

Telecom: Master Local Oscillator (MLO)

Beyond Gravity Space Master Local Oscillator meets the highest performance and reliability requirements. Application of latest technologies offers excellent performance, small size, low mass and efficient manufacturing.

Heritage

Beyond Gravity Space has been supplying high performance and highly reliable microwave communication equipment for telecom satellites for more than 35 years.

Delivery record for telecom payloads:

- > 1300 FSS/BSS Units delivered
- > 700 Ka-band Channels delivered
- > 10 000 years accumulated operational time in orbit

Key features

Master Local Oscillator for telecom payloads

The MLO is dual redundant with internal OCXO and EPC which can interface to most satellite Bus standards. The equipment are built using the latest technologies with heritage from the LO in the well proven Beyond Gravity Converters and Receivers, offering excellent electrical performance and reliability while exhibiting a compact design with low cost adaptation for different LO frequencies.

Modularity

The modular design allows the equipment to be configured for different output frequencies as well as for a variety of DC and TM/TC interfaces.

Compact design

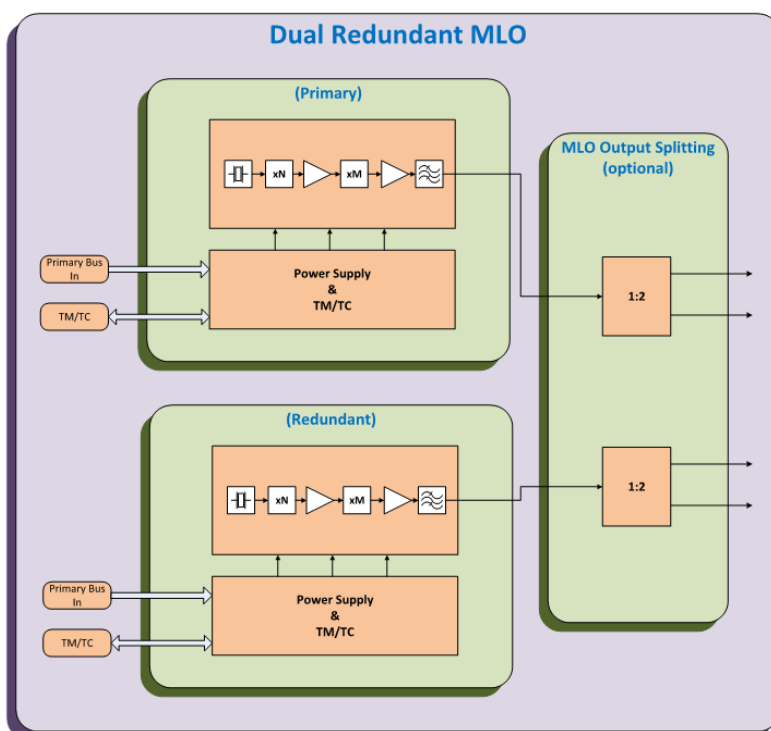
Extensive use of MMIC and miniaturization technologies are employed to give small size and low mass. The high level of integration result in improved producibility and short lead times.

Production

- Well-known technologies and established processes
- Extensive clean-room facilities
- Highly automated testing and data collection
- Inhouse facilities for environmental testing

Interfaces

- RF Output: coaxial SMA
- DC & TM/TC: MDM-25



Technical data

Frequency range, Output	7 - 13 GHz	
Output Power	< +25 dBm	
Output Power stability	<2.0 dBpp (over temperature and life)	
Frequency Stability (internal OCXO)		
	Initial setting	± 0.5 ppm
	Life (incl. temp)	± 2.5 ppm
Phase Noise		
	10 Hz offset	-50 dBc/Hz
	100 Hz offset	-80 dBc/Hz
	10 kHz offset	-105 dBc/Hz
	1 MHz offset	-115 dBc/Hz
	>10 MHz offset	-115 dBc/Hz
X-tal harmonics	-100 dBc	
LO Harmonics	-30 dBc	
Temperature range	-20°C to + 70°C	
DC power	<10 W (@ 28-100 V power bus)	
Mass	1.3 kg	
Size	122 x 86 x 120 mm	