

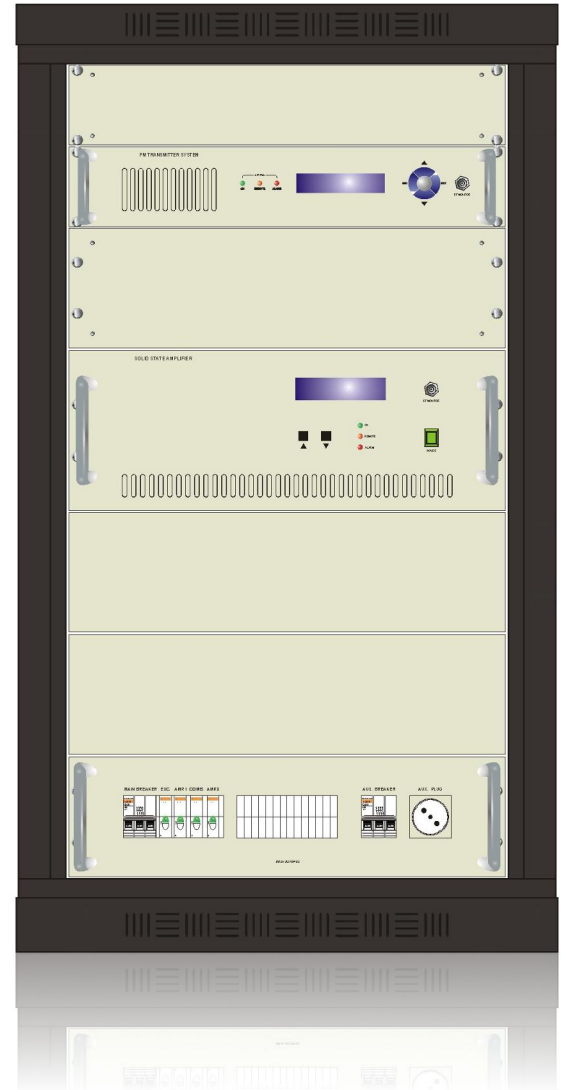
# 500W FM TRANSMITTER

The Broadwind 500W air cooled FM Transmitter belongs to the High Power VHF products family of FM Radio Transmitters with fully solid state technology, operating in the Band II / OIRT for FM stereo sound broadcasting. The equipment is fully compliant with the personnel safety requirements as specified in IEC 215.

The transmitters have been designed to offer to the customer high performances, high reliability and great simplicity in their operation and maintenance procedures.

### Key Features

- Broadband frequency synthesizer, without any other tuning or alignment.
- Monophonic & Stereophonic emission, according to the CCIR rec. 450-2 standard
- RDS & SCA subcarriers input capability
- Hi-Fi Quality modulated signal, with low residual noise and distortion.
- Digital Exciter with DDS process up-gradable
- AES-EBU digital interface available as option
- RF Signal free from spurious and harmonic signals
- MOSFET to obtain wide band, reliability and efficiency
- Redundant 1x600W RF power amplifier and power supply
- Hot pluggable any RF power amplifiers
- Dual Drive ; 1+1 ; N+1 Redundancy configuration capability
- High Tolerance mains voltage ( $\pm 20\%$ ) is accepted by the transmitter
- Mains Protection System with Surge Arrester System (optional)
- Control System including fault finding
- Protection Systems including:
  - Block against emission on spurious frequencies
  - Reflected Power
  - Modulation Limiter
- Remote Operation compliant to IEC 864-1 rule (all options are available)
- Air Cooling System fully integrated and outdoor conveyable
- Very low acoustic noise -64dBA
- Compact Design, only one 19" rack 33 unit height is used



Transmitter Model	Band	Frequency	Output Power	Standard Comply
TB02-501F/M	II	87.50 to 108.00 MHz	500W	CCIR and FCC

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## Common technical specifications for Band I (OIRT) and Band II

<b>RF</b>		<b>TRANSMISSION CHARACTERISTICS</b>	
Class of emission .....	F3E (Monophonic) F8E ( Stereophonic)	Mono operation $\pm$ 75 kHz deviation	
Stereo system .....	According to C.C.I.R. rec.450-1	Total harmonic distortion .....	$\leq$ 0.1%
Frequency deviation .....	$\pm$ 75 kHz nominal	Intermodulation .....	$\leq$ 60 dB
Frequency control .....	Built-in Frequency Synthesiser	Signal to noise unweighted .....	$\geq$ 80 dB
Resolution .....	10 kHz step	Signal to noise weighted (CCIR 468-3) .....	$\geq$ 78 dB
programmable		Stereo operation $\pm$ 75 kHz deviation	
Frequency stability .....	$\pm$ 500 Hz / 6 months	Total harmonic distortion .....	$\leq$ 0.1%
Output power .....	$\geq$ 500W (adjustable)	Intermodulation .....	$\leq$ 60 dB
Harmonic emission .....	$\leq$ 76 dBc	Signal to noise unweighted .....	$\geq$ 78 dB
Spurious emission .....	$\leq$ 90 dBc	Signal to noise weighted (CCIR 468-3) .....	$\geq$ 72 dB
Residual AM noise level .....	$\leq$ 60 dB	Crosstalk L & R (40 to 15000 Hz) .....	$\geq$ 50 dB
Synchronous AM .....	$\leq$ 50 dB	38 kHz subcarrier suppression .....	$\geq$ 50 dB
RF output impedance .....	50 $\Omega$ ; 1-5/8" EIA	Attenuation above 53 kHz .....	$\geq$ 50 dB
connector		<b>METERING</b>	
<b>PROGRAM INPUT</b>		Deviation .....	meter 100 kHz f.s.
Mono/Stereo .....	L & R program input	Output / reflected RF power .....	meter selectable
Connector .....	XLR type	<b>REMOTE CONTROL</b>	
Impedance .....	600 $\Omega$ or 5k $\Omega$ balanced	Parallel interface: .....	start, stop, standby, alarms, status, interlock
Level .....	- 4 to 12 dBm	Serial interface: .....	RS-232 or others on request
Preemphasis .....	0; 25; 50 or 75 $\mu$ s	(Full control and management)	
selectable		<b>GENERAL</b>	
Audio frequency response .....	40 to 15000 $\pm$ 0.3 dB	Voltage power supply: .....	220 V AC $\pm$ 15 % (others on request)
19 kHz suppression .....	$\geq$ 50 dB	Frequency: .....	50 - 60 Hz $\pm$ 5 %
RDS and AUX .....	Subcarrier program input	Temperature operating range: ....	0 to 45 $^{\circ}$ C
Connector .....	BNC	Altitude:.....	up to 2.500 meters ( $\geq$ 2.500 m with additional cooling system)
Impedance .....	$\geq$ 2 k $\Omega$ unbalanced	Power consumption	
Frequency range .....	67 to 100 kHz	(cooling system included): .....	$\leq$ 1,1kW
Nominal input level .....	- 10 dBm ( $\pm$ 7.5 kHz deviation)	Power factor: .....	$\geq$ 0.95
		Cooling: .....	forced air
		Acoustic noise: .....	$\leq$ 65 dBA
		Dimensions: .....	602 x 1200 H x 820 mm
		Weight: .....	180 kg approx.

Design and specifications are subject to change without notice.