

[H]ardBASS

Ai 16.2

16-Input Mixing Console User Manual

Table of Contents

Introduction.....	1
The Channel Strip	2
Main Mix, AUX and Monitoring Outputs	3
Media Player, Effects and USB I/O Interface.....	4
Specifications	5

Introduction

Thank you for your purchase of the Ai series Mixing Console. This unit features familiar and simple analog controls with convenient Media Playback, Recording, Effects and Computer USB I/O interfacing.

Please read this guide carefully to get the full benefits of your mixer. Please read all safety information.

Safety Information

Please follow all standard precautions whenever operating this or any other electrical device. Ensure the device is not exposed to moisture or excess humidity. Ensure it does not become wet. Please ensure the power cord is in good condition before connecting. If the cord is broken or damaged, do not connect. Connect only to AC Mains matching the device's marked input voltage. Do not block any ventilation holes. This device contains no user-serviceable parts; do not open. Refer any repairs to qualified technician only.

Important Information

Never use spray cleaners or lubricants on the knobs, faders, or any other parts of the mixer. Please properly stow the mixer when not in use to avoid dust entry into the connectors, knobs or faders. Please disconnect the mixer from the AC Mains power supply when not in use.

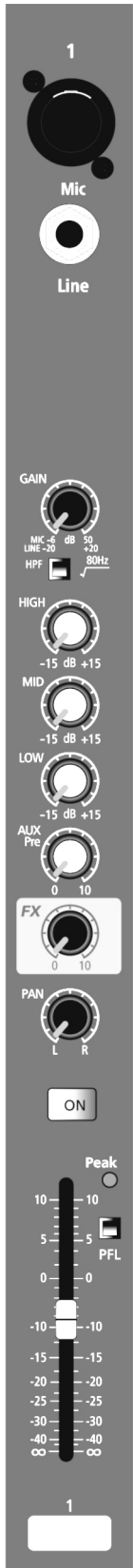
It is recommended to use a small automatic voltage regulator (AVR) for the mixer and other signal processing equipment. Do not to overload any connected AVR by sharing it with devices that have excessive power draw - such Power Amplifiers, Active Loudspeakers, appliances, power tools or other heavy equipment. Such high-power devices normally require direct connection to AC Mains.

Always turn on your connected Amplifiers or Active Loudspeakers last to avoid equipment turn-on sounds. Reduce volume if your amplifier is clipping. Clipping is normally indicated by a red light on your amplifier or active loudspeaker. Keep levels bouncing nicely in the green lights on all equipment.

Orientation



The Channel Strip



Overview

This mixer features numbered channel inputs as well as Tape-in and Aux return inputs. Each of the numbered inputs has a full channel strip whereby gain, on/off, equalization, high-pass, monitoring (PFL), aux sends, effects, pan and volume control can be adjusted. Input connector types are listed in the table below.

Input Connections

Adjust the **Gain** control at the top of the channel strip to a suitable level for your Microphone or Instrument. The "**Peak**" red-light indicator and **PFL** (Pre-Fader listen) function can be used to precisely set the Gain.

Equalization

Under the Gain control is a High-Pass Filter (**HPF**) button. This control removes any low-bass from the input channel. Under the HPF button, you will find three Equalization knobs for **High**, **Mid** and **Low** frequency controls.

AUX and Effects sends

The **AUX** knob sends the input channel (pre-fader) to the AUX bus. This bus is normally used to provide a special stage-monitor mix for the live performers on stage.

The **FX** knob sends the input channel (post-fader) to the Digital Stereo Effects (FX) section, where the signal is processed and effects returned through the **FX slider**.

Volume Controls

The **ON** switch turns the channel on or off. The **PAN** knob shifts the channel from center (both outputs) towards the left or right outputs. Use the channel **Fader** slider for volume control.

The **Peak** red-light blinks when the input Gain knob is set too high. The **PFL** (Pre-Fader listen) switch sends the channel to Monitoring outputs and LED display for precise gain adjustment.

Input Connector Types

<p>XLR</p> <p>Balanced 3-pin XLR Microphone inputs for connecting to Dynamic Microphones, Wireless Microphone Receivers or Direct Injection (DI) boxes. Condenser Type Microphones require turning on the +48V Phantom Power switch.</p>	
<p>1/4" (6.3mm)</p> <p>1/4" (6.3mm) Line Input for connecting to Line-level signals such as Musical Instruments, Guitars, DJ Controllers, etc. The right-most channel strips feature paired Left and Right 1/4" Inputs for stereo audio configurations.</p>	
<p>RCA</p> <p>Stereo RCA connections are used for Home Audio equipment. These can be connected directly to the stereo channel strips via RCA Female - 1/4" Male adapters (sold separately) or directly into the Tape-in inputs.</p>	

Main Mix, AUX and Monitoring Outputs



Main Outputs

Connect the Balanced XLR **Main Outputs** (1) to your Active Loudspeakers or Power Amplifier. The main outputs are controlled by the **Main Mix Faders** (21). Please note the “**ON**” switch (20) for these faders.

Signal level can be seen on the color-coded **LED Metering** (10). Note all Pre-Fader Listen (**PFL**) switches must be disengaged for the meter to display the Main Mix output levels.

Ideally signal levels should be kept bouncing nicely in the green lights and rarely touching the yellow lights.

Control-Room and AUX Outputs

This mixer features **Control Room** outputs (3) and **PHONES** output (2) for monitoring. The monitoring source is assigned by the **PFL** switches. Volume is controlled by **Control Room knob** (14) and the **Phones knob** (13) respectively.

The **AUX** bus is normally used to provide a special stage-monitor mix for the live performers on stage. This mix is distinct from the Main Mix hence the name “AUX” or “auxiliary” bus.

The **AUX sends** on the individual channel strips are mixed and sent via the **AUX OUT** (4) to your Active Monitors or Power Amplifiers. Volume of the Aux Out is controlled by the **AUX Fader** (23). Note the **ON** Switch (22).

This mixer also features stereo **AUX Return** inputs (6) with Aux Return volume control knob (16) for external equipment.

Additional Inputs and Outputs

This mixer also features **Tape-in** (7) RCA inputs for use with home audio equipment, such as CD Players, Laptops, etc. Volume can be adjusted by the **Tape Level knob** (15). This input is commonly used with a 3.5mm (1/8” aux) to Stereo RCA cable (sold separately) to connect mobile devices.

This mixer also has **Record Out** (8) outputs. These carry the Main Mix content (pre-fader) and is intended for use with recording equipment or as an additional sound output.

Media Player, Effects and USB I/O Interface

Media Player + Recorder

This mixer features a built-in Media Player with USB/SD Card MP3 and Bluetooth receiver. Volume is controlled by the channel strip labelled **BT / USB**. Note the **ON** button (20) for this channel strip. The Bluetooth pairing is engaged by the **BT Pair** button at the top of the strip.



Turning the **Function** knob manipulates the Media Player's on-screen display menus. Menus can be entered by pressing the knob once. You can return to home by press-and-holding the knob. Quick navigation buttons are marked with the standard **Previous Track, Play/Pause, Next Track, Stop** and **Record** symbols.

Digital Effects

To add effects to a channel, turn the **FX** knob on the channel strip. The signal will then be routed to the marked **Stereo Digital Effects (FX)** section, where the effects type (**Program**) (options listed below) and **Parameter** can be selected. Finally, raise the **FX Fader** to desired level. Note the **ON** switch and **Peak** indicator next to the FX fader.

FX LOGIC:					
1	HALL 1	9	REVERB 2	17	CHORUS 1
2	HALL 2	10	REVERB 3	18	CHORUS 2
3	ROOM 1	11	SINGLE DELAY	19	AMB REVERB
4	ROOM 2	12	LONG DELAY	20	TREMOLO
5	PLATE	13	VOCAL ECHO	21	WAH WAH
6	LARGE STAGE	14	KARAOKE ECHO	22	RADIO
7	SMALL STAGE	15	PHASER	23	RADIO VOICE
8	REVERB 1	16	FLANGER	24	PITCH CHANGE

USB I/O Interface

This mixer features **USB Audio I/O Interface** to optionally connect to your computer for streaming, recording and playback. This interface is plug-and-play with no external drivers needed. Connect the USB port at the rear of the mixer to your computer via a **USB-B to USB-A cable** (sold separately) and select the mixer as your computer's recording and/or playback device.

The signal sent to the computer (for recording or streaming) is the stereo **Main Mix**. If this mixer is selected as a playback device, any incoming sound from your computer will be routed directly to the Main Mix.

Specifications

Model	Ai 16.2
Description	16-input 2-bus Mixing Console with Media Player, Recorder, Effects and USB I/O
Microphone Inputs	10 discrete studio-grade, high-performance, low-noise microphone preamps
Line Inputs	4 Stereo (including Tape-in and AUX returns) + 8 Mono Line Inputs
Outputs	Balanced XLR Main out (+26dBu) + AUX out + Control-Room out + Record Out
Monitoring	12-segment LED metering, Pre-Fader Listen (PFL) and Peak indicator
Frequency Response	20Hz to 20kHz (± 1 dB) All Inputs
THD+N	Less than 0.005% (@ 4 dBu, 1 kHz) (Total Harmonic Distortion)
Fader Length	60mm, Genuine Japan NOBLE Faders and Potentiometers
Equalization	3-band Equalization + 80Hz High-Pass Filter (HPF) switch on each channel
High EQ	12,000Hz ± 15 dB
Midrange EQ	2,500Hz ± 15 dB
Low EQ	80Hz ± 15 dB
USB Audio I/O	2-in/2-out (24-bit 48kHz)
Media Player	USB/SD Card MP3 Playback + Recording + Bluetooth Receiver
Effects	24 Selectable + Parametric adjustment + footswitch bypass
Headphone Out	200mW (200 Ω)
Dimensions	482mm x 432mm x 106mm (L X W X H), 19" Rackmount (brackets sold separately)

Block Diagram

