



OBERON

XL & XLE

XL EOS Direct broadcast polar-orbiting satellite reception ground stations



Oberon-XL gives you the complete picture

Designed for more than 160 ocean, land, and atmospheric analysis applications, the Oberon-XL ground station is a comprehensive and turn key remote sensing solution.

OBERON-XL ADVANTAGES

- High precision X/L-band reception
- XY tracking mount
- Flexible and upgradeable
- Robust design can be used without a radome
- Excellent demodulation performance
- Utilizes the ESS3000 multi-mode receiver
- Fully automatic operation
- Interfaces with EEC's powerful Proteus satellite image processing package

The complete satellite data collection system

The Oberon-XL ground station gives you the tools you need to collect data from a wide range of polar-orbiting environmental observation satellite systems, including those operated by NASA and NOAA, and analyze that information depending on the system configuration that fits your specific needs. Covering land, sea, and air, it provides the highest-quality imagery and sounding data profiles for use by meteorological, oceanographical and disaster-relief agencies, military applications, and research organizations.

Integrated software offers both high- and low-resolution options for the collection and processing of X and L-band data, and provides baseline services in a seamless manner.

From manufacturing and engineering to final installation and training, the Oberon-XL ground station is a turn key system created specifically to deliver the complete picture from meteorological, environmental, and military direct-broadcast satellites.

APPLICATIONS

- Meteorology and Weather Forecasting
- Physical & Biological Oceanography
- Hydrology
- Fisheries
- Agriculture & Forestry
- Climate and Global Change Studies
- Land-based Change Detection Studies (e.g. urbanization, tropical deforestation, desertification)



DATA SOURCES:

- NASA Terra and Aqua
- US NOAA
- EUMETSAT - METOP
- NSMC Fengyun
- Suomi NPP
- JPSS-1

LEVEL-2 SCIENCE PRODUCTS DERIVED FROM:

- Terra/Aqua MODIS
- NOAA/MetOp AVHRR and ATOVS payloads
- MetOp IASI science products are generated if on site GTS feed available
- Suomi NPP VIIRS

Oberon-XL is a reliable, high-performance and fully automated permanent satellite reception system

OBERON-XL PERFORMANCE SPECIFICATIONS

PEDESTAL

| | |
|------------------------|-------------------------------------|
| Pedestal Configuration | X/Y |
| Antenna Diameter | 2.4m |
| Pointing Accuracy | 0.05 deg |
| Wind Loading | 120 kph operational, without radome |
| Slew Rate | > 5 deg/sec |
| Environmental | IP65 |
| Mains Supply | 110/220/240 AC |
| Temperature Range | -35 to 50C |
| Encoder Accuracy | 0.01 deg |

FEED

| | |
|-----------------|-----------------------------------|
| Frequency Range | 7.45 to 8.4 GHz |
| Polarization | Input – Circular, Output – Linear |
| Axial Ratio | ± 0.25 dB |
| Insertion Loss | 0.1 dB |

LOW NOISE AMPLIFIER

| | |
|-----------------|-----------------|
| Frequency Range | 7.45 to 8.4 GHz |
| Gain | 45 dB |
| Gain Flatness | ± 1 dB |
| Noise Figure | 0.7 dB (50K) |

L-BAND DOWNCONVERTER

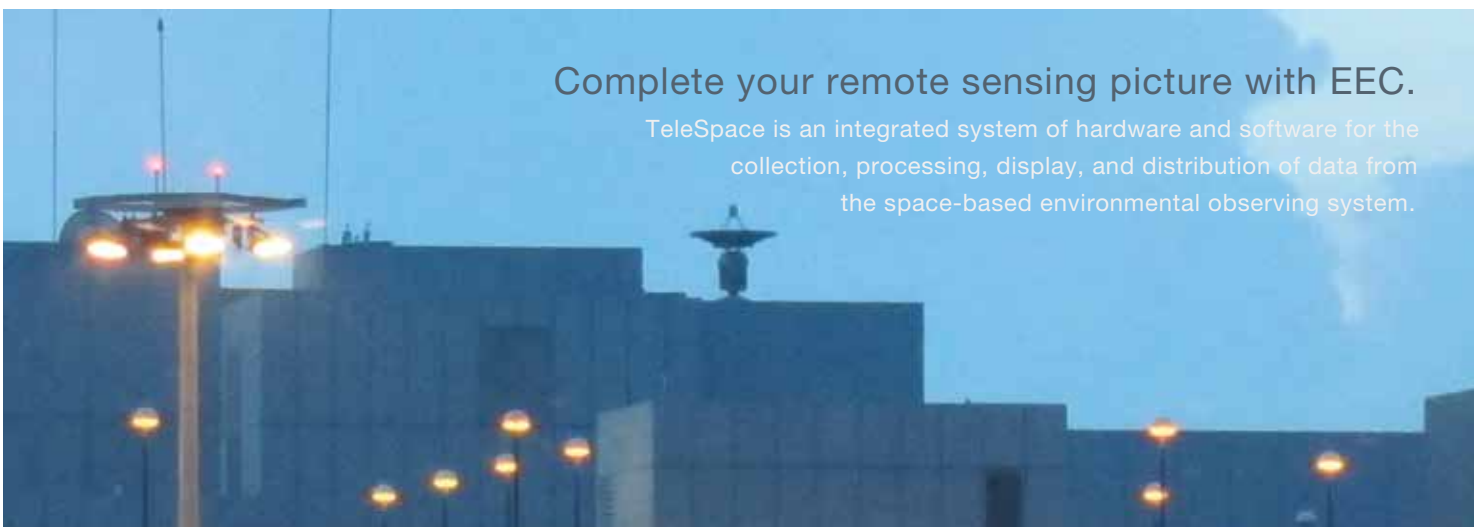
| | |
|-------------------|--------------|
| Input Frequency: | 1687-1707MHz |
| Output Frequency: | 140MHz |
| Bandwidth: | 15MHz |

X-BAND DOWNCONVERTER

| | |
|-------------------|------------------------------|
| Type | Dual Conversion, Synthesized |
| Input Frequency: | 7.7 - 8.3GHz |
| Output Frequency: | 140MHz |
| Bandwidth: | 20MHz |

Complete your remote sensing picture with EEC.

TeleSpace is an integrated system of hardware and software for the collection, processing, display, and distribution of data from the space-based environmental observing system.



Oberon-XLE

Approved for European applications and designed to meet those specifications, Oberon-XLE offers the exact same robust and comprehensive applications as the Oberon-XL system.

OBERON-XLE ADVANTAGES

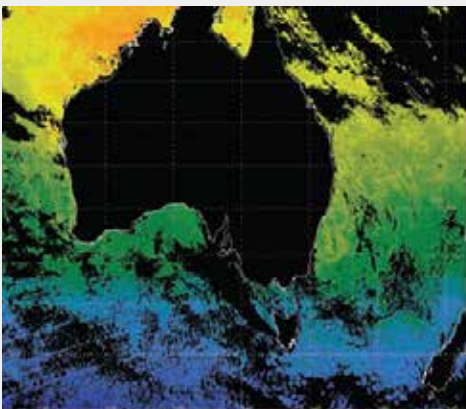
- A complete and fully integrated bundle that receives X and L band direct broadcast data and processes it to level 2
- Automatic TLE updates as well as remote diagnosis and software updates
- Simple and affordable installation
- Typical time from purchase to installed and operational system is 4 months

DATA SOURCES:

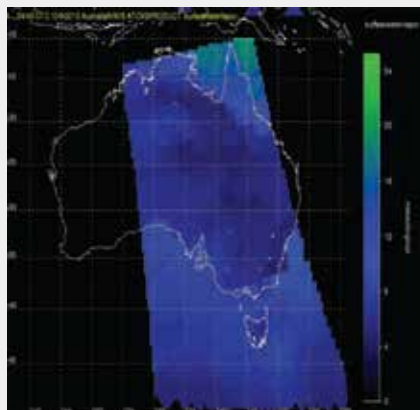
- X-Band Terra
- L-Band METOP EPS
- Aqua MODIS
- NOAA POES HRPT
- NPP VIIRS
- Feng Yun
- JPSS-1



DISPLAY EXAMPLES



Sea Surface Temperature Mosaic (L-Band)



Surface Water Vapor (L-Band, ATOVS)



Moisture Profile (X-Band)

OBERON-XLE PERFORMANCE SPECIFICATIONS

ANTENNA:

| | | | |
|-----------|--|--|--|
| Reflector | 2.4m, solid spun aluminum | | |
| F/D | 360 | | |
| Feed | X-Band prime focus scalar with L-Band on axis feed | | |

X-BAND:

| | | | |
|--|---------------|------|-----------|
| X-Band Operating Frequency | 7700 MHz | thru | 8500 MHz |
| Reflector 3 dB Beamwidth | 1.05° | | 0.97° |
| Reflector Gain | 43.5 dB | | 44.2 dB |
| *G/T Minimum With System Noise Temp <100 K | 23.5 dB/K | | 24.2 dB/K |
| *G/T Typical Performance | 24.0 dB/K | | 24.6 dB/K |
| LNC Noise Temperature | <50 K | | |
| LNC Overall Conversion Gain X to IF | 60 dB typical | | |
| Synthesized Downconverter Step Size | 100 KHz | | |
| Local Oscillator Temperature Stability | + 5 ppm | | |
| IF Output | 720 MHz | | |

L-BAND:

| | | | |
|--|--------------------|------|----------|
| L-Band Operating Frequency | 1682 MHz | thru | 1710 MHz |
| Reflector 3 dB Beamwidth | 4.9° | | |
| Reflector Gain | 30.0 dB | | |
| *G/T Minimum With System Noise Temp <120 K | 7 dB/K | | |
| *G/T Typical Performance | 7.5 dB/K | | |
| LNB Noise Temperature | 90 K (preselected) | | |
| LNB Conversion Gain | 60 dB typical | | |
| Local Oscillator Frequency (Block Downconverter) | 100 KHz | | |
| Local Oscillator Temperature Stability | + 2.5ppm | | |
| IF Output | 126 MHz | thru | 154 MHz |

DEMODULATORS:

| | |
|----------------------|--|
| Mechanical | 1 U rack mounted |
| Interface | LVDS, TTL, RS422 clock and data, Ctrl via Ethernet |
| High Data Rate Modes | OQPSK, QPSK, BPSK |
| Low Data Rate Modes | QPSK, BPSK, PSK |

OBERON-XL & OBERON-XLE

Turn key polar-orbiting satellite ground stations from EEC



A FULL RANGE OF FORECASTING HARDWARE AND SOFTWARE WITH AN EASY-TO-USE INTERFACE



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SIDPOL™ Radar is patented technology, covered by U.S. Patent No. 6,859,163 B2, U.S. Patent No. 7,049,997, U.S. Patent No. 7,439,899, U.S. Patent No. 7,551,123, U.S. Patent No. 7,683,828, U.S. Patent No. 7,750,573, U.S. Patent No. 7,760,129, U.S. Patent No. 7,880,665, U.S. Patent No. 7,450,693, U.S. Patent No. 7,369,082, 13041 (OAPI Region), 009250 (Eurasia) and 009249 (Eurasia).

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