

ProAudio Review

The Review Resource for Sound Professionals

REPRINTED FROM FEBRUARY 2008

WWW.PROAUDIOREVIEW.COM

TC Electronic Studio Konnekt 48

by Steve Murphy

Ambitious and feature-packed, TC's latest aspires to be the "Danish Army Knife" of FireWire interfaces.

TC Electronic's Studio Konnekt 48 breaks new ground in the crowded FireWire interface market by drawing heavily upon the company's long-established foundation of DSP-powered signal processors. Several features are ported

from the revered System 6000 effects/mastering platform, the Reverb 4000 and the popular trim pot and selectable -20dB pad. The TC "Impact II" preamplifiers provide a total of 62dB of gain for mic level (XLR) inputs and a variable 2000/1300-ohm impedance (pad on/off). THD and dynamic range at minimum gain is < -95dB (0.002-percent @ 1kHz, -1dBFS) and < -106dB (A-weighted, 20Hz - 20kHz) respectively; adjacent channel crosstalk is < -75dB (20Hz - 20kHz). A global phantom power switch provides +48V to sources connected to the XLRs. The 1/4-inch TS instrument inputs provide 42dB of gain and present a 1-Megohm load.



market by drawing heavily upon the company's long-established foundation of DSP-powered signal processors. Several features are ported

from the revered System 6000 effects/mastering platform, the Reverb 4000 and the popular trim pot and selectable -20dB pad. The TC "Impact II" preamplifiers provide a total of 62dB of gain for mic level (XLR) inputs and a variable 2000/1300-ohm impedance (pad on/off). THD and dynamic range at minimum gain is < -95dB (0.002-percent @ 1kHz, -1dBFS) and < -106dB (A-weighted, 20Hz - 20kHz) respectively; adjacent channel crosstalk is < -75dB (20Hz - 20kHz). A global phantom power switch provides +48V to sources connected to the XLRs. The 1/4-inch TS instrument inputs provide 42dB of gain and present a 1-Megohm load.

Performance specs are essentially the same as the mic inputs, but with a 15dB improvement in crosstalk (-90dB).

Also on the front panel are two discretely addressable 1/4-inch headphone outputs (outputs 3/4 and 11/12) with individual volume controls and a digitally controlled analog output knob that, depending on configuration, can provide unified level control over up to eight analog outputs. A respectably large LED display provides six-segment input level metering of all 12 analog inputs (individual meters for channels 1 - 4 and 5 - 12 in pairs), as well as single LED signal status of ADAT, S/PDIF, TOSLINK (1/2, 3/4) and MIDI activity; a single LED confirms FireWire connectivity with the software driver.

On the rear panel are main analog outputs 1 & 2 on XLR, and I/O pairs 5 - 12 on balanced TRS 1/4-inch jacks; -10/+4 sensitivity on the line inputs can be set per-channel via the software application. Dedicated Word Clock I/O on BNC connectors are provided along side RCA S/PDIF and MIDI I/O pairs.

The SK48's four light pipe connections can be software-configured as dual stereo TOSLINK I/O's (four channels of optical S/PDIF I/O), as eight channels of standard ADAT optical I/O (using only one pair of light pipe connectors), or as eight channels of dual-

FAST FACTS

APPLICATIONS

Studio, post, remote production

KEY FEATURES

24/24 channels simultaneously to/from DAW; 12 analog I/O (including 4 mic/inst preamps, 8 x 1/4-inch line inputs/outputs); eight channels 96-kHz ADAT (SMUX); Word Clock and S/PDIF I/O; digitally controlled analog main XLR outputs (1/2); dual headphone outs with individual level control/source; 24x8 DSP mixer with total recall and effects insert points; built in TC DSP effects and processing for internal and DAW (AU/VST) mixing

PRICE

\$1,745

CONTACT

TC Electronic | ☎ 818-665-4900
➔ www.tcelectronic.com

FEATURES

The single rack-space Studio Konnekt 48 (\$1,745) enters the market at the top of TC's comparatively nascent line of audio interfaces, which also includes the Digital Konnekt x32 (digital router, format converter and FW interface), the Konnekt 24D, Konnekt Live, Konnekt 8 and the cool little Desktop Konnekt 6 (an easy comparison chart is available at www.tcelectronic.com/konnektcomparison).

In addition to the software mixer/control panel interface (see "In Use" section), the SK48 is endowed with an inclusive set of hardware I/O and control features that, for most users, will leave little to be desired. For those who do desire more: the "NEAR" in TC NEAR stands for Network Expandable Audio Recording, making it cross-expandable with rest of the Konnekt family.

On the front panel are four mic/instrument inputs on Neutrik 1/4-inch (unbalanced)/XLR combo jacks, each with a corresponding gain

wire 96kHz-capable ADAT I/O (SMUX, using all four connectors). Closing out the rear panel are two FireWire 400 connectors, an RJ-45 jack for the included Studio Kontrol remote (see "In Use") and a standard IEC AC input.

| IN USE

The TC Studio Konnekt 48 is Mac (PowerPC and Intel, OS X 10.4.10 or higher) and PC (Windows XP or 32-bit Vista) compatible; please check the TC website for the latest compatibility and requirements info. For this review I installed the SK48 on both my main audio computer — a quad 2.8GHz AMD CPU with 4GB RAM — and a fairly recent Dell notebook with Intel Core2 Duo 2.0GHz CPU and 2GB RAM; both are running XP Professional. I used the SK48 with a range of Steinberg multitrack applications (Nuendo 3 and 4, Cubase 4 and LE,

PRODUCTPOINTS



- Excellent converter and preamp sound quality
- Full multi-setup stereo and surround monitoring
- Top-notch DSP plug-ins
- Full-featured remote control



- Persistent driver stability issues
- Overly complex routing and mixing interfaces

SCORE

TC Electronic's powerful FireWire interface konnechts most of the dots any studio professional would need to cover.

Sequel), the open-source Audacity plus Sony Acid 6 and Sound Forge 8.

Installation was standard (install software first and then restart with hardware attached), but with a couple pleasant twists: I was presented with none of the usual "new hardware detected" or "driver signing" messages, just straight to the TC NEAR control panel. The app immediately advised me of a new firmware version and, one button click later, the unit was updated. Unfortunately, immediately following the update, the TC application and, shortly thereafter, my computer became unresponsive and required a hard shutdown (a.k.a. power switch).

While on the subject, and before getting to all the really good stuff, I have to report that I experienced more instability — including audio drop-outs, frozen dialogs and other generally buggy driver behavior with the SK48 — than with any of the other 15 or so FireWire interfaces I have tested over the last several years. To be fair, this is the most ambitious interface feature-

wise of the bunch, with only the RME FireFace 800 in a similar league, but I was frankly dismayed at the amount of troubles I encountered over the course of this review.

Things got a whole lot better with the recent release of TC NEAR 2.0, but as of press time, I still experienced some random behavior, some reproducible bugs, and some features that just plain didn't work (including using the fantastic DSP Fabrik C and R plug-ins in VST mode — a major problem of which TC is aware).

With that out of the way — and TC working hard to address these issues — it may sound odd to hear that I genuinely loved the Studio Konnekt 48. It was a masterful example of interface design, and the amount of professional-level options it presented was near-astounding (no pun...). The AD/DA conversion was top-notch, as were the four preamp inputs — I wouldn't hesitate to use these inputs in place of dedicated preamps costing more per pair than the whole SK48 system.

The sturdy and intuitively easy Studio Kontrol remote, which attached to the main unit via standard CAT-5 network cable, was a major bonus. This smart controller not only provided instant access via its LED-ringed "big knob" to system settings and output volume (including multichannel surround monitoring if configured), but also provided a full talk-back system (including built-in mic and multiple dimming options) and six user-configurable buttons.

Unlike many FireWire interfaces I have used and/or reviewed, I couldn't use the line "I didn't need to crack the manual to get up and running." The SK48's expansive I/O routing, monitoring, processing and mixing feature sets necessitated a commensurately complex control interface, and the TC NEAR control panel application fit the bill. This was a prototypical case for RTFM — it took a week of using the unit and referring to the manual to get a handle on all the SK48's operations (and more added with each software release)! I am not in anyway complaining, however; the SK48 provided a huge and welcome amount of power and flexibility, and the result was more-complex control panels (though a more standard approach to its routing matrix and mixer pages would go a long way towards a shorter learning curve).

One of my favorite and most powerful features of the SK48 was its speaker management and monitoring capabilities. Seamlessly integrated into its 48-bit (56-bit internal processing) mix engine was a complete speaker-/bass-management system based on TC's AIR technology. Three individual/selectable monitor setups are supported, making this easily the most compre-

hensive software speaker management system I have used.

Not only could you assign separate or overlapping output channels to the three setups, but each output had its own dB trim and delay settings within each setup (i.e., the same output/speaker could have different trim/delay settings depending on the selected speaker setup). And, each setup had its own bass management settings, including crossover point and separate high- and low-pass filter slopes, plus main speaker low-pass could be combined with dedicated sub channel via separate trim levels. Of course, speaker setups A, B and C could be quickly selected from the Studio Kontrol remote — genius!

Unfortunately, I could barely scratch the surface of the SK48's features in action in a review of this length, but I did want to call attention to the Fabrik C (channel strip) and R (reverb) DSP effects, which employ a unique icon-driven interface for interactive and interdependent adjusting of parameters. While I found the interface novel and fun to play with (but thankful for standard parameter fields, too), it was the sound quality that defined these processors; and that, in a word, was "amazing." I am not easily amazed, mind you, but the Fabrik R reverb was one of the best sounding reverbs I have had the pleasure of using, let alone within a DAW environment. (As mentioned earlier, the VST plug-in use of the Fabriks was not in service, but I was able to work around this using the internal routing flexibility of the SK48.)

| SUMMARY

Though the Studio Konnekt 48 was somewhat hamstrung by driver stability issues and bugs throughout my testing, these are systematically getting solved; the SK48's performance (and feature set) has decisively been enhanced with each new release.

From a hardware and software standpoint, the TC Electronic Studio Konnekt 48 is a towering achievement. Though its expansive feature set and commensurate complexity do not necessarily let out the novice users, it most definitely lets in a whole range of more-experienced engineers looking for an inclusive, professional-level feature set with the flexibility and sound quality to meet the most stringent DAW demands.

PAR Studio Editor Stephen Murphy was engineered and produced by his parents a little over 41 years ago; despite their major head start, they still have not worked on any Grammy or Emmy-winning productions. Steve's website is www.smurphco.com.