

ONT Optical Network Tester

Release 26.0.2, February 2015

Release Information

Please direct all enquiries to your local JDSU sales company.
The addresses can be found at:
www.jdsu.com/test

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Release Information ONT

Software Release 26.0.2

Recommended for all updates

Congratulations on choosing the ONT Optical Network Tester.

With its flexible 3-,6-,12-slot or rack-mount mainframes/module design the units offer true multi-port operation running tests on each of the modules simultaneously and independently. Modules are available for Ethernet / OTN / SDH / SONET / Fiber Channel / Jitter and Wander for the rates 111G (OTU4) down to 155M. With its deep digital and analog analysis capabilities the ONT sets the pace of testing new technologies. As all modules are plug-ins, easy upgrade makes the ONT the ideal choice to grow with your future needs. Focus has been given to easily integrate ONT into automated environments. Support of Tcl/Tk, C and LabWindows libraries, and Ethernet on the connectivity side and the Linux operating system minimize efforts controlling ONT remotely. Additional features of the ONT include multi-user access, open architecture for further applications, and rack mount ability.

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JDSU is continuously working on improvements and enhanced functions to provide you with the most reliable test solution for optical and next generation network elements and networks.

Please visit our web site for more information about the ONT.

<http://www.jdsu.com/ont>

Software Update

The new software can be ordered using the following order number:

ONT-600 update set (disk) BN 3076/95.01 (free of charge).

ONT-5xx update set (disk + USB stick) BN 3061/95.01 (free of charge).

Important Operating Considerations

Please read chapter 4 "Getting started" of the ONT Mainframe User Manual carefully before installing or operating the software.

Compatibility Information

This section describes important changes in the test-set behavior which should be considered before upgrading the software of a test-set.

Release 26.0.2

- General - ONT-5xx

Last feature release for ONT-5xx family

Upcoming releases will no longer support the ONT-5xx family.

- General

Java version 1.8 now recommended

Starting with release 26.0.2 the use of Java version 1.8 is recommended.

Release 25.0.2

- General

Java version 1.8 not thoroughly tested

For the release of Java version 1.8 coincided with the completion of ONT Release 25.0.2, it is not thoroughly tested. Utilization of version 1.7 is still recommended.

- Remote Control

:PRES extension deprecated

Re-setting block parameters to default values using the :PRES extension is no longer recommended. Extension behaves as before but will not be implemented or updated for new commands or modifications.

- Tcl Driver

Tcl & C remote control driver for SDH/SONET Multichannel Higher Order application consolidated

Caused by the new SDH/SONET Multichannel Low-Order application, the previously Tcl and C remote control driver functions needed some consolidation. Some parts in the High-Order drivers (which were there in preparation of lower order) have been removed as they are now included in the Low-Order specific drivers.

Release 22.0.2

- General - All layered OTN applications

APS/PCC multi-frame default values changed to all zero to ensure compatibility with deactivated multi-frame mode

- MTM 4s4x - OTN EFEC application

Load of EFEC I.7 application defaults EFEC I.7 now instead of standard RS-FEC

Release 21.0.2

- 100G CFP2 - Loading saved applications

Applications saved with version 20.0.x can't be loaded with version 21.0.2

- General -

Java WebStart not working properly

The latest Oracle Java 7 runtime environments (at least 1.7.0_25 and 1.7.0_40) have an open issue with the start of WebStart application. As this is also impacting the start of the ONT user interface JDSU has implemented a workaround to allow customers to run the ONT GUI with the above JRE versions. This workaround leads to slower startup times of the GUIs, we apologize for the inconvenience caused by this issue. We will remove the workaround when a bug fixed version of the Java runtime environment is available.

All ONTs in your network shall be updated to 21.0.2 **before** Java 1.7.0_25 or 1.7.0_40 is activated.

Release 19.0.2

- General - All SDH/SONET single-channel layers

Default behavior of measuring positive/negative pointer justification events (PJE) has been changed

Pointer justifications are no longer treated as an error condition resulting in a "red" layer and overall status, as they are part of a normal system behavior. Events are still counted and put into the event list as before. The previous behavior (PJE are causing "red") however can be activated by setting the "Process PJE as error" setting on the pointer GUI-page.

- General - Remote Operation

ONT Scout requires Java version >= 1.6 in order to function properly

Java 1.5 is no longer supported.

Release 18.0.2

- Remote Control - All OTN/ODU/SDH/SONET layers

Event id changed

Due to a double assigned event id number for the remote control access of the event list, the number for the "max. Event Limit" has been reassigned to value 123.

- Module E - ALL Tab

Access to the signal structure "PCS [64B/66B] BERT"

The access to the signal structure "PCS [64B/66B] BERT" via the node "FC" is no longer supported. Please use the access via node "LAN"

Release 17.0.2

- MTM 4s4x - Fallback position

Update fallback position

Due to major firmware changes it is recommended to switch fallback position to release 17.0.2 after successful verification of the MTM functionality. Switching back to a release prior to 17.0.2 may lead to update problems.

- General - All SDH / SONET Layers

Loss of pointer (LOP) detection adapted

To reduce incompatibility of the ONT with other JDSU test equipment (MTS) the behavior of the loss of pointer (LOP) detection has been adapted for all layered SDH/SONET applications. The SS bits are now ignored by default for the LOP alarm detection. If the previous behavior is required the "ignore SS-bits" setting can be changed.

Release 15.0.2

- Remote Control

***IDN?**

The instrument's response to "*IDN?" has been harmonized.

Release 13.0.2

- General

OSA Module no longer supported

The OSA Module is no longer supported. Please do not update a mainframe containing an OSA Module to software release 13 or higher.

- Remote Control

GPIB no longer supported

Remote control via GPIB is no longer supported.

- General

10GigE LAN / WAN Module (Module A) no longer supported

The 10GigE LAN / WAN Module (Module A) is no longer supported. Please do not update a mainframe containing a 10GigE LAN / WAN Module (Module A) to software release 13 or higher.

Release 12.0.2

- General

Reloading of previously (with older firmware versions) stored OTN containing applications may lead to error logger messages

Due to many feature enhancements compared to previous firmware versions, older applications may not be loadable anymore. In case of an error logger occurring while an old setup is loaded, the reloaded application may be corrupted and should be deleted.

- 100GE / 40GE

MAC/IP: Traffic is now enabled by default

Traffic is now enabled by default.

- Jitter / Wander (ONT-5xx only) - TIE - MTIE / TDEV Analyzer (BN 3068/95.21)

Change of TIE data format requires new Wander Analysis software (BN 3061/95.98)

A new disk-space optimized TIE data format is implemented for 10 / 11G and 40 / 43G Wander applications. The new TIE format cannot be read by TIE - MTIE / TDEV Analyzer (BN 3068/95.21) software. For PC-based TIE analysis, the new Wander Analysis software (BN 3061/95.98) Release 2.0.0 or later is required for reading the new data format. See the Tools page on the Value Disk for details.

Release 10.0.2

- 100GE / 40GE

Software downgrade requires service assistance

100G modules once updated to 10.x.y can't be downgraded without service assistance. Those modules will not work in mainframes running software releases < 10.0.2.

Release 9.0.2

- 40 / 43G

ODU2 default stuffing when multiplexed into OPU3 has been changed

Starting with software version 9.0.2 the ODU2 default stuffing when multiplexed into OPU3 has been changed according to the current G.709 standard. An additional setting "legacy stuffing" has been added to the multiplexing configuration pages to allow mappings prior to G.709/Y.1331 (2003) Corrigendum 1.

Release 7.1.2

- General

Save/Load - Results Manager

Currently, the software offers two ways to deal with settings and results:

- Using the application internal Results Manager accessible via the "Save/Load" chapter
- Using the "Applications ..." part of the ONT-5xx main menu

Please be aware of the fact that using the "old style" Results Manager is deprecated. The chapter is going to disappear in the course of time. In order to preserve old style settings and results, please load using the "Save/Load" chapter and save via the main menu.

- Remote Control

Information about modified/deprecated remote commands

Remote Commands may have been changed or are deprecated with this software release.

==> Please correspond to the appendix of the Application Command Reference documentation for details about changed/deprecated commands.

- Module E - RFC 2544

Opening a user application created with a software version < 7.1.2

As some result graphics are added in version 7.1.2 and did not exist in earlier software versions the data is not completely available when a user application created with a software version < 7.1.2 is loaded. The graphics may then look somewhat unusual and may not display the result data in optimal scaling. Please refer to the table results.

Release 6.0.2

- 40 / 43G - Test automation

40 / 43G Drivers

In order to harmonize drivers, names of driver function names (C / CVI and Tcl) have been modified by changing the instrument prefix / name space from "ont" to "ont_".

Additionally some function names - especially in the OTN layer - have been modified. Please refer to the driver documentation.

- DSn / PDH (ONT-5xx only) - Test automation

PDH Driver

In order to harmonize drivers, names of driver function names (C / CVI and Tcl) have been modified by changing the instrument prefix / name space from "ont" to "ont_".

Additionally some function names have been modified. Please refer to the driver documentation.

ONT - New Features

The following enhancements are included in the new software release.

General

- **New controller CPU plus updated Linux operating system**
- **ONT Scout: Enhanced reporting and filtering capabilities**
ONT Scout now directly shows more detailed usage information of specific application ports. Filtering on specific states has been added as well.
- **Condensed application layer reports**
Application measurement report generation now supports condensed reporting on a per layer basis to shorten overall report size.

Tcl Driver

- **64 bit Tcl Libraries**
Tcl Libraries are now available for 64 bit operating systems (Windows and Linux).

100G CFP2

- **New hardware option (BN 3076/92.93): CFP2-to-QSF28 adapter for the CFP2 module**
Adapter for all variants of the CFP2 module supporting 25G and 28G QSFP28 optical transceivers. The adapter can be used in both transceiver slots of the CFP2 module. Supports all physical layer hardware test and validation options available for the ONT CFP2 module. Special I2C debug functionality. Supports all available ONT CFP2 module 100G protocol layer applications (Ethernet/IP, OTN).
- **New single-port mode option (BN 3076/94.35): IEEE 802.3bj Reed-Solomon Forward Error Correction (clause 91) advanced test and analysis**
This option supports in depth testing and analysis of Reed-Solomon Forward Error Correction (RS-FEC) implementations in accordance with IEEE 802.3bj (clause 91, KR4 FEC) and IEEE 802.3bm. User selectable FEC lane mapping. Complete error analysis including per FEC lane results and guaranteed bit error rate estimation. Analysis and manipulation of alignment marker sequences. Rx alignment marker payload sequence capture. Various FEC error generation modes including burst, user symbol mask and automatic FEC stress test. Rx lane skew measurement. Static and dynamic TX lane skew generation. This option requires "IEEE 802.3bj Reed-Solomon Forward Error Correction (clause 91) basic functionality ("SR4 FEC)".
- **IEEE 802.3bj Reed-Solomon Forward Error Correction (clause 91) basic functionality**
Full-fledged 100G Ethernet/IP application with reconciliation sublayer and Reed-Solomon Forward Error Correction (RS-FEC) sublayer. Multi-flow MAC/IP layer with multiple traffic profiles. RS-FEC sublayer in accordance with IEEE 802.3bj (clause 91, KR4 FEC) and IEEE 802.3bm. RS-FEC sublayer provides basic error generation and analysis capabilities. Supports CFP2 module single- and dual-port modes. Per physical lane random bit error generation with Poisson error distribution (single port mode only).
- **New single-port mode option (BN 3061/94.80): OTN: 40G Ethernet client mapping in OTU4 via ODU3**
40G Ethernet client mapping in OTU4 via ODU3. Implementation in accordance with ITU-T G.709. Full-fledged multi-flow/multi-traffic profile MAC/IP layer. Reconciliation sublayer with deep test and analysis functionality.

- **Jitter Modulation Calculator**
Calculator tool to calculate required frequency and phase modulation of an external reference clock in order to achieve a wanted amount of jitter on the line interface.
- **New single-port mode option (BN 3061/94.67): OTN: 40G Ethernet GFP-F mapped into OTU3-ODU3/flex**
This option enables the frame based GFP mapping of Ethernet traffic up to 40Gbps into ODU3/flex. GFP layer with deep test and analysis functionality. Full featured multi-flow MAC/IP layer with multiple traffic profiles and capture.
- **New single-port mode option (BN 3061/94.68): OTN: 10G Ethernet client mapping in OTU3/OTU3e1/OTU3e2/OTU4 via ODU2e**
10G Ethernet client mapping in OTU3/OTU3e1/OTU3e2/OTU4 via ODU2e. Implementation in accordance with ITU-T G.709. Full-fledged multi-flow/multi-traffic profile MAC/IP layer. Reconciliation sublayer with deep test and analysis functionality.
- **New single-port mode option (BN 3061/94.69): OTN: Transparent 10G GFP-F mapping**
This option enables the GFP-F mapping "Transporting Ethernet 10GBASE-R payloads with preamble transparency and ordered set information" in accordance to ITU-T G.7041 chapter 7.9 into ODU2 into OTU3/OTU3e2 and OTU4. GFP layer with deep test and analysis functionality. Full featured multi-flow MAC/IP layer with multiple traffic profiles and capture.
- **New single-port mode option (BN 3061/94.70): OTN: ODU0 - GFP-T with a 1G Ethernet Client for OTU3/OTU3e2/OTU4**
This option enables the GFP-T mapping of 1G Ethernet into ODU0 into OTU3/OTU3e2 and OTU4 in accordance to ITU-T G.709. GFP and PCS layer with deep test and analysis functionality. Full featured multi-flow MAC/IP layer with multiple traffic profiles and capture. Support of OTN multi-stage via ODU1/ODU2 (option dependent).
- **New single-port mode option (BN 3061/94.76): OTN: STM-256/STS-768 client generation/analysis into OTU3**
SDH/SONET 40G clients into OTU3 signals can be generated and analyzed with full feature set as for 40G line rate.
- **New single-port mode option (BN 3061/94.79): OTN: SDH/SONET Client via ODU3 into OTU4**
SDH-256/STS-768 support as generated/analyzed client over ODU3 multiplexing into an OTU4 signal.
- **New option (BN 3061/94.82): OTN: Multi-stage ODU multiplexing via ODU3 into OTU4**
Add multi-stage ODU multiplexing via ODU3 into OTU4 rate. OTU4-ODU3-ODU0, OTU4-ODU3-ODU1, OTU4-ODU3-ODU2, OTU4-ODU3-ODU2e, analysis and generation is supported for BULK and SDH/SONET clients. All above are dual-stage multiplexing structures, but triple/quad stage is also supported.
- **New single-port mode option (BN 3061/94.78): OTN: 100G Ethernet GFP-F mapped into ODU4**
This option enables the frame based GFP mapping of Ethernet traffic up to 100Gbps into ODU4/flex. GFP layer with deep test and analysis functionality. Full featured multi-flow MAC/IP layer with multiple traffic profiles and capture.
- **New single-port mode option (BN 3061/94.82): OTN: BULK Client via ODU3 into OTU4**
BULK support as generated/analyzed client over ODU3 multiplexing into an OTU4 signal.
- **New single-port mode option (BN 3061/94.82): OTN: ODUflex(1-32TS) BULK via ODU3 into OTU4**
ODUflex (1-32TS) BULK support as generated/analyzed client over ODU3 multiplexing into an OTU4 signal.

100GE / 40GE

- **Jitter Modulation Calculator**

Calculator tool to calculate required frequency and phase modulation of an external reference clock in order to achieve a wanted amount of jitter on the line interface.

Module E

- **New option (BN 3061/93.42): 1/2/4G Fibre Channel on Module-E**

This option enables 1/2/4G FC with the feature-set as provided on the MTM blade.

- **OTN: Drop and insert of selectable GCC overhead traffic**

Enhances option 3061/93.64 "OTN Control Plane Enhancements". This option enables access to HDLC encapsulated data over the TX and RX GCC channels of the OTN overhead. An external client can now connect to the ONT and transmit and receive data frames over a GCC channel.

Note: External client access is currently supported for ONT600 Module E only.

The ONT delivery does not include an external client application.

MTM

- **Different services on MTM added in "mixed port loading mode"**

This feature now allows different ("mixed") services on the coupled ports (1&2 and 3&4). When in "Mixed Port Loading Mode" e.g. port1 may run OTN-BERT while port2 runs SONET/SDH or 10GE LAN. Different combinations are supported including lower-rates SONET/SDH/OTN. The previous pure "port loading mode" remains the same and offers always the same service on the coupled ports.

- **Increase max. TX offset to +/- 1000 ppm**

Extend MTM/MTM-B PHYS TX offset-range to +/- 1000ppm.

History

This section provides information related to the past releases.

Release 25.0.x

2014-10-30, Recommended for all updates

General - ONT-600 only	Feature enhancement
Each layer GUI and each main chapter of any layer GUI can be duplicated into a new window	
100G CFP2 - OTN Layer	New option (BN 3061/94.73)
ODU Multi-Channel support on CFP2 for OTU3+OTU4 rates	
100G CFP2	New option (BN 3076/94.36)
MLG 1.0 support for test & validation of MLG components	
100G CFP2	New option (BN 3061/94.84)
IEEE 1588 (PTP) master/slave emulation and monitor	
100G CFP2	New option (BN 3061/95.99)
Wander Analysis Software for PC (Packet data add-on)	
100G CFP2 - OTN Layer	New option (BN 3061/94.77)
1G/10G Ethernet GFP-F mapped into ODU0,1,2-->OTU3/OTU3e2/OTU4	
100G CFP2 - OTN Layer	Feature enhancement
Configurable ODUflex rates for GFP-Mappings	
100G CFP2 - ODUMC Layer	Feature enhancement
Edit field to set the TUG time-slot start position	
100G CFP2 - ODUMC Layer	Feature enhancement
TUG RX port number of non-analyzed channels can now be set	
100GE / 40GE - ONT Layer	Feature enhancement
Configurable ODUflex rates for GFP-Mappings	
100GE / 40GE - ODUMC Layer	Feature enhancement
Edit field to set the TUG time-slot start position	
100GE / 40GE - ODUMC Layer	Feature enhancement
TUG RX port number of non-analyzed channels can now be set	
Module E - SDH/SONET Layer	New option (BN 3061/93.38)
New lower-order Multi-Channel capable application	
Module E	Feature enhancement
User definable MAC/IP packet payload	
Module E	Feature enhancement
Single button 10GE PCS error propagation (/E/) error generation	
MTM - MAC Layer	New option (BN 3076/63.13)
ESMC message analysis and generation	
MTM	Feature enhancement
User definable MAC/IP packet payload	

Release 25.0.x

2014-10-30, Recommended for all updates

MTM	Feature enhancement
Single button 10GE PCS error propagation (/E/) error generation	
MTM-B	New modules (3076/12 and 3076/60.12)
ONT-601 MTM-B and module MTM-B	

Release 24.0.x

2014-06-05, Recommended for all updates

General	Feature enhancement
Configurable report content	
General	Feature enhancement
Possibility to delete customer data from ONT-600 modules	
General	Feature enhancement
Enhanced readability and configurability of ONT Scout Export file	
100G CFP2	New option (BN 3076/94.40)
Enable more BULK enhanced muxing stacks in dual-port mode	
100G CFP2	New option (BN 3061/94.61-63+65+66)
OTN: Add ODU2/1/0 multiplexing into OTU3 rates for BULK/SDH/SONET clients	
100G CFP2	New option (BN 3061/94.64)
OTN: Bulk in ODUflex multiplexing into OTU3/OTU4	
100G CFP2	Feature enhancement
Software support for option BN 3076/92.92 (CFP4 pluggable adapter to fit in CFP2 slot)	
100G CFP2	Feature enhancement
MAC/IP traffic generator control from the status overview panel	
100G CFP2	Feature enhancement
User option to automatically link MAC/IP traffic generation with measurement START/STOP	
100G CFP2	New option (BN 3076/94.30)
Hardware validation option for the single & dual port version of the CFP2 module	
100GE / 40GE	Feature enhancement
Enhanced MAC/IP flow and traffic profiles in the OTU4/ODU4/GFP-F/MAC/IP application	
100GE / 40GE	Feature enhancement
OTN: ODUflex(1-32TS) BULK via ODU3 into OTU4	
100GE / 40GE	Feature enhancement
ODU-MC: Add MSI-mismatch alarm detection	
100GE / 40GE	Feature enhancement
ODU-MC: Add OMFI generation/analysis for ODU-Multi-Channel into OTU4 mappings	
100GE / 40GE	New option (BN 3061/94.83)
100G MPLS/IP in GFP-F in ODU4	

History

Release 24.0.x

2014-06-05, Recommended for all updates

100GE / 40GE	Feature enhancement
MAC/IP traffic generator control from the status overview panel	
100GE / 40GE	Feature enhancement
User option to automatically link MAC/IP traffic generation with measurement START/STOP	
100GE / 40GE	Feature enhancement
Software support for option BN 3061/92.90 (CFP to CFP2 LR4 active adapter in ONT CFP Module)	
Module E	New option (BN 3061/93.40)
Packet over SDH/Sonet (POS) for 2.5G and 10G	
Module E	Feature enhancement
MAC/IP traffic generator control from the status overview panel	
Module E	Feature enhancement
User option to automatically link MAC/IP traffic generation with measurement START/STOP	
MTM 4s4x	Feature enhancement
EFEC I.7 Random Error Insertion Enhancements	
MTM 4s4x	Feature enhancement
EFEC I.4 Random Error Insertion Enhancements	
MTM 4s4x	Feature enhancement
MAC/IP traffic generator control from the status overview panel	
MTM 4s4x	Feature enhancement
User option to automatically link MAC/IP traffic generation with measurement START/STOP	
MTM 4s4x	Feature enhancement
1/2/4/8/10G Fibre Channel on MTM - Phase 3	

Release 23.0.x

2014-03-20, Recommended for all updates

General	New option (BN 3076/21 and BN 3076/22)
New 40/100G specific two slot rack mount mainframe ONT-602	
MTM 4s4x	Feature enhancement
Added support for new 8.5G capable XFP from vendor Oclaro	

Release 22.0.x

2013-12-17, Recommended for all updates

General	Feature enhancement
Support of a USB connected CD/DVD-ROM for Linux recovery	
General - Error logger (ONT-600 only)	Feature enhancement
Error logger will now show previous errors if errors occurred before the GUI was opened	

Release 22.0.x

2013-12-17, Recommended for all updates

100G CFP2	Feature enhancement
Flexible multi-byte OTN overhead store to file capture	
100G CFP2	Feature enhancement
OTN GMP De-mapper CnD Value Measurements	
100G CFP2	New option (BN 3061/94.91)
40G Ethernet Drop & Insert from ODU3 direct mapped	
100G CFP2	New option (BN 3061/94.66)
OTN SDH/SONET Client in ODU1/ODU2	
100G CFP2	New option (BN 3061/94.65)
OTN SDH/SONET Client in ODU0	
100G CFP2	New option (BN 3061/94.63)
OTN ODU0 Multiplexing for OTU4	
100G CFP2	New option (BN 3061/94.62)
OTU4 multi-stage multiplexing applications on CFP2	
100G CFP2	New option (BN 3061/94.61)
OTU4-ODU2e/2/1 enhanced multiplexing applications on CFP2	
100G CFP2	Feature enhancement
User controllable alignment marker BIP7 field error insertion and checking	
100G CFP2	Feature enhancement
CFP4 support for external MDIO	
100G CFP2	Feature enhancement
MDIO direct register dump capability	
100G CFP2	Feature enhancement
MDIO 2.2 Support	
100G CFP2	Feature enhancement
Extended CFP2 transponder compatibility check	
100G CFP2	New option (BN 3076/94.34)
User entered bit rate (25Gb/s - 28GB/s)	
100GE / 40GE	New option (BN 3061/94.82)
Add multi-stage ODU multiplexing via ODU3 into OTU4	
100GE / 40GE	Feature enhancement
New signal structure OTL4-OTN ODU3 GFP-F L2 L3 Traffic	
100GE / 40GE	Feature enhancement
ODU GMP Mapper Cn Value Measurements	
100GE / 40GE	Feature enhancement
Flexible multi-byte OTN overhead store to file capture	

Release 22.0.x

2013-12-17, Recommended for all updates

100GE / 40GE	New option (BN 3061/92.94)
CFP2 adapter 40/100G (CFP1) module (10x10)	
100GE / 40GE	Feature enhancement
User controllable alignment marker BIP7 field error insertion and checking	
100GE / 40GE	Feature enhancement
MDIO 2.2 Support	
100GE / 40GE	Feature enhancement
Extended CFP transponder compatibility check	
100GE / 40GE	Feature enhancement
11.25G per lane unframed bit rate for 10 x 10G mode	
Module E	Feature enhancement
Flexible multi-byte OTN overhead store to file capture	
Module E	Feature enhancement
OTN GMP De-mapper CnD Value Measurements	
Module E	Feature enhancement
Option to disable LPAC and NFTF alarms	
Module E	Feature enhancement
Tunable XFP: entered wavelength/frequency values are rounded to ITU-T grid values now	
MTM 4s4x	Feature enhancement
Flexible multi-byte OTN overhead store to file capture	
MTM 4s4x	Feature enhancement
OTN GMP De-mapper CnD Value Measurements	
MTM 4s4x	New option (BN 3076/63.23)
I.4 EFEC Testing for MTM 10.7/11.x	
MTM 4s4x	New option (BN 3076/63.38)
OTN Overhead HDLC Capture for GCC0/1/2/1+2 from an OTU1/2	
MTM 4s4x	Feature enhancement
Option to disable LPAC and NFTF alarms	
MTM 4s4x	Feature enhancement
Additional error insertion and evaluation of PCS 8B10B for FC 1/2/4/8G	
MTM 4s4x	Feature enhancement
Enable CPRI 1, 2, 3, 4 bit rates with PRBS	
MTM 4s4x	Feature enhancement
Tunable XFP: entered wavelength/frequency values are rounded to ITU-T grid values now	

Release 21.0.x

2013-09-24, Recommended for all updates

General	Feature enhancement
Look and Feel adaptations in accordance to the JDSU Style-guide	
100G CFP2	New module (BN 3076/92.81)
100G/40G CFP2/QSFP+ dual port module	
100G CFP2	New option (BN 3061/94.53)
100G Ethernet client in ODU4/OTU4 (CFP2/QSFP+ single and dual port module)	
100G CFP2	New option (BN 3061/94.60)
40G Ethernet transcoded client in ODU4/OTU4 (CFP2/QSFP+ single and dual port module)	
100G CFP2	New option (BN 3061/94.90)
100G Ethernet drop & insert from ODU4 (CFP2/QSFP+ dual port module)	
100G CFP2	Feature enhancement
Bit error ratio estimation for unframed signals (CFP2/QSFP+ single port module)	
100G CFP2	Feature enhancement
Bit slip pattern detection (CFP2/QSFP+ single port module)	
100G CFP2	Feature enhancement
User selectable MDIO speed (CFP2/QSFP+ single and dual port module)	
100G CFP2	New option (BN 3061/94.81)
HDLC Capture for GCC0/1/2/1+2 from an OTU3/4	
100G CFP2	Feature enhancement
Support to access TX/RX (MFAS depending) APS/PCC bytes	
100G CFP2	Feature enhancement
OTU3 Intrusive Through-Mode	
100G CFP2	Feature enhancement
OTU4 intrusive Through-mode	
100GE / 40GE	New option (BN 3061/94.69)
OTN Transparent 10G GFP-F mapping	
100GE / 40GE	Feature enhancement
Multistage ODU with GFP as client	
100GE / 40GE	Feature enhancement
Support to access TX/RX (MFAS depending) APS/PCC bytes	
Module E	New option (BN 3061/93.66)
10G MPLS/IP in Sonet/SDH via GFP-F	
Module E	New option (BN 3061/93.67)
OTN transparent GFP-F mapping	
Module E	Feature enhancement
Support to access TX/RX (MFAS depending) APS/PCC bytes	

Release 21.0.x

2013-09-24, Recommended for all updates

MTM 4s4x	New option (BN 3076/63.34)
OTN transparent GFP-F mapping	
MTM 4s4x	New option (BN 3076/63.04 or 3076/63.12)
Add WAN to MTM	
MTM 4s4x	Feature enhancement
Add tunable XFP support to MTM	
MTM 4s4x	Feature enhancement
MTM GUI Reporting Enhancements for Production Environment	
MTM 4s4x	Feature enhancement
Support to access TX/RX (MFAS depending) APS/PCC bytes	
MTM 4s4x	New option (BN 3076/63.24)
I.7 EFEC Testing for MTM 10.7/11.x	

Release 20.0.x

2013-03-21, Recommended for all updates

General - ONT-5xx	Feature enhancement
ONT-5xx Update Tool extended with module access features	
General - ONT Scout	Feature enhancement
ONT Scout polls all the installed options on each module and calibration dates and saves to a CSV file	
100G CFP2	New module (BN 3076/92.79)
100G/40G CFP2/QSFP+ module	
100G CFP2	New hardware option (BN 3076/92.90)
Electrical CFP2 transponder	
100G CFP2	New option (BN 3076/94.33)
Electrical CFP2 jitter injection	
100G CFP2	New option (BN 3076/94.32)
CFP2 dynamic skew variation	
100G CFP2	New option (BN 3076/94.30)
CFP2/QSFP+ Hardware Validation	
100G CFP2	New option (BN 3076/94.31)
CFP2 advanced error analysis	
100G CFP2	Feature enhancement
100G Ethernet/IP QoS application	
100G CFP2	Feature enhancement
40G Ethernet/IP QoS application	
100G CFP2	Feature enhancement
100G MLD BERT application	

Release 20.0.x

2013-03-21, Recommended for all updates

100G CFP2	Feature enhancement
40G MLD BERT application	
100G CFP2	Feature enhancement
OTU4 bulk application	
100G CFP2	Feature enhancement
OTU3 bulk application	
100G CFP2	Feature enhancement
OTL4.4 BERT application	
100G CFP2	Feature enhancement
OTL3.4 BERT application	
100G CFP2	Feature enhancement
External MDIO control capability	
100GE / 40GE	New option (BN 3061/94.78)
OTN GFP-F up to 100G	
100GE / 40GE	Feature enhancement
New signal structure OTL4-OTN ODUflex GFP-F L2 L3 Traffic	
100GE / 40GE	Feature enhancement
Delay measurements according to G.709 (overhead based)	
Module E	Feature enhancement
SDH/SONET lower order mapping support	
Module E	New option (BN 3061/93.64)
HDLC Capture for GCC0/1/2/1+2 from an OTU1/2	
Module E	Option BN 3061/93.63
Maximum number of ESMC delay measurement results increased	
MTM 4s4x	New option (BN 3076/63.35)
OTN ODU Multichannel (OTU2 rates)	
MTM 4s4x	Feature enhancement
SDH/SONET lower order mapping support	
MTM 4s4x	Feature enhancement
Delay measurements according to G.709 (overhead based)	
MTM 4s4x	New option (BN 3076/63.27)
GFP-F	

Release 19.0.x

2012-12-12, Recommended for all updates

General - ONT Scout	Feature enhancement
Usability improvements	

Release 19.0.x

2012-12-12, Recommended for all updates

General - ONT 601	Feature enhancement
ONT-601 supports time synchronization via NTP	
100GE / 40GE	New option (BN 3061/94.77)
OTN GFP-F up to 10G	
100GE / 40GE	Feature enhancement
OTN intrusive through-mode	
100GE / 40GE	New option (BN 3061/94.80)
40 Gbit/s Ethernet transcoded client mapping in ODU3 -> ODU4	
100GE / 40GE	Feature enhancement
OTN Error/alarm burst insertion with duration	
100GE / 40GE	Feature enhancement
OTN ODUflex predefined Cm values	
100GE / 40GE	Feature enhancement
OTN JC byte error insertion enhancement	
100GE / 40GE	Feature enhancement
Updated payload type interpretation	
100GE / 40GE	Feature enhancement
SDH/SONET user option to disable PJE alarm evaluation	
100GE / 40GE	Feature enhancement
Increased separation time for Ethernet service disruption measurement	
40 / 45G	Feature enhancement
OTN Error/alarm burst insertion with duration	
40 / 45G	Feature enhancement
OTN ODUflex predefined Cm values	
40 / 45G	Feature enhancement
OTN JC byte error insertion enhancement	
40 / 45G	Feature enhancement
OTN ODU-Multi-Channel stuffing table-view	
40 / 45G	Feature enhancement
Updated payload type interpretation	
40 / 45G	Feature enhancement
SDH/SONET user option to disable PJE alarm evaluation	
Module E	Feature enhancement
Delay measurements according to G.709 (overhead based)	
Module E	Feature enhancement
New function stack OTU2-ODU1-GFP-F/MAC-IP	

Release 19.0.x

2012-12-12, Recommended for all updates

Module E	Feature enhancement
OTN Error/alarm burst insertion with duration	
Module E	Feature enhancement
OTN ODUflex predefined Cm values	
Module E	Feature enhancement
OTN JC byte error insertion enhancement	
Module E	Feature enhancement
OTN ODU-Multi-Channel stuffing table-view	
Module E	Feature enhancement
Updated payload type interpretation	
Module E	Feature enhancement
SDH/SONET user option to disable PJE alarm evaluation	
Module E - Jitter / Wander	Feature enhancement
Reset of phase for wander modulation	
MTM 4s4x	New option (BN 3076/63.86)
8/10G FC - Quad Port	
MTM 4s4x	New option (BN 3076/63.87)
1/2/4G FC - Quad Port	
MTM 4s4x	New option (BN 3076/63.81)
1 GigE - Quad Port	
MTM 4s4x	New option (BN 3076/63.25)
Enable OTU1f,OTU2f (11.27G,11.31G) overclocked OTN rates	
MTM 4s4x	New option (BN 3076/63.84)
Quad Port SDH/SONET loading mode for 10G SDH/SONET rates	
MTM 4s4x	New option (BN 3076/63.85)
Quad Port SDH/SONET loading mode for lower-rates SDH/SONET	
MTM 4s4x	Feature enhancement
OTN Error/alarm burst insertion with duration	
MTM 4s4x	Feature enhancement
OTN ODUflex predefined Cm values	
MTM 4s4x	Feature enhancement
OTN Forward Error Correction Advanced Insertion	
MTM 4s4x	Feature enhancement
OTN TX FAS bytes manipulation added	
MTM 4s4x	Feature enhancement
OTN JC byte error insertion enhancement	

History

Release 19.0.x

2012-12-12, Recommended for all updates

MTM 4s4x	Feature enhancement
Updated payload type interpretation	
MTM 4s4x	Feature enhancement
SDH/SONET user option to disable PJE alarm evaluation	

Release 18.0.x

2012-09-26, Recommended for all updates

General	Feature enhancement
Splash screen showing available (but not yet enabled) software options	
100GE / 40GE	New option (BN 3061/94.68)
10G Ethernet/IP in ODU2e client for OTU3/OTU3e1/OTU3e2 and OTU4	
100GE / 40GE	New option (BN 3061/94.70)
1G Ethernet/IP GFP-T mapped ODU0 client for OTU3/OTU3e2 and OTU4	
100GE / 40GE	New option (BN 3061/94.67)
40G Ethernet GFP-F mapped into OTU3-ODU3/flex	
100GE / 40GE	New option (BN 3061/94.73)
OTN ODU Multichannel (OTU4 rate)	
100GE / 40GE	Feature enhancement
ODU3 client in an OTU4	
100GE / 40GE	New option (BN 3061/94.79)
OTN 40G SDH/SONET client into ODU3 into OTU4 rates	
100GE / 40GE	Feature enhancement
Ethernet MAC supports Ethertypes below 600 (hex)	
Module E	Feature enhancement
New function stack SDH(SONET)/GFP-F/MAC-IP	
Module E	Feature enhancement
4G Fibre Channel unframed	
Module E - Jitter / Wander	Feature enhancement
Settable averaging time for 1pps measurement	
Module E - Jitter / Wander	Feature enhancement
1pps Phase delay align	
Module E - Jitter / Wander	Feature enhancement
Settable trigger threshold for BITS RX	
Module E - Jitter / Wander	Feature enhancement
Jitter/Wander documentation shifted into separate documents	
MTM 4s4x	New option (BN 3076/63.82)
Quad Port OTN loading mode for 10G OTU rates	

Release 18.0.x

2012-09-26, Recommended for all updates

MTM 4s4x	New option (BN 3076/63.83)
Quad Port OTN loading mode for 2.7G OTU1 rate	
MTM 4s4x	New option (BN 3076/63.80)
4 Port Ethernet/IP (10G LAN-Phy)	
MTM 4s4x - ONT-601	Feature enhancement
Displayed text enhancements	

Release 17.1.x

2012-07-31, Recommended for MTM 4s4x only

MTM 4s4x	New option (BN 3076/63.52)
8/10G Fibre Channel - Dual Port	
MTM 4s4x	New option (BN 3076/63.53)
8/10G Fibre Channel - Single Port	
MTM 4s4x	New option (BN 3076/63.72)
1/2/4G Fibre Channel - Dual Port	
MTM 4s4x	New option (BN 3076/63.73)
1/2/4G Fibre Channel - Single Port	

Release 17.0.x

2012-06-21, Recommended for all updates

General	New options (BN 3076/07 and 3076/08)
ONT-612 mainframes	
100GE / 40GE	New option (BN 3061/94.73)
ONT ODU Multichannel (OTU3 rates)	
100GE / 40GE	New option (BN 3061/94.76)
SDH256/OC-768 client into ODU3	
100GE / 40GE	Feature enhancement
Support MDIO 2.0 for CFP control (0xA000 page compliance)	
Module E	Feature enhancement
Separate reporting on errored 1s and 0s on unframed applications	
Module E - Jitter / Wander	New option (BN 3061/93.90)
BITS Jitter	
Module E - Jitter / Wander	Feature enhancement
Improved precision and resolution for Wander 1pps and 1pps delay measurements for 2.5G Jitter-D and 10G Jitter-E	
MTM 4s4x	New option (BN 3076/60.11)
MTM plug-in into ONT-603/606/612	

Release 17.0.x

2012-06-21, Recommended for all updates

MTM 4s4x	Feature enhancement
OTN intrusive through-mode	
MTM 4s4x	Feature enhancement
SDH/SONET intrusive through-mode	
MTM 4s4x	Feature enhancement
Separate reporting on errored 1s and 0s on unframed applications	

Release 16.0.x

2012-03-23, Recommended for all updates

General - ONT-5xx	Feature enhancement
New Java application added to allow a centralized software update of multiple ONT-5xx mainframes from a normal desktop PC.	
General - ONT-5xx	Feature enhancement
Improved robustness in case of network problems	
100GE / 40GE	New option (BN 3061/94.71)
MAC/IP packet capture for the client service board	
100GE / 40GE	New hardware (BN 3076/92.70)
CFP Module for production test	
100GE / 40GE	New hardware (BN 3076/92.60)
Client Service Board for ONT-600 chassis	
100GE / 40GE	Feature enhancement
STM-256 / STS-768 over STL	
Module E	Feature enhancement
OTN-ODU Multichannel Enhancements	
Module E - Jitter / Wander	New option (BN 3061/90.63)
Jitter support for Fiber Channel 10G	
Module E - Jitter / Wander	Feature enhancement
Support of G.812 and GR1244 TDEV result masks	
Module E - Jitter / Wander	Feature enhancement
All rates Jitter with one Module E for ONT-5xx platform	
Module E - Jitter / Wander	Feature enhancement
Jitter 10G-E module available for ONT-600 platform	
Module E - Jitter / Wander	Feature enhancement
Jitter 2.5G-D module available for ONT-600 platform	
Module E - Jitter / Wander	Feature enhancement
All rates Jitter with one Module E for ONT-600 platform	

Release 16.0.x

2012-03-23, Recommended for all updates

MTM 4s4x	New option (BN 3076/63.28)
OTN ODU standard multiplexing (2.5G time-slots) of ODU1 into OTU2	
MTM 4s4x	New option (BN 3076/63.32)
ODUflex multiplexing into OTU2	
MTM 4s4x	New option (BN 3076/63.44)
OTN STM-1/4 or STS-3/12 client into ODU0 container	
MTM 4s4x	New option (BN 3076/63.30)
Dual-stage ODU0-ODU1-OTU2 multiplexing	
MTM 4s4x	Feature enhancement
MTM single-port only support	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
Added Wander TDEV evaluation masks G.812 Output wander for Types II and III node clocks	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
Added Wander Transfer mask GR1244 Stratum 2 & 3E, Stratum 3 and Stratum 4E & 4	

Release 15.0.x

2011-12-16, Recommended for all updates

General	Feature enhancement
ONT-600 Mainframes	
General	Feature enhancement
ONT-603D, ONT-606D	
General	Feature enhancement
ONT-603H, ONT-606H	
General	Feature enhancement
ONT-603B, ONT-606B	
100GE / 40GE	Feature enhancement
Signal degrade and signal failed monitoring	
100GE / 40GE	Feature enhancement
40G Ethernet Client Transcoder enhancements	
40 / 45G	Feature enhancement
Signal degrade and signal failed monitoring.	
Module E (low-rate capable)	Feature enhancement
Signal degrade and signal failed monitoring	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
Jitter/Wander 2.5G-D (155/622M, 1.25/2.5/2.7G)	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
Jitter/Wander 1G SyncE (1.25G)	

History

Release 15.0.x

2011-12-16, Recommended for all updates

Module E (low-rate capable) - Jitter / Wander	Feature enhancement
New MTIE transients generator masks	
MTM 4s4x	Feature enhancement
Enable the MTM SFP Ports with selected bit rates	
MTM 4s4x	New option (BN 3076/63.60)
1G Ethernet dual-port support as physical Signal	
MTM 4s4x	New option (3076/63.61)
Enable dual-port lower rate SDH/SONET signals	
MTM 4s4x	New option (3076/63.62)
Enables the dual-port OTU1 Frame	
MTM 4s4x	New option (3076/63.31)
ODU0 single stage multiplexed in OTU2 and OTU1	
MTM 4s4x	New option (3076/63.29)
Enhanced Multiplexing for MTM	
MTM 4s4x	New option (3076/63.26)
1G Ethernet support as ODU0/GFP-T Client Signal	

Release 14.0.x

2011-10-17, Recommended for all updates

100GE / 40GE	Feature enhancement
Reset & Initialize CFP	
100GE / 40GE	Feature enhancement
TX Frequency Variation	
100GE / 40GE	Feature enhancement
Stress Test	
Module E	New option (BN 3061/93.61)
OTN ODU Multichannel (OTU2 rates)	

Release 13.0.x

2011-07-27, Recommended for all updates

100GE / 40GE	New module (BN 3061/92.60)
100G Module CFP with Extension Module	
100GE / 40GE	Feature enhancement
Dual port 100G / 40G solution - wrapper / de-wrapper	
100GE / 40GE	New option (BN 3061/94.72)
STL-256 bulk	

Release 13.0.x

2011-07-27, Recommended for all updates

100GE / 40GE - MAC Layer	Feature enhancement
Ethernet / IP packet capture	
100GE / 40GE - PHYS Layer	Feature enhancement
Stress test user selectable pattern mode	

Release 12.0.x

2011-04-27, Recommended for all updates

100GE / 40GE	New option (BN 3061/92.96)
QSFP+ Adapter	
100GE / 40GE	Feature enhancement
New unframed 100G bit rates	
100GE / 40GE	Feature enhancement
User selectable CAUI/XLAUI lane for RX frequency offset measurement	
100GE / 40GE	Feature enhancement
User offset list in physical layer stress test	
100GE / 40GE	Feature enhancement
Physical layer stress test supports layer stacks with OTN / Ethernet	
100GE / 40GE	Feature enhancement
Multiple Ethernet / IP traffic profiles	
100GE / 40GE	Feature enhancement
Ethernet traffic profile enhancements	
100GE / 40GE	Feature enhancement
Automated Ethernet preamble transparency test	
100GE / 40GE	Feature enhancement
Automated throughput test	
100GE / 40GE	Feature enhancement
Support for 5 MPLS labels	
100GE / 40GE	Feature enhancement
User defined MAC SFD	
100GE / 40GE	Feature enhancement
User defined MAC preamble	
100GE / 40GE	Feature enhancement
User defined MAC/IP payload	
100GE / 40GE	Feature enhancement
MAC/IP framed BERT Intermediate results	
100GE / 40GE	Feature enhancement
QOS measurement: Option to disable NFTF alarm	

Release 12.0.x

2011-04-27, Recommended for all updates

100GE / 40GE	Feature enhancement
Invalid SFD Error Generation	
100GE / 40GE	Feature enhancement
MAC/IP: Optimized flow editor GUI for single flow mode	
100GE / 40GE	Feature enhancement
MAC/IP: Coupled flow mode	
100GE / 40GE	New option (BN 3061/94.66)
OTN SDH/SONET client into ODU2/1 container	
100GE / 40GE	Feature enhancement
OTN enhanced multiplexing for OTU4	
100GE / 40GE	Feature enhancement
OTN multi-stage multiplexing for OTU4	
100GE / 40GE	Feature enhancement
OTN Performance analysis measurements	
100GE / 40GE	Feature enhancement
OTN Multiplexing: free port number assignment to ODUs in tributary slots added	
100GE / 40GE	Feature enhancement
OTN bulk transfer delay measurement added	
100GE / 40GE	Feature enhancement
OTN ODU1 bulk clients can be GMP mapped now	
100GE / 40GE	Feature enhancement
OTN allows TCM-BIP generation to be switched OFF now	
100GE / 40GE	Feature enhancement
OTN TX stuffing range of AMP mapped clients enhanced	
100GE / 40GE	Feature enhancement
OMFI alarm/error insertion and measurements for OTU4	
40 / 43G - Jitter / Wander	Feature enhancement
New compact Wander TIE data format (*.chrd)	
40 / 45G	Feature enhancement
OTN Performance analysis measurements	
40 / 45G	Feature enhancement
OTN Multiplexing: free port number assignment to ODUs in tributary slots added	
40 / 45G	Feature enhancement
OTN ODU1 bulk clients can be GMP mapped now	
40 / 45G	Feature enhancement
OTN allows TCM-BIP generation to be switched OFF now	

Release 12.0.x

2011-04-27, Recommended for all updates

40 / 45G	Feature enhancement
OTN TX stuffing range of AMP mapped clients enhanced	
Module E	New option (BN 3061/93.63)
SyncE ESMC G.8264 (1GE, 10GE)	
Module E	Feature enhancement
Support of Tunable DWDM XFP Lasers	
Module E	Feature enhancement
OTN Performance analysis measurements	
Module E	Feature enhancement
OTN Multiplexing: free port number assignment to ODU's in tributary slots added	
Module E	Feature enhancement
OTN ODU1 bulk clients can be GMP mapped now	
Module E	Feature enhancement
OTN allows TCM-BIP generation to be switched OFF now	
Module E	Feature enhancement
OTN TX stuffing range of AMP mapped clients enhanced	
Module E	Feature enhancement
SDH/SONET intrusive through mode	
Module E - Jitter / Wander	Feature enhancement
New compact Wander TIE data format (*.chrd)	

Release 11.0.x

2010-12-14, Recommended for all updates

General	Feature enhancement
Measurement restart button of layered applications moved to new location	
Remote Control - Driver	Feature enhancement
Driver libraries adapted to current releases	
100GE / 40GE	New option (BN 3061/94.53)
OTN 111.8G with 100GE Client	
100GE / 40GE	New option (BN 3061/94.60)
OTN 43G with transcoded Client	
100GE / 40GE	Feature enhancement
User settable xAUI/OTL output level, pre-emphasis and slew rate	
100GE / 40GE	Feature enhancement
Lambda groups assignment with "include bit error" option	
100GE / 40GE	Feature enhancement
Automated Physical Layer stress test	

Release 11.0.x

2010-12-14, Recommended for all updates

100GE / 40GE	Feature enhancement
New Ethernet PCS layer TX error "User lane ID"	
100GE / 40GE	Feature enhancement
Physical Layer GUI Enhancements	
100GE / 40GE	New option (BN 3061/94.61)
OTN enhanced multiplexing	
100GE / 40GE	New option (BN 3061/94.62)
OTN multi-stage multiplexing	
100GE / 40GE	New option (BN 3061/94.63)
OTN generation/analysis of ODU0 container	
100GE / 40GE	New option (BN 3061/94.64)
ONT generation/analysis of ODUFlex container	
100GE / 40GE	New option (BN 3061/94.65)
OTN STM4/1 or STS-12/3 client into ODU0 container	
100GE / 40GE	Feature enhancement
OTN Transfer delay measurements added for GMP mapped clients	
100GE / 40GE	Feature enhancement
OTN Client Signal Fail (CSF) alarm added	
100GE / 40GE	Feature enhancement
Quick start guide added to documentation	
40 / 43G	Feature enhancement
OTN Client Signal Fail (CSF) alarm added	
40 / 45G	New option (BN 3061/93.15)
OTN enhanced multiplexing	
40 / 45G	New option (BN 3061/93.16)
OTN multi-stage multiplexing	
40 / 45G	New option (BN 3061/93.17)
OTN generation/analysis of ODU0 container	
40 / 45G	New option (BN 3061/93.18)
ONT generation/analysis of ODUFlex container	
40 / 45G	New option (BN 3061/93.23)
OTN STM4/1 or STS-12/3 client into ODU0 container	
40 / 45G	Feature enhancement
OTN Transfer delay measurements added for GMP mapped clients	
40 / 45G	Feature enhancement
OTN Client Signal Fail (CSF) alarm added	

Release 11.0.x

2010-12-14, Recommended for all updates

40 / 45G	Feature enhancement
OTN bulk mapping/de-mapping into OTU3e2	
40 / 45G	Feature enhancement
OTN mapping/de-mapping of ODUe2 bulk container into OTU3	
40 / 45G	Feature enhancement
OTN mapping of ODUe2 bulk container into OTU3e2	
Module E	New option (BN 3061/93.33)
OTN STM4/1 or STS-12/3 client into ODU0 container	
Module E	Feature enhancement
Wrapper/De-wrapper for multi-stage ODU0 with 1GigE client	
Module E	Feature enhancement
OTN Transfer delay measurements added for GMP mapped clients	
Module E	Feature enhancement
OTN Client Signal Fail (CSF) alarm added	
Module E - Jitter / Wander	New module (BN 3061/90.75)
New Jitter 10G-E module	
Module E - Jitter / Wander	New module (BN 3061/90.76)
New Jitter 10G-E module - dual wavelength	
Module E - Jitter / Wander	New option (BN 3061/90.77)
Differential electrical interface	
Module E - Jitter / Wander	New option (BN 3061/90.79)
OTU2 overclocked bit rates (11.049G and 11.095G)	
Module E - Jitter / Wander	New option (BN 3061/90.81)
OTL3.4 bit rate (10.755G)	
Module E - Jitter / Wander	New option (BN 3061/90.99)
OTL4.10 bit rate (11.181G)	
Module E - Jitter / Wander	Feature enhancement
Parallel filters	
Module E - Jitter / Wander	Feature enhancement
Generation of MTIE phase transients	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
Combination with the new BERT module	

Release 10.1.x

2010-10-27, Recommended for all updates

General - OTN / ODU Layer	Feature enhancement
TCM enhancements in OTN / ODU layers	

History

Release 10.1.x

2010-10-27, Recommended for all updates

Module E	Feature enhancement
GFP mapped 1GE client support into multi-stage OTN multiplexing (optional)	
Module E	Feature enhancement
Wrapper/De-wrapper applications for 1GE line-rate and ODU0 clients (optional)	
Module E - Jitter / Wander	New option (BN 3061/90.87)
Support of 10.755G Jitter/Wander generation and analysis	
Module E (low-rate capable) - Jitter / Wander	Feature enhancement
The low-rate capable Module E now works together with Jitter-D	

Release 10.0.x

2010-09-16, Recommended for certain customers only

General - All layered applications	Feature enhancement
Enhanced usability for layered applications (tabs on left-hand side; tabs include alarm LEDs)	
General - All layered applications	Feature enhancement
Enhanced visibility of current and history alarm/error information	
General - All layered applications	Feature enhancement
Short cut to over-all layer summary status	
General - All layered applications	Feature enhancement
Restart measurement button	
General - All layered applications	Feature enhancement
Graphical event list shows only currently evaluated alarms/errors now	
General - Mainframes	Feature enhancement
Clock-Module reference clocks (64kHz, 64kHz composite clock, 6.3MHz)	
General - Mainframes	Feature enhancement
Manual pages of the web-site of the ONT-5xx test set improved	
100GE / 40GE	New option (BN 3061/94.55)
OTN 112G bulk (incl. OTL4.10)	
100GE / 40GE	New option (BN 3061/94.57)
OTN 43G bulk (incl. OTL3.4)	
100GE / 40GE	New option (BN 3061/94.58)
OTN 44.57G line-rate	
100GE / 40GE	New option (BN 3061/94.59)
OTN 44.58G line-rate	
100GE / 40GE	Feature enhancement
MDIO control of CFP transponder enabled	
100GE / 40GE	Feature enhancement
MDIO dump functionality	

Release 10.0.x

2010-09-16, Recommended for certain customers only

100GE / 40GE	Feature enhancement
CFP optical power measurement	
100GE / 40GE	Feature enhancement
Per optical lane LOS measurement and generation	
100GE / 40GE	Feature enhancement
PRBS15 and inverted PRBS15 test pattern	
100GE / 40GE	Feature enhancement
Improved Ethernet/IP QoS evaluation	
100GE / 40GE	Feature enhancement
Improved Ethernet/IP service disruption measurement	
100GE / 40GE	Feature enhancement
PCS/MLD, OTL and MAC/IP GUI Enhancements	
40 / 45G	New option (BN 3061/93.16)
OTN multi-stage multiplexing of ODU1 into ODU2 into OTU3	
Module E	New module (BN 3061/92.05)
Low-rate capable Module E	
Module E	New module (BN 3061/92.09)
Low-rate capable Module E with internal optics	
Module E	New option (BN 3061/93.34)
Lower rates SDH / SONET (STM1,4,16; OC3,12,48)	
Module E	New option (BN 3061/93.43)
1G Ethernet	
Module E	New option (BN 3061/93.57)
Lower rates OTU1 (2.7Gb/s)	
Module E	New option (BN 3061/93.58)
OTN generation/analysis of ODU0 container	
Module E	New option (BN 3061/93.59)
ONT generation/analysis of ODUFlex container	
Module E	New option (BN 3061/93.55)
OTN enhanced multiplexing with payload type 21	
Module E	New option (BN 3061/93.56)
OTN multi-stage multiplexing of ODU0 into ODU1 into OTU2	
Module E	New option (BN 3061/93.44)
GFP-T	
Module E	Feature enhancement
OTN GFP-F mapped MAC/IP into ODUFlex (optional)	

History

Release 10.0.x

2010-09-16, Recommended for certain customers only

Module E	Feature enhancement
New unframed rate 10.755 Gb/s (OTL3.4)	
Module E - Jitter / Wander	Feature enhancement
Additional MTJ/MTW sensors for SyncE Jitter/Wander	
Module E - Jitter / Wander	Feature enhancement
Switch Laser On before starting JTF calibration or measurement	
Module E - Jitter / Wander	Feature enhancement
Improved feedback during Automated Measurement Sequences (AMS)	

Release 9.1.x

2010-03-17, Recommended for all updates

General	New option (BN 3061/93.98)
External wander analysis software on PC	
100GE / 40GE	Feature enhancement
Fast Auxiliary output supports CFP monitor clock output	
100GE / 40GE	Feature enhancement
PRBS7 and inverted PRBS7 test pattern for unframed BERT and PCS layer BERT	
100GE / 40GE	Feature enhancement
Interim results in unframed BERT	
100GE / 40GE	Feature enhancement
Unframed BERT table view results support count and ratio mode	
100GE / 40GE	Feature enhancement
CFP power and current measurement with maximum hold function	
100GE / 40GE	Feature enhancement
Lambda groups in PCS layer	
100GE / 40GE	Feature enhancement
Virtual lane swap alarm in PCS layer indicates occurrence of virtual lane swapping events	
100GE / 40GE	Feature enhancement
Live traffic evaluation mode in unframed BERT, PCS- and MAC/IP-layer	
100GE / 40GE	Feature enhancement
RFC 2544 support for MAC, VPLS, PBB/PBT, IPv4 and IPv6	
100GE / 40GE	Feature enhancement
Scaled mode for MAC/IP traffic generation	
40 / 45G	New module (BN 3061/91.86)
40G SDH/SONET NRZ V2B	
40 / 45G	New option (BN 3061/93.20)
Overclocked OTU3e1 (44.57G)	

Release 9.1.x

2010-03-17, Recommended for all updates

40 / 45G	New module (BN 3061/91.85)
43G OTN with bulk client DPSK V2	
40 / 45G	Feature enhancement
DPSK transponder interoperability mode (e.g. Opnext with Mintera)	
Module E - Jitter / Wander	Feature enhancement
10.3G (SyncE) wander enhancements	
Module E - Jitter / Wander	New option (BN 3061/93.97)
Frequency offset (fine) in ppb for line rates and sync signals	
Module E - Jitter / Wander	New option (BN 3061/90.74)
Signal interruptions for sync signals	
Module E - Jitter / Wander	Feature enhancement
Continuous measurement of frequency offset (in ppb) and frequency drift rate	
Module E - Jitter / Wander	New option (BN 3061/90.74)
Wander measurements on clock signals	
Module E - Jitter / Wander	New option (BN 3061/90.74)
Support of pps (pulse-per-second)	
Module E - Jitter / Wander	New option (BN 3061/90.74)
New wander reference clocks	

Release 9.0.x

2009-12-16, Recommended for all updates

General - Report creation	Feature enhancement
A company logo can be integrated as part of the report header	
General - Report creation	Feature enhancement
The name of the report file appears as part of the report header	
General	Feature enhancement
Configuration information as CSV file	
General - OTN / ODU Layer	Feature enhancement
Access to FTFL operator specific field added to user interface	
100GE / 40GE	New module (BN 3061/92.50)
100G base unit with 103.12G (unframed, Ethernet), 111.81G (unframed)	
100GE / 40GE	New option (BN 3061/94.51)
Additional rates 39.81G (unframed), 41.25G (unframed, Ethernet), 43.018G (unframed), 44.5G (unframed)	
100GE / 40GE	New option (BN 3061/92.52)
Physical layer validation application	
100GE / 40GE	New option (BN 3061/94.56)
Skew variation generation application	

History

Release 9.0.x

2009-12-16, Recommended for all updates

100GE / 40GE	New option (BN 3061/94.54)
IP/multi stream application	
100GE / 40GE	New module (BN 3061/92.98)
Electrical access CFP with CAUI access	
40 / 43G - Jitter / Wander	New module
Jitter-B hardware with enhanced optical sensitivity	
40 / 43G - Jitter / Wander	Feature enhancement
RX eye clock output (recovered clock)	
40 / 45G	New module (BN 3061/91.81)
V2 hardware NRZ	
40 / 45G	New option (BN 3061/93.29)
Through mode on V2 hardware	
Module E	New option (BN 3061/93.39)
10GigE via GFP in VCAT mapped into STM-64/OC-192	
Module E	New option (BN 3061/93.39)
10GigE via GFP in VCAT mapped into OTU2 - STM-64/OC-192	
Module E	New option (BN 3061/93.39)
10GigE via GFP in VCAT mapped into OTU2 - ODU1 - STM-16/OC-48	
Module E - Jitter / Wander	New option (BN 3061/93.95)
Wander generation and analysis	
Module E - Jitter / Wander	New option (BN 3061/93.97)
Wander expert	
Module E - Jitter / Wander	Feature enhancement
Improved MTJ sensors	
Module E - Jitter / Wander	Feature enhancement
SCPI remote control	
40 / 45G	New module
V2 hardware pre-release	

Release 8.0.x

2009-05-06, Recommended for all updates

General - Layered applications	Feature enhancement
Interactive abbreviation help	
General - Layered applications	Feature enhancement
Enhanced edit of the signal structure	
40 / 43G	Feature enhancement
GCC capture for OTU3 (part of OTN option)	

Release 8.0.x

2009-05-06, Recommended for all updates

40 / 43G	New option (BN 3061/91.55)
OTU3 43G NRZ-DPSK (V1 hardware)	
40 / 43G - SDH / SONET Layer	Feature enhancement
Delay compensation for different mapping types optimized	
40 / 43G - Electrical only interface	Feature enhancement
Access to threshold and phase optimization GUI page added.	
40 / 43G - Jitter / Wander	Feature enhancement
Check for sufficient hard disk space added	
Module E	New option (BN 3061/93.45)
GFP-F into OTU2	
Module E	Feature enhancement
10G WAN	
Module E	Feature enhancement
Multi-Channel High Order with Service Disruption (part of MC option)	
Module E	Feature enhancement
Multi-Channel High Order as an ODU1 client	
Module E	Feature enhancement
GCC capture for OTU2 (part of OTN option)	

ONT Optical Network Tester

Release Information

Release 26.0.2

February 2015

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