

OZ Optics Limited

Fiber Lasers, Optical Amplifiers & ASE Sources

January 2011

OZ Optics Limited

Your solution provider for existing and next generation fiber optic components and test equipment...

- Commenced operations in 1985
- Corporate headquarters and manufacturing in Ottawa
- Manufacturing in Ottawa/Canada, Izmir/Turkey and Jiaxing/China
- Over 250 employees – 140 in Ottawa, 60 in Turkey, and 50 in China

OZ Optics Limited

Your solution provider for existing and next generation fiber optic components and test equipment...

- Seven Product Groups
 - Laser-to-Fiber Delivery Systems
 - High Power Fiber Optic Components
 - Polarization Maintaining Products
 - Attenuators
 - Opto-Electronic Packaging
 - Test Equipment
 - Fiber Optic Sensor Systems
- Over 1,000 products
- Deep and broad patent portfolio
- Robust new product development program
- ISO 9001 : 2008 Certified

Management Team

OZ Optics is lead by an experienced team:

- **Ömür Sezerman, Chairman, President & CEO**
 - Founder and CEO since inception (25 years)
- **Garland Best, VP of Components Division**
 - 19 years at OZ Optics
- **Gordon Youle, VP of Test Equipment Division**
 - 12 years at OZ Optics
- **Metin Sezerman, General Manager of OZ Turkey**
 - 10 years at OZ Optics
- **Bing Li, General Manager of OZ Optics China**
 - 5 years at OZ Optics

Addressed Markets

Using our strong direct sales force and distribution network, we address the following markets:

- Telecom/Datacom
- Oil & Gas
- Military & Homeland Security
- Medical & Pharmaceutical
- Industrial
- Educational

Why We Win Business

- Superior Technology
- Innovative Engineering
- Extensive experience in fiber optics (over 25 years)
- Competitive Pricing
- Exceptional Quality & Service
- Global Presence

Global Sales Channel

OZ Optics has resellers and distributors in over 30 Countries and regions including:

Australia

Denmark

Israel

South Korea

Austria

France

Italy

Spain

Benelux Countries

Germany

Japan

Switzerland

Brazil

Greece

Norway

Sweden

Canada

Hong Kong

Poland

Taiwan

China

India

Portugal

Turkey

Czech Republic

Ireland

Singapore

United Kingdom

United States

...sold to over 10,000 customers globally!

Manufacturing Strategy

- Product Design and Engineering in Ottawa
- Subcomponent Parts Manufactured in China and Turkey
- Final Assembly and Quality Assurance in Ottawa
- Components Sourced World-Wide
- Ensure Highest Quality and Lowest Cost

In-house Production Capabilities

- Experienced (over 25 years), well-trained staff
 - Optical, mechanical, electronic & software
- State-of-the-art machine shop – CNC Machines
- Thin Film Coating Facility
- Environmental Test Chambers
- Clean Room Facilities

Facilities

- **Ottawa:**
 - 60,000 sq. ft - Manufacturing and R&D Facilities
 - 14,000 sq. ft - Sales, Marketing and G&A
 - 15,000 sq. ft - Training, and Fitness Facility
- **Izmir, Turkey:**
 - 33,000 sq ft Manufacturing Facility
 - Located in a Free Trade Zone
 - Cost-Effective Manufacturing
 - High Quality Labour Pool
 - Very Low Tax Rates
- **Jiaxing, China:**
 - Over 20,000 sq ft
 - Low Cost Manufacturing
- **Sales Offices in Georgia, California and Florida**

PRIVATE AND CONFIDENTIAL



OZ Optics
www.ozoptics.com

OZ Optics – Ottawa Campus



OZ Optics – Turkey Campus



PRIVATE AND CONFIDENTIAL

OZ China JiaXing Campus

- ZHEJIANG OZ OPTICS TECHNOLOGIES CO.,LTD China, Jiaxing 314033, 289 Mu Yang Road, Jiaxing Economic Development Zone
- 2000 Square Meters of Manufacture Area
- 100 Square Meters of Clean Room – Class 1000
- 100 Square Meters of ESD Working Area



Industry Standards

- ISO 9001:2008 Certified
- Controlled Goods Directorate Registered
- Telecordia Compliance
- CE Compliance
- RoHS Compliance

Technology

We have accumulated over 25 years of corporate knowledge and experience in the field of fiber optic components and test equipment

- Numerous patents granted and filed
- Advanced proprietary processes
- Extensive library of proven and tested designs
 - Optical, mechanical, electronic & software

Technology

- **OZ Optics was the first to manufacture:**
 - PM Fiber Connectors & Components
 - Visual Fiber Optic Fault Locators
 - Fiber Optic Patchcords With Attenuating Fiber
 - Reduces costs and complexity
 - Eliminates fixed female to male attenuators
 - In-line Power Monitors Based on Innovative Optical Taps With Integrated Photodiodes
 - Wireless Diagnostic Equipment for Monitoring of Optical Fibers
 - Fault Finder and Smart Patchcords
 - Fiber Optic Distributed Strain and Temperature Sensors
 - Sensitive detection of corrosion in large structures
 - Fast and simultaneous measurement of strain and temperature
 - Combined sensor technology and web monitoring

Technology

- Pioneer in Polarization Maintaining (PM) Components
- Leader in Wavelength Flattened, High Power & Low PDL Components
- Leader in High Power Fiber Optic Delivery Systems
- Custom Test Equipment, Including Polarization Test Equipment and FTTH Equipment
- Widest Range in Attenuator Product Offering
- Fiber Optic Distributed Strain and Temperature Sensors for highly accurate and rapid measurement of strain and temperature
- Complete product line for OCT applications

Current Standard Product Offerings

- 9 EDFA configurations
- 3 ASE Source configurations
- 9 Diode Laser Source configurations
- 3 Ytterbium CW Fiber Laser configurations
- 3 Pulsed Fiber Source configurations

- All of the above are available in 3 package options
 - Bench top
 - Rack mount
 - OEM

Total of 27 new standard products!

Optical Fiber Amplifiers

3 Base Models

- Single Channel
- DWDM
- Variable Gain with Mid Stage Access



Optical Fiber Amplifiers

Single Channel Amps

- Features
 - C-Band, L-Band, or Combination
 - High Power (up to 37dbm) 5 watts
 - Currently 3 Standard Versions (15, 20, & 30dbm)
 - Gain is not flattened
 - USB, RS232, and optional GPIB control interfaces
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Fiber laser amplifier
 - Special communication systems
 - Sensors

Optical Fiber Amplifiers

DWDM Broadband Amps

- Features
 - C-Band, L-Band, or Combination
 - Gain is Flattened
 - High Power (up to 21dbm)
 - Currently 4 Standard Versions (15, 17, & 21dbm + 17dbm Variable Gain)
 - USB, RS232, and optional GPIB or I²C (MSA) control interfaces
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Telecom Systems

Optical Fiber Amplifiers

Variable Gain Amps with Mid Stage Access

- Features
 - Accommodates up to 15dB of Mid Stage Loss
 - C-Band, L-Band, or Combination
 - Gain is variable and Gain is Flattened
 - Currently 3 Standard Versions (17, 20, 23dbm)
 - USB, RS232, and optional GPIB or I2C (MSA) control interfaces
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Telecom systems

ASE Sources



ASE Sources

- Features
 - C-Band, L-Band, or Combination
 - Optional flattened spectrum
 - High Power
 - Currently 3 Standard Versions (13, 23, & 27dBm)
 - USB, RS232, and optional GPIB control interfaces
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Telecom DWDM component testing
 - Noise simulation in DWDM systems
 - PMD measurements
 - Fiber optic sensors

Singlemode CW Yb Fiber Lasers



Singlemode CW Yb Fiber Lasers

- Features
 - CW single mode output
 - Currently 4 Standard Versions (15W, 25W)
 - Each at both 1064nm and 1085nm
 - 50W coming Q3/07
 - USB, RS232, and optional GPIB control interfaces
 - External TTL modulation inputs
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Marking
 - Micromachining
 - Precision cutting, welding and drilling
 - Graphic imaging

Pulsed Fiber Sources



Pulsed Fiber Sources

- Features
 - Pulsed single mode output
 - Currently 3 Standard Versions ($P_{avg}=1W$, $P_{pk} = 10kW$)
 - Available at 1064nm, 1085nm and eye safe 1550nm
 - Programmable Pulse Width (10ns – 100ns)
 - Programmable Pulse Repetition Rate (10kHz – 100kHz)
 - USB, RS232, and optional GPIB control interfaces
 - External TTL modulation inputs
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Spectroscopy
 - Lidar
 - Range Finding

Multimode CW Yb Fiber Lasers



Multimode CW Yb Fiber Lasers

- Features
 - CW multimode output
 - Currently 9 Standard Versions (40W, 80W, 110W)
 - Each at both 808nm, 915nm and 976nm
 - Nonstandard powers much easier than with other products
 - USB, RS232, and optional GPIB control interfaces
 - External TTL modulation inputs
 - Bench top, Rack mount, or OEM Packaging
- Typical Applications
 - Heat treating
 - Plastic welding
 - Cutting, trimming and drilling
 - Laser Pumping