# QUICK REFERENCE GUIDE

## Menu and Keys


**Copper Test**
TDR, RFL, DMM, wideband, POTS

**System**
Software version/options, date/time, power settings

**Function Keys**

**Escape/Back**

**Power**
Standby mode: Hold button for 1 beep

**Navigation Keys**

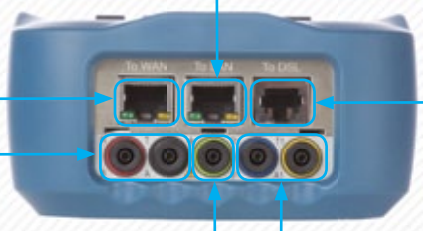
**xDSL Test**
ADSL2+ Annex A/B*, VDSL2

**Home**

**Start/Stop**

**Enter**

## Ports



**Wan (Ethernet RJ45)**
Connect to router/gateway for IP testing

**T/A–R/B**
Primary interface for copper testing

**Earth/Ground**

**LAN (Ethernet 10/100)**
Connect to STB or PC for DSL based IP testing

**WAN (DSL)**
Connect to ADSL2+/VDSL2 DSLAM. 2 pairs on RJ-11 for bonded tests

**T1/A1–R1/B1**
Secondary interface for copper testing in 4-wire mode

* Model V2XAA: Annex A
Model V2XAB: Annex A and B

## Copper Testing Cables

### T/A–R/B
Primary interface

ACC-M4MM

### Earth/Ground

ACC-M4MM

### T1/A1–R1/B1
Secondary interface

ACC-M4MMYB

## DSL Testing Cables

### RJ-RJ-Banana Y-Cable
Primary interface

ACC-RJ11-4MM

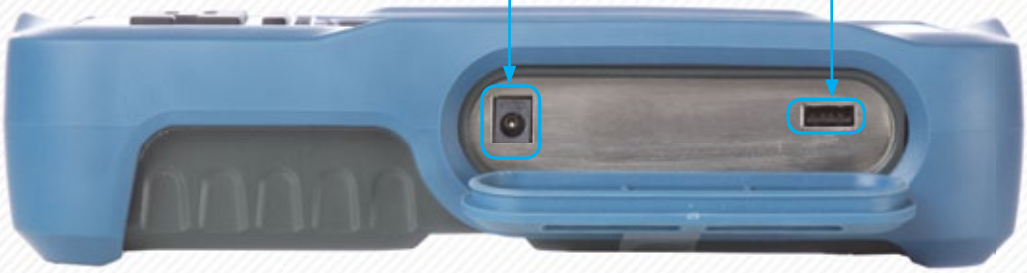
### DSL Bonding Options*

#### RJ-Banana Cable

ACC-BD-4MM

#### RJ-RJ-RJ Y-Cable

ACC-BD-RJ




* In XAA model, these cables are included with the DSL Bonding option.
In XAB model, these cable are included in the default kit.

## Copper Testing

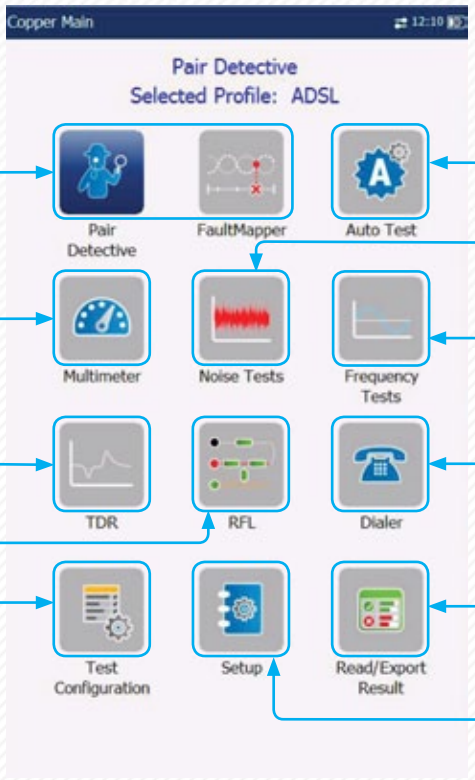
**Smart-Pair Detective**
Quick line check and FaultMapper

**Multimeter (DMM)**
Volts, current, resistance, isolation, capacitance, station ground

**TDR**
Time domain reflectometer

**RFL**
Resistive fault locator

**Test Configuration**
Preset profiles for threshold values/test settings, etc.




**Auto-Test**
User test scripts

**Noise Tests**
Noise, power influence, impulse noise, WB PSD noise, NEXT

**Frequency Tests**
Balance, attenuation, load coil detector, tone Tx/Rx

**Dialer**
POTS phone emulator

**Read/Export Result**
Access to results or export via USB/FTP server

**Setup**
Temperature, units, termination, filters, etc.

## Copper Test Results

**Hint**
Use CURRENT TEST option to jump directly to another test (resistance, capacitance, etc.)

**Threshold Settings**
Select to change pass/fail thresholds

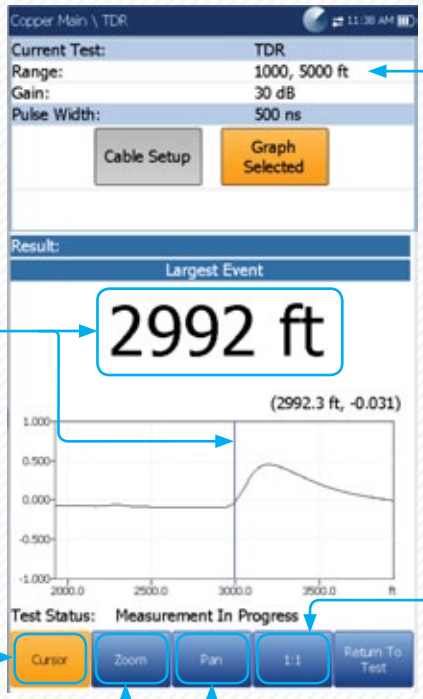

**Continuous**
Select to live test a pair or all pairs

**Snapshot (one shot test)**
Quick way to check the voltage status of all pairs

**Save Result**
Store to memory or USB stick

## TDR

- Launched in AUTO mode
- All ranges scanned and first fault highlighted
- Choose GRAPH SELECTED to navigate trace




**Range**
Manual selection of the measurement range

**Distance**
First detected fault; distance metric is available in feet and meters

**Cursor**
To scroll with cursor
HINT: Press ENTER to center cursor on the trace

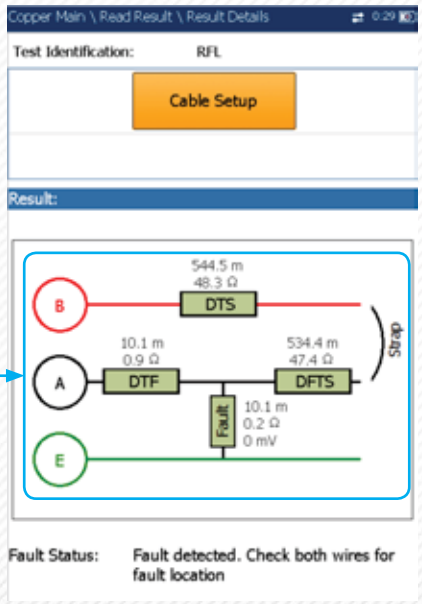
**Zoom**
To magnify trace
◀▶ Distance
▲▼ Amplitude

**1:1**
Restore trace to original aspect ratio

**Pan**
Move trace up/down/left/right using cursor keys

## RFL

- Fault location (Earth/ground contact or battery contact)
- Strap connection (hard loop) at far end




**View Results**
DTF = distance to fault
DTS = distance to strap
DFTS = distance fault to strap

Note: A/Tip and B/Ring will be inverted if legs are reversed.

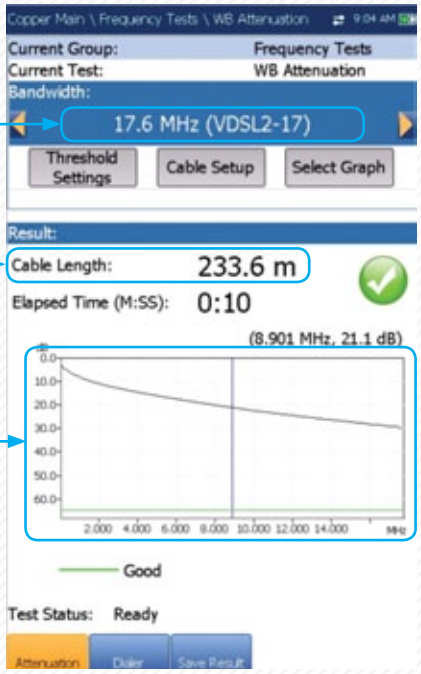
## WB SE Attenuation

› Unique technique used to measure insertion loss (attenuation) across a selected range

**Frequency Band Selection**
(ADSL2+ 2.2MHz, to VDSL2 30MHz)

**Cable Length**
View of estimated cable length along with a pass/fail

**Graph Selection**
Select to move cursor and navigate graph




## WB PSD Noise

› Crosstalk/RFI detection from live pairs

› Frequency band selection (ADSL2+ 2.2MHz, to VDSL2 30MHz)

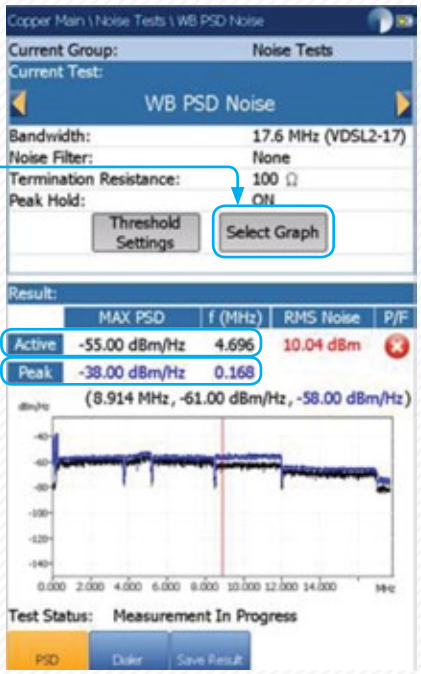
› Blue plot shows peak levels since start of test

› Black plot shows live levels

**Graph Selection**
Select to move cursor and navigate graph

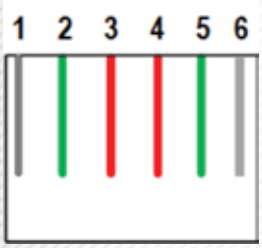
**Active**
Live maximum noise level and frequency

**Peak**
Historical maximum noise level and frequency measured since start of test



## DSL Test Cords

**WAN port RJ11 (DSL):**




| V2XAA MODEL (ANNEX A) | | V2XAB MODEL (ANNEX A AND B) | |
|---|---|---|---|
| **Black and Red** (marked A/T, B/R) | **Blue and Yellow** (marked A1/T1, B1/R1) | **Black and Red** (marked A/T, B/R) | **Blue and Yellow** (marked A1/T1, B1/R1) |
| **PIN 3-4 (RED) used for:**<br>› ADSL2+/VDSL2 single pair operation<br>› Pair 1 of bonded circuit | **PIN 2-5 (GREEN) used for:**<br>› Pair 2 bonded circuit | **PIN 3-4 (RED) used for:**<br>› ADSL2+ Annex B/VDSL2 single pair operation<br>› Pair 1 of VDSL2 bonded circuit | **PIN 2-5 (GREEN) used for:**<br>› ADSL2+ Annex A/VDSL2 single pair operation<br>› Pair 2 of VDSL2 bonded circuit |

**Connect to:**
› DSLAM Pair 2 (V2XAA)
› DSLAM Annex A or Pair 2 (V2XAB)

**Connect to WAN (DSL) port of Max-635**

**Connect to:**
› DSLAM Pair 1

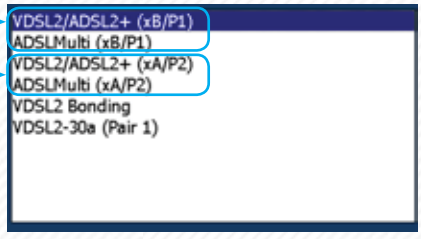
## Test Profile Configuration

› In the SELECTED PROFILE window, select xDSL TEST SETUP

**Test Interface**
Select and click the approprate test

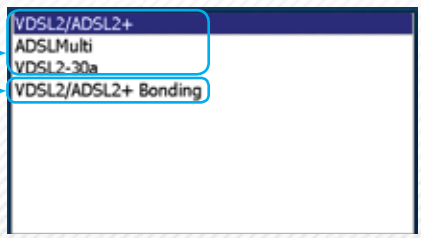

**For V2XAB Model:**

Annex B
Annex A




**For V2XAA Model:**

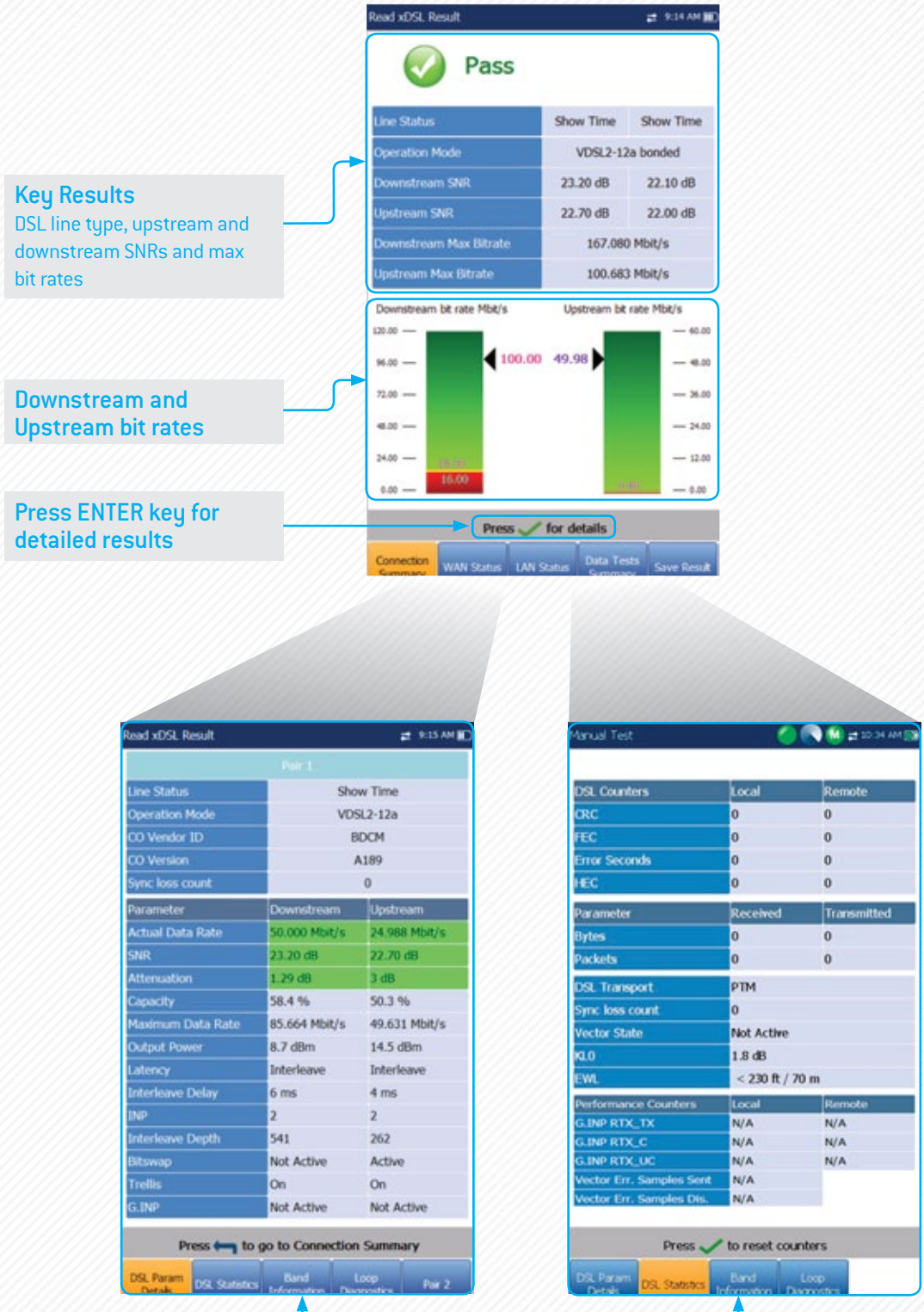
Single Pair
Bonding






*Annex J only available on V2XAB model.

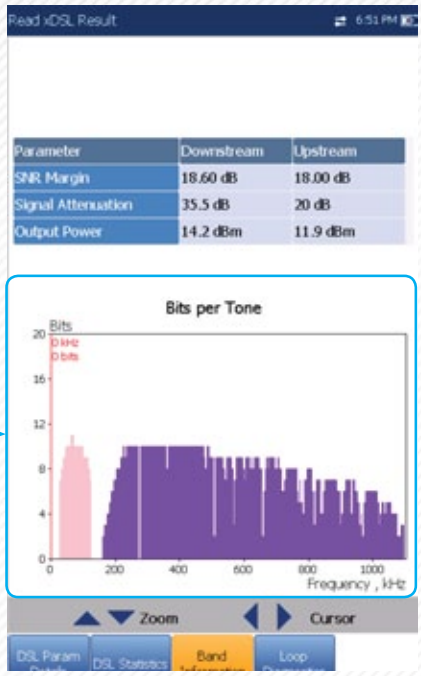
# DSL Summary Results Screen



## DSL Bits/Bin

### Band Information

Illustrates the bits per bin. Move cursor across to the specific carrier (frequency) to view the corresponding bins.

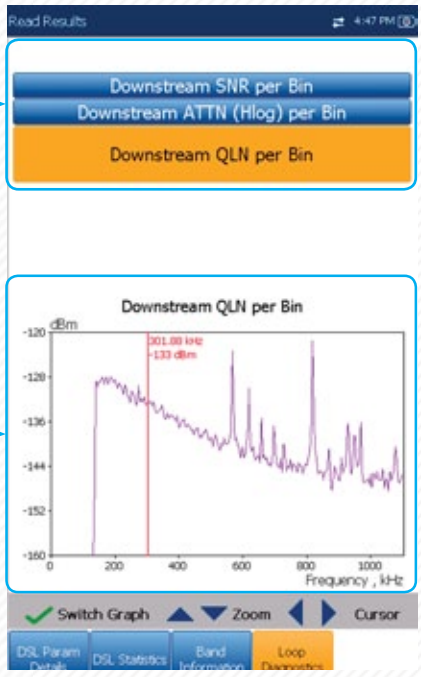



## DSL Loop Diagnostics

Press up/down key to select:
› SNR per bin graph
› Hlog (or attenuation) per bin
› QLN per bin graph

### Loop Diagnostics

Move cursor across to the specific frequency to view the corresponding value.

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