410VDSLEXT
410VDSLEXTGB
410VDSLEXTEU
Instruction Manual

VDSL Ethernet LAN Extender

**4-Port 10/100Mbps VDSL2
Ethernet Extender Kit
over Single Pair Wire**

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Hard-to-find made easy

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Table of Contents

Introduction

The 410VDSLEXT 10/100 4 Port VDSL2 Ethernet Extender Kit over Single Pair Wire lets you span a 10/100 network over long distances (up to 1km) to multiple users or network segments while maintaining high-speed network connectivity.

With the ability to run the connection over new or existing RJ45 cabling, RJ11 phone lines, or any other type of single pair wire, the 4 port VDSL2 kit provides a simple to install, ready out-of-the-box solution that includes both the Ethernet-VDSL2 extender and receiver units.

Perfect for connecting isolated user stations within a building or between separate buildings, or overcoming infrastructure obstacles (e.g. older stone/concrete architecture) where new wiring or wireless may be impossible. This LAN extender kit helps to eliminate expense by allowing video streaming and data to share the same telephone pair without interference.
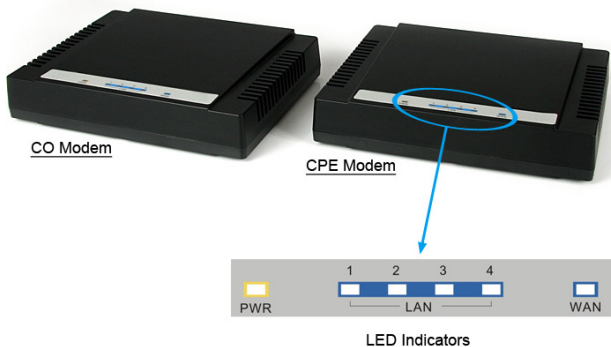
Packaging Contents

- 2 x VDSL2 Extender Unit (CO/CPE Modem)
- 1 x RJ11 cable
- 1 x RJ45 cable
- 2 x Power Adapter
- 1 x Software CD

System Requirements

- 10/100 Mbps Ethernet network
- Available AC electrical outlets

Front View

CO Modem

CPE Modem

PWR	1	2	3	4	WAN
		LAN			

LED Indicators

Rear View

CO Modem

E4 E3 E2 E1   LINE PHONE   CONSOLE   POWER

CPE Modem

E4 E3 E2 E1   LINE PHONE   CONSOLE   POWER

RJ45 Ethernet
connectors

RJ11 Phone
connector

RJ11 Line
connector

DB9 serial
connector

DC Power
connector
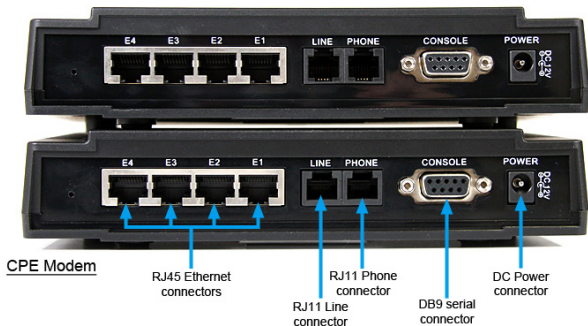
Installation

Hardware Installation

1. Place each VDSL Extender unit at their respective end-point locations. Make sure an AC electrical outlet is located nearby.

2. Connect the included power adapters to the pair of VDSL Extender units. The Power LED should light up solid.

3. Connect the "Line" RJ11 connector on the VDSL Extender units either directly together with patch cabling, or to a buildings existing analog telephone wiring. If the two units are able to successfully communicate with each other, the "WAN" LED should light up solid.

OPTIONAL: If the telephone wiring is also used for POTS telephone service, then a telephone may be connected to the "Phone" RJ11 connector on the VDSL Extender units.

4. Connect each computer, or Ethernet networking device to an available RJ45 connector on the VDSL Extender units. The respective LAN LED should light up to indicate a successful physical connection.

Driver Installation

No driver or software installation is required.

Configuration

Web Interface

Each of the VDSL Extender units have a built-in web interface, for configuring the router settings (WAN and LAN ports), if necessary. The interface can be access via their IP addresses (**CO Modem: 192.168.16.249, CPE Modem: 192.168.16.250**). The default password is: admin

The main menu screen on the CPE Modem has two options: "Setup Wizard" for quick setup, and "Advanced Setup" for a more customized configuration. The CO Modem only has "Advanced Setup" options.

Setup Wizard (CPE Modem only)

The Setup Wizard allows for quick and easy configuration of the most common settings (WAN) for the VDSL Extender.

CPE Modem

1. Host Settings

- ⟳ 1. Host Settings
- ○ 2. WAN Type
- ○ 3. WAN Settings
- ○ 4. DNS

Host Name	
Domain Name	

Enter the unique host name for the Modem, and the domain name of your organization.

Advanced Menu

System

This section allows for general configuration/administration of the VDSL Extender unit.

System
- ▷ Administrator Settings
- ▷ Firmware Upgrade
- ▷ Device Mode
- ▷ System Status
- ▷ System Time Zone
- ▷ System Time
- ▷ Reboot
- ▷ Reset System

Administrator Settings

Set a password to restrict management access to the modem. If you want to manage the modem from a remote location (outside of the local network), you must also specify the IP address of the remote PC.

After Modify Password, system will Reboot!!

Current Password		
Password		
Re-type password		(3-12 Characters)
Auto-Logout Time	30	Min (Auto-Logout Time, at least >= 1 Min)

Firmware Update

New firmware for your Modem to improve functionality and performance.

Enter the path and name of the upgrade file then click the APPLY button below. You will be prompted to confirm the upgrade.

Runtime Version:
2.4.20_mvl31-ADM5120 #1458 Thu Apr 15 20:17:17 CST 2010

[Browse...]

Device Mode

The Device mode allows the user to specify the mode setting for the Modem. Users can choose Router or Switch mode.

- ○ Router Mode
- ● Switch Mode

Status

You can use the Status screen to see the connection status for the Modems' WAN/LAN interfaces, firmware and hardware version numbers, and the number of connected clients to your network.

INTERNET

WAN IP	0.0.0.0
Subnet Mask	0.0.0.0
Gateway	0.0.0.0
DNS	0.0.0.0
Secondary DNS	0.0.0.0
Connection Type	FIXED

GATEWAY

IP Address	192.168.16.249
Subnet Mask	255.255.255.0
DHCP Server	Disable
Firewall	Disable

INFORMATION

Connected Clients	0
Runtime Code Version	2.4.20_mv31-ADM5120 #1458 Thu Apr 15 20:17:17 CST 2010
LAN MAC Address	00:05:6E:00:82:26
WAN MAC Address	00:05:6E:00:82:27
Hardware Version	1.00.00

System Time

Connecting to a Simple Network Time Protocol (SNTP) server allows the Modem to synchronize the system clock to the global Internet.

Set Time Zone   (GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London ▾

Current System Time   Thu Jan 1 00:15:27 GMT 1970

System Date and Time Settings

If you can't connect to a SNTP server to allows the Modem to synchronize the system clock to the global Internet. You can setup system time.

Current System Time   Thu Jan 1 00:15:30 GMT 1970

Month		(Month setup, 01~12)
Date		(Date setup, 01~31)
Hour		(Hour setup, 01~24)
Minute		(Minute setup, 01~60)
Year		(Year setup, 1970~2037)

Reboot Modem

In the event that the modem stops responding correctly or in some way stops functioning, you can perform a reboot. Your settings will not be changed. To perform the reboot, click on the "Reboot" button below. You will be asked to confirm your decision. The reboot will be complete when the power light stops blinking.

[Reboot]

Reset System Modem

Reset System to default configuration.

[Reset]

WAN

This section can configure how the built-in VDSL Modem connects to a DSL Internet Service Provider (ISP) through the "Line" RJ11 connector. The modem supports Dynamic IP, Static IP and PPPoE modes.

System
WAN
Dynamic IP
IP Settings
PPPoE
DNS

WAN

The Device can be connected to your service provider in any of the following ways:

○	Dynamic IP Address	Obtain an IP address automatically from your service provider.
●	Static IP Address	Uses a static IP address. Your service provider gives a static IP address to access Internet services.
○	PPPoE	PPP over Ethernet is a common connection method used for xDSL.

LAN

The LAN section is used to configure the IP address and DHCP server on the RJ45 Ethernet side of the VDSL Extender unit. By default the DHCP server is not enabled.

System
WAN
LAN
LAN Settings
DHCP Client List
LAN Switch Port Setting
LAN Port Status

LAN Settings

You can enable DHCP to dynamically allocate IP addresses to your client PCs.

IP Address	192 . 168 . 16 . 249
Subnet Mask	255 . 255 . 255 . 0
The Gateway acts as DHCP Server	☐ Enable

All Lan Port Setting

The Lan Port Setting mode allows the user to specify the mode setting for the VDSL2 CO Modem. Users can choose 10Mb or 100Mb mode.

○ Force 10Mb Full
● Auto 10/100 Full/Half
○ Force 10Mb Half
○ Force 100Mb Half
○ Force 100Mb Full

Status

The following information provides a view of the current Ethernet ports status of the unit

Port 1
Link Status Link Up, 100Mb/s, Full Duplex
Port 2
Link Status Link Down,
Port 3
Link Status Link Down,
Port 4
Link Status Link Down,

6

NAT

This section is used to configure the advanced features on the Ethernet side of the VDSL Extender unit. This include "Virtual Server", "Port Mapping" and DMZ settings.

Virtual Server

You can configure the Router as a virtual server so that remote users accessing services such as the Web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port numbers), the Router redirects the external service request to the appropriate server (located at another internal IP address)..

	Private IP	Private Port	Type	Public Port	Enabled
1	192.168.16.		⦿ TCP ◯ UDP		☐
2	192.168.16.		⦿ TCP ◯ UDP		☐
3	192.168.16.		⦿ TCP ◯ UDP		☐
4	192.168.16.		⦿ TCP ◯ UDP		☐
5	192.168.16.		⦿ TCP ◯ UDP		☐

Port Mapping

For some applications, you need to assign a set or a range of ports to a specified local machine to route the packets. Router allows the user to configure the needed port mappings to suit such applications..

	Server IP	Mapping Ports	Enabled
1	192.168.16.		☐
2	192.168.16.		☐
3	192.168.16.		☐
4	192.168.16.		☐
5	192.168.16.		☐

DMZ(Demilitarized Zone)

If you have a local client PC that cannot run an Internet application properly from behind the NAT firewall, you can open the client up to unrestricted two-way Internet access by defining a virtual DMZ Host.

Enable	☐
IP Address of Virtual DMZ Host	0 . 0 . 0 . 0

Firewall

This section contains numerous intrusion and access control options.

Route
Allows for creating static routing paths for data transmission.

UPnP
Allows for enabling/disabling UPnP support.

VDSL2

Allows for manual configuration of the VDSL2 connection.

System
WAN
LAN
NAT
Firewall
Route
UPnP
Vdsl2
> ChannelConfig
> LineConfig
> ProfileConfig
> LoopBack
> ActivateDeactivate
> LineStatus
> ChannelStatus
> VersionInfo
> SNRGraph
> BitsGraph

Channel Config

Configuration of line per bearer basis.

Channel Number	Channel0
Direction	Upstream
Min Data Rate	64 kbps
Max Data Rate	102400 kbps
Max Interleave Delay	1 ms

Profile Config

Configuration of line for specific band plans.

Profile	Vdsl2 Profile30a
Band Plan	Annex C_8K
Filter	Additional Filter Off
ToneMode	V43

Line Config

Configuration of line.

Direction	Upstream
Target SNRM	6.000000 dB

Activate Deactivate

Activating or Deactivating the line

Line	Activate

Loop Back

Setting Of Loop Backs.(System - System Loop, or Line Side Loop)

Channel Number	Channel0
Loop	System - System Loop
State	Deactivate

Specifications

External Connectors (per unit)	2 x RJ11 female 4 x RJ45 Ethernet female 1 x DB9 female 1 x DC Power
LEDs (per unit)	1 x Power 1 x WAN Link 4 x LAN Link/Activity
Supported Standards	IEEE 802.3, IEEE 802.3u, ITU G.993.2
Maximum Data Transfer Rate	**300 m:** 100 Mbps **1 km:** 50 Mbps
Auto-MDIX	Yes
Full Duplex Support	Yes
Switching Architecture	Store and Forward
Power Adapter	12VDC, 1250mA, center positive, type M plug
Average Power Consumption (per unit)	< 5 W
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-10°C ~ 70°C (14°F ~ 158°F)
Humidity	10% ~ 90% RH
Dimensions (LxWxH)	184.0mm x 146.0mm x 40.0mm
Weight (per unit)	650g

Technical Support

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