



T4 AUDIO INTERFACE
OPERATION MANUAL

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FEATURES

The Resident Audio T4 is total state of the art, and it's packed with many cool features:

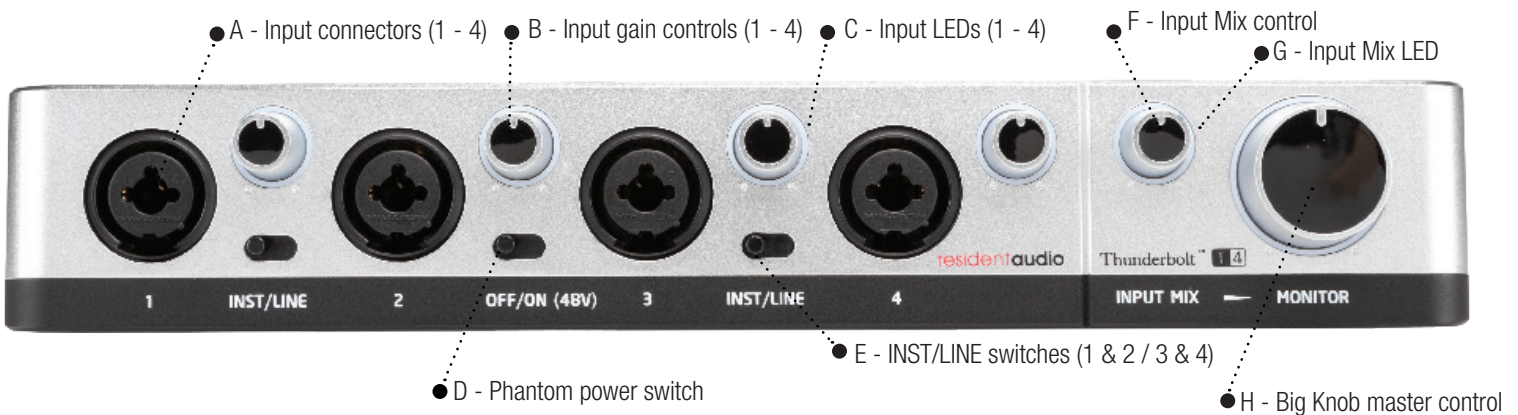
- Near-zero latency for virtually instantaneous recording and playback
- Support for high-resolution 24-bit/96kHz audio
- Four channels of I/O
- Four combo XLR / ¼" inputs, each with input gain controls and three-color wraparound LEDs
- Four balanced TRS ¼" outputs
- Dedicated headphone output and secondary headphone output
- Input mix control to blend live signal with computer playback
- Master "Big Knob" output control
- Smart Monitoring automatically switches between stereo monitoring & mono monitoring for input signals.
- High-quality mic preamps and A/D & D/A converters
- Phantom power allows use of condenser microphones
- Bus-powered (no need for AC or batteries)
- Compatible with Thunderbolt™ equipped Mac and Windows* computers
- Thunderbolt cable included
- Comes with all required software drivers
- Lightweight and portable
- Sturdy aluminum/acrylic chassis ensures roadworthiness

Whether you're in the studio, on the stage or in the DJ booth, the T4 provides the perfect interface between your computer and your performance.

** Select Windows systems only. For an up to date list of compatible Windows computers please visit www.residentaudio.com*

FRONT PANEL

Note: For the purposes of this Operation Manual, “Input” refers to incoming “live” analog audio signal from microphones, instruments (such as electric guitar or bass) or line-level devices (such as personal music players, electronic keyboards or effects devices) connected to the front panel T4 inputs. “Output” refers to digital playback signal coming from your computer software.



A - Input connectors (1 - 4) – These combo connectors accept both XLR and balanced or unbalanced (TRS or TS) ¼” cables.

B - Input gain controls (1 - 4) – Turn clockwise to increase gain, counterclockwise to reduce gain.

C - Input LEDs (1 - 4) – These three-color wraparound LEDs turn green to indicate the presence of input signal, yellow when the signal is approaching peak level and red when the signal is overloading (clipping). A good starting point is to adjust the Input gain control so that the loudest passages cause the LED to light yellow, with only occasional flickers in the red, and then tweak as necessary.

D - Phantom power switch – Turns on 48 volts of phantom power for all XLR inputs.

E - INST/LINE switches (1 & 2 / 3 & 4) – Use these to set the pair of inputs to instrument-level or line-level. NOTE: When set to INST, the corresponding pair of inputs are monitored in mono; when set to LINE, the corresponding pair of inputs are monitored in stereo. (See **Smart Monitoring on page 11 in this manual for more information.**)

F - Input Mix control – This monitoring control sets the amount of input signal that is blended with the output signal (playback coming from your computer).

When turned completely counterclockwise, you'll hear only the output signal from your computer, with no input signal added in; when set completely clockwise, your input signal is mixed in at full level. NOTE: The Input Mix control has no effect on the level of the output signal, which can be adjusted if necessary from your computer software and/or the T4 Digital Panel. (See **Using the T4 Digital Panel on page 9 in this manual for more information.**)

G - Input Mix LED – This three-color wraparound LED turns green to indicate the presence of input and/or output signal, yellow when the signal is approaching peak level, and red when the signal is overloading (clipping).

H - Big Knob monitor control – Controls the level of connected headphones as well as the overall monitoring level (when only Outputs 1 & 2 are connected). Turn clockwise to increase the volume, counterclockwise to reduce the volume. NOTE: When a connection is made to Output 4, the Big Knob controls headphone level only. (See **Making Connections on page 7-8 of this manual for more information.**)

REAR PANEL



A - MIDI In/Out connectors – Use these standard 5-pin DIN jacks to connect your T4 to external MIDI devices.

B - Thunderbolt™ port – Provides power to the T4 and routes input and output signal to and from your computer.

C - PHONES output – Connect headphones here.

D - Outputs (1 - 4) – Use these balanced line-level TRS ¼" jacks to connect your T4 to monitors and external devices. Output 3 can double as a second headphone jack. (See **Making Connections** on page 8 of this manual for more information.)

MAKING CONNECTIONS

Computer

This one's easy: Simply plug one end of the supplied cable into your computer's Thunderbolt port and the other end into the T4's Thunderbolt port. You've probably already noticed that the T4 has no AC cord. That's because it's powered by the same Thunderbolt connection that carries audio signal to and from your computer.

Inputs



Microphones should always be connected to the T4 with XLR cables; instruments and line-level devices should always be connected to the T4 with ¼" cables.

The Combo input connectors on the front panel of the T4 accept three different kinds of jacks: XLR, balanced ¼" TRS (Tip/Ring/Sleeve) and unbalanced ¼" TS (Tip/Sleeve—the kind used by standard guitar cables).

Microphones should always be connected to the T4 with XLR cables. Stereo microphones should always be connected to the same stereo pair of T4 inputs (i.e., Inputs 1 & 2 or Inputs 3 & 4). If you're using condenser microphones which require 48 volts of phantom power, set the T4 Phantom Power switch ON.



The T4 provides phantom power globally (that is, to all Inputs simultaneously) so use this switch with caution if any mics not requiring power (such as ribbon microphones) are connected.

Instruments and line-level devices should always be connected to the T4 with ¼" cables. Use the INST/LINE switches to specify what kind of devices are connected. The left-hand INST/LINE switch determines the type of devices connected to Inputs 1 & 2, while the right-hand one determines the type of devices connected to Inputs 3 & 4.



A microphone and an instrument or line-level device can simultaneously be connected to two inputs in a pair (for example, you can plug a mic into Input 1 and an electric guitar into Input 2); simply set the INST/LINE switch correctly. However, stereo line-level sources such as portable music players should always be connected to the same stereo pair of T4 inputs (i.e., Inputs 1 & 2 or Inputs 3 & 4). Connecting a line-level source to one input and an instrument to the other input in a pair may result in signal distortion.

The setting of the INST/LINE switches also determines whether the input signal for that pair is monitored in mono or stereo. (See **Smart Monitoring** on page 11 in this manual for more information.)

OUTPUTS



The four line-level output connectors on the rear panel of the T4 are all balanced 1/4" TRS jacks. Outputs 1 & 2 are the main monitor outputs and should be connected to power amplifiers, self-powered speakers, or two channels of a mixing board. Outputs 3 & 4 can be connected to two additional input channels of a mixing board, or Output 3 can be used on its own, in which case it functions as a secondary stereo headphone jack. (For more information, see **Headphones** on page 9 in this manual.)

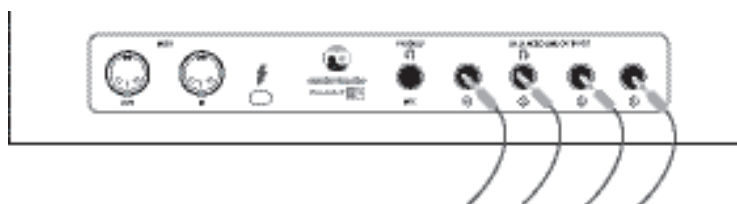
The T4 operates in one of two different modes, depending upon the physical connections made to its Output jacks.

When connection is made to just Output jacks 1 & 2, the T4 operates in Stereo Mix mode. In this mode, all output signal from your computer is routed to T4 Outputs 1 & 2 in stereo (left side to Output 1 and right side to Output 2). In Stereo Mix mode, the Big Knob controls the overall monitoring level as well as headphone level.

When a connection is made to Output jack 4, the T4 automatically enters Multichannel mode. In this mode, four discrete monophonic output signals are delivered from your computer to the corresponding four output jacks (i.e., signal assigned to your computer software's output 1 is routed to T4 Output 1, signal routed to your computer software's output 2 is routed to T4 Output 2, etc.). In Multichannel mode, the Big Knob controls headphone level only, and has no effect on output levels; to set individual output levels, use the T4 Digital Panel software installed into your computer during driver installation. (See Using the T4 Digital Panel on page 9 in this manual.)



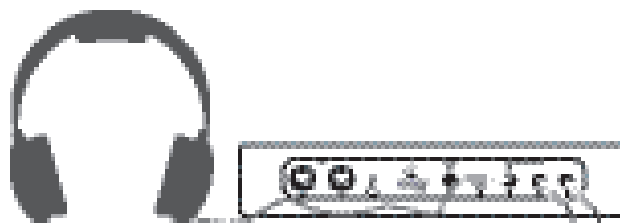
When a connection is made to Output jack 4, the T4 automatically sets all output levels to 0 (i.e., all sound is muted). To set individual output levels, use the T4 Digital Panel software.



Whichever mode you use, the T4's front panel Input Mix knob always allows you to blend live input signal along with output signal. However, in Multichannel Mode, no input signal is passed through to the T4 Output jacks (though it is sent, combined with the output signals, to the PHONES jack).

Headphones

The T4 provides a dedicated PHONES jack on the rear panel for private monitoring in either stereo or mono. (See Smart Monitoring on page 11 in this manual for more information.) When operating in Stereo Mix mode (i.e., only Output jacks 1 & 2 connected), you can also use Output 3 as a stereo headphone output; however, when headphones are plugged into the Output 3 jack, Outputs 1 & 2 are muted (although this has no effect on signal flow to your computer). If you want to be able to continue monitoring the T4 over speakers while listening over headphones, plug them into the PHONES jack; if you want to mute the sound coming from your speakers when listening over headphones, plug them into the Output 3 jack. If desired, you can use two pairs of headphones simultaneously, one plugged into the PHONES jack and the other plugged into the Output 3 jack. The front panel Big Knob monitor control always affects headphone level, regardless of whether you are using one or two pairs of headphones.



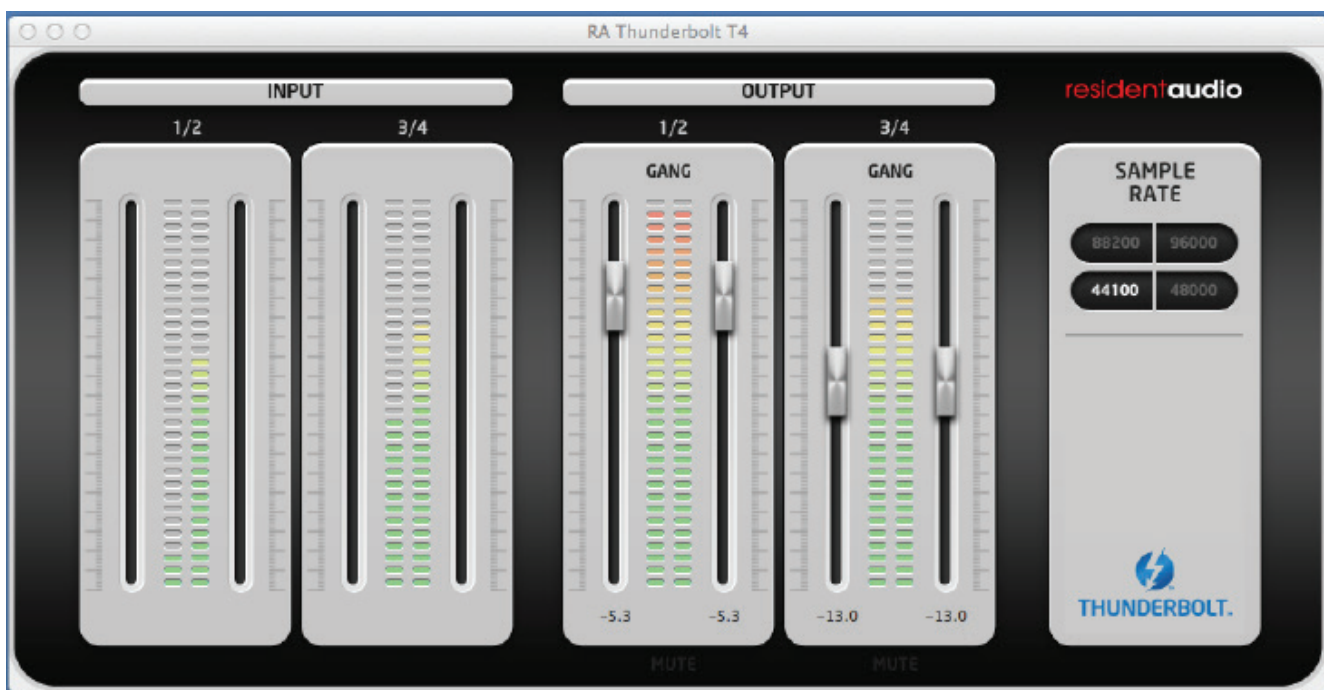
Summary of T4 operating modes:

Mode	Input signals	Output signals	Big Knob controls
Stereo Mix mode (only Outputs 1 & 2 connected)	Routed to Outputs 1 & 2*, PHONES jack and Output 3 (as per setting of Input Mix control) in mono or stereo (as per setting of INST/LINE switches**)	Mixed in stereo and routed to Outputs 1 & 2, PHONES jack and Output 3	Monitor level and headphone level(s) (PHONES jack and/or Output 3)
Multichannel mode (Output 4 connected)	Routed to PHONES jack only (as per setting of Input Mix control) in mono or stereo (as per setting of INST/LINE switches**)	Routed to corresponding Output jacks (in mono) and PHONES jack	Headphone level only (PHONES jack)

* Outputs 1 & 2 are muted if headphones are connected to Output 3.
 ** See Smart Monitoring on page 11 in this manual for more information.

Using the T4 Digital Panel

The T4 Digital Panel software is installed automatically during driver installation (Mac users will find it in their Applications folder; Windows users will find it in their Toolbar) and provides onscreen metering as well as allowing you to set output levels for each of the four channels individually. Simply “grab” and move each slider with your mouse to make adjustments. The two channel pairs (1 & 2 and 3 & 4) can be ganged together for easy stereo control if desired; just click on the “GANG/UNGANG” area of the display.



When a connection is made to Output jack 4 (thereby placing the T4 in Multichannel Mode), all four output level sliders in the Digital Panel go to the 0 position and all sound is muted (the Big Knob control affect headphone level only). To set the sound to the desired levels, simply “grab” and move each slider with your mouse.

The Digital Panel also enables you to change the T4 sampling rate if your DAW software supports multiple sampling rates. See your software owners manual for more information.

MIDI

In addition to routing audio, the T4 can serve as a computer MIDI interface too. Simply connect your T4 to external MIDI devices using the rear panel MIDI IN and MIDI OUT jacks. Keyboards and controllers should be connected to the T4 MIDI IN, and sound generating devices such as synthesizers and drum machines should be connected to the T4 MIDI OUT.



The speed of Thunderbolt, combined with the ultra-stable clock provided by the T4 software driver, ensures that your audio and MIDI tracks line up perfectly, with everything playing back exactly the way you played it in, with no “slop” or delay.

SMART MONITORING

The T4's unique Smart Monitoring provides a level of convenience that you won't find in other audio interfaces.

Here's how it works: When the T4 is in Stereo Mix mode and an INST/LINE switch is set to the LINE position, the corresponding pair of inputs (1 & 2 or 3 & 4) send signal to Outputs 1 & 2 and to the PHONES output (as well as to Output 3, if headphones are connected) in stereo, as you would expect.

However, when an INST/LINE switch is set to the INST (Instrument) position, the corresponding pair of inputs send signal to Outputs 1 & 2 and to the PHONES output (as well as to Output 3, if headphones are connected) in mono. This allows you to remove one set of cans and still hear the sound of everything in one ear—especially handy for vocalists and DJs.



Note that the setting of the INST/LINE switch affects input monitoring even when only microphones are connected to the T4. In this case, set the INST/LINE switch for each pair to LINE if you want to monitor the incoming mic signal(s) in stereo, or to INST if you want to monitor in mono.



The setting of the INST/LINE switches affect input signals only (i.e., signal coming from connected microphones, instruments or line-level devices) and has no effect on output signals (signals coming from your computer).

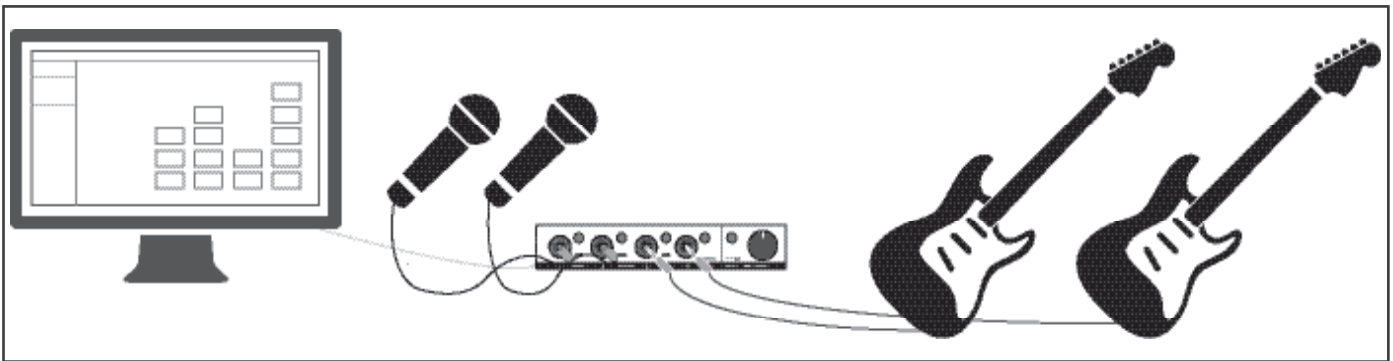


When the T4 is in Multichannel mode (i.e., Output 4 connected), Smart Monitoring only affects input signal going to the PHONES jack and has no effect on signal going to the four Output jacks.

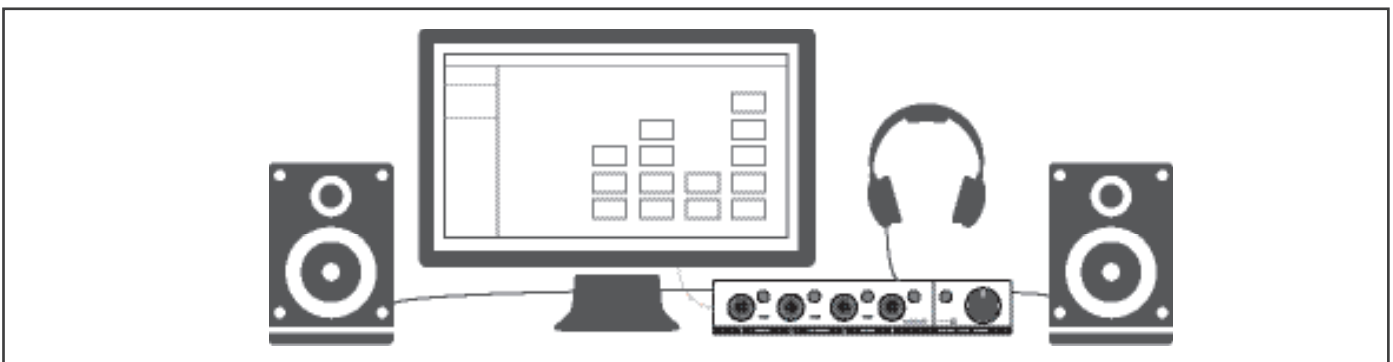
USING YOUR T4

There are lots of different ways you can use your T4. Here are just a few suggestions:

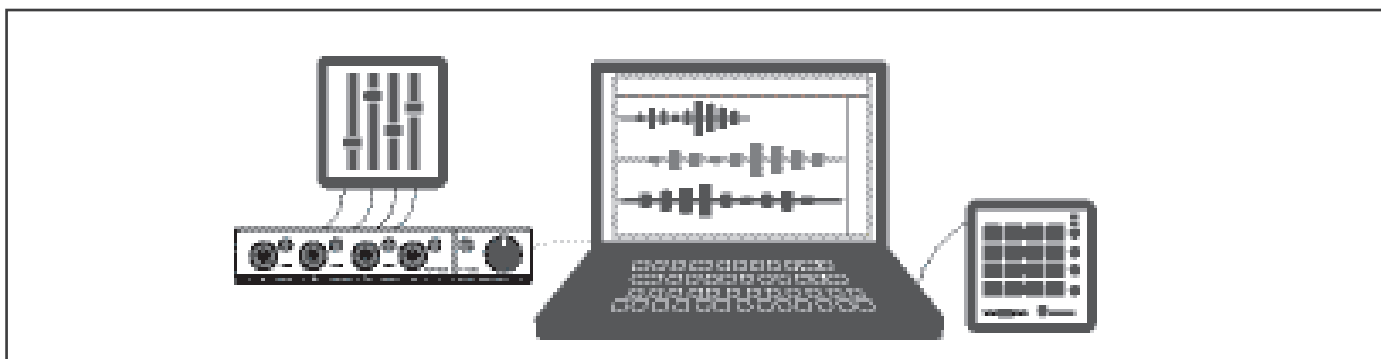
For live or studio recording into DAW software. Connect up to four microphones, instruments, or line level sources to the T4 and start making hits. The superb quality of the T4's converters means that everything you record will sound great, and the extremely low latency offered by Thunderbolt means that you can overdub with virtually no delay.



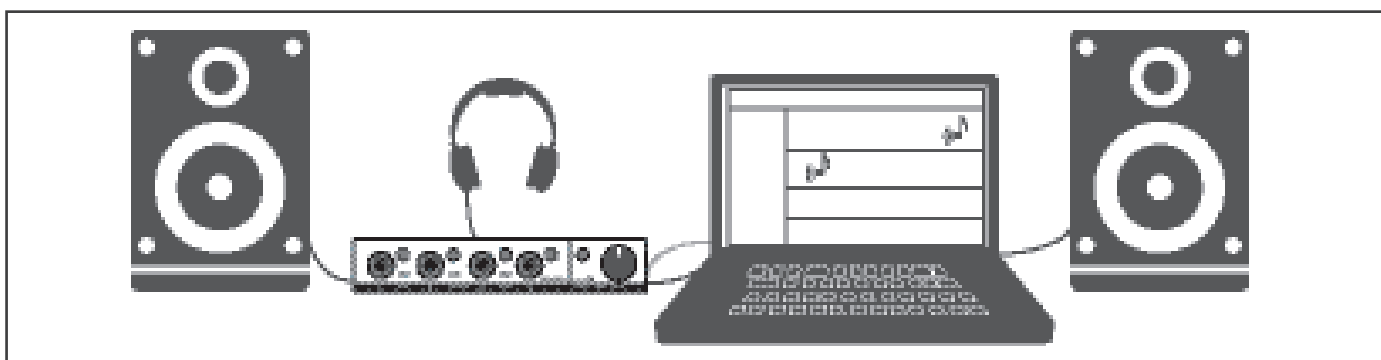
To monitor the audio coming from editing software. Forget the limited sound offered by computer speakers: The T4 allows you to hear every nuance of your edits. Simply plug a pair of headphones into the T4 or connect its main outputs (Outputs 1 & 2) to amplifiers or self-powered monitors.



For live playback of audio both onstage and in the DJ booth. The T4 allows you to play back up to four tracks of audio with great quality sound—up to 24/96. Just connect the T4 to your laptop with Thunderbolt, and you're ready to go—no AC cord, no wall wart, no batteries. Each track appears on its own output, too, which means you can trigger samples, add reverb, delays or other kinds of processing to craft the ultimate live performance.



To listen to music in full fidelity. With the T4, you can enjoy streamed audio files—even high-resolution files up to 24/96—in all their glory. Simply use the T4's PHONES jack instead of the one on your computer, or connect the T4's main outputs to a pair of speakers. You'll be amazed at just how great your favorite music can sound.



SPECIFICATIONS

Connectors

Input: 4 x Combo XLR mic / balanced ¼" TRS, line / instrument level

Output: 4 x balanced ¼" TRS line-level, 1 x stereo ¼" headphone output (optional second headphone output via Output 3)

MIDI: Input / Output | Thunderbolt™ port: 1 (bus-powered)

Controls

Trim: 4 (1 per channel) with 0 to +35 dBu mic gain range

LED clip indicator: 4 (1 per channel)

Line / Instrument switch: 2 (Inputs 1 & 2 / 3 & 4)

Phantom Power: On/Off +48V (global for all channels)

Input Mix: Blends live input signal with computer output signal

Big Knob (volume control): Controls headphone level and monitoring level (Stereo Mix mode only)

Hardware

Preamps: 2 per channel, mic / instrument

Chassis: Aluminum/Acrylic

A/D/A converters: More than 100dB dynamic range

Smart Monitoring

Stereo or Mono: Selected by Line/Instrument switch

Stereo Mix mode: All inputs and outputs to Outputs 1 & 2 plus Output 3

Audio

Bit resolution: 24-bit

Sampling rates: 44.1, 48, 88.2, 96 kHz

Mac® & Windows® compatibility: Recommend Mac OS X 10.9 Mavericks or above, Windows 8 or higher

Supports: ASIO, Core Audio, Windows Audio Session API (Windows 8)

Dimensions: 10.6 (w) x 4.4 (d) x 1.8 (h) in.

Weight: 2.3 lbs

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the 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

WARNING: Changes or modification to this unit not expressly approved by the part responsible for compliance could void the user's authority to the equipment.