

WAVE 1000 – 1kW FM TRANSMITTER

COMPACT VERSION



Easy Care

Hot pluggable PSU - Easy to replace fans Redundant power supply option

Adaptive Efficiency Boost

Efficiency over 75% with adaptive optimization

Integrated unique features

Micro SD card slot FM/DAB/HD Radio Receiver Satellite/Terrestrial receiver Audio processor Full telemetry with 3G/4G router RDS coder MPX over TS & IP AES/EBU, MPX over AES AES67, Web Radio receiver

Digital Processing

Unique performances thanks to DDS digital modulator

Controls LCD display, Web GUI and SNMP

Stereo coder & Soft clipper

Always included



WAVE SERIES DDS FM TRANSMITTERS

GENERAL SPECIFICATION							
Output frequency range	87.5 to 108MHz in 1Hz steps						
Output Power	1kW (tol. +0/-0.5dB)						
Output connector	7-16 DIN female; EIA 7/8" flange on request						
Spurious and harmonic suppression	Compliant with ETSI and FCC specification						
Analog input	2x XLR female (Balanced; impedance 600Ω/10KΩ selectable)						
MPX/SCA/RDS input	2x BNC female (Unbalanced; impedance 50 $\Omega/10 \mathrm{K}\Omega$ selectable)						
Soft Clipper with band limitation	Included						
Power consumption	Typ. 1,3kVA - Max. <1,5kVA						
Number of LDMOS in the amplifier stage	1						
AEB - Adaptive Efficiency Boost	Included						
AC Input voltage and frequency	90-264Vac, 47 to 63Hz single phase						
AC/DC Power Supplies	Single power supply hot pluggable from the front panel. Option for double PSU,						
	fully redundant or for 90-176Vac operation @ nominal power						
Operative temperature & fans	-5°C to +45°C @MSL.						
	N.2 fans on the rear panel. Option for redundant fans.						
Maximum operative altitude	3000m ASL. For higher altitudes please contact our sales dept.						
Maximum operative humidity	95% non-condensing						
Housing	Rack drawer 19" 3U, depth 45cm						
Weight	<18Kg						





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	SOFTWARE OPTIONS					
S-AM-UN	Audio monitor for input or on-air signal + test tone generator					
S-SD-UN	Micro SD card slot					
S-AES-UN	Digital AES/EBU & AES192 (MPX over AES) inputs					
S-FMRX-UN	FM receiver input (for regenerative FM repeater/ translator)					
S-SWI-UN	Automatic input switching (n.3 MPX profiles – audio/ RDS)					
S-RDS-UN	Static RDS coder					
S-IP-UN	IP input (Icecast2 streaming & AES67)					
S-DMPX-UN	Digital MPX over TS & Digital MPX over IP in/out					
S-RDS+-UN	Dynamic RDS (UECP over IP)					
S-ISO-UN	SFN/Isofrequency operation					
	HARDWARE OPTIONS					
H-HS	High Stability (±50Hz)					
H-SAT	Embedded Satellite receiver demodulator. DVB-5/52 (L-band input) Low Symbol Rate					
	with loop through					
H-SATDTT	Embedded Satellite and Terrestrial receiver demodulator. DVB-S/S2 (L-band input) and					
	DVB-T/T2 and ISDB-T (VHF/UHF band input)					
H-SATDTT2	Redundant Satellite and/or Terrestrial receiver demodulator with seamless switching					
H-3G; H-4G	2G/3G or 3G/4G modem router for remote connection/telemetry and SMS					
H-I/O	GPIO interface with n.3 isolated clean contact out, n.4 optoisolated in, n.4 analog out (0					
	to 5V), RF filter for router					
H-ASI	ASI T.S. input (or output) interface					
H-REF	10MHz and 1pps inputs					
H-GNS	High stability reference oscillator GNSS (GPS + GLONASS) locked, oven clock 10MHz +					
	1pps outputs					
H-AGNS	GPS/GLONASS receiving antenna (gain 26dB typ.) + 15 meters cable					
H-AP-PRO-L Audio Processor card with professional software license & Advanced Dynamics EQ & dynamic ratios), bass effects, dual multiband processor (up to 9 bands), Ad						
	compressor and advanced composite clipper, RDS coder					
H-AP-PRO	H-AP-PRO-L + Declipper & Natural Dynamics					
H-AP-uMPX	Micro MPX decoder card with standard license (additional option for <320Kbit/s)					
H-PSU	Redundant power supply unit					
H-FAN	Fully redundant fans					
H-DRM+	BNC input for DRM+ external modulator & display digital power measurement					

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The software-based audio processor can be integrated in any Wave Transmitter, from low and medium compact versions to high power line. **H-AP-PRO Audio Processor** offers outstanding audio quality and comes with many unique features.

License	General		Stereo			Output signal			
CPU & Latency	Enabled	•	Enco	Encode Stereo		Force generate Composite even if no output 🛛 🐻			
Scheduler									
Web interface	Lowpass O Lowpass frequency	16220 Hz	Pilot volume		9.00%	Adding the second			
Sound cards			Polar stereo (Easte	Polar stereo (Eastern Europe, 64-73 MHz)					
Streaming Output	Pre-emp								
FM Transmitter	Pre-emphasis	•		RDS	i and i a	the second state of the se			
RDS	Pre-emphasis time 50 µs		For	Encode RDS					
RDS UECP	Pre-empiricals diffe 30 ps	Pre-emphasis time 50 μs		Encode RUS					
SCA						MIT WEA			
B5412 Stokkemask	Non-phase linear deemphasis		RDS volume 4.50	0% Quadrature	0	DIFFERIT ADIO TIPES AD NATRIAL	THEFT		
10.00	Won-phase linear deempirasis		RDS Volume	9% Quaurature		2018/06/30 23:25 + 12:00	1851		
Clipping AM Transmitter	RF spectrum analyzer			Drive					
FM Analyzer			FM composite limiter overdrive						
FM Analyzer FM Analyzer 2x			100						
Repair									
Processing	4096 28-16220 Hz 59	5.7 16220 Hz	NO EM 💼						
	DC Noise gate Natural Dynamics	PhR Auto I		Stereo Multiband	BEQ	BS MB2 TB	SB BC Clip FM		
			-6 -6		-6 6 -		-6		
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Levels				MPX					
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FM Composite Clipper

Up to 140% audio level at 100% modulation gives 2-3 dB extra headroom for highs. Improve your audio, being the loudest and cleanest station on the dial!

Stereo & RDS Coder

Built-in stereo and RDS encoder RT+

Advanced Dynamics & EQ

Increases the dynamics for music that lacks dynamics. Adjusts the spectrum without compression, making it possible to generate a very consistent sound without sounding compressed

Dehummer

Improves the sound of MPEG2/MP3 style lossy compressed files, removing unwanted constant sounds, such as a 50/60 Hz hum from bad cables

Better FM reception

Improves stereo reception area up to 30Km

Declipper & Natural Dynamics

Repairs clipped audio, removes distortion Restores Natural Dynamics

Delossifier

Improves the sound quality of MPEG2/MP3 style lossy compressed files

All specifications contained in this document may be changed without prior notice