

2met![®] DSR II Multi-mission Satellite Data Receiver

Release 2.3

SCISYS Deutschland GmbH offers a multi-mission satellite receiver - exploiting the experience from the digital baseband processing used for the Meteosat User Station Baseband Module (MUBM). The 2met![®] DSR II provides a fast Ethernet interface for TCP/IP connection to any host system.

The multi-functional digital satellite receiver – best value for your money
2met![®] DSR II



FUNCTIONS	ADVANTAGES
<ul style="list-style-type: none"> ▪ Handling of physical layer processing ▪ Retrieval of packetized bit stream data via a TCP/IP connection ▪ Support of all L-Band meteorological satellite missions ▪ Programmable IF signal frequency ▪ Additional NRZ and Clock data interface ▪ Configuration via Ethernet ▪ Available in low rate LR, high rate HR, and extended rate XR version 	<ul style="list-style-type: none"> ▪ Small form factor and simplified system layout ▪ Standard Ethernet interface for host connection ▪ Multi-mission capability ▪ Lowest technology losses ▪ Easy configuration ▪ Time tagging and frequency measurement for Doppler effect management ▪ NTP/SNTP time synchronisation ▪ Full integration into 2met![®] Systems

Description

The implementation of the *2met![®] DSR II* allows for reception of several meteorological satellites. It supports data rates from 75kbps (MTSAT/LRIT) up to 3.5Mbps (A-HRPT) of METOP satellites. The extremely low losses of 0.4dB for the LRIT/HRIT missions at the operating point ($E_b/N_0 = 2.8\text{dB}$) are realised by a mostly digital design. The main functions are:

- 2nd conversion of the IF signal including anti-aliasing filtering,
- coherent BPSK/QPSK/PM demodulation,
- symbol / bit synchronisation,
- baseband-pulse shaping,
- Viterbi decoding (if applicable)
- data buffering
- provision of monitoring information

The *2met![®] DSR II* receives the signal at IF level. After 2nd down-conversion the A/D conversion is performed. From this point the signal is digitally and coherently demodulated and symbol synchronised. The packetized data stream and monitoring/quality information like frequency measurements are retrieved via host interface.

The interface to the RF Front End can be tuned in steps of 100kHz between 130 and 160MHz. Power supply and monitoring information is provided for the 1st Down-converter.

A fast Ethernet interface connects the receiver with the processing host and allows for retrieval of mission data. The internal buffer of *2met![®] DSR II* is able to store up to 10MB (80 seconds @1Mbit) of real-time data. This allows the workstation for sufficient reaction time to retrieve data.

The configuration of the receiver can be performed easily (TCP/IP) with respect to satellite mission and IF frequency.

Technical Characteristics

IF Specifications

Input frequencies	130 – 160 MHz
Supply for 1 st D/C	+15V, +20V, DC, configurable

Electrical Specifications

Supply Voltage	85-250 V AC
Power Consumption	90 VA
Technology Loss	0.4 dB typical (MSG HRIT)

Interface Specifications

NRZ-Data via TCP/IP 100BaseT or RS422

Environmental

Temperature	0° ... + 40° C
Humidity	10% ... 95%

Mechanical Specifications

Size	1HU, 19" Form factor
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Supported Missions/Models

Low Rate	LR	256 kbps MTSAT LRIT, GOES LRIT, MSG LRIT, HRI
High Rate	HR	1.5 Mbps C-HRPT, MSG HRIT MTSAT HRIT, HRPT
eXtended Rate	XR	< 3.5 Mbps A-HRPT

Ordering Information

2met![®] DSR II

This version provides all functions to receive data from all relevant HRPT missions.

Contacts

If you have any questions, please contact our Marketing and Sales Department at 2met@scisys.de

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