

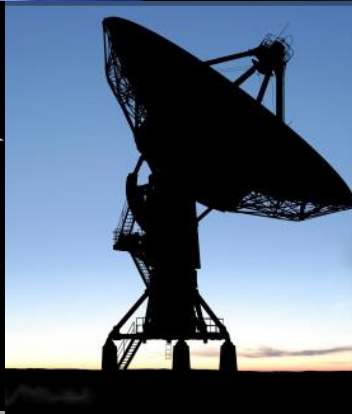
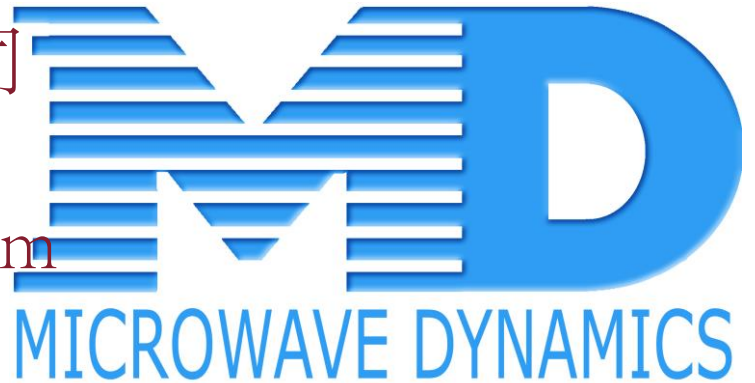
# 2018 Product Catalog

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**WORLD LEADER IN MICROWAVE AND MM-WAVE COMPONENTS**

[www.microwave-dynamics.com](http://www.microwave-dynamics.com)



Microwave Dynamics (MD) **2018 Product Catalog** features our complete range of standard RF, Microwave and MM-Wave products. In addition to standard products, MD also does custom parts and custom sub-assemblies. If there is anything you need that you don't see here, contact us with your full specifications and our engineers will work with you to find the best solution.

MD has been a leader in the microwave industry since 1993. With applications on land, sea, air and space, MD products are designed to perform under extreme environmental conditions, such as intense shock vibration and high temperature variance. Designs are geared to maximize stability and minimize noise. We take pride in our excellent customer service and rapid turnaround R&D for customized sub-assemblies. We also offer 48 hour expedited delivery on most of our standard catalog products.

Please visit our website at [www.microwave-dynamics.com](http://www.microwave-dynamics.com) for additional product information or contact us directly at [info@microwave-dynamics.com](mailto:info@microwave-dynamics.com) or 949-679-7788.

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# MARKETS



## Space

- AURA/MLS Satellite (2004 – now)
- COMSAT
- Uplink / Downlink
- Ku / K / Ka bands
- mmW applications
- Extremely high-reliability parts, assembly processes, and quality tests (acceleration, temperature, shock, etc.)



## Defense / Military

- Sole-source supplier for F-22 Raptor
- U-2 Planes
- UAVs
- Radars
- Missile Guidance
- Rockets
- Navy Communications
- Air Force Simulations
- Target Deterrent Simulators
- Frequency Jammers
- Frequency Converters
- Point to Point Relays
- Satellites



## Commercial

- Satellite Communications
- Cable TV Links
- Local Area Networks
- Global Positioning Systems (GPS)
- Test Equipment
- Point to Point Links
- Up/Down Converters
- Transmitter & Receivers
- Low Power Radar Test Transmitters
- Digital Radios
- Fiber Optics
- X-Band & K-Band Radiometer
- Test Beacons & Doppler Transceivers
- Transceiver

# OSCILLATORS



## Product features

### Oscillators

MD dielectric resonator oscillators are available from 1-50 GHz with up to +25 dBm output power. Optional operating temperature range from -55 to +105 deg C is available. Features include: internal voltage regulator, low phase noise, MIC fabrication, 150 MHz bandwidth, low microphonics and low power consumption.

**Models:** DRO-1000, DRO-1500, DRO-1070, PLO-2000, PLO-2070, PLO-3000, PLO-3070, PLO-4000, PLO-4070, OCXO-200, TCXO-100, PLO-5000, TCDRO-1060, MDS (Synthesizer)

## Datasheet

[\*\*DRO-1000\*\*](#) *Free Running DRO*

[\*\*DRO-1500\*\*](#)  *Mini DRO*

[\*\*PLO-2000\*\*](#) *Ext Ref 100 MHz*

[\*\*PLO-3000\*\*](#) *Int Reference*

[\*\*PLO-4000\*\*](#) *Ext Ref 10 MHz*

[\*\*OCXO-200\*\*](#) *Ovenized Crystal*

[\*\*TCXO-100\*\*](#) *Temp Comp Crystal*

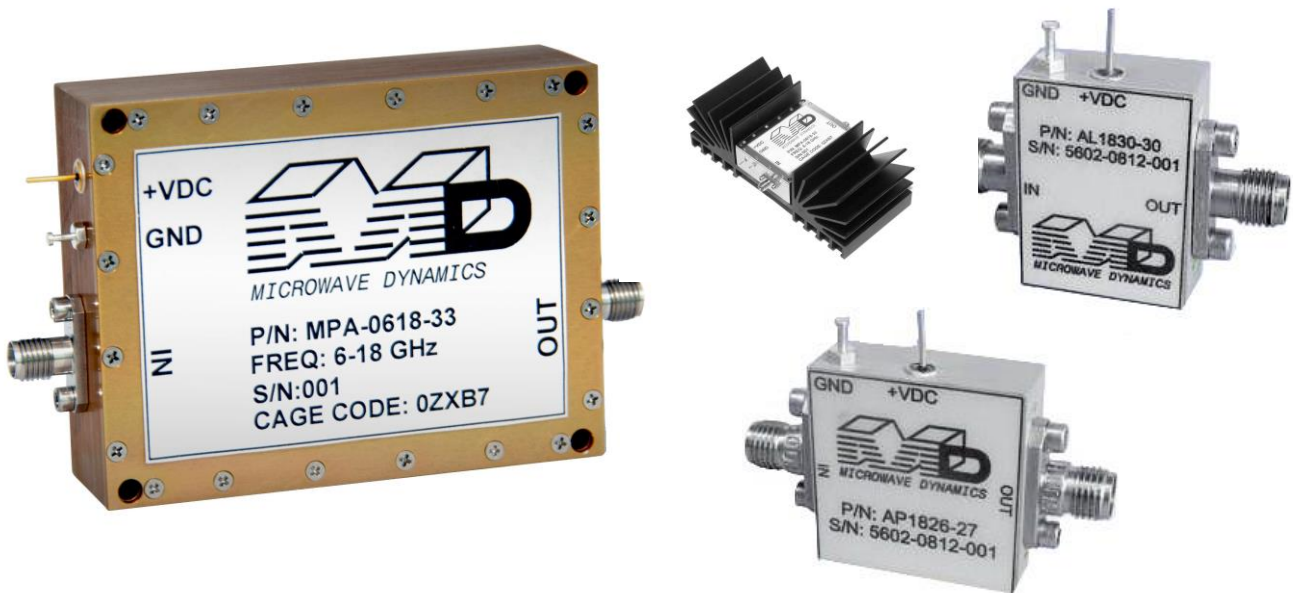
[\*\*TCDRO-1060\*\*](#)  *Temp Comp Oscillator*

[\*\*PLO-5000\*\*](#)  *Int/Ext Ref Oscillator*

[\*\*Synthesizer\*\*](#) 

[\*\*MLO\*\*](#) 

# AMPLIFIERS



## Product features

### Amplifiers

MD offers high power, medium power and low noise amplifiers from 2 to 46 GHz, including a new compact bench top power amplifier design (MDPA).

**Models:** ALXXXX, APXXXX, MPA, MDPA

## Datasheet

[Low Noise Amp](#)

[High Power Amp](#)

[High Power 20 W \(MPA\)](#) 

[Bench Top Power Amp \(MDPA\)](#) 

## UP / DOWN CONVERTERS



### Product features

#### Up and Down Converters

MD offers upconverters, downconverters, and our new product line. The LO-MIX Series which is an up or down converter with an LO inside one compact package.

**Models:** AUCXXXX, ADCXXXX, LO-MIX100, LO-MIX101, LO-MIX200, LO-MIX201, LO-MIX300, LO-MIX301, LO-MIX400, LO-MIX401

### Datasheet

[Up Converter](#)

[Down Converter](#)

[LO-MIX](#)  Mixer with LO inside

## MULTIPLIERS



### Product features

#### Multipliers

MD offers X2, X3 and X4 multipliers with power output up to +20 dBm and high harmonic isolation (50 dBc minimum; 60-65 typical). MD multipliers offer low VSWR (2.5:1 max), with connector options 2.92 mm, 2.4 mm or 1.85 mm.

**Models:** A2X, A3X, A4X

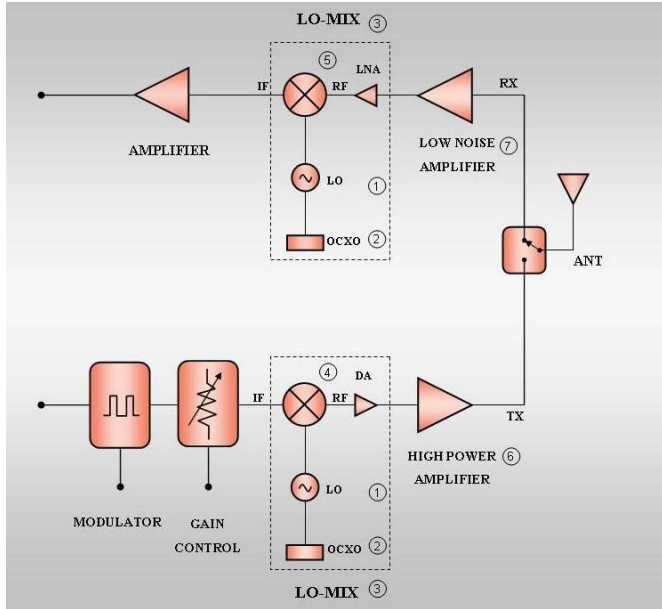
### Datasheet

[Millimeter Wave Mult](#)

[High Isolation Mult](#)



## SUB-ASSEMBLIES



### Product features

#### Sub-Assemblies / Integrated MW Assemblies

MD offers rapid turnaround R & D for customized products designed to meet unique customer requirements for microwave components and subsystems. MD excels in customization with our innovative designs, high-precision engineering, and hands-on technical support throughout the life of the project. A typical transceiver using all MD products, packaged to meet customer requirements, is available.

**Models:** ASSY-XXXX-XX or Custom

### Datasheet

[Sub-Assembly](#) 

[Flight Hardware](#)

## SPACE QUALIFIED PARTS



**Product features**

**Datasheet**

**Space Qualified / Hi-Reliability Parts**

**Space Hardware** 

### Capabilities

#### Models

- Oscillators, Amplifiers, Up/Down-converters, Custom sub-assemblies

#### Screening

- Element of Evaluation, Group A,B,C and D
- Assembly and 100% Screening
- Qualification Testing

#### Testing

- Acceptance Test

#### Program Management

#### AS9100 Rev D Qualified Quality System

MD conforms with Quality Management System standard ISO 9001:2015 and AS9100D (Technically Equivalent to EN 9100:2016 and JISQ 9100:2016) and has been audited in accordance with the requirements of AS9104/1:2012.

### AURA Satellite

In 2004, MD supplied space qualified microwave oscillators PLO-2000 (at 10.7 GHz, 14.95 GHz and 15.96 GHz) to support one of the four measuring instruments, the Microwave Limb Sounder (MLS) on the AURA Satellite. MLS was spearheaded by JPL and is used to measure radiation in the GHz and THz frequency ranges (millimeter and sub-millimeter wavelengths) to remotely sense atmospheric data.

## ABOUT US

- Incorporated in 1993
- 100% U.S. Made
- SBA Small Business Certified
- ITAR Certified
- Hybrid/discrete assembly
- Full test & measurement systems
- 10,000 ft<sup>2</sup> facility
- 10k & 100k lab
- Solo Source Military and Space Supplier
- 48 Hour Delivery on STD catalog items
- Full Documentation Control & Quality Assurance Systems
- AS9100D - ISO 9001:2015
- Rapid turnaround R&D and excellent customer service on customized products
- Design, engineering & manufacturing in a non-segregated U.S. facility





## CONTACT US

- PHONE: (949) 679-7788
- FAX: (949) 679-7748
- EMAIL: [info@microwave-dynamics.com](mailto:info@microwave-dynamics.com)
- WEBSITE: <http://microwave-dynamics.com/>
- RFQ: <http://microwave-dynamics.com/request-a-quote/>
- ADDRESS: 16541 Scientific Way/ Irvine, CA 92618

Request a Quote

## 48 HOUR DELIVERY

- SHORT LEAD TIME for non-standard (non-STD) and custom products
- **48 HOUR SHIPPING:** Shipping for standard (STD) products, free-running DRO, external ref phase locked DRO and certain internal ref DRO's. Whether you have a customer changing frequency just before shipment or a failure of some kind, check with us on our 48 hour shipment.
- **RESTRICTIONS:** Offer applies to Microwave Dynamics' Free-Running DRO's and PLDRO's with an output frequency divisible by 100 MHz. The customer, in most cases, must accept Microwave Dynamics' standard specs. Quantities will generally be limited to the 1-4 piece range.
- **CONTACT US** regarding larger quantities. Credit must be previously established or order prepaid. Although every effort will be made to ship within 48 hours (working days), Microwave Dynamics will not be held liable for delays beyond our control. 48 hour time period will begin the day after the order is placed.

## DATASHEETS

The following pages contain MD Datasheets for all standard product. Please inquire for any further information on our products and/or if your requirements are not met by those set forth in the datasheets. Engineering will review your specs and let you know if we can provide a solution. For high quality copies of our datasheets, please download each individually from our website at <http://microwave-dynamics.com/product/>.