



OneExpert CATV Software Release Notes

ONX-610 / ONX-620 / ONX-630
Version 3.20.10

Nov 11, 2019

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Release Management 3.20.10

This release is currently available in Stage StrataSync and applies to all OneExpert CATV DOCSIS 3.0 and DOCSIS 3.1 meters. This release expands support for CDMv2 JSON reports for CATV Home Modes and some additional customer requested features. It also adds support for measuring OFDM MER, OFDM Profile A CWE and Analog C/N to Quick Check Expert. It also adds support for displaying the ICFR of an ODFMA upstream channel. It also adds several bug fixes. These new features support network maintenance and home installation technicians. It is ok to directly upgrade to this release from any previous released version.

This release has no DOCSIS Cable Modem code updates from the prior firmware release.

Main Package Version: 3.20.10

Original Build File Name: ONXCBL.003.020.010.oxu

MD5 sum: e5bb66f930baff2ef32c8bdc7e85fcca

It currently includes the following sub-package version numbers:

- Base: 4.30.10
- Cable: 3.20.10
- Measurement Software Version 3385: 1.6.419
- DOCSIS Cable Modem Version 3385: P.14.1.3385
- Measurement Software Version 3390: 1.6.607
- DOCSIS Cable Modem Version 3390: 17.3
- FPGA: 7.8.5

Significant Feature Enhancements added in 3.20.10

The following feature enhancements have been added since the last official release (3.18.7) and are included in this firmware. New features may be protected by the new options. Please contact your marketing, sales or engineering representative to coordinate the deployment of new options to your meter.

- OneCheck
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
 - Added support for CDMv2 JSON reports to HL Leakage and Session Expert tests.
 - Updated Leakage mode to support “Equalized” setting
 - Updated Leakage graph x-axis display
 - Added Home TDR Drop Check data to onechecksessionexpert metadata
 - Added OneCheck TDR Drop Length data to onechecksessionexpert metadata
 - Added a shortcut button for transition from OneCheck Setup Page to Home TDR Drop Check mode.
 - Added support for OFDMA ICFR value
- Channel Check
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
- DOCSIS Check
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
 - Added support for OFDMA ICFR value
 - Added OFDMA ICFR plots to reports
- Ingress Scan
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
- Quick Check
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
 - Added start button to carrier configuration page.
- Spectrum
 - Added support for CDMv2 JSON reports to Tap, Ground Block and CPE tests.
 - Added support for span of 100 kHz bandwidth.
- HL Leakage
 - Updated Leakage mode to support “Equalized” setting
 - Updated Leakage graph x-axis display
- CATV Settings
 - Added configuration item for Upstream ICFR Reference Bandwidth
- DOCSIS Expert
 - Added support for OFDMA ICFR value
 - Added support for full screen view of ICFR graph with markers and zoom.
 - Added OFDMA ICFR plots to reports
 - Added support for changing the resolution bandwidth and view style in the full screen view of ICFR without having to restart the mode.

- Ingress Expert
 - Added support for Dark Mode so the heat map data is more easily visible.
- Quick Check Expert
 - Added start button to carrier configuration page
 - Added support for OFDM Average MER measurements.
 - Added support for OFDM Profile A CWE corr/uncorr measurements.
 - Added support for Analog C/N measurements.
 - Added support for FDC carriers
- Reverse Sweep
 - Added support for a wider configuration range of reverse telemetry/injection level based on the current setting assigned to reverse TPC.
- Mobile Tech
 - Added support for Remote Desktop (VNC) via Mobile Tech App.
- StrataSync
 - Added date of last factory reset to asset info during sync.
 - Created new summary block at the top of CDMv2 reports so that SW Version and StrataSync config are visible at the top of a report when it is opened in StrataSync.
- Workflow Management
 - Added support to configure workflow creation rules to use date or the name of the last active work order.
- Misc.
 - Added support for Chinese language
 - Added support for CDMv2 reports to base measurements (e.g. Ethernet Test, Fiber Check, etc...)
 - Added OFDM subcarrier bandwidth, Cyclic Prefix and Rolloff Period to the UI in OneCheck, OneCheck Expert, Channel Check/Expert, DOCSIS Check/Expert.
 - Added a zoom out button to graphs in StrataSync reports.

Significant Bugs Fixed in 3.20.10:

The following bugs have been fixed since the last official release (3.18.7) and are included in this firmware:

- OneCheck
 - Fixed a bug where the HL Leakage Equalized button would not respond to drag gestures on the screen.
 - Fixed a bug that caused the slide to retest ingress be available when testing at the CPE.
 - Fixed a bug that caused OneCheck to occasionally hang at 70% in the DOCSIS test during throughput testing.

- Channel Check
 - Fixed a bug that caused deep-interleave channels to report QAM Unlock if the mode was left running 20+ minutes.

- Quick Check
 - Fixed report frequency and level precision
 - Fixed a bug that caused the add/delete carrier operation to take a long time to complete when there are several configured carriers.
 - Fixed a bug that made it impossible to move the markers while the mode was running.
 - Fixed a bug that caused the table to not scroll and highlight the row that matches the marker.

- HL Leakage
 - Fixed a bug where the HL Leakage Equalized button would not respond to drag gestures on the screen.

- OneCheck Expert
 - Fixed a bug that caused BER to be measured when the mode was configured to only measure MER.

- Channel Expert
 - Fixed a bug that caused background deep-interleave channels to report QAM Unlock if the mode was left running 20+ minutes.

- Quick Check Expert
 - Fixed a bug that could cause the wrong channel type to be displayed.
 - Fixed a bug that caused the add/delete carrier operation to take a long time to complete when there are several configured carriers.
 - Fixed a bug that made it impossible to move the markers while the mode was running.
 - Fixed a bug that caused the table to not scroll and highlight the row that matches the marker.
 - Fixed a bug that caused the add carrier popup to not be dismissed.
 - Fixed a bug that caused the marker position to not be persisted.

- RSG Loopback
 - Fixed a bug that allowed the marker label to be far away from the marker.

- Sweepless Sweep
 - Fixed a bug that caused markers to latch to PLC frequency on OFDM carriers.
- Sweep (Forward & Reverse)
 - Fixed a bug with the sweep alignment bar label text
- OneCheck Ethernet
 - Fixed a bug that caused the profile name to overflow in various popups.
- Optical Power Meter
 - Fixed a bug that caused the application to minimize when the Attach Fiber Power Meter popup was dismissed.
- Fiber Scope
 - Fixed a bug that caused the application to minimize when the Attach Fiber Power Meter popup was dismissed.
- Workflow Manager
 - Fixed a bug that caused multiple work orders to be created if you created a new work order with multiple spaces in the middle.
 - Fixed a bug that caused the add/delete work order operation to take a long time to complete when there are several work orders.
 - Fixed a bug that caused delete work order popup to have text string that can flow off the side of the popup.
 - Fixed a bug with the drill-down arrow.
 - Fixed a bug that caused the work order to be opened on first touch.
 - Fixed a bug where the Workflow Manager was able to delete an active work order while another app was using it.
 - Fixed a bug where creating a work order with an existing name modified the existing work order date incorrectly.
 - Fixed a bug where creating a new work order from a CATV Network application didn't cause the active work order selection to be updated.
 - Fixed a bug that caused long session names to overflow on the UI.
 - Fixed a bug where the user was allowed to specify an all spaces work order terminology.
- StrataSync
 - Fixed a bug that could cause the onechecksessionexpert file to not be uploaded to StrataSync
 - Moved the Proxy Server setting to the systray dropdown config page.
 - Fixed a bug that caused a sync with no new test data to report 1 file sent to StrataSync.
 - Fixed a bug that caused the UTC offset to always be reported as -00:00 in reports.
 - Fixed a bug that caused the Tech ID to occasionally change to a blank entry.

- Misc
 - Moved the lock icon associated with FEC lock on digital channels to BER (pre) instead of BER (post)
 - Fixed a bug that caused home screen category settings to possibly get messed up on upgrade.
 - Fixed a bug that caused some meters to hang at Installing TCC.
 - Updated logic on System Settings -> Reboot meter so that configurations are not lost on reboot.
 - Fixed a bug that caused MER to sometimes (~8%) measure 2-10 dB low in DOCSIS modes. This defect was introduced in 3.20.8 and does not appear in earlier officially released versions of software.

Known Limitations

Channel Plan Build Limitations

- Non-FDC Digital Channels with bandwidth less than 6 MHz are not detected.
- DAB+ channels are not detected.

Options

Options will typically be deployed to a meter at manufacturing. StrataSync also has the ability to deploy permanent and demo options. Please contact your sales support representative for assistance with option deployment.

SW Option Descriptions

The ONX currently supports the following software options:

1. **ONX-610** – identifies the meter as an ONX-610 (available only at manufacturing)
 - Enables 16x4 DOCSIS
 - Enables lower triplexer selection only.
2. **ONX-620** – identifies the meter as an ONX-620 (available only at manufacturing)
 - When deployed, this option also enables the following SW options:
 - ONX BLUETOOTH SW OPT
 - ONX MOBILE SW OPT
 - ONX DOCSIS 32x8 BONDING
 - Enables multiple triplexer frequency selections, low, high or AUTO depending on HW variant.
3. **ONX-630** – identifies the meter as a sweep capable ONX-630 (available only at manufacturing)
 - When deployed, this option also enables the following SW options:
 - VoIP
 - Ookla Speedtest
 - IPX PACKAGE
 - TSX PACKAGE
 - NTX PACKAGE
 - ONX BLUETOOTH SW OPT
 - ONX MOBILE SW OPT
 - ONX DOCSIS 32x8 BONDING
 - ONX DOCSIS 3.1 OFDM
 - INGRESS EXPERT
 - RSG LOOPBACK
 - Ookla Speedtest
 - OneCheck Expert
 - Enables multiple triplexer frequency selections, low, high or AUTO depending on HW variant.
4. **ONX BLUETOOTH SW OPT** – enables Bluetooth communication. This allows Bluetooth pairing with an iPad for remote UI viewing and also for Bluetooth enabled SmartIDs.
5. **ONX MOBILE SW OPT** – enables remote communication with an iPad or other mobile devices that are running our ONX-CATV application for remote interface viewing.

6. **Ookla Speedtest** – enables the Speedtest by Ookla application from within Ethernet mode
7. **SmartAccess Anywhere** – enables the SmartAccess Anywhere feature on ONX which allows remote access to the device without having to have a public IP on the ONX.
8. **VOIP MOS** – enables the MOS section of testing for VoIP tests in Ethernet test mode.
9. **ONX IP VIDEO SW OPT** – enables IP Video tests from within the Ethernet test application.
10. **TrueSpeed** – enables TrueSpeed testing from within the Ethernet test application.
11. **VoIP** – enables VoIP tests from within the Ethernet Test app.
12. **IPX PACKAGE** – enables service layer tests over DOCSIS. This includes Throughput, Packet Quality, Ping and Trace Route.
 - When deployed, this option also enables the following SW options:
 - VoIP
 - Ookla Speedtest
13. **TSX PACKAGE** – enables all IPX-Package capabilities plus advanced RF troubleshooting measurements. For a complete list, please reference marketing material.
 - When deployed, this option also enables the following SW options:
 - VoIP
 - IPX PACKAGE
 - Ookla Speedtest
14. **ONX DOCSIS 32x8 BONDING** – allows for selection of DOCSIS 3.0 24x8 and DOCSIS 3.0 32x8 channel bonding when performing DOCSIS Tests.
15. **ONX DOCSIS 3.1 OFDM** – enables DOCSIS 3.1 OFDM testing and connection capabilities.
 - When deployed, this option also enables the following SW options:
 - ONX DOCSIS 32x8 BONDING
16. **ONX FORWARD SWEEP** – enables forward sweep testing on sweep hardware capable meters (ONX-630)
17. **ONX REVERSE SWEEP** – enables reverse sweep testing on sweep hardware capable meters (ONX-630)
 - When deployed, this option also enables the following SW options:
 - REVERSE ALIGNMENT
18. **ONX MoCA** – enables MoCA testing on MoCA hardware capable meters (reserved for future software capabilities).
19. **NTX PACKAGE** – enables network expert test modes (e.g. Channel Expert) in the CATV Network application group.
 - When deployed, this option also enables the following SW options:
 - VoIP
 - IPX PACKAGE
 - TSX PACKAGE
 - INGRESS EXPERT
 - RSG LOOPBACK
 - Ookla Speedtest
 - OneCheck Expert
20. **SWX PACKAGE** – enables all sweep test modes (e.g. Forward Sweep) in the CATV Network application group on sweep hardware capable.
 - When deployed, this option also enables the following SW options:
 - VoIP
 - IPX PACKAGE
 - TSX PACKAGE
 - NTX PACKAGE
 - ONX FORWARD SWEEP
 - ONX REVERSE SWEEP
 - SWEEPLESS SWEEP

- REVERSE ALIGNMENT
 - INGRESS EXPERT
 - RSG LOOPBACK
 - Ookla Speedtest
 - OneCheck Expert
21. **SWEEPLESS SWEEP** – enables sweepless sweep mode.
 22. **REVERSE ALIGNMENT** – enables reverse alignment on sweep hardware capable meters (ONX-630).
 23. **INGRESS EXPERT** – enables Ingress Expert.
 24. **RSG LOOPBACK** – enables RSG Loopback App (Return Signal Generator with TX, RX and Loopback capabilities)
 25. **ONX DOCSIS** – enables all DOCSIS functionality on the meter. This option is displayed only if it is not enabled.
 26. **RSG TX** – enables RSG TX App (Return Signal Generator with TX only mode of operation).
 27. **HOME TDR** – enables the Home TDR App in the CATV application group.
 28. **Ookla Speedtest** – enables Ookla Speedtest in Ethernet Test.
 29. **HL Leakage** – enables HL Leakage App in the CATV application group.
 30. **Field View** – enables Field View App in the CATV Network application group.
 31. **Field View with RSG** – enables Field View with RSG App in the CATV Network application group.
 - When deployed, this option also enables the following SW options:
 - Field View
 32. **DataBase Mining** – enables saving database data with all files instead of just the sessionexpert or onechecksessionexpert result files.
 33. **OneCheck Expert** – enables the OneCheck Expert mode.

HW Option Descriptions

The ONX currently reports the following HW options to StrataSync. Hardware options are used to help identify the hardware capabilities of the ONX.

1. **DOCSIS 3.0 HW capable** – this option identifies that the ONX has the hardware necessary to accomplish a DOCSIS 3.0 connection. ONX that report this option do not have the hardware necessary to perform a DOCSIS 3.1 OFDM connection.
2. **DOCSIS 3.1 HW capable** – this option identifies that the ONX has the hardware necessary to perform a DOCSIS 3.1 OFDM connection.
3. **Low Diplexer** – this option specifies the low triplexer frequency range (e.g. 42 – 1002 MHz.)
4. **High Diplexer** – this option specifies the high triplexer frequency range (e.g. 85 – 1002 MHz).
5. **INGRESS SCAN RANGE 4-110 MHz** – This option specifies that the port 2 ingress scan has the range 4 – 110 MHz
6. **INGRESS SCAN RANGE 4-204 MHz** – This option specifies that the port 2 ingress scan has the range 4 – 204 MHz.
7. **Sweep Capable** – This option identifies that the ONX has the hardware necessary to perform forward and reverse sweep measurements.
8. **DOCSIS 3.0 Euro BPI+ Certs** – This option indicates that DOCSIS 3.0 Euro BPI+ Certs have been successfully deployed to the ONX.
9. **MoCA 2.0 Bonding Capability** – This option indicates that the ONX has the hardware necessary to perform MoCA 2.0 bonding.

10. **MoCA 2.0 Capability** – This option indicates that the ONX has the hardware necessary to perform MoCA 2.0 (bonding not supported).
11. **WiFi Country** – This option reports the two letter WiFi country code that the meter is currently configured to use.
12. **WiFi Region** – This option reports the configured WiFi region (FCC/IC or ETSI).
13. **Port 2 Clamping** – This option indicates the presence of a clamping diode on port 2.
14. **HL Leakage Capable** – This option indicates that the ONX has the hardware necessary to perform HL Leakage.
15. **Field View Capable** – This option indicates that the ONX has the hardware necessary to perform Field View.
16. **Large Flash** – This option indicates which flash part is on the module.
17. **Digital Hum Capable** – This option indicates that the ONX has the hardware necessary to perform Digital Hum Measurements.
18. **Atypical EEPROM** – This option indicates that you might want to call TAC.

Upgrade Management for Releases 1.0 and 2.1

Please use the following procedure when updating the firmware on your OneExpert CATV if it is running any version prior to 2.0.655. This procedure can be used for newer releases also.

1. On the OneExpert CATV meter:
 - a. Power on your meter, connect it to power and/or make sure it has greater than 50% battery.
 - b. Open the Network application that is under the System group at the bottom of the page.
 - i. Do not open the Ethernet application. If you do, please reboot and start over. (1.0.0 and 1.0.1 only)
 - c. Verify that you have a valid IP address. You may have to press the "Ethernet" button (soft key 2) at the bottom of the screen to enable the network connection.
 - i. If your IP address starts with 192.168.0.*, you may have difficulties with downloading the file. We recommend either of the following:
 1. Reconfigure the modem/router to use anything but 192.168.0.*
 2. Perform upgrade via USB with no cable attached to either Ethernet port. If you perform the upgrade via USB, be sure to cancel the upgrade in StrataSync or it will attempt to upgrade your meter again on next sync.
 - d. Once you have a valid IP address, press the home button.
2. On StrataSync:
 - a. Deploy the desired SW update to your meter from StrataSync.
3. On the OneExpert CATV:
 - a. Open the StrataSync application that is under the System group at the bottom of the page.
 - b. Start a Sync, the meter should prompt you to "Click OK to accept the update", accept the update and allow the meter to upgrade.
 - i. If the meter does not prompt you to "Click OK to accept the upgrade", redeploy the upgrade from StrataSync and Sync again.
 - c. The ONX will automatically power off when the upgrade completes successfully.

Caution against Downgrade

The OneExpert CATV applications will not work if you downgrade from this release to any version prior to 2.2.86. Appropriate use of StrataSync generally prevents downgrading the meter. If you downgrade the OneExpert CATV and it doesn't work as desired, please upgrade it back to this release or later to restore normal operation. We recommend that you not downgrade your OneExpert CATV.

If your meter has the **DOCSIS 3.1 HW capable** and the **Port 2 Clamping** hardware options, then attempts to downgrade to versions earlier than 3.4.8 or 3.4.11 will probably fail. Your meter will be unusable until you re-upgrade to release 3.4.17 or newer. It will likely require two attempts to successfully upgrade your meter back to this release should you decide to disregard this warning.

If your meter has the **Sweep Capable** hardware option and doesn't have the **Large Flash** hardware option, the ONX will become useless if it is downgraded to any software image earlier than 3.10.4. It will likely require two attempts to successfully upgrade your meter back to this release should you decide to disregard this warning.

If you downgrade a meter from 3.17.x to an earlier revision, work order data may be lost and permanently consume file system space until you re-upgrade to 3.17.x or later. You can avoid this by performing a manual purge prior to performing the downgrade.

CATV Settings -> Work order naming convention has been deprecated and replaced with a new attribute in the Workflow Manager. Work order naming convention is not backwards compatible between versions 3.18.7 and any official build newer than 3.18.7

Contact Information

For help, please consult the User's Guide or contact VIAVI Support

USA	+1-844-GO-VIAVI or +1-844-468-4284
Outside the US	+1-855-275-5378
Email	CATVSupport@viavisolutions.com
Company Website	www.viavisolutions.com
Support Website	www.viavisolutions.com/support