

TTI Terahertz Technologies, Inc
Since 1989

30th
Anniversary
Edition

2019 CATALOG



**Photonic & Fiber Optic
Solutions**

**(888) U.S.-OTDRS
www.teratec.us**



**PROUDLY
MADE
IN THE USA**



TABLE OF CONTENTS



Fiber Optic Test Equipment

6

OTDRs ▪ Optical Spectrum Analyzers ▪ Tunable Laser Sources

Photonics Test and Measurement

38

Optical Chopper ▪ PDA ▪ Laser Tachometer

Product Index

55

View our instructional videos

ABOUT US

Terahertz Technologies Inc. manufactures fiber optic test equipment, photonic lab equipment, and analog/digital fiber optic links in the Mohawk Valley of Central New York. We are proud to put the MADE IN THE USA stamp on our products



QUALITY · SERVICE · EXPERIENCE · DEDICATION

OUR MISSION

Provide world class test and measurement designs in the industries we serve including Fiber Optics and Photonics technologies, and to continue with our passion for producing the highest quality equipment solutions in these industries.

This is our commitment to excellence for our customers, employees, stakeholders and the communities in which we thrive.

NOTE FROM THE PRESIDENT

The founders and team members of TTI have a wealth of experience in the Photonics and Fiber Optics test and measurement industry dating back to the early 1970s when fiber was still in its infancy. After many years of ingenuity and dedication, we founded TTI in 1989 with the purpose of continuing to delight our customers, assist them in finding the best solutions, and keeping abreast of the technologies they deploy. Our roots may be in the Mohawk Valley Fiber Optic Industry of central New York, but our reach is global, and we pride ourselves in being a world class producer.

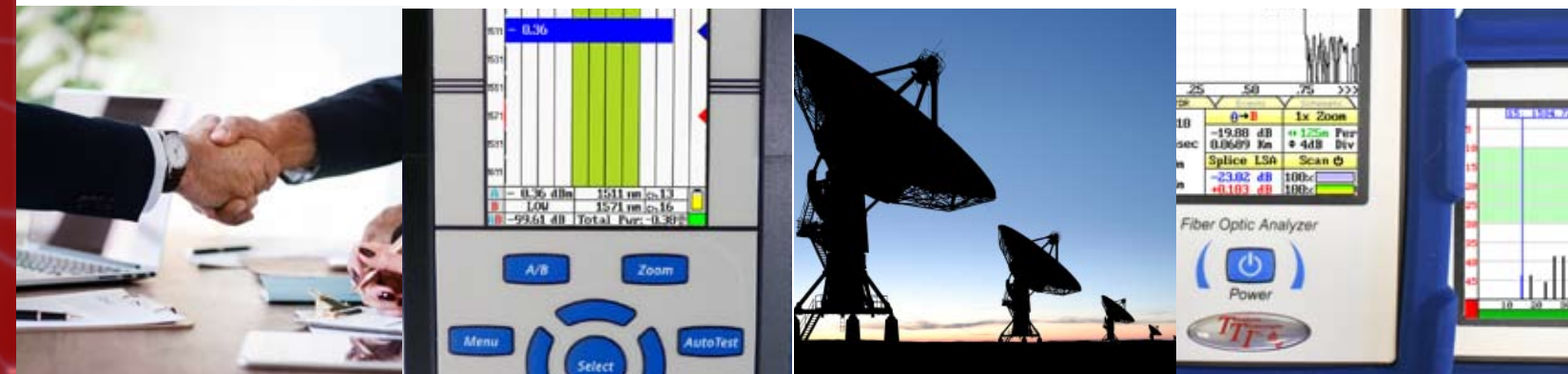


Our technology and product development experiences include design and marketing the world's first commercial processor driven Optical Time Domain Reflectometer. Other historic developments include Radiometric Energy and Power Meters, Optical Choppers, Space Probe Mission Sensors, and the industry standard Electrically Calibrated Pyroelectric Radiometer.

Through our experiences the principle engineers at TTI are proud to have amassed over 100 years of combined experience in photonics and fiber optic instrumentation. We also are extremely proud to be one of the few USA developers and manufacturers of OTDRs and high tech photonics equipment, and look forward to maintaining this commitment.

Mike Mazzatti

Mike Mazzatti, President and CEO



TTI TURNS 30

1989-2019
●●●●●

TTI develops and expands its line of advanced photonics products

FTE-7500, LTS & Transponder development

1989

2000s

2009

1990s

2007

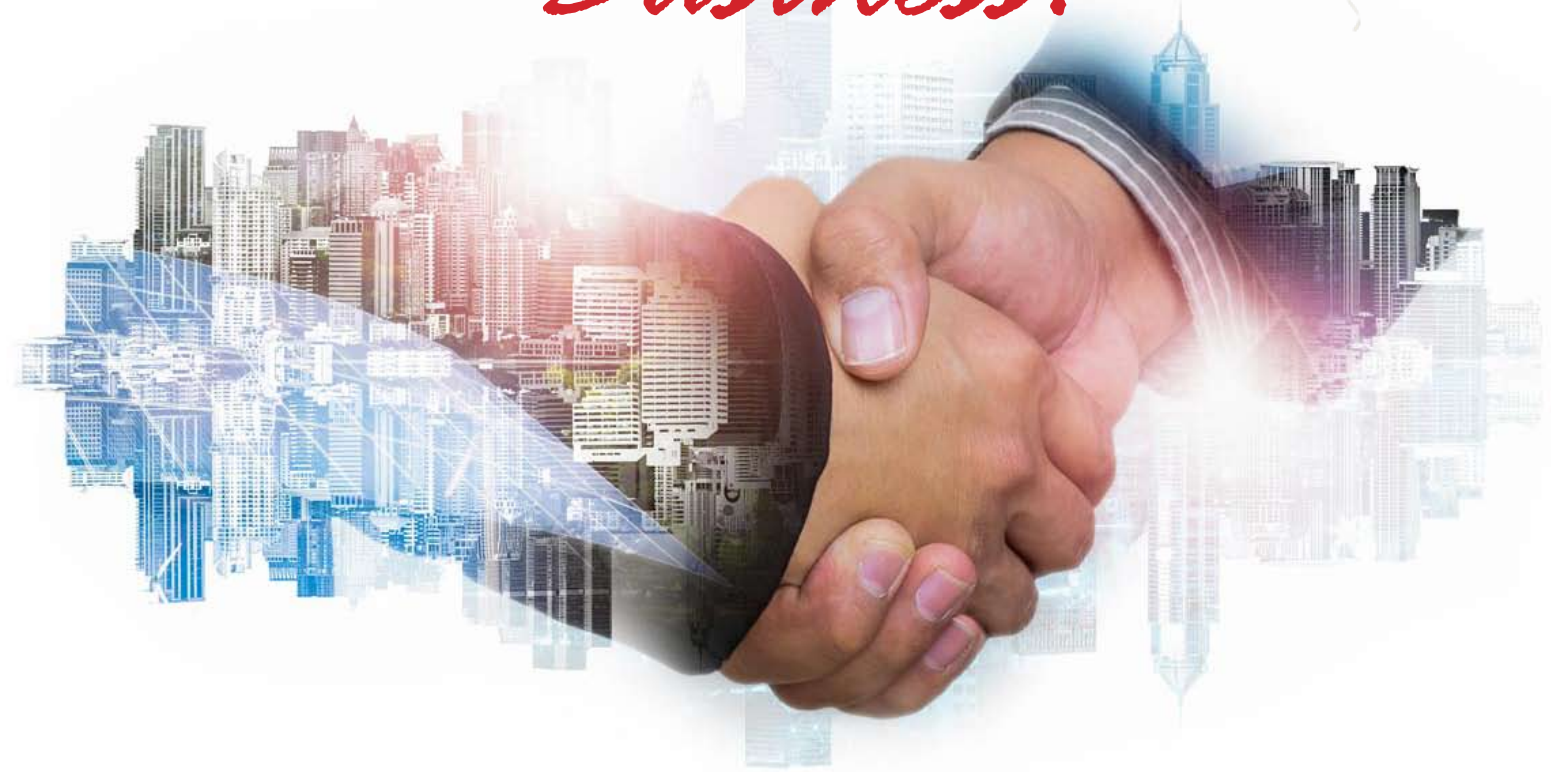


Founded in Oriskany, NY with a focus on FO OEM Optoelectronics

Developed OVM OTDR, **world's first 4" screen handheld OTDR**

Viper OTDR & DWDM Mini OSA

Thank You for your Business!



Advanced Touchscreen ORL, LTS & Video Scope

Handheld 12-Channel CWDM OTDR

2011

2015

2018

2014

2017

2020

Advanced, PON & CWDM OTDRs, Video Scope

Advanced Mini OSAs & Touchscreen OTDRs

Miniature Touchscreen uTDR, CertSoft v2.0

2019

Check out our product list and visit our website to view our latest advanced technologies

FTE-7100-CWDM-10 OTDR



Features

- Up to 10 CWDM Wavelengths
- 1 Meter Dead Zone
- Touch Screen
- Video Scope Option With Auto Pass/Fail
- VFL & Power Meter Options
- Bluetooth Operation Android Devices
- Fib-R-Map Event Analyzer
- Macro Bend and Bidirectional Analysis
- Full Auto and Expert Modes
- Instant On, Immediate Scan
- Live Fiber Detection

Advanced features in a small package

The FTE-7100 CWDM MICROTDR is the smallest OTDR of its type on the market today. This micro package can support up to 10 CWDM wavelengths. This full-featured OTDR with color touchscreen includes all the features expected in today's hand held OTDR and more: bright color touch screen, project management, file storage, Fib-R-Map schematic event analysis, pass/fail threshold settings and onboard context-sensitive Express Help system to keep the learning curve as short as possible.

Easy-to-use

The MICROTDR is user-friendly and supports portrait or landscape trace viewing. It operates in simple fault finder mode or expert modes.

Powerful and customizable

When equipped with the optional video scope, it is a powerful video inspection system with IEC61300-3-35 auto pass/fail capabilities. Other optional features include a broadband power meter and visual fault locator. The CWDM MICROTDR is available in 4, 8 or ten wavelengths. Select from our stand wavelength offerings or design the OTDR as needed by ordering custom wavelength configurations.

Real-Time functionality

The OTDR is operated/charged with a standard 5V USB charging system, or use the USB cable to connect the OTDR to a laptop for full real-time operation on Windows™. It can also be operated via Bluetooth with a compatible Android phone or tablet.

Specifications

Wavelength	1271-1611nm +/- 3nm
Dynamic Range	32 - 34 dB (wavelength dependent)
Pulse Width	5 - 20,000 ns
Units of Measurement	km, ft, kf, mi
Event Dead zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 32m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-260km SM
Typical Real-time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity	~40,000
Memory Type	Internal
Power Supply / Charger	5V, 1.2A USB Wall Charger
Battery	Li-ion 6hr typ.
Storage Temperature	-20 to 60 C
Operating Temperature Range	-10 to 50 C
Dimensions (w/out rubber boot)	6.25" L x 4.125" W x 1.875" H (159mm L x 105mm W x 48mm H)
Weight	1.5 lbs (0.7 kg)
Communication ports	Bluetooth and USB
Connector Styles	Choice of FC, SC
Accessories Provided	Choice of FC and SC Adapters, 2 Stylus, 5V, 1.2A USB Wall Charger with USB Cable, Android Application, Windows Compatible Software, Rubber Boot and Manual on CD

TTI reserves the right to change specifications without notice

Light Source

Fiber Type	Singlemode
Wavelengths	1271-1611nm +/- 3nm Depending on (OTDR Wavelength Configuration)
Output Power	-1 dBm
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

VFL (Option)

Emitter Type	Laser
Wavelength	650nm ± 5nm
Laser Safety Class	Class IIFDA21 CFR1040.10 & 1040.11 IEC 825-1: 1993
Connector Type	2.5mm Universal
Output Power	1mW Max.

Laser Safety

Class IIFDA21 CFR1040.10 &1040.11
IEC 825-1: 1993



FTE-8200-DWDM Micro OSA



The FTE-8200 Optical Spectrum Analyzer is one of the most rugged and affordable full featured Mini OSAs on the market. This C-band Hand-Held OSA is available in up to 98 channels with 50 and 100 GHz channel spacing. The FTE-8200 is simple and fast to operate with its touch screen operation and twice a second scan. It offers high end features such as power tilt monitoring for DWDM channel equalization.

With a full set of selectable scale limits and thresholds, the FTE-8200 makes zeroing in on channel measurements easy. For flexibility the channel numbers are selected in wavelength or frequency. The information is displayed in graph, 6GHz line graph and table mode on the 4" bright auto rotating color touch screen. The FTE-8200 allows users to set pass/fail thresholds and can store up to 1000 tests that can be downloaded via the USB PC port. Documentation is fast and easy with the included Cert-Soft certification software. The onboard Help system assists new users in parameter setup and file manipulation.

The FTE-8200 offers an IEC61300-3-35 auto Pass/Fail video inspection feature for use with the optional VIS-300 Video Probe

Features

- Fast Real Time with <1/2 second Update
- Bar Graph, Table Displays & 6GHz Line Graph
- Auto Test Zooms in on Active Channels
- Rugged Case w/Impact Resistant Boot
- Optional Auto Pass/Fail Video Inspection System
- Solid State Optics-No Moving Parts
- Up To 98 Channels
- 50 or 100 GHz
- Pass/Fail Thresholds
- User Setup Screen
- 4" Touch Color Display
- Impact Resistant Boot
- Stores up to 1000 test
- USB/PC Port

FTE-8200 Specifications

Wavelength Range	Channels 14 - 62.5 196.25THz - 191.4THz 1527.6 -1566.31nm
Channel Spacing	50GHz, 100GHz
Wavelength Accuracy	±0.1nm
Channel Power Range	+10dBm to -50dBm
Absolute Accuracy	±1 dB
Max Composite Power	+28 dBm
PDL	±0.15dB
Optical Rejection Ratio	40dBc (@50GHz)
Measurement Time	< 1/2 Second
Readout Resolution	0.01dB
Return Loss	>40dB

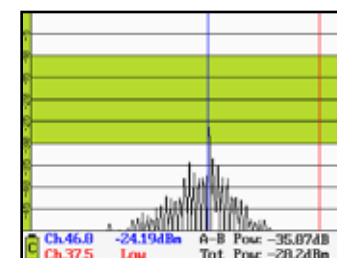
General

Optical Interface	Universal FC/SC UPC** (Optional APC)
Graphical Display	Bar graph, 6GHz line graph and table view
Display	4 in. touch color TFT
Dimensions	7.62" L x 3.88" W x 1.56" H (194mm L x 99mm W x 40mm H)
Weight	1.6 lbs
Battery	Rechargeable NiMH - 6 hours operating time
Power	USB 5V, 1A
Operating Temperature	-10°C to 40°C
Storage Temperature	-20°C to 60°C
Accessories Included	5V,1A USB Wall Charge with USB cable, Interchangeable FC and SC adapters (unless ordered with specific connector style), 2 stylus, CertSoft Software Suite, manual and rubber boot

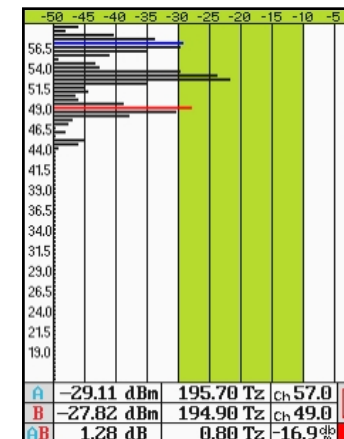
**If the ordered part number contains a specified connector style, the FTE-8100 will be built with a fixed connector of choice. (not interchangeable) TTI reserves the right to change specifications without notice.

Ordering Information

FTE-8100C	C Band Hand Held Optical Spectrum/Channel Analyzer
FTE-8200-VP	Video Inspections System Option with Probe



6GHz Line Graph



Graphical View

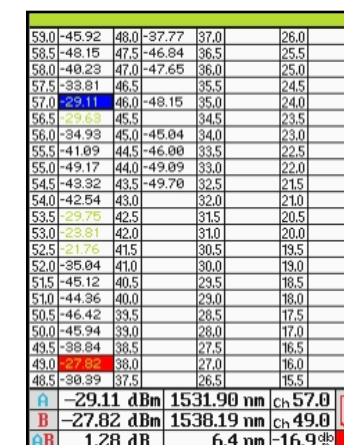


Table View



IEC61300-3-35 Auto Pass/Fail Video System

FTE-8200-CWDM Channel Analyzer



New!
6-18 Channel Configuration!

The FTE8200-CWDM Channel Analyzer is rugged, affordable and easy to use. The standard CWDM hand held analyzer is available in 18 or 8 channels with 20 nm spacing. The 18 channel analyzer tests 1271-1611nm and the 8 channel tests 1471-1611nm. The FTE-8200-CWDM analyzer is simple and fast to operate with its touch screen interface and twice a second scan. This low cost, full featured CWDM Channel Analyzer is designed to withstand your field operations with power tilt feature with a full set of selectable scale limits. Information is displayed in graph mode which makes zeroing in on channel measurements easy and the user selects Pass/Fail thresholds that may be store in a project base file system. Up to 4000 tests that can be saved and downloaded via the USB PC port and documented with the included certification software. Use the optional Video Inspection Scope and Probe with auto grading Fib-R-View system to ensure connector cleanliness prior to testing. The onboard Help system guides new users through operation and assists in parameter settings. The FTE-8200-CWDM is housed in a water resistant enclosure with a robust protective boot.

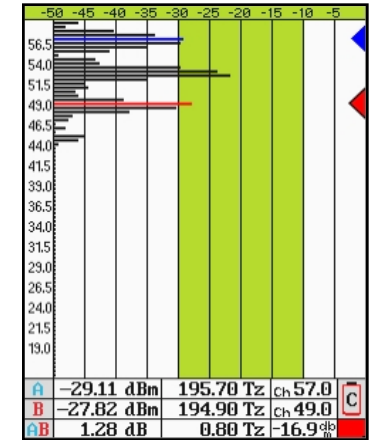
Features

- Pass/Fail Thresholds
- Available in 8 or 18 Channels
- Fast Real Time with <1/2 second Update
- Video inspection Scope and Probe Option
- Available with APC or UPC Connections
- Bar Graph
- Rugged Case w/Impact Resistant Boot
- Solid State Optics-No Moving Parts
- Easy Operation with Help Mode
- 4" Color Display
- 6hr Battery Life
- Stores 4000 test
- USB/PC Port

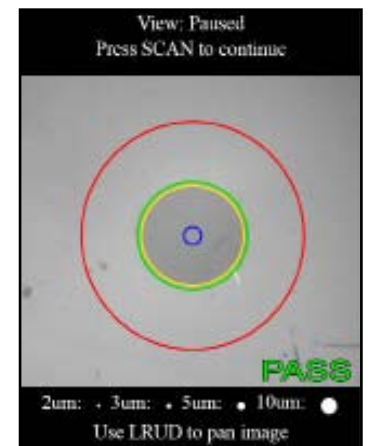
Specifications	
Wavelength Range	18 Channel 1271-1611nm 8 Channel 1471-1611nm
Channel Spacing	20nm
Channel Pass Band	±6.5nm
Channel Power Range	+5dBm to -50dBm
Absolute Accuracy	±1 dB
Max Composite Power	+23dBm
PDL	±0.2dB
Adjacent Channel Isolation	30dB
Measurement Time	< 1/2 Second
Readout Resolution	0.01dB
Return Loss	>40dB
Optical Interface	Universal (FC/SC), UPC or APC
Graphical Display	Bar Graph
Display	4 in Color TFT
Dimensions	6.25" L x 4.125" W x 1.875" H (159mm L x 105mm W x 48mm H)
Weight	1.5 lbs
Battery	Rechargeable Li-Ion - 6 hours operating time
Power	5V, 1.2A USB Wall Charger
Environmental	Operation -10°C to 50°C
Accessories Included	5V, 1.2A USB Wall Charger with USB Cable, Interchangeable FC and SC adapters/ APC or UPC, Certsoft Reporting Software Suite, Manual on CD and Rubber Boot

** If the ordered part number contains a specified connector style, the FTE-8200 will be built with a fixed connector of choice. (not interchangeable)

TTI reserves the right to change specifications without notice.



Graphical View



IECG1300-3-35 Auto Pass/Fail Video System

Ordering Information:

FTE-8200-CWDM-X-X-X

Channel Count
18 = 18 Channel 1271-1611
8 = 8 Channel 1471-1611

Video Scope/Probe Option
X = Not Included
I = Included

Optical Connector
U = UPC
A = APC

FTE-7100 MICROTDR

Available in SM/MM/QUAD/PON

New !!
Micro Touch Screen
OTDR



Features

- Models up to 39dB dynamic range
- 1 Meter Dead Zone
- Touch Screen
- Video Scope With Auto Pass/Fail Option
- VFL & Power Meter Options
- Bluetooth Android Tablet Operation
- Fib-R-Map Event Analyzer
- Macro Bend and Bidirectional Analysis
- Full Auto, Construction and Expert Modes
- SM, MM, Triple, Quad & CWDM Units
- Instant On, Immediate Scan
- Live Fiber Detection
- Onboard Memory of ~40,000 traces
- CW / Fiber Identifier Light Source
- CertSoft Report Software
- Real-Time System ORL

Available in a Variety of Models

The FTE-7100 is available in a wide variety of models. It is available in Dual SM or MM and SM/MM Quad wave as well as CWDM and PON versions.

Micro Size with Large Capability

This small touch screen OTDR may give up some size, but give nothing away in functionality. The auto rotating screen offers a large clear trace view.

Project Management

Use the parameter screen to enter all parameter and threshold settings for a project, name the project and store files to the active project folder. Use stored projects to recall testing parameters for consistency in test setup.

Loss Test Set and VFL

The FTE7100 can support an optional Power Meter and/or VFL. When used with other TTI equipment the power meter's auto wavelength recognition will speed testing and help eliminate user error.

Fib-R-View - Integrated Video Inspection

Ensure accurate test and protect equipment from damage by inspecting connectors with the optional integrated one touch auto-center, and one touch auto pass/fail fiber optic video inspection system.

Schematic View Trace Analysis

The FTE7100 displays trace analysis in schematic and table views. The trace analysis screen gives users the ability to quickly review the fiber and determine if it meets measurement criteria with its Pass/Fail capabilities.

Auto Test

The Auto Test feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test at the selected wavelength. This is ideal to use if unfamiliar with OTDR testing or if the approximate length of the fiber is not known.

File Storage and File Transfer

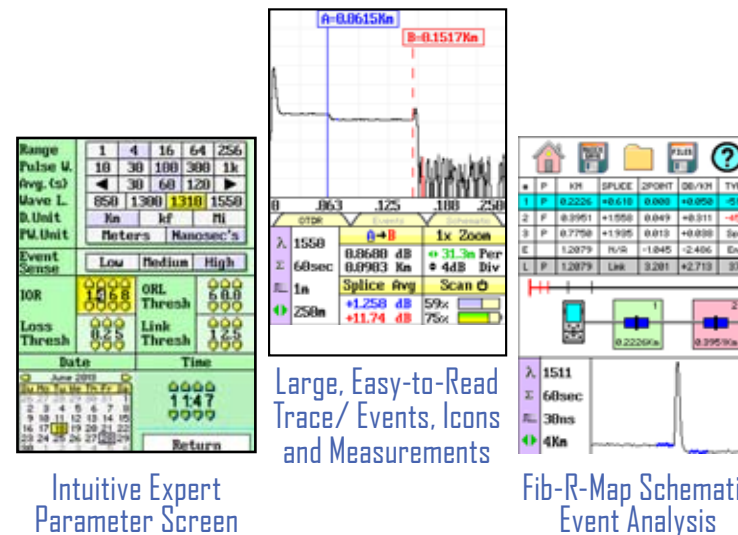
The FTE-7100 supports onboard storage for ~40,000 traces. Trace files are easily transferred for use with the CertSoft reporting software suite via USB ports.

CertSoft2 Software Suite

Project reporting and documentation is fast and easy with the supplied CertSoft2 reporting software. Reports can include trace graph, schematic and table analysis, loss test table and connector image.

Specifications

Wavelength	850, 1300, 1310,1550 and 1625 ±20nm (CWDM Wavelengths 1471-1611nm ±3nm)
Dynamic Range	26/27dB MM, 34/33dB SM, (1310/1550/1625 PON 38/39/39dB) (CWDM wavelengths 35dB)
Pulse Width	5 - 20,000 ns
Units of Measurement	km, ft/kf, mi
Event Dead Zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 32m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-64km MM , 0.25-256km SM
Typical Real-time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity	~40,000
Memory Type	Internal
Power Supply/Charger	Universal
Battery	Li-ion 6hr typ.
Storage Temperature	-20 to 60 C
Operating Temperature Range	-0 to 40 C
Dimensions (w/o rubber boot)	6.25" L x 4.125" W x 1.875" H (159mm L x 105mm W x 48mm H)
Weight	1.5 lbs (0.7 kg)
Communication ports	USB and Bluetooth
Connector Styles	Choice of FC, ST, SC
Accessories Provided	5V - 2.1A USB Wall Power Adapter and Cable, Choice of FC, ST or SC Optical Port Adapters, PM is Supplied with 1.25mm, 2.5mm universal, FC, SC and ST Adapters. 2 stylus, Windows Compatible Software, Rubber Boot and Manual on CD



Intuitive Expert Parameter Screen

Large, Easy-to-Read Trace/ Events, Icons and Measurements

Fib-R-Map Schematic Event Analysis

VFL (Option)

Emitter Type	Laser
Wavelength	650nm ± 5nm
Laser Safety Class	Class IIFDA21 CFR1040.10 & 1040.11 IEC 825-1: 1993
Connector Type	2.5mm Universal
Output Power	1mW Max.

Laser Safety

Class IIFDA21 CFR1040.10 & 1040.11
IEC 825-1: 1993



Power Meter (Option)

Detector Type	InGaAs
Connector Type	ST, FC, SC, 1.25mm and 2.5mm Interchangeable
Dynamic Range	+5 to -77dB (CATV - +25 to -57dB)
Calibrated Wavelengths	850,1300,1310,1490,1550 and 1625nm
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm
Units of Measurement	dBm, dB
Resolution	.01 dB

Light Source

Fiber Type	Singlemode, Multimode
Wavelengths	850,1300,1310,1490,1550 and 1625 nm ±20nm
Output Power	0 dBm (-3dBm @ 1625nm)
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

Ordering Information

FTE-7100-1315	1310/1550nm Dual Wavelength MICROTDR
FTE-7100-8513	850/1300nm Dual Wavelength MICROTDR
FTE-7100-QUAD	850/1300/1310/1550nm QUAD Wave MICROTDR
FTE-7100-PON	1310/1550nm with 1625nm Active PON MICROTDR
FTE-7100-CWDM-CL	1551/1571/1591/1611nm Dual Wavelength MICROTDR
FTE-7100-CWDM-S	1471/1491/1511/1531nm Dual Wavelength MICROTDR

Configurable Options

FTE-7100-VP	Video Scope with VIS-300 Video Probe Option
FTE-7100-PM	Power Meter Option
FTE-7100-VFL	Visible Fault Locator Option

FTE-7000A-DWDM OTDR



98 Channel Tunable OTDR

Conduct optical time domain reflectometry test at wavelengths for DWDM channels 14-62.5 in the C Band of the ITU Grid.

Tunable Laser Source

Operates as a CW or pulsed Tunable laser source.

Touch Screen Operation

There are three methods of operation for the FTE-7000A. There is a hard-button method directly on the units keypad, the bright 4-inch display allows for touch screen operation, and if a larger display is desired, this OTDR may be operated via Bluetooth on any compatible Android device.

Fib-R-Map Trace Analysis

The FTE7000A displays trace analysis in schematic and table views. The trace analysis screen gives users the ability to quickly review the fiber and determine if it meets measurement criteria with its pass/fail capabilities.

Fib-R-View - Integrated Video Inspection

Ensure accurate test and protect equipment from damage by inspecting connectors with the integrated one-touch auto-center, and one-touch auto pass/fail fiber optic video inspection system.

Auto Test

The Auto Test feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test at the selected wavelength. This is ideal to use if unfamiliar with OTDR testing or if the approximate length of the fiber is not known.

File Storage and File Transfer

There is onboard storage for up to 1000 traces. Trace files are easily transferred for use with the CertSoft software suite via USB/PC ports.

CertSoft2 Software Suite

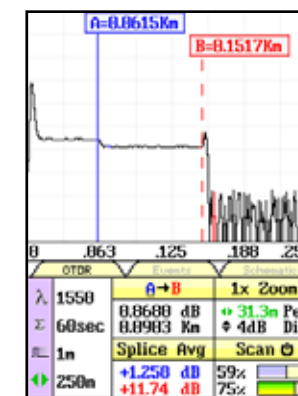
Project reporting and documentation is fast and easy with the supplied CertSoft2 reporting software. Reports can include trace graph, schematic and table analysis, loss test table, and connector image.

Project Management

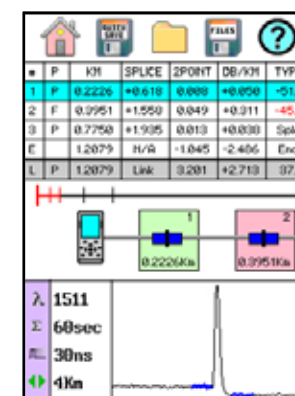
Use the parameter screen to enter all parameter and threshold settings for a project, name the project and store files to the active project folder.

OTDR Specifications

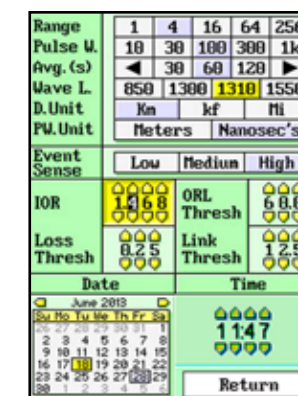
Standard Wavelengths	1527.6-1566.31nm @ 0.4 and 0.8nm Spacing
Dynamic Range	35 dB
Pulse Width	5 - 20,000 ns
Units of Measurement	km, ft/kf, mi
Event Dead zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 24m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-256km
Typical Real-time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity (Internal)	up to 1000



Large, Easy-to-Read Trace/ Events, Icons and Measurements



Fib-R-Map Schematic Event Analysis



Intuitive Expert Parameter Screen

TLS Specifications

Frequency Range	191.4 - 196.25 THz (Channels 14-62.5)
Accuracy	1.5 GHz
Line Width	1 MHz
Side Mode Suppression Ratio	45 dB
Output Power Range	3 dBm to 11 dBm
Power Setting Resolution	0.01 dB
Power Variation over Wavelength Range	± 0.5 dB
Minimum Channel Spacing	50 GHz (0.4nm)
Fiber Type	9/125 μm
±Relative Intensity Noise	-140 dB/Hz

Laser Safety

Visible Fault Locator

CAUTION
Laser Radiation
DO NOT STARE INTO BEAM
Diode Laser
1 mW MAX OUTPUT at 635-670nm
CLASS II LASER PRODUCT

Tunable Laser Source

CAUTION
CLASS 1M LASER PRODUCTS
LASER RADIATION
WAVELENGTHS 1528-1568
DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS

General Specifications

Graphical Display	4 in Color Touch Screen
Power Supply / Charger	Input 100-240V 50-60Hz, 0.6A / Output 15V, 1.2A
Battery / Operating Time	Rechargeable Li-Ion / 10 hour
Storage Temperature	-20 to 60 C
Operating Temperature Range	-10 to 40 C
Dimensions (w/out rubber boot)	8 5/8" L x 4 5/16" W x 2 3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.7 lbs
Communications / Ports	USB-PC
Connector Styles	FC, SC Interchangeable
Accessories Provided	Universal Power Adapter w/US, UK, Continental Europe, and Australian Plugs, Interchangeable FC and SC Adapters, CertSoft2 Software, Rubber Boot, Manual on CD and 2 stylus

Ordering Information

FTE-7000A-DWDM	C Band DWDM Tunable OTDR/Laser Source 1527.4nm - 1565.4nm
VIS300	Video Probe for FTE7500 and FTE7000 Series

Features

- Tunable OTDR with 98 C Band Wavelengths
- Tunable CW/Pulsed Laser Source
- 50 and 100 GHz Spacing
- Touch Screen and Keypad
- Full Auto, Construction and Expert Modes
- Fib-R-Map Comprehensive Event Analyzer
- Fib-R-View Auto Pass/Fail/Centering Scope
- 96 Channels (15-62.5) on the ITU Grid
- 10 Hour Li-ion Batter Pack w/2 Hr. Charge
- Bidirectional Trace Analysis with Certsoft
- Onboard Memory of ~1000 Traces
- CertSoft2 Report Software with .sor Capability

FTE-8100 Mini Optical Spectrum Analyzer



Touch Screen

98 Channel DWDM Analyzer

The FTE-8100 Handheld OSA tests up to 98 channels. Select 50GHz or 100GHz channel spacing in the C band of the ITU Grid

Pass/Fail Thresholds

User selectable Pass/Fail thresholds are indicated on the main graphical display by a highlighted background with failed channels falling outside the highlighted area. In the table view, failed measurements are easily identified by being shown in red.

Auto Test button

With its one button Auto Test feature, full set of selectable scale limits and thresholds, the FTE-8100 makes zeroing in on channel measurements easy.

Power/Gain Tilt

The Hand Held FTE-8100 offers high end features such as power tilt for DWDM channel equalization and gain tilt to adjust EDFA gain flatness.

Fib-R-View - Integrated Video Inspection

Ensure accurate test and protect equipment from damage, by inspecting connectors with the integrated one touch auto-center, and one touch auto pass/fail fiber optic video inspection system.

Onboard Help System

Use the onboard help text for a quick guide to the functions and features available on the FTE8100.

Storable Test Configurations

File and recall testing configurations for later use.

Information Display

For flexibility the channel numbers are selected in wavelength or frequency and the information is displayed in graph or table mode

Onboard File Storage

There is file storage for up to 1000 tests that may be downloaded to a PC and viewed with supplied CertSoft reporting software.

Features

- 98 Channel DWDM Testing
- Available for CWDM Channels
- Integrated Video Inspection System
- 4" Color Touch Screen
- Selectable First Channel Setting
- 50 or 100 GHz DWDM Channel Spacing
- Pass/Fail Thresholds
- Fast <1/2 Second Update
- Bar Graph and Table Modes
- Auto Test Zooms in on Active Channels
- Interchangeable Fiber Optic Connectors
- Storable Parameter Settings
- Solid State Optics-No Moving Parts
- Easy Operation with Help Mode
- 6 hr Battery Life
- Impact Resistant Boot
- USB/PC Ports

Specifications

Wavelength Range	C-Band DWDM 1527.6 -1566.31nm (196.25 THz - 191.4THz)
Channel Spacing	50GHz, 100GHz
Wavelength Accuracy	±0.1nm
Channel Power Range	+10dBm to -50dBm
Absolute Accuracy	±1 dB
Max Composite Power	+28 dBm
PDL	±0.15dB
Optical Rejection Ratio	40dBc (@50GHz)
Measurement Time	< 1/2 Second
Readout Resolution	0.01dB
Return Loss	>40dB

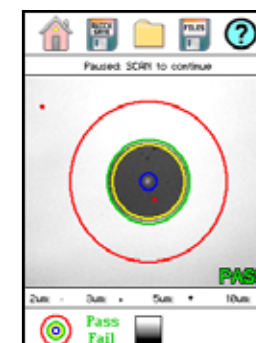
General

Optical Interface	Universal UPC (FC/SC) (Optional APC)
Graphical Display	Bar Graph and Table View
Display	4 in Touch Color TFT
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.6 lbs
Battery	Rechargeable NiMH - 6 hours operating time
Power	Input 100-240VAC, 50-60Hz, 0.3A, Output 9V, 0.67A
Environmental	Operation -10°C to 40°C
Accessories Included	Universal power supply with mains for US, UK, CE and AU. Interchangeable FC and SC adapters, CertSoft software suite and manual, USB cable and rubber boot

Specifications are subject to change without notice

Ordering Information

FTE-8100C	C-Band Fiber Optic Spectrum Analyzer
VIS-300	TTI Video Probe



Video Inspection System with IEC61300-3-35 pass/fail grading zone system



Main DWDM Scan Screen with 96 Channel Displayed

FTE-6100 Tunable Laser Source



Hand Held Tunable Laser Source

The TLS is available with 98 channels on the ITU Grid at channel Spacing down to 50 GHz (0.4nm).

Onboard help system

Use the onboard help text for a quick guide to the functions and features available on the FTE-6000

TLS Display

The TLS displays output power and wavelength, frequency or ITU channel on a bright 4" color touch display.

Simple to Use

Designed for simple operation and suited for field or lab use. The user has the ability to set the step size, power level, dwell time, and whether the sweep moves up or down the scale.

Start Up

The FTE-6100 offers a fast start up with minimal warm up and provides stable wavelength and power outputs.

Rugged

The FTE-6000 is manufactured in our rugged splash-proof housing with a highly protective boot.

Fib-R-View - Integrated Video Inspection

Ensure an accurate test and protect equipment from damage by inspecting connectors with the integrated one-touch auto-center, and one-touch auto pass/fail fiber optic video inspection system.

Visual Fault Locator

The Visual Fault Locator determines the precise location of breaks or severe micro-bends in a fiber or cable under test by visually checking fiber for leaks of visible light.

Features

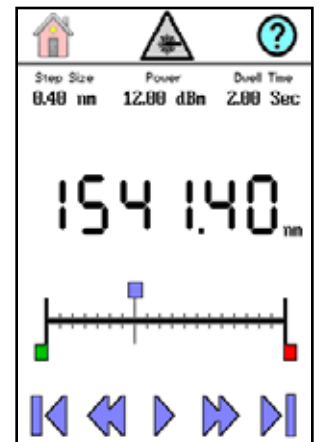
- Selectable Step Size Down to 50 GHz
- Selectable Start & Stop Channels
- Displays in Wavelength/Frequency/Channel
- Selectable Dwell Time
- Rugged Case with Impact Resistant Boot
- USB PC Interface for firmware upgrades
- Battery Operated or International Line Voltage
- Simple Operation with onboard Help Mode
- Lowest Cost Hand Held Tunable Laser Source
- Interchangeable Fiber Optic Connectors
- Up to 96 Channels on the ITU Grid
- 4" Color Touch Display
- 10 hr. Battery Life

Specifications

Frequency Range	191.4 - 196.25THz (1527.6-1566.31nm) ITU Channels 14 - 62.5
Accuracy	+/-1.5 GHz
Line Width	1 MHz
Side Mode Suppression Ration	40dB
Output Power Range	6 dB
Maximum Output Power	13 dBm (Typ.)
Power Setting Resolution	0.01 dB
Power Accuracy	+/-1 dBm
Minimum Channel Spacing	50 GHz (0.4nm)
Fiber Type	9/125 μm
Relative Intensity Noise	-140 dB/Hz
Graphical Display	4 in Color TFT
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.75 lbs
Battery	Li-ion 12 hr typ.
Power	Input 100-240VAC, 15VDC Output
Environmental	Operation -10°C to + 40°C
Accessories Included	Universal power supply with mains for US, UK, CE and AU. Interchangeable FC and SC adaptors, USB Cable, Manual and Rubber Boot

Specifications are subject to change without notice

The FTE-6100 Tunable Light Source can conduct sweeps of the ITU grid. It can also optimize the test procedures by setting the beginning and ending wavelengths, step size, power level, dwell time and direction of the sweep.



Ordering Information

FTE-6100C	C-Band PRO-Net Tunable Laser Source
VIS300	Video Inspection Probe

FTE-7000A SM/MM/QUAD OTDR



Long-Life Lithium-Ion Battery

Features

- Touch Screen, Keypad or Bluetooth Control
- CW & Fiber Identifier Light Source
- Up to 39dB Dynamic Range
- 1 Meter Dead Zone
- Fib-R-View Auto Pass/Fail/Centering Scope
- Auto-Wavelength Power Meter
- Bidirectional Trace Analysis with CertSoft2
- Fib-R-Map Event Analyzer
- SM, MM, Triple and Quad Units Available
- Full Auto, Construction and Expert Modes
- Live Fiber Detection
- Onboard Memory of ~1000 traces
- CertSoft2 Report Software
- Dual Trace with Macro Bend Analysis
- Instant On, Immediate Scan

Available in a Variety of Models

The FTE-7000A is available in a wide variety of models. Listed here are the standard Dual and Quad wave units as well as our Extended range an Economy units. Also presented in the brochure are the DWDM, CWDM and PON versions.

Fib-R-View - Integrated Video Inspection

Ensure accurate test and protect equipment from damage by inspecting connectors with the integrated one touch auto-center, and one touch auto pass/fail fiber optic video inspection system.

Schematic View Trace Analysis

The FTE7000A displays trace analysis in schematic and table views. The trace analysis screen gives users the ability to quickly review the fiber and determine if it meets measurement criteria with its Pass/Fail capabilities.

Auto Test

The Auto Test feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test at the selected wavelength. This is ideal to use if unfamiliar with OTDR testing or if the approximate length of the fiber is not known.

Integrated Loss Test Set

The FTE7000A has an integrated Loss Test Set. When used with compatible equipment from TTI's 1500 series or other TTI OTDRs the auto wavelength recognition will speed testing and help eliminate user error. Not available on quad wavelength units.

File Storage and File Transfer

Contains onboard storage for up to ~1000 traces. Trace files are easily transferred for use with the CertSoft software suite via USB/PC ports.

CertSoft2 Software Suite

Project reporting and documentation is fast and easy with the supplied CertSoft2 reporting software. Reports can include trace graph, schematic and table analysis, loss test table and connector image.

Project Management

Use the parameter screen to enter all parameter and threshold settings for a project, name the project and store files to the active project folder. Use stored projects to recall testing parameters for consistency in test setup.

OTDR	
Wavelength	850, 1300, 1310, 1490, 1550, 1625nm ±20nm
Dynamic Range	26/27dB MM, 36/35/35dB SM
Pulse Width	5 - 20,000 ns
Units of Measurement	km, kf/kf, mi
Event Dead Zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 24 meters
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-64km MM , 0.25-256km SM
Typ Real-Time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity	~1000 Traces
Memory Type	Internal
Power Supply / Charger	Input 100-240VAC, Output 15V 1.3A
Battery	10 hr. Li-ion
Storage Temperature	-20 to 60 C
Operating Temp Range	0 to 40 C
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.75 lbs (.8 kg)
Communications ports	USB/PC Port, Bluetooth
Connector Styles	FC, ST, SC Interchangeable
Accessories Provided	Universal power adapter w/interchangeable mains, interchangeable FC/ST and SC adapters, software, manual, and protective rubber boot.

Specifications are subject to change without notice.

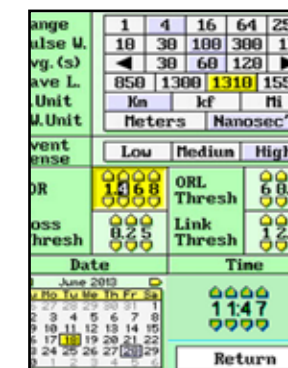
Ordering Information	
FTE-7000A-8513	MM 850/1300nm OTDR with LTS
FTE-7000A-1315	SM 1310/1550nm OTDR with LTS
FTE-7000A-QUAD	Quad Wavelength 850/1300/1310/1550nm OTDR with LTS
FTE-7000A-EXT	Extended Range SM, 1310/1550 OTDR. 38/39 dB with LTS and Video Scope Capability
FTE-7000A-ECON	34/33dB, 1310/1550nm, Dual Wave Singlemode Economy OTDR (No PM or Video Scope Capability)
VIS-300	Video Probe

Add a "C" to the end part the number for CATV version LTS.

Power Meter	
Detector Type	InGaAs
Connector Type	1.25mm & 2.5mm Univ, FC, ST and SC
Measurement Range	+5 to -77dBm (CATV +25 to -57dBm)
Calibrated Wavelengths	850,1300,1310,1490,1550,1625nm
Units of Measurement	dBm, dB
Resolution	.01 dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm

Light Source	
Fiber Type	Singlemode, Multimode
Available Wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm ±20nm
Output Power	0 dBm (-3dBm @ 1625nm)
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

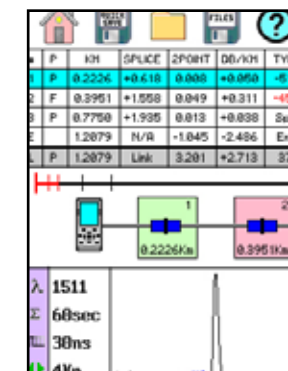
Specifications are subject to change without notice.



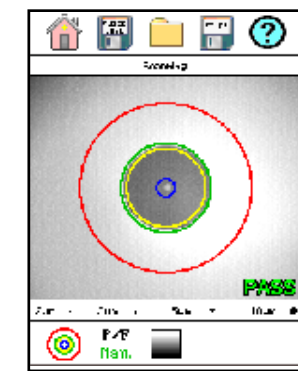
Intuitive Expert Parameter Screen



Large - Easy to Read Trace, Icons and Measurements



Fib-R-Map Schematic Event Analysis



Pass/Fail Video Scope Feature

FTE-7000A-PON OTDR

**38B
Dynamic Range**



Touch Screen Operation

There are three methods of operation for the FTE-7000A. There is a hard button method directly on the units keypad, the bright 4 inch display allows for touch screen operation and if a larger display is desired, this OTDR may be operated via Bluetooth on any compatible Android device.

Auto-Grade Fault Finder Mode

One button scans the fiber under test, selects best parameters at the selected wavelength and displays event analysis and schematic views of the data.

Schematic View Trace Analysis

The FTE7000A displays trace analysis in schematic and table views. The trace analysis screen gives users the ability to quickly review the fiber and determine if it meets measurement criteria with its Pass/Fail capabilities.

Auto Test

The AutoTest feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test at the selected wavelength. This is ideal to use if unfamiliar with OTDR testing or the approximate length of the fiber is not known.

Features

- 38 dB Dynamic Range
- Touch Screen, Keypad or Tablet Control
- 10 Hour Battery Life.
- CW & Fiber Identifier Light Source
- Bluetooth Android VI Operation
- Fib-R-View Auto Pass/Fail/Centering Scope
- Auto-Wavelength Power Meter
- Real-time System ORL
- Bidirectional Trace Analysis with Certsoft
- Fib-R-Map Event Analyzer
- Full Auto, Construction and Expert Modes
- Live Fiber Detection
- Onboard Memory of ~4000 traces
- CertSoft Report Software with .sor Capability
- Dual Trace with Macro Bend Analysis

Integrated Loss Test Set

The FTE7000A has an integrated Loss Test Set. When used with compatible equipment from TTI's 1500 series or other TTI OTDRs the auto wavelength recognition will speed testing and help eliminate user error. (Not available on quad wavelength units)

File Storage and File Transfer

There is onboard storage for up to ~1000 traces. Trace files are easily transferred for use with the CertSoft software suite via USB/PC ports.

CertSoft Software Suite

Project reporting and documentation is fast and easy with the supplied CertSoft reporting software. Reports can include, trace graph, schematic and table analysis, loss test table and connector image.

Project Management

Use the parameter screen to enter all parameter and threshold settings for a project, name the project and store files to the active project folder.

OTDR

Wavelength	1310, 1550, 1625nm ±20nm
Dynamic Range	38/39/38dB SM
Pulse Width	5 - 20,000 ns
Units of Measurement	km, ft/kf, mi
Event Dead Zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 24m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-256km SM
Typical Real-Time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .1 dB/dB
Memory Capacity	~4000 Traces
Memory Type	Internal
Power Supply / Charger	Input 100-240VAC, 50-60Hz Output 15V, 1.3A
Battery life	12hr. Lithium-Ion
Storage Temperature	-20 to 60 C
Operating Temperature Range	0 to 40 C
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.8 lbs (.8 kg)
Communications ports	USB/PC Port, Bluetooth
Connector Styles	FC, ST, SC Interchangeable
Accessories Provided	Universal Power Adapter w/ interchangeable mains, Interchangeable FC and SC Adapters, Software, Manual and Protective Rubber Boot

Specifications are subject to change without notice.

Power Meter

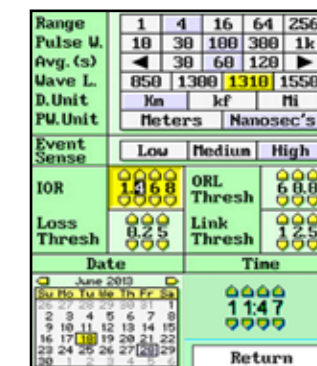
Detector Type	InGaAs
Connector Type	1.25 and 2.5 universal, FC, ST and ST
Measurement Range	+5 to -77dBm (CATV +25 to -57dBm)
Calibrated Wavelengths	850,1300,1310,1490,1550,1625nm
Units of Measurement	dBm, dB
Resolution	.01 dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm

Specifications are subject to change without notice.

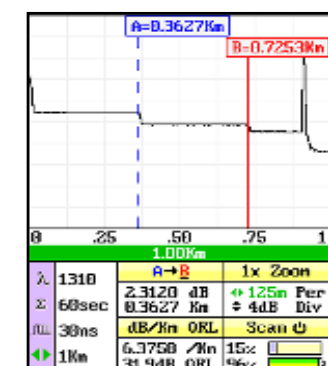
Light Source

Available Wavelengths	1310, 1550, 1625 nm ±20nm
Output Power	0 dBm
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

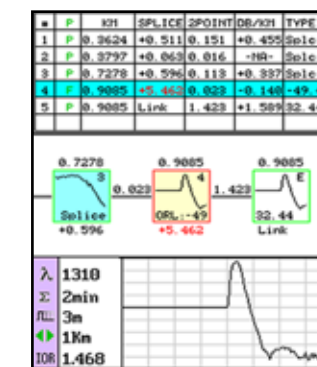
Specifications are subject to change without notice.



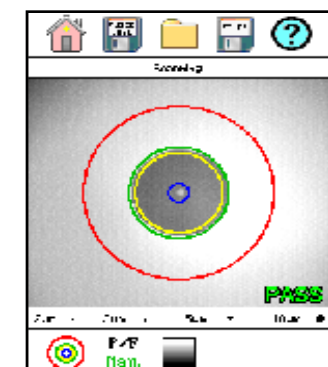
Intuitive Expert Parameter Screen



Large - Easy to Read Trace, Icons and Measurements



Fib-R-Map Schematic Event Analysis

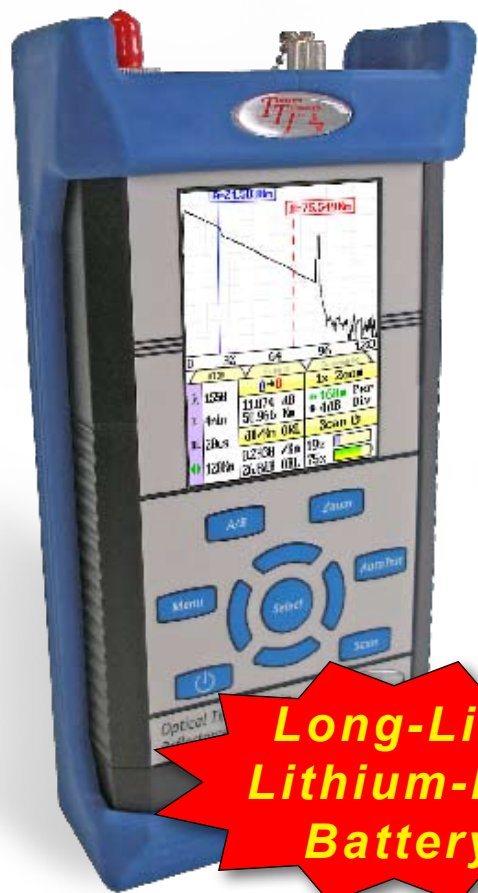


Pass/Fail Video Scope Feature

Ordering Information

FTE-7000A-PON	1310/1550nm with 1625 Active, PON OTDR with Video Scope Capability (Probe Sold Separately)
VIS300	Video Probe

FTE-7000A-CWDM OTDR



Touch Screen Operation

There are three methods of operation for the FTE-7000A. There is a hard button method directly on the units keypad, the bright 4 inch display allows for touch screen operation and if a larger display is desired, this OTDR may be operated via Bluetooth on any compatible Android device.

Auto-Grade Fault Finder Mode

One button scans the fiber under test, selects best parameters at the selected wavelength and displays event analysis and schematic views of the data.

Schematic View Trace Analysis

The FTE7000A displays trace analysis in schematic and table views. The trace analysis screen gives users the ability to quickly review the fiber and determine if it meets measurement criteria with its Pass/Fail capabilities.

Auto Test

The AutoTest feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test at the selected wavelength. This is ideal to use if unfamiliar with OTDR testing or the approximate length of the fiber is not known.

Features

- 35 dB Dynamic Range
- 10 Hour Battery Life w/2 Hour Quick Charge
- Express Help System
- Touch Screen, Keypad or Tablet Control
- Auto-Grade Fault Finder
- CW & Fiber Identifier Light Source
- Bluetooth Android VI Operation
- Fib-R-View Auto Pass/Fail/Centering Scope
- Auto-Wavelength Recognition Power Meter
- Real-time System ORL
- Bidirectional Trace Analysis with Certsoft
- Fib-R-Map Event Analyzer
- Full Auto, Construction and Expert Modes
- Live Fiber Detection
- Onboard Memory of ~4000 traces
- CertSoft Report Software with .sor Capability
- Dual Trace with Macro Bend Analysis

Integrated Loss Test Set

The FTE7000A has an integrated Loss Test Set. When used with compatible equipment from TTI's 1500 series or other TTI OTDRs the auto wavelength recognition will speed testing and help eliminate user error. (Not available on quad wavelength units)

File Storage and File Transfer

There is onboard storage for up to ~1000 traces. Trace files are easily transferred for use with the CertSoft software suite via USB/PC ports.

CertSoft Software Suite

Project reporting and documentation is fast and easy with the supplied CertSoft reporting software. Reports can include, trace graph, schematic and table analysis, loss test table and connector image.

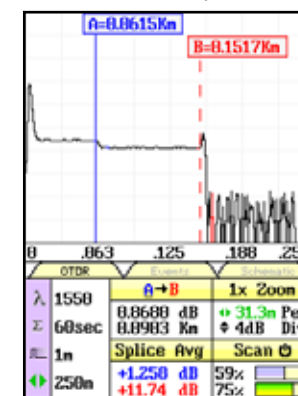
Project Management

Use the parameter screen to enter all parameter and threshold settings for a project, name the project and store files to the active project folder.

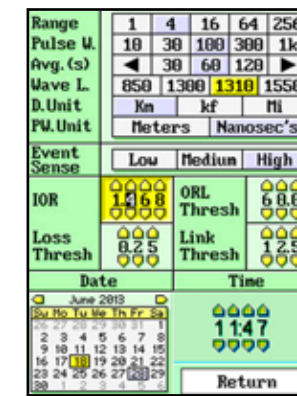
OTDR

Wavelength	1471/1491/1511/1531 or 1551/1571/1591/1611nm +/-3nm
Dynamic Range	35dB
Pulse Width	5 - 20,000 ns
Units of Measurement	km, ft/kf, mi
Event Dead Zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 24m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	0.25-256km SM
Typical Real-Time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity	~4000 Traces
Memory Type	Internal
Power Supply / Charger	Input 100-240VAC, 50-60Hz, Output 15V, 1.2A
Battery life	12 hr. Lithium-Ion
Storage Temperature	-20 to 60 C
Operating Temperature Range	0 to 40 C
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.8 lbs (.8 kg)
Communications ports	USB/PC Port, Bluetooth
Connector Styles	FC, SC Interchangeable
Accessories Provided	Universal Power Adapter w/ interchangeable mains, Interchangeable FC and SC Adapters, Software, Manual and Protective Rubber Boot

Specifications are subject to change without notice.



Large, Easy-to-Read Trace/Events, Icons and Measurements



Intuitive Expert Parameter Screen

Power Meter

Detector Type	InGaAs
Connector Type	1.25 and 2.5 universal, FC, ST and SC
Measurement Range	+5 to -77dBm (CATV +25 to -57dBm)
Calibrated Wavelengths	850,1300,1310,1490/1550/1625 Plus Available CWDM Wavelengths.
Units of Measurement	dBm, dB
Resolution	.01 dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm

Specifications are subject to change without notice.

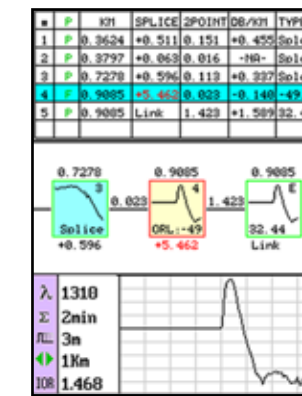
Light Source

Available Wavelengths	Wavelengths Configured for OTDR +/-3nm
Fiber Type	Single Mode
Output Power	0 dBm
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

Specifications are subject to change without notice.

Ordering Information (Probe Sold Separately)

FTE-7000A-S	1471/1491/1511/1531nm, CWDM OTDR with Video Scope Capability and LTS
FTE-7000A-CL	1551/1571/1591/1611nm, CWDM OTDR with Video Scope Capability and LTS
VIS300	Video Probe



Fib-R-Map Schematic Event Analysis

FTE-8100-CWDM/DWDM Spectrum Analyzer



Features

- Pass/Fail Thresholds
- Available in 8 or 18 Channels
- Fast Real Time with <1/2 second Update
- Fib-R-View Auto Pass/Fail/Centering Scope
- Bar Graph
- Auto Test Zooms in on Active Channels
- Rugged Case w/Impact Resistant Boot
- Solid State Optics-No Moving Parts
- Easy Operation with Help Mode
- 4" Color Display
- 10hr Battery Life
- Impact Resistant Boot
- Stores 1000 test
- USB/PC Port

Fast Scan

The FTE-8100-CWDM Channel Analyzer Displays a full scan of all 18 channels on the ITU grid twice a second.

Onboard Help System

Use the onboard help text for a quick guide to the functions and features available on the FTE8000-CWDM.

Auto Test Button

With its one button Auto Test feature, and a full set of selectable scale limits and thresholds, the FTE-8100-CWDM makes zeroing in on channel measurements easy.

Simple to Use

The FTE8100-CWDM is designed for simple operation and is suited for field or lab use.

Power Tilt

The FTE-8100-CWDM offers a Power Tilt feature for CWDM channel equalization.

Information Display

The channel numbers are selected in wavelength or frequency for flexibility, and the information is displayed in graph or table mode.

Onboard File Storage

There is file storage for up to 1000 scans that may be downloaded directly to the PC using the supplied CertSoft software suite.

Pass/Fail Thresholds

The unit allows users to set Pass/Fail thresholds that are displayed on the main graphical display by a highlighted background. Failed channels fall outside the highlighted area and in the table view failed channels are displayed in red.

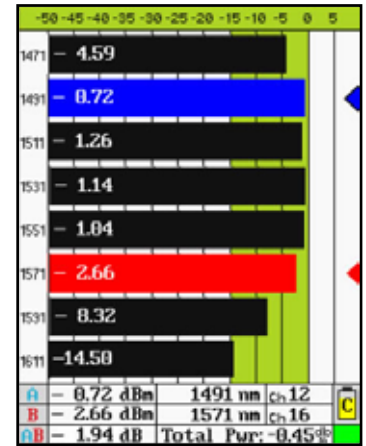
Integrated Video Inspection

Ensure accurate test and protect equipment from damage, by inspecting connectors with the integrated video inspection system. Connector images may be stored, allowing users to include them with test documents.

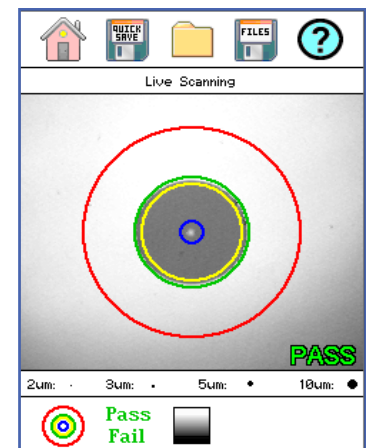
Specifications

Wavelength Range	18 Channel 1271-1611nm 8 Channel 1471-1611nm
Channel Spacing	20nm
Channel Pass Band	±6.5nm
Channel Power Range	+5dBm to -50dBm
Absolute Accuracy	±1 dB
Max Composite Power	+23dBm
PDL	±0.2dB
Adjacent Channel Isolation	30dB
Measurement Time	< 1/2 Second
Readout Resolution	0.01dB
Return Loss	>40dB
Optical Interface	Universal UPC (FC/SC)
Graphical Display	Bar Graph
Display	4 in Color TFT
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.6 lbs
Battery	Rechargeable Li-Ion - 12 hours operating time
Power	100-240 universal US, GB, EU, AU Mains
Environmental	Operation -10°C to 50°C
Accessories Included	Universal power supply with mains for US, UK, CE and AU. Interchangeable FC and SC adapters, CertSoft reporting software suite, USB cable, manual on CD and rubber boot

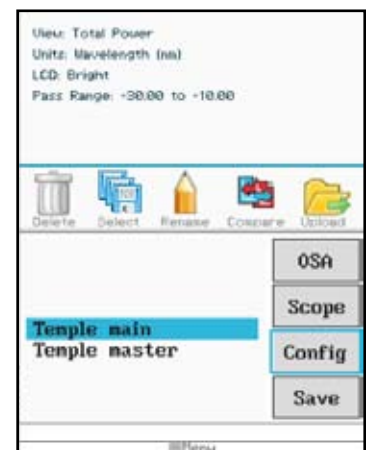
Specifications are subject to change without notice.



Graph View



Video Scope



File Management

We Support Special Channel Configurations

Ordering Information

FTE8100-CWDM-18	18 CWDM Channel Analyzer with Touch Screen
FTE8100-CWDM-8	8 Channel CWDM Analyzer with Touch Screen
VIS-300	Video Probe

FTE-7500A-CWDM-12 OTDR



Features

- Instant On
- 36 dB Dynamic Range
- Visual Fault Locator
- Event Table with Pass/Fail Feature
- 1 Meter Dead Zone
- Fib-R-View Auto Pass/Fail/Centering Scope
- Interchangeable Fiber Optic Connectors
- One Button Fault Finder
- Automated Construction Mode
- Trace Overlay Capability
- Onboard Memory for ~500 traces
- Auto-Wavelength Loss Test Set
- USB Flash Drive Port and Mini USB/PC Port
- Context Sensitive Help
- Lightweight Rugged Enclosure
- Easy To Read Color Display
- CertSoft Report Generation Software Suite
- Long Battery Life

Onboard Help System

Select the help icon and the OTDR displays a list of help subjects unique to the current application.

Auto Test

The Auto Test feature does a quick test of the fiber conditions, sets the range and pulse width, then produces a trace of the fiber under test. This is ideal to use if unfamiliar with OTDR testing or the approximate length of the fiber is not known.

Construction Mode

This feature assist with testing a large number of fibers with similar settings. By pressing just one button, the OTDR will test a fiber at two wavelengths, save each test and then display both tests for review.

Trace Analysis

The trace analysis screen gives users the ability to quickly determine if the fiber meets measurement criteria with its Pass/Fail capabilities.

Integrated Loss Test Set

The FTE7500A has an integrated Loss Test Set. When used with compatible equipment from TTI's 1500 series or other TTI OTDRs, the auto wavelength and auto test capabilities will speed testing and help eliminate user error.

Integrated Visual Fault Locator

Use the VFL to locate near end breaks, poor splices, and broken connectors in fiber optic cables or use it to identify fibers at the far end of a link.

File Storage and File Transfer

There is onboard storage for up to ~500 traces. Trace files are easily transferred for use with the CertSoft2 software suite via USB/PC or USB flash drive ports.

Integrated Video Inspection

Ensure accurate test and protect equipment from damage, by inspecting connectors with the integrated video inspection system. Image files may be stored, allowing users to include connector images with test documents.

Trace Analysis and Reporting

Project reporting and documentation is fast and easy with the Pass/Fail feature, onboard event table and the supplied CertSoft reporting software.

OTDR

Wavelength	850, 1300, 1310, 1550nm ±20nm
Dynamic Range	26/27dB MM, 36/34dB SM,
Pulse Width	5 - 20,000 ns
Units of Measurement	km, kf, mi
Event Dead Zone	1m
Attenuation Dead Zone	4m
Resolution	.125 - 32m
Distance Uncertainty	±(0.75m + 0.005% x distance + sampling resolution)
Full Scale Distance Range	1-64km MM , 1-256km SM
Typical Real-Time Refresh Rate	2 Hz
Group Index of Refraction (GIR)	1.024 - 2.048
Linearity	± .05 dB/dB
Memory Capacity	~500 Traces
Memory Type	Internal and Flash Drive
Power Supply / Charger	Input 100-240VAC, 47-63HZ, Output 13.6V, 0.57A
Battery	8 AA NiMH - 8hr Operation
Storage Temperature	-20 to 60 C
Operating Temperature Range	0 to 40 C
Dimensions (w/out rubber boot)	7.75" L x 4.5" W x 2.25" H (197mm L x 114mm W x 57mm H)
Weight	2 lbs
Communications Ports	USB/PC & USB Flash Drive Ports
Connector Styles	FC, ST, SC Interchangeable
Accessories Provided	Universal Power Adapter w/interchangeable Mains, Interchangeable FC/ST and SC Adapters for the OTDR ports, FC/ST/ST/UNIV1.25mm and univ2.5mm Power Meter Adapters, Reporting Software, Manual and Protective Rubber Boot

Specifications are subject to change without notice.

Ordering Information

FTE-sA-QUAD	Quad Wavelength 850/1300/ 1310/1550nm OTDR with Video Scope, LTS and VFL (Scope Probe Sold Separately)
VIS-300	Video Probe
FTE-SCASE-LG	Soft Case for FTE-6000, 7500 and 8000 Series

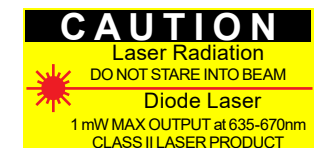
Add a "C" to the end part the number for CATV version LTS.

Visual Fault Locator

Emitter Type	Laser
Wavelength	650nm ±5nm
Laser Safety Class	Class IIFDA21 CFR1040.10 & 1040.11 IEC 825-1: 1993
Connector Type	2.5mm Universal
Output Power	1mW Max.

Laser Safety

Visible Fault Locator



Power Meter

Detector Type	InGaAs
Connector Type	1.25mm & 2.5mm Univ, FC, ST and SC
Measurement Range	+5 to -77dBm (CATV +25 to -57dBm)
Calibrated Wavelengths	850,1300,1310,1490,1550,1625nm
Units of Measurement	dBm, dB
Resolution	.01 dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm
Auto Test Range	0 to -40dB

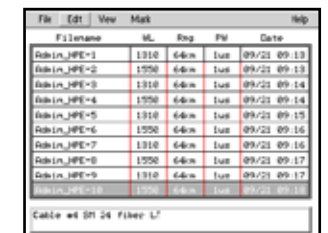
Light Source

Available Wavelengths	850, 1300, 1310, 1550 ±20nm
Output Power	0 dBm (-3dBm @ 1625nm)
Laser Safety Classification	Class I Safety Per FDA/CDRH and IEC-825-1 Regulation
Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz

Specifications are subject to change without notice.



Certification Software with attached video scope



Full featured trace analysis with pass/fail feature

FTE-5200 Advanced Loss Test Set



The FTE-5200 combines four functions for testing optical networks together in one unit. It brings together a -60dB ORL meter (optional), power meter, laser source and Auto Center/Pass/Fail Video Scope. (probe sold separately). The LTS may be purchased as a standard unidirectional or as a fully bidirectional loss test set.

The FTE-5200 is a full featured ORL Loss Test Set. It has 4" super bright color display with large easy to read characters. It performs optical return loss measurements to -60db at up to three wavelengths and is an automated loss test set with dual or triple wave Light sources. The power meter uses an InGaAs detector which is calibrated at 850,1300, 1310, 1490, 1550 and 1625nm, with a dynamic range to -77dBm (CATV version is available). These units are available in single, dual or triple or quad wavelength configurations and displays and test up to three wavelengths at one time. In the Autotest mode, the master unit changes wavelengths at a fixed rate and informs the slave unit of the wavelength currently being measured. Use this method to test up to three wavelengths at a time and store the loss measurements for each of the lasers fired during the test. Up to 5000 test may be stored and recalled via the unit's USB port. Use TTI's CertSoft PC application software for downloading stored data and generating reports.

The CertSoft software is compatible with all of our fiber optic test equipment. The information from OTDR, TLS, ORL and video scope may be combined to offer a comprehensive report for all of your network testing needs.

The FTE-5200 includes a video scope (probe sold separately). Use the video scope to ensure the integrity and cleanliness of the connectors being tested.

Use the modulation feature to perform fiber identification function. The power meter will identify modulated signals at 270, 1000 and 2000 Hz produced by the integrated light source.

Features

- Optical Loss/ORL Tester
- ORL Measurement Range to -60 dB
- -77 dBm PM Dynamic Range
- Bidirectional Testing Option
- Auto Center/Pass/Fail Video Scope (Probe Sold Separately)
- Auto Test Up To Three Wavelengths
- Auto Wavelength Switching
- Universal PM and LS Adapters
- Storage for 5,000 Test
- Bright Color Display
- Rechargeable Li-Ion
- USB Interface
- Free Report Software
- On-Board Help Feature

Power Meter	
Power Meter Detector Type	InGaAs
Power Meter Dynamic Range	+5 to -77 dB (CATV +25 to -57 dB)
Auto Test Range	0 to -36 dB
Calibrated Wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm
Units of Measurement	dBm, dB
Resolution	0.01dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm
Modulation Modes Detected	CW, 270 Hz, 1000 Hz, 2000 Hz

Light Source	
Laser Output Power	0 dBm, 1mw
Output Stability	± .05 dB / 24 hrs @ constant temp., ± .02 dB/C temperature coefficient
Laser Wavelengths Available	850/1300/1310/1490/1550 and 1625nm (± 20 nm)
Transmitted Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulation

Optical Return Loss Meter	
Optical Return Loss Dynamic Range	0-60 dB
ORL Wavelengths	1310/1490/1550/1625nm
Optical Return Loss Accuracy	± .05 dB @ a -55db reflection
Resolution	0.01 dB
Spectral Width (RMS)	<5nm
Connector	FC/APC or SC/APC
Spectral Width	<3nm typ.

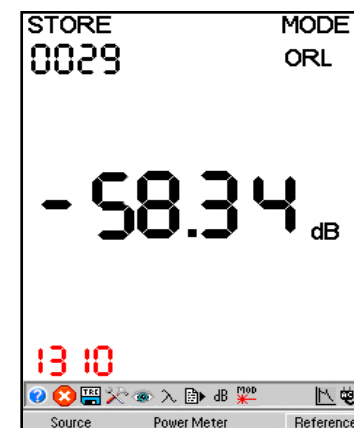
TTI reserves the right to change specifications without notice.

General Specifications	
Display	4 in Color Touch Screen
Storage Locations	5000
Battery/Operating Time	Li-ion / 6 hrs typ.
Power Requirements	Micro USB 5V 1.2A
Operating Temperature Range	-10 to 45 C
Dimensions	6.25" L x 4.125" W x 1.875" H (159mm L x 105mm W x 48mm H)
Weight	1.5 lbs.
Accessories Provided	FC, ST, SC adaptors for both Power Meter and Light Source plus 1.25mm and 2.5mm universal adapters for the Power Meter, rubber boot, 5V, 1.2A micro USB charger with Cable, 2 stylus, PC application software and manual on CD

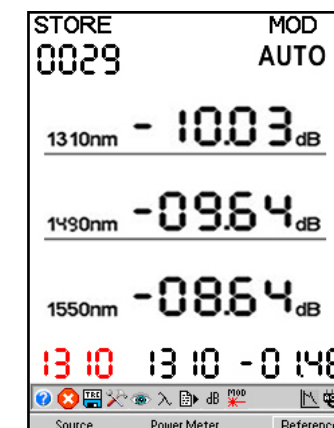
TTI reserves the right to change specifications without notice.

Ordering Information	
FTE-5200-8513	LTS with 850/1300nm Light Source (No ORL Available)
FTE-5200-1315	LTS with 1310/1550nm Light Source
FTE-5200-QUAD	LTS with 850/1300/1310/1550nm Light Source (No ORL Available on 850 and 1300nm)
FTE-5200-8513-BD	Bidirectional LTS with 850/1300nm Light Source (No ORL Available)
FTE-5200-1315-BD	Bidirectional LTS with 1310/1550nm Light Source
FTE-5200-QUAD-BD	Bidirectional LTS with 850/1300/1310/1550nm Light Source (No ORL Available on 850 and 1300nm)
FTE-5200-VP	Video Inspection Option with Probe
FTE-5200-VFL	Visual Fault Locator Option

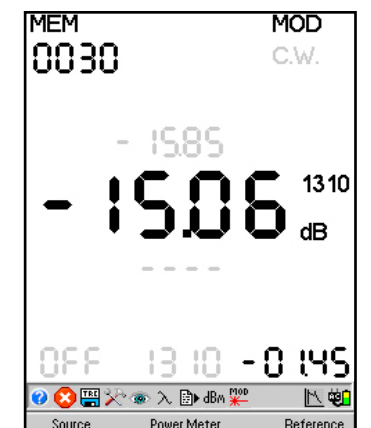
Add a "C" to the end of the Part number for CATV Versions.



Use the ORL Mode for accurate Optical Return Loss measurements to -60dB



Display up to three wavelengths at a time



Move quickly through saved test while at the same time viewing measurements

FTE-5000 Loss Test Set/ORL Meter



Loss Test Set/ ORL Meter

The LTS/ORL Meter is available in a variety of wavelengths, with ORL. It is available in dual, triple and quad wavelength packages.

Available Wavelengths

The LTS may be configured with dual MM, dual SM, triple or quad wavelengths and the power meter is calibrated at 850, 1300, 1310, 1490 and 1550nm and 1625nm.

Onboard help system

Use the onboard help text for a quick guide to the functions and features available on the FTE-5000.

Display

Large 4 inch, easy to read color Touch Screen.

Simple to Use

It is designed for simple operation and is suited for field or lab use.

Bluetooth Operation with Android VI App

Operate the LTS with any compatible Android device using the free Android Virtual Instrument Application.

Certsoft Reporting Software

Download test results to the included CertSoft software for report generation. Results may be paired with OTDR traces and connector images for complete report generation.

Integrated Video Inspection

Ensure accurate test and protect equipment from damage by inspecting connectors with the integrated video inspection system with the optional VIS300 video probe. The video scope includes an IEC61300-3-35 pass/fail grading zone system. Image files may be stored, allowing users to include connector images with test documents.

InGaAs Power Meter

InGaAs based optical power meter calibrated at six wavelengths with a +5 to -77 dBm measurement range.

Fiber Identification

The units also performs fiber identification functions with modulation frequencies of 270, 1000 and 2000 Hz.

Features

- Bright Color Touch Screen
- Optical Loss/ORL Tester
- ORL Measurement Range to -60 dB
- Power Meter with -77 dBm Dynamic Range
- Video Inspection System
- Automated Loss Measurements
- Auto Test Up To Three Wavelengths
- Auto Wavelength Switching
- Universal PM and LS Adapters
- Storage for 5,000 Test
- Rechargeable Batteries
- USB Interface
- Free Report Software
- On-Board Help Feature

General Specifications

Display	4 in color touch screen
Storage Locations	Up to 5000
Battery/Operating Time	4 AA Rechargeable NiMH / 6 hrs
Power Requirements	Wall mount, universal 100-240V 47-63 Hz 9 VDC Center Positive with US, UK, Continental Europe, and Australian Plugs
Operating Temperature Range	-10 to 45 C
Dimensions (w/o rubber boot)	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	0.52 Kg
Accessories Provided	FC, ST, SC adaptors for Light Source 1.25mm, 2.5mm, FC, ST and SC for the Power Meter, rubber boot, battery, power supply/charger, manual , USB cable and CertSoft reporting software

Specifications are subject to change without notice.

Light Source

Laser Output Power	0 dBm, 1mw
Output Stability	± .05 dB / 24 hrs @ constant temp, ± .02 dB/C temperature coefficient
Laser Wavelengths Provided	850,1300, 1310, 1490, 1550 and 1625nm (± 20 nm)
Transmitted Modulation Modes	CW, 270 Hz, 1000 Hz, 2000 Hz
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulation
Spectral Width	<5nm typ.

Specifications are subject to change without notice.

Power Meter

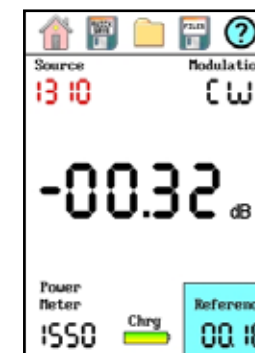
Power Meter Detector Type	InGaAs
Power Meter Dynamic Range	+5 to -77 dB (CATV +25 to -57 dB)
Auto Test Range	0 to -36 dB
Connector Type	1.25mm & 2.5mm Univ, FC, ST and SC
Calibrated Wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm
Units of Measurement	dBm, dB
Resolution	0.01dB
Power Measurement Uncertainty	± 0.18 dB under reference conditions, ± 0.25 dB from 0 to -65 dBm, ± 0.35 dB from 0 to +5 dBm and from -65 to -77 dBm
Modulation Modes Detected	CW, 270 Hz, 1000 Hz, 2000 Hz

Specifications are subject to change without notice.

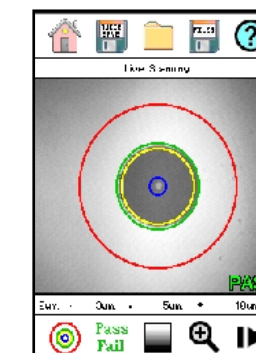
Optical Return Loss Meter

Optical Return Loss Dynamic Range	0-55 dB
ORL Wavelengths	1310/1550nm
Optical Return Loss Accuracy	± .75 dB @ a -40db reflection
Resolution	0.01 dB
Spectral Width (RMS)	<5nm typ.
Connector	FC/APC

Specifications are subject to change without notice.



Large Easy to Read Color Touch Loss Test Set



Video Inspection System with IEC61300-3-35 pass/fail grading zone system



The FTE-5000 is available with a -60dB ORL Meter

Ordering Information

FTE-5000-8513	LTS with 850/1300nm Light Source and Video Scope (Probe Sold Separately)
FTE-5000-1315	LTS with 1310/1550nm Light Source and Video Scope (Probe Sold Separately)
FTE-5000-345	LTS with 1310/1490/1550nm Light Source and Video Scope (Probe Sold Separately)
FTE-5000-QUAD	LTS with 850/1300/1310/1550nm Light Source (No Video Scope)
VIS-300	Video Inspection Probe

Add a "C" to the end of the Part number for CATV Versions. Example: FTE-5000-8513C

FTE-5100 Fiber Optic Video Scope



- ### Features
- Interchangeable Adapters
 - Digital Zoom
 - USB Port for Connection to PC
 - 8 Hour Battery Life
 - IEC61300-3-35 Auto Pass/Fail Grading System
 - 150X and 300X Representation
 - Position Image for Best Viewing
 - Stores Connector Images
 - Use with TTI CertSoft Software Suite
 - Protective Rubber Boot with Stand
 - Shipped with Universal AC Adapter
 - Wide Range of Adapters Available
 - One Hand Operation
 - 4" TFT Display
 - VIS-300 Probe is Compatible with the FTE1700 and FTE7000A

Specifications	
Display	4 in Color TFT
Magnification	150X and 300X approx.
Power	Input 100-240VAC, 50-60Hz Output 9V, 0.67A
Battery Type	Rechargeable NiMH 6 Hours Operating time typ.
Operating Temp	-10°C to +40°C
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)

Specifications are Subject to Change Without Notice

Ordering Information	
FTE-5100	Video Inspection System Includes Scope, Probe, Software Suite, Manual and Universal Power Supply
VIS-300	Video Probe

The FTE5100 has a Pass/Fail grading system with images that can be stored and recalled. Stored images may be associated with OTDR trace files to produce complete professional reports that include the OTDR trace, along with connector image and LTS results. The FTE5100 is indispensable for testing connectors end face prior to connecting to expensive optical test equipment. This helps ensure accurate measurements and also helps protect equipment from damage caused by contaminated connectors. It is essential to have clean connectors to ensure networks operate at properly. The VIS-300 probe may be purchased separately and used with other FTE series equipment. The VIS-300 has a full range of tips available.

Kit Contents

The FTE-5100 Kit includes Probe, LCD Scope Unit, AC wall adapter, 2.5mm patch cord tip, USB Cable, Manual on CD and PC Software

FTE-4000 Variable Optical Attenuator



TTI Hand Held Variable Optical Attenuator

The FTE-4000 is available with 40 dB or 80 dB attenuation levels.

Onboard Help System

As with all of our advanced test equipment, the VOA has an onboard help feature.

Applications

The FTE-4000 can assist in the testing of system budget compliance, balancing transmitter power and adjusting receiver attenuation settings.

Built-In Output Power Monitor

The built-in output power monitor assists in setting appropriate attenuations levels.

Sweep Mode

Sweep mode can produce attenuation levels across a selected range.

Rugged

The FTE-4000 is manufactured in our rugged splash proof housing with a highly protective boot.

Specifications	
Attenuation Range	FTE-4000-4 2 to 40dB FTE-4000-8 4 to 80dB
Wavelengths	1310 and 1550 nm
Resolution	.01 dB
Uncertainty	+/- 0.5 dB
Repeatability	+/- 0.1 dB
Insertion Loss	<2 dB (<4dB FTE-4000-8)
Return Loss	50 dB
Max Input Power	27 dBm
Graphical Display	4 in Color TFT
Dimensions	8 5/8" L x 4 5/16" W x 2.3/8" H (219mm L x 109mm W x 60mm H)
Weight	1.8 lbs
Battery	Rechargeable NiMH - 6 hours operating time
Power	100-240 universal US, GB, EU, AU Mains
Environmental	Operation -10°C to +40°C
Accessories Included	Universal power supply, FC and SC adaptors, USB Cable and Manual

Specifications are Subject to Change Without Notice

Features

- Up to 80 dB Attenuation
- Built in Output Power Monitor
- Typical Insertion Loss <2dB
- Adjustable Step Sizes
- USB PC Interface with Remote Operation
- Absolute/Relative Attenuation Settings
- Calibrated at 1310/1550
- Rugged Case with Protective Rubber Boot
- Lowest Cost Hand Held VOA
- 4" Color Display

VFL-280 Visual Fault Locator



- ### Features
- Universal 2.5 mm Adapter
 - Modulated Mode
 - Standard AA Batteries
 - >100 Hour Battery Life
 - MM and SM Applications
 - Compact Size

TTI VFL-280 Visual Fault Locator

This easy-to-use piece of equipment determines the precise location of breaks or severe micro-bends in a fiber or cable under test by visually checking fiber for leaks of visible light.

Find Poor Splices

Use the VFL to find leaky splices or connectors within a patch panel or breaks within the dead zone of an OTDR.

Small Size

Just a little wider and taller than a credit card, weighing just over 4 ounces.

Battery powered

Over 100 hours of operation on 2 AA alkaline batteries.

Universal Adapter

Shipped with a universal 2.5mm adapter.

Fiber Identification

Use the VFL to identify fibers in multi-fiber cables suitable for both singlemode and multimode fibers.

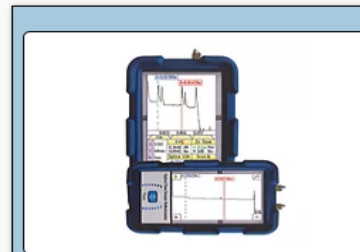
Power Save feature

The VFL-280 has an overridable power saver feature that powers down the unit after 30 minutes.

Specifications	
Output Power	1mW max
Wavelength	650 nm +/- 5nm
Pulse Rate	6 Hz
Emission Indicator	LED
Standard F/O Connector	Universal 2.5 mm
Duty Cycle	50%
Battery	2 (AA) Alkaline
Battery Life	>100 hrs.
Size	4.0" L x 2.5" W x 1.1" D
Weight	4.2 oz.
Operating Temperature	-10 to 50 C
Storage Temperature	30 to 60 C
Auto Shut-Off	30 Min.

Specifications are Subject to Change Without Notice

View our NEW website www.teratec.us for our full range of products



FIBER OPTIC TEST EQUIPMENT

OTDR • OSA • TLS

[VIEW MORE](#)



PHOTONICS TEST & MEASUREMENT

Chopper • PDA • Tachometer

[VIEW MORE](#)



FIBER OPTIC LINKS

Analog • Digital

[VIEW MORE](#)



OPTICAL TO ELECTRICAL CONVERTERS

Transimpedance Amplifiers

[VIEW MORE](#)

Browse our list of global distributors



View product and instructional videos



C-995 Optical Chopper



Features

- Wide Frequency Range 4 Hz to 5000 Hz
- Rock Solid Crystal Controlled Frequency
- Large 5 Digit LED Display
- Frequency resolution of 0.001 Hz
- External Clock Synchronization
- Covers 4 Hz to 5 KHz with only one blade
- Computer Interface for easy control
- Enclosed Chopper Blade

The C-995 is a microprocessor-based control system that utilizes direct-digital-synthesis to deliver precise optical chopping rates from 4 Hz to 5000 Hz. Equipped with a large five-digit LED readout, the C-995 controller enables digital entry of the desired chopping rates from the front panel. Additionally, the C-995 is equipped with a bi-directional Rs-232 port that permits the user to set the desired chopping rate to a resolution of .001 Hz and to read the status of the instrument.

The C-995, designed with a phase-locked-loop control system, allows the chopping rate to also be synchronized to a user-supplied external clock ranging from 4 Hz to 5 KHz. The controller is then used to measure and display the frequency of the external clock.

The C-995 chopping head is attached to the controller by means of a 10 foot coiled cord. The precision etched blade is fully enclosed for protection from inadvertent damage. (An optional exposed blade version is also available.)

There are two apertures and two sections (30 slots and 3 slots) for the high and low frequency ranges, respectively. The aperture diameter is 15 mm with a slot width of 4.5 mm (30 slot section) or 30 mm (3 slot section). The small 4.75 inch square outline and two inch maximum depth permits easy integration into compact optical setups. Dual #8-32 mounting holes permit the apertures to be placed at a height as low as 0.75 inches above an optical bench, or with the included 1/2 inch rod and stand, as high as 13 inches above the mounting surface.

The ease of use and convenience of this instrument are matched only by the high performance to price ratio that is typical of products from Terahertz Technologies Inc. The C-995 is backed by our standard two year warranty and our guarantee of customer satisfaction.

Specifications

Chopping Frequency Range	4 Hz to 500 Hz (Inner slots), 40 Hz - 5 KHz (outer slots)
Aperture Size	0.6 inch diameter (15 mm), and 0.6 inch by 0.2 inch (15 x 4.5 mm)
Frequency Control	Phase-Locked-Loop, Direct Digital Synthesis
Frequency Uncertainty	±.0025 % of setting
Phase Jitter	0.1 % peak to peak, 3 slot section, 1.0 % peak to peak, 30 slot section
Settling Time to Phase Lock	< 3 seconds
External Clock Input Requirements	TTL, CMOS Compatible Square Wave, 4 Hz to 5000 Hz
Sync Signal Output	TTL, CMOS Compatible Square Wave
Display	Five Digit, high intensity green, 0.5 " high
Temp. Coefficient of Chopping Frequency	< 10 ppm/C
Frequency Resolution (W/Rs-232 Control)	.001 Hz
Frequency Resolution (W/Front Panel Control)	.01 Hz
Counter Resolution using External Clock	0.1 Hz, 1 Hz
Rs-232 Interface	9600 Baud, N-8-1, 3 wire
Chopper Head Mounting	Standard 8-32 tapped holes, mounting rod and stand is provided
Chopper Blade Diameter	4.1 inch diameter
Operating Temperature Range	0 - 40 C
Dimensions (Head)	4.5 " H x 4.5 " W x 2 " D, 114 mm x 114 mm x 51 mm
Dimensions (Controller)	2.7 " H x 7 " W x 9.1 " D, 69 mm, 178 mm, 231 mm
Interconnecting cable supplied	Coiled Cord 10 feet max length
Power Requirements	95-260 VAC, 50-60 Hz, 15 VA Max
CE Certification	Yes
Weight	3 lbs, 1.36 Kg
Accessories Provided	Mounting rod and stand, Rs-232 cable, Power Cord, Operating Manual
Standard Warranty	Two years, Components and Workmanship, 30 Day Satisfaction Guarantee
Application Software Provided	Downloadable from TTI website

TTI reserves the right to change specifications without notice

Enclosed Chopper Head Assembly



Open Chopper Head Assembly



PDA-750 Photodiode Transimpedance Amplifier



Features

- Eight Decade Dynamic Range
- Less Than 1 pA Noise
- Maximum Resolution 1 part in +/- 20 000
- Rechargeable Ni-mH Batteries for Low Noise
- Digital Input of A/W value yields readout in Watts
- Computer Interface for easy control
- Background Cancelation of +/- 200%
- Digitally set bias source from -14.00V to +14.00V

The PDA-750 is a low noise, high gain, transimpedance amplifier designed to provide a direct digital readout of the current generated from a photodiode photomultiplier, or other similar current source. With full scale input ranges of ± 20 nA to ± 20 mA and a noise level of less than 1 pA, the PDA-750 offers superb dynamic range. Digital entry of an Amps/Watt setting via the front panel controls permits the instrument to display current measurements in units of Watts. The A/W setting ranges from 1.000 to 0.100. A variable bias supply is built into the instrument and may be switched into series with the device under test. It can supply digitally selectable voltages ranging from -14.00 to + 14.00 volts. The Offset control permits the nulling of background signals as large as $\pm 200\%$ of the range currently in use. Rechargeable batteries isolate the unit from the mains and eliminate the effects of ground loops and/or power line noise that may be present during sensitive measurements. They will power the instrument for approximately 10 hours between charges. The unit may be operated normally while the batteries are charging.

The large 4 1/2 digit Liquid Crystal Display provides a maximum resolution of 1 part in $\pm 20,000$, thus enabling the detection of very small changes in the signal under test. An analog output port provides a ± 2 Volt, full-scale signal that is directly proportional to the display reading of $\pm 20,000$ counts. The PDA-750 is equipped with a bi-directional Rs-232 serial port that enables the user to remotely control the instrument and read data and the instrument's status.

Applications for the PDA-750 include: serving as a precision readout device for Unity Quantum Efficient detectors such as the QED-150 manufactured by UDT Instruments, characterization of detector dark current, a readout interface for spectrometers, spectral calibration of detectors, a high gain precision transimpedance amplifier and as a sensitive, high precision optical power meter. The ease of use and convenience of this instrument is typical of TTI products. This instrument is covered by our standard two year limited warranty and guarantee of satisfaction. The PDA750 may be purchased with a 10DP Silicon Photodiode.

Specifications	
Full Scale Ranges	± 20 nA to ± 20 mA in decade steps, 1 pA maximum resolution
Maximum Input Current Without Damage	± 25 mA
Measurement Uncertainty	± 0.05 % of Reading ± 2 Least Significant Digits
A/W Setting	0.100 to 1.000 A/W in increments of .005 A/W
Input Impedance (DC to 2 KHz)	Zero Ohms Virtual Ground, Single Ended
Input Capacitance	25 pF
Output Impedance	100 Ohms
Bias Voltage	Selectable from - 14 V to + 14 V in 6.5 mv increments
Analog Output Port	± 2 V corresponds to ± 20 000 counts of range in use
Noise and Drift	$< \pm 1$ pA/5 seconds on most sensitive range
Background Cancelation	± 200 % of the range in use
Analog Output Port Frequency Response	DC to 2 KHz, most sensitive range, DC to 40 KHz, least sensitive range
Rs-232 Interface	9600 Baud, N-8-1, 3 wire, Bi-directional, Cable Provided
Display	4 1/2 Digit LCD, 0.4 " high
Power Requirements	Rechargeable Ni-mH batteries provide approximately 10 hours of use
External Power Supply/Charger	85 - 250 VAC, 50-60 Hz, < 9 VA
Mains Adaptors	Adaptors provided for US, Continental Europe, Great Britain and Australia
Operating Temperature Range	0 - 40 C
Dimensions	5.5" W x 2.5" H x 8.5" L (140 x 63 x 215 mm)
Weight	2 Lbs., 0.9 kg (excluding external power supply)
Interconnecting cable supplied	Rs-232, 14 feet max length
CE Certification	Yes
Accessories Provided	Rs-232 cable, Power Supply/Charger, Operating Manual
Standard Warranty	Two years, Components and Workmanship, 30 Day Satisfaction Guarantee
Application Software Provided	Downloadable from TTI website, www.teratec.us

TTI reserves the right to change specifications without notice



PDA750 with 10DP photodiode

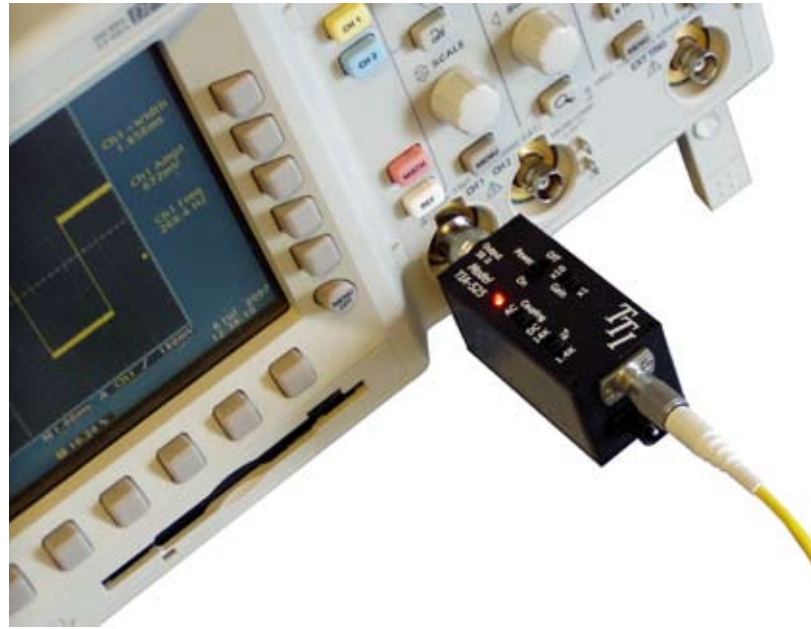
PIN 10DP Photovoltaic Detector

Active Area	Area (mm ²) 100, Dimensions (mm) 11.28 ϕ
Peak Responsivity Wavelength typ. (λ_p)	970nm
Responsivity at λ_p	Min. 0.55 A/W and typ. 0.60 A/W
Capacitance (pF) OV	9800 Max.
Shunt Resistance (G Ω at -10mV)	Min. 0.05 A/W and Typ. 0.2 A/W
NEP @ 0V and 970nm	6.8 3-15 typ.
Rise Time @ 0V and 632nm with 50 Ω	1000 ns typ.
Temp range	Operating -40C to +100C, Storage -55C to +125C

Ordering Information

PDA-750	Photodiode Amplifier
PDA-750-10DP	Photodiode Amplifier with 10DP Si Photodiode with Stand and Holder
10-DP	10DP Si Photodiode with Stand and Holder

Optical to Electrical Converters

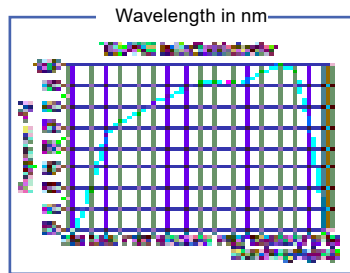


Features

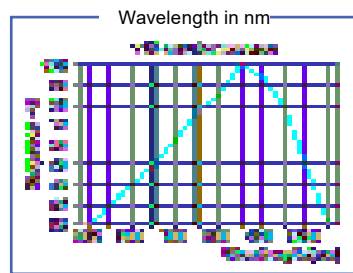
- 400 nm to 1700 nm wavelengths
- Battery or External AC Operation
- Bandwidth to 20 GHz
- Compact Size

The TIA-525, 527 and 952 series have BNC outputs for direct connection to your oscilloscope or digitizer. The TIA-1200, 2000, 3000, and 4000 use a type K SMA female output connector. The TIA525 offers a free space option. Patch cords and adapters can be supplied to mate with various fiber optic connectors. The TIA-525 and 527 have dual power capability, battery and external universal power supply.

Typical InGaAs Detector Response



Typical Si Detector Response



TIA-525

Model/BW	Detector	Wavelength	Power	AC/DC Coupling	Conversion Gain @ Peak Wavelength
TIA-525S-ST (125 MHz)	Silicon	400 -1000 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-525I-FC or -ST (125 MHz)	InGaAs	850 - 1700 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-527-FC (125 MHz)	Matched InGaAs	850 - 1700 nm	9 V Lithium Battery*/ Univ. Power Supply	Selectable	100,000 V/W
TIA-952-FC (750 MHz)	InGaAs	850 - 1700 nm	Universal Power Supply	AC	2500 V/W
TIA-1200-FC (12 GHz Typ.)	InGaAs	900 - 1700 nm	Universal Power Supply	DC	0.8 A/W
TIA-2000-FC (20 GHz Typ.)	InGaAs	900 - 1700nm	Universal Power Supply	DC	0.8 A/W
TIA-3000 (10 GHz)	InGaAs	900 - 1700 nm	Universal Power Supply	AC	500 V/W

*30 hrs. avg. (no load) 9 V Lithium, use of std. 9 Volt battery will provide approx. 1/3 life of Lithium battery.

Specifications subject to change without notice

O/E Converter Selection Chart

	TIA-525	TIA-527	TIA-952	TIA-1200	TIA-2000	TIA-3000
Detector Types	Silicon (400-1000nm) InGaAs (850 -1700nm)	Matched InGaAs (850 -1700nm)	InGaAs (850-1700nm)	InGaAs (900 -1700nm)	InGaAs/InP (900-1700nm)	InGaAs (900 -1700nm)
Transimpedance Ranges	1.4 K, 14 K	1.4 K, 14 K	1.2 K	50 Ohm internal in parallel, user supplied load	50 Ohm internal in parallel, user supplied load	$V_R = 500 \text{ V/W}$
Current Responsivity	N/A	N/A	N/A	0.8 A./W @ 1550nm Typ.	0.8 A./W @ 1550nm Typ.	N/A
Post Amplifier Gain	1.0, 10.0 selectable	1.0, 10.0 selectable	1.0, 5.0 selectable	Not amplified	Not amplified	NA
Max. Linear Input Power	1.2 mW	1.2 mW	2 mW	3 mW	3 mW	1.25 mW
Max. Input w/o Damage	10 mW	10 mW	15 mW	10 mW	10 mW	2.5 mW
Bandwidth (-3 dB) 50 Ohms	DC - 125 MHz Tr = 1.4K DC - 35 MHz Tr = 14K	DC - 125 MHz Tr = 1.4K DC - 35 MHz Tr = 14K	30KHz - 800 MHz Gain 1.0 30KHz - 300 MHz Gain 5.0	DC to 12GHz Typ. 10 GHz Min.	DC to 20GHz Typ. 18 GHz Min.	100 KHz to 11 GHz (typ) 8.5 GHz (min.)
Output Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Output Connector	Male BNC	Male BNC	Male BNC	SMA Type K Female	SMA Type K Female	SMA Type K Female
F. O. Input Connector	ST, FC or Free-Space	FC	FC or ST	FC/UPC or FC/APC	FC/UPC or FC/APC	FC/UPC or FC/APC
Input Numeric Aperture	0.29	0.29	0.29	0.11 9 μm Singlemode	0.11 9 μm Singlemode	0.11 9 μm Singlemode
Inter-Stage Coupling	AC or DC selectable	AC or DC selectable	AC	DC	DC	AC
Output Offset Voltage	+/- .1 V at Max Gain	+/- .1 V at Max Gain	N/A	0	0	NA
Max Output Voltage	4 V pk-pk, no load, 2 V pk-pk 50 ohm load	4 V pk-pk, no load, 2 V pk-pk 50 ohm load	2 V pk-pk 50 ohm load	0.1 V	0.1 V	0.65 V into 50 Ohms
Noise Level	3 pW/Hz ^{1/2}	3.6 pW/Hz ^{1/2}	9.5 pW/Hz ^{1/2}	Dark Current <1.0 nA	Dark Current <1.0 nA	15pW/Hz ^{1/2}
Power Required	9 V Lithium Battery or Univ. Power Supply	9 V Lithium Battery or Univ. Power Supply	Universal Power Supply	Univ. Power Supply	Univ. Power Supply	Universal Power Supply
Dimensions	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.5H inches 30.5W, 63L, 32H	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm	1.2W, 2.5L, 1.35H inches 30.5W, 63L, 33H mm
Weight	4 oz, 114 g	5.6 oz, 160 g	4 oz, 114 g	2.8 oz, 80g	2.8 oz, 80 g	2.8 oz, 80 g
Operating Temperature	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C	0 to 40 C
Limited Warranty	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt	2 yrs from date of receipt

Specifications subject to change without notice

LTX-551x Analog/Digital Fiber Optic Links



- ### Features
- One analog plus up to four digital channels
 - DC to 25 MHz analog bandwidth
 - Input ranges of ± 1 V and ± 5 V
 - Analog signal digitized to 12 or 14 bit precision
 - DC to 48 Mb/s data rate (each channel)

The LTX-5510 and the LTX-5515 Signal Transports enables the precise conveyance of one analog channel plus up to four digital channels of information over fiber optic links ranging from meters to more than 10 kilometers.

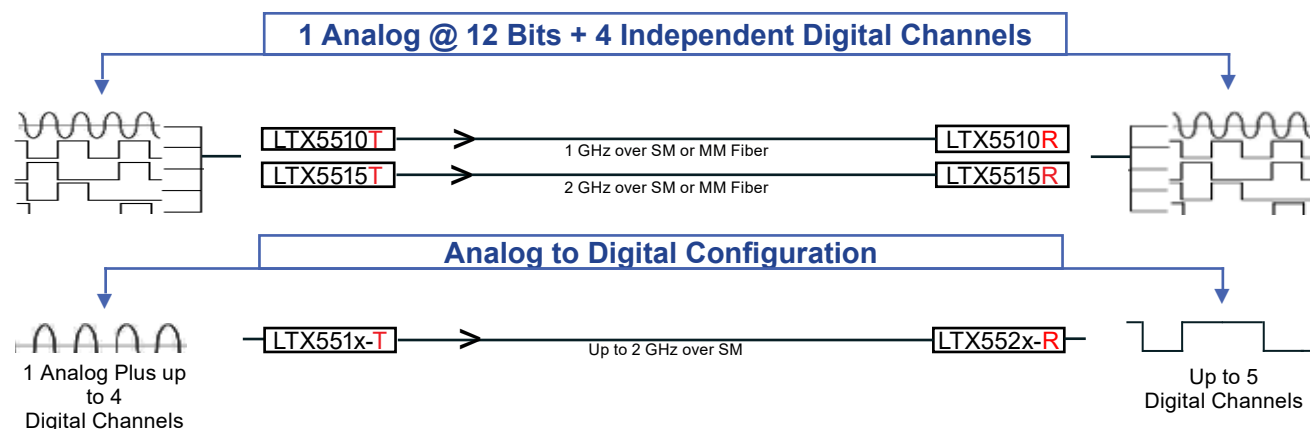
Incoming analog data is digitized to 12 or 14 bit precision at up to 100 mega-samples per second and transmitted over optical fiber at one to two gigabits per second depending on the model. The receiver acquires this digital data and accurately reconstructs the analog signal at the far end of the fiber optic link.

The analog signal bandwidth is from DC to 25 MHz (-3 dB). Two input voltage ranges are provided, ± 1 Volt and ± 5 Volts. The input impedance of the transmitter analog channel may be set to 50 ohms or 1 megohm (75 ohms is optional).

Multiplexed along with the analog data, are up to four independent TTL/CMOS/LVTTL digital signals that may be toggled at rates of up to 48 Mb/s.

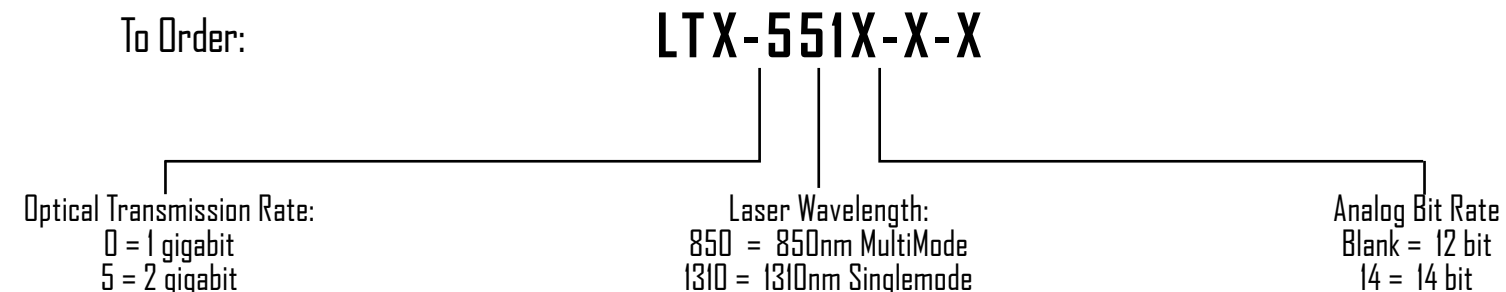
The LTX-5510 and LTX-5515 models are available in multi-mode or single-mode versions depending on the transmission distance required. The LTX-55XX-850 transmits at 850nm over multi-mode fiber optic links of up to 500 meters in length, while the LTX-55XX-1310 transmits at 1310nm over single-mode fiber to span distances exceeding 10 km.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, transmission of high quality video, and precise noise-free signal transmission in hostile EMI environments.



Specifications		
	LTX-5510	LTX-5515
Analog Signal Bandwidth	DC to 12.5 MHz (-3 dB)	DC to 25 MHz (-3 dB)
Input Voltage Ranges	+/- 1 V or +/- 5 V (selectable)	
Resolution	12 or 14 bit	
Transfer Accuracy	+/- 0.1% Full Scale, +/- 20 mV offset	
Signal Latency (with one meter of fiber)	Approximately 300 nS	
A/D Sampling Rate	50 Megasamples/S	100 Megasamples/S
Input Impedance	50 Ohms or 1 Megohm 20 pF, (selectable)	
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load	
Output Impedance	50 Ohms	
Digital Inputs	TTL, LVTTTL, CMOS compatible	
Digital Outputs	LVTTTL (0 - 3.3 V)	
Digital switching Rates	0 - 12 MHz	0 - 24 MHz
Digital Signal Edge Uncertainty	0 - 20 nS	0 - 10 nS
Laser Wavelength	850 nm +/- 20 nm or 1310 nm +/- 20 nm	
Optical Transmission Rate	1.0 Gb/S	2.0 Gb/S
Loss Budget	15 dB max	
Optical Return Loss	> 15 dB	
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations	
Typical Trans. Distances MM	500 M - 50/125µ and 300 M - 62.5/125µ	250 M - 50/125µ and 150 M - 62.5/125µ
Typical Trans. Distances SM	10 KM with 9/125 micron fiber	
Fiber Optic Connectors	ST standard, FC optional	
LED Annunciators Provided	Input Overload (TX), Optical Signal (RX)	
Power Requirements	9 - 24V DC, 500mA	
Power Supply Included	95 - 260 VAC, 50 - 60 Hz, 16 VA Max - Output 9VDC/67A with Universal, US, UK, Continental Europe and Australian plugs included	
Fiber Optic Connectors	ST standard, FC available upon request	
LED Annunciators Provided	Input Overload (transmitter), Optical Signal - ON (receiver)	
Tx and Rx Dimensions	6.89L x 4.1W x 1.6H in. (175L x 105 W x 40 H mm)	
Operating Temperature	0 - 40 C	
Weight (each)	16.2 oz. (0.46 Kg)	
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee	
Accessories Supplied	5 pin DIN connector for digital inputs/outputs, xmtr and receiver	

TTI reserves the right to change specifications without notice.



LTX-552x Digital Fiber Optic Links



Features

- Channel capacity up to 50 Mb/S
- Accepts LVTTTL and/or CMOS/TTL inputs
- Transmits 16 independent TTL signals over a single fiber
- Outputs are LVTTTL (0 - 3.3 V)
- 850 nm version for multimode links up to 500 M
- 1310 nm version for SM links up to 10 KM
- Paired with LTX-551x to configure remote high speed 12 or 14- bit A/D and D/A converter modules

The LTX-552x conveys sixteen independent channels of digital information over a fiber optic link ranging from meters to more than 10 kilometers.

Each of the 16 incoming TTL channels is sampled at up to 5×10^7 times per second, multiplexed and transmitted serially over an optical fiber at up to 2 gigabit per second. The receiver acquires this digital data and de-multiplexes it to 16 separate output ports. Each of these channels may be toggled at rates ranging from 0 to 48 Mb/S.

Two models are available. The LTX5520 transmits serially at 1 gigabit and the LTX5525 transmits to 2 gigabit over either SM or MM fibers. The distance between units determines the fiber required to complete the link. 850 nm units operate on multimode fiber up to 500 meters in length, while 1310 nm units operate with single-mode fiber to span distances exceeding 10 kilometers.

The LTX-5510 precision analog fiber optic link was the first in our series of "Signal Transporters". It digitizes an analog signal at a 50 Ms/S rate with 12-bit precision and reconstructs the signal at the LTX-5510 receiver by means of a fast D/A converter. If the user employs the LTX-5520 receiver with the LTX-5510 transmitter, the result is a remote fiber-coupled 12-bit data acquisition system.

Similarly one can employ the LTX-5520 transmitter with the LTX-5510 receiver to generate fast high resolution analog signals at a remote location.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, operation through equipment at high voltage potentials, operation through Faraday shields, and precise noise-free signal transmission in hostile EMI environments

Specifications		
	LTX-5520	LTX-5525
Number of Independent Channels	16	
Signal Latency (with one meter of fiber)	Approximately 300 nS	
Input Impedance	50 Ohms or 1 Megohm 20 pF, (selectable)	
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load	
Output Impedance	50 Ohms	
Digital Inputs	TTL, LVTTTL, CMOS compatible	
Digital Outputs	LVTTTL (0 - 3.3 V)	
Digital switching Rates	0 - 12.5 MHz (up to 24 Mb/s)	0 - 24 MHz (up to 48 Mb/s)
Digital Signal Edge Uncertainty	0 - 20 nS	0 - 10 nS
Laser Wavelength	850 nm +/- 20 nm or 1310 nm +/- 20 nm	
Optical Transmission Rate	1.0 Gb/S	2.0 Gb/S
Loss Budget	15 dB max	
Optical Return Loss	> 15 dB	
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations	
Typical Trans. Distances MM	500 M - 50/125µ and 300 M - 62.5/125µ	250 M - 50/125µ and 150 M - 62.5/125µ
Typical Trans. Distances SM	10 KM with 9/125 micron fiber	
Fiber Optic Connectors	ST standard, FC optional	
Signal Connectors	DB25 on input and output	
LED Annunciators Provided	Input Overload (TX), Optical Signal (RX)	
Power Requirements	9 - 24V DC, 500mA	
Power Supply Included	95 - 260 VAC, 50 - 60 Hz, 16 VA Max - Output 9VDC/.67A with Universal, US, UK, Continental Europe and Australian plugs included	
LED Annunciators Provided	Input Overload (transmitter), Optical Signal - ON (receiver)	
Tx and Rx Dimensions	6.89L x 4.1W x 1.6H in. (175L x 105 W x 40 H mm)	
Operating Temperature	0 - 40 C	
Weight (each)	16.2 oz. (0.46 Kg)	
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee	
Accessories Supplied	db25 connectors for digital inputs /outputs	

TTI reserves the right to change specifications without notice.

To Order:

LTX-552X-X-X

Optical Transmission Rate:
0 = 1 gigabit
5 = 2 gigabit

Laser Wavelength:
850 = 850nm MultiMode
1310 = 1310nm Singlemode

Optical Connector
Blank = ST
FC = FC

LTX-7215 Bidirectional Analog/Digital Fiber Optic Link



Features

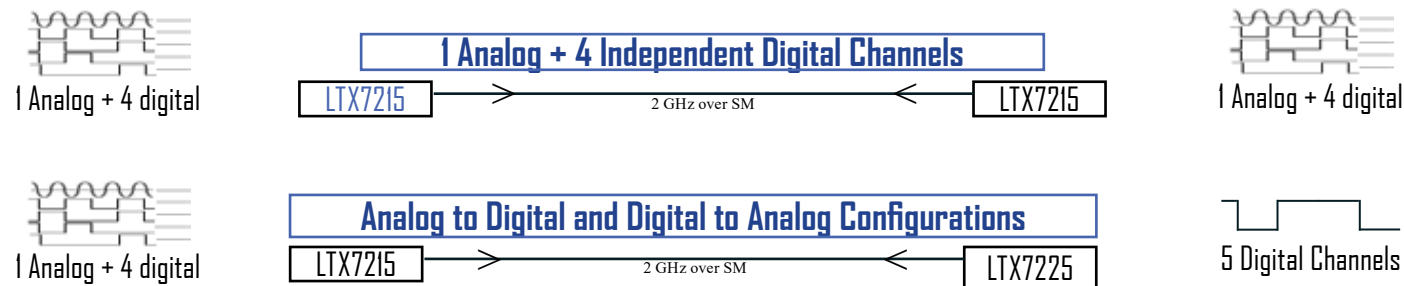
- Single Fiber Transceivers
- DC-25MHz Analog
- Four Independent Digital Channels
- 0 to 50 Mb/s Per Digital Channel
- +/-5V or +/-1V Full Scale I/O
- Digital LVTTTL, CMOS/TTL Input
- Analog I/O - 12 bit Precision
- AC/DC Operation

Transmit and receive precise analog data from DC to 25 Mhz over a single optical fiber!

The LTX-7215 Bidirectional Fiber Optic Link multiplexes one analog signal along with up to 4 independent TTL/CMOS/LVTTTL digital channels to over 10 kilometers with a single fiber. The incoming analog data is digitized to 12 bit precision at 100 mega samples per second and the digital channels operate at data rates of 0 to 50Mb/s. This is then transmitted at 2 Gb/s second for distances up to 10 kilometers.

The digital signal is then received and the analog signal is accurately reproduced at the far end of the fiber optic link. The analog signal bandwidth may be from DC to 25 MHz (-3dB). The LTX-7215 has input voltage ranges of ±1 Volt or ±5 Volts. The input impedance of the analog channel may be set to 50 ohms or 1 megohm (75 ohms is optional). The LTX7215 series has a battery option that will allow for up to 3 hours of operation for experiments at extremely high potentials.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, transmission of high quality video, and precise noise-free signal transmission in hostile EMI environments.



Analog Channel Specifications

Number of Analog Channels	1
Analog Signal Bandwidth	DC to 25MHz (-3 dB)
Resolution	12 Bits
Input Voltage Ranges	+/- 1 V or +/- 5 V
Transfer Accuracy	+/- 10 mV offset, +/- 0.1% Full Scale(100Hz sine wave 8v pk-pk)
Output Impedance	50 Ohms
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load
Input Impedance	50 Ohms or 1 Megohm 20 pF, (selectable)
A/D Sampling Rate	100 Mega samples p/s

Digital Channel Specifications

Number of Digital Channels	4
Digital Inputs	TTL, LVTTTL, CMOS compatible
Digital Outputs	LVTTTL (0 - 3.3 V)
Signal Latency (with one meter of fiber)	Approximately 300 ns
Digital Channel Switching Rate	0 - 50 Mb/s
Digital Signal Edge Uncertainty	0 - 10 ns

General Specifications

Laser Wavelength	1310 nm +/- 20 nm
Optical Transmission Rate	2.0 Gb/s
Loss Budget	7 dB
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations
Typical Transmission Distances	10 km with 9/125µm (SM) fiber
Fiber Optic Connectors	ST standard, FC available upon request
Analog Connector	BNC
Digital Connector	(Cable and Breakout Board Supplied)
LED Annunciators Provided	Input Overload, Optical Signal and Power
Power Supplies	Wall Mount, Universal, US, UK, Continental Europe and Australian plugs included
Power Requirements	95 - 260 VAC, 50 - 60 Hz, 16 VA Max.
Batteries/hrs of Operation	6 AA NiMH / 3 hrs
Operating Temperature Range	0 - 40 C
Transmitter Dimensions (mm)	214 L x 114 W x 59 H
Weight (each)	0.578 Kg
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee

TTI reserves the right to change specifications without notice.

Ordering Information

LTX-7215-1310	Singlemode, 2.0 Gb/s Analog/Digital Signal Transporter
LTX-7215-1310-BAT	Singlemode, 2.0 Gb/s Analog/Digital Signal Transporter with Battery Pack

We welcome the challenge of CUSTOM APPLICATIONS

CALL, FAX, OR EMAIL with your requirements

LTX-7225 Bidirectional Fiber Optic Link



Features

- Transmits 16 independent Channels
- Single Fiber Transceivers
- 0 to 50 Mb/S Bit Rate Per Channel
- 1310nm for Links to 10km
- Digital LVTTTL, CMOS/TTL Input
- Outputs are LVTTTL (0-3.3V)
- AC/DC Operation

Pair an LTX-7225 with a LTX-7215 to configure remote high speed, 12 bit A/D and D/A converter links

The LTX-7225 Bidirectional Fiber Optic Link multiplexes up to 16 independent channels of digital TTL/CMOS/LVTTTL information to over 10 kilometers with a Singlemode fiber. The LTX-722X samples each of the channels at 100 million times a second, The signals are then multiplexed and transmitted serially over a single optical fiber at 2 gigabits per second. The far end of the fiber link demultiplexes the signal back into independent outputs. Each of these channels maybe be toggled at rates up to 50 Mb/S.

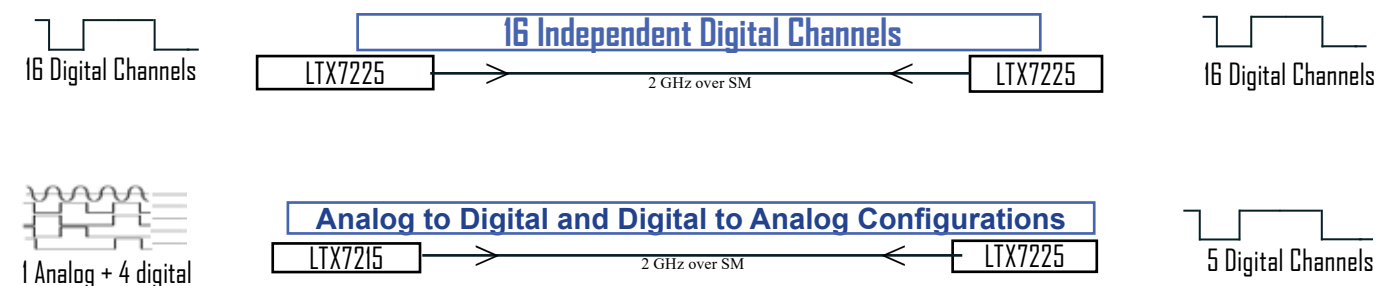
Using the LTX-721X in conjunction with a LTX-722X unit, results in a remote fiber-coupled 12-bit data acquisition system, digitizing the signal at up to 50 Mb/s and reconstructs the signal by means of a fast D/A converter. The units may also be employed in the reverse direction if desired.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, operations through Faraday shields, and precise noise -free signal transmission in hostile EMI environments.

Specifications

Number of Digital Channels	16
Digital Inputs	TTL, LVTTTL, CMOS compatible
Digital Outputs	LVTTTL (0 - 3.3 V)
Signal Latency (with one meter of fiber)	Approximately 300 ns
Digital Channel switching Rate	0 - 50 Mb/S
Digital Signal Edge Uncertainty	0 - 10 ns
Laser Wavelength	1310 nm +/- 20 nm
Optical Transmission Rate	2.0 Gb/S
Loss Budget	7 dB
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations
Typical Transmission Distances	10 KM with 9/125 micron fiber
Fiber Optic Connectors	ST standard, FC available upon request
Analog Connector	BNC
Digital Connector	HDMI (Cable and Breakout Board Supplied)
LED Annunciators Provided	Input Overload, Optical Signal and Power
Power Supplies	Wall Mount, Universal, US, UK, Continental Europe and Australian plugs included
Power Requirements	95 - 260 VAC, 50 - 60 Hz, 16 VA Max.
Batteries/hrs of Operation	6 AA NiMH / 3 hrs
Operating Temperature Range	0 - 40 C
Dimensions (mm)	214 L x 114 W x 59 H
Weight (each)	0.578 Kg
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee

Specifications subject to change without notice



Ordering Information

LTX-7225-1310	Singlemode, 2.0 Gb/s 16 Channel Digital Signal Transporter
LTX-7225-1310-BAT	Singlemode, 2.0 Gb/s 16 Channel Digital Signal Transporter with Battery Pack

LT-880 Laser Tachometer



Features

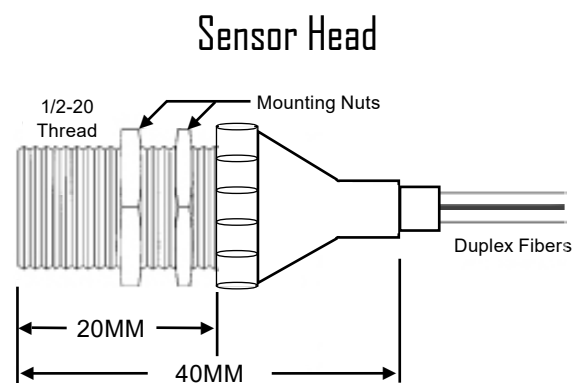
- Remote Sensing of RPM and Angular Vibration
- No Special Reflective Tape Required
- Large 5 Digit LED Display
- Sensing rates to 40 000 PPS
- Ni-mH Powered with Fast Charger
- Measures RPM, RPS, PPS
- Entry of number of encoder sectors

The LT-880 Laser Tachometer is a hand-held, battery operated device that senses the passage of reflective/non-reflective markings on a rotating or linearly translated piece of machinery in order to determine the target's rotational rate or its linear velocity. The sensing head is remote from the electronics package and is fiber coupled. This permits measurement of objects in hostile environments or in hard-to-get-to locations. The sensed change in reflectivity from black to white generates a transition at its output.

This TTL/CMOS compatible signal may be utilized by a spectrum analyzer, computer or electronic counter in order to provide information concerning vibration, angular or linear velocity of the machinery under test. The high speed of the unit, 40,000 PPS, coupled with its small spot size can provide high resolution measurements unattainable with conventional incandescent source tachometers.

Use the right angled adapter if it is not possible to aim the standard optical head at the target. The transmissive head is a beam breaking device that allows a <1/4 inch slotted target to pass through the heads transmitter and receiver.

A six digit LCD display indicates the rate of passage of the white/dark areas of the encoder and registers the results in units of revolutions per minute, (RPM), revolutions per second, (RPS), or pulses per second (PPS). The reading is updated twice per second. The user may input the number of pulses per revolution generated by the encoder for use in the subsequent calculations. They may range from 1 pulse per revolution to 255 pulses per revolution.



Specifications

Units of Measurement	Revolutions per Second, Revolutions per Minute, Pulses per Second
Measurement Update Rate	Twice per Second
Readout Uncertainty	± .02 % of Reading, ± 1 LSD
Maximum Measurement Rate	40 000 PPS
Range from Sensor to Target	12 to 125 mm (using white copier paper)
Laser Wavelength	650 nm ±.10 nm
Laser Output Power	< 2 milliwatts
Laser Spot Size	< 1.9 mm @ 13 mm range
Laser Beam Divergence	< 13 milliradians
Display	Six Digit LCD, 0.375 height, Six LED annunciators
Frequency Output Port	TTL pulse for each reflective sector sensed, (0 to 5 volts)
Output Impedance	100 Ohms
Standard Fiber Optic Cable Length	5 meters
Standard Fiber Types	Receiver - 400 u m core, Transmitter - 62.5 um core
Standard Connector Type	ST Type
Batteries Supplied	Four AA NimH, 2700 mAH
Charger Power Requirements	95 - 260 VAC, 50-60 Hz Universal, < 10 VA
Mains Connectors Supplied	North American, Great Britain, Continental Europe, Australian
Charging Time	Approximately two hours
Dimensions (Controller)	200 mm L x 98 mm W x 38 mm D
Dimensions (Sensor)	40 mm L x 13 mm Diameter, 1/2 by 20 Thread, Jam Nuts Included
Operating Temperature, Electronics, Sensor Head	0 - 50 C, - 40 - 120 C
Weight	0.46 Kg
Accessories Provided	Carrying Case, Batteries, Power Supply/Charger, Operating Manual
Standard Warranty	Two years, Components and Workmanship, 30 Day Satisfaction Guarantee

TTI reserves the right to change specifications without notice

Ordering Information

LT-880	Fiber Optic Laser Tachometer (Includes 5 Meter Cable with Reflective Sensor Head)
LT-880-10	Fiber Optic Laser Tachometer (Includes 10 Meter Cable with Reflective Sensor Head)
LT-880-T	Fiber Optic Laser Tachometer (Includes 5 Meter Cable with Transmissive Sensor Head)
LT-880OH-RF	5 Meter Cable w/Reflective Sensor Head for use with LT 880
LT-880OH-T	5 Meter Cable w/Transmissive Sensor Head for use with LT 880
RAA-LT-880	Right Angle Adapter for use with LT-880 Reflective Optical Head



Amazing Power in a Micro Package

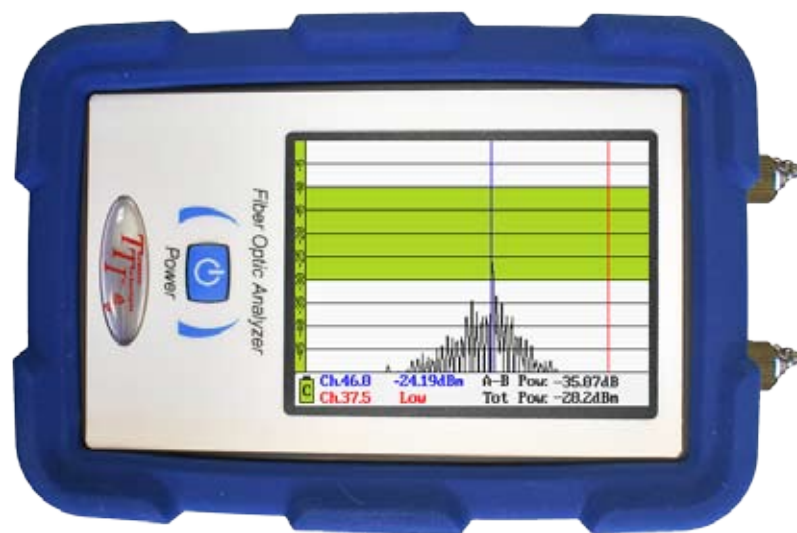
TTI supports a full line of multi-wave test equipment for DWDM and CWDM networks. Our products include advanced OTDRs as well as the new Micro-OSAs. Our products meet the requirements for the small, rugged, and powerful test equipment today's field technicians require.



Bluetooth operation with compatible Android devices.

Advanced fiber optic test and measurement equipment in the palm of your hand.

- Multi-wave (multi-channel) DWDM network testing in conveniently small, powerful packages
- Video Inspection systems on board to ensure proper connector conditions prior to testing
- DWDM OTDR features a fully functional Tunable Laser Source operation
- Micro-OSAs include a 6GHz line graph feature



Proudly made in the USA

PRODUCT INDEX

OTDRs

FTE-7100-CWDM-10 OTDR	6
FTE-8200-CWDM OTDR	10
FTE-7100 MICROOTDR	12
FTE-7000A DWDM OTDR	14
FTE-7000A MM/SM/Quad OTDR	20
FTE-7000A-PON OTDR	22
FTE-7000A-CWDM OTDR	24
FTE-7500A-CWDM-12 OTDR	28

DWDM Analyzers

FTE-8200-DWDM Micro OSA	8
FTE-7000A-DWDM OTDR	14
FTE-8100-CWDM/DWDM Spectrum Analyzer	26

TLS/LTS/Scopes/VFL

FTE-8100 Mini Optical Spectrum Analyzer	16
FTE-6100 Tunable Laser Source	18
FTE-5200 Advanced Loss Test Set	30
FTE-5000 Loss Test Set/DRL Meter	32
FTE-5100 Fiber Optic Video Scope	34
FTE-4000 Variable Optical Attenuator	35
VFL-280 Visual Fault Locator	36

CWDM Analyzers

FTE-7100-CWDM-10 OTDR	6
FTE-8200-CWDM Channel Analyzer	10
FTE-7000A-CWDM OTDR	24
FTE-8100-CWDM/DWDM Spectrum Analyzer	26
FTE-7500A-CWDM-12 OTDR	28

Fiber Optic Links

LTX-551x Analog/Digital Fiber Optic Links	44
LTX-552x Digital Fiber Optic Links	46
LTX-7215 Bidirectional Analog/Digital Fiber Optic Link	48
LTX-7225 Bidirectional Fiber Optic Link	50

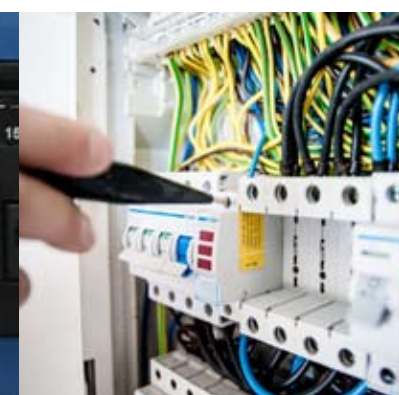
O to E Converters Comparison Chart

42

Photonics Test and Measurement

38

C-995 Optical Chopper	38
PDA-750 Photodiode Transimpedance Amplifier	40
LT-880 Laser Tachometer	52



(888) U.S.-OTDRS
sales@teratec.us
www.teratec.us



(888) U.S.-OTDRS | www.teratec.us

55

Terahertz Technologies Inc.

Terahertz Technologies, Inc

Since 1989

CONTACT



Call Us
(888) U.S.-OTDRS



Fax
(315) 736-4078



Corporate Office
169 Clear Rd
Oriskany, NY 13424, USA



E-mail
sales@teratec.us

Follow us



Terahertz Technologies Inc. manufactures fiber optic test equipment, photonic lab equipment, and analog/digital fiber optic links in the Mohawk Valley of Central New York.

Proudly made in the U.S.A.



www.teratec.us