

# SIGNUM

## DVB-S/S2 IRD for Radio Networks



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

The development of digital satellite contribution networks and the need to connect a large number of sites require a professional IRD able to generate the composite MPX signal for FM transmitters and ready for future migration to DAB/DAB+.

The SIGNUM demodulates one or two DVB-S/ S2 signals up to 32APSK (single/multi-stream), achieving 256 KS/s as minimum symbol rate. The TS demodulated signals can be aligned and configured in 1+1 seamless switching for redundancy. Redundancy can also be achieved with external ASI and TSoIP inputs.

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 passed to the internal RDS encoder, generating the dual MPX FM output.

For future needs, EDI interface make 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 customer authentication and firmware upgrades.

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
- Dual tuner for redundancy
- 256 KS/s minimum Symbol Rate
- ASI and TSoIP input and output interfaces
- 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

# SPECIFICATIONS

## SATELLITE RECEIVER

<b>Standards:</b>	ETSI EN 300 421 (DVB-S) ETSI EN 300 307 (DVB-S2)
<b>Symbol Rate:</b>	0.256 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 Supported
PLS:	

## INPUTS

<b>RF:</b>	Tuner A and B with loop-through
Level:	-10 to -87 dBm
Connector:	F(f) 75 $\Omega$
Frequency:	950-2150 MHz
LNB Control:	13 V, 18 V, off 0 / 22kHz
<b>DVB-ASI:</b>	
Interfaces:	2 x BNC(f)
configurable as:	Input (for decoder) 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

## ADVANCED FEATURES

Optional Redundancy Switching between:

- Tuner A
- Tuner B
- ASI 1
- ASI 2

RDS info recovery from TS Data PID:

- ASCII
- Raw Data

## DAB RECEIVER

De-encapsulation of DAB streams in DATA PID	
Connector:	RJ-45
Framing:	EDI for DAB/DAB+ output
Interface:	10/100/1000 BaseT

## DECODER

<b>Outputs:</b>	<b>1 stereo pair</b>
<b>Analog:</b>	
Connectors:	XLR(m) Left and Right
Impedance:	< 50 $\Omega$ balanced
Output Level:	-3 dBu to +9 dBu
<b>Digital:</b>	
Connector:	XLR(m)
Impedance:	120 Ohm balanced
Output Level:	Adjustable (-xx +xx)

## STEREO ENCODER

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

## CONTROL

**Front panel** (TFT touchscreen display)  
**Web browser** (embedded http server, no additional software needed)  
**SNMP v2**

## 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

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