



Main Features

- NOMINAL RF OUTPUT POWER: 50 W
- COMPACT SIZE: ONLY ONE 19" RACK UNIT CABINET
- VERY LOW SIGNAL TO NOISE: TYP. 80 dB
- HIGH STEREO SEPARATION: TYP. 65 dB
- LOW DISTORTION: THD, IMD & TIM TYP. 0,05%.
- TOTAL SPECTRAL PURITY: > -100 dBc SPURIOUS, > - 75 dBc HARMONICS
- REMOTE CONTROL: DB9 TELEMETRY PORT
- FULL – RANGE POWER SUPPLY: 90-260 VAC MAINS VOLTAGE
- COMPLIANT WITH ALL THE STANDARD: ETSI – CCIR - FCC

Options

- DIGITAL STEREO CODER: SUPERIOR STEREO QUALITY
- FULL FEATURES RDS/RBDS CODER: EASY PROGRAMMABLE BY PC
- OIRT & JPN: FREQUENCY BAND VERSION
- LPFM CODE STATION: FCC IDENTIFICATIONS CODE

To optimize to the maximum the price the SYNAPSE is available in two version: MONO/MPX and STEREO. The Stereo Coder can be easy upgraded on site also after the first installation.

SYNAPSE allows the possibility to be easily upgraded with useful options, in order to meet all the customer needs, like on- site integrated RDS Encoder and FCC station coding.

The SYNAPSE's integrated CPU card allows a large number of monitoring parameter. An user-friendly menu visualized in a clear LCD display allows the configuration and setting of all the working parameters and the monitoring of the operating values.

FRONT PANEL

USB Port USB Connector for upgrade function.

LCD Display Two- row, sixteen-characters LCD Display

Encoder Rotary encoder

RF Monitor RF Output Monitor. BNC female (50 Ohm)

REAR PANEL CONNECTORS

RF OUT RF Output. N (50 Ohm) type connector, female.

AES/EBU Input (Optional) Digital Input Balanced BNC Plug/(TOS optical Input)

Right/Left - Mono Input Analog Audio Input XLR (3 pins male connector)

MPX Input MPX Unbalanced Input. BNC female connector. AUX Input BNC female connector.

19 kHz Pilot Output BNC female connector.

RDS/external Input RDS Input. BNC female type connector.

AF Monitor BNC female Type connector

WEB Telemetry (OPTIONAL) RJ45 for Lan connection

RS485 RJ45 for RS485 connection.

Reading DB9 Female Connector

RDS Programming (OPTIONAL) Jack/ST/Female 6,3mm

Telemetry DB25 Female Connector

DC Input (OPTIONAL) Amphenol connector eco-mate serie C16-1

AC Mains AC Main Source. VDE Mains socket.

TECHNICAL SPECIFICATIONS

GENERAL

Power Output: 50 W adjustable from front panel.

RF Output Impedance: 50 ohm.

RF Output Connector: "N" type.

Monitor RF: -46 dBc, BNC connector

VSWR: 1.5:1 Maximum with automatic fold-back at higher VSWR

Frequency Range: 87.5 ÷ 108.00 MHz, on request 66 ÷ 74 MHz (OIRT), 76 ÷ 90 MHz (JPN)
Programmable in 10 KHz steps.

Frequency Stability: ±1 ppm from -5 to 50°C.

Frequency Control: Synthesizer µprocessor control.

Type of Modulation: Direct frequency modulation of carrier frequency, F3E stereo and mono.

Lock in Time: Typ. 4 second.

Off Lock Attenuation: ≥ -60 dBc.

Modulation Capability: ±150 KHz.

Modulation Mode: Mono, Stereo, Multiplex, Aux.

Preemphasis: Flat/50/75µs selectable internal jumper.

Asynchronous AM S/N Ratio: -80 dB below reference carrier with 100% AM modulation @ 400 Hz, without FM modulation.

Synchronous AM S/N Ratio: -65 dB below reference carrier with 100% AM modulation @ 400 Hz with FM modulation ±75 KHz @ 400 Hz.

RF Harmonics: Exceeds EBU/CCIR/FCC requirements.

RF Spurious: Exceeds ETSI/CCIR/FCC requirements.

MONAURAL OPERATION

Audio Input Impedance: 600 ohm balanced, 10 Kohms unbalanced.

Audio Input Level: -3 to +9 dBm.

Input Connector: XLR female.

Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.

Total Harmonic Distortion + Noise: 0.05% @ 400 Hz

Intermodulation Distortion: 0.05%, 1 KHz/1.3 KHz, 1:1 ratio

Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.

Distortion: 0.05%, 2.96KHz square wave and 14 KHz sine wave.

FM S/N Ratio: -82 dB RMS, -80 dB at ±75 KHz dev., 50 µs de-emphasis, weighted.

MULTIPLEX OPERATION

Composite Input Impedance: 1.2 Kohm unbalanced.

Composite Input Level: +6 to +12 dBm

Input Connector: BNC female.

Composite Amplitude Response: ±0.2 dB, 30 Hz to 100 KHz.

Total Harmonic Distortion + Noise: 0.05% @ 400 Hz

Intermodulation Distortion: 30 Hz to 15 kHz * 0.05% @ 400 Hz

Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.

FM S/N Ratio: -83 dB RMS detector, -80 dB AT ±75 KHz dev., 50 µs de-emphasis, weighted.

STEREO OPERATION Audio Input Impedance: 600 ohm balanced, 10 Kohm unbalanced. Audio Input Level: -3 to +9 dBm. Input Connector: XLR female. Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.

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