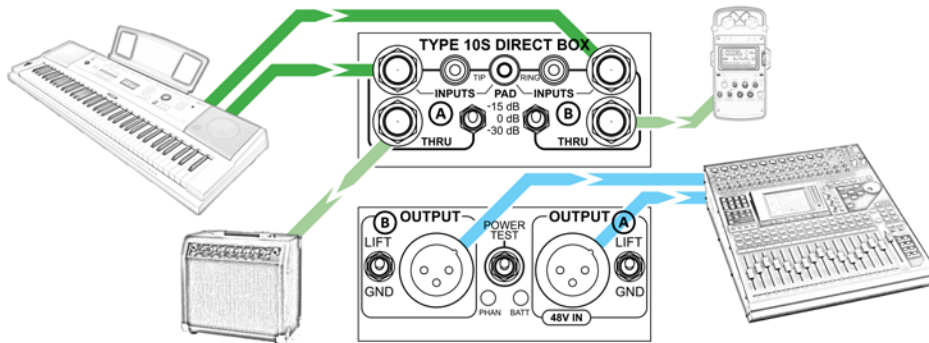




COUNTRYMAN ASSOCIATES INC
TYPE 10S
 STEREO DIRECT BOX

The Type 10S Stereo Direct Box is a two-channel version of the Type 10 Direct Box. Each channel uses the same innovative circuitry as the Type 10—delivering industry-leading technical performance—with some new features that add versatility.



Your keyboard will never sound muddy with the Type 10S. You also won't need to worry about hum or buzz getting into your signal on long XLR runs.

Unmatched Performance

The Type 10S will not distort your sound regardless of the frequency or level of the audio source you plug in. The frequency response is flat from 10 Hz to 50 kHz, with a phase response that is linear within 2 degrees for the full audio range. The combination of flat and extended frequency response with linear phase delivers clean and accurate transient response which is essential for preserving the true character of the source.

Powering Options

Since the Type 10S uses an active circuit, your signal level is preserved, not padded by 20 dB or more as with passive boxes. This means that any noise and interference added by *all* of the following devices in the signal chain will be 20 dB less relevant to your overall sound quality. Although active circuitry requires power to operate, we decided to give you some easy options for powering the Type 10S. You only need to provide phantom power to Channel A, and, if you don't have phantom available, the Type 10S will automatically use its internal battery which lasts for over 100 hours.

Indestructible

As with all Countryman DIs, the box is mechanically and electrically designed to survive on the road. The shell is constructed of thick extruded aluminum. The circuit board is potted in epoxy, and protected electrically from high voltage discharges at the input. All switches and connectors are fully recessed—if a switch gets flipped, it is only because you absolutely intended to do so. Transformer isolation is tested for each box by connecting 500 V AC from instrument ground to pin 1 for both XLR outputs.

Frequency Response:

10 Hz – 50 kHz (+/- 1 dB)

Deviation from Linear Phase:

+2° (30 Hz), 0° (100 Hz – 20 kHz)

Noise (shorted input, BW = 22 Hz – 20 kHz):

1.8 μ Vrms (-115 dBVrms)

Distortion (1 Vpp in, $R_L = 1.2 \text{ k}\Omega$ through 200' of XLR cable):

THD: < 0.001% at 1 kHz

< 0.005% from 30 Hz to 20 kHz

IMD: < 0.002% (10 kHz/60 Hz, 4:1)

Cross-Talk Rejection: >105 dB (20 Hz – 20 kHz)

Power Options: 48 V Phantom (1.5 mA), 9 V Battery (4.8 mA, 130 hrs. on a typical alkaline)

Input Protection: 220 Vrms and 20 kV discharges

Transformer Isolation Voltage: >500 V from instrument ground to either XLR output pin 1

Padding Settings: 0 dB, -15 dB, -30 dB

RF Low-Pass Filtering: 1.5 MHz (in), 60 kHz (out)

Maximum Input Level (1% THD):

5 Vpp (0 dB pad)

28 Vpp (-15 dB pad)

158 Vpp (-30 dB pad)

Input Resistance:

10 M Ω (0 dB pad), 10 k Ω (-15, -30 dB pad),

20 k Ω (RCA and 1/8" inputs)

Input Capacitance:

240 pF (equal to 3 ft of low-capacitance guitar cable)

Output Polarity: Pin 2 positive

Dimensions:

2 x 4 x 6.25 in (51 x 102 x 159 mm)

Weight: 31.2 oz (.88 kg)

Type 10S: Unparalleled Performance

What Should I Look for in a Stereo DI?

You're probably familiar with the most critical specs of one-channel DIs: low noise, THD, IMD, and deviation from linear phase; flat and wide frequency response; clean and accurate transient response; rock-solid transformer isolation. For stereo DIs, all of these specs are still just as important, but you should also consider cross-talk rejection and input connector options. We also believe that you shouldn't need to buy a different stereo box for each application—the Type 10S will deliver exceptional performance for virtually all applications.



Type 10 (one-channel) and Type 10S (stereo) DI boxes.

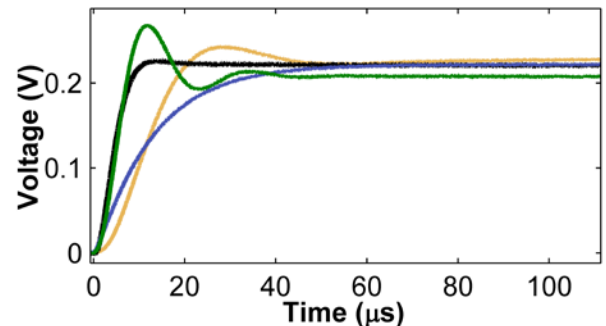


Inside of the Type 10S DI: the circuit board is protected by a solid block of epoxy.

Accurate Transient Response

The Type 10, and the Type 10S, deliver outstanding transient response as a result of their flat and wide bandwidth (± 1 dB, 10 Hz–50 kHz) and ultra-low deviation from linear phase ($<2^\circ$, 30 Hz–20 kHz). Nothing will sound muddy or blurred when passed through the Type 10S. Instead, your sound will be accurate, clean, and completely faithful to the source.

Most competitor DIs can achieve a flat frequency response from 20 Hz to 20 kHz, but very few possess a clean transient response. We measured the step response for three top-selling competitor stereo DIs and plotted them to the right. Only the Type 10S (in black) is free of large overshoot, underdamped ringing, and overdamped (lazy) response.



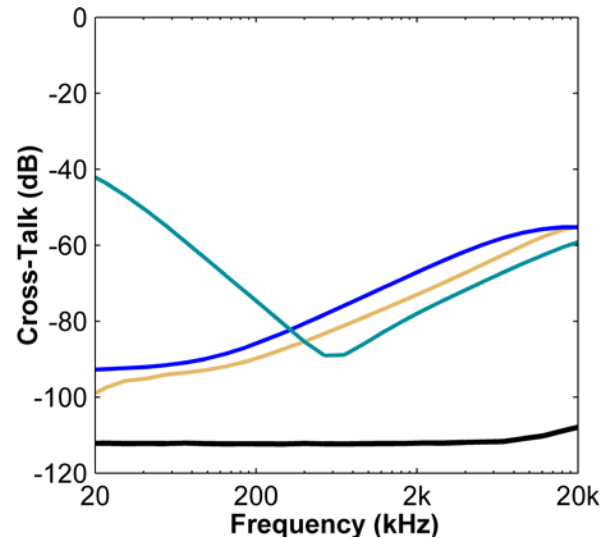
Step response of the Type 10S (black) and three competitor stereo DIs. Only the Type 10S accurately preserves transients.

Cross-Talk Rejection

Cross-talk is the unintended mixing of a signal from one channel to the other. Since this type of mixing is highly undesirable, we specify cross-talk rejection for a box. For example, cross-talk rejection of 60 dB means whatever you plug into channel one will also feed into channel two—padded by 60 dB.

Consider how this limits your usable dynamic range. When you first looked at the noise spec for the DI, you were probably expecting to get 100 to 120 dB (for most pro DIs) of usable dynamic range. Unfortunately, with a cross-talk rejection of only 60 dB, it turns out that your dynamic range was just reduced by 40 to 60 dB (100 to 1000 times)!

Nearly all stereo DI manufacturers omit including cross-talk rejection in their list of specifications. We decided to measure cross-talk rejection versus frequency on three of the most popular active stereo DIs on the market, and plotted the results here—we also plotted cross-talk rejection for the Type 10S for comparison. The cross-talk rejection of the Type 10S (112 dB at 1 kHz) exceeds all three competitors by 20 to 60 dB for the full audio range. This means that only the Type 10S truly functions as if it were two separate one-channel DIs side-by-side, and only the Type 10S delivers the full dynamic range you expected from your stereo DI.

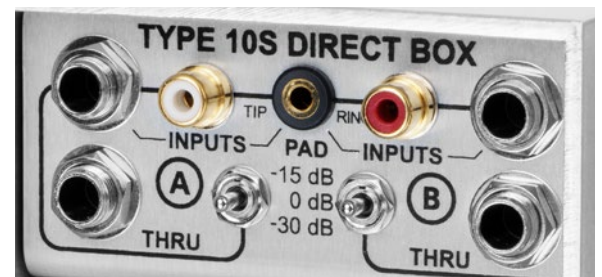


Cross-talk rejection vs. frequency for the Type 10S (black) and three of the most popular competitor stereo DIs. The Type 10S outperforms its competition by 20-60 dB for the full audio range.

Input Connectors

When you're setting up at a venue and have to deal with all kinds of sources and connectors, you'll still be set with the Type 10S. You also won't need to worry about intermittent connections because of corroded contacts, or your input connectors getting damaged just because you dropped your box.

The Type 10S uses only the highest quality connectors. On the input, your connector options include metal-threaded-nose 1/4" jacks, gold-plated super-rugged RCA jacks, and a gold-plated stereo 1/8" jack. We also protect all connectors by recessing them inside an architectural aluminum housing strong enough to support an 18-wheeler.



The Type 10S uses only the highest quality connectors engineered for robustness and long-term use.