Sniffter 100 Documentation

MNLC VDSL Addendum

This documentation addendum covers Sniffter features specific to VDSL networking equipment by Motorola Next Level Communications.

It assumes that the reader has already read the primary Sniffter 100 Documentation and is familiar with basic operation of the Sniffter 100 Network Tester.

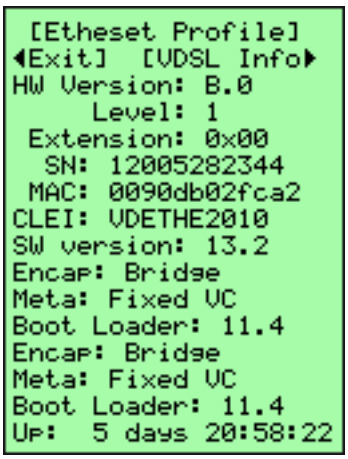
Written by Tom Collins

For more information on the Sniffter 100 Network Tester, contact Tom Collins at (480) 473-1240 or tom@sniffter.com.

Etherset Status

When troubleshooting VDSL connections with a Residential Gateway, you can display VDSL circuit statistics on the customer's television set. For connections using an ADSL or VDSL Etherset, you can now use the Sniffter to view similar statistics.

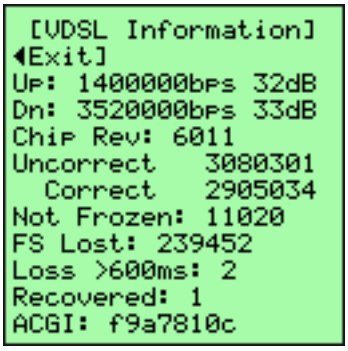
For the Etherset Status functions to work, the Sniffter needs to be connected to the Etherset via a standard Ethernet cable or a hub. If using a hub, connect the Sniffter to a port on the hub with a standard Ethernet cable. Connect the Etherset to a port on the hub with a crossover cable or use the uplink port with a standard cable. You can view the Etherset Statistics even when the ADSL/VDSL connection is down and the Sniffter is unable to connect to a DHCP server.



The first Etherset Status screen shows information on the Etherset hardware itself. It is simply a condensed version of the information available via the Etherset's web-based interface.

You will use the Ethernet hardware address (also known as the MAC address) to identify the Etherset in View1 and to provision VDSL service with LPC.

Use the left button to exit or the right button to continue to information on the VDSL connection.



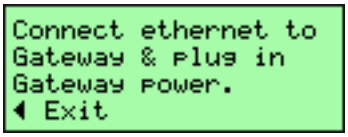
The second Ethernet Status screen shows detailed information on the VDSL connection, updated every few seconds. Scroll through this information to watch error rates and check dB levels to ensure they met minimum standards.

If uncorrectable or correctable errors increase rapidly, look for problems with the VDSL circuit.

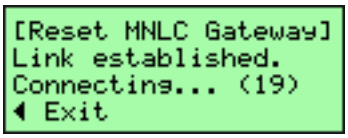
When done, use the left button to return to the test menu.

Reset MNLC Gateway

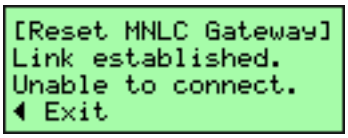
The Sniffter can reset a Residential Gateway to factory defaults using the gateway's network port. You must unplug the Gateway's power cable before starting this module. Note that after resetting to factory defaults, you will need to reset the RF channels for each stream.



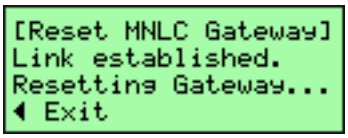
At the start of the test, you will need to connect the Ethernet port of the Sniffter to the Gateway's Network port. Once connected, plug the Gateway in.



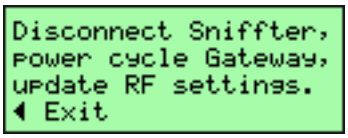
Once the Sniffter has a network link to the Gateway, it will attempt to connect to it. While waiting for the Gateway to be ready, the Sniffter displays a countdown.



If the countdown gets to zero, the Sniffter will stop trying to connect. Check your cables, unplug the Gateway and try again.



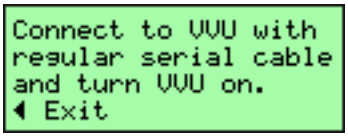
If the Sniffter successfully connects to the Gateway, it will start the reset procedure. The reset goes quickly, so this message won't stay on the screen very long.



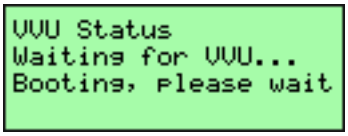
Once the factory reset is done, the Sniffter will remind you to power cycle the Gateway and update the RF channels for each stream to complete the procedure.

VVU Interface

In addition to other test features, the Sniffter was designed to supplement MNLC's VDSL Verification Unit. By connecting the Sniffter to the VVU's serial port, you can view more detailed information on the VDSL connection.



Connect the Sniffter's serial port to the VVU's serial port with the black DB9-male to RJ12-female adapter and the straight-through, silver satin RJ12 cable. Once connected, turn the VVU on.



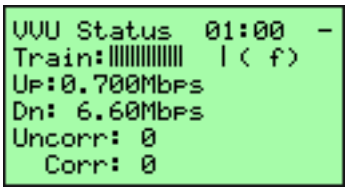
If the cables are connected properly, the Sniffter will detect the VVU as it starts up. You will need to wait about 30 seconds for the boot process to complete.

VVU connected to Sniffter serial port with male serial adapter and regular (straight through) RJ12 phone cable.

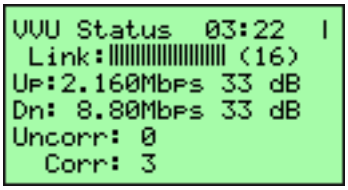
(Note that the Sniffter was designed to interface to the Classic VVU. Newer "998 VVU" models have a built-in display, so it isn't necessary to interface the Sniffter to them.)

VVU Status

The VVU Status screen shows details on the VDSL connection as the VVU trains up and attempts to establish a link.



VVU starting VDSL connection



VVU after connecting

The first line of the display shows a timer to indicate how long the Status display has been running, along with a bar that rotates while the serial connection is active. If the timer stops and the bar stops rotating, the VVU has switched off, or the cable has been disconnected.

The second line shows how far along the VVU is in the VDSL connection process. It will either say `Train` to indicate that it is still connecting or `Link` to indicate that the connection is complete. After the Link/Train indicator is a thermometer bar and the hexadecimal number that describe how far along the VVU is in the VDSL connection process.

The third and fourth lines display the current Upstream and Downstream data rates, along with current dB levels (which only apply when Link is complete). The last two lines display the number of correctable and uncorrectable errors encountered while the VVU has been connected.

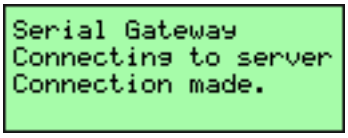
VVU Configuration

The Sniffter can also interface to a VVU to toggle it between `old/K2` mode (for the original Residential Gateway) to `RG2000` mode (for the Etherset and newer Gateways). Make sure that your VVU matches the CPE currently installed or being installed so that the VVU will properly calibrate its signal ratings.

Use the left button to exit, or the right button to change the configuration.

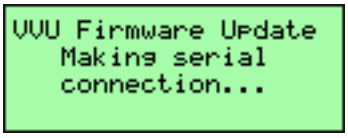
Update VVU Firmware

Once connected to the Internet (via the **Network Tools** menu item), you can use your Sniffter to download firmware updates from the Internet and install them on your VVU. Your employer will announce availability of firmware updates and tell you when to use this feature to update your VVU. See the VVU Interface section of this manual for instructions on connecting the Sniffter to the VVU.

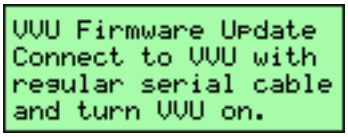


The firmware update attempts to connect to the server.

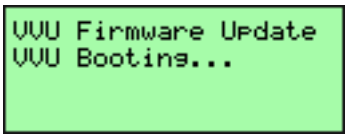
After this point, the server has complete control of the display.



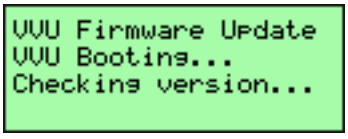
At the start of the procedure, the server attempts to open the Sniffter's serial port.



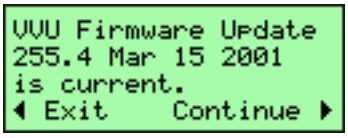
The serial port is open, and the server is looking for the VVU.



The server has detected the VVU booting.

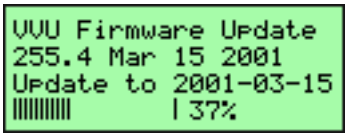


The server is querying the VVU for its current firmware revision.

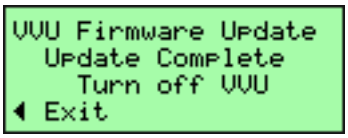


If the firmware is current, the user can force an update by pressing the right button, or can exit by pressing the left button.

If the firmware is out of date, the Sniffter will automatically begin the update procedure.



The actual update process. The Sniffter is downloading the new firmware image from the server, and installing it on the VVU.



The firmware update is complete, and the user can turn off the VVU. Press the left button to return to the Network Tools menu.