

## PROFESSIONAL FM STEREO EXCITER

### COLOBRI' 500 WATT



## GENERAL FEATURES

- **HIGH QUALITY PROFESSIONAL EXCITER:** STATE OF THE ART OF PERFORMANCES
- **NOMINAL RF POWER:** 500W
- **COMPACT SIZE:** ONLY ONE 19" RACK UNIT CABINET ( for all versions)
- **VERY LOW SIGNAL TO NOISE:** TYP. 85 dB
- **HIGH STEREO SEPARATION:** TYP. 70 dB
- **LOW DISTORTION:** THD, IMD & TIM TYP. 0,03%
- **TOTAL SPECTRAL PURITY:** > -100 dBc SPURIOUS, > - 75 dBc HARMONICS
- **SEVEN SELECTABLE COMPLETE SET-UP:** READY FOR USE IN 7+1 SYSTEM
- **REMOTE CONTROL:** TWO INDEPENDENT RS 485 PORTS
- **FULL - RANGE POWER SUPPLY:** 90-260 VAC MAINS VOLTAGE
- **COMPLIANT WITH ALL THE STANDARD:** ETSI - CCIR - FCC

## OPTIONS

- **FULL FEATURES RDS / RBDS CODER:** EASY PROGRAMMABLE BY PC
- **DIGITAL AUDIO INPUTS:** AES/EBU & OPTICAL TOS-LINK
- **WEB- TELEMETRY INTERFACE:** TELEMETRY OVER IP
- **EXTERNAL SYNCHRONISATION:** FOR SFN APPLICATIONS
- **OIRT & JPN FREQUENCY BAND:** VERSION
- **LPFM CODE STATION:** FCC IDENTIFICATIONS CODE

## COLIBRI' 500 Watt

### GENERAL

**Power Output:** 500 W continuously adjustable from front panel.  
**RF Output Impedance:** 50 ohm.  
**RF Output Connector:** "N" type.  
**Monitor RF:** -44 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.  
**Reference:** can be external synchronized with 1-2-2.5-5-10 MHz with self selection.  
**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:** ≥ -80 dBc.  
**Modulation Capability:** ±150 KHz, other on request  
**Modulation Mode:** Mono, Stereo, Multiplex, SCA, RDS, Aux.  
**Preemphasis:** Flat/50/75µs selectable from front panel.  
**Asynchronous AM S/N Ratio:** -70 dB below reference carrier with 100% AM modulation @ 400 Hz, without FM modulation.  
**Synchronous AM S/N Ratio:** -65 dB below reference carrier 100% AM modulation @ 400 Hz with FM modulation ±75 KHz @ 400 Hz.  
**RF Harmonics:** Exceeds ETSI/CCIR/FCC requirements.  
**RF Spurious:** Exceeds ETSI/CCIR/FCC requirements.

### MONAURAL OPERATION

**Audio Input Impedance:** 600 ohm balanced, 10 Kohms unbalanced.  
**Audio Input Level:** -12 to +12 dBm.  
**Input Connector:** XLR female.  
**Audio Frequency Response:** ±0.15 dB, 30 Hz to 15 KHz.  
**Total Harmonic Distortion + Noise:** 0.03% @ 400 Hz  
**Intermodulation Distortion:** 0.03%, 1 KHz/1.3 KHz, 1:1 ratio  
**Transient Intermodulation Distortion:** 0.03%, 2.96KHz square wave and 14 KHz sine wave.  
**Distortion:** 0.03%, 2.96KHz square wave and 14 KHz sine wave.  
**FM S/N Ratio:** -89 dB RMS detector, -85 dB below ±75 KHz deviation, 50 µs de-emphasis, weighted.

### MULTIPLEX OPERATION

**Composite Input Impedance:** 1.2 Kohm unbalanced.  
**Composite Input Level:** -12 to +12 dBm  
**Input Connector:** BNC female.  
**Composite Amplitude Response:** ±0.2 dB, 30 Hz to 100 KHz.  
**Total Harmonic Distortion + Noise:** 0.03% @ 400 Hz  
**Intermodulation Distortion:** 0.03%, 1 KHz/1.3 KHz, 1:1 ratio  
**Transient Intermodulation Distortion:** 0.03%, 2.96 KHz square wave and 14 KHz sine wave.  
**FM S/N Ratio:** -89 dB RMS detector, -85 dB below ±75 KHz deviation, 50 µs de-emphasis, weighted.

### STEREO OPERATION

**Audio Input Impedance:** 600 ohm balanced, 10 Kohm unbalanced.  
**Audio Input Level:** -12 to +12 dBm.  
**Input Connector:** XLR female.  
**Audio Frequency Response:** ±0.15 dB, 30 Hz to 15 KHz.  
**Total Harmonic Distortion + Noise:** 0.03% @ 400 Hz  
**Intermodulation Distortion:** 0.03%, 1 KHz/1.3 KHz, 1:1 ratio  
**Transient Intermodulation Distortion:** 0.03%, 2.96 KHz square wave and 14 KHz sine wave.  
**FM S/N Ratio:** -79 dB RMS detector, -75 dB below ±75 KHz deviation, 50 µs de-emphasis, weighted.  
**Stereo Separation:** 30÷80 Hz ≥ -53 dB, 80Hz±15 KHz ≥ -65 dB (Typ. 70 dB).  
**Crosstalk attenuation:** Main to Sub -40 dB 30 Hz to 15 KHz (typ. -55 dB 100 Hz to 8 KHz).  
**38 KHz Suppression:** ≥ -70 dB (typ. -85 dB).  
**Pilot Frequency:** 19 KHz ± 1 Hz  
**Output Pilot:** 1 Vpp., BNC female  
**Audio Filter Attenuation:** ≥ -55 dB @ 19 KHz, > -45 dB 20 KHz to 100 KHz.  
**Modes:** Stereo, Mono L+R, mono L, mono R.

### AES/EBU OPERATION

**Input Connector:** XLR female, optical TOS-LINK.  
**Data Format:** S/PDF, AES/EBU, IEC958, EIAJCP340/1201.  
**D/A Converter:** 24 bit.  
**Sampling Frequency:** from 32 to 96 KHz.

### SCA, RDS, AUX OPERATION

**Input Impedance:** 3 Kohm.  
**Input Level:** -3 to +6 dBm.

**Frequency Response:** ±0.2 dB, 40 KHz to 100 KHz.

**Input Connector:** BNC female. Most SCA, RDS, AUX, performance parameters are determined primarily by the generator used.

### AUXILIARY CONNECTIONS

**USB:** connector Type B female front panel.  
**N°2 RS485:** Serial Interface connector RJ45 back panel.  
**Telemetry Interface:** connector DB25F back panel.  
**External Clock:** connector SMA female (optional).

### OPTIONS

**External clock:** for PLL synchronizing purpose 1-2-2.5-5-10 MHz external reference oscillator with self selection of the incoming frequency.

- FULL FEATURES RDS / RBDS
- DIGITAL AUDIO INPUTS
- WEB- TELEMETRY INTERFACE
- EXTERNAL SYNCHRONISATION
- OIRT & JPN FREQUENCY BAND
- LPFM CODE STATION

### ELECTRICAL

**AC Input Power:** 90÷260 VAC 50/60 HZ single phase.  
**AC Apparent Power Consumption:** 820A @ 500W Cos Φ > 0.98  
**Cooling:** Forced air with internal long life brushless ball bearing fan.  
**Acoustic noise:** < -56 dBa @ 1 meter.

### ENVIRONMENTAL

**Operating temperature:** -10°C to +50°C.  
**Max Operating Altitude:** 2000 mt.  
**Relative Humidity Range:** 0 to 95% non condensing.

### PHYSICAL DIMENSION

**Mounting:** Standard 19" chassis 1 U rack.  
**Size:** 485 mm. W x 385 mm. D x 44 mm. H.  
**Weight:** ~ 8,0 Kg.  
Features and specifications are subject to change without notice