Restore, Factory Reset, EZ-Mode, Automixer, Crossfade)	22
7 Dante-32 Digital Audio Module (optional)	26
8 USB-32 Digital Audio Module (optional)	27
9 iPad Control	28
10 Troubleshooting	29
11 Specifications	30
12 Dimensions.	32
13 Block Diagram	33
14 Warranty	34

Unpacking

As a part of our system of quality control, every Ashly product is carefully inspected before leaving the factory to ensure flawless appearance. After unpacking, please inspect for any physical damage. Save the shipping carton and all packing materials, as they were carefully designed to reduce to a minimum the possibility of transportation damage should the unit again require packing and shipping. In the event that damage has occurred, immediately notify your dealer so that a written claim to cover the damages can be initiated.

The right to any claim against a public carrier can be forfeited if the carrier is not notified promptly and if the shipping carton and packing materials are not available for inspection by the carrier. Save all packing materials until the claim has been settled.

About Ashly

Ashly Audio was founded in 1974 by a group of recording engineers, concert sound professionals, and electronics designers. The first products were elaborate custom consoles for friends and associates, but business quickly spread to new clients and the business grew. The philosophy we established from the very beginning holds true today: to offer only the highest quality audio tools at an affordable cost to the professional user – ensuring reliability and long life. Many years later, Ashly remains committed to these principles.

Ashly's exclusive Five Year, Worry- Free Warranty (three years on touchscreen and motorized faders) remains one of the most generous policies available on any commercial- grade product. The warranty covers every product with the Ashly brand name and is offered at no extra cost.

Please read this entire manual to fully understand the features and capabilities of this product.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation

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 both a commercial and 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help..

❑ 1 INTRODUCTION

Thank you for purchasing the Ashly digiMIX24 digital and networkable 24 input x 14 bus mixer. *This owner's manual corresponds to digiMIX24 mixers with installed firmware version v5.0 or higher. v5.0 firmware added digital audio insert capability (sec. 7), and separated the firmware update utility from the preset update utility (sec. 6).*

With 16 high performance discrete mic/line preamplifiers, assignable auto-mixer, 4 line-level inputs, stereo tape inputs, stereo USB audio input, assignable cross-fade mode, DSP processing with parametric and graphic EQ, compressor/limiter, expander/gate, delay, invert polarity, two built in *stereo* effects buses, four aux buses, four subgroups which can switch to four additional aux outputs, six DCA groups, sensitive LED metering, preset control, password security, iPad® remote control via network connection, and much more, the compact and powerful digiMIX24 offers all the right tools to manage your sound job with confidence.

In order to thoroughly understand the features of the digiMIX24, please read this entire manual as you explore the controls, touchscreen, and remote control capabilities of your mixer.

Standard Features:

- 7 inch color LCD touch screen for graphical viewing, assign, and setup
- Wired network interface for Ashly digiMIX24 iPad remote control app, available free on the App Store®
- 16 low noise mic/line preamps with Neutrik Combo jacks, dedicated trim controls, +48V phantom power, phase invert
- 4 aux sends and 4 subgroup outputs, switchable to 8 aux sends
- 6 DCA for fader or mute groups
- Cross-fade mode for panning between any two assigned channels
- Stereo link for inputs, subgroups, and aux outputs
- EZ-Mode for secure, simplified touchscreen or iPad® control
- TRS inserts on channels 1-8
- Digital inserts on channels 1-16 with optional Dante-32 or USB-32 module installed
- 2 internal stereo FX with fully editable reverbs, delay with tap tempo, tremolo, flanger, and chorus.
- Automixer (gain sharing), individually assignable to input channels 1-16
- Four additional line-level inputs on 1/4" jacks
- Stereo RCA inputs and outputs
- USB 2-track audio stereo record and playback
- 100mm precision Alps® motorized fader
- Pan control
- High resolution delay (0.2mS) on every input, subgroup, aux, or FX
- Expander/noise gate on every input and FX channel
- Compressor/limiter on every input, subgroup, output, and FX channel
- 4-band parametric/shelving EQ filters plus HPF/LPF on every input, subgroup, output, and FX channel
- 31-band graphic EQ on main, aux, and sub outputs
- Solo/PFL on every input, output, subgroup, aux, or FX
- Stereo main output on XLR and 1/4" phone jack with dedicated level control
- Headphone and control room outputs with level control
- User presets for Scene Settings, DSP channel settings, FX settings, or GEQ settings, plus channel copy function
- 32-bit A/D and D/A converters, 32-bit DSP processing, 48KHz sampling rate
- Password security
- Utility programs for firmware update and preset backup/restore (Windows® or Mac®)
- Internal 100-240VAC universal power supply
- Safety/compliance: cTUVus, CE, FCC, RoHs

Optional Features

- Dante-32 network audio interface, field installable, digital outputs for input channels 1-16 are selectable pre/post DSP
- USB-32 multi-track audio interface, field installable, digital outputs for input channels 1-16 are selectable pre/post DSP

10 Tips Before Getting Started:

- ▶ **Channel Selection** - Every input, output, subgroup, and FX channel has its own select button for quick access. Adjusting the fader or other settings only affects the currently selected channel or mix.
 - ▶ **Channel Assignment** - Input channels must be assigned (or sent) to main, aux, sub, or FX mixes using the assign or send buttons. Channel assignments are stored in the working preset, and also saved in a scene preset. ([sec. 2.38](#))
 - ▶ **Working Preset** - The mixer remembers all settings in whatever state they are in when the mixer is powered off. When powered back on, the mixer re-loads these settings as the working preset.
 - ▶ **Saved Presets** - There are four preset types that can be saved on the mixer: 1) Scene (all mixer settings), 2) DSP Channel (single channel), 3) FX (effect), and 4) GEQ (graphic EQ - outputs only) ([sec. 2.31](#)). Presets can be backed up and restored using [<digiMIX24 Preset Utility>](#) or [Ashly digiMIX24](#) iPad app.
 - ▶ **Ethernet/USB Control Jacks (rear panel)** - For remote control of the mixer, connect the Ethernet jack to a network with Wi-Fi, and use Ashly digiMIX24 app for iPad, available free on the App Store. ([sec. 9](#))
 - For firmware update, use only the USB jack to connect a computer running [<digiMIX24 Firmware Utility>](#).
 - For preset backup/restore, use either USB or Ethernet connection with a computer running [<digiMIX24 Preset Utility>](#). Preset and firmware utilities are available for both Windows and MAC. ([sec. 6.1](#))
- Note: The front panel USB jack is only used for 2-track USB audio device I/O, not for preset control or firmware update. ([sec. 2.4](#))*
- ▶ **EZ-Mode** - EZ-Mode offers a simplified touchscreen control surface on the mixer or iPad app for a non-technical user to operate the mixer with limited access to mixer functions. Press the mixer system button for the shortcut to EZ-Mode. ([sec. 6.4](#))
 - ▶ **Password Protection** - Access password and security settings by pressing the System button. Passwords are always four character, alpha-numeric, and case sensitive. The password entered on the mixer will always be the same one used by the Ashly digiMIX24 app on a connected iPad. ([sec. 5.5](#))
- With a password, the entire mixer can be fully locked or unlocked. In EZ-Mode, password protection can limit operation of the mixer to EZ-mode only. Also within EZ mode, faders and icons can be locked independently.
- ▶ **iPad Connection** - The mixer does not provide its own Wi-Fi signal. An Ethernet connection to a network with Wi-Fi is required. **Only one iPad at a time can connect to digiMIX24.** If more than one digiMIX24 is discovered on the network, a list of all available mixers is displayed on start-up. The iPad app and mixer touchscreen will both display a solid green box in the upper left corner when properly connected.
 - ▶ **Touchscreen Modes** - There are three different touchscreen modes; Mixer mode, Long Faders mode, and Cross-fade mode (when activated). A dedicated button on the mixer (or iPad app) toggles between the three modes. 1) Mixer Mode shows all inputs and outputs, plus a long fader on the right for Main output and long fader on the left for the currently selected channel. 2) In Long Faders mode, groups of eight channels are displayed, all with long faders. 3) Crossfade mode shows the current fade position, adjusted by the Pan control, and shows assigned crossfade source channels.
- In either mixer mode, press the unlabeled "PEQ" box in the touchscreen's upper left corner to edit the selected channel parameters or system functions. ([sec. 2.32](#)) This box always displays the selected channel's PEQ curve.
- ▶ **Naming Channels** - In long fader mode, press and hold the green "Name" text box below any long fader on the mixer touchscreen to edit channel names. To save, press the keyboard <Enter> button. To escape, press the keyboard icon in the lower right corner of the pop-up keyboard display. ([sec. 2.32](#))

2 MIXER CONTROLS



2.1 Input Trim

This controls the gain of the analog mic or line input preamplifier. For analog inputs, this is the most important control for setting up proper gain structure in the mixer. Properly set, it helps to avoid clipping and maintains low noise. A good rule is that with typical input signal present on a channel, adjust the trim control to allow 20dB headroom between the expected signal's peak level and when it clips. In other words, normal signal peaks should be around "0" on the meter. Set this control first and then leave it alone unless the input source changes. Do not use the trim control to adjust mix volume later on, use the channel's fader control instead.

2.2 Input/Output LEDs

Input LEDs indicate the signal level of each input in dBu, after the preamplifier stage but pre-fader. Output LEDs (Sub & Main) indicate signal level at the output. They can alternately indicate every channel's current fader position by pressing the Faders/Meters button ([sec. 2.23](#)).

2.3 Select Button

Every input, subgroup, main output, aux, and effect (FX) has a dedicated select button. All routing assignment, DSP, sends functions, and motorized fader activity are applied only to the selected channel. This allows the user to quickly change from one channel to the next from any mixer function.

2.4 USB 2-Trk I/O Port

This is used to connect with a USB stereo audio device for playback or recording. It is not for software control of the mixer.

USB audio input is always sent to channels 23-24, and is adjusted using the USB 23-24 level control ([sec. 2.9](#)). USB audio output uses the main L/R output signal. Audio resolution & sampling rate for 2-track USB audio on the digiMIX24 is 16 bit @ 48kHz.

2.5 Headphone Out

Plug in headphones here for monitoring the main outputs or selected solo channels. Use the Headphones Level control to adjust volume

2.6 Meter/Solo Button

Press this button to toggle the two LED bars directly above it from indicating either the Stereo Main signal level, or the Stereo Solo level.

2.7 Line 1 & 2 Level Control

Line1 and line2 level controls adjust the level of inputs 17-18 and 19-20 to the main mix. Line inputs can be assigned to the main, aux, sub, and FX bus using the Assign button and touchscreen ([sec. 2.38](#)). For stereo line inputs, press the Stereo Link button ([sec. 2.35](#)) so that settings of the selected line input will track with its adjacent channel. Movement of a selected line level control also moves the motorized fader and corresponding touchscreen fader, as all three controls work together.

2.8 Tape Level Control

Tape inputs 21-22 come from the RCA inputs, and can be assigned to the main, aux, sub, and FX bus using the assign button and touchscreen. This control only adjusts the tape input level to the main mix, working together with the motorized fader and the corresponding touchscreen fader.

2.9 USB Level Control

USB stereo inputs 23-24 come from the USB audio input ([sec. 2.4](#)). They can be assigned to the main, aux, sub, and FX bus using the assign button and touchscreen. This control only adjusts the USB input level to the main mix, working together with the motorized fader and the corresponding touchscreen fader.

2.10 Aux 1-4 Level Controls and Send Button

Aux outputs are typically used for secondary mixes such as monitors, video feed, assistive listening devices, subwoofers, etc. Each aux level control, when selected, determines the overall output level for that aux output. Aux outputs can be stereo linked.

Input channels are assigned to an aux mix pre or post-fader using one of two methods: The first method is to select an input channel, then press the <Assign> button. Use the touchscreen to select the aux outputs you wish to send that input channel to, then adjust the level sent to that aux mix by adjusting either the touchscreen <Parameter Adjust> control or the Adjust Parameter knob.

The second method is to press the <Send> button associated with each aux level control to quickly view and adjust all input channels sent to that aux mix. Use the touchscreen to select each input and assign it pre/post, and use either the touchscreen <Parameter Adjust> control or the Adjust Parameter knob to adjust the level sent to the aux mix.

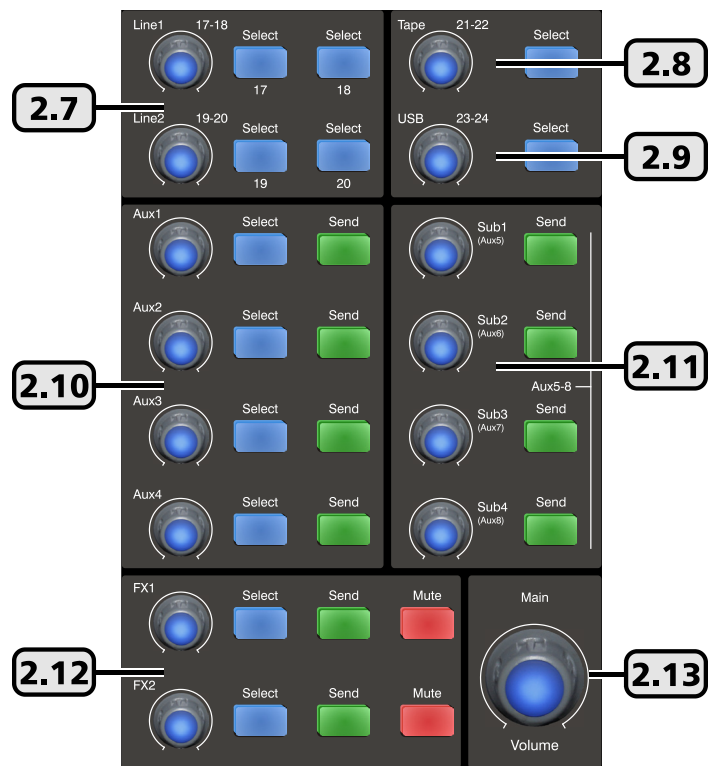
2.11 Subgroup 1-4 (or Aux 5-8) Level Control and Sends

Subgroups are typically used for a user-selected group of inputs to be controlled together using one fader, or to send grouped signals to their own dedicated output for recording or processing. Typical grouped inputs include drum sets, choirs, orchestral sections, background vocals, etc. FX can also be included in a subgroup. Subgroups are somewhat similar to DCA and aux groups, but each have advantages. Subgroups in this mixer are always post-fader. Inputs can be assigned to multiple subgroups. To create a stereo subgroup, SUB1-2 or SUB3-4 can be linked using the stereo link button ([sec. 2.35](#)).

To assign inputs to a subgroup, first select an input (or FX channel), then press the desired SUB (1-4) button below the touchscreen ([sec. 2.34](#)), or use the Assign function for touchscreen control. All inputs and FX assigned to a subgroup will be controlled by their respective SUB (1-4) level control. Subgroups can only be routed to the main L/R outputs or to their dedicated subgroup output jacks. Subgroups can use onboard processing including polarity, delay time, compression, PEQ, and GEQ.

► **TIP:** When assigning an input to a subgroup for live mixing, you should leave its assignment to the Main output unselected, otherwise the input will still be heard in the main mix even with its subgroup level control turned all the way down.

Aux(5-8) Mode: All four subgroups can be switched as a group to work instead as Aux5-8 outputs that function the same as Aux1-4. To switch their function from subgroup to aux, press the system button ([sec. 2.30](#)) then press the touchscreen button that says Aux/Sub Mode and press "Yes" when the display prompts to change settings.



2.12 FX 1 & 2 Level Controls, Send, and Mute Button

This mixer has built-in effects including reverbs, delay, chorus, flanger, tremolo, plus combinations. Up to 104 effects can be custom configured, saved, and loaded from mixer memory. Only two effects can be used at a time.

Press the FX1 or FX2 button beneath the touchscreen to define or load the currently available effects ([sec. 2.44](#)). Then press the FX1 or FX2 Send button and use the touchscreen Parameter Adjust fader or the Adjust Parameter knob ([sec. 2.27](#)) to set the level of each input that you want sent to each effect. Pre/Post effect send status is also assigned here. An alternate method of applying effect to an input channel is to select an input, press the Assign button, then select and adjust the resulting touchscreen FX1 or FX2 controls.

Once FX1 and FX2 have been defined and desired input channel sends have been adjusted, each FX bus must be routed to the main, aux, or subgroup outputs as desired. Press the FX1 or FX2 Select button, then press the Assign button, then select the main or sub outputs using the touchscreen or with the buttons below the touchscreen. Similarly assign and adjust the FX level sent to Aux outputs using the touchscreen parameter adjust control for each aux.

The master FX1 and FX2 knobs, when selected, work along with the motorized fader to control the FX level sent to the stereo main and four subgroup outputs as assigned. FX level sent to the aux outputs is adjusted by using the touchscreen assign window or the aux level controls, again while FX1 or FX2 is selected. Press the FX1 or FX2 mute button to silence the effect or compare the sound with/without effect.

2.13 Main Volume Control

This control adjusts the stereo output level to the main L/R outputs. When the main select button is pressed ([sec. 2.3](#)), this control works together with the motorized fader and touchscreen.

2.14 Ctrl Room Level Control

This adjusts the level of the control room outputs. Control room outputs always use the post-fader signal from the main L/R outputs.

2.15 Headphones Level Control

This adjusts the headphone output level. The headphones default to L/R post-fader signal unless an input, output, subgroup, FX, or DCA group is assigned to the solo bus. ([sec 2.19](#))

2.16 DCA Set Button

Digital controlled amplifiers (DCA1-6) are used to combine multiple inputs, aux or sub outputs, or FX outputs into one mix group for simplified control of that group. DCA groups allow the relative fader position of each member to be preserved while adjusting their overall combined level as a group. It also allows the group to be instantly muted. This is typically used for grouping vocals, drums, choir or orchestral sections, etc. DCA groups must first be defined before using EZ-Mode ([sec 6.4](#)).

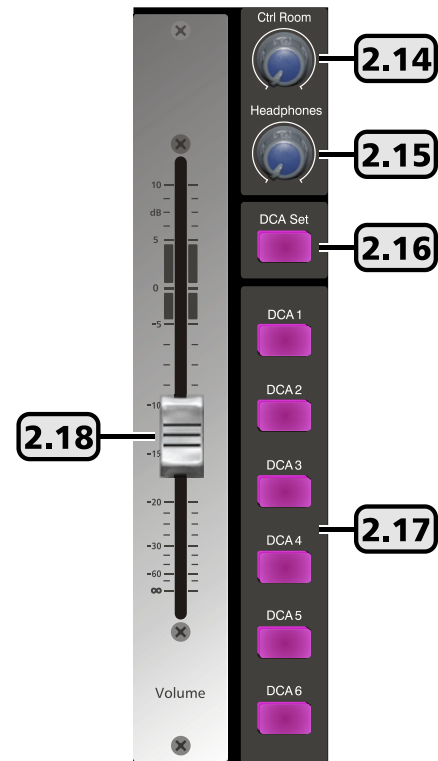
To define a DCA group, first press the DCA Set button so that it flashes, then select one of the six DCA button on the mixer or touchscreen, then select the individual channels to combine for that DCA group. When finished, press the DCA Set button again to store settings. Channels can be assigned across multiple DCA groups. To clear the currently selected DCA group, press the DCA set button, then press DCA clear on the touchscreen.

2.17 DCA1-6 Buttons

These six buttons are used to select a pre-defined DCA group for main fader, mute, or solo control. If the DCA group is not defined, a touchscreen message appears requiring a response before proceeding.

2.18 Motorized Fader

This is the primary level control for all inputs, main output, aux and sub outputs, effects master, and DCA control. Press the select button on any input or output, and the motorized fader will control its level. The fader works together with other level controls used for the same selected signal. Motorized fader speed can be adjusted in the system screen ([sec. 5.2](#)).



2.19 Solo Button

Use the solo button for listening to one or more isolated signals in the headphones. Select an input, output, subgroup, FX, or DCA group, then press the solo button to include that signal in the solo bus. The default solo setting is pre-fader, meaning the selected channel's solo level is not affected by its fader position.

Press the solo clear button to clear all solo-selected channels. With no channels selected for solo, the headphone output defaults to the main L/R output. Solo status can also be viewed and set from the touchscreen display.

The solo function will work in stereo for any linked inputs, aux or sub outs, or FX channels.

2.20 PFL Button

As part of the solo function, PFL is used to monitor selected solo channels at their *pre-fader level*, meaning the selected solo channel(s) will still be heard even if its fader is turned down.

2.21 Clear Button

This button clears all solo selections and returns the headphone output to main L/R.

2.22 Mute Button

The mute button is used to silence the selected input, output, aux or sub output, FX, or DCA group. Mute status can also be seen or controlled using the touchscreen display.

2.23 LED Faders/Meters Select Button

This button is used to toggle the input LED bars ([sec. 2.2](#)) to either indicate the current signal levels of all channels, or show the current fader position of all channels.

2.24 Pan Control

The pan control is dedicated to fading the selected channel from left to right in the mix. It is also used for Crossfade mode ([sec. 6.6](#)) to quickly fade between two assigned channels. Its stereo position for the selected channel is displayed on the touchscreen.

2.25 EQ Bypass Button

Press the EQ bypass button to disable the PEQ or GEQ on the selected channel. This is useful for comparing signal with and without EQ.

2.26 Mixer/Long Faders Select Button

This button toggles between the two main mixer displays, one showing every mixer input and output, the other showing groups of eight channels with longer faders. Channel names are edited in long fader mode. To edit a channel name, press and hold the channel name text box at the bottom of any long fader, then use the pop-up touchscreen keyboard to enter a new name.

If Crossfade mode is active ([sec. 6.6](#)), this button toggles through both mixer display modes plus Crossfade mode.

2.27 Adjust Parameter Control

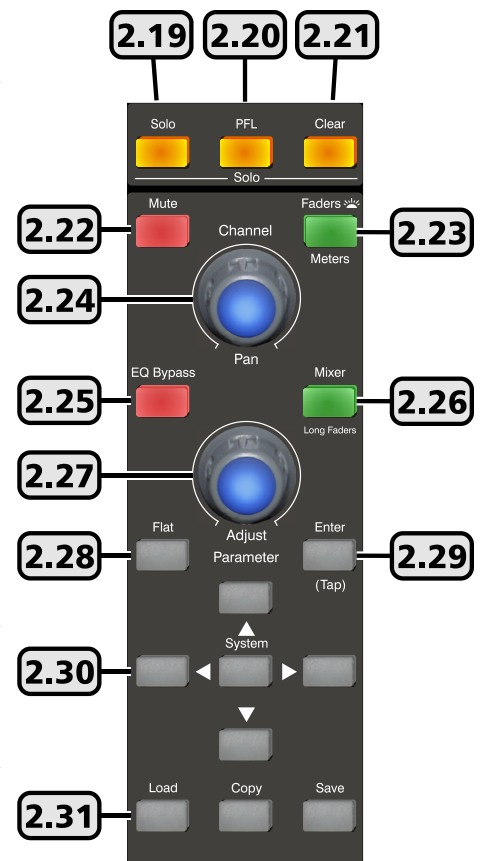
This control is typically used to adjust the currently active or highlighted DSP parameter within the touchscreen display. It may work together with other level controls.

2.28 Flat Button

Press this button to flatten the PEQ or GEQ settings, or reset Exp/Gate or Comp/Limiter settings on the currently selected channel.

2.29 Enter (Tap) Button

This button has two functions. The first is to offer a "Yes" response any time the touchscreen prompts for yes or no input, for example selecting a DCA that has not yet been defined.



The second function is to manually set an FX delay time to match the beat of the music, also called as "tap delay". Press the FX1 or FX2 button and select Delay as the effect type. Set the delay time by pressing the TAP button at the start and again at the end of the desired delay time. Maximum tap delay is 1200ms.

2.30 System Buttons

The system button opens the touchscreen window to various functions including EZ-mode ([sec. 6.4](#)), digital output pre/post-DSP select, aux5-8/sub1-4 mode select, cross-fade mode ([sec. 6.6](#)), auto-mixer channel assign ([sec. 6.5](#)), LCD brightness, fader speed calibration, password/security functions, restore default settings, and more. The up/down/left/right (UDLR) system buttons are used to adjust parameters in the various system functions, their purpose depending on the selected function. For example, with the GEQ function selected, the two Left/Right system buttons move to select one of the 31 EQ bands, while the Up/Down buttons adjust the selected EQ filter level. The buttons work together with touch controls on the screen, but for smaller touchscreen controls it is easier to use the UDLR buttons.

2.31 Save, Load, and Copy Buttons

There are four different types of user presets that can be saved/loaded on the digiMIX24.

- 1) Scene - Scene presets are the most inclusive, capturing all audio settings in the mixer. Up to 24 scene presets are available.
- 2) DSP Channel - The DSP channel preset is used on inputs, outputs, aux, and subgroups. It saves/loads a single channel's assignments, channel settings, gate, comp, and PEQ/GEQ settings. Up to 48 different DSP channel presets can be saved.
- 3) FX - FX presets are used to save/load up to 104 different user defined FX1 and FX2 effects.
- 4) GEQ - The 48 GEQ presets are only used to save/load graphic equalizer settings, which are only used on outputs.

SAVE: To save a mixer preset, first press the save button, then use the touchscreen to select one of the four preset types. Next, select a preset number to use, then press the preset name box, type in a preset name, press enter, then press Save on the touchscreen to write to memory. Use UpPage and DownPage to navigate to the next available group of presets.

LOAD: To load a mixer preset, press the load button, then in the touchscreen window select the type of preset to load, then select one of the available presets and press the touchscreen load button.

To delete a mixer preset, press the load button, select a preset to delete, then press the touchscreen delete button.

COPY: To copy current settings from one channel to another, press the Copy button on the mixer or the Copy Channel button from the touchscreen system page. The resulting touchscreen window will display all inputs and outputs, with the currently selected channel flashing. This is the channel that will be copied *from*, and can be changed by selecting any other channel using the touchscreen or control surface select buttons.

Next, press the <Copy to: Select> button on the touchscreen and select every channel(s) you want settings to be copied to. Next, press the touchscreen <Copy> button to complete the copying process.

► **TIP:** All channel DSP functions are individually listed across the bottom of the touchscreen. Each function can be checked or unchecked to include or exclude from being copied. Only the checked parameters will be copied.

2.32 Touchscreen Display

Most mixer functions can be adjusted using either the touchscreen or the buttons/knobs, however some functions can only be adjusted using the touchscreen.

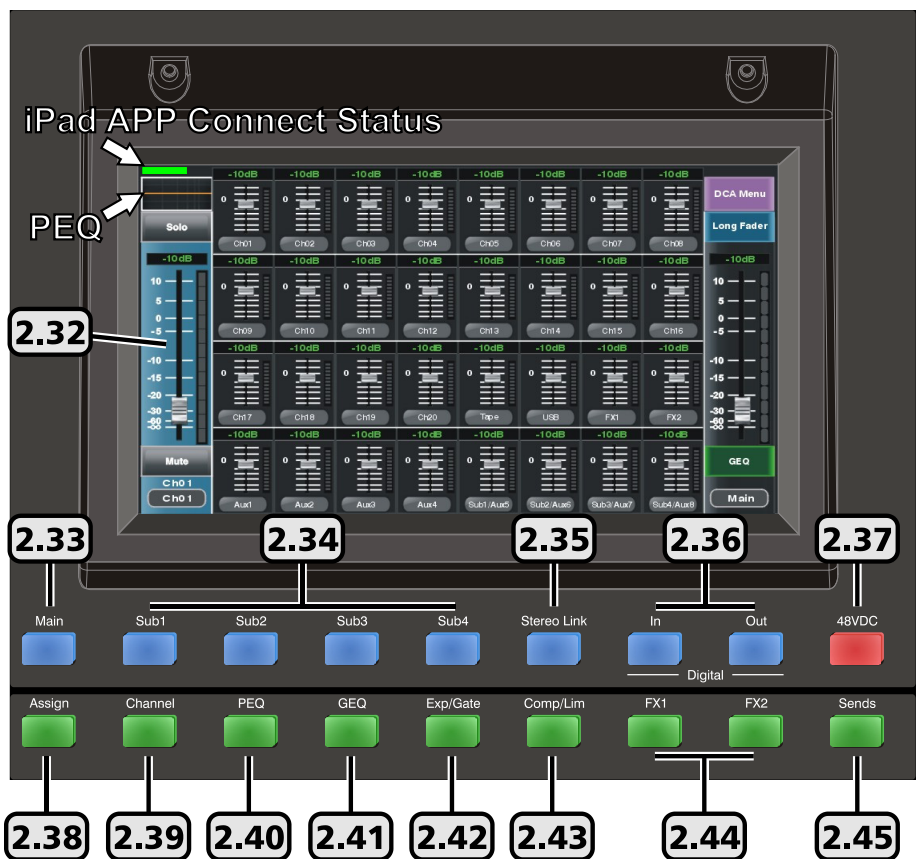
Level and fader controls are adjusted by dragging the control, or by first selecting it then turning the adjust parameter knob ([sec. 2.27](#)).

In Mixer Mode, touch any channel fader to select it. The currently selected input channel, FX, aux, or subgroup fader will appear along the left side. Parameters include channel name and number, fader level, plus mute, solo, and auto-mixer status. In mixer mode, the main output fader is always shown along the right side.

► **TIP:** The unlabeled touch-box above the solo function shows the current PEQ curve for the selected channel. Touch this box to access all DSP functions for the selected channel.

► **TIP:** Above the PEQ box is a smaller unlabeled box which turns green when the mixer is connected to digiMIX24 app for iPad. It turns black when the iPad connection is lost.

► **TIP:** The channel name can be edited by pressing and holding the "Name" text box below any long fader until a keyboard appears on screen. Type in the new name and press enter to complete. To escape out of the keyboard without changing anything, press the keyboard icon in the lower right corner.



2.33 Main

The Main button is used to assign the currently selected input channel, subgroup, or FX to the main mix, and becomes lit when assigned. Assignment status can also be edited using the touchscreen Assign window ([sec. 2.38](#)), or the Main Sends button ([sec. 2.45](#)).

2.34 Sub 1-4

Press the sub(1-4) buttons to assign the currently selected input channel or FX to a subgroup ([sec. 2.11](#)).

2.35 Stereo Link

The stereo link button is used to link two adjacent input channels, subgroups, or aux outputs together so that all level, DSP, and assignment parameters are equally applied to both channels. Channel pairs can only be linked where the odd numbered channel is first, ie 1-2, 15-16, sub1-sub2, aux1-aux2, etc. When stereo linking a pair of channels, the mixer automatically routes the odd numbered channel to the left output and the even numbered channel to the right output, and they will be heard in stereo. To see the various way stereo linking and panning work with linked subgroups or linked aux outputs, see [section 4.7](#).

2.36 Digital In/Out

The optional Dante-32 or USB-32 multi-track audio module must be installed before using this feature. These buttons open the digital audio assignment screen to enable mixer channels for digital audio use. *Note: With mixer firmware v5.0 or higher, digital outputs from input channels 1-16 can be assigned as either pre or post-DSP.* See [sections 7-8](#) for details on using Dante-32 or USB-32.

2.37 48VDC Phantom Power

Press the 48VDC button to assign +48Vphantom power to any of input channels 1-16.

2.38 Assign

Press the assign button to view or change where the currently selected input or FX is routed to in the mixer. The selected channel is always shown on the left side of the display. Inputs can be assigned or sent to main, sub1-4 (or aux5-8), aux1-4, and FX1-2.

Assigned outputs appear blue when selected. Signal level sent to aux and FX buses must be adjusted individually using the touchscreen parameter adjust fader on the right side of the display, or by using the adjust parameter knob ([sec. 2.27](#)). There are also several quick links to other mixer functions from the assign window.

2.39 Channel

Press the channel button to view and access all DSP settings for the currently selected input channel, subgroup, main output, FX, or aux output. The currently selected channel (or linked channels) is always shown on the left side of the touchscreen display.

Every DSP function has a dedicated On/Off button on the touchscreen.

Input channel DSP functions include stereo pan, polarity invert, channel delay up to 300ms, stereo link, expander/gate, PEQ, and compressor/limiter. Subgroups and aux outputs do not have expander/gate function. Channel DSP settings can be saved or loaded as a DSP channel preset ([sec. 2.31](#)).

2.40 PEQ

Press the PEQ button to engage the 6-band EQ for the currently selected input channel, subgroup, main output, FX, or aux output.

The PEQ has four parametric filters with adjustable frequency, bandwidth (Q), and gain. Any of these four can also be set as shelving filters by pressing their <Type> icon on the touchscreen. Two additional filters complete the PEQ section, a tuneable hi-pass (HPF) and low-pass (LPF), each offering 20 different slope types. For tips on using the PEQ see [section 4.2](#).

Press the EQ Bypass button ([sec. 2.25](#)), or the touchscreen ON button to compare signal with and without PEQ. Press the Flat button ([sec. 2.28](#)) or the touchscreen Flat EQ button to return all PEQ filters to their 0dB gain and default starting parameters

2.41 GEQ

The GEQ 31-band graphic equalizer is only available on the main, subgroup, and aux outputs. It is not available on inputs or FX.

Select and drag individual filter faders up/down on the touchscreen, or use the left-right buttons on the touchscreen, or use the system left/right buttons on the mixer front panel ([sec. 2.30](#)) to select frequency, then use the system up/down buttons to adjust filter level. Up to 48 different GEQ presets can be saved to memory and loaded later for use with specific rooms or loudspeakers.

Press the EQ bypass button ([sec. 2.25](#)), or the touchscreen ON button to compare signal with and without GEQ. Press the flat button ([sec. 2.28](#)) or the touchscreen flat EQ button to return all GEQ filters to 0dB.

2.42 Exp/Gate

Press this button to engage the noise gate/expander for the selected channel. This function will silence or reduce the level of an input or FX signal when it falls below a user defined threshold. Controls include on/off, threshold, attack time, release time, and ratio. Infinite ratio silences all signal below the threshold (noise gate), while using a lower ratio allows some signal below the threshold to pass (downward expansion). Press the flat button to return the expander/gate parameters to their default settings. See [section 4.3](#) for tips on using an expander/gate.

2.43 Comp/Lim

Press the Comp/Lim button to engage the compressor/limiter function on a selected input, subgroup, main output, FX, or aux output. Use this feature to reduce the dynamic range of a signal (compressor) or to limit how loud a signal can go (limiter). Touchscreen controls include on/off, threshold, attack time, release time, ratio, and post gain. See [section 4.5](#) for tips on using a compressor/limiter.

2.44 FX 1 & 2

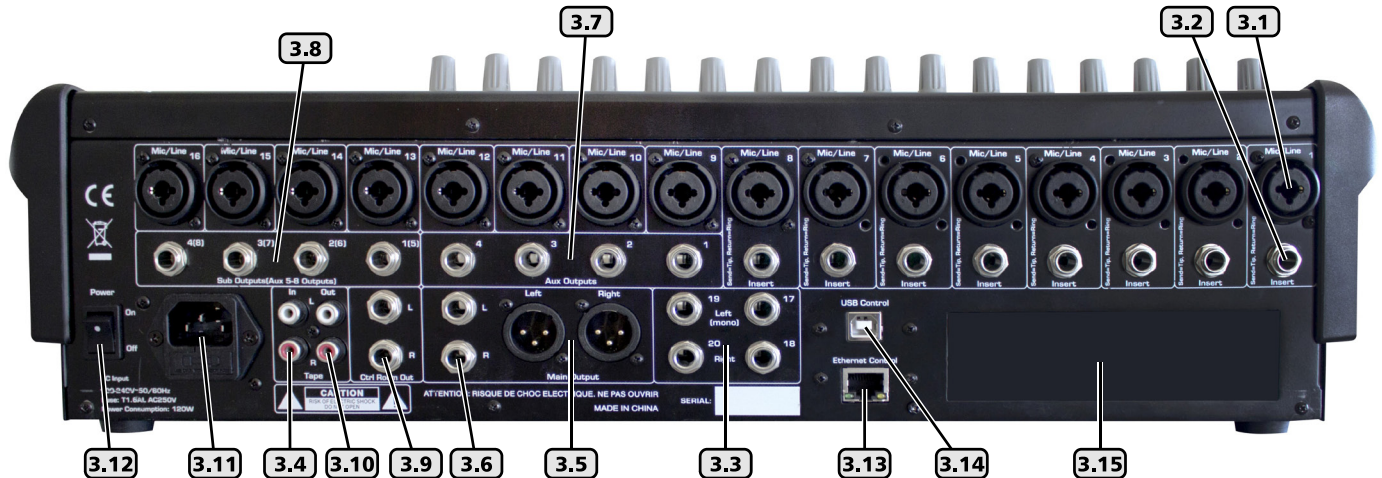
Two digital effect buses are available. Customized effects can be created, saved, and assigned, and include three types of reverb, delay, tremolo, flanger, chorus, or combinations ([sec. 4.8](#)). Up to 104 different user defined effects can be saved to the mixer ([sec. 2.31](#)).

2.45 Sends

This button is used to quickly view channel assignment and pan status for the main output mix. Tap any channel on the touchscreen to select and enable/disable it for main output. The currently selected channel will always display an orange square around it. The Pan control knob will always affect the currently selected channel.

The other output groups, Aux 1-4 (5-8), Sub1-4, and FX1-2, each have their own dedicated Send button for similarly viewing or enabling channel assignments to their respective mix. You can navigate to the sends screen for these other mixes using the <Previous>, <Next>, or <Select> functions at the top of this screen, or by simply pressing the Send button for any output channel or FX group.

3 REAR PANEL FEATURES



3.1 Combo Jack Inputs, Channel 1-16

There are 16 mic/line channels that use a XLR-1/4 phone jack" combo connector. The female XLR connector is for a balanced mic input, and the TRS (tip-ring-sleeve) phone jack is for balanced line level input. See the illustration for proper balanced or unbalanced wiring of XLR and phone jacks. The mic preamp circuit is overridden when the phone jack is inserted. Avoid plugging or unplugging connectors when the volume is turned up, as loud transient pops can result which may damage loudspeakers.

3.2 TRS Insert, Channel 1-8

Channels 1-8 are each equipped with a single TRS jack insert point for use with external processors. Tip=send, and ring=return. The outgoing signal is taken right after the analog trim control, and the return signal goes directly to a D/A converter for routing to the digital bus for DSP processing.

3.3 Channel 17-18, 19-20 Stereo Line Inputs

These inputs function as two stereo line level inputs ([sec. 2.7](#)) or as four mono inputs. There is no adjustable preamp on these inputs, so a strong input signal level (0dBu) is recommended. Plugging in only the left inputs (channels 17 or 19) sends a mono signal to both left and right inputs.

3.4 Tape Inputs

These two RCA inputs are controlled by the tape (21-22) level control ([sec. 2.8](#))

3.5 Main XLR Outputs*

The left and right main outputs on balanced XLR male connectors are controlled by the main volume control ([sec. 2.13](#)). They are wired in parallel with the main phone jack outputs.

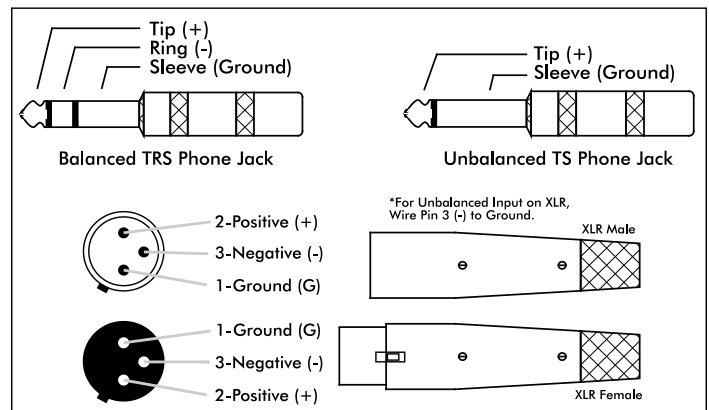
3.6 Main Phone Jack Outputs*

The left and right main outputs on TRS phone jack connectors are wired in parallel with the main XLR outputs.

3.7 Aux 1-4 Outputs*

These four phone jacks are pseudo-balanced outputs for aux 1-4 ([sec. 2.10](#)). They have single-ended signal with balanced impedance.

** If plugging any digiMIX24 output into a powered speaker or other mixer input, phantom power **must** be turned off at that input.*



3.1 - Balanced and Unbalanced connector wiring

3.8 Subgroup 1-4 (or Aux 5-8) Outputs*

These four phone jacks are pseudo-balanced outputs for sub1-4, or can be switched over for use as aux5-8 ([sec. 2.11](#))

***If plugging any digiMIX24 output into a powered speaker or other mixer input, phantom power must be turned off at that input.**

3.9 Control Room Output

The balanced stereo control room outputs use the same signal as the main outputs, but with a separate volume control.

3.10 Tape Outputs

The main stereo bus is routed post-main-fader to the RCA tape outputs.

3.11 AC Inlet

This is used to connect the mixer to AC mains using the detachable AC cord provided with the unit.

3.12 Power Switch

This switch turns on power to the mixer. Turn-on time is about 15 seconds.

3.13 Ethernet Control Jack

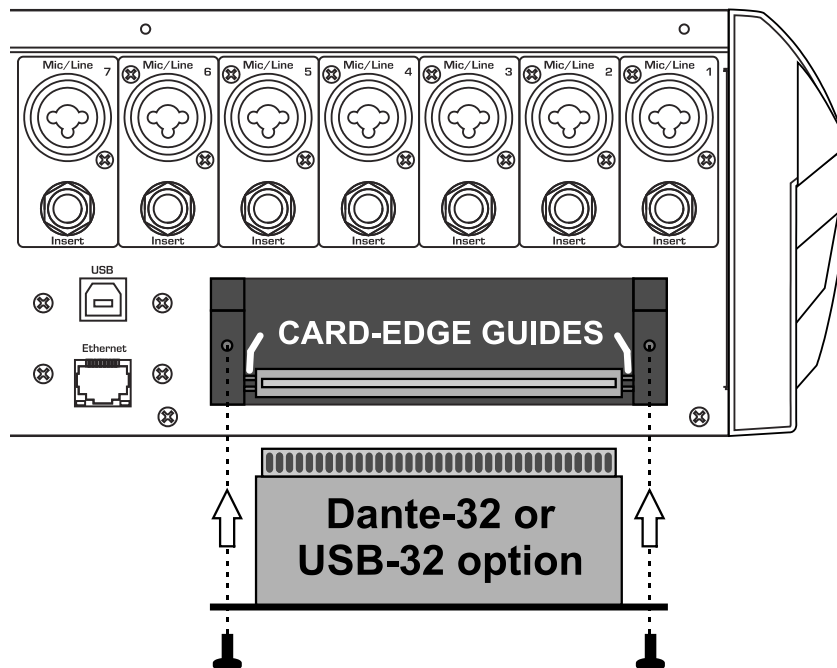
The Ethernet jack is used for connecting the mixer to a network with wifi for remote iPad control ([sec. 9](#)), or for using with <digiMIX24 Preset Utility> software ([sec. 6.2](#)). For firmware update, Ashly recommends using the USB control jack, not Ethernet.

3.14 USB Control Jack

The USB Control jack is recommended for firmware update, and can be used instead of the Ethernet jack for connecting to a computer running <digiMIX24 Preset utility>. A specific USB device driver may need to be installed on your computer ([sec. 6.1](#)).

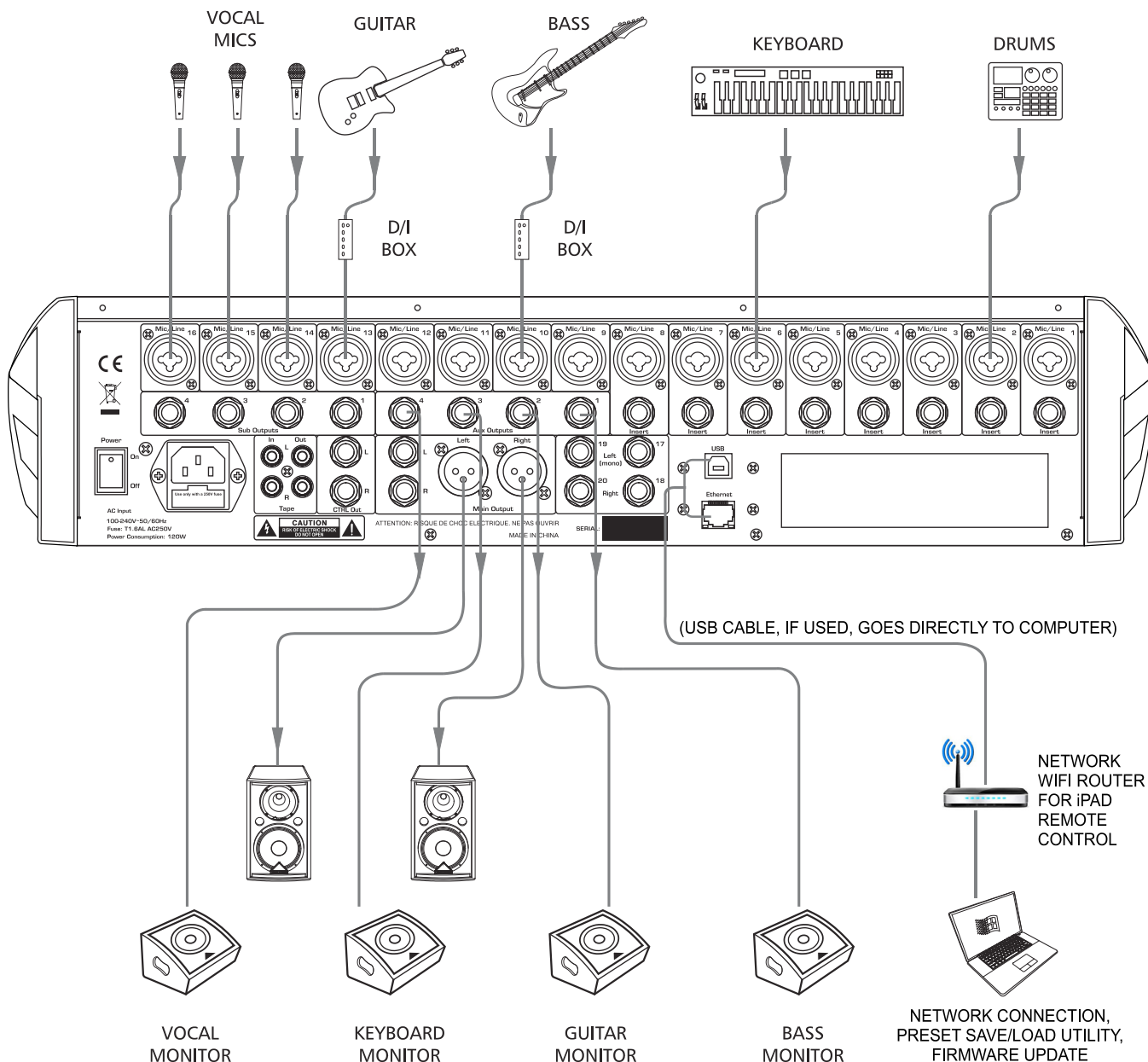
3.15 Digital Audio Module Option

Ashly offers optional field installable Dante-32 or multi-track USB-32 audio modules for the digiMIX24 mixer. To install the module, first remove the mixer from power, then remove the two screws holding the blank plate to the back panel option slot, then carefully seat the Dante-32 or USB-32 module into the two card-edge guides on either side of the module slot as shown before finally pressing the module fully into the internal card-edge connector. Re-fasten using the two screws. See [section 7-8](#) for operating details.



3.15 - Dante-32 or USB-32 installation on digiMIX24

4 GETTING STARTED



4.1 Typical Application

The above illustration shows a typical band setup with instrument and vocal inputs, four separate monitor mixes, stereo main speakers, and remote control from a laptop and iPad. Use the following procedure to safely and quickly set up the system.

- 1) Plug in all inputs, outputs, and speaker cables. Leave power amplifiers turned down at first.
- 2) One input at a time, set input trim controls so their loudest signal peaks are around 0dBu on the input meters ([sec. 2.1](#))
- 3) Assign all desired inputs to the main output using the Assign button ([sec. 2.38](#)) or Sends button ([sec. 2.45](#))
- 4) Select the main output and turn its level all the way down ([sec. 2.3](#))
- 5) Turn up power amplifiers, then slowly turn up the main fader or volume control ([sec. 2.13](#)) until reaching a comfortable level.
- 6) Verify that all inputs can be heard in the main speakers or use the solo function ([sec. 2.19](#)). Select an input before adjusting.

- 7) Adjust PEQ ([sec. 2.40](#)), expander/gate ([sec. 2.42](#)), and compressor/limiter ([sec. 2.43](#)) on each input channel as needed. For greater details and examples of how to use these functions, see sections [4.2](#), [4.4](#), and [4.5](#).
- 8) Assign the aux output(s) for all used input channels, adjusting their level to each monitor mix. ([sec. 2.10](#), [2.38](#), or [2.45](#))
- 9) Use the master aux level controls to set each overall monitor level ([sec. 2.10](#))
- 10) Apply effects to input channels if desired. See sections [2.12](#), [2.44](#), and [4.8](#) for details and examples.
- 11) Adjust GEQ graphic equalizer for main, aux, or subgroup outputs. ([sec. 2.41](#))
- 12) To create a vocal or other subgroup, follow the instructions in [section 2.11](#), then select the subgroup to adjust the group level using the main fader.
- 13) To create a DCA level or mute group for all vocals or other groups, follow instruction in [section 2.16](#), then select the DCA group before using the main fader or mute button.
- 14) Save settings as scene presets, DSP channel presets, FX presets, or GEQ presets ([sec. 2.31](#)).

4.2 PEQ Parametric EQ

Press the PEQ button to engage the parametric EQ for the currently selected input channel, subgroup, main output, FX, or aux output. The four filters EQ1-EQ4 can be shelving or parametric, with additional hi-pass and low-pass filters.

Shelving Filters: EQ1-EQ4 can be set as tuneable shelving filters, typically used as the high and low boost/cut controls. Press the filter <Type> image on the touchscreen to toggle between low shelf, high shelf, or parametric peak filter.

Parametric Filters can adjust frequency, bandwidth (Q), and filter gain/cut. Think of one band of parametric EQ as a single graphic equalizer fader where the frequency is variable, and the bandwidth (Q) is also variable. The smaller the bandwidth, the less the audio signal on either side of the frequency center is boost or cut, whereas a wider bandwidth produces a more audible change to the overall tone of a signal. In addition to basic tone controls, parametric filters are ideal for eliminating problem feedback frequencies without greatly affecting the overall sound. They are also useful for adding or removing a characteristic hot spot from microphones or for precisely compensating for room resonance. It is well worth the time becoming proficient with parametric EQ filters, as they offer the best solution to many EQ problems.

HPF/LPF: The hi-pass and low-pass filters are cut only, with adjustable frequency and slope. There are 20 different filter types to choose from including Butterworth, Bessel, and Linkwitz-Riley, with filter slopes ranging from 6db/oct to 48db/oct. These filters are typically used to limit bandwidth. A common application is to use an aux output to drive 70V transformer tapped speakers that are not suited for signal below 80Hz. Set the HPF for that Aux output to 80Hz, then select the desired filter type.

Tone Control: The four EQ filters can be used as basic tone controls with tuneable frequencies, ie high, high-mid, low-mid, and low. High and low typically use shelving filters. Press the <Flat EQ> button to restore all filters to 0dB gain, medium Q, and default starting frequencies and filter types. A lower Q broadens the filter to have a much greater effect, while a higher Q narrows the bandwidth and makes less of an overall difference when boost or cut.

Notch EQ for Feedback Control: To eliminate a feedback problem on a live mic input, set the PEQ flat and turn up the microphone level until it is on the edge of feedback. Then using the frequency control, sweep a narrower bandwidth (higher Q) filter through a problem feedback area, with just a slight amount of gain on that filter, until finding the exact frequency causing feedback. Once the feedback frequency has been identified, reduce the filter's gain until feedback is gone. Adjust the bandwidth (Q) as narrow as possible while still eliminating feedback. Repeat with additional filters and frequencies as necessary. Finding the problem frequency is relatively easy, but finding the best combination of minimal cut and bandwidth takes a little practice.

Notch EQ for Room Resonance: To reduce excess reverberation or boominess in a room, use the parametric filter on the main or aux outputs. With music playing through the speakers, engage a PEQ filter on the output, then sweep the filter's frequency with a slight boost and medium Q until you hear a disproportionate increase in the boominess of the music. This frequency is a room resonance, and can be notched to compensate. Adjust the bandwidth and cut only as little as necessary to fix the problem.



Figure 4.2: PEQ Parametric EQ Screen

4.3 GEQ Graphic EQ

The 31-band GEQ graphic equalizer is available on the Main, Aux, or Sub outputs only, not with any input or FX channels.

Adjust GEQ filters by selecting and dragging them up and down on the touchscreen, or use the up/down/left/right buttons and Adjust Parameter knob. The left/right buttons select frequency, and the up/down buttons or Adjust Parameter knob can be used to adjust filter boost and cut.

The GEQ is engaged when the <On> button on the touchscreen is solid green. To bypass the GEQ, press the <On> touchscreen button again or press the EQ Bypass button found at the right of the screen.

To return all filters to 0dB, press the touchscreen <Flat EQ> button, or press the Flat button to the right of the screen.

Up to 48 different GEQ filter curves can be saved and recalled. Current GEQ filter settings can be copied to another output, subgroup, or aux using the touchscreen or panel <Copy> button.

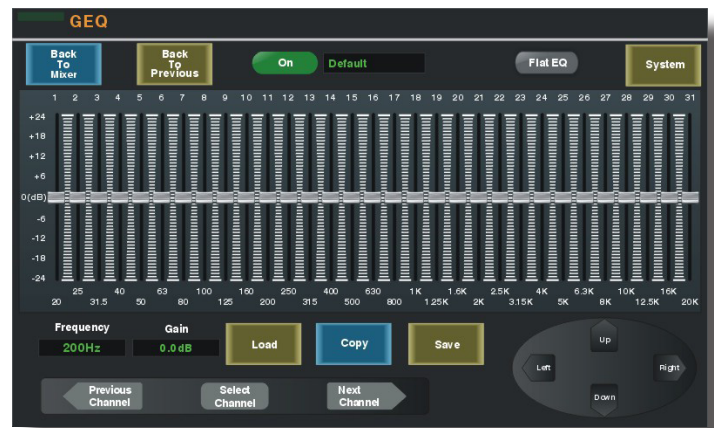


Figure 4.3: GEQ Graphic EQ Screen

4.4 Expander/Gate

A noise gate is typically used to eliminate unwanted, low level noise from an individual input, allowing only the louder signals to pass. An expander is used to increase the dynamic range of a signal by lowering the quietest signals.

Threshold is the input signal level above which the gate opens up and input signal is allowed to pass through unchanged.

Attack sets the amount of time from when the input signal reaches threshold to when the gate actually opens up. A medium attack time helps the gating action sound more natural.

Release sets the time the gate remains open after signal level falls back below threshold.

Ratio determines how much the input signal gets attenuated when the gate is closed. Infinite ratio completely silences the input when its signal is below the threshold, while a lower ratio allow some signal to pass through at all times.

When used as a downward expander, the idea is to extend the signal's dynamic range by taking the quieter signals and lowering their level even further. The lower the ratio control, the more signal below threshold will pass through. The higher the ratio, the greater the dynamic range will be between softest and loudest signals. An infinite ratio silences all signal below the threshold.

4.5 Compressor/Limiter

This compressor/limiter has adjustable gain, threshold, attack time, release time, and ratio. The controls will only work when the ON button is pressed. The green bar above the ON button indicates when gain reduction is occurring. Press the <Flat> button to clear and return all compressor/limiter parameters to their default settings.

Threshold - This sets the input level above which gain reduction is used to compress the signal. Threshold range is from -30dB to +20dB.

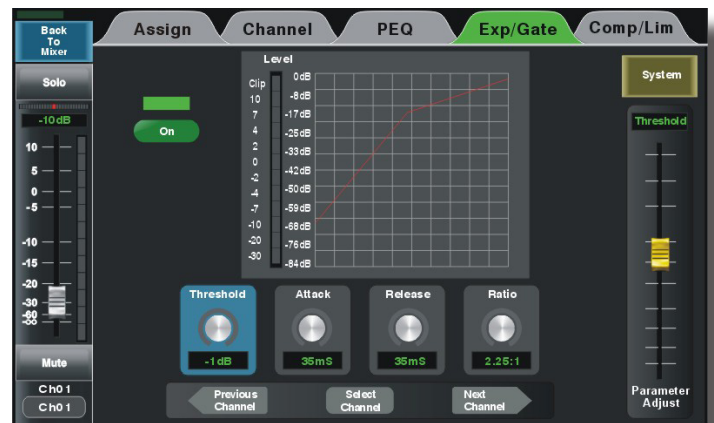


Figure 4.4: Expander/Gate Screen



Figure 4.5: Compressor/Limiter Screen

Attack Time - The rate at which gain reduction occurs to the input signal when it exceeds threshold, from 10ms to 150ms.

Release Time - The rate at which gain reduction ends once the signal falls back down below threshold, from 10ms to 1000ms.

Ratio - This sets the amount of gain reduction applied to the signal above the threshold point. Ratio is from 1:1 to infinite.

Post Gain - The post gain control adjusts the compressor/limiter output level to make up for any loss of overall level due to gain reduction. It is typically used to match the level of compressed output with the original un-compressed input level, allowing an easy way to compare signal with and without compression.

Compression occurs when any signal above threshold has its gain reduced by the ratio settings. For example, a ratio of 4:1 means that as input signal increases above the threshold by 4dB, its output signal only increases by 1dB. The higher the ratio, the more gain reduction occurs. Use a compressor to minimize vocal peaks or instrument transients, or to reduce the dynamic range of a signal.

A limiter is a compressor with infinite ratio. The input signal cannot exceed the threshold at all. A limiter is primarily used on outputs for speaker protection or setting maximum SPL, whereas the compressor is more natural sounding and typically used on microphone inputs.

4.6 Input Channel and Subgroup Stereo Linking

The following examples show how channel stereo linking, subgroup stereo linking, and the pan and adjust control work together.

4.6a - Stereo Channel Linked Only: In this example, Ch01 and Ch02 have been stereo linked.

1) Ch1-2 are linked and assigned to the Main output only, not to Sub1 or Sub2. The Adjust knob controls the level of both channels together to the main output.

2) Because the two channels are stereo linked, they are initially panned full left and full right, but can still have their individual stereo position adjusted using the pan control when either channel is selected. Their signal is routed to the main stereo output.

3) In the Long Faders mode example (shown), the selected channel in a linked channel pair is indicated with an orange bar below the pan bar. In short fader mixer mode (not shown), the selected channel fader on the left side of the touchscreen combines the two linked channels into one fader, with a pan bar for each channel indicated separately above and below the fader. In either mode, the two channels are linked but their pan can be individually adjusted.

4.6b - Sub1/Sub2 Link Only: In this example Sub1-2 are stereo linked, but Ch01 is not linked,

1) Ch01 has been assigned to the linked Sub1-2 mix, but not to the main mix.

2) When Ch01 is selected, the pan control will adjust the stereo position of Ch01 to the main mix, but since Ch01 is only assigned to Sub1-2 and not to the main mix, the pan control will have no effect.

3) To pan Ch01 to the linked Sub1-2 mix, first press the Sub1 Send button. In the resulting screen, make sure Ch01 is selected, then use the Pan control to adjust Ch01 pan to Sub1-2. The Ch01 pan settings to Sub1-2 will be remembered after exiting the Sub1 Sends screen, and will remain unaffected even if Ch01 pan settings are changed later from mixer mode.

4) To enable or disable Sub1-2 routing to the main mix, press the Sends button below the touchscreen, then press the Main select button to open and configure routing of signals to the main output. When enabled (On), the linked subgroup is routed to the main output mix as well as the Sub1-2 output jacks. When disabled (Off), the linked subgroup is routed only to the Sub1-2 output jacks.

5) When Sub1-2 are first linked, they are initially panned full left and full right, but can have their stereo position to the main mix individually adjusted with the Pan control when either Sub1 or Sub2 is selected. Note that the Pan control applied to linked Sub1-2 only affects the signal if Sub1-2 are enabled to the main mix (see step 4 above).

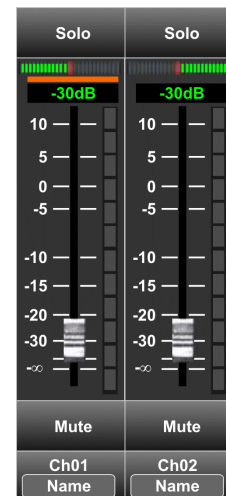


Figure 4.6a: Channel 1 and 2 are stereo linked

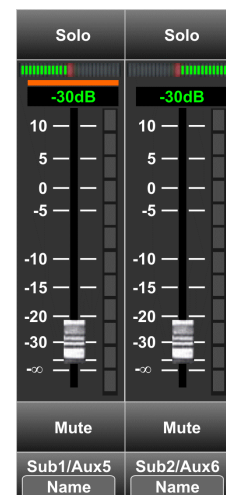


Figure 4.6b: Channel 1 and 2 are not linked, channel 1 assigned to Sub1 or Sub2, Sub1 and Sub2 are stereo linked

4.6c - Channel 1 and 2 Linked, plus Sub1/Sub2 Linked:

1) In this example Ch1-2 are linked and Sub1-2 are also linked. Ch1-2 are assigned to Sub1-2 but not to the main outputs. The Adjust knob (or motorized fader) controls the level of the two linked input channels when either channel is selected. The Adjust knob, motorized fader, or Sub1-2 level knob control the level of Sub1-2 whenever Sub1-2 are selected.

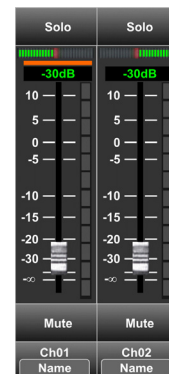
2) Configure the Main Sends screen so that Sub1-2 are enabled (On) as previously detailed in section 4.6b, line 4. This allows subgroup panning to the main mix.

3) When Ch1-2 become stereo linked, they are initially panned full left (to Sub1 mix bus) and full right (to Sub2 mix bus), but can still be panned independently to the main mix as long as they have been enabled to Main from within the Main Sends screen.

4.7 Input Channel Linking, Aux Send Linking, and the Pan Control

The following examples show how input channel and aux stereo linking work together with the Pan control using typical Assign and Aux Send applications.

Figure 4.6c: Channel 1 and 2 linked, Sub1 and Sub2 are also linked



4.7a - No Linking, Ch01 sent to Aux1

In this example there is no stereo linking. Ch01 is assigned to Aux1 but not to the main mix. The Pan control will only have an effect if Ch01 gets assigned to the main mix.

4.7b - Ch1-2 Linked, sent to Aux1 and Main

In this example Ch1-2 are linked and assigned to Aux1 and also to the main mix.

1) The channel fader is now named Ch1-2.
2) The Pan bars appear for both Ch1-2, initially panned full left and full right.
3) The orange bar shows the currently selected channel, either Ch01 or Ch02.

4) The pan control adjusts the currently selected Ch01 or Ch02 to the main mix.



Figure 4.7a: No Linking, Ch01 sent to Aux1 only

4.7c - Aux1-2 Linked, Ch01 not linked

In this example, Aux1-2 are linked. Ch01 is sent to Aux1-2 and also assigned to Main.

1) In either the Ch01 Assign or Aux1-2 Sends screens, the Pan control fades Ch01 between Main L/R when Ch01 is selected.

2) ► **TIP:** In the Main Sends screen (not shown) if you enable Aux1-2 to Mains, you can select and separately pan Aux1 or Aux2 to Main L/R.

4.7d - Ch1-2 Linked and Aux1-2 Linked

In this example, Ch1-2 and Aux1-2 are both linked, and can both be enabled or disabled for routing to the Main mix, offering greater flexibility.

1) In the Ch1-2 Assign screen, the Pan control fades the selected Ch01 or Ch02 input between Main L/R (if enabled to Main).

2) In the Aux1-2 Assign screen, the Pan control fades the selected Ch01 or Ch02 input signal between Aux1 and Aux2.

3) ► **TIP:** In the Main Sends screen (not shown) if you enable Aux1-2 to Mains, you can select and separately pan Aux1 or Aux2 to Main L/R.

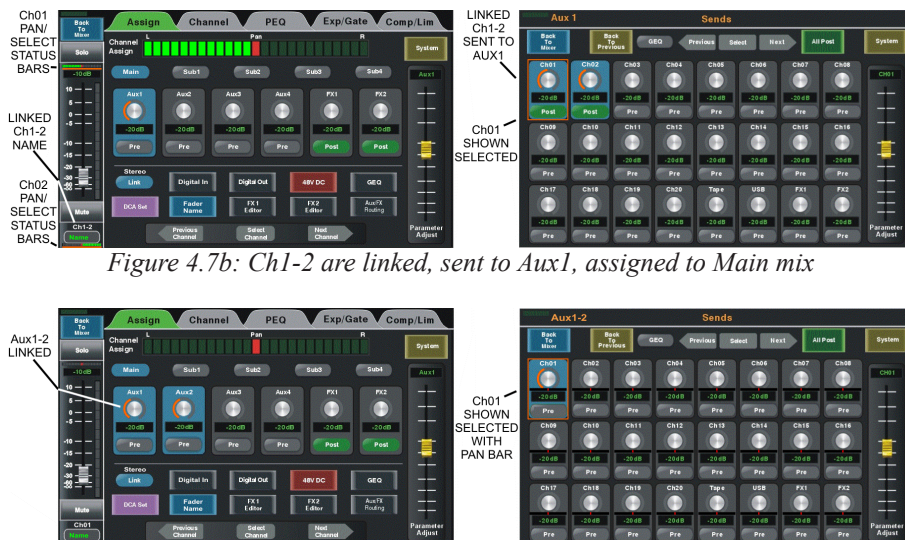


Figure 4.7b: Ch1-2 are linked, sent to Aux1, assigned to Main mix



Figure 4.7c: Aux1-2 are linked, Ch01 sent to Aux1-2 and assigned to Main mix



Figure 4.7d: Ch1-2 Linked, Aux1-2 also linked, both can be routed to Main mix

4.8 FX (Effects)

This mixer includes 12 different effects and effect combinations. Only two effects can be used at one time. Up to 104 different effects can be created, saved, and loaded as FX presets ([sec. 2.31](#)).

Press the FX1 or FX2 button to open the FX editor window, then choose an effect type, edit its parameters, then save.

The next step is to send the desired signal level from input channels to the FX1 or FX2 bus ([sec. 2.12](#)).

Lastly, select and assign FX1 or FX2 to aux, subgroup, or main outputs as desired ([sec. 2.12](#)). Press either FX mute button to silence its effect. All available effects are listed in the table below.

All effects are in stereo, meaning they will synthesize a stereo effect even when driven by a mono send signal.



Figure 4.8: FX Screen

FX Presets	Description	Parameters
Reverb - Hall	Simulate an acoustic space of a large hall	Pre-Delay; Decay; Room Size; Brightness; Diffusion; Wet-Dry Out
Reverb - Room	Simulate a studio room with many early reflections	Pre-Delay; Decay; Room Size; Brightness; Diffusion; Wet-Dry Out
Reverb - Plate	Simulate the transducer's sound like classic bright vocal plate	Pre-Delay; Decay; Room Size; Brightness; Diffusion; Wet-Dry Out
Delay	Echo of the input signal	Time; Decay; Brightness; Wet/Dry Out
ST Delay	Stereo Echo	L Time; R Time; L Decay; R Decay; Brightness; Wet/Dry Out
Tremolo	Modulation of signal without any pitch or phase shift	Depth; Mod Freq; Wet-Dry Out
Flanger	Adds a sweeping, swooshing "jet plane" sound using phase shift with delayed feedback	Feedback; Sweep Width; Mod Freq; Wet-Dry Out
Chorus	Creates the illusion of several vocals or instruments from a single input source	Feedback; Sweep Width; Mod Freq; Wet-Dry Out
Delay + Reverb	Delay with room reverb	Pre-Delay; Reverb Decay; Room Size; Brightness; Diffusion; Delay Time; Delay Feedback; Delay Bright; Wet-Dry Out
ST Delay + Reverb	Stereo delay with room reverb	Pre-Delay; Reverb Decay; Room Size; Brightness; Diffusion; Delay L/R Time; Delay L/R Feedback; Delay Bright; Wet-Dry Out
Chorus + Tremolo	Chorus with Tremolo	Feedback; Sweep Width; Mod Freq; Tremolo Depth; Tremolo Freq; Wet-Dry Out
Chorus + Reverb	Chorus with room reverb	Pre-Delay; Reverb Decay; Room Size; Brightness; Diffusion; Chorus Feedback; Sweep Width; Mod Frequency; Wet-Dry Out

❑ 5 SYSTEM FUNCTIONS

5.1 LCD Brightness

Drag the LCD brightness control bar to adjust LCD intensity.

5.2 Fader Calibration

Press <Fader Calibration> to adjust automatic fader speed up or down, then press Save/Exit.

5.3 Restore Default (Scene) Settings

Press this button to return all faders and EQ to zero, and remove all DCA groups, channel, and FX assignments. This command will not erase the password or any mixer presets.

5.4 Aux/Sub Mode

Press this button to switch Sub 1-4 outputs to function instead as Aux 5-8 outputs.

5.5 Password Settings

Press the "Password Settings" button to enter a new password, delete the current password, or reset the password. The same password is always used for both system and EZ-Mode, as well as for the "Ashly digiMIX24" iPad app when connected to the mixer. Entering a password is only the first step when making security changes, you must still lock or unlock features using that password.

To enter a password for the first time, press System>Password Settings. A keyboard appears with two empty text boxes labeled "New Password" and "Confirm Password". A solid orange bar appears below the active text box. With the "New Password" text box active, type in a one to four character password using upper case (ABC.), lower case (abc.), or numerals/symbols (.?123). **Passwords are case sensitive.** Select and re-enter the password into the "Confirm Password" box and press "Enter" on the keyboard. The password is now stored in the mixer for system use as well as for EZ-Mode.

To Delete or Reset an existing password, press System>Password Settings. If a password is already stored in the mixer, the two text boxes say "Delete Password" and "Reset Password".

To delete the password, make sure the "Delete Password" box is active with the orange bar beneath it and press "Enter". The screen prompts for the current password to be entered into both text boxes, press enter, and the password is permanently erased from memory.

To reset the current password, press System>Password, make sure the "Reset Password" text box is active with the orange bar beneath it, and press "Enter". Type the current password in the "Enter Password" box, then select and type the new password into the "New Password" box and press "Enter". A blue screen pops up saying "Password Reset Successfully". Press "ok" to confirm the reset.

► **TIP:** If the password has been forgotten, press and hold the <System + Clear> buttons for three seconds or until the screen blinks. This clears the existing password.

5.6 Lock/Unlock

Press the "Lock/Unlock" button to lock out mixer functions. If there is currently no password saved in the mixer, the screen prompts for a new password in the "New Password" and "Confirm Password" text boxes. After entering the new password, press "Enter", and the mixer becomes locked. Attempting to move any control will prompt the user for the password before allowing changes.

If there is already a password in the mixer when you press "Lock/Unlock", the screen prompts for the current password, type it in and press "Enter" and the mixer will become locked.

The only controls that cannot be locked out are the power switch and the analog input trim controls.

5.7 System Shortcuts

Shortcuts are available in the system screen for specific mixer functions. Most shortcut functions are also available using control buttons, however EZ-Mode, Automix Assign, Crossfade Mode, and Digital Out Pre/Post DSP are only accessible from the system screen. See [sec. 6.4](#) for complete EZ-Mode, Automixer, and Crossfade details. See [sec. 7](#) for digital output pre/post-DSP selection.

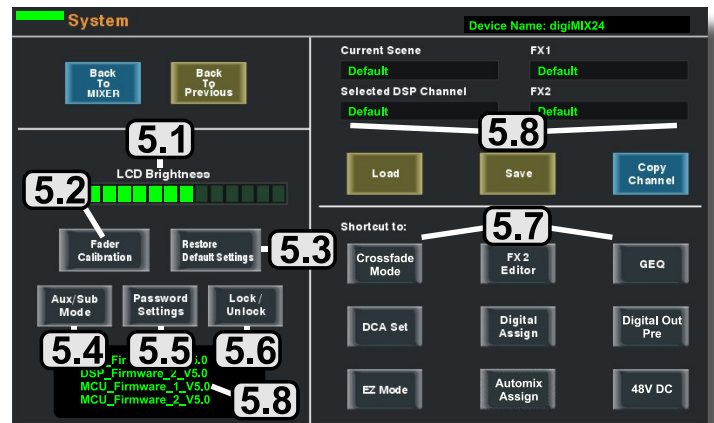


Figure 5: System Screen

5.8 Other System Functions

Device Name - Press and hold the "Device Name" text box in the upper right hand corner of the system screen to bring up the keyboard, then type in the desired name for the mixer and press "Enter". The default name is "digiMIX24".

Current Scene - This displays the name of the scene loaded from memory onto the mixer. If no scene has been loaded, the current scene name is "Default".

Selected Channel - This displays the name of the DSP channel preset loaded from memory onto the currently selected input, FX, aux, subgroup, or main output channel. If no DSP channel has been loaded, the selected channel name is "Default".

FX1 & FX2 - This displays the name of the FX channel preset loaded from memory onto FX1 and FX2. If no FX preset has been loaded, the FX1 or FX2 name is "Default".

Firmware versions - The four currently loaded mixer DSP and micro-controller firmware versions are shown in the lower left corner of the System touchscreen. These are the internal programs that run the mixer. Newer versions may become available on the Ashly website, and may be required in order to use the latest features. To update firmware, see [section 6.1](#).

❑ 6 OTHER MIXER FUNCTIONS

6.1 Firmware Update (*Important: Remove Dante or USB module before running firmware update, also be sure to backup mixer presets if you wish to save them*)

A firmware update may be occasionally released to fix bugs or update/add features. Press the mixer's System button to view the currently installed firmware (see figure 5), then refer to the ashly website for the latest digiMIX24 firmware version.

Windows: Download and install <digiMIX24 Firmware Utility> file bundle from the Ashly website Software/digiMIX Downloads section. Once installed, there will be a root folder called <digiMIX24 Firmware Utility> containing an executable file named <digiMIX24 Firmware Utility.exe>, plus a sub-folder called <Lib> (see figure 6.1a). Click on the executable file to run the utility, but first review the entire procedure below.

Name	Date modified	Type	Size
lib	3/23/2018 8:56 AM	File folder	
digiMIX 24 Firmware Utility(Win)v5.0.exe	3/23/2018 8:56 AM	Application	726 KB

Figure 6.1a: digiMIX24 Firmware Utility files (Windows)

MAC: Download the file <digiMIX24 Firmware Utility.dmg> from the Ashly website Software/digiMIX Downloads section, and install.

► **TIP:** To use Ethernet for a firmware update, network communications must be 100% reliable and uninterrupted. If there is any data interruption during the update, the mixer may be rendered inoperable and require factory service. **Because of this, Ashly strongly recommends using the USB data connection instead of Ethernet for firmware update.**

► **TIP :** If using USB for a computer connection to your mixer, you may first need to download and install the appropriate Windows or MAC USB Control Port driver on your computer, located in the Ashly website's Software/digiMIX downloads section.

Firmware Update Procedure:

► **TIP: backup mixer presets first**, see [sec. 6.2](#) for <digiMIX24 Preset Utility>, or [sec. 9.1f](#) for iPad backup/restore.

1) To update firmware, **first remove the Dante-32 or USB-32 option if installed**. Before powering up the mixer or running the software, connect the mixer's USB Control jack to your computer using a USB printer cable.

2) Next, press and hold the mixer's <System> button while powering on the mixer. Blue text will appear on the mixer touchscreen indicating that the mixer is ready to program.

3) Launch the <digiMIX24 Firmware Utility> program on your computer. The digiMIX24 serial port will automatically appear when the program discovers the mixer (see figure 6.1b). If the port is not showing, check connections or verify that the USB device driver is properly installed. **Note: There can only be one digiMIX24 connected to your computer during firmware update.**

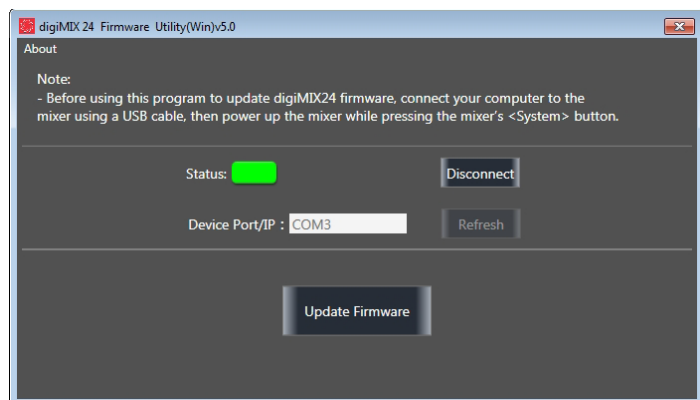


Figure 6.1b: digiMIX24 Firmware Utility

4) Once the COM port is displayed in the software utility, click the "Connect" button. The status box will turn green to indicate communication is established between the mixer and computer.

5) Click the "Update Firmware" button, then on the next screen click "Program" (see figure 6.1c). The status bar will begin to show progress. **Do not turn off the mixer or interrupt the procedure until the entire process is complete.** The entire update takes about five minutes.

6) When the update is complete, the mixer will automatically perform a factory reset, erasing all mixer presets. Exit the software.

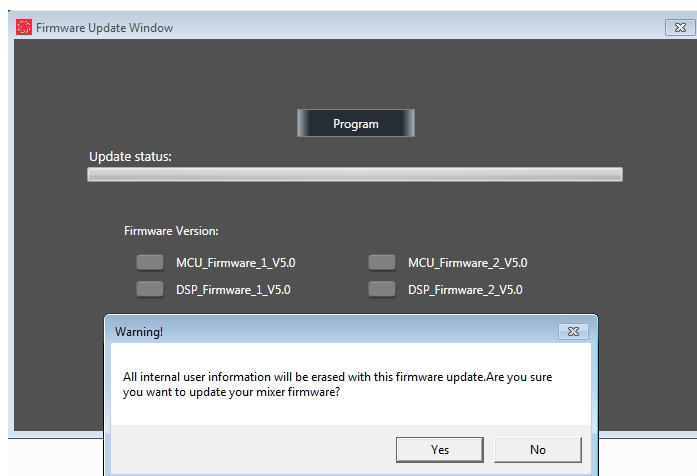


Figure 6.1c: Firmware Update

6.2 digiMIX24 Preset Utility

The digiMIX24 uses a separate utility program to bulk-copy all mixer presets to a computer or from computer back to mixer. Download the Win or Mac version of <digiMIX24 Preset Utility> from the Ashly website Software/digiMIX downloads section. *Note: Unlike firmware update, USB or Ethernet data connection can be used for preset backup/restore.*

Windows: Download and install <digiMIX24 Preset Utility> file bundle from the Ashly website Software/digiMIX downloads section. Once installed there will be a root folder called <digiMIX24 Preset Utility> containing an executable file named <digiMIX24 Preset Utility.exe> and a sub-folder called <LIB>. Click on the executable file to run the program. The preset file will be saved in Windows as a *.ept file.

MAC: Download the file <digiMIX24 Preset Utility.zip> from the Ashly website Software/digiMIX Downloads section, and install. The preset will be saved on a MAC as a *.mprt file.

Note: When restoring all preset files from computer to mixer, all preset files on the mixer will be overwritten.

When the preset file transfer is complete, exit the software.

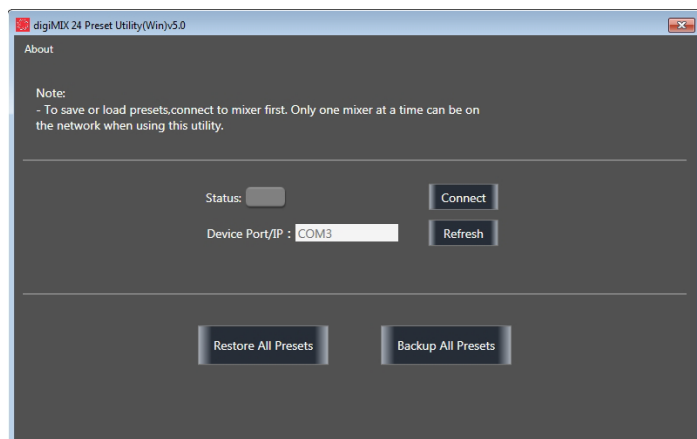


Figure 6.2: digiMIX24 Preset Utility

6.3 Factory Reset

For factory reset, press and hold all three <Load + Save + Enter> buttons during power-up, then press "yes" when prompted. **Note: This will erase all presets and working settings currently stored on the mixer.** It will also unlock the mixer if locked, but preserves the previous password in memory.

6.4 EZ-MODE

EZ-Mode offers a simplified and secure user control interface for a non-technical person to control the mixer with the same ease of use as if they were operating lighting dimmers.

► **TIP:** All signal routing, levels, EQ, FX, DCA groups, and Aux sends must be configured ahead of time on the mixer before using EZ-Mode.

► **TIP:** DCA and Aux groups must first be named on the mixer in order to be easily identified in EZ Mode.

To access EZ-Mode, press the System button, then press the touch-screen EZ-Mode button in the shortcut section.

There are two EZ-Mode mixers types as shown below. Select the EZ-Mode mixer you want to use, then press <Go To EZ Mixer>.

EZ-Mode Mixer #1: (see figure 6.3b) This mixer includes faders for DCA groups 1-4, Aux outputs 1-4, and Stereo Main output level with on/off switch for each fader. *DCA groups must first be defined before using EZ-Mode* ([sec. 2.16](#))

EZ-Mode Mixer #2: (see figure 6.3c) This mixer includes faders for DCA groups 1-6, USB Stereo input, Tape/CD input, Aux outputs 1-8, and Stereo Main output level, with on/off switch for each fader. *To use EZ mixer #2, DCA groups must first be defined and named, and Sub 1-4 outputs must be configured to function as Aux 5-8* ([sec. 5.4](#)).

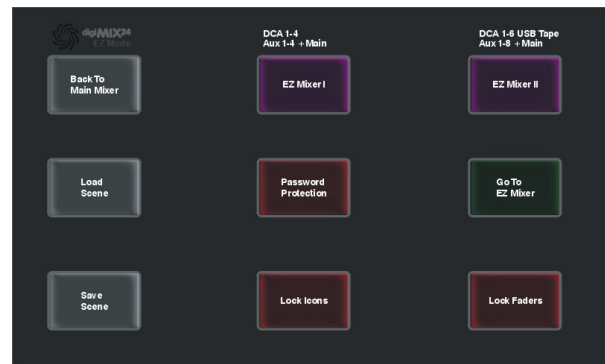


Figure 6.4a: EZ-Mode Main Screen



Figure 6.4b: EZ-Mode Mixer #1



Figure 6.4c: EZ-Mode Mixer #2

EZ-Mode Icon Menu: (see figure 6.3d) In either EZ mixer, an icon can be assigned to each fader to quickly identify its function. Press and hold the grey box above each fader to view and select an icon from the pop-up icon table.

EZ-Mode Password: (see figure 6.3a) A password can be used in EZ-Mode to prevent access to the main mixer section while still allowing EZ-Mode control. The EZ-Mode password is always the same as the mixer's password ([sec. 5.5](#)).

Additionally, the password can be used to independently lock EZ-Mode faders or fader icons. The <EZ-Mode Password>, <Lock Icons>, and <Lock Faders> buttons turn red when activated.

EZ-Mode is also offered on the Ashly digiMIX24 app for iPad for remote mixer control using a local wireless network connection ([sec. 9](#)). If a password is to be used on the digiMIX24 iPad app, it must first be entered into the mixer.

► **TIP:** Only one iPad at a time can be used to control the digiMIX24.



Figure 6.4d: EZ-Mode Icon Menu

6.5 Automixer Assign

The automixer is used to automate the mixing of multiple speech (not music) microphones to follow the dynamic nature of speech dialog and attenuate idle microphones. From the System screen, press the Automix Assign button to assign inputs to the automixer.

Ashly Auto Mixer Technology

The automixer function is a "gain-sharing" type which automatically makes smooth gain transitions on all assigned automixer input channels to achieve a constant total system gain. This gain-sharing method of automixing has been found to be superior to gating automixers.

Input channels 1-16 can be individually enabled for the automix. Enabled inputs must all be assigned to the same output ([sec. 2.38](#)). Channels which are enabled for automix will contribute to the automatic adjustment of other automix channel gains. Likewise, their channel level will be dynamically affected by the signal level present on other automix channels. Manual mixer channels (those not enabled for automix) can still be mixed in with automix channels, controlled by their fader setting. The fader on automix channels still controls the input level before automatic mixing takes place so that more of the system gain can be applied to one channel versus another.

Automixer Setup

The following procedure is recommended for setting up most multi-microphone speech applications. The live mixing environment must already be set up, with all mics wired to the mixer, assigned in the digiMIX24 to the main outputs, placed where they will be used, mic input gain controls set properly, and amplifiers/speakers all set up.

- 1) Start with all mixer faders off. From the System menu, press the shortcut button for <Automix Assign>.
- 2) Assign the desired input channels to the automixer. Make sure the <Automix Active> button is pressed.
- 3) Select one of the assigned main speech channels, or one which is centrally located. Slowly increase the fader for this one channel just until feedback starts, then lower the fader 3 dB to stay comfortably below feedback. This sets the total automixer system gain.
- 4) Now select and increase the other assigned input channel faders to the same position as the first channel used in step 3. The system will not feedback because the automixer will slowly attenuate the active channels as more channels are turned-on to maintain a constant total system gain as set in step 3.
- 5) During the speech event, individual channel faders can still be raised or lowered to adjust for the weakness or strength of the respective talkers even while the automixer is active.



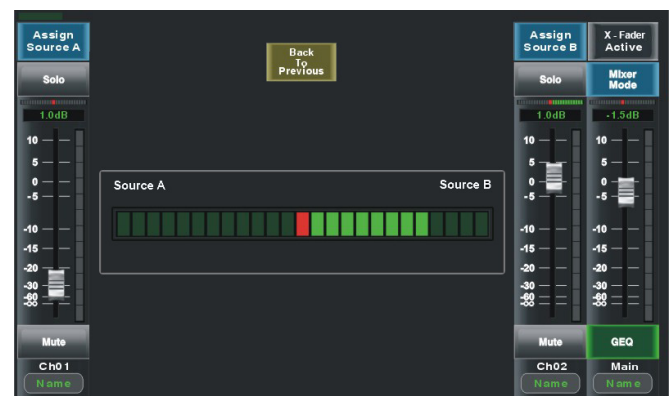
6.5: Automix Assign

6.6 Crossfade Mode

Crossfade Mode allows the operator to easily fade back and forth between two assigned channels (or two stereo linked channel pairs) using either the Pan control or touchscreen crossfader control.

Crossfade Mode setup:

- 1) From the system menu, press the shortcut button for Crossfade Mode.
- 2) Assign <Source A> and <Source B> channels.
- 3) Press the <Crossfade Active> button.
- 4) Crossfade Mode is now operating. The pan/touchscreen control will fade between the two assigned source channels.
- 5) To return to mixer mode, press the touchscreen <Mixer Mode> button, or toggle through mixer and crossfade modes using the Mixer/Long Faders button next to the pan control.



6.6: Crossfade Mode

When operating in normal mixer mode, the pan or touchscreen crossfade control always fades the selected channel right or left as expected. When in crossfade mode with crossfade active, the control only fades between the two assigned source signals.

7 DIGITAL AUDIO

There are two optional digital audio modules available for the digiMIX24, Dante-32 and USB-32. These options allow for digital inputs to channels 1-24, and digital outputs from channels 1-20, aux1-4, sub1-4 (aux5-8), main L/R, and solo L/R. *Digital output from input channels 1-16 can be set pre or post-DSP in the System screen.* Digital audio channel mapping is internally fixed in the mixer and cannot be changed.

Digital input and output channels are individually enabled, and signal level is adjustable from +10dB to -70dB. Press a channel's On/Off button to enable/disable digital audio for that channel, and use the parameter adjust knob on the mixer or touchscreen to adjust level on the selected channel.



Channel Mapping			
Mixer	ASIO/Dante	Mixer	ASIO/Dante
Ch01	Output01/Tx Ch01	Ch13	Output01/Tx Ch13
Ch02	Output02/Tx Ch02	Ch14	Output01/Tx Ch14
Ch03	Output03/Tx Ch03	Ch15	Output01/Tx Ch15
Ch04	Output04/Tx Ch04	Ch16	Output01/Tx Ch16
Ch05	Output05/Tx Ch05	Ch17	Output01/Tx Ch17
Ch06	Output01/Tx Ch06	Ch18	Output01/Tx Ch18
Ch07	Output01/Tx Ch07	Ch19	Output01/Tx Ch19
Ch08	Output01/Tx Ch08	Ch20	Output19/Tx Ch20
Ch09	Output01/Tx Ch09	Tape in-L	Output21/Tx Ch21
Ch10	Output01/Tx Ch10	Tape in-R	Output22/Tx Ch22
Ch11	Output01/Tx Ch11	USB in-L	Output23/Tx Ch23
Ch12	Output01/Tx Ch12	USB in-R	Output24/Tx Ch24

7a: digiMIX24 Digital Input Assign and Mapping



7b: digiMIX24 Digital Output Assign and Mapping

Channel Mapping			
Mixer	ASIO/Dante	Mixer	ASIO/Dante
Ch01	Input01/Rx Ch01	Ch17	Input17/Rx Ch17
Ch02	Input02/Rx Ch02	Ch18	Input18/Rx Ch18
Ch03	Input03/Rx Ch03	Ch19	Input19/Rx Ch19
Ch04	Input04/Rx Ch04	Ch20	Input20/Rx Ch20
Ch05	Input05/Rx Ch05	Aux1	Input21/Rx Ch21
Ch06	Input06/Rx Ch06	Aux2	Input22/Rx Ch22
Ch07	Input07/Rx Ch07	Aux3	Input23/Rx Ch23
Ch08	Input08/Rx Ch08	Aux4	Input24/Rx Ch24
Ch09	Input09/Rx Ch09	Sub1	Input25/Rx Ch25
Ch10	Input10/Rx Ch10	Sub2	Input26/Rx Ch26
Ch11	Input11/Rx Ch11	Sub3	Input27/Rx Ch27
Ch12	Input12/Rx Ch12	Sub4	Input28/Rx Ch28
Ch13	Input13/Rx Ch13	Main-R	Input29/Rx Ch29
Ch14	Input14/Rx Ch14	Main-L	Input30/Rx Ch30
Ch15	Input15/Rx Ch15	Solo-R	Input31/Rx Ch31
Ch16	Input16/Rx Ch16	Solo-L	Input32/Rx Ch32

Digital inputs 1-24 are always pre-DSP and pre-fader. See the Block Diagram for details.

Digital outputs from input channels 1-16 can be group-selected pre/post DSP from the mixer's System screen. Whether pre or post DSP, digital outputs from Mic channels 1-16 are always pre-fader and pre-mute. *Note: the mixer will not allow digital in and out to be used simultaneously for the same Mic input channel if digital outputs are set post DSP.*

Digital outputs from Line inputs 17-20 are always post-DSP, but pre-fader and pre-mute.

Digital outputs from aux1-4, sub1-4 (aux5-8), main L/R, and solo L/R are always post-DSP and post-fader.

7.1 Dante-32 Option

Dante®, created by Audinate®, is an Ethernet based digital AV network technology that uses existing network infrastructure for delivery of high performance, high channel count audio signals.

With the optional Dante-32 module installed, the digiMIX24 can be integrated into a Dante digital audio network. The Dante-32 resolution & sampling rate is 24bit / 48KHZ. The Dante-32 module can be field installed and is sold and shipped separately from the mixer along with installation instructions.



Dante-32 Module

7.1a Dante Controller: The Dante-32 module allows the digiMIX24 to receive and transmit audio with other Dante devices. Configuration of Dante audio streams requires the use of Dante Controller. This free software from Audinate is available for both Windows® and Mac®. Dante Controller uses a simple matrix (see figure 7.1a) to connect Dante audio transmitters with receivers. The Dante-32 provides access for up to 24 digital audio input channels and 32 digital audio output channels on the digiMIX24.

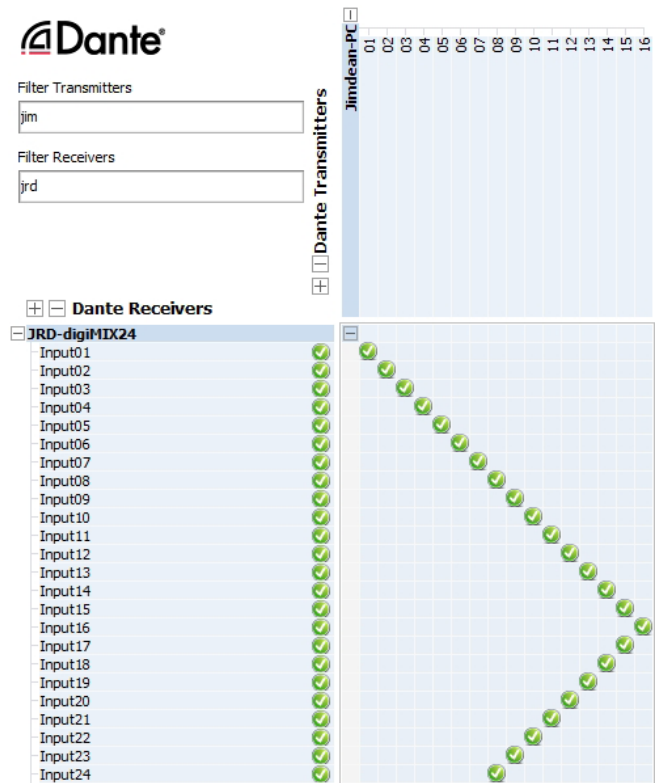
Any Dante transmitter channel can be assigned to one or more Dante-32 receiver channels, but each Dante receiver channel can have only one transmitter as its input source.

The Dante-32 resolution & sampling rate is 24bit / 48KHZ. Dante-32 modules are compatible with AES67.

Dante latency can be observed and configured for individual Dante devices within the Dante Controller Network Status tab. Total system latency adopts the slowest latency found among all devices linked in the transmitter/receiver stream.

Note that when the Dante-32 module is installed, it must always be the master clock.

7.1b Dante Virtual Soundcard (not shown): The Dante Virtual Soundcard, purchased separately from Audinate, allows a Windows or Mac computer to act as a Dante audio source. Any sound the computer generates (background music, announcements, VoIP sessions, etc.) can be routed to a Dante receiver via the Dante controller.



7.1a: Dante Controller

NOTE: The Dante Virtual Soundcard audio stream may not automatically start up after digiMIX24 is powered on. If this happens, cycle the mixer power again or restart the Dante audio stream.

8 DIGITAL AUDIO with USB-32 (optional)

Digital audio workstations (DAW) often use multitrack USB audio streams for I/O. The USB-32 module provides the digiMIX24 with up to 32 digital outputs and 24 inputs. See section 7 for details on how digital input and output channels are routed within the mixer, or refer to the block diagram in section 13.

The USB-32 resolution & sampling rate is 24bit / 48KHZ.

Typical applications include multitrack recording from the mixer to a USB audio device, or playback of pre-recorded music from a USB audio device. One particularly useful application is to record a band live onto a multi-track DAW, then play it back through the mixer later for a "virtual" soundcheck before the musicians arrive. Visit the Ashly website knowledge base to review the Ashly application note digiMIX-AN-2 for virtual soundcheck details.



USB-32 Module

8.1 USB-32 Device Driver - Purchase the USB-32 audio interface module from an Ashly dealer and install in the digiMIX24 mixer as instructed in section 3.15. An ASIO device driver is required for Windows computers but is not required for Mac.

The USB multi-channel ASIO Windows device driver can be downloaded from the Ashly website Software > digiMIX Downloads section. Install the device driver on the PC *before* connecting it to the digiMIX24. The device driver will appear as an "ASIO" type device in the audio software's device list.

► **TIP:** Detailed USB multichannel device driver installation and virtual soundcheck instructions are found in the Ashly application note <digiMIX AN-2>, available in the Ashly website's digiMIX page Knowledge Base.

8.2 DAW Hardware Configuration - The digiMIX24 cannot re-configure its internal channel mapping. You must have a working knowledge of your specific DAW hardware and software for proper configuration of channel mapping, recording, and playback properties.

9 iPad REMOTE CONTROL

A free remote control iPad app called "Ashly digiMIX24" is available from the iTunes App Store. Most mixer touchscreen controls are duplicated on the app for wireless remote control of the mixer, including EZ-Mode. **Note: The digiMIX24 does not provide its own Wi-Fi signal, so an existing network with Wi-Fi must be available for the iPad. Only one iPad at a time can be used to control the digiMIX24.**

IMPORTANT: digiMIX24 for iPad Ver. 5.0 or later can only be used with a digiMIX24 mixer running firmware update V5.0 or later. See sec. 6.1 for firmware update details.

9.1 iPad Setup steps

9.1a - Configure the iPad Wi-Fi to be on the same network subnet as the mixer

9.1b - Download, install and launch the Ashly digiMIX24 app with the mixer turned on and connected to the network.

9.1c - On startup, the digiMIX24 app displays a device list of IP addresses(mixer names) for any mixer(s) on the network. Select an IP address and press <Connect>.

9.1d - In the resulting mixer display, a green box in the upper left corner indicates that the app is connected to a live mixer. It turns grey if the connection is lost. If it is grey, press the box to return to the Device List used in step 9.1c. When connected, the iPad always displays the same screen as the mixer. Changes to either device will result in an identical change to the other device. The fader on the left side of this screen always controls the currently selected channel, or channel pair if two channels are stereo linked.

9.1e - To access the Assign, Channel, PEQ, Expander/Gate, or Compressor/Limiter control screens for the currently selected channel, press the "PEQ BOX" as shown in the upper left corner of the mixer screen in the illustration to the right.

► **TIP:** If two channels are stereo linked, tapping the fader on the left side of this screen alternately toggles between the two linked channels, offering the ability to select and pan either channel separately from within the Assign or Channel screens.

9.1f - To backup/restore presets, access EZ Mode or other system functions from the iPad app control surface, press the <System> button while in any of the control screens mentioned above in step 9.1e.

9.2 iPad EZ Mode

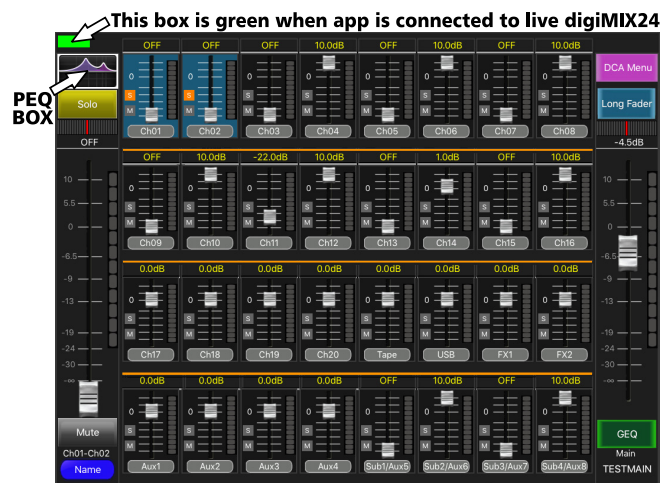
EZ Mode offers two different configurations for simplified remote control of the mixer's DCA groups, Aux master outputs, Subgroup outputs, USB or Tape input levels, or Main output level. The two EZ Mode mixers on the iPad app are the same as on the digiMIX24. See [section 6.4](#) for complete EZ Mode details. To use EZ Mode on the iPad, go to the system page as described above in step 9.1f and press the EZ Mode button.

9.3 iPad EZ-Mode Password Protection

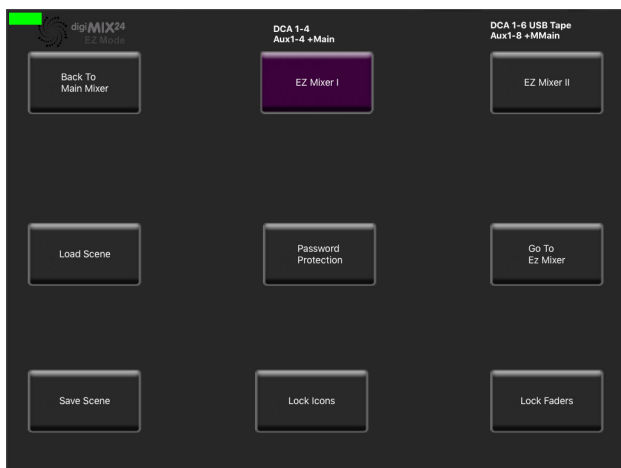
EZ-Mode will always use the same four-character password as the mixer ([sec. 5.5](#)). The password must initially be entered on the mixer; then can be used on the iPad to lock EZ-Mode faders or fader icons. Passwords are case sensitive.



9.1c) digiMIX24 app IP address selection



9.1d & 9.1e) digiMIX24 app Mixer Mode Display



9.2: digiMIX24 app EZ-Mode

❑ 10 TROUBLESHOOTING

10.1 No sound

Is the mic/line input cable plugged in and wired properly? If the mic is a condenser mic, is phantom power on? Is there activity on the input LED meter? Is the input muted or its fader turned down? Is the input assigned or sent to the proper output? Is the output turned down or muted? Are the power amps off or their level controls turned down? Is the input assigned to a subgroup or DCA which is muted or turned down? Are the HPF or LPF filters properly set in the PEQ section to allow the desired passband? Is the noise gate engaged and its threshold set so high that it always shuts off the signal?

10.2 Distorted sound

Is the input LED Clip light on? If so, turn down the input source or reduce the input trim control until the input LED signal peaks between 0-4 on the input meter bar. If there is still distortion, is the input fader too high? Is the Comp/Limiter engaged and its gain control set too high? Does a PEQ or GEQ filter have too much boost?

10.3 Excessive hiss

Hiss is caused by insufficient gain on the input stages and too much gain in the output stage. Be sure to have a strong input signal, adjusting the input trim control so the signal peaks are between 0 and 4 on the input LED meter bar.

10.4 Control does nothing

Is the desired input, output, or FX selected? If an expander/gate or comp/limiter control does not work, is the function turned ON? If the PEQ or GEQ controls do nothing, is the function turned on or is the EQ Bypass button lit up?

10.5 No sound in headphones when using solo button

Are the headphones turned down? If the PFL button is pressed, is there sufficient input signal? PFL means "pre-fader listen", so the position of that channel's fader will not affect solo. If PFL is off, is the channel fader still turned down? If the input is assigned to a DCA or subgroup, is the DCA or subgroup still turned down or muted?

10.6 FX not working

Three things are necessary for an FX to work properly.

- 1) FX must be properly defined. Press FX1 or FX2 to define, edit, or load an effect. Make sure the <Wet-Dry> mix control is properly set.
- 2) Inputs must have their signal sent to the FX1 or FX2 bus. Select an input and use the <Assign> function to send pre or post-fader signal to the FX bus using the touchscreen FX1 or FX2 controls.
- 3) FX1 and FX2 must be assigned to main, subgroup, or aux outputs. Select the FX1 or FX2. then press the Assign button to send it to the main, subgroup, or aux outputs.

10.7 iPad digiMIX24 app troubleshooting

1) There are no IP addresses in my Device List. Is the mixer turned on and properly connected to the same network that the wifi router is connected to? Is the iPad's wifi turned on? The iPad app may have timed out, so refresh the device list by first pressing "Demo", then press the small grey box in the upper left corner of the resulting mixer screen to return to the startup page. This causes the app to re-discover all online mixers and display their IP address.

2) The app won't control the mixer. Is there more than one instance of the iPad app open? Is there more than one mixer on the network? Several mixers can be connected to the same network for remote iPad control, however the digiMIX24 app can only connect to one mixer at a time. Make sure you are connected to the right mixer. On start-up, the digiMIX24 app discovers and lists all available mixers by their IP address/mixer name. Select a mixer from the Device List and press "Connect" to control that mixer. Once connected, both the app and the mixer's touchscreen show a green box in the upper left corner. A grey box means the connection has been lost. To control a different mixer, the app must first be closed and then re-launched.

3) Can I use more than one iPad on one mixer? No, only one iPad at a time can be used with a mixer. If a second iPad connects with that mixer, it takes over control. The last iPad connected always has control.

4) The iPad app connects to the mixer, but doesn't work and shows the error message "Warning: Recall current scene has failed, continue?": This can mean that the iPad app is connected to a mixer running older firmware. The mixer firmware must be [updated](#) to at least v5.0 to use with iPad app v5.0 or higher. ???

11 SPECIFICATIONS

$0\text{dBu} = 0.775\text{Vrms}$

Microphone Input	Class-A discrete balanced, 6.8k Ohm input impedance
Frequency response to main output	20Hz ~ 20kHz $\pm 0.5/-1.0\text{dB}$
Distortion (THD&N) to main output	$<0.01\%$ at 0dBu , 20Hz ~ 20kHz
Equivalent input noise	-126dBu, unweighted, 20Hz ~ 20kHz, 150 Ohm source
Gain (trim)	0 dB ~ +50dB
Maximum input level	+20dBu
Phantom power	+48VDC, $\pm 0/-4\text{V}$, assignable to channels 1-16

Line input	Balanced, 75k Ohm input impedance
Frequency response to main output	20Hz ~ 20kHz at 0dBu , $0/-1.5\text{dB}$
Distortion (THD&N) to main output	$<0.01\%$ at 0dBu , 20Hz ~ 20kHz
Gain (trim)	-20dB ~ +30dB
Maximum input level	+20dBu

TRS Insert	Unbalanced, tip = send, ring = return
Maximum output level	+20dBu, 120 Ohm source impedance
Maximum input level	+20dBu, 5.0k Ohm input impedance

Stereo Line Inputs 17~18, 19~20	Balanced (2 stereo pair), 27k Ohm input impedance
Frequency response to main output	20Hz ~ 20kHz, $\pm 0.5\text{dB}$
Distortion (THD&N) to main output	$<0.01\%$ at 0dBu , 20Hz ~ 20kHz
Gain	$-\infty \sim +10\text{dB}$
Maximum input level	+20dBu

Tape L/R input	Unbalanced RCA, 10k Ohm input impedance
Frequency response to main output	20Hz ~ 20kHz, $\pm 0.5\text{dB}$
Distortion(THD&N) to main output	$<0.01\%$ at 0dBu , 20Hz ~ 20kHz
Gain	$-\infty \sim +10\text{dB}$
Maximum input level	+20dBu

USB 2-Track I/O	USB type B connector, 16-bit, 48kHz sample rate
Frequency response to main output	20Hz ~ 20kHz, $\pm 0.5\text{dB}$
Distortion(THD&N) to main output	$<0.02\%$ at 0dBu , 20Hz ~ 20kHz
Gain	$-\infty \sim +10\text{dB}$
Maximum input/output level	+15dBu = full scale digital

Maximum Output levels (source impedance)

Main outputs	Balanced XLR and TRS phone jack, +20dBu (240 Ohm)
AUX 1~4 outputs	Pseudo-Balanced TRS phone jack, +20dBu (240 Ohm)
SUB 1~4 outputs	Pseudo-Balanced TRS phone jack, +20dBu (240 Ohm)
Tape outputs	Unbalanced RCA, +10dBu (1k Ohm)
Control room outputs	Pseudo-Balanced TRS phone jack, +20dBu (240 Ohm)
Residual output noise (one mic input assigned at 0dB)	-90dBu
Residual output noise (all 16 mic inputs assigned at 0dB)	-82dBu
Residual output noise (all 24 inputs assigned at 0dB)	-80dBu

Crosstalk

Adjacent channels (1kHz)	-82dB
Noise (bus noise, adjacent channels 20Hz ~ 20kHz)	-70dB

Channel DSP Functions:

Polarity Invert (Inputs, subgroups, main, aux, FX)

Per channel, On/Off

Delay Time (Inputs, subgroups, main, aux, FX)

Per channel, 0-300ms in 0.2 ms increments

Noise Gate/Expander

Inputs, FX

Threshold range

-84dB ~ 0dBFS

Attack time

0.5mS ~ 200mS

Release time

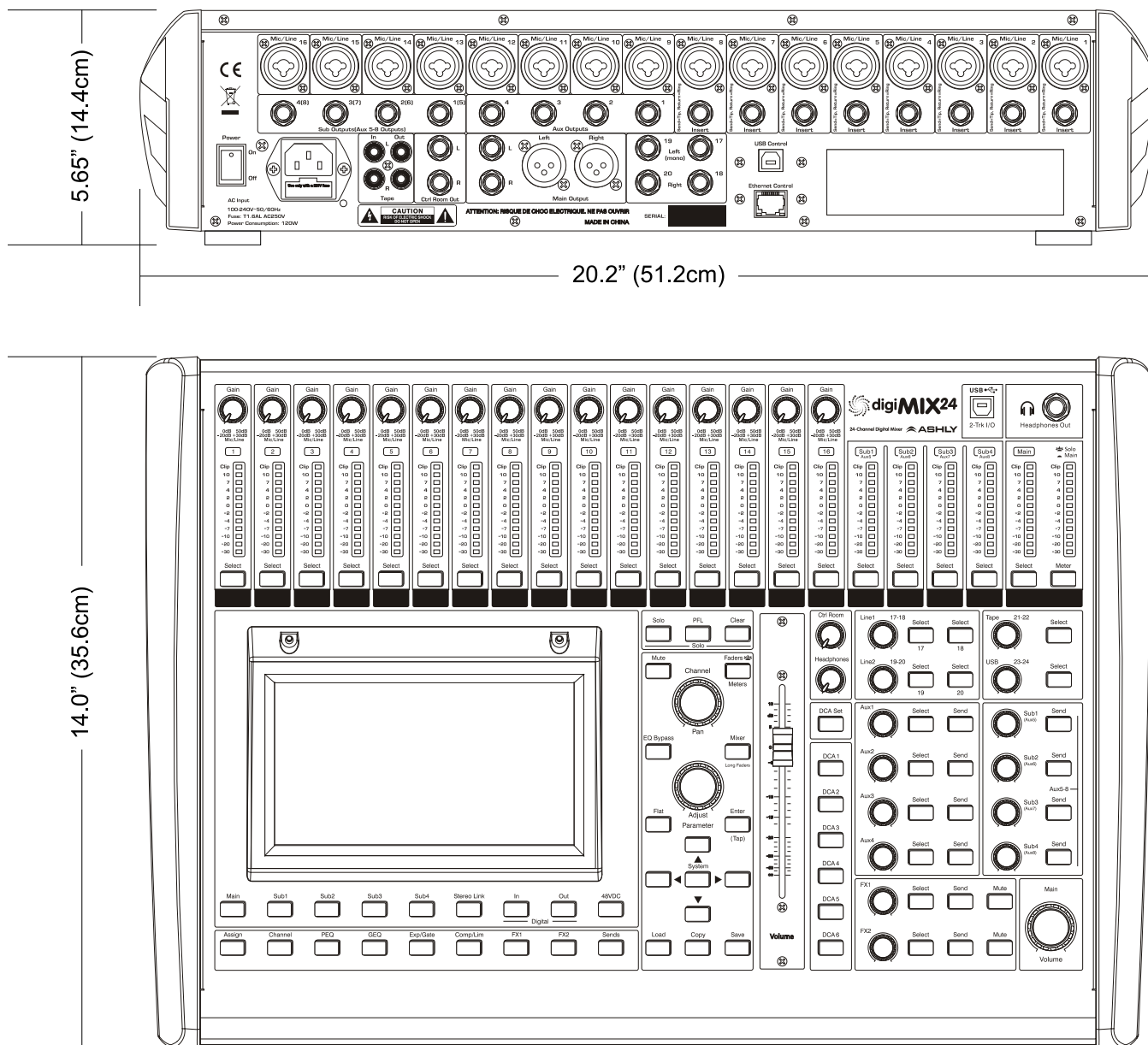
10mS ~ 1,000mS

Ratio

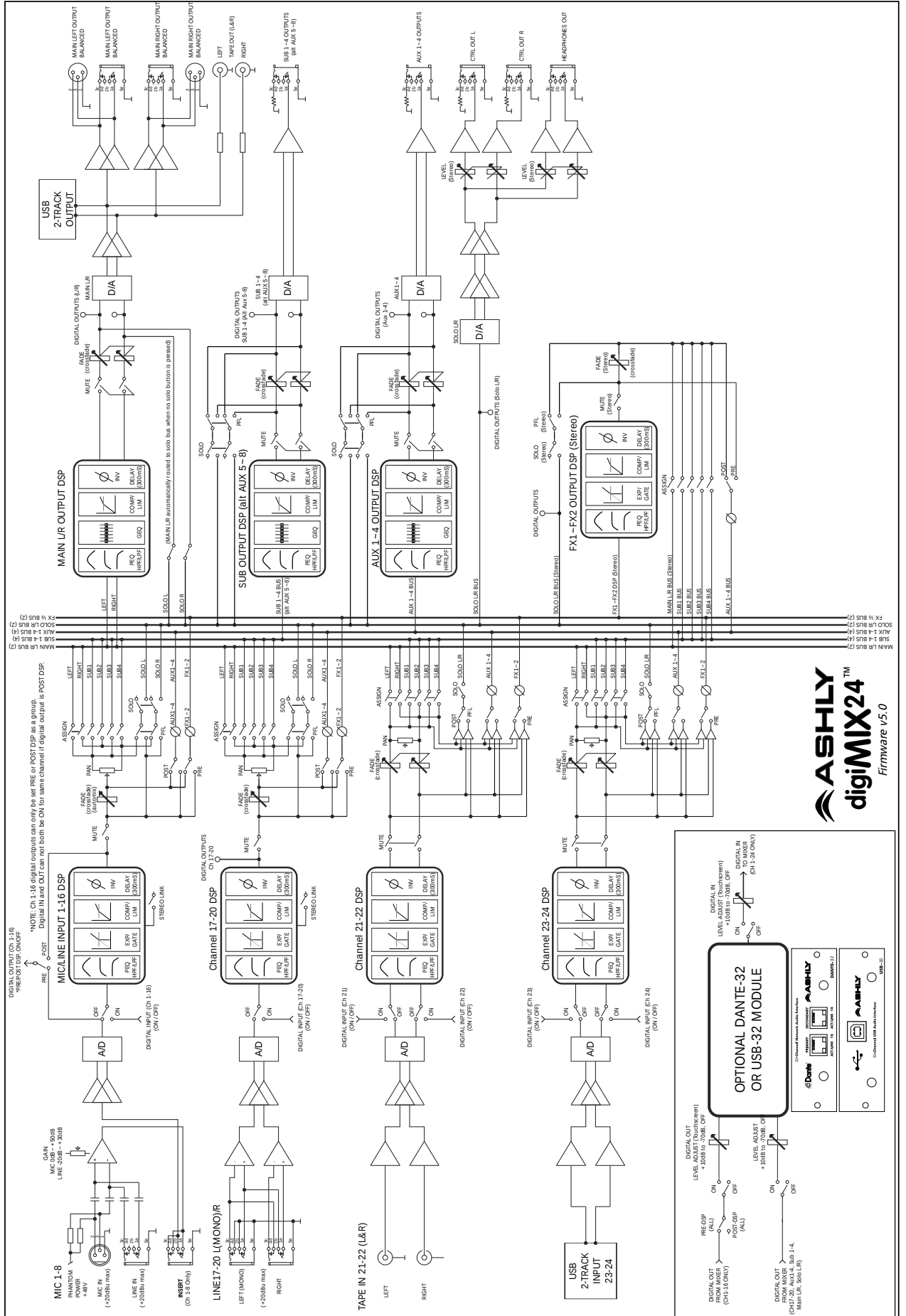
1:1 ~ ∞

Compressor/Limiter	Inputs, subgroups, main, aux, FX
Threshold range	-50dB ~ 0dBFS
Attack time	10mS ~ 150mS
Release time	10mS ~ 1,000mS
Ratio	1:1 ~ ∞
Gain	0dB ~ +24dB
PEQ (parametric EQ)	Inputs, subgroups, main, aux, FX
EQ1, EQ2, EQ3, EQ4 filter type	Parametric, low shelf, high shelf
Parametric filters	20.6Hz ~ 20kHz, Q 0.4 ~ 24, boost/cut ±24dB
Shelving filters	20.6Hz ~ 20kHz, boost/cut ±24dB
HPF and LPF	20.6Hz ~ 20kHz, 20 filter types
HPF and LPF filter types	Bypass, Butterworth (BW) 6dB/oct, Bessel (BS) 6dB/oct, BW 12dB/oct, BS 12dB/oct, Linkowitz/Riley (LR) 12dB/oct, BW 18dB/oct, BS 18dB/oct, BW 24dB/oct, BS 24dB/oct, LR 24dB/oct, BW 30dB/oct, BS 30dB/oct, BW 36dB/oct, BS 36dB/oct, LR 36dB/oct, BW 42dB/oct, BS 42dB/oct, BW 48dB/oct, BS 48dB/oct, LR 48dB/oct
GEQ (graphic EQ)	Main, aux, subgroup outputs
Filter type	31 band, constant Q, boost/cut ±24dB
FX (effects)	FX input <u>Sends</u> from all 24 inputs, FX output <u>Assigns</u> to main output, subgroups, aux
Effect types	Reverbs (3), delay (1200ms), tremolo, flange, chorus, combinations See chart in section 4.6 for complete effects details
Automixer (system screen)	Gain-sharing type, individual assignment of channels 1-16
Crossfade mode (system screen)	Use pan control to fade between any two assigned inputs, outputs, or FX
Stereo link	Inputs, subgroups, aux
DCA groups	6 groups, level, mute, solo
Preset types	Scene (24), DSP channel (48), FX (104), GEQ (48)
A-D converter dynamic range	110dB, unweighted
Internal processor	32-bit floating point
D-A converter dynamic range	106dB, unweighted
ADC/DAC bit depth and sampling rate	32-bit / 48kHz
Latency	5.6ms, analog input to analog output
Optional digital audio modules	Dante-32, USB-32 (sold separately, field installable)
Dante-32 bit depth and sampling rate	24bit / 48kHz, (AES67 compatible)
USB-32 bit depth and sampling rate	24bit / 48kHz
Software/Utilities/Drivers (available on Ashly website)	website location: Software > digiMIX Firmware and Downloads
Remote mixer control app for iPad®	<Ashly digiMIX24> app, free on iTunes App Store
Firmware update utility	<digiMIX24 Firmware Utility> for Windows or Mac
Preset backup/restore utility	<digiMIX24 Preset Utility> Windows or Mac
USB device drivers for connecting digiMIX24 utilities (if required) ..	Available for Windows or Mac
ASIO driver (required if using USB-32 option w Windows)	Available for Windows, not required for Mac
AC mains	100-240VAC 50/60Hz, 120W max
Operating free-air temperature range	41°F ~ 113°F (5°C ~ 45°C)
Storage temperature range	-4°F ~ 140°F (-20°C ~ 60°C)
Unit dimensions	20.2"L x 5.65"W x 14.0"H (51.2cm x 14.4cm x 35.6cm)
Shipping dimensions	22.4"L x 8.15"W x 17.1"H (57.0cm x 20.7cm x 43.4cm)
Unit weight	17.6 lbs (8.0kg)
Shipping weight	20.7 lbs (9.4kg)
Dante-32 shipping weight	0.42 lbs (0.19kg)
Dante-32 shipping dimensions	6.02"L x 1.85"W x 7.09"H (15.3cm x 4.70cm x 18.0cm)
USB-32 shipping weight	0.47 lbs (0.21kg)
USB-32 shipping dimensions	6.02"L x 1.85"W x 7.09"H (15.3cm x 4.70cm x 18.0cm)
Compliance/safety	cTUVus, CE, FCC, RoHs
Limited warranty	5 year (3 year on touchscreen and motorized fader)

12 DIMENSIONS



13 BLOCK DIAGRAM



ASHLY
digiMIX24™
Firmware v5.0

❑ 14 Ashly Audio Inc. LIMITED WARRANTY (USA ONLY)

(For other countries, please contact your respective distributor or dealer from where the unit was first purchased.)

For units purchased in the USA, warranty service for this unit shall be provided by ASHLY AUDIO, INC. in accordance with the following warranty statement.

ASHLY AUDIO, INC. warrants to the owner of this product that it will be free from defects in workmanship and materials for a period of FIVE years from the original-date-of-purchase, with the exception of touch-screen displays and motorized faders which are warrantied for THREE years from the original-date-of-purchase.

ASHLY AUDIO INC. will without charge, repair or replace at its discretion, any defective product or component parts upon prepaid delivery of the product to the ASHLY AUDIO, INC. factory service department, accompanied with a proof of original-date-of-purchase in the form of a valid sales receipt. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

EXCLUSIONS: This warranty does not apply in the event of misuse, neglect, or as a result of unauthorized alterations or repairs made to the product. This warranty is void if the serial number is altered, defaced, or removed. ASHLY AUDIO, INC. reserves the right to make changes in design, or make additions to, or improvements upon, this product without any obligation to install the same on products previously manufactured.

Any implied warranties, which may arise under the operation of state law, shall be effective only for FIVE years (THREE years for touch-screen displays and motorized faders) from the original-date-of-purchase of the product. ASHLY AUDIO, INC. shall be obligated to only correct defects in the product itself. ASHLY AUDIO, INC. is not liable for any damage or injury, which may result from, or be incidental to, or a consequence of, such defects. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion, or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OBTAINING WARRANTY SERVICE:

For warranty service in the United States, please follow this procedure:

1) Please return the product to ASHLY AUDIO, INC. freight prepaid, with a written statement describing the defect and application that the product is used in. ASHLY AUDIO, INC. will examine the product and perform any necessary service, including replacement of defective parts, at no further cost to you.

2) Please ship your product to:

ASHLY AUDIO, INC.

Attention: Service Department

847 Holt Road

Webster, NY 14580-9103

This page intentionally left blank

ASHLY AUDIO INC. 847 Holt Road Webster, NY 14580-9103 USA
Phone: (585) 872-0010 Fax: (585) 872-0739
Toll Free (800) 828-6308 www.ashly.com

©2016-2019 Ashly Audio, Inc. All rights reserved worldwide.
Ashly Audio is a division of Jam Industries, Ltd.
*All features, specifications, and graphical representations are
subject to change or improvement without notice.*