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NetXpert XG

Next Generation Ethernet Speed Certifier

September 2019
Menu structure and user guide

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# NetXpert XG – Next Generation Qualifier
Main operating modes

- Qualifying passive communication lines on copper and fiber
  - Main unit communicates with wiremap, mapper or active remotes at the far end of the line to…
    - …implement a wiremap test and troubleshoot the cable
    - …locate the connected ports
    - …identify the Ethernet performance of a transmission path (up to 10 Gbit/s)

- Ethernet commissioning and troubleshooting
  - Main unit is connected directly to an active Switch-Port to…
    - …identify Ethernet connection speed and PoE capabilities
    - …identify existing network structure
    - …test PoE/PoE+/PoE++ availability (idle and loaded)
    - …test DHCP
    - …implement ping and traceroute tests
    - …find related switch ports
    - …decode CDP und LLDP protocols
    - …identify VLANs

Three Speed Levels

- NetXpert XG – Next Generation „Ethernet Speed Certifier"

    - Three scalable models

        - 100 Megabit and 1 Gigabit Ethernet

        - 100 Megabit and 1/2,5/5 Gigabit Ethernet

        - 100 Megabit and 1/2,5/5/10 Gigabit Ethernet

    - Passive copper cable qualification

        - Wiremap

        - Signal to noise ratio (SNR)

        - Bit Error Rate Testing (BERT)

        - Delay Skew

    - Passive qualification of fiber cables

        - Bit Error Rate Testing (BERT)

    - Tools for setup and troubleshooting in active networks

        - Copper

        - Fiber optic (1G/10G)

        - WLAN (2,4 GHz Band)
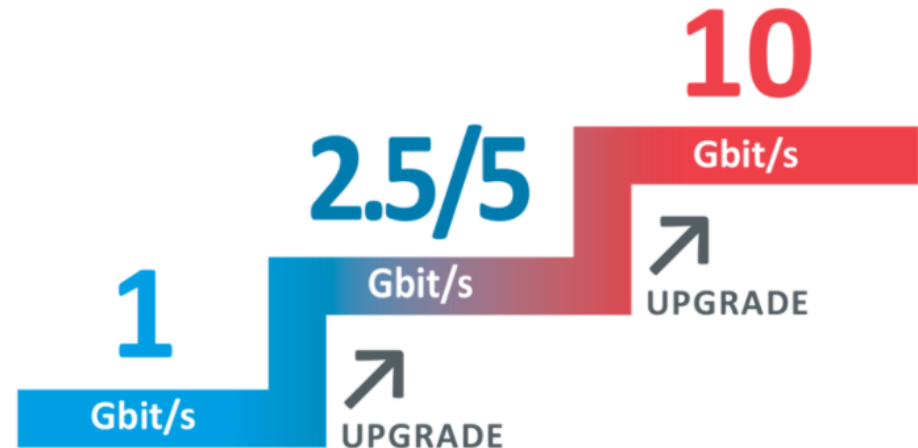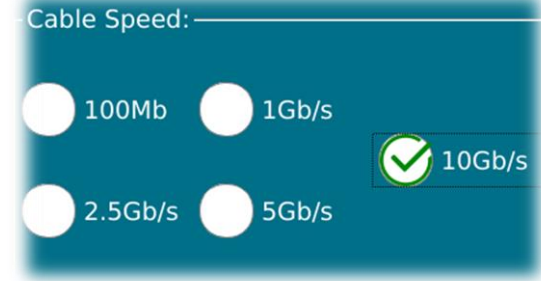
Hardware

- Main unit

    - Housing is impact-resistant plastic with edge protector elastic bands

    - Foldable kickstand for convenient operation

    - Ergonomic landscape format to maximize readability

    - Hand straps for carrying comfort

    - Rubber material to cover all the ports

    - User accessible battery

    - On/off button

        - Power unit on and off

        - Integrated LED indicates the status of the power supply

        - Green= Battery charge >20%

        - Green flashing = Unit is charging (both fans are running)

        - Red= Battery charge <20%

        - Red flashing= Unit is not charging because of excessive internal heating (Do not unplug the charger! Both fans are running and charging will start automatically, when temperature returns to normal)

Ports

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RJ45 measuring port
- Replaceable parts with 10 Gigabit Performance
- Part number XY

Restart button

SFP slots
- 1 Gigabit Ethernet LWL SFP
- 10 Gigabit Ethernet

Micro-USB port (in conjunction with an adapter)

- For importing…
  - Logos for reporting
  - List Based Testing (LBT) test lists from eXport-Software
  - Firmware-Updates
  - License key

- For exporting…
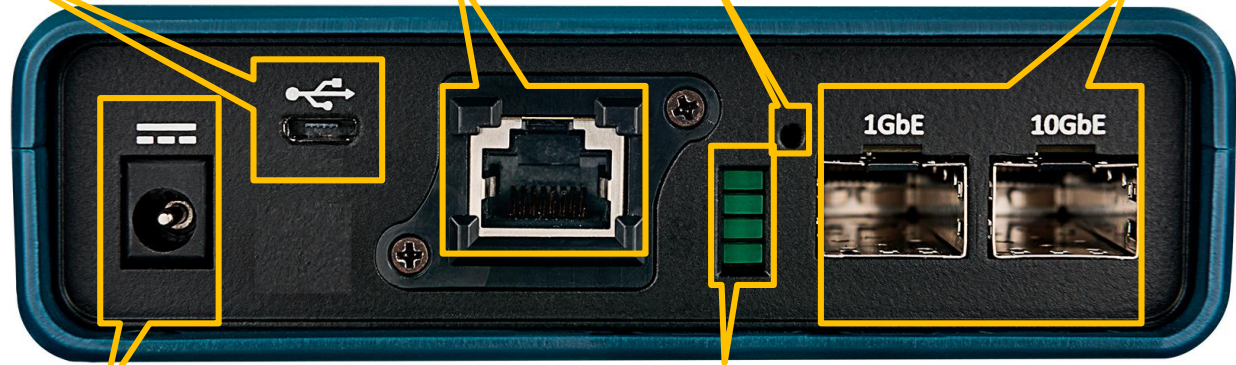 - Test-projects in various formats to share or external processing

Power supply connection (12 Vdc)
- Operations of the device and charging the batteries (Li-Ion)

LED port indicators (top to bottom)
- Optical Link and Activity, 10G
- Optical Link and Activity, 1G
- Copper Link, any speed
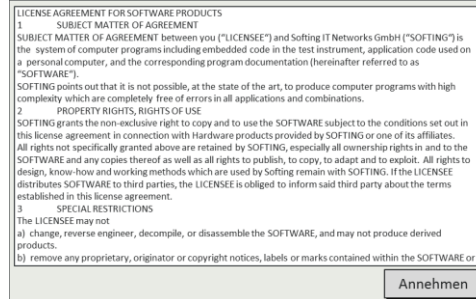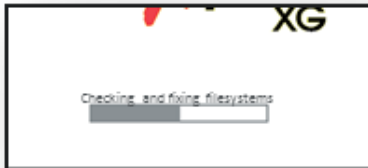- Copper Activity, any speed
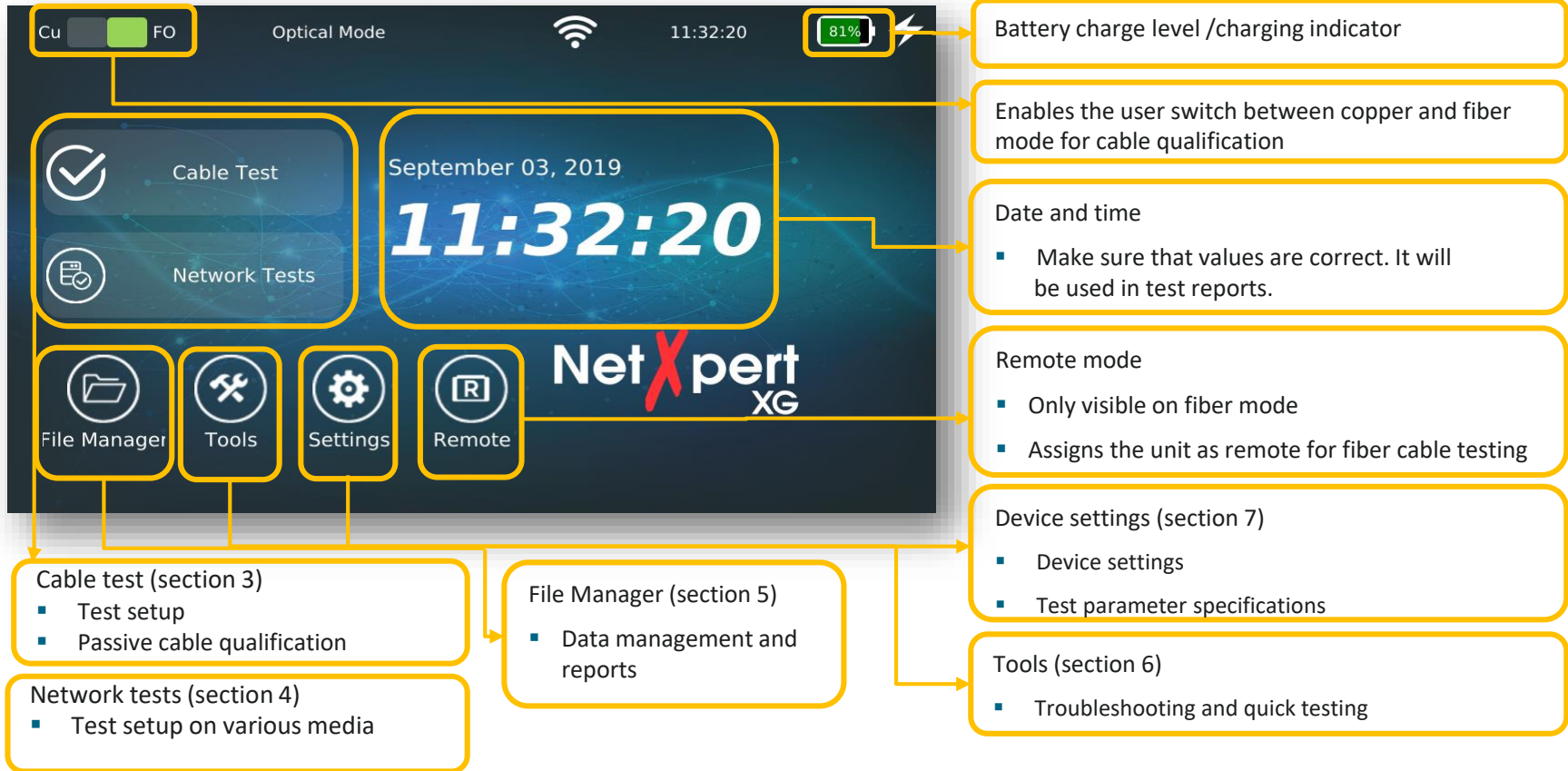
1GbE   10GbE

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Setting up the device

- Switch-on
  - Boot-Screen appears with a progress bar
  - During initial operation, EULA (End User License Agreement) must be confirmed
    - Hardware belongs to the user
    - Operating software is licensed to the user
- Switch-off
  - Long press on on/off button
    - Prevents accidentally turning off the unit
    - Confirmation screen requires entry
  - Shut down screen appears with a progress bar
    - File structure is evaluated and if necessary repaired

Start screen

Battery charge level /charging indicator

Enables the user switch between copper and fiber mode for cable qualification

Date and time
- Make sure that values are correct. It will be used in test reports.

Remote mode
- Only visible on fiber mode
- Assigns the unit as remote for fiber cable testing

Device settings (section 7)
- Device settings
- Test parameter specifications

Cable test (section 3)
- Test setup
- Passive cable qualification

File Manager (section 5)
- Data management and reports

Tools (section 6)
- Troubleshooting and quick testing

Network tests (section 4)
- Test setup on various media

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Cable Test Function
Determining transmission capabilities of passive cabling

- Supported media
  - Copper (connected to active remote)
  - Fiber optic
    - Second main unit is required
- Test parameters
  - Wiremap
  - Signal to noise ratio (SNR)
  - Signal propagation delay (Delay Skew)
  - Bit Error Rate Test (BERT)
- Available Ethernet speeds
  - 100 Megabit/1 Gigabit Ethernet
    - All models
  - 100 Megabit and 1/2,5/5 Gigabit Ethernet
    - Model „NX_XG_10G / 226552" and „NX_XG_25_5G / 226553"
  - 100 Megabit and 1/2,5/5/10 Gigabit Ethernet
    - Model „NX_XG_10G / 226552"
  - Upgrading all the models up to 10 Gigabit Ethernet is possible via license key
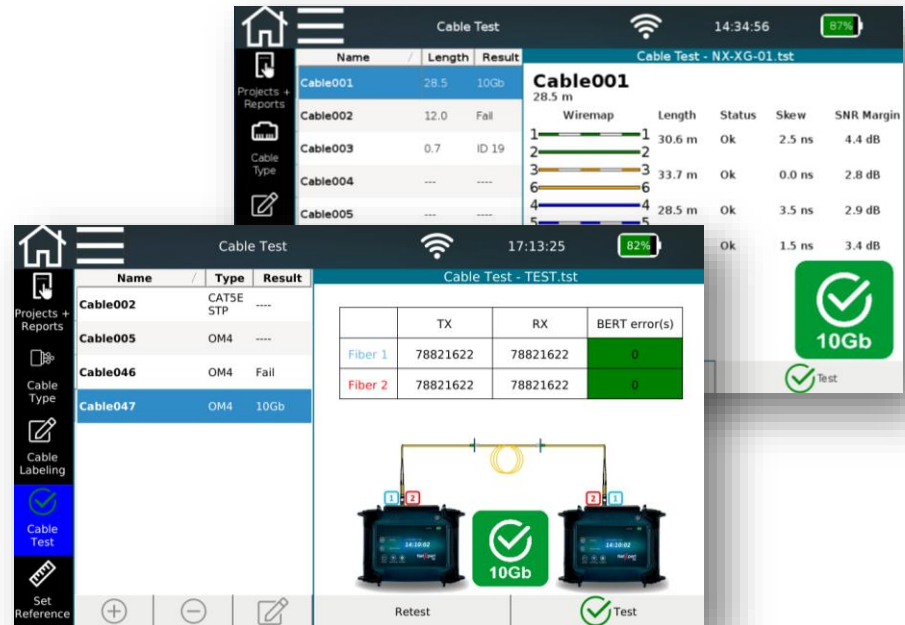
Testing passive copper cabling
Remotes and cable tracking

- Available remotes

  - Test parameters are determined by the type of remote used

  - Ethernet Speed Certification Active Remote

    - Starting a test is possible on the remote unit (test and link indicator)

    - Status indicator for battery charge and last test result (pass/fail)

  - Wiremap test and port identification via optional wiremap remote units (#1 to 8)

  - Port identifying via optional mapper remote units (#1 to 24)

- Cable tracking/ acoustic port allocation

  - Intern tone generator

  - Optional analog cable tracker/port locator (e.g. Softing CP15, shown here)

Wiremap Remotes (226528)   Mapper Remotes (226581)   Cable tracker/port locator (226007)

Testing passive copper cabling
Test setup for qualification

- Main unit und active remote required
- „Set reference" of both test cables of the main unit and remote unit before starting a test
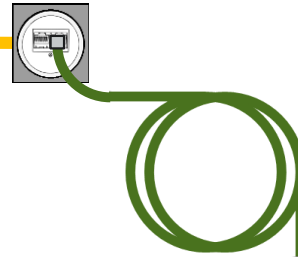
Testing passive fiber cabling

- Two main units are required
  - With corresponding SFP 1G or 10G modules
    - Multimode
    - Single mode
  - Master/Slave mode
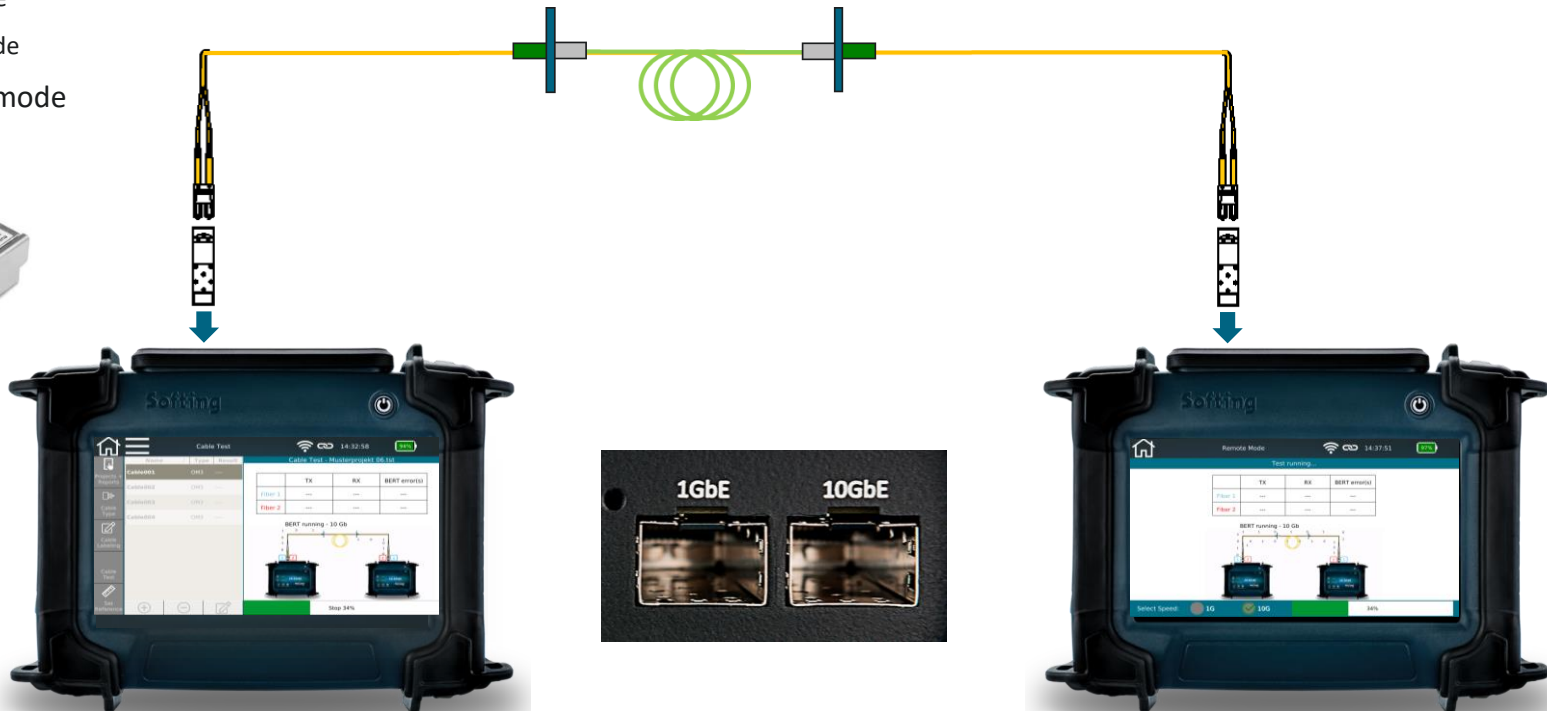
Process of a cable testing project
Create a project- Initial screen
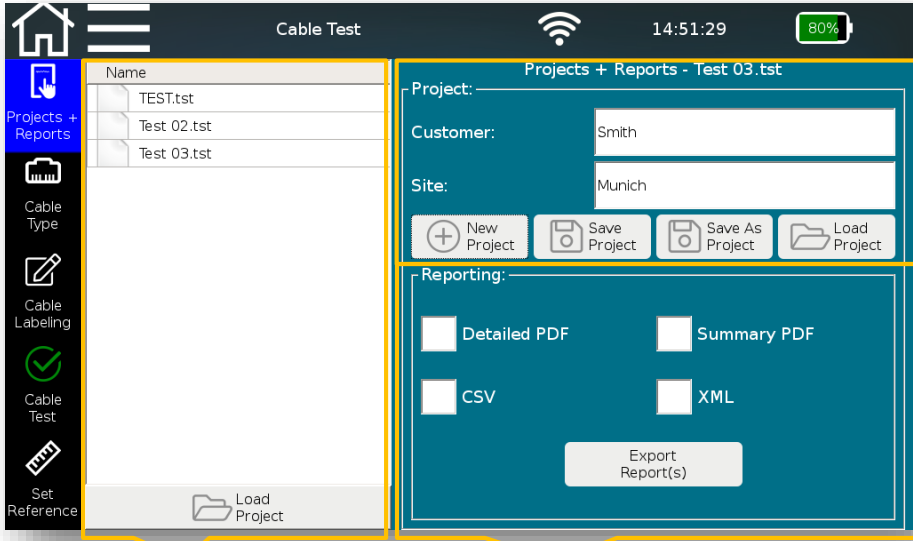
- Open project chosen from the list at the left side
- Details are shown for the chosen project
  - Customer data
  - Site data
- Project management
  - Creating new projects
  - Saving changes
  - Loading projects via File Manager menu

- Load existing projects in the device

- Internal documentation generation
  - Detailed PDF (summary and details)
  - Summary PDF
  - CSV – open format, e.g. preparation on Excel
  - XML – exchange format with eXport

Process of a cable testing project
Create a project

- Creating a „new project"
  - Opens „File Manager " menu
  - Enter project name
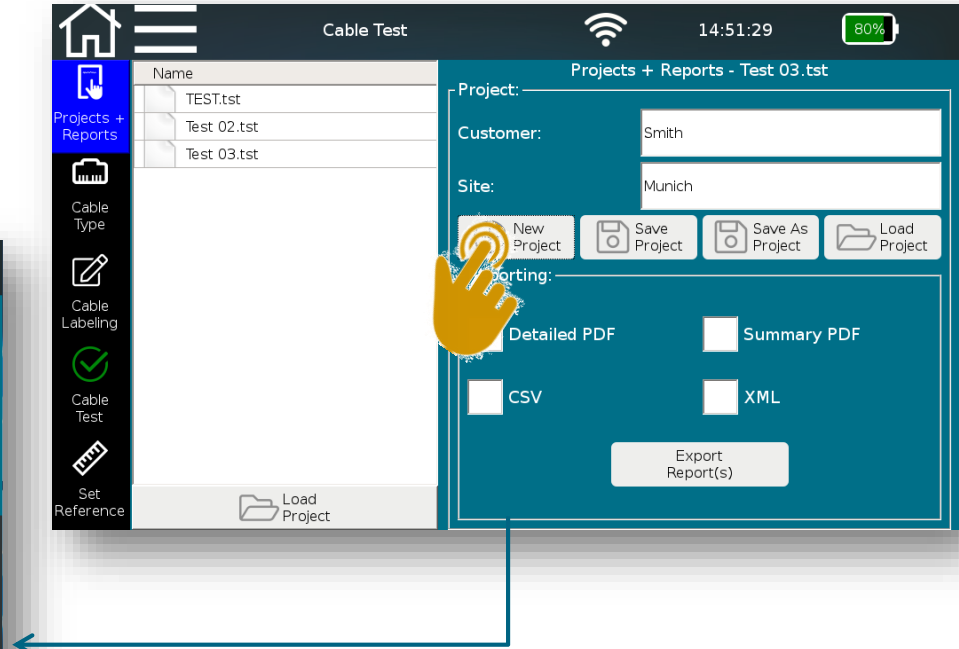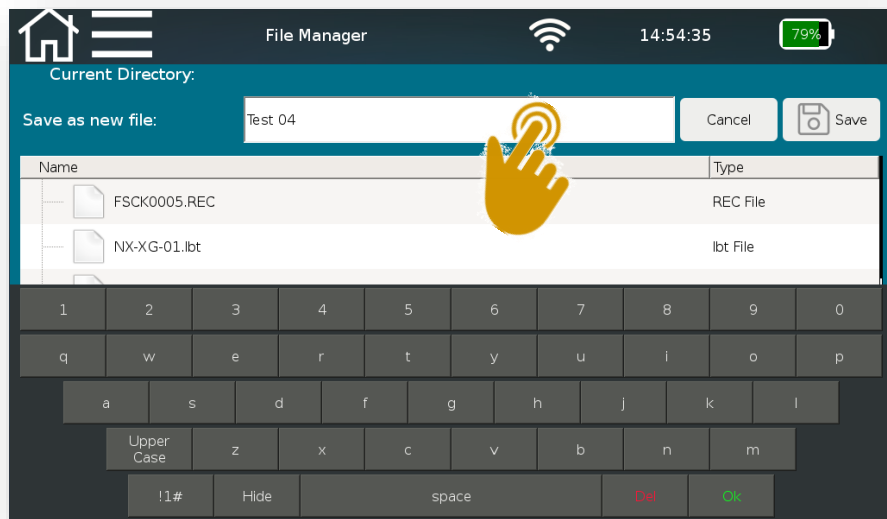
Process of a cable testing project
Create a project

- „Creating a „new project"
  - Opens „File Manager " menu
  - Enter project name
- „Save Project" saves changed information to the open project
  - Customer
  - Site
- „Save As Project" creates a new project based on changed information
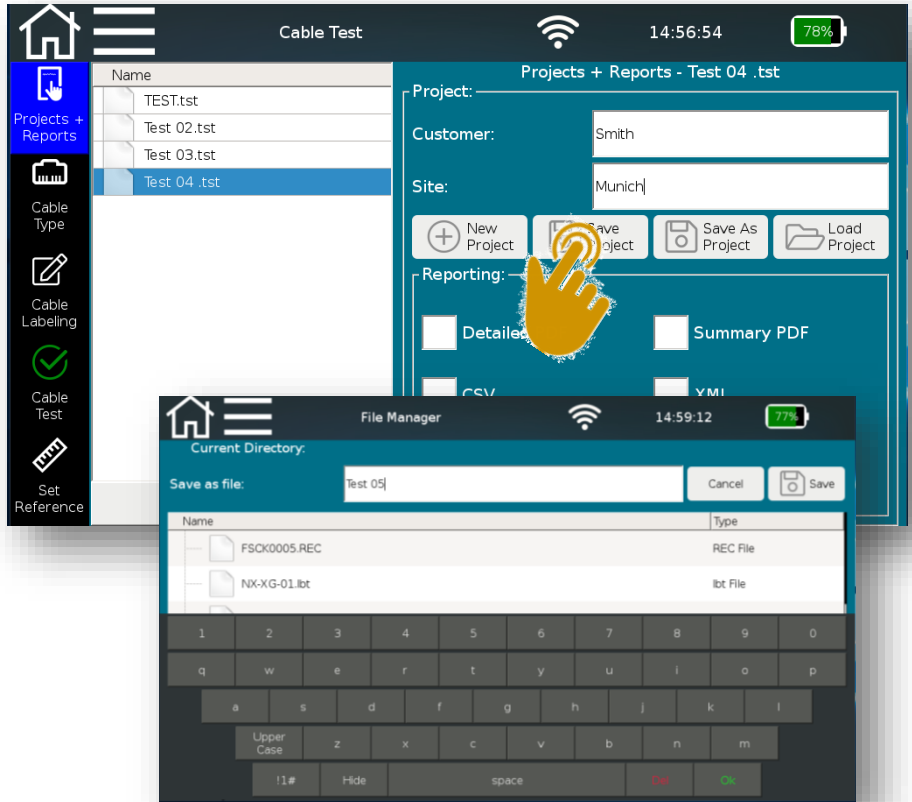
Process of a cable testing project
Create a project

- „Creating a „new project"
  - Opens „File Manager " menu
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  - Site

- „Save As Project" creates a new project based on changed information

- „Load Project" via File Manager menu
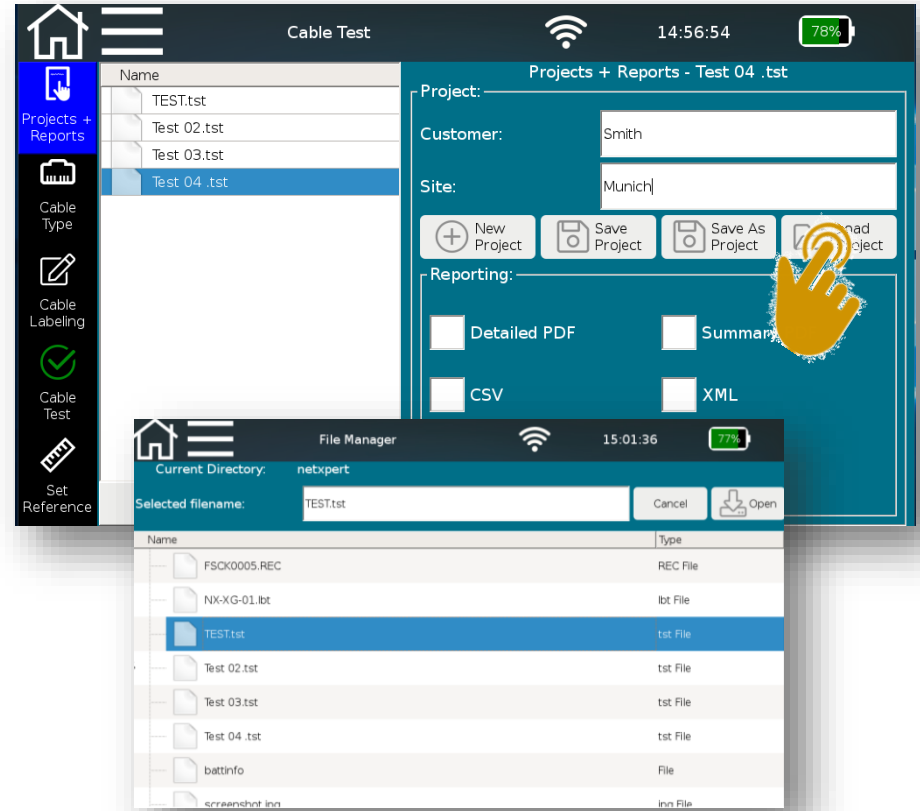
Process of a cable testing project
Defining test standards- Initial screen

- Defining test standards via „Cable Type" which is assigned to the currently open project
  - Name of the test standard
  - Constants for length determination
    - pf/m – cable capacity
    - NVP value – Nominal Velocity of Propagation
    - Values can be found on data sheets of the cables or determined simply by "Learn Length Constants" (Reference length>30m)

- Details on test standards
  - „Speed" – maximum Ethernet speed to be tested
  - Cable structure
    - „Cable Shield" – Consideration of the shielding of the installed cable
    - „Cable Wiring" – Number of wire pairs and orientation

- Templates of test standards
  - Basis for own test standards
  - List is expendable
  - Pattern or external template can be imported

Process of a cable testing project
Defining test standards

- Selecting a template
  - Select a template similar to your application
  - Using the available templates helps to avoid mistakes
    - Write and deletion protection, if test results available (if some tests are already done)

Process of a cable testing project
Defining test standards

- Selecting a template
  - Select a template similar to your application
  - Using the available templates helps to avoid mistakes
    - Write and deletion protection, if test results available (if some tests are already done)
    - If a cable test type (template) is being used in a label definition or in a cable test, the cable test type parameters on the right will be grayed out and are not editable. This will keep you from accidentally changing a cable parameter for cable templates in use.
    - If you delete the cable labels and cable tests, the template will become editable once again.

Process of a cable testing project
Defining test standards

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    - If you delete the cable labels and cable tests, the template will become editable once again.
    - The current cable test (Set Current Type) will be highlighted in Green.

Process of a cable testing project
Defining test standards

- Copy template
  - Copy will be added to the end of the list

Process of a cable testing project
Defining test standards

- Copy template
  - Copy will be added to the end of the list

- Select copy
  - Customize name
  - Edit parameters
    - Cable constants
    - Ethernet speed
    - Shielding features
    - Cable Wiring

Process of a cable testing project
Defining test standards

- Copy template
  - Copy will be added to the end of the list
- Select copy
  - Customize name
  - Edit parameters
    - Cable constants
    - Ethernet speed
    - Shielding features
    - Cable Wiring
  - Confirm with "Apply Type Changes" and select "Set Current Type" for this project
  - Stored test standards or results can no longer be edited

Process of a cable testing project
Defining test standards

- Copy template
  - Copy will be added to the end of the list

- Select copy
  - Customize name
  - Edit parameters
    - Cable constants
    - Ethernet speed
    - Shielding features
    - Cable Wiring
  - Confirm with "Apply Type Changes" and select "Set Current Type" for this project
  - Stored test standards or results can no longer be edited
  - **Switch between copper and fiber cables by tapping on the corresponding tab**

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu

- Enter the names and values by pressing on the respective input field

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu

- Enter the names and values by pressing on the respective input field

- By tapping on the corresponding label button, the label parameter will turn green, which means the parameter will be used in the label name

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu

- Enter the names and values by pressing on the respective input field

- By tapping on the corresponding label button, the label parameter will turn green, which means the parameter will be used in the label name

- Separator can be used multiple times by tapping on it each time after selecting one parameter. "Template" and "Next Label" will be updated accordingly.

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu
- Enter the names and values by pressing on the respective input field
- By tapping on the corresponding label button, the label parameter will turn green, which means the parameter will be used in the label name
- Separator can be used multiple times by tapping on it each time after selecting one parameter and "Next Label" will be updated accordingly.
- "ID" field (counter) can be positioned anywhere within the template

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu

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- By tapping on the corresponding label button, the label parameter will turn green, which means the parameter will be used in the label name

- Separator can be used multiple times by tapping on it each time after selecting one parameter and "Next Label" will be updated accordingly.

- "ID" field (counter) can be positioned anywhere within the template

- "Clear Label" will clear the label template, but already entered names and values will not be affected.

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu
- Enter the names and values by pressing on the respective input field
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- "ID" field (counter) can be positioned anywhere within the template
- "Clear Label" will clear the label template, but the names and values will not be cleared.
- **Add cables by entering number of cables to be tested in the input field**

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu
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- Add cables by entering number of cables to be tested in the input field
- Or simply tap on the "+" button to add cables one by one

Process of a cable testing project
Setting up a test list- Create names for cablings
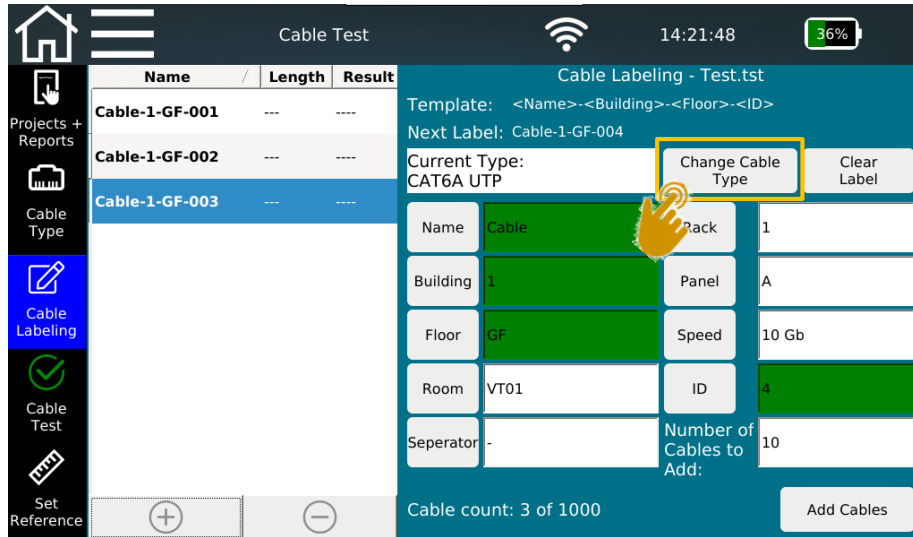

- Based on "Current Type" selected previously from the Cable Type menu
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- Add cables by entering number of cables to be tested in the input field
- Or simply tap on the "+" button to add cables one by one
- Having any number of cable types is possible when creating new test lines
  - „Change cable type "jumps back to the previous menu and allows selection of another test standard
  - Cable type can no longer be changed for already created or measured test lines

Process of a cable testing project
Setting up a test list- Create names for cablings

- Based on "Current Type" selected previously from the Cable Type menu
- Enter the names and values by pressing on the respective input field
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- Having any number of cable types is possible when creating new test lines
  - „Change cable type "jumps back to the previous menu and allows selection of another test standard
 - Cable type can no longer be changed for already created or measured test lines

- There will be an error message, if…
  - „ID" field is not included in the name
  - No name field is selected and the template is empty

Process of a cable testing project
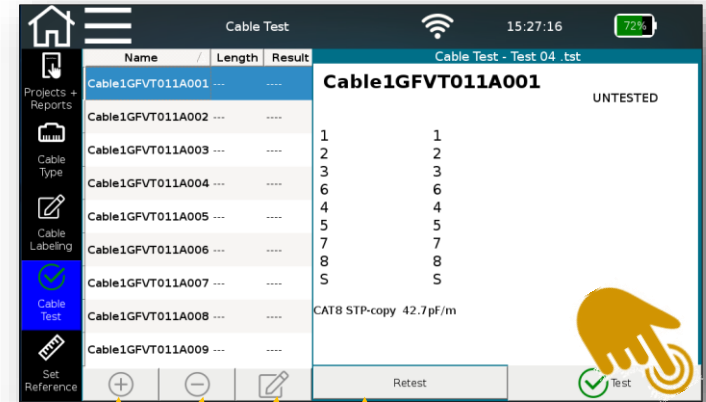## Set reference for copper cable testing

- Increase the accuracy of the length determination

- Set reference without using patch cables

  - Remove all cables and adapters and tap on Set Reference

- Set reference without using patch cables

  - Connect reference cables only to the main unit

    - Connect both test cords by a coupler

    - Connect one end to the local tester and leave the other end open

    - Determination of capacity determines cable capacitance

    - Cable capacitance will be subtracted from the overall result later

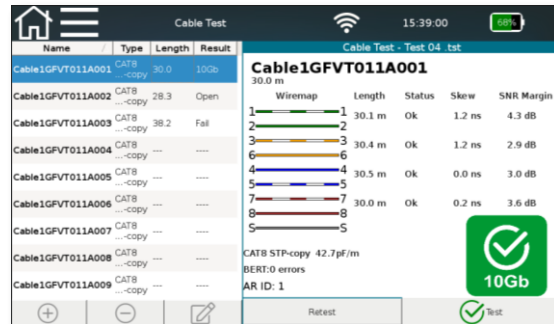   - Repeat the process, if you change the test cord
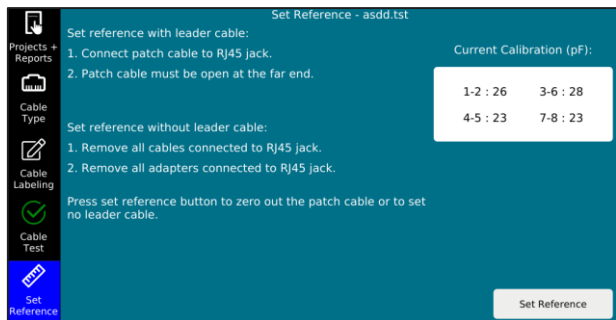
Process of a cable testing project
Performing a test for copper testing

- Test any listed cable in a random order

- Initiate a test by pressing the [✓ Test] button

- Cancel a test run by pressing the [✋ Test Stoppen] button

- By pressing the test button, the next entry on the list will be tested
  - If the end of the list is reached, a new entry will be created automatically

- When a new test list is created, it is permanently connected with test standards
  - If the test standard is wrong…
    - Delete incorrect list entries
    - Correct the test standard in the previous menu
   - Recreate the test list

Repeat the test by pressing "retest"

Editing the cable name later is possible

- Adding and deleting cable names is also possible here

Process of a cable testing project
Performing a test for fiber testing

- If the media to be tested is changed, a confirmation message appears to change the mode of the unit.

- Mode of the unit can be changed on the main screen as well.
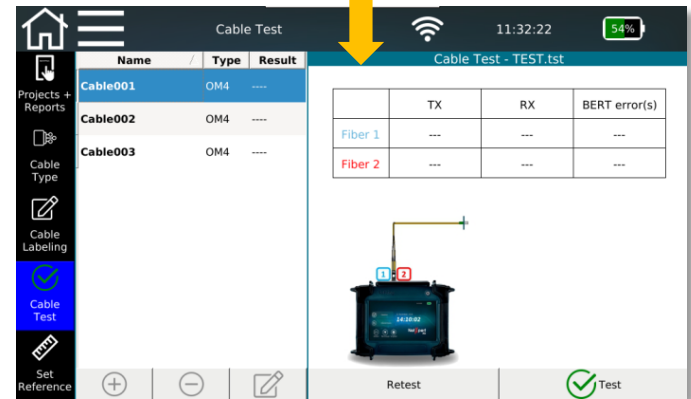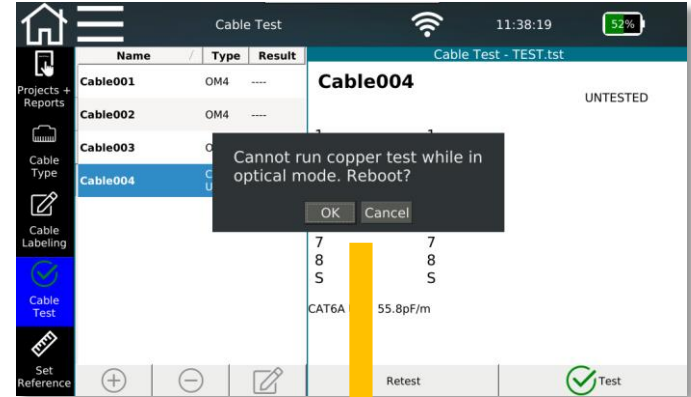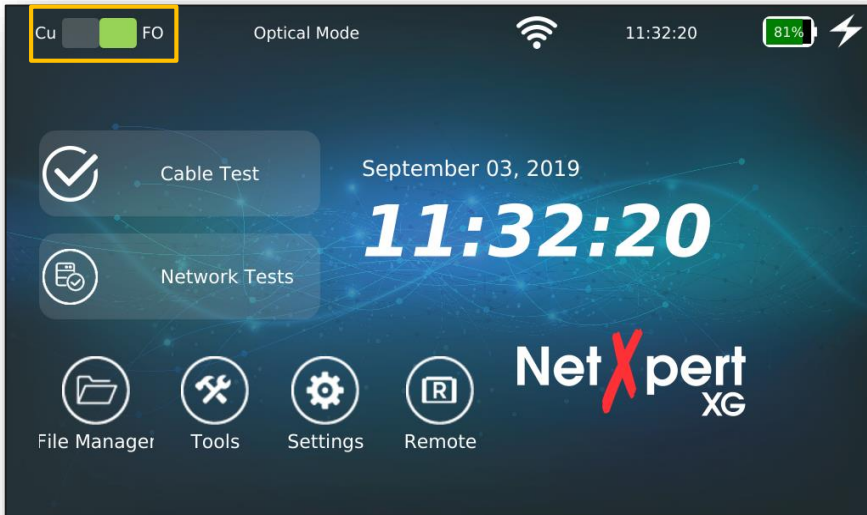
Process of a cable testing project
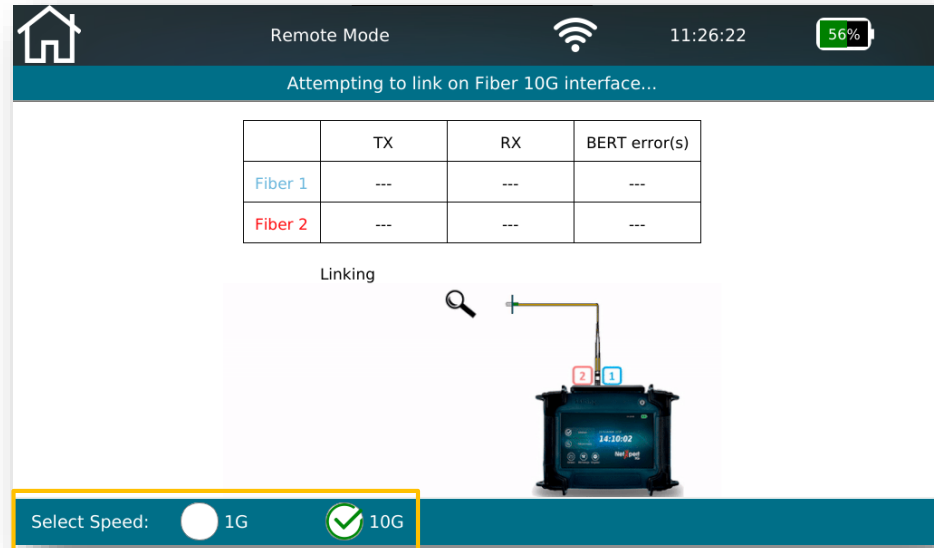## Performing a test for fiber testing

- Switch to fiber mode on both units and assign one of the units as remote by tapping on the remote icon on the main screen

- Mode of the unit can be changed on the main screen as well.

- Assign one of the main units as remote and select desired test speed on the remote screen

    - Hint: Makes sure to have the correct remote unit to perform the desired test
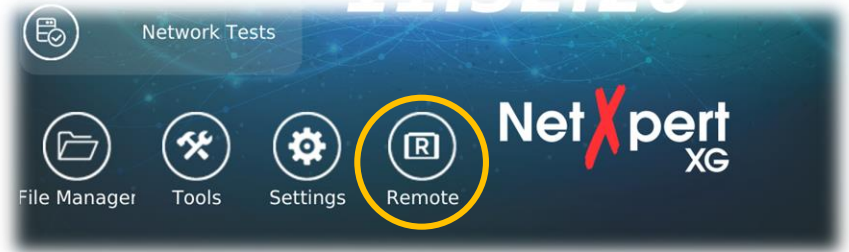
        - Copper mode:
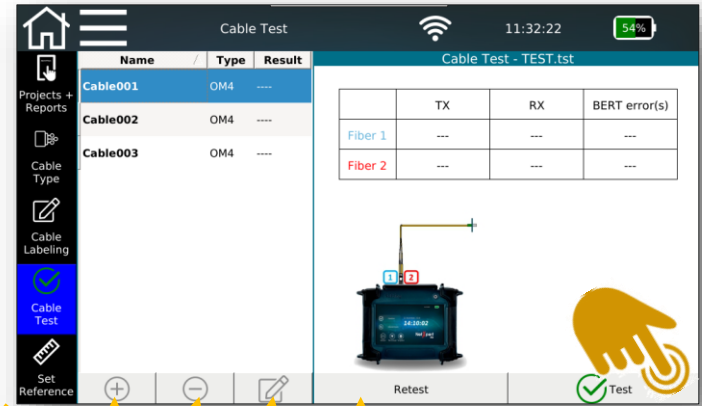   Standard active remote

        - Optical mode
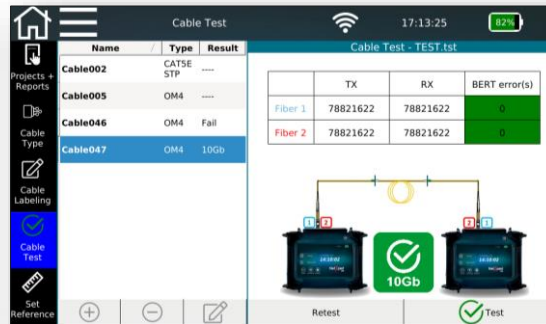   Seconde main unit
          in remote mode

Process of a cable testing project
Performing a test for fiber testing

- Test any listed cable in a random order

- Initiate a test by pressing the [✓ Test] button

- Cancel a test run by pressing the [✋ Test Stoppen] button

- By pressing the test button, the next entry on the list will be tested
    - If the end of the list is reached, a new entry will be created automatically

- When a new test list is created, it is permanently connected with test standards
    - If the test standard is wrong…
        - Delete incorrect list entries
        - Correct the test standard in the previous menu
   - Recreate the test list

Repeat the test by pressing "retest"

Editing the cable name later is possible

Adding and deleting cable names is also possible here

Process of a cable testing project
Reporting

- Internal documentation
  - PDF summary
  - PDF details – summary and details
  - CSV – open format, e.g. editing on Excel
  - XML – exchange format with eXport
- Reports can be generated after completion or during project processing
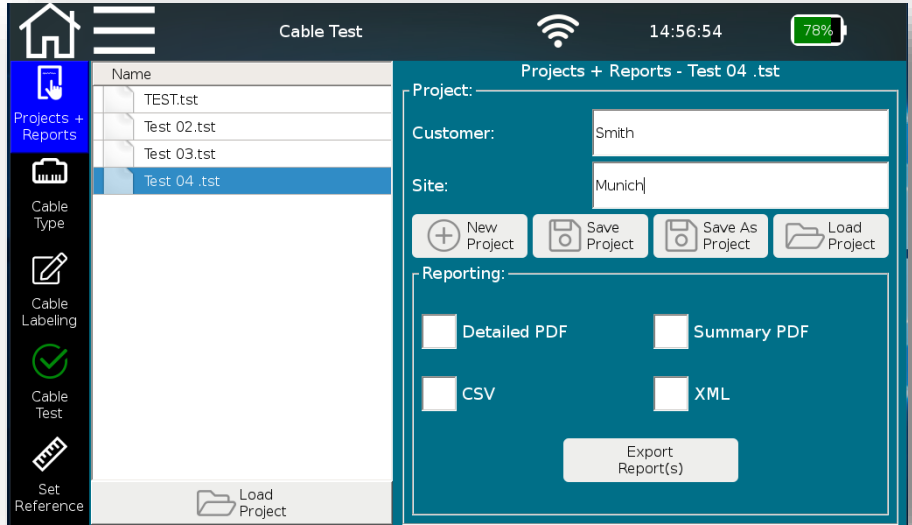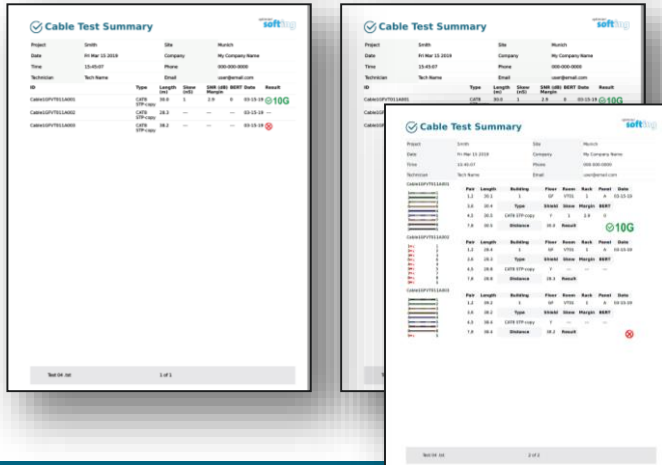
- Creation of documentation in the device automatically
  - Selection of one or more output formats
  - "Export Report (s)" to initiate internal report generation

Table of contents
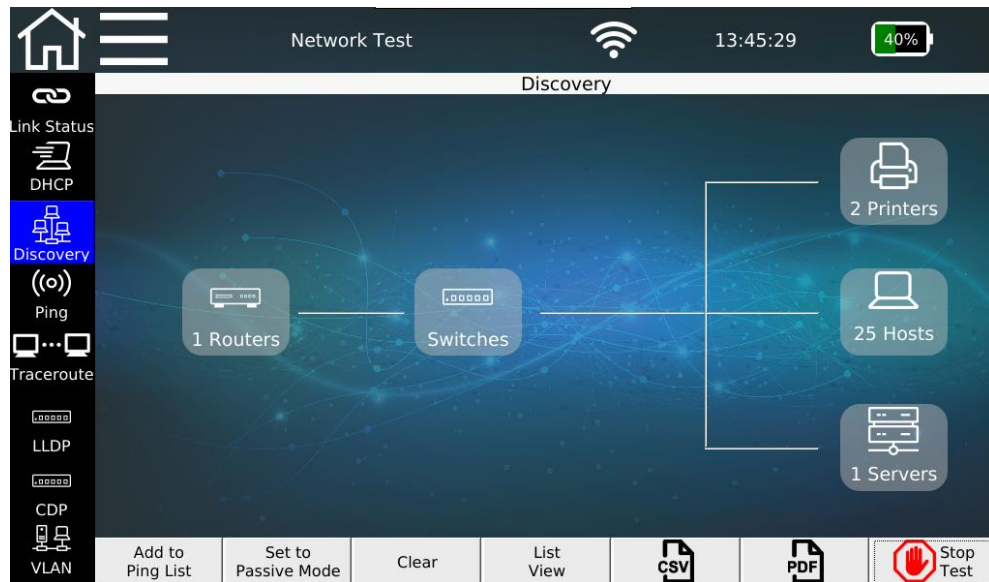
„Network Tests" function
Simple diagnosis of an active network

- General
  - Supported media
    - Copper, fiber optic and Wi-Fi
  - IPv4/IPv6 support
- Available Ethernet speed
  - 100 Mb / 1 Gb Ethernet
    - All models
  - 100Mb and 1/2,5/5 Gb Ethernet
    - Model „NX_XG_10G / 226552"
      and „NX_XG_25_5G / 226553"
  - 100Mb and 1/2,5/5/10 Gb Ethernet
    - Model „NX_XG_10G / 226552"
  - Upgrade of all models up to 10 Gb Ethernet is possible
    with license key

„Network Tests" function
Test setup

- Via RJ45 copper connection
- Via SFP module on fiber optic
  - 1 Gbit/s
  - 10 Gbit/s
- Via Wi-Fi
  - Internal antenna
  - 2,4 GHz Band

LWL

CU

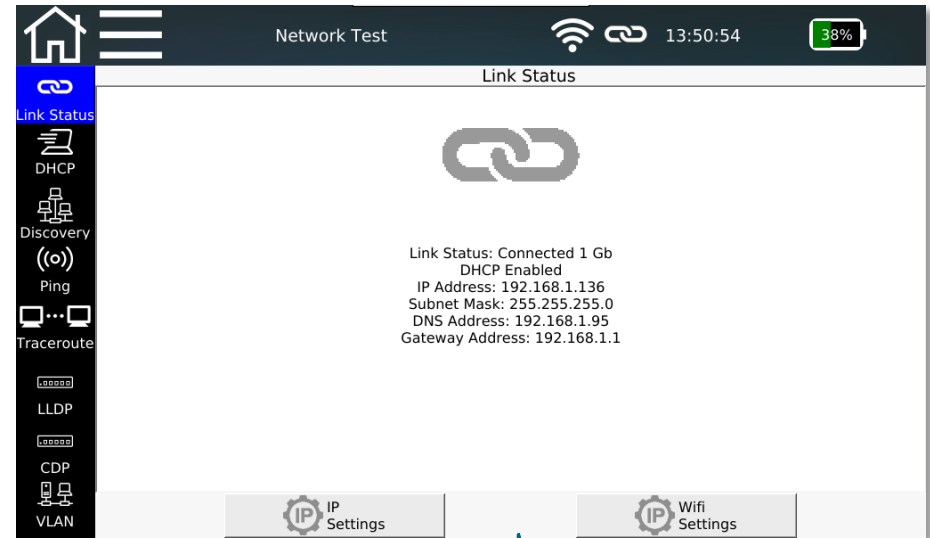# „Network Tests" function
Test parameters

- Link-Status
  - Establishing connection with Switch via DHCP or fixed addressing
- DHCP-Test
  - Establishing a connection via dynamic addressing with output of the connection data
- Discovery
  - Search for stations in the network and categorization by device class
- Pinging specific addresses and address lists
  - Manual entry or transferring the address from network discovery function
  - Internal addresses or external URLs
- Traceroute
  - Step by step target tracking
- CDP und LLDP protocol detection
  - Exchange of connection information
- VLAN detection
  - Tagging after IEEE 802.1q

Link Status

DHCP

Discovery

Ping

Traceroute

LLDP

CDP

VLAN

„Network Tests" function
Test parameters

- Link Status
    - Establishing connection with Switch via DHCP or fixed addressing
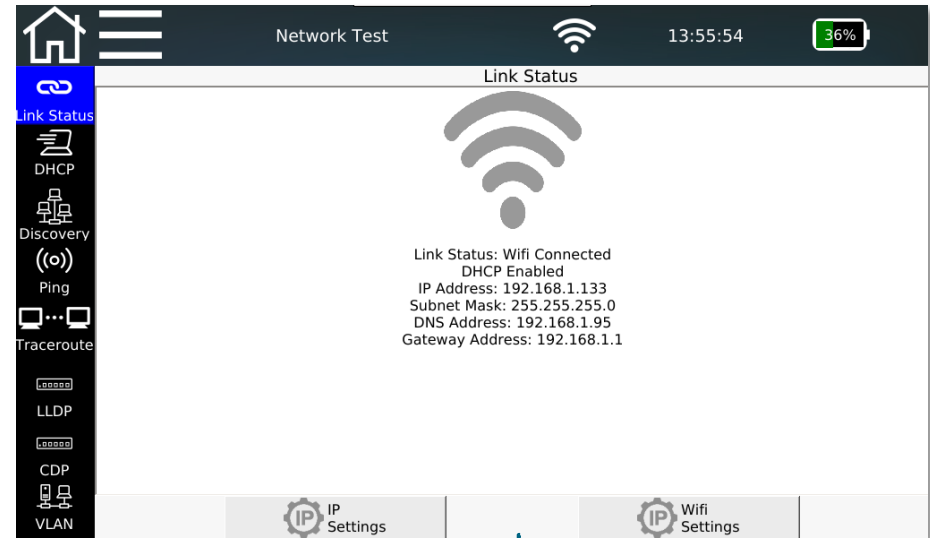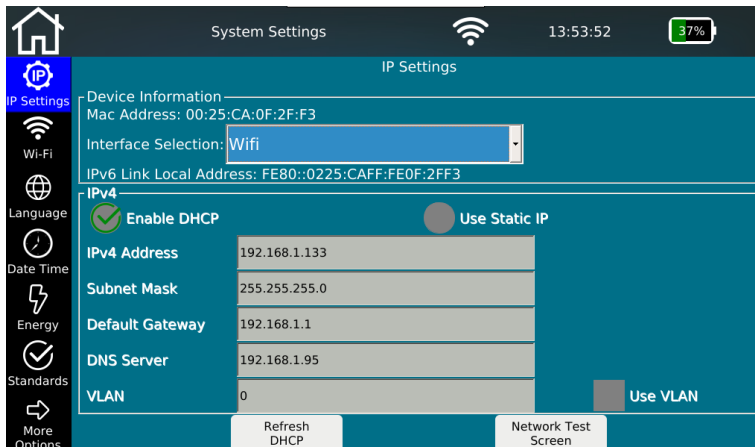   - Output of connection details

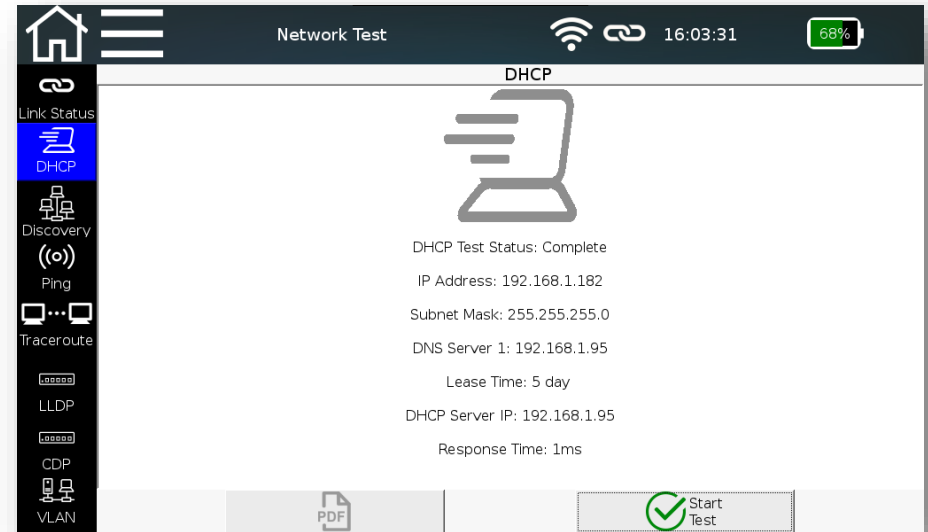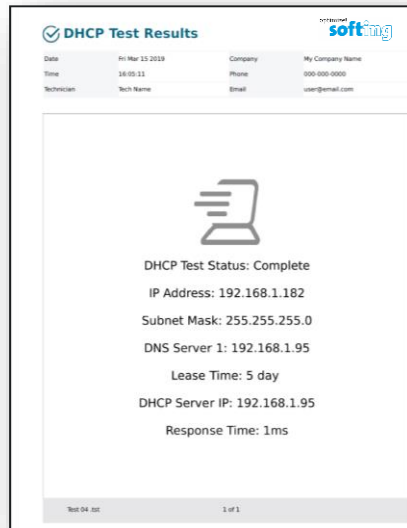# „Network Tests" function
Test parameters

- Link Status (Wi-Fi Connection)
  - Establishing connection with Switch via DHCP or fixed addressing
  - Output of connection details

„Network Tests" function
Test parameters

- DHCP-Test

  - Establishing a connection via dynamic addressing with output of the connection data

  - It can be documented as PDF report

„Network Tests" function
Test parameters

- Network discovery

  - Search for stations in the network and categorization by device class (active or passive mode)

  - Graphical or tabular layout

  - DNS resolution

  - Selectable addresses for ping list

  - Duplicate IP addresses will be marked in red

  - Documentable as PDF report or CSV export

„Network Tests" function
Test parameters

- Pinging specific addresses and address lists
  - Manual entry or transferring the address from network discovery function
  - Internal addresses or external URLs
  - Documentable as PDF report or CSV export

„Network Tests" function
Test parameters

- Traceroute
  - Step by step target tracking
  - Localization of interruptions in the path
    - Internal problem
    - Provider problem
  - Documentable as PDF report or CSV export

„Network Tests" function
Test parameters

- Protocol detection
  - LLDP – Link Layer Discovery Protocol
  - CDP – Cisco Discovery Protocol
  - Exchange of connection information
  - In some applications important for mapping
  - Documentable as PDF
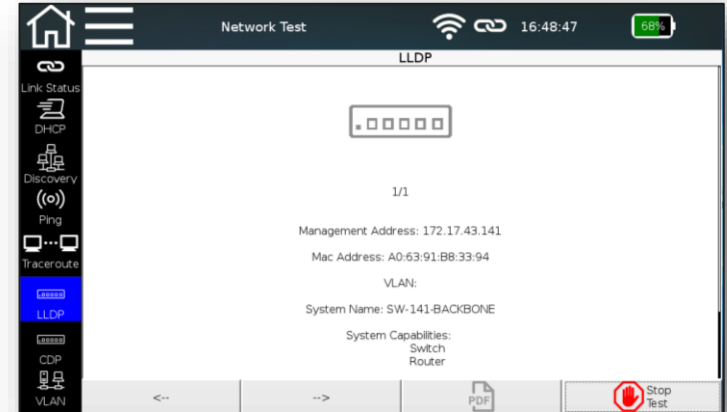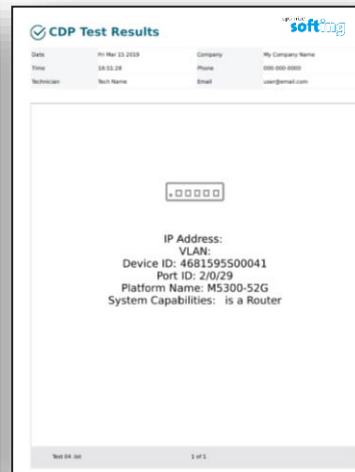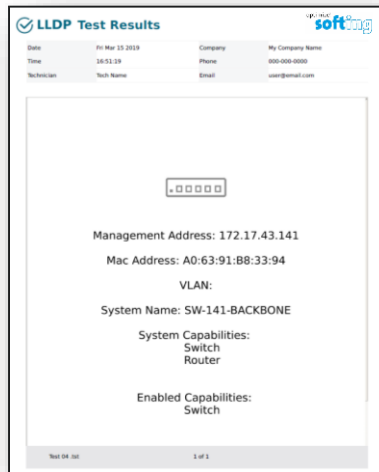
„Network Tests" function
Test parameters

- VLAN detection
  - Tagging after IEEE 802.1q
  - Output of
    - ID – Number of the VLAN
    - DEI – Drop Eligible Indicator: Can be used to indicate that frames can be dropped in the presence of network congestions (formerly CFI).
    - Priority – User priority information
  - Documentable as PDF report or CSV export
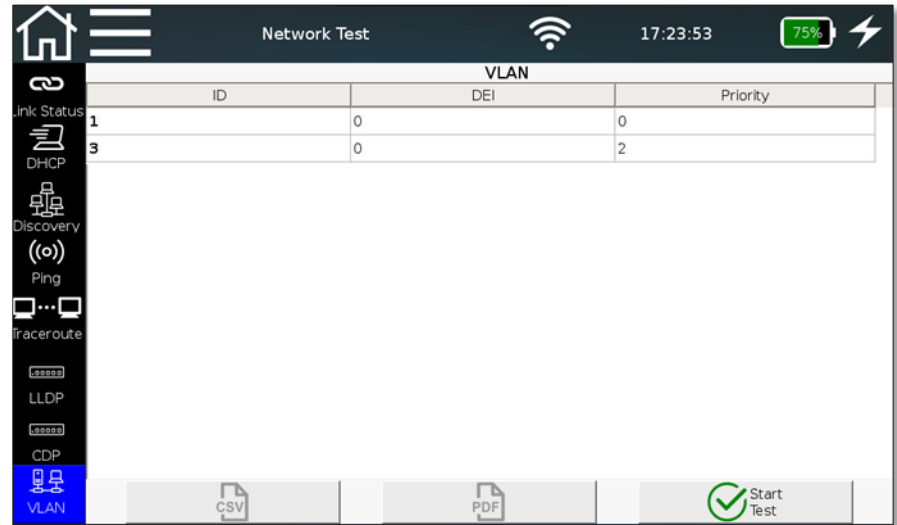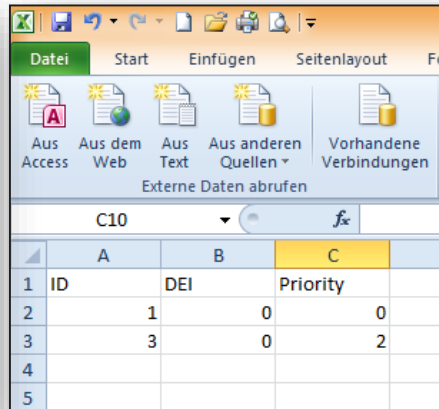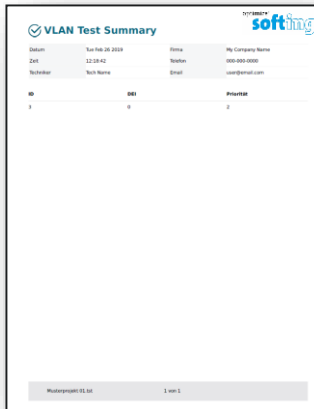
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„File Manager" menu

- Management of different file types
  - Original test data ending with "*.tst"
  - Test protocols for direct transfer via PDF format
    - Summary
    - Detailed
  - Test data as open „CSV" format
    - Further processing e.g. on MS-Excel
    - Integration in network administration programs
  - Data exchange with eXport data management software via XML format (in progress)
  - Delete and rename existing files
- Switchable format filters make it easier to see an overview
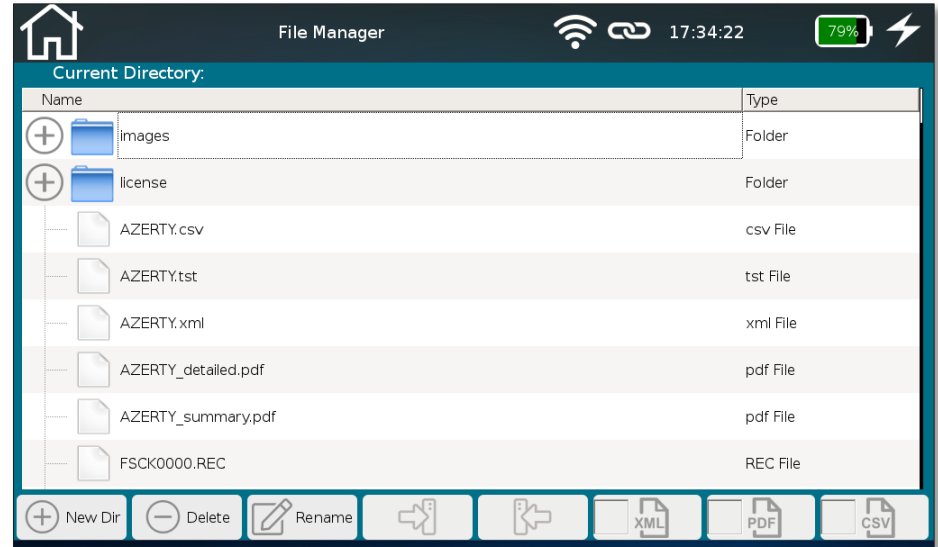
„File Manager" menu

- Create your own project structures

- Import/download…

  - external test data from eXport data management software

  - Firmware updates

  - Logos to use on reports

- Data exchange between internal memory and external medium via USB stick (micro-USB adapter is included)

  - Possibility to change the file name when copying

  - Please connect the USB flash drive with the adapter cable before inserting it to the main unit!

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Copper „Tools" menu
General
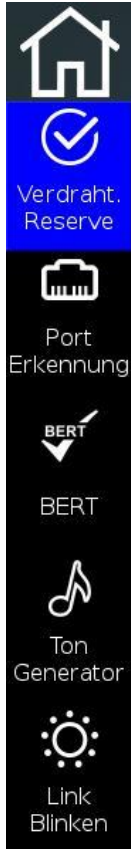
- Additional functions
  - Wiremap and margin
  - Port discovery
  - BERT
  - Tone Generator
  - Link Light

Copper „Tools" menu
Wiremap and margin

- Passive single test
  - Wiremap test
    - Length determination
    - Error output
  - Performance test
    - Selectable Ethernet speed

- Cable wiring and shield freely selectable
  - Shielded / No shield
  - Straight / X-Over
  - Four pair / two pair
  - In case of a wrong selection, and error message will be displayed

- Continuous test
  - Locate loose contacts
  - Interruptions due to temporary events
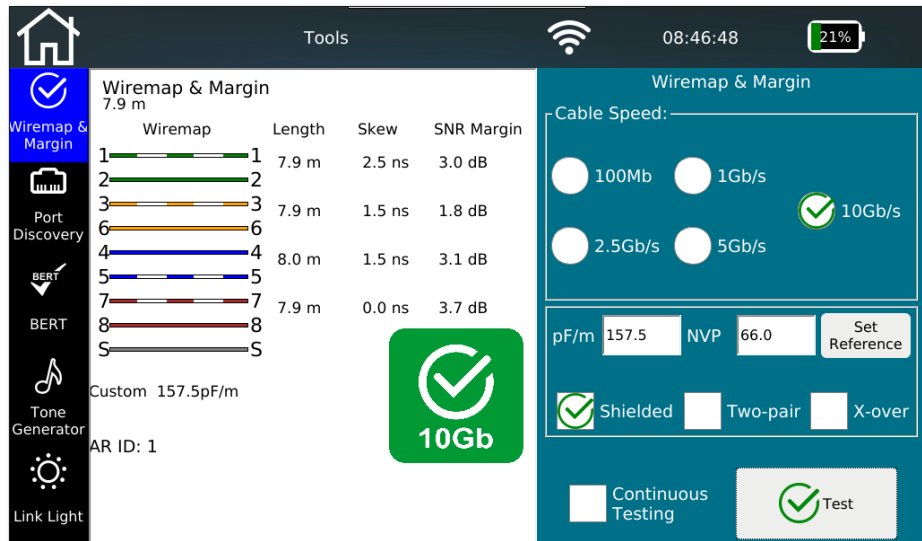
Copper „Tools" menu
Port discovery

- Provides detailed information about the switch port
  - Ethernet speed of the current connection
  - Possible speeds of the port
- PoE evaluation (also as a single function)
  - Operating mode
  - Polarity
  - Type / power class
    - PoE / PoE+ /PoE ++
  - Voltage drop with or without load
  - Documentable as PDF
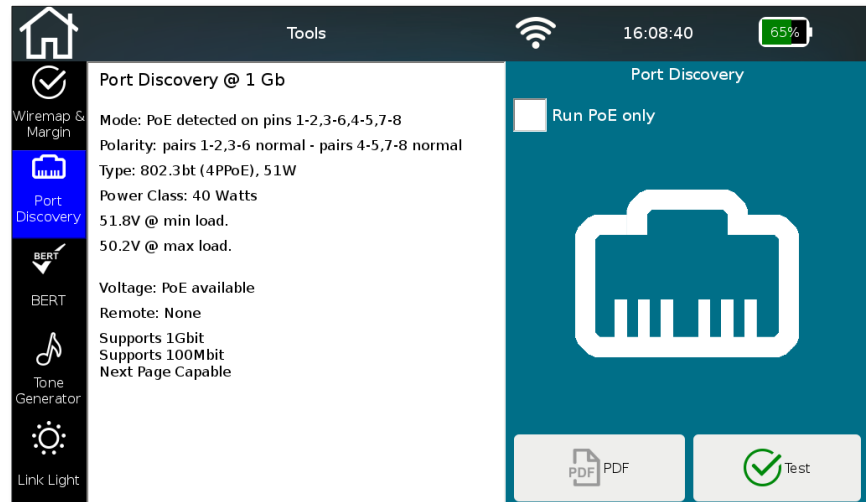
Cooper „Tools" menu
Separate Bit Error Rate Test (BERT)

- Preset test times depending on selected Ethernet speed

  - Test times are based on statistical security (see table below, which is based on "required bit error rate" defined by IEEE)

  - Values can also be adjusted between 0 (continuous test) to 300 seconds

  - Evaluation via sent and received packets

  - Documentable as PDF

Transmission format	Standards reference	Required Bit Error Rate in standards reference	Test time for 10% confidence level	Test time for 63% confidence level	Test time for 95% confidence level
1G	IEEE Std 802.3ab	10^{-10}	1 second	10 seconds	30 seconds
2.5G	IEEE Std 802.3bz	10^{-12}	42 seconds	6 minutes 38 seconds	19 minutes 58 seconds
5G	IEEE Std 802.3bz	10^{-12}	21 seconds	3 minutes 19 seconds	9 minutes 59 seconds
10G	IEEE Std 802.3an	10^{-12}	11 seconds	1 minute 39 seconds	5 minutes 0 seconds

Copper „Tools" menu
Ton generator

- Acoustic signaling
  - Signal pairs freely selectable
- Acceptance via any analog inductive receiver
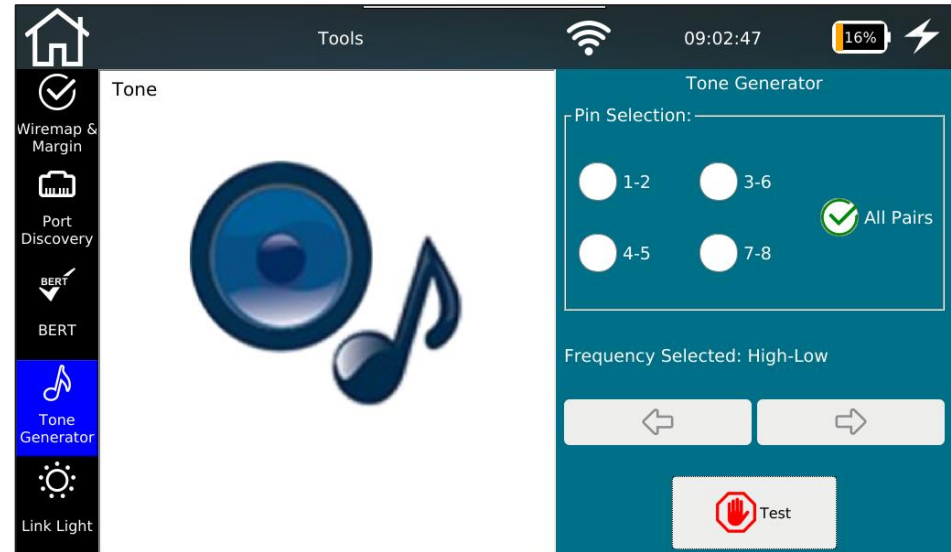
Copper „Tools" menu
Link light

- Optical port detection on the switch
  - Localization of the connected switch port
  - Slow flashing link LED (0.5Hz)

Fiber „Tools" menu
General

- Additional functions
  - BERT
  - Microscope (in progress)
  - SFP test (in progress)
  - Link Light

BERT

BERT

Microscope

SFP

Link Light

Fiber „Tools" menu
BERT

- Preset test times depending on selected Ethernet speed

  - Test times are based on statistical security (see table below, which is based on "required bit error rate" defined by IEEE)

  - Values can also be adjusted between 0 (continuous test) to 300 seconds

  - Evaluation via sent and received packets

  - Documentable as PDF

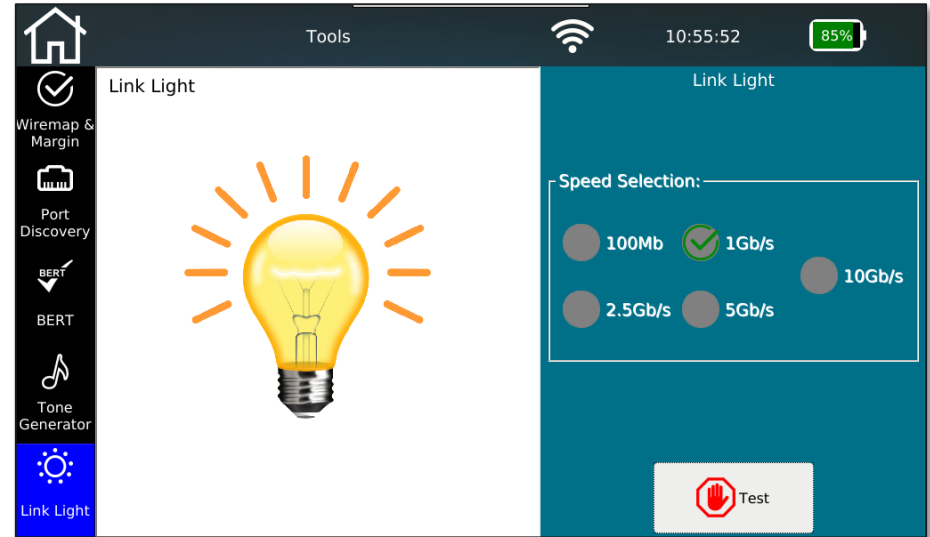| Transmission format	Standards reference	Required Bit Error Rate in standards reference	Test time for 10% confidence level	Test time for 63% confidence level	Test time for 95% confidence level
1G	IEEE Std 802.3ab	10^{-10}	1 second	10 seconds	30 seconds
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Fiber „Tools" menu
Link light

- Optical port detection on the switch
  - Localization of the connected switch port
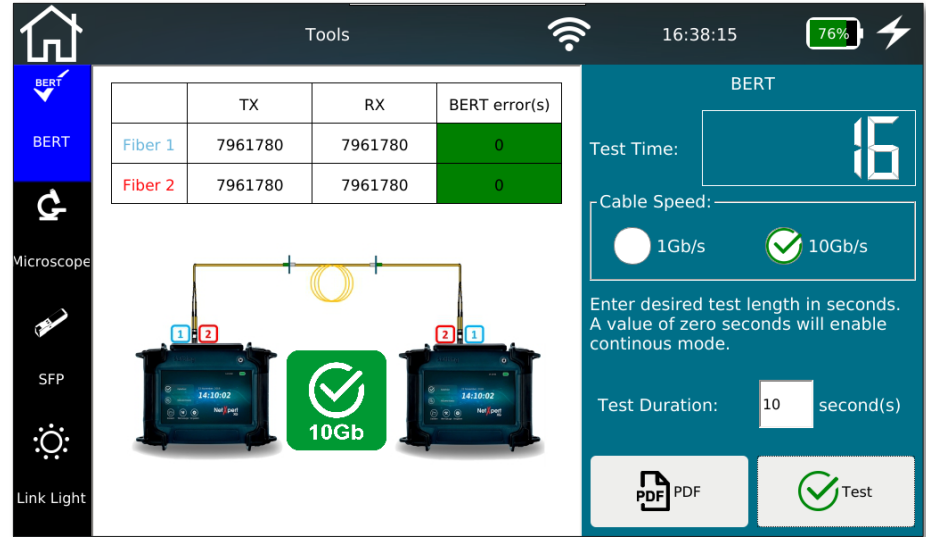 - Slow flashing link LED (0.5Hz)

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„Settings" menu
General

- Specify IP Details
- Wi-Fi scan and connection
- System settings
  - Language settings
  - Date/time
  - Energy saving options
  - Units (ft/m) and wiring standard (T568A/T568B) settings
- Header information and logo selection for report generation
- Info screens on
  - Installed firmware
 - Integrated hardware
  - Manufacturer contact details
  - Active licenses and upgrade options

„Settings" menu
Specify IP Details

- Selecting interface for active tests

  - RJ45-Port for copper

    - Auto negotiation or fixed speed

  - „1GbE" cage for fiber optic testing at 1 Gigabit Ethernet via optional SFP module

  - „10GbE"- cage for fiber optic testing at 1 Gigabit Ethernet via optional SFP+ module

    - After this selection, the device boots into a special mode

  - Wi-Fi

    - Wi-Fi connection with DHCP address assignment

    - Wi-Fi is enabled, only if the unit is connected to a network

- Additional device information for integration into an active network

  - MAC address

  - IPv6 Link local adress

- IPv4 address assignment

  - Via DHCP or

  - Manual input

  - Optional activation of VLAN function
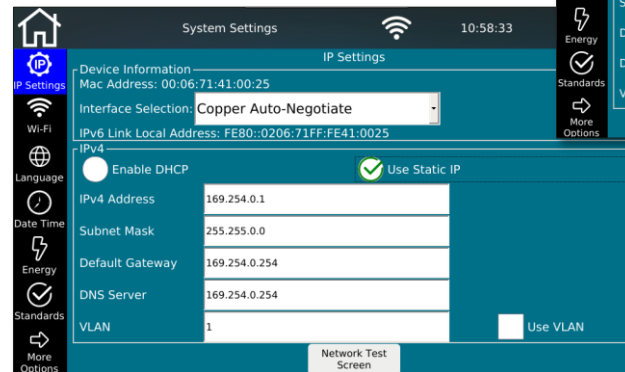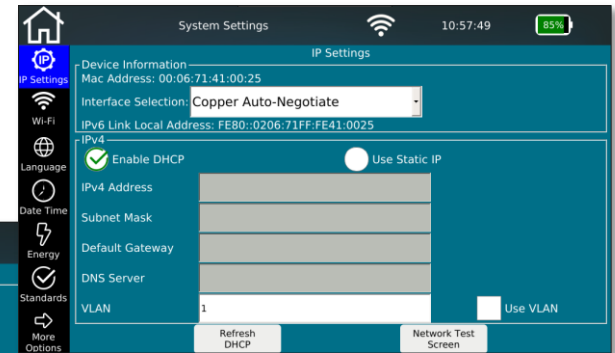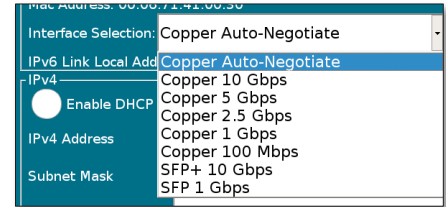
„Settings" menu
Wi-Fi scan and connection

- By selecting the menu item, a network scan in the 2.4 GHz band starts automatically

- Display of founded SSIDs
  - Display the name
  - Signal strength
  - Encryption methods

- Selection of the WLAN network to establish the connection
  - Password entry (if necessary)

- After the connection is established, all active network tests are available
  - "WiFi" must be selected from the drop-down list as interface in the IP Settings menu

- Available VNC functions
  - Remote control of the device functions
  - Presentation mode
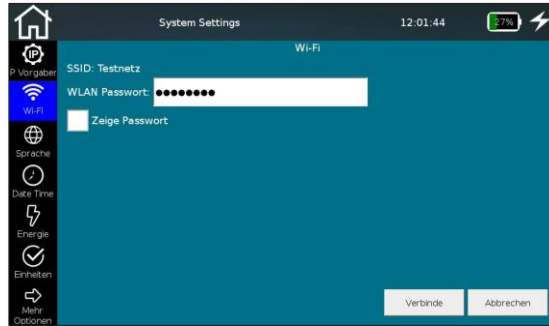
„Settings" menu
System settings

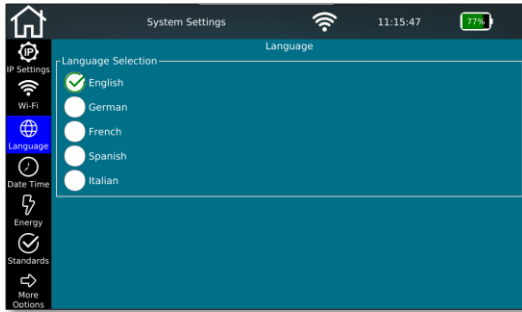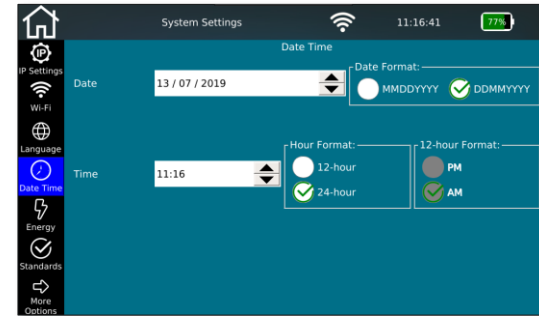- Device specific system settings
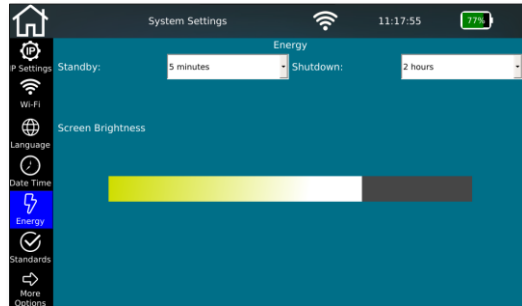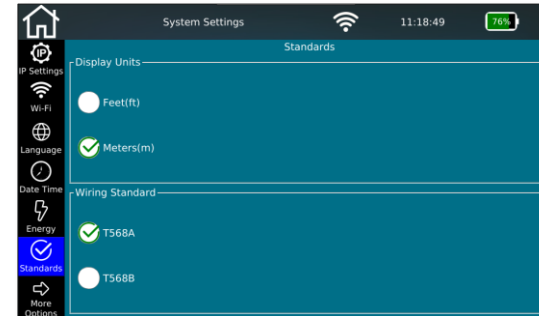
  - Language settings

  - Date/Time

  - Energy saving options

  - Units (ft/m) /wiring standards

„Settings" menu
Header information and logo selection for report generation

- Information that can be permanently displayed as header information on the test reports

  - Company that is conducting the test

  - Technician who is conducting the test

  - Contact details of the company

    - E-mail address

    - Telephone number

- Logo of the company that is conducting the test

  - Enable and disable the logo display on the test reports

  - Import from external sources via USB stick

    - Note allowed file formats

    - Note size limitation
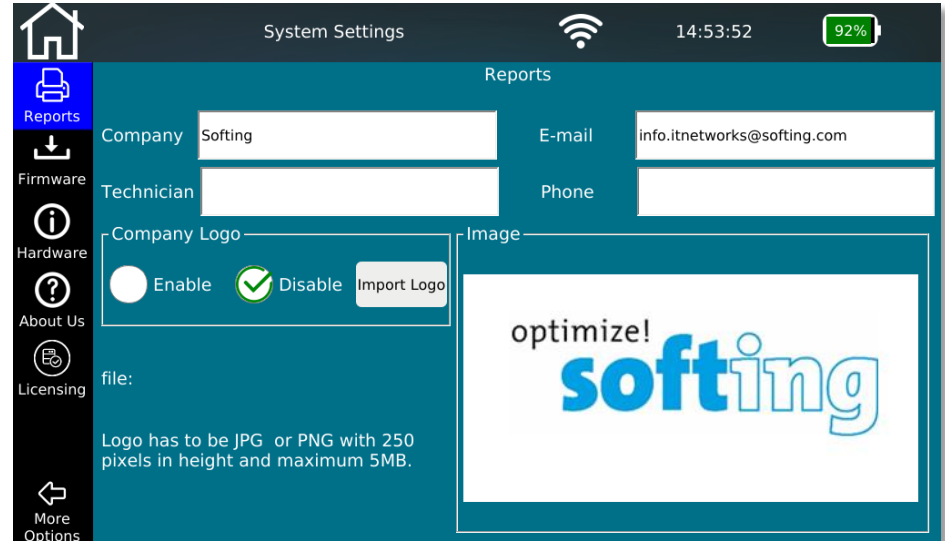
„Settings" menu
Info screens

- Info screens on

  - Installed firmware

  - Integrated hardware

  - Manufacturer contact details

  - Active licenses and upgrade options

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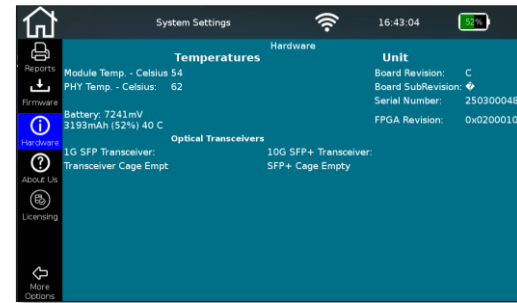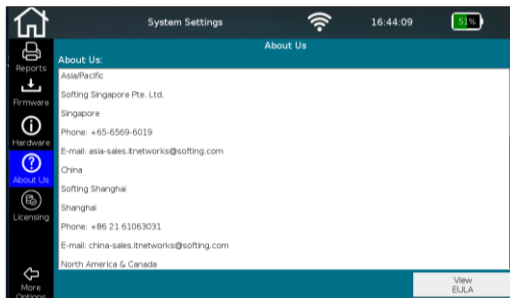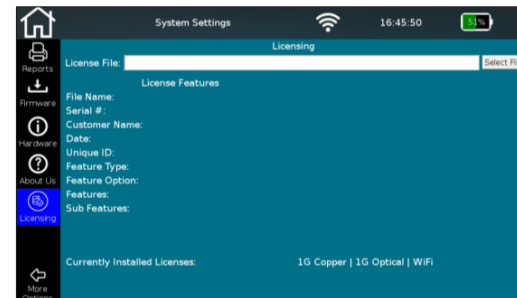# Licensing system
General

- „Step-up" license
    - Upgrades the test speed one level at a time
    - Installation via USB-Stick after purchase
- „Functional" license
    - Free or paid feature enhancements
- Hardware has a license preinstalled up to 1 Gbit/s
- Higher models need additionally 1 or 2 license vouchers for corresponding model
    - The serial number of the product and the voucher code must be sent to Softing per e-mail
- License key is binary file for specific serial numbers
    - It can only be used on one device
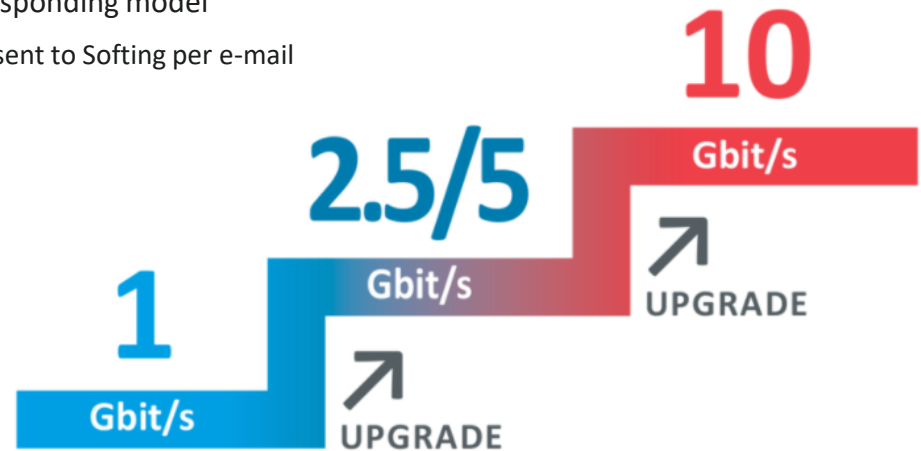
Licensing system
Installing a license

- Two ways to upgrade a license

  - Buy a NetXpert XG in 2.5 / 5G or 10G version

    - Product is always delivered with a 1G license installed

    - One or two license vouchers are delivered in a separate box

    - Email the voucher codes and the serial number of the main unit to upgrade.itnetworks@softing.com (Serial number can be found on system settings –> hardware or at the back side of the main unit)

    - Softing replies with a file (binary license file) to be installed on the main unit via USB-Stick

  - Buy a voucher at a later date

    - Classic order transaction via dealer with the serial number of the main unit

    - Download the attached file from the e-mail (binary license file) to USB stick and import to main unit

- Each installed license will be displayed at the bottom of the screen

Firmware updates

- Regular firmware updates
  - Bug fixing
  - Basic (free of charge) performance enhancements
  - Informing the end customers directly
  - Available via Softing webpage at no charge
  - Regular update cycle
  - Installing via USB stick
  - „Over the air" (planned)

For further inquiries and support:

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EMEA
Softing SARL
87 Rue du Général Leclerc
94000 Créteil • France
+33 (0) 1 45 17 28 05
info.france@softing.com

Germany
Softing IT Networks GmbH
Richard-Reitzner-Allee 6
85540 Haar
+49 89 45 656 660
info.itnetworks@softing.com

USA
Softing Inc.
7209 Chapman Highway
Knoxville, TN 37920
+1.865.251.5252
sales@softing.us

Singapore
Softing Singapore Pte Ltd
73 Science Park Drive
Singapore 118254
+65 6569 6019
asia-sales.itnetworks@softing.com

IT Networks