



MN2525 / MN2550

MoCA 2.5 Ethernet Adapter

Web Configuration Guide

www.starlink7.com



MN2550



MN2525

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LASER Cautions

The possible laser sources from SFP specified by this user guide are classified according to IEC 60825-1 (2001). This is Class 1 laser product.

Please pay attention to the following laser safety warnings:

(1) Under no circumstances should you look into the end of an optical cable attached to the optical output when the device is operating. Laser radiation can seriously damage your eyesight.

(2) Do not enable laser connections when there is no fiber attached to the optical output connector because this device will emit invisible laser radiation if the unit is powered on.

(3) The use of optical instruments

Remove the protective plugs from the SFP module(s) and save them for future use.

Remove the protective caps from the connectors on the fiber-optic cable and save them for future use.

Clean the fiber-optic connectors on your fiber-optic cables.

Plug the appropriate fiber-optic cable into the connector on the SFP modules.

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INTRODUCTION

1.1 OVERVIEW AND FUNCTIONS

MN2525 and MN2550 are MoCA 2.5 Gigabit Ethernet adapters. The Ethernet/IP data can be multiplexed with TV signal (either Cable TV, Satellite TV or any Terrestrial TV) to transmit over coaxial cable distribution structure to reach subscribers. Another MoCA 2.5 adapter is needed at the far end to receive multiplexed signal to supply TV signal and Ethernet / IP data service in residential homes, multi-dwelling units or office buildings.

With its low-cost and high-performance feature set, MN2525/MN2550 can build fast and efficient Home Network with following key features.

Key Features

- Boost the speed and performance of home networking to reach 2.5Gbps with the new MoCA 2.5 technology
- Configurable high-frequency modulation allows Cable TV, Satellite TV or other TV signals overlay without interference
- Turn any coaxial outlet to high-speed Ethernet / IP connection to deliver high-definition video streaming, and high-speed Internet inside home
- Supplement and extend the existing Wi-Fi network with high-speed wired connection over in-home coaxial drops
- Enable tablets, smart phones, gaming APPS/consoles and 4K/8K HDTV to access content simultaneously
- Plug-and-Play installation to work over the existing home coaxial wiring without re-wiring of Ethernet cables
- Enhance Wi-Fi network over coaxial wiring to reach wired speed and coverage reliability to offload Wi-Fi gateway/router for content transfer between smart devices

1.2 IMPORTANT SAFEGUARDS AND PRECAUTIONS

Utmost care has been taken in the manufacture of the MN2525/MN2550 adapter. Please keep the following instructions in mind while using the Adapter.

- Please keep the Adapter away from fire, extremely hot areas, water or moisture of any kind.
- Do not service your Adapter by yourself.
- Opening the Adapter housing will void the warranty.
- Always follow the Adapter instructions to configure and maintain.

1.3 MN2525/MN2550 PACKAGE

The MN2525/MN2550 package includes the following:

- MN2525 or MN2550
- One AC/DC power adapter with US or EU plug, input 100-240VAC 50/60Hz, output 5VDC/1.0A
- One coaxial cable
- One CAT6 Ethernet cable

1.4 HARDWARE SPECIFICATIONS

| MoCA 2.5 | | |
|-----------------------------|---|---|
| Chipset | Maxlinear MXL3710; 32 Mbit SPI Flash | |
| Operating Frequency | 1125 MHz to 1675 MHz Configurable Extended D Band | |
| Transmit Return Loss | ≥ 6 dB Relative to 75Ω | |
| Output Power | +7dBm; 5 x 100MHz Channels | |
| Input Power | -50dBm to +1dBm | |
| Modulation | OFDM 1024 QAM, TDD | |
| PHY Data Rate | MN2525 | 2.0 Gbps |
| | MN2550 | 2.5 Gbps |
| MAC Data Rate | MN2525 | Full-Duplex 1 Gbps |
| | MN2550 | 2 x Full-Duplex 1 Gbps |
| Application Protocol | VLANs, 802.11p, IGMP v1/2/3, 128-bit AES Encryption | |
| Management | Web Based Configuration via 1000Base-T Connection | |
| Ethernet | | |
| Ethernet | IEEE802.3, IEEE802.3az | |
| Interface | MN2525 | 1000 Base-T MDI/MDIX, 2 x 75Ω F |
| | MN2550 | 2 x 1000 Base-T MDI/MDIX, 2 x 75Ω F |
| Radio Frequency / TV | | |
| Frequency Range | 5 MHz to 1002 MHz | |
| Transmit Return Loss | ≥ 14 dB Relative to 75Ω | |
| Insertion Loss | -2.5 dB | |
| Band Flatness | 2 dB | |
| Power Supply | | |
| Power Supply | 100 - 240 VAC, 50/60 Hz; 12 VDC, max. 0.5 A, 1.3 mm PSU Wall Plug | |
| Power Consumption | < 3 watts | |
| Hardware | | |
| Dimension W x D x H | 4.3" x 2.8" x 1.1" (110 mm x 70 mm x 28 mm) | |
| Weight | 3.2 oz (90 g) | |
| LED | MN2525 | POWER (green), ETHERNET (green), COAX (green) |
| | MN2550 | Power (green), System (green), MoCA (green) LAN1/LAN2 Link (green), Activity (amber) |
| Connectors | MN2525 | DC Input, 1000Base-T RJ 45, COM (MoCA) 75Ω F, CATV 75Ω F, RESET |
| | MN2550 | DC Input, 2 x 1000Base-T RJ 45, MoCA 75Ω F, TV 75Ω F, RESET |
| Environment and Safety | | |
| Temperature | Operating 22°F to 113°F (-5°C to 45°C); Storage -4°F to 185°F (-20°C to 85°C) | |
| Operating/Storage Humidity | Non-Condensing; Altitude < 2000 m Operation 10% to 85%; Storage 5% to 90% | |
| FCC Certificate | CISPR PUB. 22, FCC Part 15 Subpart B | |
| RoHS | RoHS 2.0 Standard 2011/65/EU, Amendment 2015/863/EU | |
| MTBF | > 300,000 hours Telcordia SR-332 | |
| AFR in Continuous Operation | < 1.5% | |

1.5 SAFETY AND PRECAUTIONS

Utmost care has been taken in the manufacture of the MN2525 and MN2550 MoCA 2.5 adapter. Please keep the following instructions in mind while using the Adapter.

- Disconnect the power adapter before cleaning the device. Do not use water, paint thinner, benzene, alcohol and other strong cleaning materials. When cleaning the device, use soft cloth with a little damp.
- Keep the device from fire, extremely hot areas, water or moisture of any kind.
- Do not place the device on an unstable surface or table.
- Do not open the case when the Adapter is powered on.
- Do not insert anything to the opening gap of the Adapter.
- When disconnecting the device from power adapter or cable, pay attention to pull the plug.
- The device can only be placed indoor or inside an enclosure.

- The device enclosure is anti-magnetic shielded, but in order to ensure its stability, place it far away from the radiation source.
- Place the device in good ventilation environment.
- Make sure the grounding of the Adapter is good.
- Avoid direct sunlight or high electromagnetic exposure.
- Do not service the device by yourself.
- Always follow the instructions to operate the device.

PHYSICAL INTERFACE

2.1 PANEL INTERFACE

2.1.1 MN2525

All interface of MN2525 are placed in the front panel.



| | |
|-----------------|---|
| Power | Connect the supplied AC/DC power adapter to his port. The power rating of the adapter is Input: 100-240VAC, 50/60Hz, 0.6A; Output: 5VDC, 1A |
| ETHERNET | 1000Base-T port for full-duplex Ethernet / IP connection |
| CATV | Coaxial F connector for TV input/output signal between 5MHz to 1GHz |
| COM | Downlink port to connect to coaxial tab, splitter or another MoCA 2.5 adapter |
| RESET | Reset button to restore factory defaults |

2.1.2 MN2550

All interface of MN2550 are placed in the front panel except the Reset button is located at the bottom of the case.



| | |
|--------------------|---|
| Power | Connect the supplied AC/DC power adapter to his port. The power rating of the adapter is Input: 100-240VAC, 50/60Hz, 0.6A; Output: 5VDC, 1A |
| LAN1 / LAN2 | 1000Base-T ports for full-duplex Ethernet / IP connection |
| TV | Coaxial F connector for TV input/output signal between 5MHz to 1GHz |
| MoCA | Downlink port to connect to coaxial tab, splitter or another MoCA 2.5 adapter |
| Reset | Reset button to restore factory defaults |

2.2 INDICATOR LEDS

2.2.1 MN2525

The functional status of MN2525 is indicated by LEDs. There are three LEDs at the top of the MN2525 case.

| | |
|-----------------|--|
| POWER | is lit when the power supply is good. Check the power adapter if the Power LED is dark when it's plugged into the unit. |
| ETHERNET | is lit when Ethernet connection is good. Check the RJ-45 cable or connection point of 1000Base-T port if the Link LED is dark. |

COAX is lit when COM port is connected properly with Coaxial cable. Check the connector type and coaxial cable is screwed into the F connector properly if Cable LED is dark. The coaxial cable connected to the Cable port is less than 500 meters in length or the attenuation of the connected cable is less than 45 to 50dBuV.

2.2.2 MN2550

The functional status of MN2550 is indicated by LEDs. There are three LEDs at the top of the MN2550 case. Two Ethernet ports (LAN1 and LAN2) have their own link and activity LEDs next to the port connector.

Power is lit when the power supply is good. Check the power adapter if the Power LED is dark when it's plugged into the unit.

MoCA is lit when COM port is connected properly with Coaxial cable. Check the connector type and coaxial cable is screwed into the F connector properly if Cable LED is dark. The coaxial cable connected to the Cable port is less than 500 meters in length or the attenuation of the connected cable is less than 45 to 50dBuV.

System is lit when the Adapter is online.

LAN1 / LAN2 left: is lit green for 1000 Mbps link; dark for 10/100Mbps link
right: blinks amber for activity

OPERATION AND WEB BASED CONFIGURATION / MONITORING

MN2525 or MN2550 can be configured through its built-in Web Interface as described in sections below.

3.1 LOGIN

- ① Connect the **ETHERNET** (MN2525) or **LAN1 / LAN2** (MN2550) port of the Adapter and the Ethernet port of a PC with an Ethernet cable. Power on the Adapter.
- ② Configure the IP address of the PC to be 192.168.144.100.
- ③ Launch a Web browser on PC and type <http://192.168.144.200> to login with
Login: **admin**
Password: **maxlinear**
- ④ On the Web management page of the Adapter, current configurations and operational status, such as frequency range, transmission rate, IP address and other Adapter information.

3.2 SETTINGS

3.2.1 MOCA SETTINGS

Configuring MoCA parameters of the Adapter.

MoCA Setup

This screen allows changes to basic settings. Click the Save button to save any changes.

| Band | In Scan List | Scan Mask | Scan Offset | Pri Ch Above Mask | Pri Ch Below Mask |
|--------|-------------------------------------|--------------------|-------------|--------------------|--------------------|
| D-Ext | <input checked="" type="checkbox"/> | 0x00000002aaaa8000 | 0x00000010 | 0x0810810200000000 | 0x0204204000000000 |
| D-Low | <input checked="" type="checkbox"/> | 0x0000000280000000 | 0x00000010 | 0x0810810200000000 | 0x0204204080000000 |
| D-High | <input checked="" type="checkbox"/> | 0x000000000aa8000 | 0x00000010 | 0x0810810200000000 | 0x0204204000000000 |
| E | <input type="checkbox"/> | | | | |
| F-SAT | <input type="checkbox"/> | | | | |
| F-CBL | <input type="checkbox"/> | | | | |
| H | <input type="checkbox"/> | | | | |
| Custom | <input type="checkbox"/> | | | | |

Adapter Name:

Network Search Enabled:

LOF:

Tx Power:

Beacon Power Level:

Preferred NC:

Save Cancel

RESET

Reboot Restores Defaults

Coax Setup

- Band

| | |
|---|---|
| Frequency band to scan for MoCA signals | |
| D-Ext | Extended Band D 1125 - 1675MHz (default). Refer to the diagrams below for more description. |
| D-Low | Extended Band D Low (DL) 1125 to 1225 MHz (100 MHz wide) |
| D-High | Extended Band D High (DH) 1350 to 1675 MHz (325 MHz wide) |
| | Guard band between sub-bands: 1225 TO 1350 MHz (125 MHz wide) |
| E | Band E 400 to 700 MHz (300 MHz wide) single channel or bonded pair |
| F-SAT | Band F _{SAT} 650 to 875 MHz (225 MHz wide) single channel or bonded pair. Refer to the sections below for more information. Applicable to MoCA 2.0 only. |
| F-CBL | Band F _{CBL} 650 to 875 MHz (225 MHz wide) single channel or bonded pair. Refer to the sections below for more information. Applicable to MoCA 2.0 only. |
| H | Not available. |
| Custom | Not available. |

Note: It's **NOT** recommended to change the frequency bands of MoCA adapter without following MoCA 2.5 standard. Changing frequency band incorrectly may result incompatibility and malfunction of the Adapter.

- In Scan List

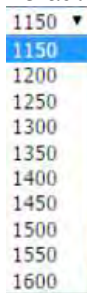
| |
|---|
| Check box to enable the frequency band to be scanned. |
|---|
- Scan Mask

| |
|---|
| Spectral bit mask of signal scan to indicate what frequencies should be scanned for beacons in hexadecimal. |
|---|

- **Scan Offset** Offset of scan mask in hexadecimal.
- **Primary Ch(annel) Above Mask**
Spectral bit mask of primary channel above the scan mask in hexadecimal.
- **Primary Ch(annel) Below Mask**
Spectral bit mask of primary channel below the scan mask in hexadecimal.
- **Adapter Name** Selectable Adapter name. Default Adapter Name is Master. The Adapter name help installer to identify the location and function of the Adapter. It doesn't impact the network operation and the Adapter name can be reused.




- **Network Search Enabled**
Check box to enable search and detection of suitable channels within the frequency range defined in applicable bands.
- **LOF** Last Operating Frequency if the node has joined the network.
Reference operating frequency for MoCA 2.5.
Default D-Ext 1150 MHz
Default D-Low 1150 MHz
Default D-High 1400 MHz



- **Tx Power** Transmission power in dBm. Refer to the section below for more information. In certain cases, the far-end Adapters can be sensitive to the receive power, the transmission power can be lowered by selecting lower Tx Power. It's recommended to select 10dBm to satisfy high-attenuation network.



- **Beacon Power Level** Transmission power of beacons in dBm. In certain cases, the far-end Adapters can be sensitive to the receive power, the transmission power can be lowered by selecting lower Tx Power. It's recommended to select 10dBm to satisfy high-attenuation network.

- **Preferred NC** The nodes with Preferred Network Coordinator (NC) checked have preference over the other nodes in the coaxial network to become preferred coordinator (Master) node. If there are multiple nodes enabled with Preferred NC, the most suitable node is chosen based on certain characteristics.

Click **Save** button to save changes.

Reset

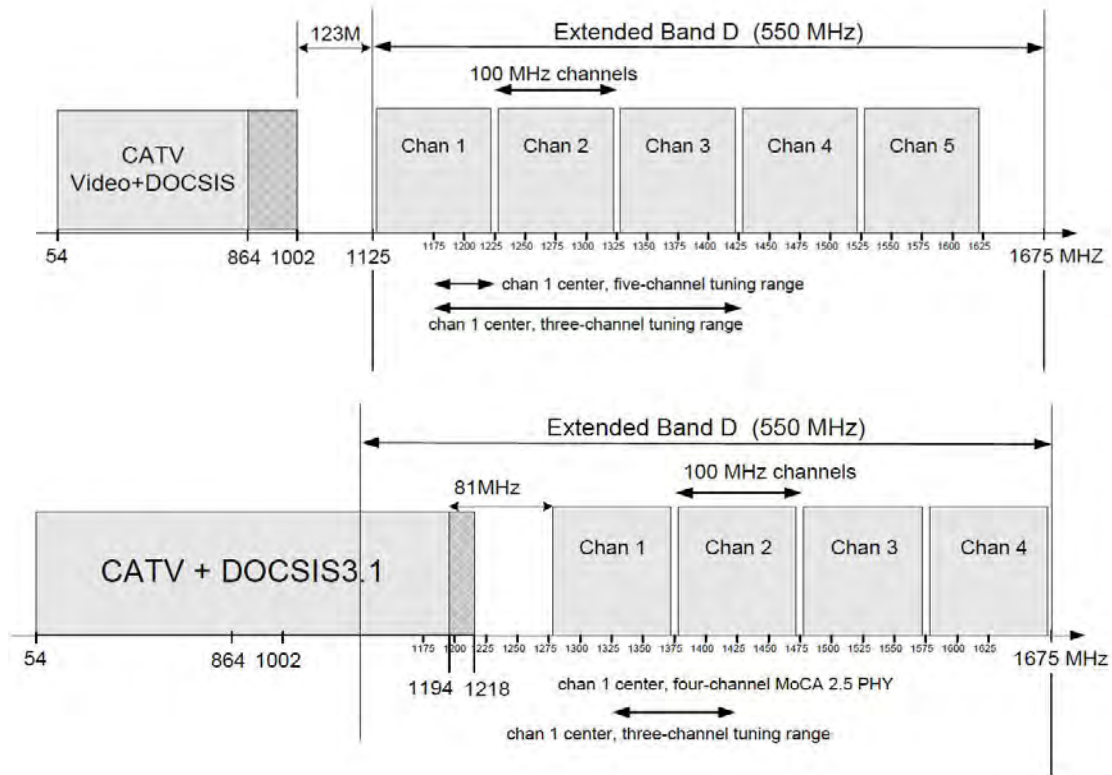
- **Reboot** Reboot the Adapter.
- **Restores Defaults** Restore factory defaults and reboot the Adapter.

Notes:

In special cases D-Low or D-High may be used to limit the frequency range.

Extended Band D Channel Frequencies

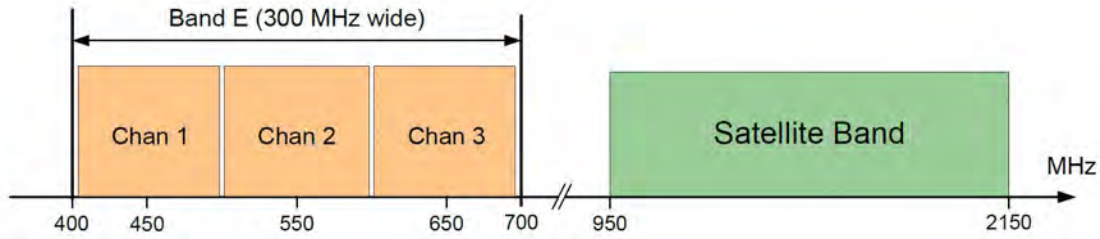
| MoCA 2.5 Band D Channels | Channel 1 Center | Channel 2 Center | Channel 3 Center | Channel 4 Center (if used) | Channel 5 Center (if used) |
|--------------------------|------------------|------------------|------------------|----------------------------|----------------------------|
| D2p5-1 | 1175 | 1275 | 1375 | 1475 | 1575 |
| D2p5-2 | 1200 | 1300 | 1400 | 1500 | 1600 |
| D2p5-3 | 1225 | 1325 | 1425 | 1525 | 1625 |
| D2p5-4 | 1250 | 1350 | 1450 | 1550 | - |
| D2p5-5 | 1275 | 1375 | 1475 | 1575 | - |
| D2p5-6 | 1300 | 1400 | 1500 | 1600 | - |
| D2p5-7 | 1325 | 1425 | 1525 | 1625 | - |
| D2p5-8 | 1350 | 1450 | 1550 | - | - |
| D2p5-9 | 1375 | 1475 | 1575 | - | - |
| D2p5-10 | 1400 | 1500 | 1600 | - | - |
| D2p5-11 | 1425 | 1525 | 1625 | - | - |



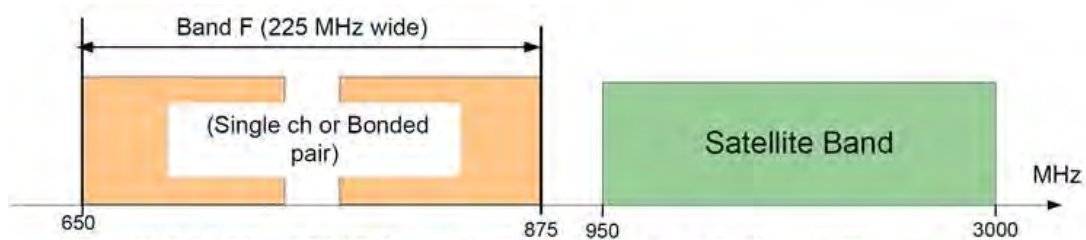
Extended Band D Channel Frequency Plan

| MoCA 2.5 Band E Channels | Channel 1 Center | Channel 2 Center | Channel 3 Center |
|--------------------------|------------------|------------------|------------------|
| E2p5-1 | 450 | 550 | 650 |

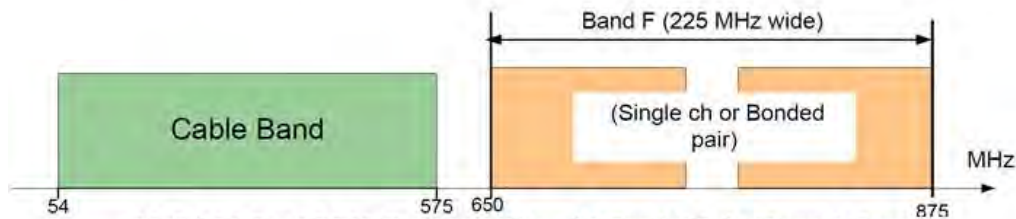
Band E Channel Frequency Plan



Band E Channel Frequency Spectrum



MoCA 2.0 Band FSAT Frequency Plan with Bonded-Pair Channels Example



MoCA 2.0 Band FCBL Frequency Plan with Bonded-Pair Channels Example

Band FSAT and Band FCBL Frequency Spectrum

| Transmitting Mode | Number Channels Transmitted | BW per channel (MHz) | Maximum Output Power per Channel | Total Output Power of all transmitted channels |
|---------------------|-----------------------------|----------------------|----------------------------------|--|
| MoCA Beacon | 1 | 50 | -1 dBm to +7 dBm | -1 dBm to +7 dBm |
| MoCA 1 PHY | 1 | 50 | -1 dBm to +7 dBm | -1 dBm to +7 dBm |
| MoCA 2.0 PHY | 1 | 100 | -1 dBm to +7 dBm | -1 dBm to +7 dBm |
| MoCA 2.0 Bonded-PHY | 2 | 100 | -1 dBm to +7 dBm | +2 dBm to +10 dBm |
| MoCA 2.5 Bonded-PHY | 2 | 100 | -3 dBm to +5 dBm | 0 dBm to +8 dBm |
| MoCA 2.5 PHY | 3 | 100 | -4.5 dBm to +3.5 dBm | +0.3 dBm to +8.3 dBm |
| MoCA 2.5 PHY | 4 | 100 | -5.3 dBm to +2.7 dBm | +0.7 dBm to +8.7 dBm |
| MoCA 2.5 PHY | 5 | 100 | -6 dBm to +2 dBm | +1 dBm to +9 dBm |

Maximum Total Output MoCA Output Power Level

3.2.2 DEVICE SETTINGS

Configuring Ethernet / IP parameters of the Adapter.

Settings

- MoCA settings
- Device settings
- Security settings

Status

- Device Status
- Phy Rates

Advanced

- Upgrade
- Reboot

Device Setup

DEVICE SETUP

This screen allows changes to device settings, such as IP mode and telnet. Click the Save button to save any changes.

LOCAL SETUP

DHCP automatic configuration
 Link Local automatic configuration
 DHCP & Link Local automatic configuration
 Static IP Address:

IP Address:
 Netmask:
 Gateway:

MoCA Telnet: Enable Disable

MAXLINEAR

This screen allows you to configure the IP mode and telnet server. Select DHCP automatic configuration if your network has a DHCP server. If you choose Static IP address, you must configure the IP address for each coax pnode (note that each IP address must be unique. The new IP address will be used only after reset). Select Link Local automatic configuration if there are no DHCP server in this network and you want make zero config for the IP. The IP address will not apply if Automatic Configuration (DHCP) is selected. If you enable MoCA telnet, then you can access the bridge by telnet protocol.

- DHCP Automatic Configuration Enable DHCP mode if DHCP server is available in the network.
- Link Local automatic configuration If DHCP server is unavailable, Link Local Automatic Configuration indicates IP address configuration is ignored.
- DHCP & Link Local automatic Both DHCP and Link Local Automatic Configuration are enabled. Depending on the availability of DHCP server in the network, the IP address of the device is either assigned by the DHCP server or left unassigned.
- Static IP Address Manually assign the IP address of the Adapter.
 - IP Address IP address of the Adapter.
 - Netmask Subnet mask of the Adapter.
 - Gateway Default gateway of the Adapter.
- MoCA Telnet Enable or Disable the Telnet session of the Adapter.

Click **Save** button to save changes.

3.2.3 SECURITY SETTINGS

Configuring security parameters of the Adapter.

Security

SECURITY

For security reasons, you had better change the password. Your password must not be too short or too long, and it cannot contain any spaces.

ADMIN SECURITY SETUP

Old Password: (Enter old password)

New Password: (20 Characters Max, 4 Characters Min)

Confirm Password: (20 Characters Max, 4 Characters Min)

NETWORK SECURITY SETUP

| Band | Security Enabled | New Password | Confirm Password |
|--------|--------------------------|------------------|------------------|
| D-Ext | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| D-Low | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| D-High | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| E | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| F-SAT | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| F-CBL | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| H | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |
| Custom | <input type="checkbox"/> | 9999999988888888 | 9999999988888888 |

ENHANCED NETWORK SECURITY SETUP

Enhanced Privacy Enabled

New Password: 99999999888888777

Confirm Password: 99999999888888777

MAXLINEAR

This screen allows you to change the admin password for the bridge and the network security password for the Coax network. It is strongly recommended that you change the factory default password. The default admin password is maxlinear and the default network password is 9999999988888888. All users who try to access the bridge will be prompted for the bridge's password. The new admin password must not exceed 20 characters in length and must not include any spaces. The new network security password must be 12-17 digits.

Administrator Security Setup

- Old Password Old password of administrator login to be changed.
- New Password New password of administrator login.
- Confirm Password Retype new password to match.

Click **Save** button to save changes.

Network Security Setup

Network security allows users to enable and disable network encryption on the MoCA network. Different passwords can apply to different frequency bands, e.g. D-Ext, D-Low, D-High, E, F_{SAT}, F_{CBL}, H and Custom bands.

- Security Enabled Check the box to enable security encryption of specific frequency band.
- New Password 12 to 17 digits password in numerical value. Default password is 9999999988888888.
- Confirm Password Retype new password to match.

Click **Save** button to save changes.

Enhanced Network Security Setup

- Enhanced Privacy Enabled Check the box to enable enhanced privacy of all applicable frequency bands.
- New Password 12 to 20 digits password in numerical value. Default password is 99999999888888777.
- Confirm Password Retype new password to match.

Click **Save** button to save changes.

3.3 STATUS

3.3.1 DEVICE STATUS

Displaying current device status.

The screenshot shows the 'Device Status' page. On the left is a navigation menu with sections: Settings (MoCA settings, Device settings, Security settings), Status (Device Status, Phy Rates), and Advanced (Upgrade, Reboot). The main content area is titled 'Device Status' and contains the following information:

DEVICE STATUS
The following display shows the current status and settings.

DEVICE STATUS

- SOC Version: MXL371x.1.13.22
- My MoCA Version: 2.5
- Network MoCA Version: 2.5
- IP Address: 192.168.144.200
- MAC Address: 00:12:d6:20:f9:9d
- Link Status: Down
- Beacon Channel: 1500
- Primary Channel: 1500
- Secondary Channel: 0
- First Channel: 1175
- Number of Channels: 5
- Ethernet TX: Tx Good: 0, Tx Bad: 0, Tx Dropped: 0
- Ethernet RX: Rx Good: 0, Rx Bad: 0, Rx Dropped: 0

A 'Refresh' button is located at the bottom of the status display area.

On the right side of the page, there is a MAXLINEAR logo and a note: 'The screen displays the current firmware version. Firmware should only be upgraded if you experience problems with the bridge. Also displays the current IP address and MAC address of the bridge. The link status, moje version and MoCA network version are displayed here.'

- **SOC Version** The embedded firmware version of the System on Chip (SoC) processor.
- **My MoCA Version** MoCA standard of the Adapter. MoCA 2.5 device shows 2.5.
- **Network MoCA Version** MoCA standard negotiated among all MoCA devices connected in the network. If any MoCA 1.x device is connected, the Network MoCA version shows 1.1.
- **IP Address** IP address configured or assigned to the device. Default IP address of the Adapter is 192.168.144.100.
- **MAC Address** MAC address of the Adapter.
- **Link Status** Link status of the Adapter.
- **Beacon Channel** Frequency of beacon channel in MHz.
- **Primary Channel** Frequency of primary channel in MHz.
- **Secondary Channel** Frequency of secondary channel in MHz.
- **First Channel** Frequency of the first channel in MHz.
- **Number of Channel** Number of channels used for transmission and receive.
- **Ethernet TX** Statistics of transmitted Ethernet packets
 TX Good: Good packets transmitted.
 TX Bad: Bad packets transmitted.
 TX Dropped: Dropped packets transmitted (e.g. CRC error packets).
- **Ethernet RX** Statistics of received Ethernet packets.
 RX Good: Good packets received.
 RX Bad: Bad packets received.
 RX Dropped: Dropped packets received (e.g. CRC error packets).

Click **Refresh** to refresh the device status and statistics.

3.3.2 PHY RATES

Displaying (Ethernet) PHY rates and link status of each coax bridge relative to other nodes on the MoCA network.

PHY Rates

The following table shows the PHY rate in Megabits per second (Mbps) between coax bridges on the network.
NOTE: Either NPER or VLPER will be displayed for MoCA 2.5 nodes based on value of boot config parameter "xpriortyper".

Type: Unicast NPER Unicast VLPER

| | |
|---------|----|
| From/To | 0 |
| 0 | NA |

Legend

| | | | |
|----------|----------|----------|-----|
| MoCA 2.5 | MoCA 2.0 | MoCA 1.x | GCD |
|----------|----------|----------|-----|

Refresh

This screen displays the current link status (PHY rate in Mbps) of each coax bridge relative to other nodes on the coax network. This data rate is an average of the Tx and Rx data rates between bridges.

The PHY rate is the average of Tx and Rx bit rates between bridges on the MoCA network in Mbps.

- Type Unicast Packet Error Rate (PER) in either NPER or VLPER type.
- Legend MoCA 2.5, MoCA 2.0, MoCA 1.x and Greatest Common Density (GCD) bit rate.

Click **Refresh** button to refresh PHY rate statistics.

3.4 ADVANCED

3.4.1 UPGRADE

Firmware upgrade.

Upgrade

UPGRADE HOSTLESS MOCA FIRMWARE

Follow below steps to upgrade hostless MoCA firmware.

FIRMWARE UPGRADE STEPS

- 1) Use the Choose File button to select the new Hostless MoCA firmware image file (bin file).
- 2) Click the Upgrade button.
- 3) Wait for the completion status screen to appear. A typical upgrade requires 60-90 seconds for the flash to be updated.
- 4) Click the Reboot button.

!!! Do not turn-Off the device when firmware download is in progress !!!

Active Image Version: 1.13.22
Backup Image Version: 1.13.22
File: No file selected.

MAXLINEAR

You must be very careful when upgrade firmware. It may damage your device and can not work, you should following the steps and do not remove power.

Follow the instructions on this page to upgrade the firmware of the Adapter. It's recommended to upgrade the firmware of the Adapter with dedicated StarLink support team only. The version numbers of active and backup firmware images are also displayed.

Click **Browse** button to select firmware image file from local computer.
Click **Upgrade** button to upgrade the device firmware after proper image file is selected.
Click **Clear Selection** button to clear firmware image file selection.

3.4.2 REBOOT

Reboot the device.

Reboot may take up to 10 seconds for the device to restart and get ready.

REFERENCE

4.1 CUSTOMER SERVICE

General StarLink Customer Service is available from 8:00 AM to 5:00 PM Pacific Standard Time (California, U.S.A.). Customer Service performs the following functions:

- Answers customer questions over the phone on such topics as product operation and repair.
- Facilitates prompt repair of malfunctioning test sets.
- Provides information about product upgrades.

A Return Merchandise Authorization (RMA) Number is required before any product may be shipped to StarLink facility in Taiwan for repair. Out-of-warranty repairs require both an RMA and a Purchase Order before the unit is returned.

All repairs are warranted for 90 days.

Contact Customer Service at:

StarLink LLC
1030 E El Camino Real, #158
Sunnyvale, ca 94087
U.S.A.

Tel: +1 408.931.0958

Web: <http://www.starlink7.com>

E-mail: support@starlink7.com

4.2 TESTING AND CALIBRATION STATEMENT

StarLink certifies that this product was manufactured, tested, and verified according to the applicable StarLink manufacturing and test procedure(s). These formal procedures are designed to assure that the product meets its required specifications.

This product has no user-adjustable settings. During normal usage, periodic calibration is not a requirement. However, if the product fails during the self-verification test, during power up, the product can be returned to the manufacturer for evaluation and repair.

4.3 EXPRESS LIMITED WARRANTY

A. Hardware Coverage. COMPANY warrants hardware products against defects in materials and workmanship. During the warranty period COMPANY will, at its sole option, either (i) refund of CUSTOMER'S purchase price without interest, (ii) repair said products, or (iii) replace hardware products which prove to be defective; provided, however, that such products which COMPANY elects to replace must be returned to COMPANY by CUSTOMER, along with acceptable evidence of purchase, within twenty (20) days of request by COMPANY, freight prepaid.

B. Software and Firmware Coverage. COMPANY warrants software media and firmware materials against defects in materials and workmanship. During the warranty period COMPANY will, at its sole option, either (i) refund of CUSTOMER'S purchase price without interest, (ii) repair said products, or (iii) replace software or firmware products which prove to be defective; provided, however, that such products which COMPANY elects to replace must be returned to COMPANY by CUSTOMER, along with acceptable evidence of purchase, within twenty (20) days of request by COMPANY, freight prepaid. In addition, during the warranty period, COMPANY will provide, without charge to CUSTOMER, all fixes, patches, new releases and updates which COMPANY issues during the warranty period. COMPANY does not warrant or represent that all software defects will be corrected. In any case where COMPANY has licensed a software product "AS IS," COMPANY'S obligation will be limited to replacing an inaccurate copy of the original material.

C. The warranty period for Hardware, Software and Firmware will be One (1) Year from date of shipment to CUSTOMER. The COMPANY may also sell warranty extensions or provide a warranty term of three years with the original sale, which provide a longer coverage period for the test set chassis, software and firmware, in which case the terms of the express limited warranty will apply to say specified warranty term.

D. Only for CUSTOMER. COMPANY makes this warranty only for the benefit of CUSTOMER and not for the benefit of any subsequent purchaser or licensee of any merchandise.

E. LIMITATION ON WARRANTY. THIS CONSTITUTES THE SOLE AND EXCLUSIVE WARRANTY MADE BY COMPANY WITH RESPECT TO HARDWARE, SOFTWARE AND FIRMWARE. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED. COMPANY SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE. COMPANY'S LIABILITY UNDER THIS AGREEMENT WITH RESPECT TO A PRODUCT, INCLUDING COMPANY'S LIABILITY FOR FAILURE AFTER REPEATED EFFORTS TO INSTALL EQUIPMENT IN GOOD WORKING ORDER OR TO REPAIR OR REPLACE EQUIPMENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OR LICENSE FEE FOR THAT PRODUCT, NOR SHALL COMPANY IN ANY EVENT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, ARISING FROM OR RELATED TO THE SALE OF THE MERCHANDISE HEREUNDER, INCLUDING BUT NOT LIMITED TO DAMAGES ARISING FROM OR RELATED TO LOSS OF BUSINESS, LOSS OF PROFIT, LOSS OF GOODWILL, INJURY TO REPUTATION, OVERHEAD, DOWNTIME, REPAIR OR REPLACEMENT, OR CHARGE-BACKS OR OTHER DEBITS FROM CUSTOMER OR ANY CUSTOMER OF CUSTOMER.

F. No Guaranty, Non-application of Warranty. COMPANY does not guaranty or warrant that the operation of hardware, software, or firmware will be uninterrupted or error-free. Further, the warranty shall not apply to defects resulting from:

- (1) Improper or inadequate maintenance by CUSTOMER;
- (2) CUSTOMER-supplied software or interfacing;
- (3) Unauthorized modification or misuse.