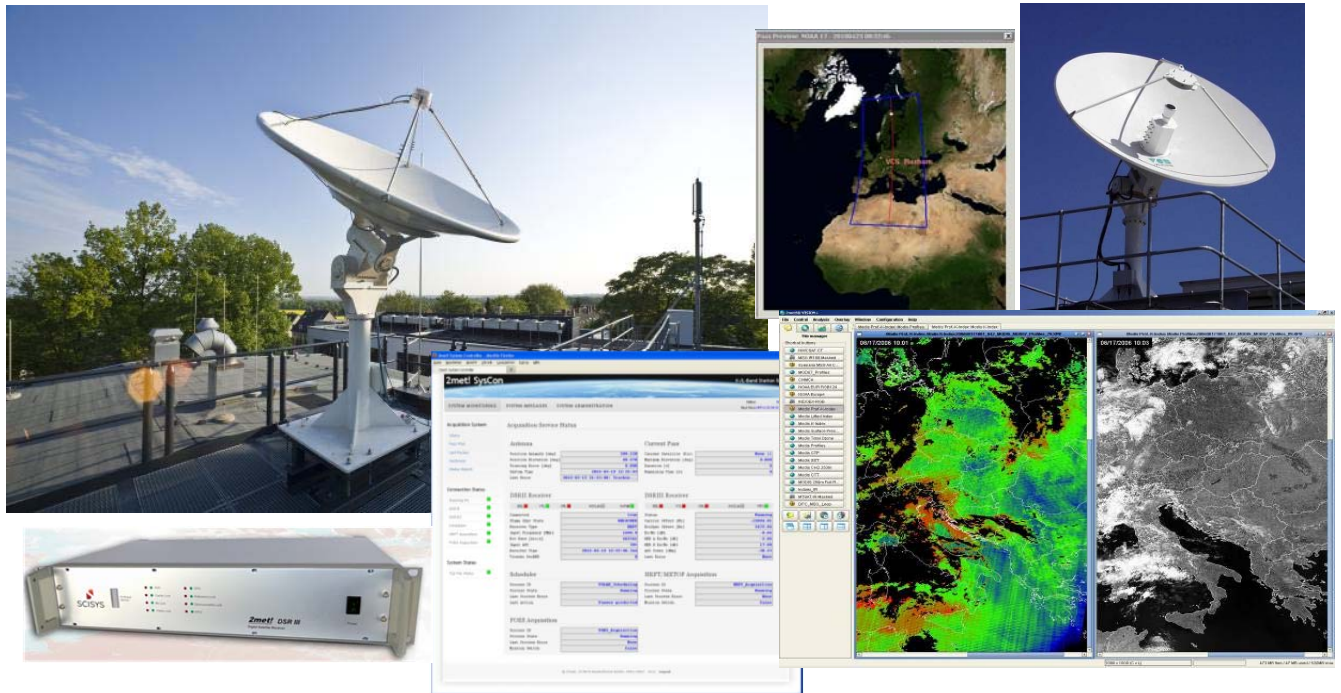


### 2met!® X-Band Ground Station EO Direct Broadcasting Reception System

Release 1.5



#### Highlights

- Acquisition of Instruments Data from **TERRA**, **AQUA** and **SUOMI NPP** spacecrafts in X-Band; prepared for **JPSS-1**
- Fully automated reception, antenna control and data processing
- Measurement of Doppler Effect for enhanced pass prediction accuracy.
- Tracking accuracy improvement by automatic maximum signal strength detection system AMST
- Support of meteorological Earth Observation satellites, upgradeable to other missions up to 60Mbps data rate in X-band
- Fully supported by **2met!® PROCESSING** for navigation and product extraction
- Dispatch of all products via LAN/WAN or Internet System **monitoring and control** by 2met! GMC and web client **2met!® SysCon**.
- Easy integration into existing systems
- Low Training/Maintenance effort
- Range of tracking antennas (2.4 – 3.7m)
- Highest reliability at excellent price-performance
- Runs on **Windows** and **Linux** Platforms
- Combined L/X-band Feed/LNA available
- Easy upgrade to L-band missions (NOAA, METOP, Feng-Yun)
- Due to AMST the system is able to cope with rapidly changing orbital parameters
- Produces **L0 mission files** for TERRA/AQUA (PDS) and SUOMI NPP (RDR)
- **Streaming interface** to NASA/DRL RT-STPS software for all X-band missions
- Fully automated higher level processing using IMAPP, IPOPP or CSPP

### Hardware

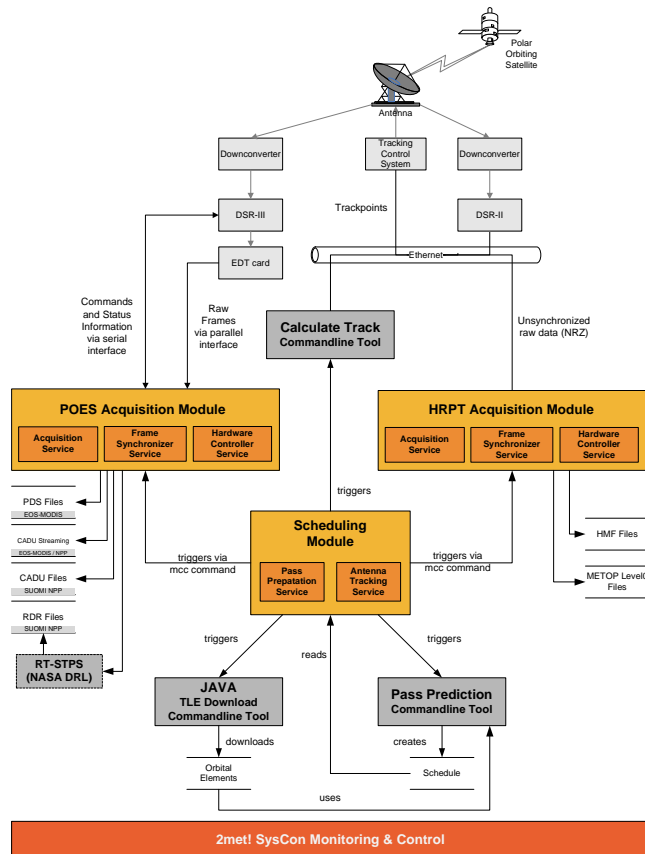
The system is able to receive data from the instruments on-board TERRA, AQUA and SUOMI NPP – in Direct Broadcast mode (Q:I = 4:1).

The antenna system is operated in program track mode, i.e. the pass of the satellite will be pre-calculated to reduce the cost of the tracking system by avoiding the need for expensive auto tracking systems.

The receiver is prepared for the reception of EOS AQUA and TERRA (AM\_1/PM-1) Direct Broadcast, for SUOMI NPP HRD and upcoming JPSS missions. It contains a QPSK Demodulator and a Viterbi – Decoder. The data are sent to the station computer via a serial to parallel converter.

### Software

The software on the station computer reads the data via a high speed interface board and executes the CCSDS processing. The data are feed into the higher level processing software like IMAPP, IPOPP or CSPP. The realisation of the frame synchroniser and Reed - Solomon decoder as software solution reduces the total system costs. The background processing performs all activities like pass prediction, antenna control and reception automatically;



thus, the system operates unattended.

Combined X-/L-band Acquisition Station Setup

### Technical Characteristics

<b>Antenna</b>	<b>2met!® Tracking Antenna</b>
Type	2.4 – 3.7m X/Y Pedestal
Frequencies	7.7 - 8.3GHz +/-100MHz L-band as option
<b>Down-converter</b>	<b>2met!® CNVX</b>
<b>Receiver</b>	<b>2met!® DSR III</b>
Modulation	BPSK, QPSK
Data Rate	up to 60Mbps
<b>Workstation</b>	Standard Workstation or Server
Operating System:	Linux/Windows

### 2met!® Application Software:

**POES Acquisition** with frame synchronisation, Reed-Solomon decoding, Pass Prediction with flexible priority control.

**Dispatch** via FTP or local file share copy to an unlimited number of destinations, alternative destinations for each transfer possible.

**Processing** including Navigation, Calibration into 8bpp, 16bpp for thermal and visible channels. It includes also all relevant functions for MSG and HRPT data.

**Output Formats:** HDF4, HDF5, XPIF, JPEG, TIF, BMP and many other formats available via FTP to remote hosts.

**Display Software:** Mapping of 16bpp Images onto 24bpp graphics hardware. It allows fast display of large images. The image size is limited only by disk capacity. Histograms, Graphical Colour Map Editor, Sample Function, Fast Zoom and Pan

### Ordering Information

#### 2met!® X-band Ground Station

This version provides all functions to receive data from all relevant X-Band missions like TERRA, AQUA, SUOMI NPP and JPSS-1 (in preparation).

### Contacts

If you have any questions, please contact our Marketing and Sales Department at [2met@scisys.de](mailto:2met@scisys.de)



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