ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

**Artisan Technology Group**
(217) 352-9330 | sales@artisantg.com | artisantg.com

**Full-service, independent repair center**
with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**
along with credit for buybacks and trade-ins.

**Custom engineering**
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Noritake Itron GU256X64-332A* at our website: *Click HERE*

burleigh
An EXFO Company

# WAVEMETER Optical Wavelength Meters

## WA-1650/1150/1100



To meet the growing demand for access to larger volumes of digital information, telecommunications operators increase system capacity using dense wavelength division multiplexing (DWDM). Both active DWDM components such as transmission lasers, and passive components such as multiplexers, demultiplexers and add/drop filters, thin film filters and fiber gratings, must be accurately characterized with respect to absolute wavelength.

## Applications

- Characterize active DWDM components
  - Accurate wavelength analysis of transmitters (DFB lasers, tunable lasers and VCSELs)
- Calibrate passive DWDM component test equipment and test stations
  - Accurate wavelength calibration of optical spectrum analyzers (OSAs)
  - Accurate wavelength calibration of discretely tunable and swept wavelength tunable lasers

## Features

- Absolute optical wavelength measured to the highest guaranteed accuracy of ± 0.3 pm
- Continuous calibration with built-in wavelength standard
- Accurate absolute wavelength measurement to a 3σ (≥ 99.6%) confidence level
- Operation with CW, modulated and SONET/SDH signals

## The recognized standard for absolute wavelength measurement

### The most precise wavelength characterization of DWDM components

Since introducing the first WAVEMETER® wavelength meter in 1980, Burleigh has continually provided the most technically advanced optical wavelength measurement capability available. The WA-1650/1150 and WA-1100 WAVEMETER optical wavelength meters provide the highest accuracy wavelength measurement, and are designed specifically for the precise characterization of DWDM components in manufacturing environments.

### The WAVEMETER Advantage

These systems employ Burleigh's proven scanning Michelson interferometer-based WAVEMETER technology to determine the absolute wavelength of a laser under test by comparing its interference fringe pattern with that of a built-in HeNe laser wavelength standard. Unlike other wavelength meters, all factors that can affect wavelength measurement are accounted for in order to achieve the highest absolute wavelength accuracy of ± 0.3 pm (WA-1650). When the highest accuracy is not required, a lower cost alternative is available (WA-1150 or WA-1100), providing an absolute wavelength accuracy of ± 1.5 pm. The absolute wavelength measurement specification has a confidence level of 3σ, which means that ≥ 99.6% of measurements fall within specification limits. To ensure accuracy of wavelength measurements, all WAVEMETER optical wavelength meters are traceable to NIST recognized standards.

### Total optical power measured simultaneously

To provide a more complete analysis of an optical source, these WAVEMETER systems simultaneously measure the total power of an optical input signal. The absolute accuracy of this power measurement is ± 0.5 dB and can be reported in units of dBm or watts.

### Measures CW, modulated and SONET/SDH optical signals

The advanced signal processing design of the WA-1650 and WA-1150 system is capable of operating with CW, modulated and SONET/SDH optical signals. The WA-1100 system uses a different signal processing technique to provide the fastest update rate of 10 Hz for CW signals only.

### Special design for manufacturing environment

Several design considerations specific to the needs of DWDM component manufacturers have been incorporated into these optical wavelength meters. With a built-in HeNe laser wavelength standard, each system's accuracy is maintained over long periods of time without the need for calibration. A rugged benchtop or rack mounted package minimizes any detrimental effects from a typical manufacturing environment.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

# Features and Performance Summary

| | WA-1650 | WA-1150 | WA-1100 |
|---|---|---|---|
| **Wavelength** | | | |
| Range | | 700 - 1650 nm (181 - 428 THz) | |
| Absolute accuracy [1, 2] | ± 0.3 pm | ± 1.5 pm | ± 1.5 pm |
| Display resolution | 0.0001 nm | 0.001 nm | 0.001 nm |
| Units | | nm (vacuum), GHz | |
| **Power** | | | |
| Absolute accuracy | | ± 0.5 dB (at ± 30 nm from 1310 and 1550 nm) | |
| Resolution | | ± 0.05 dB | |
| Linearity | | ± 0.3 dB | |
| Display resolution | | 0.01 dB | |
| Units | | dBm, mW, µW | |
| **Optical Input Signal** | | | |
| Sensitivity (1200-1600 nm) [3] | -40 dBm (0.1 µW) | -40 dBm (0.1 µW) | -30 dBm (1 µW) |
| Sensitivity (700-1650 nm) | -30 dBm (1 µW) | -30 dBm (1 µW) | -20 dBm (10 µW) |
| Maximum input level | | +10 dBm (10 mW) | |
| Maximum safe level | | +18 dBm (63 mW) | |
| **Measurement Update** | | | |
| Time (rate) | 1 s (1 measurement/s) | 1 s (1 measurement/s) | 0.1 s (10 measurement/s) |
| **Inputs/Outputs** | | | |
| Optical input | | 9/125 µm fiber<br>FC/UPC or FC/APC<br>SC/UPC or SC/APC<br>ST/UPC | |
| Instrument interface | | GPIB (IEEE-488.2), RS-232, LabVIEW, LabWindows | |
| **Environmental** | | | |
| Nominal warm-up time | 7 minutes | N/A | N/A |
| Temperature | | +15° to +30° C (-10° to +70° C storage) | |
| Pressure | | 500 - 900 mm Hg | |
| Relative humidity | | ≤ 90% R.H. at +40° C (no condensation) | |
| **Dimensions and Weight** | | | |
| Dimensions (H x W x D) | | 3.5" x 17.0" x 16.50" (89 mm x 431.8 mm x 419.1 mm) | |
| Weight | 18 lbs (8.18 kg) | 17 lbs (7.65 kg) | 16.50 lbs (7.50 kg) |
| **Power Requirements** | | | |
| Voltage and frequency | | 90 to 260 VAC, 50/60 Hz | |

1. Absolute wavelength accuracy to 3σ (≥ 99.6%) confidence level and traceable to NIST recognized standard
2. For linewidths < 10GHz for WA-1100
3. Measurement repeatability is reduced when input < -35dBm

***Shaded area represents common information***

*Burleigh reserves the right to change the detail specifications as may be required to permit improvements in the design of its products. Specifications are subject to change without notice.*

CE

WAVEMETER is a registered trademark of Burleigh Instruments, Inc.
LabVIEW and LabWindows are registered trademarks of National Instruments Corporation.

burleigh
An EXFO Company

**Call: 1-716-924-9355 for more information or visit our website at: www.burleigh.com**

**Burleigh Instruments, Inc., 7647 Main Street Fishers, Victor, New York 14564-8909**
**Tel: 1-716-924-9355, Fax: 1-716-924-9072**
**email: info@burleigh.com, http://www.burleigh.com**

SPWA1650/1150/1100.1AN

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

**Artisan Technology Group** is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP