JRE USB 3-2

Dual USB 3.0 'SuperSpeed' Filtered Interface

Two independent SuperSpeed channels in one housing — patented phasing rejects wireless RF without touching your high-speed data.

Two complete USB 3 filters in a single machined housing

AT A GLANCE

- **Two fully independent SuperSpeed channels** in one housing — saves I/O plate space versus two single filters
- **Not a low-pass filter** — a patented signal-phasing topology (two US patents) discriminates balanced data from common-mode RF instead of attenuating both
- Handles **USB 1.1, 2.0 and 3.x SuperSpeed** over standard Type-A connectors
- **No inherent data-speed limit** — achievable rate is set by total cable attenuation, not by the filter
- **80 dB** conducted attenuation per channel, 50 MHz to over 6 GHz; insertion loss under 1.5 dB on data lines
- **Fully passive** — no active silicon, no firmware, nothing that could be subverted in a data-side attack
- Two Type-A male-to-male jumper cables included, one per channel · 100% made in USA

DESCRIPTION

The JRE USB 3-2 is two fully independent USB 3.0 SuperSpeed filtered channels built into a single machined-aluminum housing that gives exceptional RF shielding on every data and power line. Each channel is a complete USB 3 filter in its own right, so a second device costs you one mounting footprint on the I/O plate instead of two.

It works on an entirely different principle from older USB filters. Earlier designs low-pass filtered the data lines to knock down interfering RF, but as USB rates climbed into the SuperSpeed range the data itself moved up into the same band as the interference — and a low-pass filter can no longer tell them apart. Our patented design instead exploits the fact that USB data travels as a balanced differential signal while interfering RF appears as common mode, rejecting the RF while passing the data clean — valuable where a low-pass filter fails outright, as with key fobs and RFID.

Neither channel has a speed limit of its own; each looks electrically like roughly 1 to 1.5 metres of USB cable, and it is the total attenuation of filter plus cables that sets the achievable rate. With the included jumpers you will reliably pass 5 Gbps and often 10 Gbps per channel; for longer runs, use an active cable outside the chamber. Every specification here is measured with the filter installed in an enclosure.

RF PERFORMANCE

Conducted attenuation	**80 dB**
Frequency range	**50 MHz – 6 GHz+**
Insertion loss, data lines	**< 1.5 dB**
Isolation, in test system	**80 dB**

Per channel, both channels independent.

DC POWER LINES

DC resistance per leg	**0.1 Ω max**
1 MHz	**−20 dB**
10 MHz – 6 GHz	**−80 dB**

ELECTRICAL & CONNECTOR

Channels	**Two, independent**
Data line balanced impedance	**90 Ω typ.**
Power capability	**USB std or 50 VDC @ 1 A**
USB inside	**USB 3.0 Type A female ×2**
USB outside	**USB 3.0 Type A female ×2**
Cables	**Two Type A M-M incl.**

DIMENSIONS & MOUNTING

Outside	**3.2" H × 3.2" W × 0.8" D**
	80 × 80 × 20 mm
Mounting screws	**4-40, included**
Clearance hole	**0.1285" (#30 / 3.3 mm)**

Drilling template included. Each channel presents roughly 1–1.5 m of equivalent cable — budget for it in your overall cable length.

COMPATIBILITY

Works with any JRE RF shielded test enclosure or screen room. JRE's enclosure line provides superior RF isolation from 10 MHz to over 6 GHz, covering the full range of commercial, private and government communications systems. Only need one port? See the JRE USB 3-1. Cable length and speed guidance is in the USB-3 and USB-C Special Considerations white paper at jretest.com.

JRE Test, LLC
75 Victor Heights Pkwy, Victor, NY 14564 · 585-298-9596 · sales@jretest.com · www.jretest.com

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