

Telecom: Master Local Oscillator (MLO)

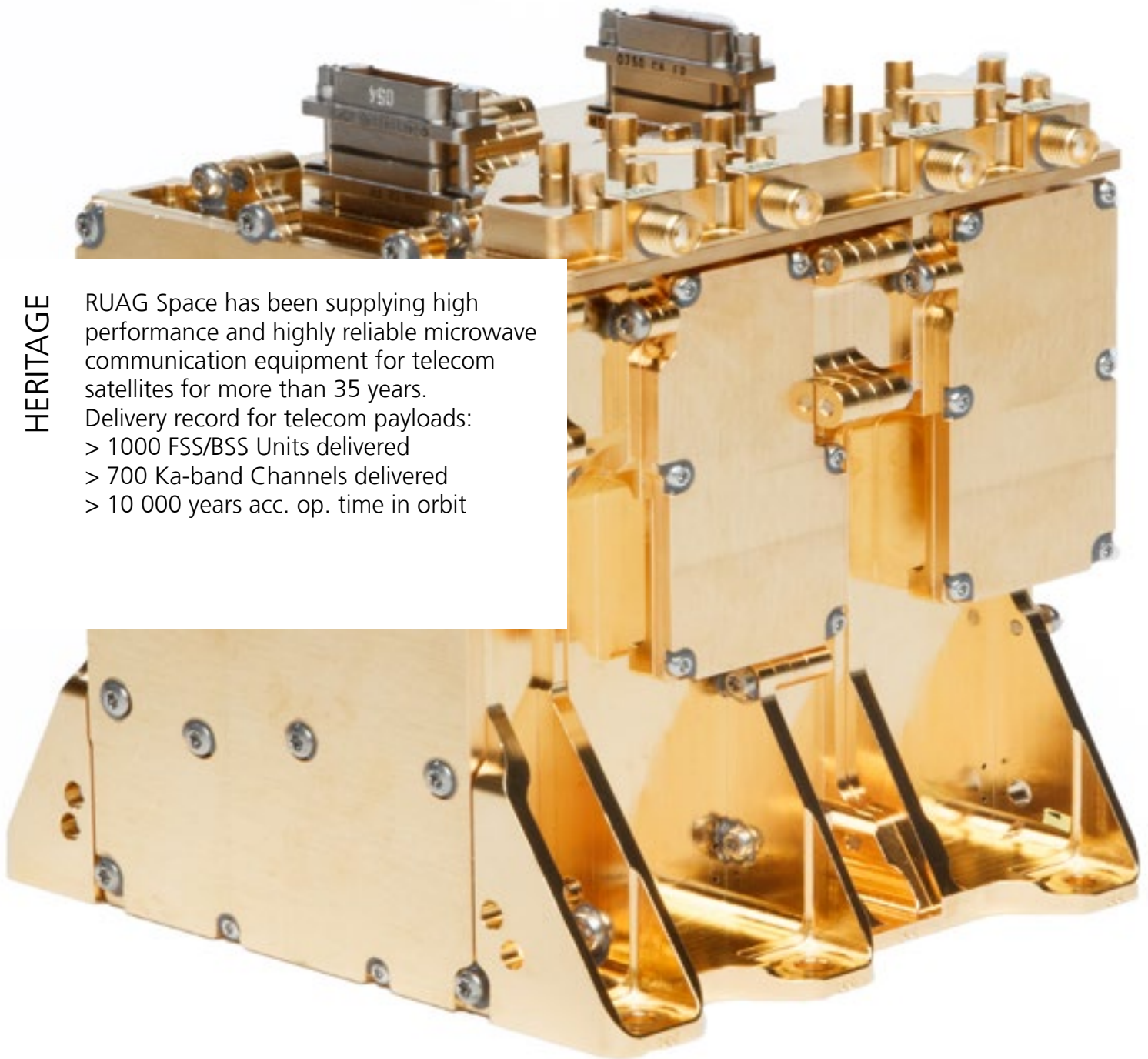
RUAG Space Master Local Oscillator meets the highest performance and reliability requirements. Application of latest technologies offers excellent performance, small size, low mass and efficient manufacturing.

HERITAGE

RUAG 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:

- > 1000 FSS/BSS Units delivered
- > 700 Ka-band Channels delivered
- > 10 000 years acc. op. time in orbit



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Master Local Oscillator for telecom payloads

The MLO is dual redundant with internal OCXO and EPC which can interface most satellite Bus standards. The equipment are built using the latest technologies with heritage from the LO in the well proven RUAG 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.

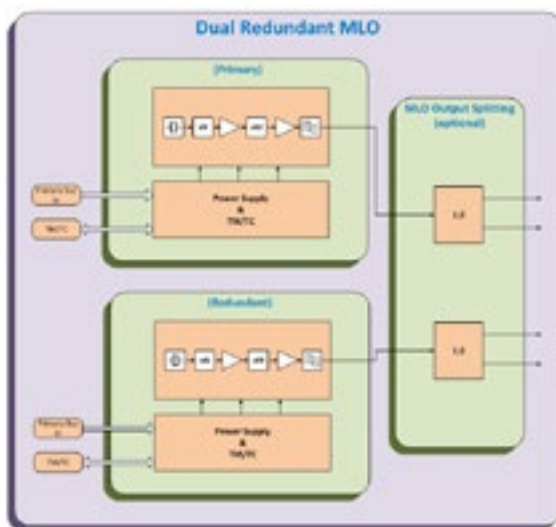
Compacts design

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

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

Production

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

**Technical Data**

Frequency range, Output	7 - 13 GHz
Output Power	< +25 dBm (adjustable within ± 1 dB)
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 (Ka/Ku)	1.3 kg
Size (Ka/Ku)	122 x 86 x 120 mm (incl. mounting feet)