

1 Port to 4 Port 10/100Mbps VDSL2 Ethernet Extender Kit over Single Pair Wire – 1 km

410VDSLEXT2



*actual product may vary from photos

DE: Bedienungsanleitung - de.startech.com

FR: Guide de l'utilisateur - fr.startech.com

ES: Guía del usuario - es.startech.com

IT: Guida per l'uso - it.startech.com

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B 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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by StarTech.com could void the user's authority to operate the equipment.

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

CAN ICES-3 (B)/NMB-3(B)

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Table of Contents

Introduction	1
Packaging Contents	1
System Requirements.....	1
Product Overview	2
Installation	4
Hardware Installation	4
DIP Switch Settings - Transmitter	5
Configuration.....	7
Web Interface	7
Welcome Screen	7
System.....	8
Port Management.....	11
VLAN	14
QoS Setting	16
Security Filter	19
VDSL Setting	20
Connector Architecture	22
Resetting Your Device.....	23
Appendix.....	23
Technical Support	25
Warranty Information.....	25

Introduction

Packaging Contents

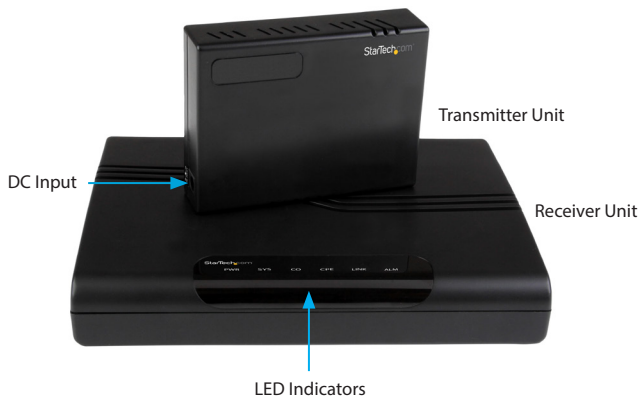
- 1x 1 Port VDSL2 Ethernet Transmitter
- 1x 4 Port VDSL2 Ethernet Receiver
- 2x Universal Power Adapters (NA/UK/EU)
- 1x RJ45 to VDSL2 Cable
- 1x RJ11 Cable
- 1x Instruction CD
- 1x Instruction Manual

System Requirements

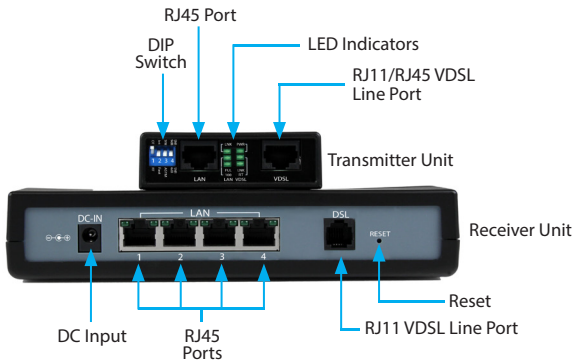
- 10/100 Mbps Ethernet Network
- Available AC electrical outlets
- RJ11 Cable or RJ11 lines in building infrastructure

Product Overview

Front / Side View



Rear View



LED Displays

Transmitter Unit

LAN LED Display

LED	Blinking	ON	OFF
1	Activity	Link up	Link down
2		100 Mbps	10 Mbps
3		Full duplex	Half duplex

VDSL LED Display

LED	Blinking	ON	OFF
1	Activity	Device Power On	Device Power Off
2	-	CPE Mode	CO Mode
3	Slowly: Idle Quickly: Training	Linked	Offline

Receiver Unit

LED	Blinking	ON	OFF
PWR		Device Power On	Device Power Off
SYS	System Activated	System Running	
CO		CO Mode On	
CPE		CPE Mode On	
LINK	Activity Slowly: Start Connection Quickly: Data Transmit	Linked	
ALM		Connection Error	

Installation

Hardware Installation

Transmitter Unit

1. Connect the provided power adapter from an AC electrical outlet to the DC Input on the Transmitter Unit. The "PWR" LED should light up solid.
2. Set all four of the DIP switches to the upward (OFF) position. This places the unit in CO mode.
3. Connect an RJ45 Ethernet cable to the RJ45 LAN Port on the Transmitter Unit.
4. Connect the other end of the Ethernet cable into your Ethernet network device (eg: switch, Ethernet modem).
5. Connect an RJ11 phone cable into the VDSL Port on the Transmitter Unit.
6. Connect the opposite end of the RJ11 cable to the DSL Port on the Receiver Unit (or to your buildings RJ11 phone line infrastructure, depending on your setup).

Optional: Configure DIP switches 2 through 4 as necessary (see "DIP Switch Settings" section below).

Receiver Unit

1. Place the Receiver Unit at the end-point location.
2. Connect the provided power adapter from an AC electrical outlet to the DC Input on the Receiver Unit. The "PWR" and "SYS" LED should light up solid.
3. If not previously completed, connect the RJ11 cable that was inserted into the RJ11 VDSL Port on the Transmitter Unit directly to the DSL Port on the Receiver Unit (or from your buildings existing RJ11 analog telephone wiring, depending on the setup from step 6 above.
4. If the Transmitter and Receiver Units are able to successfully communicate with each other, the "LINK" LED should light up solid.
5. Connect each computer or Ethernet networking device to an available RJ45 Port on the Receiver Unit. The respective "LAN" LED on each individual RJ45 Port should light up to indicate a successful physical connection.

DIP Switch Settings - Transmitter

The Transmitter Unit has a 4-position DIP switch for configuration of **Side, Channel, Rate Limit, and SNR**.

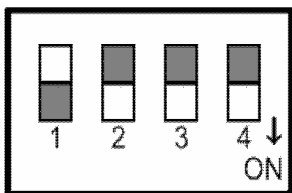
For initial setup, DIP switch 1 is usually set to the upward (OFF) position, ensuring the unit is set to CO mode (Receiver Unit set to CPE mode by default).

When using the 410VDSLEXT2, one end (Transmitter or Receiver) must always be set to "CO" mode, while the opposite end must always be set to "CPE" mode.

Setting each unit to CO or CPE mode is usually based on which direction you want the most bandwidth delivered. "Download" bandwidth, data sent from CO to CPE, is generally higher than "Upload" bandwidth from CPE to CO.

- If you need higher bandwidth from the Transmitter Unit to the Receiver Unit, set DIP switch 1 to the upward (OFF) position.
- If you need higher bandwidth from the Receiver Unit to the Transmitter Unit, set DIP switch 1 to the downward (ON) position.

See the "Configuration → Mode Select" section below to set the Receiver Unit to the appropriate CO or CPE mode based on the mode that was set on the Transmitter Units DIP Switch setting.

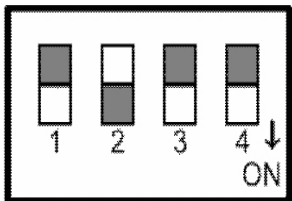


Pin 1 - CO, CPE Switch

OFF: If Pin 1 is in the OFF position, the Transmitter Unit will operate in Central Office (CO) mode.

ON: If Pin 1 is in the ON position, the Transmitter Unit will operate in Customer Premise Equipment (CPE) mode.

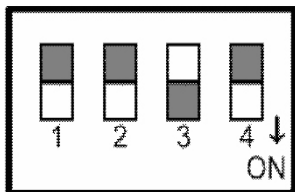
Pin 2 - Interleave Noise Protection



OFF: If Pin 2 is in the OFF position, the Transmitter Unit will operate in Interleave mode, with communication protection for up to 250ms of impulse noise with latency less than 6 ms

ON: If Pin 2 is in the ON position, the Transmitter Unit will operate in Fast mode, with direct data transmissions having less than 1ms of latency.

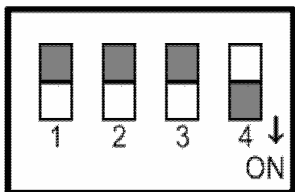
Pin 3 - Band Plan



OFF: If Pin 3 is in the OFF position, the Transmitter Unit will operate in Symmetric mode, with both downstream and upstream transmissions operating on the G.997 band plan.

ON: If Pin 3 is in the ON position, the Transmitter Unit will operate in Asymmetric mode, with asymmetric short range transmissions operating at the highest available line rate.

Pin 4 - General Protection



OFF: If Pin 4 is in the OFF position, the Transmitter Unit will operate with a SNR ratio up to 9 dB.

ON: If Pin 4 is in the ON position, the Transmitter Unit will operate with a SNR ratio of 6 dB.

Configuration

Web Interface

The Receiver Unit has a built-in web interface for configuring the settings. There is no software installation required. To access the Web Interface, open a web browser (Internet Explorer, Chrome, Firefox, etc.), and navigate to **"http://192.168.1.1"**

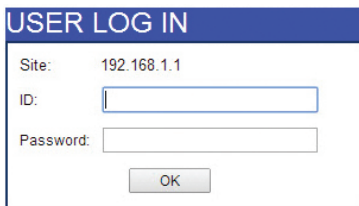
Note: If you had previously changed the IP address, login to the modified IP address.

You will then see a login page. Login to the system with your user name and password.

The default login information is:

ID: admin

Password: admin



Welcome Screen

After you complete the login process, a main page will be shown. There are five square icons at the top-right of the web interface that show the current port status.

Management options are shown on the left side of the web interface. Click on each heading to customize your 410VDSLEXT2.



Authentication Configuration

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1

2

3

4

VIDEO

Systems

- Authentication Configuration
- System IP Configuration
- System Status
- Last default setting
- Firmware Upgrade
- Reset Device
- Config Backup/Restore

Port Management

- VLAN
- QoS Setting
- Security Filter
- VPN Setting

Authentication Configuration

Setting	Value
Username	admin <small>max 15</small>
Password	**** <small>max 15</small>
Confirm	****
<div>Update</div>	

Note:
Username & Password can only use "a-z","A-Z","0-9","_","-",".","+","@","#","\$","%","^","&","*","~","|",""","'","<",">","\",""","'","<",">","?","@","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z","[","\","]","^","_","`","a","b","c","d","e","f","g","h","i","j","k","l","m","n","o","p","q","r","s","t","u","v","w","x","y","z","{","|","}","~","","€","","‚","ƒ","„","…","†","‡","ˆ","‰","Š","‹","Œ","","Ž","","","‘","’","“","”","•","–","—","˜","™","š","›","œ","","ž","Ÿ"," ","¡","¢","£","¤","¥","¦","§","¨","©","ª","«","¬","­","®","¯","°","±","²","³","´","µ","¶","·","¸","¹","º","»","¼","½","¾","¿","À","Á","Â","Ã","Ä","Å","Æ","Ç","È","É","Ê","Ë","Ì","Í","Î","Ï","Ð","Ñ","Ò","Ó","Ô","Õ","Ö","×","Ø","Ù","Ú","Û","Ü","Ý","Þ","ß","à","á","â","ã","ä","å","æ","ç","è","é","ê","ë","ì","í","î","ï","ð","ñ","ò","ó","ô","õ","ö","÷","ø","ù","ú","û","ü","ý","þ","ÿ"," ","!",""","#","$","%","&","'","(",")","*","+",",","-",".","/","0","1","2","3","4","5","6","7","8","9",":",";","<","=",">","?","@","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z","[","\","]","^","_","`","a","b","c","d","e","f","g","h","i","j","k","l","m","n","o","p","q","r","s","t","u","v","w","x","y","z","{","|","}","~","","€","","‚","ƒ","„","…","†","‡","ˆ","‰","Š","‹","Œ","","Ž","","","‘","’","“","”","•","–","—","˜","™","š","›","œ","","ž","Ÿ"," ","¡","¢","£","¤","¥","¦","§","¨","©","ª","«","¬","­","®","¯","°","±","²","³","´","µ","¶","·","¸","¹","º","»","¼","½","¾","¿","À","Á","Â","Ã","Ä","Å","Æ","Ç","È","É","Ê","Ë","Ì","Í","Î","Ï","Ð","Ñ","Ò","Ó","Ô","Õ","Ö","×","Ø","Ù","Ú","Û","Ü","Ý","Þ","ß","à","á","â","ã","ä","å","æ","ç","è","é","ê","ë","ì","í","î","ï","ð","ñ","ò","ó","ô","õ","ö","÷","ø","ù","

Set your IP configuration settings, including IP address, subnet mask and gateway.

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1

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VDSL

System

- Multi-Router Configuration
- System IP Configuration
- System Status
- Local Network Setting
- Firmware Upgrade
- Reset Device
- Config Backup/Restore

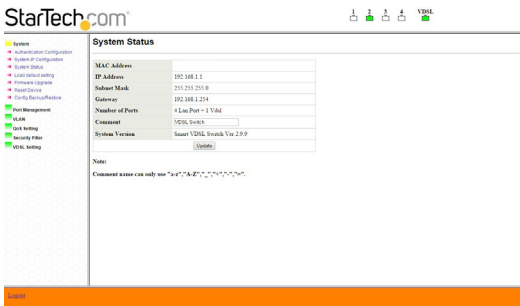
Port Management

- VLAN
- QoS Setting
- Security Filter
- VLAN Setting

System IP Configuration

Setting	Value			
IP Address	192	168	1	1
Subnet Mask	255	255	255	0
Gateway	192	168	1	254
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP Client			
<input type="button" value="Update"/>				

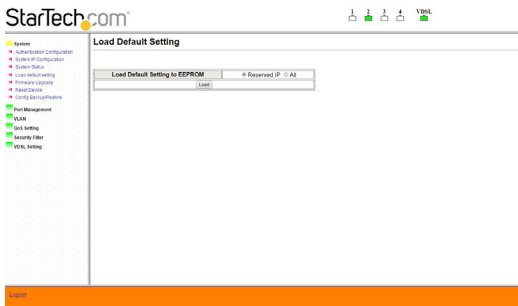
Review hardware and software information and update device description in the "Comment" field if desired.



Load Default Setting

Provides two methods to restore the 410VDSLEXT2 to default settings.

1. **Reserved IP:** Allows you to reload the default factory settings without changing your IP address.
 2. **All:** All settings will be restored to the original default settings, including IP address.
- Once you choose a method, press the "Load" button to activate.



Update the Firmware

Warning! When you start this process, you will erase the firmware currently loaded on your device. If the process fails to complete, your device may not function.

1. Navigate to www.StarTech.com and download the latest firmware.

Reset Device

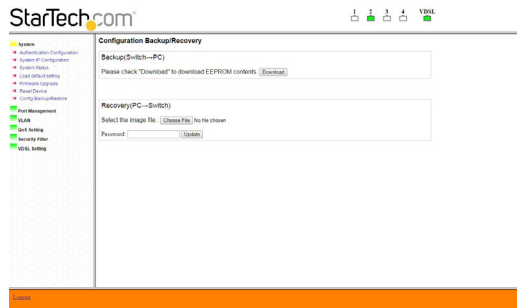
Restarts the 410VDSLEXT2. Click on “Confirm” to restart.



Configuration Backup/ Restore

To create a backup of your settings, click the “Download” button and a pop-up will display, letting you choose a location to save a backup file.

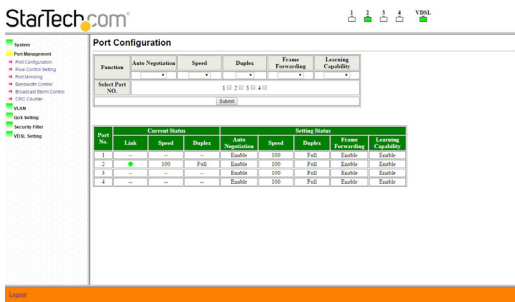
To recovery a backup, click the “Choose File” button and choose which file to restore from. Enter your password and click on the “Update” button to start the restore process.



Port Management

Port Configuration

Set port configurations and select which ports to apply these settings to. Select all four ports to apply each port with the same settings. Press the "Submit" button to apply the new settings. All information will be updated in the displayed status table.



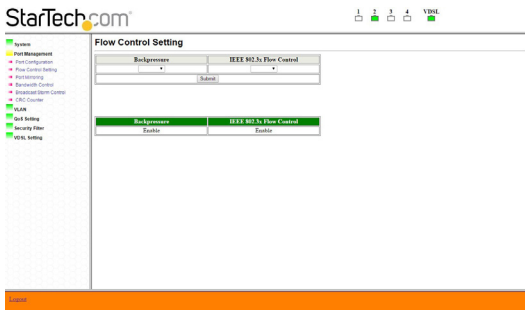
The screenshot shows the StarTech.com Port Configuration page. On the left is a sidebar with navigation links: System, Port Management (selected), Port Configuration, Flow Control Setting, Port Management, Bandwidth Control, Broadcast Storm Control, CRC Counter, VLAN, QoS Setting, Security Filter, and VDSL Setting. The main content area is titled "Port Configuration". It features a table for selecting ports and a "Submit" button. Below this is a table showing the current and setting status for four ports.

Function	Auto Negotiation	Speed	Duplex	Frame Forwarding	Learning Capability
Select Port NO.	1 2 3 4 5				
<input type="button" value="Submit"/>					

Port No.	Current Status			Setting Status				
	Link	Speed	Duplex	Auto Negotiation	Speed	Duplex	Frame Forwarding	Learning Capability
1	--	--	--	Enable	100	Full	Enable	Enable
2	●	100	Full	Enable	100	Full	Enable	Enable
3	--	--	--	Enable	100	Full	Enable	Enable
4	--	--	--	Enable	100	Full	Enable	Enable

Flow Control Setting

Choose to Enable or Disable "Backpressure" and/or "IEEE 802.3x Flow Control". Click the "Submit" button to save your settings.



The screenshot shows the StarTech.com Flow Control Setting page. On the left is the same sidebar as the previous page. The main content area is titled "Flow Control Setting". It features two tables for selecting settings and a "Submit" button. Below this is a table showing the current and setting status for Backpressure and IEEE 802.3x Flow Control.

Backpressure	IEEE 802.3x Flow Control
<input type="button" value="Submit"/>	

Backpressure	IEEE 802.3x Flow Control
Enable	Enable

Port Mirroring

Choose to mirror configurations using two settings, click on “Change Mirror Mode” button to change your mirror setup style.

In order to use the port mirroring function, you will need the following information:

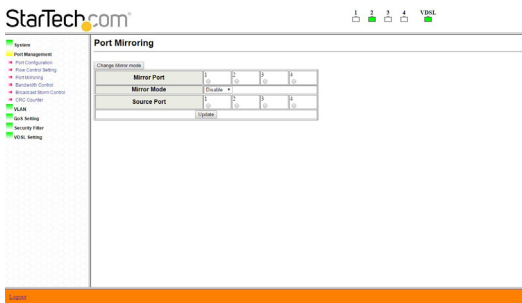
1. **Mirror Port:** Select a mirror port to monitor the traffic source.
2. **Mirror Mode:** Modes 1 and 2
 - **Disable:** Port mirroring function is disabled.
 - **Rx:** Copy the incoming packets of the selected source port to the selected mirror port.
 - **Tx:** Copy the outgoing packets of the selected source port to the selected mirror port.
 - **Tx&Rx:** Copy both incoming and outgoing packets from the selected source port to the selected mirror port.
 - **Mirror source-destination pair:** Tx port and Rx port must be different ports.
3. **Source Port:** The source port traffic which will be copied to the mirror port.
4. **Destination Port:** Only available in Mode 2.

Mode 1

Has four “Mirror Mode” options: Disable, Rx, Tx, and Tx&Rx. In this mode, select your “Mirror Port Number,” “Source Port Number,” and “Mirror Mode.” Click the “Update” button to save your settings.

Mode 2

Has two “Mirror Mode” options: Disable or Mirror source-destination pair. In addition, you need to choose your “Destination Port” and “Source Port.” Click the “Update” button to save your settings.



Bandwidth Control

Set bandwidth control on individual ports. Select the port that you wish to control, and then enter the **Tx** and **Rx** rates. Click on the “Update” button to save the settings you’ve entered, or click on the “Load Default” button to restore settings to the default value for the selected port. Once settings are saved, the table will show the current values set up for each port.

The screenshot shows the StarTech.com Bandwidth Control page. On the left is a navigation menu with options: System, Port Management, Port Configuration, Port Control Setting, Port Monitoring, Bandwidth Control, Broadcast Storm Control, CRC Counter, VLAN, Link Setting, Security Filter, and VLAN Setting. The main content area is titled "Bandwidth Control". It features a table for configuring bandwidth rates for ports 1 through 4. The table has columns for Port No., Tx Rate, and Rx Rate. Below the table are buttons for "Update" and "Load Default".

Port No.	Tx Rate	Rx Rate
1	0-31240	0-31240
2	0-31240	0-31240
3	0-31240	0-31240
4	0-31240	0-31240

Buttons: [Update] [Load Default]

Port No.	Tx Rate	Rx Rate
1	100Mbps	100Mbps
2	100Mbps	100Mbps
3	100Mbps	100Mbps
4	100Mbps	100Mbps

Broadcast Storm Control

This section lets you block excessive broadcast packets. Choose which port you wish to enable protection. Select Enable for the “Broadcast Storm” option to enable this function, and enter a value for “Threshold”. Broadcast packets will be dropped when the number is more than entered threshold value.

The screenshot shows the StarTech.com Broadcast Storm Protection page. On the left is a navigation menu with options: System, Port Management, Port Configuration, Port Control Setting, Port Monitoring, Bandwidth Control, Broadcast Storm Control, CRC Counter, VLAN, Link Setting, Security Filter, and VLAN Setting. The main content area is titled "Broadcast Storm Protection". It features a table for configuring broadcast storm protection for ports 1 through 4. The table has columns for Port No., Broadcast Storm, Include Multicast, and Threshold. Below the table are buttons for "Update" and "Load Default".

Port No.	Broadcast Storm	Include Multicast	Threshold(1-255)
1	Enable	Enable	1
2	Enable	Enable	1
3	Enable	Enable	1
4	Enable	Enable	1

Buttons: [Update] [Load Default]

Port No.	Broadcast Storm	Include Multicast	Threshold
1	Disable	Disable	1
2	Disable	Disable	1
3	Disable	Disable	1
4	Disable	Disable	1

CRC Counter

Displays the number of CRC errors while the 410VDSLEXT2 is active. Click the “Clear” button to reset the counter and the “Refresh” button to update the latest counter information.



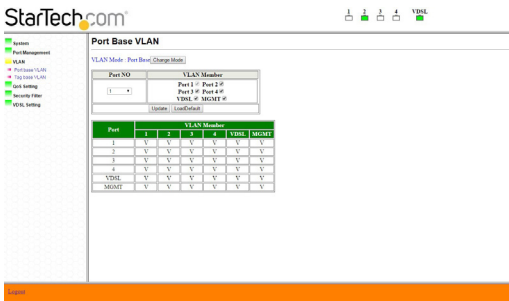
VLAN

The 410VDSLEXT2 provides two options for VLAN setup. By “Port Base” or by “Tag Base.” If you choose to set up VLAN based on Port, the settings in Tag Base will not be activated.

Port Base VLAN

Ensure your “VLAN Mode” is correct. If incorrect, click the “Change Mode” button to switch VLAN mode.

Choose “Port NO” first, and then select which port should be in the VLAN member. Click on the “Update” button to save your changes, and click on the “LoadDefault” button to restore the default value. All current/updated information will be shown in the table.



Tag Base VLAN

Select “Tag Base” from the “VLAN Mode” using the “Change Mode” button as need.

In Setup Area 1, you can choose the VLAN number, and which port you want to add or remove a tag. In addition, you can check all the VLAN members you wish to have in this VLAN number.

Click on the “Submit” button to save your changes.

A message box saying “Control port will not be able to connect devices” may be displayed due to some receivers not recognizing VLAN tagging, so you may be not able to connect to a tagged port.

In Setup Area 2, you can set the PVID of each port. If your PVID is invalid, a warning message “Invalid VLAN status” will be shown.

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1 2 3 4 VDSL

System
Port Management
VLAN
Portbase VLAN
Tag base VLAN
QoS Setting
Security Filter
VDSL Setting

Tag Base VLAN

VLAN Mode: Port Base Change Mode

VLAN No	Enable	VID (1-4094)	Add Tag	Remove Tag	VLAN Member
1	<input type="checkbox"/>		Port1 <input type="checkbox"/> Port2 <input type="checkbox"/> Port3 <input type="checkbox"/> Port4 <input type="checkbox"/> VDSL <input type="checkbox"/>	Port1 <input type="checkbox"/> Port2 <input type="checkbox"/> Port3 <input type="checkbox"/> Port4 <input type="checkbox"/> VDSL <input type="checkbox"/>	Port1 # Port2 # Port3 # Port4 # VDSL # MGMT #

Submit LoadDefault

PVID	PVID Value is (1-4094)					
Port	Port1	Port2	Port3	Port4	VDSL	MGMT
PVID	1	1	1	1	1	1

Submit LoadDefault

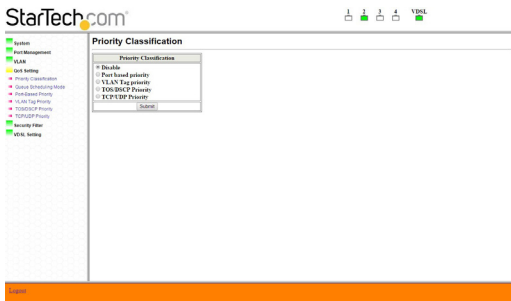
VLAN NO	Enable	VID	VLAN Member						Add Tag				Remove Tag			
			P1	P2	P3	P4	VL	MG	P1	P2	P3	P4	VL	MG		
1	O	1	V	V	V	V	V	V	-	-	-	-	-	-	-	
2	X	2	V	V	V	V	V	V	-	-	-	-	-	-	-	
3	X	3	V	V	V	V	V	V	-	-	-	-	-	-	-	
4	X	4	V	V	V	V	V	V	-	-	-	-	-	-	-	
5	X	5	V	V	V	V	V	V	-	-	-	-	-	-	-	
6	X	6	V	V	V	V	V	V	-	-	-	-	-	-	-	
7	X	7	-	-	-	-	-	-	-	-	-	-	-	-	-	

Login

QoS Setting

Priority Classification

Enable QoS function based on the selected priority mode. If you need to start QoS function, please make sure you visit this page first and enable the priority mode you wish to apply; otherwise, the QoS function will not be activated.

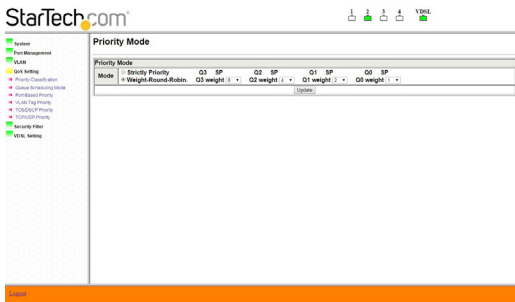


Queue Scheduling Mode

There are two modes in "Queue Scheduling Mode":

1. **Strictly Priority:** Services the queues based on priority only. As traffic comes into the modem, traffic on the highest priority queue, Q3 is transmitted first. When that queue empties, traffic on the next highest-priority queue, Q2 are transmitted until Q2 empties, and then traffic is transmitted on Q1 and so on. If a higher priority queue is never empty, then traffic on the lower priority will not be sent. The SP class is typically for video applications that require a fixed amount of bandwidth to be considered for good quality.
2. **Weight-Round-Robin:** Services on a rotating basis and is activated only when a port has more traffic than it can handle. A queue is given an amount of bandwidth irrespective of the incoming traffic on that port. The queue then moves to the back of the list. The next queue is given an equal amount of bandwidth, and then moves to the end of the list, and so on, depending on the number of queues being used. This works in a looping fashion until a queue is empty.

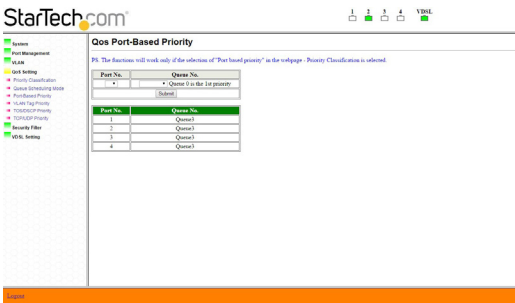
Choose what kind of algorithm you wish to apply and press the "Update" button to save the settings.



Port-Based Priority

Two items should be selected in order to set this priority up.

1. **Port number:** Choose the port number you wish to apply this policy.
2. **Queue number:** Choose which queue you wish the selected port to belong to.



VLAN Tag Priority

You can assign VLAN priority and its corresponding queue number in this section.

QoS Tag-Based Priority

PS: The functions will work only if the selection of "VLAN Tag priority" in the webpage - Priority Classification is selected.

VLAN Priority	Queue No.
+	+
Submit	
VLAN Priority	Queue No.
0	Queue0
1	Queue0
2	Queue0
3	Queue0
4	Queue0
5	Queue0
6	Queue0
7	Queue0

Logout

TOS/DSCP Priority

You can assign a queue with a DSCP priority. Click on the "Submit" button and the information will be saved and updated to the table below.

Note: In order to allow QoS running TOS/DSCP priority, make sure you change the "Priority Classification" option to "TOS/DSCP Priority" first.

QoS TOS/DSCP Priority

PS: The functions will work only if the selection of "TOS/DSCP priority" in the webpage - Priority Classification is selected.

TOS/DSCP No.		Queue No.					
+		+					
Submit							
TOS/DSCP No.	Queue No.	TOS/DSCP No.	Queue No.	TOS/DSCP No.	Queue No.	TOS/DSCP No.	Queue No.
0	Queue0	16	Queue0	32	Queue0	48	Queue0
1	Queue0	17	Queue0	33	Queue0	49	Queue0
2	Queue0	18	Queue0	34	Queue0	50	Queue0
3	Queue0	19	Queue0	35	Queue0	51	Queue0
4	Queue0	20	Queue0	36	Queue0	52	Queue0
5	Queue0	21	Queue0	37	Queue0	53	Queue0
6	Queue0	22	Queue0	38	Queue0	54	Queue0
7	Queue0	23	Queue0	39	Queue0	55	Queue0
8	Queue0	24	Queue0	40	Queue0	56	Queue0
9	Queue0	25	Queue0	41	Queue0	57	Queue0
10	Queue0	26	Queue0	42	Queue0	58	Queue0
11	Queue0	27	Queue0	43	Queue0	59	Queue0
12	Queue0	28	Queue0	44	Queue0	60	Queue0
13	Queue0	29	Queue0	45	Queue0	61	Queue0
14	Queue0	30	Queue0	46	Queue0	62	Queue0
15	Queue0	31	Queue0	47	Queue0	63	Queue0

Logout

TCP/UDP Priority

First, choose the "Logical Port Type" and press the "Submit" button to start this function. Then, if you want to run this priority based on pre-defined logical port, assign the "Pre-defined Logical Port Number" entry and click on the "Submit" button to save the changes.

If you want to activate this priority by user-defined logical port, you need to assign the "User-defined Logical Port Range" section and press the "Submit" button to save your modifications.

Note: In order to allow QoS running TCP/UDP priority, make sure you change the "Priority Classification" option to "TCP/UDP Priority" first.

QoS TCP/UDP Priority

PS: The functions will work only if the selection of "TCP/UDP priority" in the webpage - Priority Classification is selected.

Logical Port Type

☐ Disable
☒ Source Logical Port
☐ Destination Logical Port
☐ Source or Destination Logical Port

Pre-defined Logical Port Number

Entry	Enable	Logical Port Number(1-49151)	Queue No.
0	Enable	22	Queue0
1	Enable	443	Queue2
2	Enable	3340	Queue2
3	Enable	8080	Queue2

User-defined Logical Port Range

Entry	Enable	Low Number(1-49151)	High number(1-49151)	Queue No.
0	Enable	21	21	Queue0
1	Enable	5880	5900	Queue0

Logout

Security Filter

MAC ID Filter

Five MAC addresses can be stored in the "MAC ID Filter". Choose which entry number you wish to save the MAC and enter the MAC address in the "MAC Address setting" field, as well as its mode.

The below table is then updated to display the MAC address you just saved. If you wish to remove all the MAC addresses in the table, click on the "Clear All" button to remove every address.

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1 2 3 4 VDSL

MAC ID Filter

☒ Enable
☐ Port Management
☐ VLAN
☐ QoS Setting
☒ Priority Classification
☐ Queue Scheduling Mode
☐ Port Based Priority
☐ VLAN Tag Priority
☐ TCP/UDP Priority
☐ TCP/UDP Priority
☐ Security Filter
☐ MAC ID Filter
☐ IP Filter
☐ VPN Setting

MAC ID Filter

ID	MAC Address setting	Mode
0		Disable

ID	MAC Address	Enable
0	00:00:00:00:00:00	...
1	00:00:00:00:00:00	...
2	00:00:00:00:00:00	...
3	00:00:00:00:00:00	...
4	00:00:00:00:00:00	...

Note: The filter is only for source MAC Address. If the DA or SA is equal to the MAC Address, it will be dropped.

Logout

Firewall

In this section, you can modify data traffic to provide greater bandwidth control to specified IP addresses. You can assign settings to either a specific IP address or to a range of IP addresses, letting you control, forward, and filter data packets to the IP addresses specified.

Specific IP Address: Choose which entry you wish to add this set of data. In this mode, you need to provide specific IP addresses. Click “Submit” once you finish your modification.

IP Address Range: Click on the “Change to Range Mode” button to switch edit sections. Then set a range of IP addresses by entering the “start” IP address and the “end” IP address.

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Firewall - Fix mode

Entry	Action	Bandwidth	IP Mode	Source Start IP	Destination End IP	TCP UDP	Source Start logical Port No.	Destination End logical Port No.
1		100Mbps						
2		100Mbps						
3		100Mbps						
4		100Mbps						
5		100Mbps						
6		100Mbps						
7		100Mbps						

Change to Range mode

Entry: 1

Action: Filter

Bandwidth: x3Mbps (0-1124) 0 for 100Mbps

Source IP: 1 2 3 4

Destination IP: 1 2 3 4

TCP/UDP: *

Source logical Port No.: 1-65535

Destination logical Port No.: 1-65535

Submit

Clear entry: Clear

VDSL Setting

Port Setting

In this section, you can change VDSL port settings. After you change the settings, click the “Submit” button to update the 410VDSLXT2. Click the “Refresh” button to get the latest status information.

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VDSL Port Settings

VDSL Settings	
Fast Interface Mode	Fast Mode (1-200 V. Spec) 0 for Fast Mode
SNR Margin	0 (0-24dB)
BandPlan	997

Submit

VDSL Status	
Fast Interface Mode	Fast Mode
Upstream Rate	09.34
Downstream Rate	100.36
SNR Margin	6
Bandwidth	997

Refresh

Mode Select

In this section, you must set the Receiver to CO (Central Office), or CPE (Customer Premises Equipment) operating modes. Select the Receiver mode, and once selected, click the “Submit” button to save the changes.

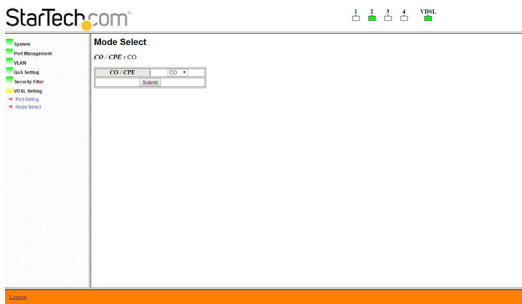
When using the 410VDSLEXT2, one end (Transmitter or Receiver) must always be set to “CO” mode, while the opposite end must always be set to “CPE” mode.

Setting each unit to CO or CPE mode is usually based on which direction you want the most bandwidth delivered. “Download” bandwidth, data sent from CO to CPE, is generally higher than “Upload” bandwidth from CPE to CO.

- If you need higher bandwidth from the Transmitter Unit to the Receiver Unit, set the mode to CPE.
- If you need higher bandwidth from the Receiver Unit to the Transmitter Unit, set the mode to CO.

Note: This setting will restart the 410VDSLEXT2

See the “DIP Switch Settings” section above to set the Transmitter Unit to the appropriate CO or CPE mode based on the mode set for the Receiver Unit.



Connector Architecture

Ethernet Ports

The RJ45 Ethernet Port interface is an 8-pin modular jack. The table below displays the pinout assignments.

Pin Number	Assignment (MDI-X)
1	RX+; Receive data +
2	RX-; Receive data -
3	TX+; Transmit data +
4	Not used
5	Not used
6	TX-; Transmit Data -
7	Not used
8	Not used

VDSL Ports

The VDSL Port is standard 8-pin modular jack. The table below displays the pinout assignments.

Pin Number	Assignment (MDI-X)
1	Not used
2	Not used
3	Not used
4	ANALOG Input/Output
5	ANALOG Input/Output
6	Not used
7	Not used
8	Not used

Resetting Your Device

There is a reset button on the rear of the 410VDSLESXT2 Receiver Unit. Please use a narrow item such as a pencil or paper clip, and gently press the Reset Button for several seconds. This will reset all the configurations and you can login to the web interface using the default IP address, ID, and Password.

Note:

1. **Press the button for 2 seconds:** Reboots the 410VDSLEXT2 without resetting any configuration settings.
2. **Press the button for 8 seconds:** Loads the default factory settings and reboots the 410VDSLEXT2.

Appendix

Default IP Address: <http://192.168.1.1>

Default Login Information: Default login name is “admin” and the password is “admin”

Term	Definition
QoS	Quality of Service Refers to resource reservation control mechanisms rather than the achieved service quality. QoS is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow.
SNR	Signal-to-noise Ratio Is measure used in science and engineering to quantify how much a signal has been corrupted by noise. It is defined as the ratio of signal power to the noise power corrupting the signal. A ratio higher than 1:1 indicates more signal than noise
TOS/ DSCP	Type of Service/ Diffserv Codepoint This uses the upper six bits in the ToS (Type of Service) byte to mark priority traffic. Hence, there are 64 possible codepoints.
VLAN Tagging	VLAN tagging (IEEE 802.1Q) is a networking standard written by the IEEE 802.1 work group allowing multiple bridged networks to transparently share the same physical network link without leakage of information between networks. VLAN tagging defines the meaning of a Virtual LAN (VLAN) with respect to the specific conceptual model underpinning bridging at the MAC layer and to the IEEE 802.1D spanning tree protocol. This protocol allows for individual VLANs to communicate with one another with the use of a switch with Layer-3 capabilities, or a router.

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