

A HISTORY OF TOMORROWS

When we pioneered the Riblet Coupler back in 1948, we had a pretty good idea that microwave technology was the coming thing. As a result, we've never stopped inventing, testing, and perfecting microwave coupling solutions.

During the '60s, we came up with the thin wall monopulse comparator for the Lunar Excursion Module. The '70s saw us developing waveguide feed and monopulse networks for F-14 and F-15 aircraft. As related technologies expanded, we shrank the size of our products to accommodate them. In the 1980s, we introduced internally milled technology to reduce the size and weight and improve the performance of our products for the F-18 and B-1 radar systems.

We anticipated today's demands for smaller, more precise waveguide products, such as cellular towers and unmanned aerial vehicles (UAV) for higher frequencies, as well as shorter lead times and more cost-effective solutions.

Tomorrow, we envision the explosion in microwave technology touching the lives of countless millions of end users around the world. Foresight has made us the world's largest independent producer of waveguide components and subassemblies in the industry.

**WE WILL CONTINUE TO
MAKE HISTORY.**



Multichannel Coax Rotary Joint / Slip Ring Assembly



Complex Waveguide Switching



Transmit Receive Front End

FACILITIES

COMPUTER DESIGN SYSTEMS:

- Solid Works
- 3D Printer

R.F. DESIGN SYSTEMS:

- MDL software
- Ansys HFSS version 13.0
- Ansys Optimetrics

R.F. TEST:

- H.P. 8510 Network Analyzer
- H.P. 8720 B Network Analyzer
- H.P. 8720 D Network Analyzer
- H.P. 8722 D Network Analyzer

MACHINE SHOP:

- Mori Seiki Lathes
- Fadal Milling Centers
- Hardinge Conquest Turning Centers
- Star Screw Machine
- Nomura Screw Machines
- Cincinnati Turning Center
- Mazak Milling Center
- Brown and Sharpe Grinders
- Wire - EDM
- Master Cam

BRAZING:

- Automated Dip-Brazing for Aluminum
- Torch and Furnace Brazing for Copper and Copper Alloy

FOUNDRY:

- Investment Casting
 - Aluminum Alloy
 - Copper Beryllium Alloy
 - Silicone Bronze Alloy

FINISHING:

- Vacuum Impregnation
- Chemical Film
- Paint and Stencil

QUALITY:

- ISO 9001 Compliant
- SPC
- Process Control
- MIL-I-45208
- Brown & Sharpe Validator and CMM
- Optical Comparator
- Standard Inspection Equipment

PRODUCTS

- Waveguide Cast Bends, Twists, Hybrids & Tees
- Custom Waveguide Feed Assemblies
- Monopulse Comparators
- Waveguide Pressure Windows
- Waveguide Couplers,
- Phase Shifters and Terminations:
- Commercial Waveguide Assemblies
- Rotary Joints, Waveguide & Coaxial, Single & Multi-channel
- Microwave Filters
- Rotary Switches
- Waveguide to Coax Adapters



ITAR REGISTERED



135 Crescent Road, Needham Heights, MA 02494 Tel: 781-292-6680/6684 Fax: 781-453-8629 E-mail: mdlsales@mdllab.com



www.MDLLAB.com



MICROWAVE DEVELOPMENT
LABORATORIES

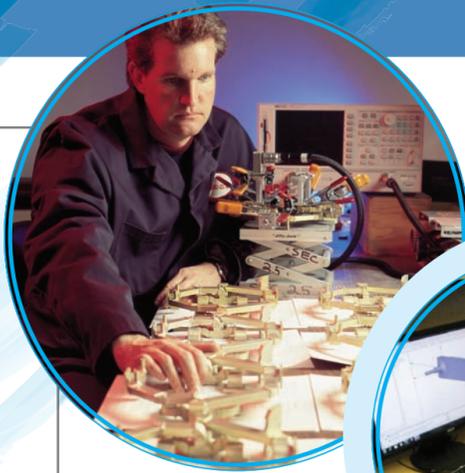
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The future of waveguide component technology

PRESIDENT'S MESSAGE

In choosing a company to design and manufacture your standard or complex waveguide components, there are only three criteria: experience, quality and service. It is no coincidence that these attributes are MDL's mission in the industry. We have been a manufacturer of the highest quality waveguide components for over 60 years. The fact that we have grown into one of the largest waveguide components manufacturers in the world is testament enough to quality. However, what makes our products unique is less tangible. Of course, state of the art software, machines, and foundry equipment help. But the people who design our components and operate our equipment – professionals who have worked together with us for more than 30 years – provide a level of expertise and ingenuity you won't find walking our competitors' halls. That's why customers choose MDL.

Gordon Riblet



R.F. Testing Production



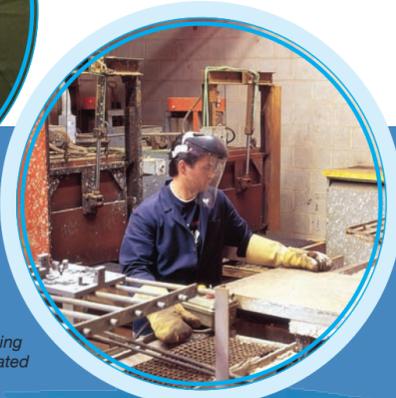
Design Solid Works



Production Machinery



R.F. Testing



Design Ansys HFSS

Dip Brazing Automated

Dip Brazing Assembly



Machining Center



Engineering Meeting



Screw Machine NC Turning Center



Machine Shop



Production Machinery

TOTAL CONTROL FOR TOTAL PERFECTION

Great ideas, great solutions, come from great engineering minds, and we have some of the best in the industry. By providing our engineers with state of the art manufacturing and testing facilities under the same roof, they can watch their designs come to life and control every aspect of their project's development to perfection. And you, as a customer, are welcome to collaborate with them every step of the way.

QUALITY MANUFACTURING CAPABILITIES

MDL's in-house manufacturing facility encompasses CNC machining centers, aluminum dip brazing, EDM facilities, cleaning, impregnation, iridite, heat treating, RF testing, and finishing. Off the shelf items, as well as custom pieces that require special tolerances, complicated configurations, multiple formed bends, twists, or offsets are manufactured with precision, and are subjected to complete inspection and testing.

ENGINEERING CAPABILITIES

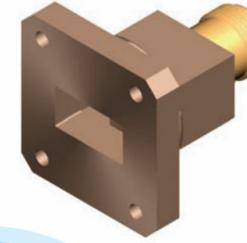
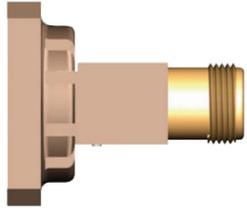
Meeting today's design challenges not only requires expertise, but top shelf hardware and software as well. It has been our policy since our founding to equip our engineers and machinists with the finest tools available. Aside from employing proprietary MDL software, our computerized design systems also utilize Solid Works and Ansys HFSS capabilities. Using Solid Works we first design a 3D model then Ansys HFSS computes s-parameters and full wave fields, analyzes port impedances, complex propagation constants, electromagnetic fields, and radiated electric fields for open boundary problems, exporting the data for use in linear and non-linear circuit simulations. The beauty of the Ansys system lies not only in its functionality, but in its speed, allowing us to turn your design challenges into real solutions quickly.

RELIABILITY GUARANTEED

All MDL products undergo 100% functional performance verification as required per ISO 9000. Fully automated, software controlled and networked RF test stations are used throughout our facility. Our test capabilities (DC to 40GHz) encompass VSWR, loss, attenuation, delay, and phase matching. Data collection and product traceability are available to support your needs, and performance criteria are always tailored to meet your most stringent requirements.

PLANT

50,000 square foot sales, administrative, engineering and manufacturing facility located in Needham Heights, Massachusetts



Facilities

