

JRE LAN-USB 2

Dual Filtered Interface: RJ-45 Ethernet and USB 2.0

Ethernet and USB 2.0 in one housing — two independent low-pass sections, cellular and WiFi locked out of both.



One Ethernet section and one USB 2.0 section, one footprint

AT A GLANCE

- **Two fully independent filter sections** in one housing — a 10/100/1000 Ethernet filter and a USB 2.0 filter — saving I/O plate space and cost versus two separate units
- Precision low-pass on both sections — passes data below ~480 MHz clean while rejecting cellular, LTE and WiFi above 700 MHz
- **>70 dB rejection** above 700 MHz, **>80 dB** from 1 GHz through 6 GHz; latest design covers the current LTE bands
- **LAN section filters all eight RJ-45 lines** — wire any signal onto any line and use it as a general-purpose filtered interface, not just Ethernet
- **PoE pass-through compatible** — up to 250 mA per line at under 1.5 Ω DC
- **USB section fully USB 2.0 compliant with proper enumeration**; power lines filtered **>80 dB** from 400 MHz through 6 GHz
- **Fully passive** — no active components, no firmware · 100% made in USA

DESCRIPTION

The JRE LAN-USB 2 is two separate, fully independent filtered interfaces — one 10/100/1000 Ethernet, one USB 2.0 — built into a single rugged machined-aluminum housing. Combining them on one footprint saves space on the I/O plate and costs less than two stand-alone filters.

Both sections are precision low-pass filters, and for these interfaces that is exactly the right tool. USB 2.0 tops out at 480 Mbps and gigabit Ethernet data likewise sits well below the wireless bands, so there is a clean gap between your data and the interference you are keeping out. A low-pass filter passes everything below the gap untouched and rejects everything above it by better than 70–80 dB. Our patented signal-phasing filters exist for the faster

interfaces — USB 3 SuperSpeed, 10GBASE-T — where the data climbs into the interference band and a low-pass can no longer separate the two.

The LAN section filters all eight RJ-45 lines, so it doubles as a general-purpose interface. The USB section carries a balanced bidirectional data pair plus an unbalanced power and return pair on standard Type-A connectors, with proper enumeration so test hiccups are exchanged end-to-end. Reliable shielding starts at the mounting: a ring of 4-40 screws draws the flange flat and tight around its entire perimeter, unlike single-nut designs that work loose over time.

INSERTION LOSS — LAN SECTION

10 MHz	0.1 dB
150 MHz	1.2 dB
250 MHz	1.5 dB
350 MHz	2.0 dB
480 MHz	3.0 dB
700 MHz	> 70 dB
800 MHz – 6 GHz	> 80 dB

LAN SECTION

Speeds	10/100/1000BASE-T
Interface	RJ-45 female
Lines filtered	All 8
PoE	Compatible
Cables	USB A + RJ-45 incl.

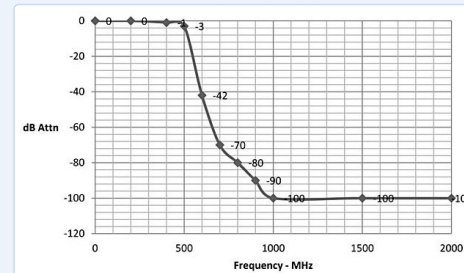
USB SECTION

Standard	USB 1.1 / 2.0
Max data rate	480 Mbps
Interface	Type A female
Data, 1–6 GHz	> 80 dB
Power, 0.4–6 GHz	> 80 dB

ELECTRICAL & DIMENSIONS

Balanced impedance	100 Ω typ.
Power	60 VDC @ 250 mA
Max DC R per line	1.5 Ω
Outside	3.2 × 3.2 × 0.8 in
	80 × 80 × 20 mm
Screws	4-40, incl.
Drilling template included for standalone installation.	

MEASURED FREQUENCY RESPONSE



LAN section insertion loss vs. frequency, installed in an enclosure.

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. Need the sections separately? See the JRE LAN-1 and JRE USB 2-1. Need SuperSpeed USB or 10G Ethernet? See the LAN-USB 3 and LAN10G-USB combos.