

TX 3500

5 kW HF Transmitter



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The TX 3500 is a software-based HF transmitter rated at 5 kW PEP/average output power for communication in the short wave (HF) frequency band.

The transmitter comprises the exciter/receiver unit ERX 3000 (exciter mode activated only), the power amplifier control unit PAC 3500, six all-solid-state power amplifier modules PA 3100 (each incl. an harmonic filter), and one power combiner with an internal balancing load. All devices are supplied by a 3-phase nominal 400 VAC power supply with neutral consisting of several modules.



100 %
continuous operation

FEATURES

Frequency range	1.5 MHz to 30 MHz	ALE	Optional 2 nd and/or 3 rd generation ALE
Output power	5 kW PEP and average	Frequency hopping	ECCM capability acc. to STANAG 4444
Duty cycle	100 % continuous operation	Remote control	Full remote control capability
Software defined	Easy upgrade of waveforms	Built-in test	Comprehensive built-in test



Hagenuk Marinekommunikation

A company of the ATLAS ELEKTRONIK Group

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TRANSMIT DATA

Frequency range	1.5 MHz – 30 MHz
Frequency resolution	1 Hz
RF output power	5 kW ± 1 dB, PEP/average at 50 Ω
Reducing of output power in steps of	-3 dB, -6 dB, -10 dB, -20 dB
Adjustment of maximum power	In 0.1 dB steps down to -9.9 dB
Channel memory	1000
Frequency stability	< 1x 10 ⁻⁸ per day, options on request
Frequency changing time	≤ 10 ms
Modes of operation	
Standard	AM (A3E), SSB (J3E USB/LSB), Data USB/LSB/ISB, ISB (B9W), CW (A1A), FSK (F1B), AME (R3E, H3E, H3W)
Optional	Link 11 with external L11 modem, acc. to MIL-STD-188-203-1A Frequency hopping: (with optional FH controller), acc. to STANAG 4444 L22 capability (with external L22 equipment) acc. to STANAG 5522
Input for external frequency standard	10 MHz, 0 dBm ±10 dB, 50 Ω, BNC connector
Control interface	RS 232, RS 422, RS 485 and RS 422 Bus 1200, 2400, 4800, 9600, 19200, 38400 Baud
Frontpanel socket	Microphone 2 mV / 150 Ω PTT (0V = transmit) Serial interface for software updates/ upgrades
Comprehensive built-in test (BITE)	
Suppression of unwanted sideband	> 60 dB/PEP
Carrier suppression	J3E, ISB, Link 11: > 50 dB/PEP H3E, H3W: 4.5 dB to 6 dB / PEP R3E: 18 dB ± 2 dB / PEP

Suppression of intermodulation products 3. order	> 36 dB / PEP
Harmonics suppression	> 56 dB / PEP
Noise suppression (inband)	80 dBc / Hz
Noise suppression	Δf = >50 kHz: >138 dBc / Hz without interselector Δf = >500 kHz: >145 dBc / Hz without interselector

GENERAL DATA

Power supply	AC power supply: 3-phase, 350 VAC – 440 VAC, 47 Hz to 63 Hz, max 25 kVA, neutral connected
Environmental specifications	
- Operating temp.	0 °C to +55 °C
- Humidity	Max. 85 % at 25 °C
- EMI/EMC	Acc. to VG 95373/IEC 945 and MIL-STD-461 C/462
Dimensions	
Height	2100 mm (45 U)
Depth	750 mm
Width	1160 mm (2 individual 19" sections)
Weight	Approx. 732 kg
Noise emission	< 70 dBA, temperature controlled fans
Air flow	Approx. 3.500 m ³ /h

INTERNAL OPTIONS

PSI 3000	HF pre- / interselector, 1.5 MHz - 30 MHz band pass filter, selectivity: min. 40 dB at 10 % frequency deviation, autom. tuning within < 10 ms, < 1.5 MHz low pass filter
STR 3000	Link 11 / 22 side tone receiver

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