

# SIGNUM-RM

DVB-S/S2 IRD - RF/ASI/IP Audio Decoder



The SIGNUM-RM is the state-of-the-art IRD (Integrated Receiver Decoder) designed for the high-end Audio distribution market

The development of digital satellite contribution networks and the need to connect a large number of sites require a cost effective but still reliable and performing satellite receiver with integrated decoder.

The SIGNUM-RM demodulates a DVB-S or DVB-S2 signals up to 32APSK (single/multi-stream), achieving 128 KS/s as minimum symbol rate.

Signum supports MPEG-1 LI/II audio codec, providing analog and digital outputs; moreover, it's possible to set a data PID to be decoded and processed by the optional on-board RDS encoder, generating the dual MPX FM output. For future needs, EDI interface makes SIGNUM the ideal product to feed transmitters in DAB/DAB+ environments. BISS 0/1/E descrambling is also supported.

The front panel is fitted with a two-inch TFT touchscreen, the Ethernet management port, a USB connector for configuration upload/download and firmware upgrades and a headphone monitor connector.

The back panel hosts all I/O connectors either for baseband and RF signals.

## MAIN FEATURES

- Self-contained compact solution
- DVB-S/S2 receiver single and multistream
- 128 KS/s minimum Symbol Rate
- Optional DVB-ASI and TSoIP input and output interfaces
- Optional on-Board MPX stereo encoder
- Optional on-Board RDS encoder
- MPEG-1 LI/II audio codec support
- Optional AAC audio codec.
- Data PID decryption for RDS (ASCII or raw serial data recovery)
- Analog and Digital audio outputs
- MPX stereo encoder with embedded overshoot limiter
- Composite MPX out for FM transmitters
- EDI out for DAB/DAB+ transmitters
- Headphone monitor on front panel
- WEB, SNMP

# SPECIFICATIONS

## SATELLITE RECEIVER

|                        |   |
|------------------------|---|
| <b>Standards:</b>      | ETSI EN 300 421 (DVB-S)<br>ETSI EN 300 307 (DVB-S2) |
| <b>Symbol Rate:</b>    | 0.128 to 45 MSym/s                                  |
| <b>FEC:</b>            | all (auto)  |
| <b>Constellation:</b>  | QPSK,8PSK,16-32APSK                                 |
| <b>DVB-S2 support:</b> |   |
| Mode:                  | CCM, VCM, ACM, Normal/short frames                  |
| BB Header proc.:       | ISSY short/lon, NPD                                 |
| Mode Adaptation:       | Multistream reception with ISI field                |
| PLS:                   | Supported   |

## INPUTS

|                  |   |
|------------------|---|
| <b>RF:</b>       | Tuner with iso-level loop-through           |
| Level:           | -10 to -87 dBm                              |
| Connector:       | F(f) 75 Ω                                   |
| Frequency:       | 950-2150 MHz                                |
| LNB Control:     | 13 V, 18 V, off<br>0 / 22kHz                |
| <b>DVB-ASI*:</b> |   |
| Interfaces:      | 2 x BNC(f)                                  |
| configurable as: | Input (for decoder)<br>Output (of receiver) |
| <b>IP*:</b>      | Auto Switching 10/100/1000 BASE-T           |
| Stream type:     | TSolP input or output                       |
| Traffic:         | Unicast, Multicast                          |
| Connector:       | RJ-45                                       |

## DECODER

|                 |                            |
|-----------------|----------------------------|
| <b>Outputs:</b> | <b>1 stereo pair</b>       |
| <b>Analog:</b>  |                            |
| Connectors:     | XLR(m) or BNC(f)           |
| Impedance:      | < 50 Ω                     |
| Output Level:   | -3 dBu to +9 dBu           |
| <b>Digital:</b> |                            |
| Connector:      | XLR(m)                     |
| Impedance:      | 120 Ohm balanced           |
| Output Level:   | Adjustable-3 dBu to +9 dBu |

## DAB RECEIVER\*

|   |                         |
|---|-------------------------|
| De-encapsulation of DAB streams in DATA PID |                         |
| Output format:                              |                         |
|   | ETI-NA/ETI-NI           |
| Connector:                                  | BNC(f) 75 Ω             |
|   | EDI for DAB/DAB+ output |
| Interface:                                  | 10/100/1000 BaseT       |

## STEREO ENCODER\*

|                        |                  |
|------------------------|------------------|
| <b>Inputs:</b>         |                  |
| 19 KHz Sync in         |                  |
| Connector:             | BNC(f)           |
| Impedance:             | 75 Ω unbalanced  |
| RS-232 for dynamic RDS |                  |
| Connector:             | DB9 female       |
| Overshoot limiter      |                  |
| <b>Outputs:</b>        |                  |
| FM MPX:                |                  |
| Connectors:            | 2 x BNC(f)       |
| Impedance:             | 50 Ω unbalanced  |
| Output Level:          | -3 dBu to +9 dBu |
| Sync 19 KHz:           |                  |
| Connector:             | BNC(f)           |
| Impedance:             | 50 Ω unbalanced  |

## CONTROL

|                    |   |
|--------------------|---|
| <b>Front panel</b> | (TFT touchscreen display)                             |
| <b>Web browser</b> | (embedded http server, no additional software needed) |
| <b>SNMP v2</b>     |   |

## ELECTRICAL

|                           |           |                            |
|---------------------------|-----------|----------------------------|
| <b>Supply:</b>            | <b>AC</b> | 90-260 V~ 47/63 Hz IEC 320 |
|                           | <b>DC</b> | 22 ÷ 65 V 2 pins plug      |
| <b>Power consumption:</b> |           | < 45W                      |

## MECHANICAL

|                    |   |
|--------------------|---|
| <b>Chassis:</b>    | 1U Rack 19"                                   |
| <b>Dimensions:</b> | Width 482.5 mm                                |
|                    | Height 43.65 mm                               |
|                    | Depth 258 mm (without handles and connectors) |
| <b>Weight:</b>     | 7 Kg  |

## ENVIRONMENTAL

|                           |                        |
|---------------------------|------------------------|
| <b>Operative Temp.:</b>   | -10 ÷ 55°C             |
| <b>Relative humidity:</b> | 0 - 95% non condensing |

\* available as option according to P/N and hardware version

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