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Data Sheet

August 14, 2026

ADVANTEST

Advantest Q7761 – Optical Network Analyzer

The Advantest Q7761 is an optical network analyzer for simultaneous amplitude, group-delay, chromatic-dispersion, PMD, second-order PMD, PDL, and fiber-length characterization using the polarization phase-shift method. OEM Q7761-1a (July 2004) specifications cover 1525 to 1625 nm with dual synchronized optical ports. DWDM component and fiber CD/PMD/PDL characterization, optical amplifier IL/GD testing, and manufacturing analysis of dispersion-shifted fiber and related devices. Polarization phase-shift architecture for amplifiers and systems Analysis Unit Dimensions: approx 424 mmWx 266 mmHx 530 mmDOpto Unit Dimensions: approx 424 mmWx 177 mmHx 530 mmDSource Unit Dimensions: approx 424 mmWx 132 mmHx 530 mmDAnalysis Unit Mass: 33 kg or less Display: 12.1 inch SVGA TFT color LCD touch panel Laser Class: Class 1 per IEC 60825-1 Am.2 2001 From Advantest Q7761-1a July 2004 OEM specification sheet. Warm-up 2 hours at stable temperature. Amplitude dynamic-range and linearity conditions follow OEM notes for Power vs CD modes and Sensitivity High. PMD accuracy note applies for PMD less than or equal to 5 ps under stated modulation, resolution, loss, and sensitivity conditions.



MODEL

Advantest Q7761

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

Q7761

LISTING

<https://aumictechlabs.com/products/q7761-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Advantest Q7761 Optical Network Analyzer is a precision instrument for characterization of optical networks and components. It performs insertion loss, return loss, and optical path length

measurements essential for fiber optic system evaluation. The analyzer delivers high dynamic range and resolution, enabling detailed analysis of complex optical signals across demanding applications in research, development, manufacturing, and field service.

Technical Specifications -

- # Optical Measurement Capabilities**
 - Insertion Loss Measurement** - quantifies signal attenuation across optical components and links
 - Return Loss Measurement** - measures optical power reflected from components and interfaces
 - Optical Path Length Measurement** - determines physical optical path length for timing and dispersion analysis
- # Performance Characteristics**
 - Dynamic Range** - measures strong and weak optical signals for long fiber spans and low-loss/high-reflection components
 - Resolution** - detects smallest increments of change for fine-grained optical characterization

Key Features

- High-precision measurement delivery with accurate, repeatable results and minimized measurement uncertainty
- Optical signal characterization for detailed analysis of signal integrity and performance properties
- Component evaluation - connectors, splices, isolators, and circulators assessment
- System performance verification for transceivers, fiber optic cables, and network infrastructure
- Versatile optical connectivity compatible with wide range of components and systems

Typical Applications

- Research and development of new optical communication technologies and components
- Manufacturing quality control and performance validation in optical device and system production
- Field service and installation diagnostics for deployed optical networks

Compatibility & Integration

Designed for interface with diverse optical component configurations and system architectures typical of modern fiber optic deployments.

Features & description

From manufacturer datasheet

Polarization phase-shift architecture for amplifiers and systems

Simultaneous multi-parameter measurement including second-order PMD Real-time drift compensation and polarization control 12.1 inch SVGA TFT touch-panel analysis unit GPIB IEEE-488.2, LAN 10Base-T, USB, and floppy interfaces Technical Specifications Model: Q7761 Instrument Type: Optical network analyzer Wavelength Range: 1525 nm to 1625 nm Absolute Wavelength Accuracy Standalone: plus or minus 15 pm without external wavemeter Absolute Wavelength Accuracy With Q8331: plus or minus 1.5 pm with external wavemeter Q8331 Relative Wavelength Accuracy: plus or minus 1.5 pm Wavelength Setting Resolution: 1 pm Wavelength Sweep Range: 100 pm to 100 nm arbitrary Maximum Wavelength Sweep Speed: 20 nm/s Measurement Channels: 2 input optical ports with synchronized measurement of all characteristics Dynamic Range Power Mode: 58 dB or more Dynamic Range Cd Mode: 43 dB or more Linearity Power Mode 0 To Minus 38: plus or minus 0.15 dB Linearity Power Mode Minus 38 To Minus 48: plus or minus 0.45 dB Linearity Cd Mode 0 To Minus 23: plus or minus 0.15 dB Linearity Cd Mode Minus 23 To Minus 28: plus or minus 0.25 dB

Polarization Dependency: plus or minus 0.10 dB

Connector Insertion Repeatability: plus or minus 0.10 dB Optical Output Port Power: -18 dBm or more at 1550 nm average power Optical Monitor Output Power: -25 dBm or more Modulation Frequency Range: 10 MHz to 2.5 GHz Maximum Group Delay Measurement Time: 100 us Group Delay Resolution: 1 fs Rgd Accuracy 0 To Minus 8 At 2p5 Ghz: plus or minus 0.06 ps Rgd Accuracy Minus 8 To Minus 13 At 2p5 Ghz: plus or minus 0.192 ps Rgd Accuracy Minus 13 To Minus 18 At 2p5 Ghz: plus or minus 0.6 ps Chromatic Dispersion Maximum Range: 10 us/nm Chromatic Dispersion Resolution: 1 fs/nm Pmd Maximum Range: 100 ps Pmd Resolution: 1 fs Pmd Accuracy: plus or minus 0.10 ps plus or minus 3 percent of PMD Second Order Pmd Maximum Range: 1000 ps squared Second Order Pmd Resolution: 0.01 ps squared Pdl Maximum Range: 3 dB Pdl Resolution: 0.001 dB Fiber Length Range: 0.2 m to 10000 km Fiber Length Resolution: 0.01 m Refractive Index Input Range: 1.0000 to 3.0000 Fiber Length Repeatability: 0.02 m Zero Dispersion Wavelength Repeatability: 0.015 nm Dispersion Slope Repeatability At Zero: 0.025 ps/nm squared and 0.002 ps/nm squared per km

Polarization Angle Setting Resolution: 0.1 degree

Warm Up Time: 2 hours Operating Temperature: 15 C to 35 C Operating Humidity: 80 percent or less non-condensing Storage Temperature: -20 C to +60 C Analysis Unit Power: AC 100 to 120 V or 220 to 240 V 50/60 Hz 500 VA or less Opto Unit Power: AC 100 to 120 V or 220 to 240 V 50/60 Hz 100 VA or less Source Unit Power: AC 100 to 120 V or 220 to 240 V 50/60 Hz 300 VA or less Analysis Unit Dimensions: approx 424 mmWx 266 mmHx 530 mmDOpto Unit Dimensions: approx 424 mmWx 177 mmHx 530 mmDSource Unit Dimensions: approx 424 mmWx 132 mmHx 530 mmDAnalysis Unit Mass: 33 kg or less Opto Unit Mass: 19 kg or less Source Unit Mass: 26 kg or less Display: 12.1 inch SVGA TFT color LCD touch panel Remote Interface: GPIB IEEE-488.2 Lan Interface: 10Base-T TCP/IP Laser Class: Class 1 per IEC 60825-1 Am.2 2001 Notes From Advantest Q7761-1a July 2004 OEM specification

sheet. Warm-up 2 hours at stable temperature. Amplitude dynamic-range and linearity conditions follow OEM notes for Power vs CD modes and Sensitivity High. PMD accuracy note applies for PMD less than or equal to 5 ps under stated modulation, resolution, loss, and sensitivity conditions.

Q7761 Characteristics / Specifications

PARAMETER	VALUE
Model	Q7761
Instrument Type	Optical network analyzer
Wavelength Range	1525 nm to 1625 nm
Absolute Wavelength Accuracy Standalone	plus or minus 15 pm without external wavemeter
Absolute Wavelength Accuracy With Q83	plus or minus 1.5 pm with external wavemeter Q8331
Relative Wavelength Accuracy	plus or minus 1.5 pm
Wavelength Setting Resolution	1 pm
Wavelength Sweep Range	100 pm to 100 nm arbitrary
Maximum Wavelength Sweep Speed	20 nm/s
Measurement Channels	2 input optical ports with synchronized measurement of all characteristics
Dynamic Range Power Mode	58 dB or more
Dynamic Range Cd Mode	43 dB or more
Linearity Power Mode 0 To Minus	plus or minus 0.15 dB
Linearity Power Mode Minus 38 To Minus	plus or minus 0.45 dB
Linearity Cd Mode 0 To Minus	plus or minus 0.15 dB
Linearity Cd Mode Minus 23 To Minus	plus or minus 0.25 dB
Polarization Dependency	plus or minus 0.10 dB
Connector Insertion Repeatability	plus or minus 0.10 dB
Optical Output Port Power	-18 dBm or more at 1550 nm average power
Optical Monitor Output Power	-25 dBm or more
Modulation Frequency Range	10 MHz to 2.5 GHz
Maximum Group Delay Measurement Time	100 us
Group Delay Resolution	1 fs
Rgd Accuracy 0 To Minus 8 At 2p5 Ghz	plus or minus 0.06 ps

PARAMETER	VALUE
Rgd Accuracy Minus 8 To Minus 13 At 2p5 Ghz	plus or minus 0.192 ps
Rgd Accuracy Minus 13 To Minus 18 At 2p5 Ghz	plus or minus 0.6 ps
Chromatic Dispersion Maximum Range	10 us/nm
Chromatic Dispersion Resolution	1 fs/nm
Pmd Maximum Range	100 ps
Pmd Resolution	1 fs
Pmd Accuracy	plus or minus 0.10 ps plus or minus 3 percent of PMD
Second Order Pmd Maximum Range	1000 ps squared
Second Order Pmd Resolution	0.01 ps squared
PdI Maximum Range	3 dB
PdI Resolution	0.001 dB
Fiber Length Range	0.2 m to 10000 km
Fiber Length Resolution	0.01 m
Refractive Index Input Range	1.0000 to 3.0000
Fiber Length Repeatability	0.02 m
Zero Dispersion Wavelength Repeatability	0.015 nm
Dispersion Slope Repeatability At Zero	0.025 ps/nm squared and 0.002 ps/nm squared per km
Polarization Extinction Ratio	30 dB or more
Polarization Angle Setting Resolution	0.1 degree
Warm Up Time	2 hours
Operating Temperature	15 C to 35 C
Operating Humidity	80 percent or less non-condensing
Storage Temperature	-20 C to +60 C
Analysis Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 500 VA or less
Opto Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 100 VA or less
Source Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 300 VA or less

PARAMETER	VALUE
Analysis Unit Dimensions	approx 424 mmWx 266 mmHx 530 mmD Opto Unit Dimensions: approx 424 mmWx 177 mmHx 530 mmD Source Unit Dimensions: approx 424 mmWx 132 mmHx 530 mmD Analysis Unit Mass: 33 kg or less
Opto Unit Mass	19 kg or less
Source Unit Mass	26 kg or less
Display	12.1 inch SVGA TFT color LCD touch panel
Remote Interface	GPIB IEEE-488.2
Lan Interface	10Base-T TCP/IP
Laser Class	Class 1 per IEC 60825-1 Am.2 2001
Absolute wavelength accuracy	Standalone: plus or minus 15 pm without external wavemeter
Wavelength repeatability	0.015 nm
Humidity	80 percent or less non-condensing

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	20 C to +60 C
Operating temperature	15 C to 35 C
Operating Temperature	15 C to 35 C
Humidity	80 percent or less non-condensing
Operating Humidity	80 percent or less non-condensing
Analysis Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 500 VA or less
Opto Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 100 VA or less
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Opto Unit Mass	19 kg or less
Source Unit Mass	26 kg or less
Display	12.1 inch SVGA TFT color LCD touch panel
Remote Interface	GPIOB IEEE-488.2
Lan Interface	10Base-T TCP/IP
Laser Class	Class 1 per IEC 60825-1 Am.2 2001 Notes From Advantest Q7761-1a July 2004 OEM specification sheet. Warm-up 2 hours at stable temperature. Amplitude dynamic-range and linearity conditions follow OEM notes for Power vs CD modes and Sensitivity High. PMD accuracy note applies for PMD less than or equal to 5 ps under stated modulation, resolution, loss, and sensitivity conditions.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

specifications cover 1525 to 1625 nm with dual synchronized optical ports.

Applications

DWDM component and fiber CD/PMD/PDL characterization, optical amplifier IL/GD testing, and manufacturing analysis of dispersion-shifted fiber and related devices.

Key Features

Polarization phase-shift architecture for amplifiers and systems

Simultaneous multi-parameter measurement including second-order PMD

Real-time drift compensation and polarization control

12.1 inch SVGA TFT touch-panel analysis unit

GPiB IEEE-488.2, LAN 10Base-T, USB, and floppy interfaces

Technical Specifications

Specifications

PARAMETER	VALUE
Chromatic Dispersion Maximum Range	10 us/nm
Chromatic Dispersion Resolution	1 fs/nm
Pmd Maximum Range	100 ps
Pmd Resolution	1 fs
Pmd Accuracy	plus or minus 0.10 ps plus or minus 3 percent of PMD
Second Order Pmd Maximum Range	1000 ps squared
Second Order Pmd Resolution	0.01 ps squared
Pdl Maximum Range	3 dB
Pdl Resolution	0.001 dB
Fiber Length Range	0.2 m to 10000 km
Fiber Length Resolution	0.01 m
Refractive Index Input Range	1.0000 to 3.0000
Fiber Length Repeatability	0.02 m
Zero Dispersion Wavelength Repeatability	0.015 nm
Dispersion Slope Repeatability At Zero	0.025 ps/nm squared and 0.002 ps/nm squared per km
Polarization Extinction Ratio	30 dB or more
Polarization Angle Setting Resolution	0.1 degree
Warm Up Time	2 hours
Operating Temperature	15 C to 35 C
Operating Humidity	80 percent or less non-condensing

PARAMETER	VALUE
Storage Temperature	-20 C to +60 C
Analysis Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 500 VA or less
Opto Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 100 VA or less
Source Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 300 VA or less
Analysis Unit Dimensions	approx 424 mm W x 266 mm H x 530 mm D
Opto Unit Dimensions	approx 424 mm W x 177 mm H x 530 mm D
Source Unit Dimensions	approx 424 mm W x 132 mm H x 530 mm D
Analysis Unit Mass	33 kg or less
Opto Unit Mass	19 kg or less
Source Unit Mass	26 kg or less
Display	12.1 inch SVGA TFT color LCD touch panel
Remote Interface	GPiB IEEE-488.2
Lan Interface	10Base-T TCP/IP
Laser Class	Class 1 per IEC 60825-1 Am.2 2001

Technical Specifications

PARAMETER	VALUE
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Wavelength Setting Resolution	1 pm
Wavelength Sweep Range	100 pm to 100 nm arbitrary
Maximum Wavelength Sweep Speed	20 nm/s
Measurement Channels	2 input optical ports with synchronized measurement of all characteristics
Dynamic Range Power Mode	58 dB or more
Dynamic Range Cd Mode	43 dB or more
Linearity Power Mode 0 To Minus 38	plus or minus 0.15 dB

Linearity Power Mode Minus 38 To Minus 48: plus or minus 0.45 dB
Linearity Cd Mode 0 To Minus 23: plus or minus 0.15 dB
Linearity Cd Mode Minus 23 To Minus 28: plus or minus 0.25 dB

Specifications

PARAMETER	VALUE
Polarization Dependency	plus or minus 0.10 dB
Connector Insertion Repeatability	plus or minus 0.10 dB
Optical Output Port Power	-18 dBm or more at 1550 nm average power
Optical Monitor Output Power	-25 dBm or more
Modulation Frequency Range	10 MHz to 2.5 GHz
Maximum Group Delay Measurement Time	100 us
Group Delay Resolution	1 fs

Rgd Accuracy 0 To Minus 8 At 2p5 Ghz: plus or minus 0.06 ps

Rgd Accuracy Minus 8 To Minus 13 At 2p5 Ghz: plus or minus 0.192 ps

Rgd Accuracy Minus 13 To Minus 18 At 2p5 Ghz: plus or minus 0.6 ps

Specifications

PARAMETER	VALUE
Chromatic Dispersion Maximum Range	10 us/nm
Chromatic Dispersion Resolution	1 fs/nm
Pmd Maximum Range	100 ps
Pmd Resolution	1 fs
Pmd Accuracy	plus or minus 0.10 ps plus or minus 3 percent of PMD
Second Order Pmd Maximum Range	1000 ps squared
Second Order Pmd Resolution	0.01 ps squared
Pdl Maximum Range	3 dB
Pdl Resolution	0.001 dB
Fiber Length Range	0.2 m to 10000 km
Fiber Length Resolution	0.01 m
Refractive Index Input Range	1.0000 to 3.0000
Fiber Length Repeatability	0.02 m
Zero Dispersion Wavelength Repeatability	0.015 nm
Dispersion Slope Repeatability At Zero	0.025 ps/nm squared and 0.002 ps/nm squared per km
Polarization Extinction Ratio	30 dB or more
Polarization Angle Setting Resolution	0.1 degree
Warm Up Time	2 hours
Operating Temperature	15 C to 35 C
Operating Humidity	80 percent or less non-condensing

PARAMETER	VALUE
Storage Temperature	-20 C to +60 C
Analysis Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 500 VA or less
Opto Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 100 VA or less
Source Unit Power	AC 100 to 120 V or 220 to 240 V 50/60 Hz 300 VA or less

Analysis Unit Dimensions: approx 424 mmWx 266 mmHx 530 mmD
Opto Unit Dimensions: approx 424 mmWx 177 mmHx 530 mmD
Source Unit Dimensions: approx 424 mmWx 132 mmHx 530 mmD
Analysis Unit Mass: 33 kg or less

Specifications

PARAMETER	VALUE
Opto Unit Mass	19 kg or less
Source Unit Mass	26 kg or less
Display	12.1 inch SVGA TFT color LCD touch panel
Remote Interface	GPiB IEEE-488.2
Lan Interface	10Base-T TCP/IP
Laser Class	Class 1 per IEC 60825-1 Am.2 2001

Notes
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.