## Product Overview

### Top View
- DIP Switch and Power Options
- LED Indicators
- RJ11 In/Out
- Copper Cable In/Out

### Front View
- Ethernet In/Out
- LED Indicators

## Set DIP Switch

Ethernet extenders work in pairs. Set one as the local (Loc) unit and the other as the remote (Rem) unit. It doesn’t matter which one is which.

## Connect Your Power Supply

Only one power source is required. Redundant power is supported.

## Plug In Your Cable

If you are using the terminal block, straight or crossover cable are both supported. Installing new, shielded, 24 gauge copper wire is recommended.

If using RJ11 cable, straight or crossover cable are both supported. (Only pins 3 and 4 are actually used.)

## LED Status

### Power LEDs
- **Power 1**: Steady, Power On
- **Power 2**: Off, Power Off
- **Power 3**: Off, Power Off

### Ethernet LEDs
- **Link/ACT**: Steady, Valid network connection established; Flashing, Transmitting or receiving data; Off, No network connection
- **FDX**: Steady, Connection in full-duplex mode; Off, Connection in half-duplex mode

### Ethernet over VDSL LEDs
- **Remote**: Device is in remote mode
- **Local**: Device is in local mode
- **Error**: Error occurred
- **Link**: A valid VDSL connection is established
- **1**: Green, 1 Mbps, up to 1900 M; Amber, 3 Mbps, up to 1800 M
- **2**: Green, 5 Mbps, up to 1900 M; Amber, 10 Mbps, up to 1800 M
- **3**: Green, 15 Mbps, up to 1900 M; Amber, 20 Mbps, up to 1800 M
- **4**: Green, 25 Mbps, up to 1900 M; Amber, 30 Mbps, up to 1800 M
- **5**: Green, 40 Mbps, up to 1900 M; Amber, 50 Mbps, up to 1800 M

Note: Extender must be connected to a receiving extender or a network switch.
Troubleshooting

What is the latency for the EIR-EXTEND?
These figures vary according to the VDSL speed. For a typical speed of about 25Mhz, the small packet size of 64 bytes is around 72 µs if two units are connected back-to-back. For a maximum packet size of 1518 the latency will be in the range of 430 µs with the same configuration.

What type of cable should I use to connect a pair of EIR-EXTENDs?
Wire size and length are not the only factors that affect the connection. The surrounding environment has an even bigger impact. VDSL is an analog signal that is sensitive to noise. If there is a magnetic field or electrical noise around the wire performance will be affected.

Our stated distances are based upon ideal scenarios. We use regular Gauge 24 wire and a dedicated line. Real-world distance will vary according to the conditions encountered on a user’s site. Filters and splitters will affect performance, as will sharing the line with voice.

What kind of protection can I use between a pair of EIR-EXTENDs on the RJ11 port?
The EIR-EXTEND’s common mode output does not exceed 5VDC. Regular telephone line surge protection should be good enough (48VDC). Common mode capacitor impedance should be lower than 3pF or performance will be affected (reducing speed and link capability).

We do not provide telephone line surge protectors at this time.