

## JRE LAN-2

# Dual Ethernet 10/100/1000 Filtered Interface

Two independent Ethernet channels in one housing — full gigabit throughput on both, cellular and WiFi locked out.



Two complete LAN-1 filter sections in one machined housing

## AT A GLANCE

- Two independent Ethernet filters in one housing — saves I/O plate space over two separate LAN-1 units
- Passes 10/100/1000BASE-T Ethernet while rejecting cellular, LTE, WiFi and everything above 700 MHz
- All eight RJ-45 lines filtered on each channel — usable as a general 8-line filtered interface, not just for Ethernet
- Flat passband to ~480 MHz; >70 dB rejection above 700 MHz, >80 dB from 1 GHz through 6 GHz
- PoE pass-through compatible — up to 250 mA per line at under 1.5  $\Omega$  DC
- Fully passive — no active components, no firmware, nothing that could be subverted in a data-side attack
- Balanced filtering for minimal ringing; also accepts RJ-11 plugs with identical filtering · 100% made in USA

## DESCRIPTION

The JRE LAN-2 contains two independent Ethernet filters of the LAN-1 design in a single machined-aluminum housing, saving space and cost over two separate filters. Each section is a full 10/100/1000 Ethernet low-pass filtered interface with exceptional RF shielding on all eight signal lines, passing data between RJ-45-connected devices while rejecting frequencies above the ~700 MHz cellular bands.

For Ethernet at these speeds, a low-pass filter is exactly the right tool. The 10/100/1000BASE-T data spectrum sits well below the wireless bands you want to keep out, so a clean low-pass design passes the data untouched while sharply attenuating cellular, LTE and WiFi. (At 10GBASE-T speeds the

data itself climbs into those same bands, which is why the JRE LAN10G-2 uses a different patented phasing approach. For gigabit and below, the LAN-2 is the purpose-built and better-isolating choice.)

Because all eight lines are filtered on each channel — 10/100 uses only four of the eight, while 1000 uses all eight — the LAN-2 doubles as a general-purpose filtered interface. Reliable shielding starts at the mounting: it secures with a ring of 4-40 screws, drawing the flange flat and tight around its entire perimeter, unlike single-nut designs that never seat reliably flat and work loose over time. Every specification here is measured with the filter installed in an enclosure.

### TYPICAL INSERTION LOSS — ALL SIGNAL LINES

|                 |         |
|-----------------|---------|
| 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 |

### ELECTRICAL

|                              |                   |
|------------------------------|-------------------|
| Channels                     | Two, independent  |
| Data line balanced impedance | 100 $\Omega$ typ. |
| Power capability             | 60 VDC @ 250 mA   |
| Max DC resistance per line   | 1.5 $\Omega$      |
| PoE pass-through             | Compatible        |

### CONNECTOR

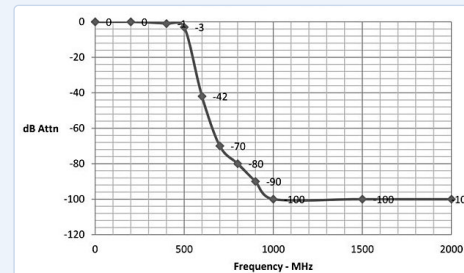
|                |                     |
|----------------|---------------------|
| Interface      | RJ-45 female jacks  |
| Lines filtered | All 8, each channel |
| Also accepts   | RJ-11 plugs         |

### 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 for standalone installation.

### MEASURED FREQUENCY RESPONSE



Insertion loss vs. frequency, filter 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. Only need one channel? See the JRE LAN-1. Running 10GBASE-T? See the JRE LAN-10G-1 and LAN10G-2.