NUGEN V2

SMPTE Cable Test Set

Cable Test Set Users Guide

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Section 1 Safety

Prior to using the quick start guide or operating the equipment in any way, it is highly suggested the user reads all safety information.

This product has been designed and tested in accordance with the Manufacturer's safety standards, and has been supplied in a safe condition.

Personal Safety

Personnel should always be aware when working with fiber optic test equipment that active fibers may be present and therefore invisible infrared optical energy may be present.

Never look directly into the end of a connected fiber optic cable or fiber optic adapter of test equipment, to do so could expose the user to laser radiation and could result in sever personal injury.

To Prevent Fire or Shock Hazard

- Batteries are not field replaceable, equipment must be returned to the factory for battery replacement
- Do not use the charger without the batteries installed
- Do not expose the battery charger to rain or excessive moisture
- Do not use the AC adapter when there are signs of damage to the enclosure or cord
- Ensure that you are using the correct charger for the local line voltage

To Prevent Connector Damage

Fiber-optic connectors are easily contaminated or damaged. The connections to the NUGEN V2 SMPTE Lost Test Set is a physical contact type of connection and dirty or damaged connectors may impair the instruments capabilities at minimum and at worst result in the need to return this equipment to the factory for expensive repairs. Prior to making any connection to the unit, ensure that all proper cleaning procedures have been followed.

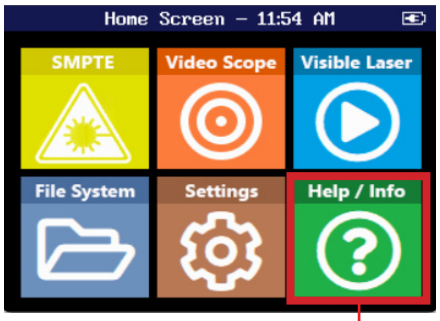
The NUGEN V2 SMPTE Lost Test Set is shipped with Ultra polished fiber optic connectors as appropriate per industry standards. Ensure the proper connector is used to interface with the unit. It is suggested a reference patch cord be used between the tester and the cable under test, to minimize multiple connections and disconnections and to ensure proper testing practices while using the NUGEN V2 SMPTE Loss Test Set

Section 2 Quick Start Guide

Power Up

Press the button to power on the SMPTE Cable Tester, the home screen will be displayed.

The home screen offers direct access to the SMPTE and Video Scope modules. The visible laser is operated directly from the home screen, simply touch the Visible Laser icon and toggle through CW, modulated and off. File management icon opens file management screen to manipulate and transfer files saved in the Video Scope. The settings icon opens the settings page to set date and time and pass/fail threshold in the SMPTE tester. The Help icon offers the user a link to FIS Blue Inc., manuals, PC application software, equipment upgrades and training online.



Link to FIS Blue manuals, upgrades and training online.

Setting Screen

Select the Settings icon to open the settings screen.

Date and Time Settings

Power Threshold Settings

Setup

Follow the steps below for initial setup and periodic adjustments

- From the Home screen, select the Settings icon to enter the settings screen.
- Set the date and time for accurate time stamps on saved video scope files.
- The pass threshold range for the fiber conductors is also set in the setting screen. Use the check box to turn the threshold on or off on the fiber conductors. Long hold the value to cycle through available values. When finished, select the Exit icon in the top left of the display.

Section 2 Quick Start Guide

SMPTE Operation Screen

Menu Icon Functions

Settings Icon	Select to open the settings screen and access real time clock and threshold settings.
File Mgt. Icon	Select to open file management for video scope files.
Home Icon	Select the home icon to return to the home screen.

Zero Reference Remote Adapter Unit

- Connect the remote adapter unit with EDW connector to the NUGEN SMPTE Controller.

  Note: The Fiber test include results of both fibers simultaneously looped through the remote unit.

- Press the Power button to power on the SMTPE tester.

- Press the Source button to turn on the 1310nm laser, allow the source to warm up a few minutes then touch the Zero button to zero the 1310 reading. Press the source button again to activate the 1550nm, allow to warm a few minutes and touch the Zero button.

  Note: The zero reference is stored until a new zero reference is set or the unit is powered off.

Remote Adapter Unit

Section 2 Quick Start Guide

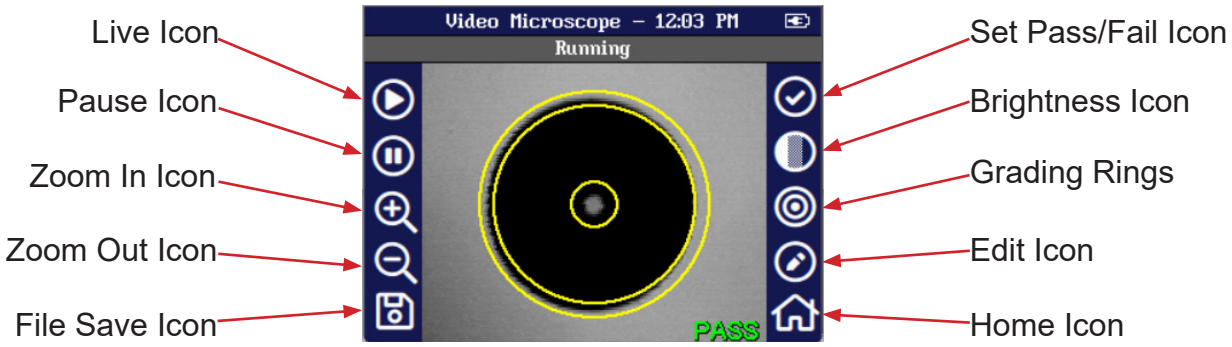
Testing a Cable

- Find the male/plug FXW end of the cable to be evaluated and connect to the NUGEN SMPTE controller.
- Connect the Remote Unit to the female/socket EDW end of the cable.
- Using the Source button, cycle to 1310nm or 1550nm to test fiber at each wavelength. Observe the amount of signal loss on the control unit display to determine if the fiber is attenuated.

  Note: The zero reference is stored until a new zero reference is set or the unit is powered off.
- The copper conductor tests is produce simultaneously and is presented by color code with a green (pass) or red (fail) indicator adjacent to each wire color. A successful test of the copper conductors will result in all copper indicators on the front of the control unit, displaying green (pass)

Video Microscope

Video Microscope Icons



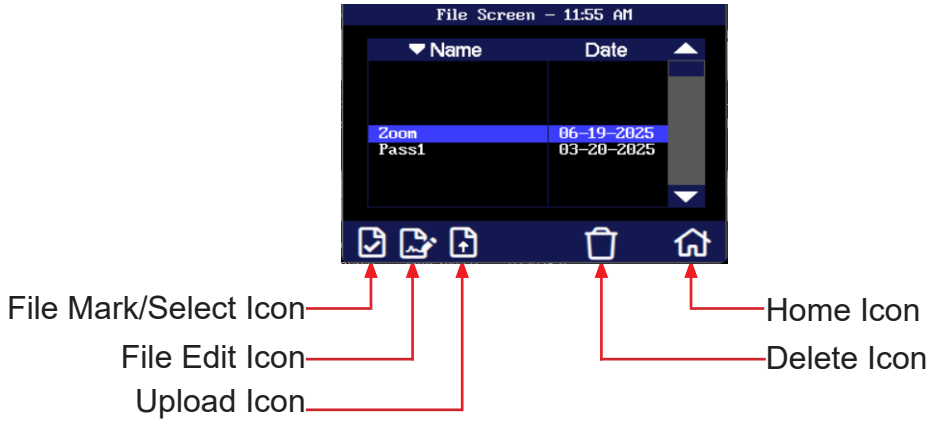
Video Scope Icon Function

Live Icon	Selecting the live icon turns on live or running mode. This is a real time reading of the connector face.
Pause	To freeze an image inspection, select the Pause icon. While in auto of the auto/pass/fail mode, pressing pause will also grade the connector end face and display calculated pass or fail.
Zoom In	Selecting Zoom In increases the image to 250x
Zoom Out	Selecting Zoom Out returns the image to 125X
Save Icon	Selecting the Save Icon opens the file save/naming screen with QWERTY keyboard

Pass/Fail	Selecting the set pass/fail icon while in the live mode will toggle through fail, pass and auto grading markers (Auto will be accomplished by the unit when entering the pause mode.)
Brightness	Selecting the brightness icon will cycle through the brightness levels available.
Grading Rings	Selecting this icon will toggle the grading rings off and on. These pass/fail grading rings are used to assist with manually grading a connector. The rings represent 25um, 120um, 130um and 250um.
Edit Icon	This is used to mark the points of contamination and is accomplished in the paused mode. Available markers will be displayed at the top of the screen. Pick up the marker by using the stylus and touching the contamination sample size that is required. Touch the image where the marker is to be placed. The marker may be fine-tuned with the stylus to cover the contamination point. Once positioned properly, touch the statement “Place marker on image then touch here” to lock marker in place. Repeat this as necessary to mark all the points that need to be indicated for the pass/fail status. At this point the image should be saved as the marks are removed upon returning to live mode.
Home Icon	Select the home icon to return to the home screen.

File Management

File Management Screen/Icons



Icon Function/Use

Mark/Select	Selecting this will mark the highlighted file for uploading or deleting.
File Edit	When selected the highlighted file will open in with the QWERTY keyboard for editing.
Upload Icon	Selecting this will upload marked and highlighted files to the computer through FIS Blue Connect Software.
Delete Icon	This is a non-recoverable delete key, once selected the marked and highlighted files are erased immediately.
Home Icon	Select the home icon to return to the home screen

Section 3 Introduction

The FIS Blue NUGEN V2 SMPTE Cable Test Set conducts a dB loss test on both fiber conductors and a continuity test on six copper conductors of a SMPTE cable in a single test. It is fitted with a FXW socket connector on the controller and a EDW plug on the remote adapter. This set will provide the user with link attenuation (dB) or power (dBm) readings on both fiber conductors and a continuity test on the six copper conductors in one simple test. It can test at 1310nm and 1550nm. The simple display shows a color coded list of the six copper conductors with pass/fail and toggles a dBm reading with pass/fail at 1310nm or 1550nm. A built-in Video Inspection Probe is included to ensure proper cleanliness of connector end faces. The video scope test results may be saved for future reference and may be downloaded to file or be viewed on a computer. A VFL is also included for quick fiber continuity test.

Section 4 Preparation For Use

4.1 Inspection

Before shipment, this instrument was inspected and found to be in perfect working order and free of defects.

The shipping carton contains the following:

1. NUGEN V2 SMPTE Cable Test Set
2. SMPTE remote adapter with EDW (Male connector)
3. USB 5V, 3.4A charger
4. USB C cable
5. Quick Reference Guide

Each instrument's model/part number, serial number and date of manufacture are indicated on a label located on the back of the unit. The instrument's history is filed at the factory by model/part number and serial number.

4.2 Power Requirements

The NUGEN V2 SMPTE Cable Test Set is equipped with a 8000mAh Li-Poly battery. It is also supplied with a 100-240V USB power adapter with 5VDC, 3.4A output. A fully charged Li-Poly battery will typically enable approximately 10 hrs. of use and require approximately 4 hours of recharging.

Warning

To Prevent Fire or Shock Hazard:

- Batteries are not field replaceable, equipment must be returned to the factory for battery replacement
- Do not use the charger without the batteries installed
- Do not expose the battery charger to rain or excessive moisture
- Do not use the AC adapter when there are signs of damage to the enclosure or cord
- Ensure that you are using the correct charger for the local line voltage

Failure to follow these caution statements may void the warranty of this equipment.

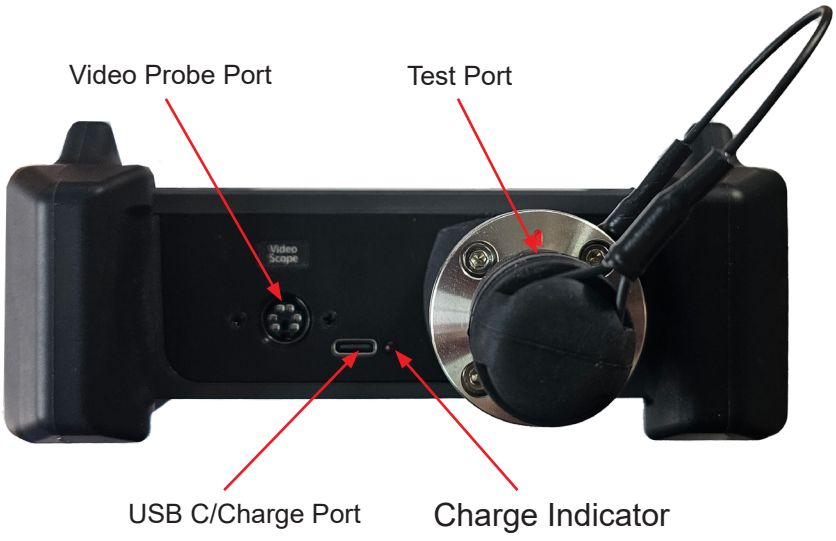
Section 5 Physical Description

The SMPTE Cable Test Set is packaged in a rugged housing which is further protected with a rubberized boot. Although the front panel is weather resistant, care must be taken to avoid liquids and contaminants around the fragile optical and electrical connectors, and the glass display. Use a mild cleaning agent and damp soft cloth to clean the panels and the outside case. See the maintenance section for notes to clean the optical connector. NEVER open the instrument for cleaning. Return to the factory for servicing if necessary.

NUGEN V2 SMPTE Cable Tester

Front Panel

Top Plate



Section 5 Physical Description

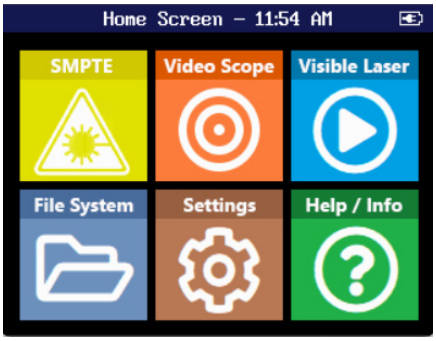
Remote Adapter Unit (EDW Connector)

This connector is used directly attached to the unit for zero referencing purposes and as a loop-back on the far end of the cable under test. This unit is not a field serviceable unit and if damaged, must be returned for repair.

Remote Adapter Unit

Section 6 User Interface

6.1 Home Screen



Home Page Icons

SMPTE	Select this icon to open the SMPTE cable testing module.
Video Scope	Select this video scope icon to enter the video scope module.
Visible Laser	The visible laser is operated directly from the home screen, simply touch the Visible Laser icon and toggle through CW, modulated and off.
File System	File management icon opens full file management module
Settings	Settings icon opens the settings page.
Help / Info	The Help icon offers the user a link to FIS Blue manuals and training online.

6.2 SMPTE Operation screen

Section 7 Operation

7.1 Start-up

Press and hold the power button for one second to start the NUGEN V2 SMPTE Cable Test Set.

Warm-up

There is no warm up period with these units, however, when each light source is first powered on to zero reference, it should be given a few minutes to stabilize prior to touching the Zero Button. “In extreme temperature conditions it may be necessary to re-reference roughly 10 minutes after the initial reference.

As is the case with any light source & power meter setup, if at some point the test results seem skewed or unexpected, the primary tactic is to re-referencing the source to the meter.

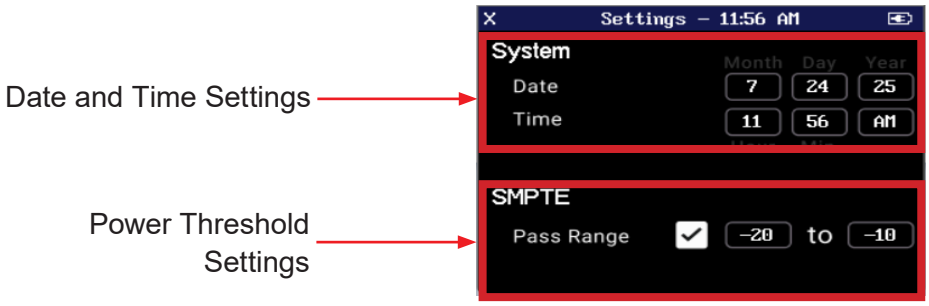
Make sure to always practice proper cleaning procedures on all fiber optic connectors and equipment during this process.

7.2 Settings Screens

The setting screens is accessible from the home screen. The setting screen allows the user to set a real-time clock for saved video scope files as well as the pass threshold for SMPTE dB measurements.

Select the Settings icon to open the settings screen.

Settings Screen



Set Date and Time

To ensure proper date and time stamps on saved files, set date and time to the local time zone.

To set the date and time, long hold the date and time fields to scroll through available numbers until the proper information is displayed.

Section 7 Operation

Set dB Pass Threshold

To set the pass threshold, long hold the threshold values to cycle through the available settings. The check box is used to turn on or off the pass/fail annunciator on the fiber test.

Note: dBm measurements do not have a pass/fail threshold and the copper tests are always set to pass/fail.

7.3 Zero Reference Remote Adapter Unit

The remote adapter unit is EDW Connector and is used on the far end, the FXW end of the cable under test.

Remote Adapter Unit

Connect Remote Adapter Unit

Connect the remote adapter unit with EDW connector to to the NUGEN SMPTE Controller.

Note: The fiber test include results for both fibers simultaneously looped through the remote unit.

Power On Tester

Press the Power button to power on the SMPTE tester.

Zero Remote Adapter Unit

Press the Source button to turn on the 1310nm laser and allow the source to warm up a few minutes to stabilize. Touch the Zero button to zero the 1310 reading. Press the source button again to activate the 1550nm, allow to it warm and stabilize and touch the zero button again.

Note: The zero reference is stored until a new zero reference is set or the unit is powered off.

Remote Unit Adapter

Section 7 Operation

7.4 Conduct a Cable Test

SMPTE Test Screen

Menu Icon Functions

	Settings	Settings screen allows the user to set the realtime clock and loss threshold
	File Save	Opens file save screen with QWERTY keyboard
	Home	Returns to the home screen

To Prevent Connector Damage Fiber Optic Conductors

Fiber-optic connectors are easily contaminated or damaged. The connections to the NUGEN SMPTE Cable Test Set are a physical contact type of connection and dirty or damaged connectors may impair the instruments capabilities at minimum and at worst result in the need to return this equipment to the factory for expensive repairs. Prior to making any connection to the unit, ensure that all proper cleaning procedures have been followed.

The NUGEN SMPTE Cable Test Set is shipped with an FXW connector that includes UPC polished fiber optic connectors, per industry standards. Ensure the proper connector is used to interface with the unit. It is suggested a video scope is used to check the fiber terminals and clean with the proper connector cleaner prior to connecting the connector to the controller and remote unit.

Section 7 Operation

Connecting Cables

After ensuring proper cleanliness practices have been accomplished, find the male/plug FXW end of the cable to be evaluated and connect it to the remote unit. Connect the EDW connector on the opposite end of the cable to the SMPTE Cable Test Set.

Conducting a Test

Electrical Test

The electrical portion of the test is conducted immediately upon closing the circuit between the controller and the remote unit. It is presented as five color coded pass/fail entries, with the color being the color of the wire conductor.

Fiber Test

With a zero reference completed and stored in memory, touch the Source button once to activate the 1310nm laser, and twice to power the 1550nm. A third press of the source button shuts off the laser. The dB Pass/Fail Indicator on the screen will display a referenced dB loss with a green pass or red fail. If the pass/fail indicator is turned on. If the laser is not powered on, the reading will show Low with a Fail.

> Note: If the laser is powered on, the Laser Activity Indicator will illuminate for a positive indication that the light source is powered on.

The fiber reading is indicating pass or fail based on wavelength, not which fiber conductor.

db/dBm Readings

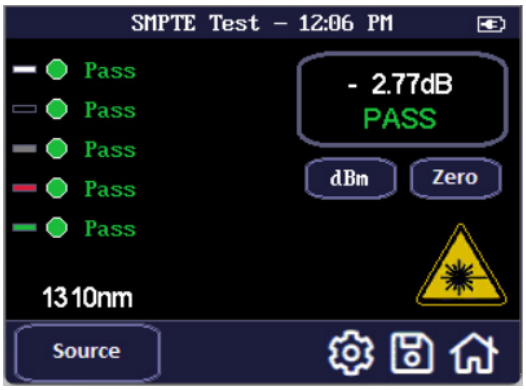
If only a power reading is desired, touch the dBm button to display a the dBm power reading. There is no pass or fail threshold or indication while in dBm mode. The dBm button will toggle to dB while in dBm mode, to return to dB, simply touch the dB button.

Section 7 Operation

Pass/Fail Screen Examples

Passed Test

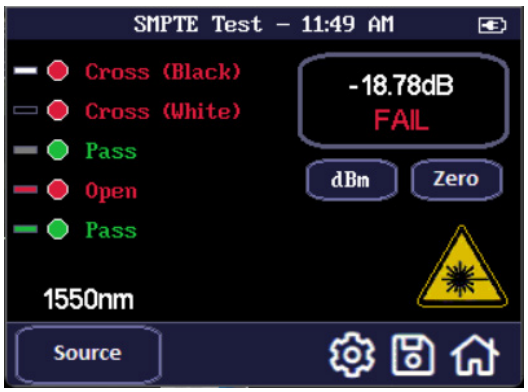
Below is an example of a passed cable. All copper conductors passed the continuity test and test for shorts/cross. The fiber passed at 1310nm. It is suggested if equipment will be using 1550nm sources, that a test also be conducted at 1550nm wavelength, if it fails at 1550, it could indicate a micro or macro bend in one of the fiber optic conductors.



Passed Test

Failed Test

Below is an example of a failed cable. This indicates a short/cross in the black and white conductors. It also shows and open or lack of continuity in the red conductor. The fiber conductors failed at 1550nm. It may be advisable to test at 1310nm to see if it passes at that wavelength. If it did pass at 1310nm, it may be an indication of micro or macro bends in one of the fiber cables.



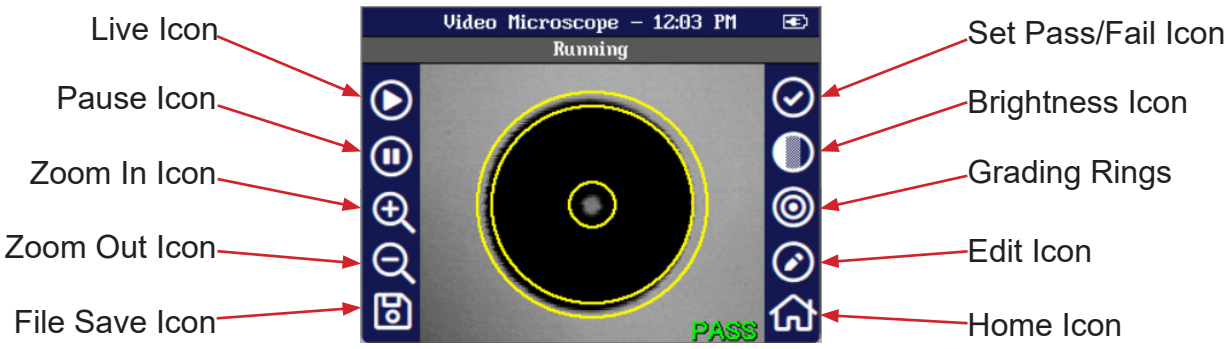
Failed Test

Section 8 Video Scope Operation

8.1 Video Scope User Interface

Select Video Scope icon from the home screen.

Video Scope Screen



Video Scope Icon Function

	Live	Selecting the live icon turns on live or running mode
	Pause	Selecting pause freezes an image in position and focus level for inspection, also runs auto pass/fail when set to auto.
	Zoom In	Toggles image to 250x
	Zoom Out	Toggles image to 125x
	File Save	Selecting this icon opens file save to the QWERTY keyboard
	Set Pass/Fail	Sets pass, fail and auto grading markers
	Brightness	Selecting the brightness icon will cycle through the brightness levels available
	Grading Rings	Selecting this icon will toggle the grading rings off and on
	Edit	This is used to mark the points of contamination on image
	Home	Returns to the home screen

Section 8 Video Scope Operation

8.2 Video Probe Operation

To operate the video scope, touch the Scope icon on the Home Screen. If a probe is not connected already, connect the Video Probe to the video probe port on the top of the unit.

Video Probe Tips

There are a number of video probe tips available. To remove a tip from the Probe, grasp the probe tip and unscrew the tip retention nut from the tip. Pull the tip straight up from the probe. To place a tip on the probe, ensure the lens is clean, slide the tip on to the end of the probe and tighten the tip retention nut. Do not overtighten the retention nut.

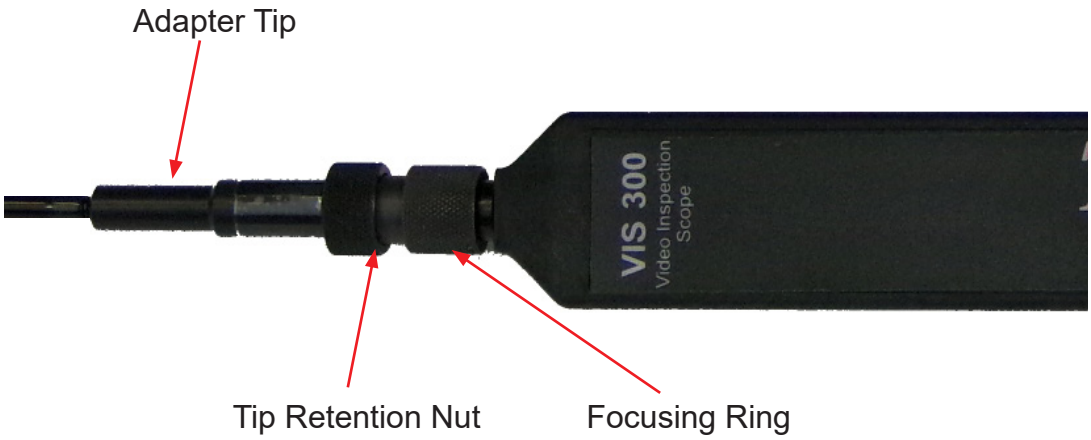


Fig 11.1

Viewing/Focusing a Connector

With the video scope turned on and the video probe plugged into the unit, insert a connector in to the tip or insert the panel adapter tip into the appropriate port. The scope must be in the live scanning (“Running” noted at the top of the display) mode to make focus adjustments. Use the focus ring to get the connector image as sharp as possible. When using panel adapters it is possible to turn the body of the probe while the adapter is inserted into the panel to make focus adjustments.

NOTE:
To auto center the image, touch the center of the connector core image and the connector will move as close as possible to the center of the display.

Section 8 Video Scope Operation

8.3 Video Scope Operation

Live / Pause

The scope starts up in live (Running) mode. To pause or freeze the image, select the Pause icon. Live is a real time viewing of the connector end face. Most features are available in live mode, however editing (marking contamination) is not.

Zoom In - Zoom Out

Select the Zoom In icon to increase the magnification to 250x. Selecting the Zoom-Out icon will return the image to 125x.

File Save

Selecting the File Save Icon opens the file save/naming screen with QWERTY keyboard. Enter the file name as desired, upon starting the unit, the default file name is “Default”. This will be the case every time the unit is powered on. Once a file is saved, the default file name is the previous saved name. There is a limit of 15 characters to file names. Once the file name is entered, select the Save (check mark) button. To back out without saving, select the Cancel (X) button

Pass/Fail Icon

Use the pass/fail icon to mark the connector image in live mode (running). Selecting the icon will cycle through fail, pass and auto. If set to auto, this allows the smart grading system to evaluate the connector. To start the auto pass fail process, with the image as close to centered as possible, select the Pause icon. The video scope will attempt to auto center then run the test and display a pass or fail label.

Note: If the connector shows all red or the test fails to complete, maneuver the probe tip to allow for centering of the image and retry the test.

Brightness

Touch the Brightness icon to cycle the brightness levels for best image quality. The brightness could affect the auto analysis.

Grading Rings

Turn on and off the grading rings when in live (running) mode. by selecting the Grading Rings Icon. These are use to indicate the IEC61300-3-35 grading zones. These pass/fail grading rings are used to assist with manually grading a connector. The rings represent 25um, 120um, 130um and 250um. Use Pass/Fail Criteria Tables on the following page to help grade the connector end face. 2, 3, 5 and 10 micron contaminant examples are displayed when the edit icon is active.

Edit (marking contamination points)
To mark the points of contamination the unit must be in paused mode. Pick up the contamination marker by using the stylus and touching the contamination sample size that is required. Touch the image to place the marker. The marker may be fine-tuned with the stylus to cover the contamination point on the image to be marked. Once the marker is positioned properly, touch the area just above the image that states “Place marker, touch here to apply” to lock the marker in place. Repeat this as necessary to mark all the points that need to be indicated for the pass/fail status. At this point the image should be saved, the markers will be cleared with the next scan.

8.4 Pass/Fail Criteria Tables

Fiber End Face Criteria Table

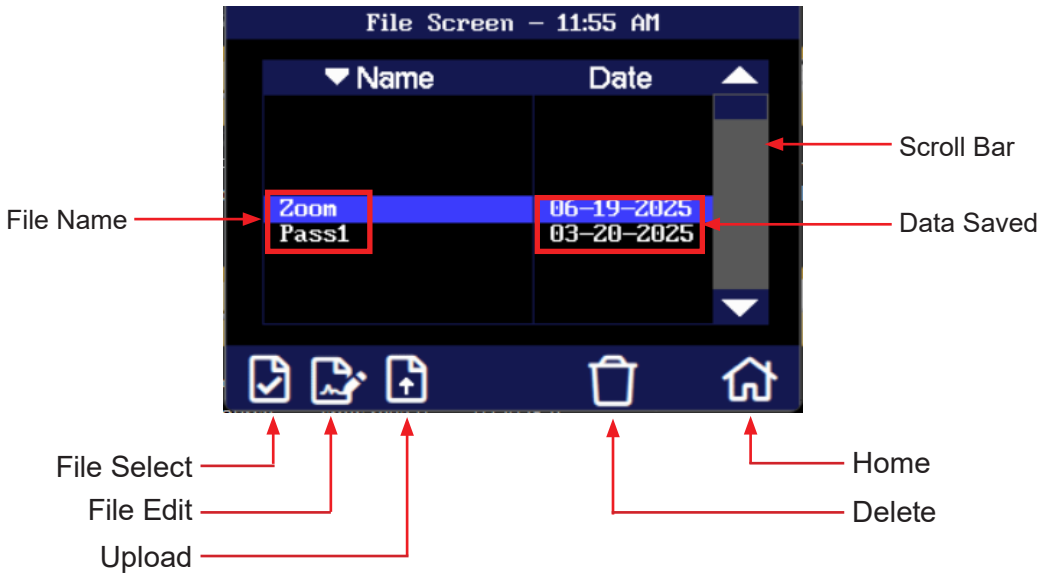
Zone	Description	Diameter	Allowable Scratches (Width)	Allowable Defects (Diameter)
A	Critical Zone	0µm to 25µm	None	None
B	Cladding Zone	25µm to 120µm	No limit ≤ 3µm None > 3µm	No Limit < 2µm 5 from 2µm to 5µm None > 5µm
C	Adhesive Zone	120µm to 130µm	No limit	No limit
D	Contact Zone	130µm to 250µm	No limit	None ≥ 10 µm

Section 9 File Management

File Management is accessed through the home screen menu or from the SMPTE test screen. The File button in the Scope screen opens the file save screen.

9.1 File Management Screen

Main File Management Screen



File Management Menu Icons

	File Select	Marks a file for an action/operation
	File Edit	Opens a file name to be edited
	Upload	Uploads marked files to FIS Blue Connect software
	Delete	Deletes marked files
	Home	Returns to the home screen

9.2 QWERTY File Naming Screen

9.3 File Management Operations

File Selection

Select a File to View

Touch above or below the center highlighted line of the file list or use the scroll bar to move a file into that highlighted position and touch the file name to open and view file.

Select Multiple Files

Multiple files may be uploaded (copied) to a computer, or deleted at a time. To mark the files for these operations, highlight a file to be included in the operation and touch the File Select icon. The highlighted filename will now be displayed in yellow and the next file will be in the highlighted position. Continue selecting files by touching the select icon. To skip files simply move down the file list until the next file to be marked is highlighted and touch File Select again. The file select is a toggle and to unmark a file, place it in the highlighted position and touch File Select again and it will be unmarked. Once the files are selected touch the icon for the delete or upload functions.

Note: If files have been marked for batch processing, only the marked files are process not the highlighted file as in single file processing. (The last file in a list may be marked when in the highlighted position) If only one file is to be process, having it in the highlighted position will be sufficient.

File Edit
With a file highlighted, select the File Edit icon and the file will be opened in the QWERTY keyboard screen. Make file name changes as necessary and select Save.

Upload Files
The upload files icon is used to send files to the computer for use with the FIS Blue Connect software suite. One or more files may be uploaded at a time. Use the mark (select) feature to select multiple file or have the file to be uploaded in the highlighted position. With NUGEN SMPTE Cable Test Set connected to the computer with the USB cable, and the FIS Blue Connect software running touch the upload icon and the files will transfer to the selected folder on the computer.

Delete Files
To delete a single file, with the file name in the highlighted position, touch the delete icon. To delete a group of files, mark all files to be processed and press the delete icon.

Note: Once the delete icon is selected, files are immediately deleted and they can not be recalled.

Exit
Select the Home icon to return to the home screen.

Section 10 Visual Fault Locator

10.1 VFL Safety

Caution

This Visual Fault Locator is classified as a Class II laser system and must be used with all commensurate safety precautions. Never view the light emanating from the fiber directly. Place a white piece of paper at the end of the fiber and look for the presence of a red spot on the paper.

10.2 VFL Description

The Visual Fault Locator emits visible (red) light at the 650 nm wavelength. Its intended function is to allow an operator to identify the exact location of a break, micro bend, or other discontinuity in a fiber optic cable. As the radiation is visible, light emanating from a break or micro bend enables the user to locate the exact position of a fault even at very short distances that would not be detectable by conventional means such as an Optical Time Domain Reflectometer, (OTDR). It is also useful for identifying a particular fiber in a cable by exciting the fiber to be located with visible radiation.

10.3 VFL Operation

The Visual Fault Locator is accessed from the home screen.

The fiber to be tested is connected to the SMPTE connector output port. The source may be used in one of its two modes, modulated or continuous. In the modulated mode the laser is turned on and off at a 2 Hz rate. This mode is helpful in permitting the user to identify the source radiation in the presence of high levels of ambient light. It also aids in conserving battery life. The usable range for fault location depends on many factors, the type of fiber, the type of cable, the overall loss. To activate the VFL, tap the VFL icon to cycle through the available states of off, continuous and modulated. An active laser symbol is displayed next to the battery indicator, steady illumination for CW mode and flashing indicator for modulated mode.

Section 11 Maintenance

11.1 Battery Replacement

The battery of the NUGEN V2 SMPTE Cable Test Set is not field replaceable, please call the factory for an RMA to replace the battery.

Warning

To Prevent Fire or Shock Hazard:

- Batteries are not field replaceable, equipment must be returned to the factory for battery replacement
- Do not use the charger without the batteries installed
- Do not expose the battery charger to rain or excessive moisture
- Do not use the AC adapter when there are signs of damage to the enclosure or cord
- Ensure that you are using the correct charger for the local line voltage

11.2 Calibration and Verification

Periodic verification of the NUGEN V2 SMPTE Lost Test Set is recommended to ensure that your instrument remains within specification. Although not imperative, we recommend a calibration and verification once a year to make certain the instrument is functioning properly and performing to its rated specifications. Consult the factory for service.

Section 12 Specifications

SPECIFICATIONS	
Power Meter Receiver	
Detector Type	InGaAs Photo-Diode
Wavelengths	1310nm/1550nm
Resolution	0.01dB
Measurement Range	60dB
Accuracy	+/-0.2dB
Light Source	
Wavelengths	1310nm/1550nm
Output Power (9/125um core)	-1dBm typical
Spectra Width (FWHM)	5nm typical
Visible Fault Locator (VFL)	650nm
Controller Unit	
Power Requirment	USB 5V, 2A
Battery	Li-poly
Battery LIfe (@25C)	10 hours typical
Recharge Time	4 hours typical
Operation Temperature	-10°C to +40°C
Storage Temperature	-20°C to +60°C
Display	4 inch color TFT
Dimensions	5.25”H x 6.125”W x 2.5”D (133mmH x 156mmW x 64mmD
Weight	1.5 lbs. (0.7kg)
Accessories Included	5V, 3.4A USB wall charger with USB cable, 2 Stylus, FIS connect PC software, quick reference guide

Section 13 Warranty, Repair and Trouble Shooting

13.1 Warranty Information

This product, including all mechanical, electrical, and optical parts and assemblies are unconditionally warranted to be free of defects in workmanship and material for a period of two (2) years from the date of delivery.

This warranty does not apply to expendable parts such as batteries or optical panel connectors, nor to any instrument or component which has been subjected to misuse, alteration, or fiber connector damage. It is the customer's responsibility to understand all the instructions and specifications prior to operating this instrument. This warranty does not extend to any loss or damage consequent to the failure of the warranted product.

13.2 Repair Information

If repair is required, simply call the factory for return instructions and a return authorization number (RMA).

13.3 Trouble Shooting Guide

Symptom	Possible Cause	Solution
LCD dark	Power not on	Press ON/OFF key
	Batteries require recharging	Recharge batteries
LCD white	Power cycled too quickly	Turn off wait 10 seconds – turn on
Instrument locked Up	Unexpected Operational Mode	Turn off (hold ON/OFF button in for 1 second) wait 10 seconds – then depress On/Off to turn the unit on.
Low or no power being displayed	Defective cord or dirty connector	Replace or clean cord
	mismatch in connector Polish	Examine connector ends for damage. Use UPC Connectors ONLY!
USB hookup to PC not functioning properly	USB connection fault between unit and PC	Reset FIS Blue Connect
	PC drivers not set properly	Un-install & re-install FIS Blue Connect software and drivers

Section 14 Version Control

Through a program of continuous improvement, we upgrade the features and performance of the instrument in an on going process. The instrument firmware version is accessible at power on, in the bottom right-hand corner of the display. The version changes and approximate release dates are as follows.

NUGEN V2 SMPTE

V1.0.0.0 – Original Release

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