WAVE 20000 - 20kW FM TRANSMITTER

SINGLE/DUAL DRIVER, MULTI AMPLIFIER

Adaptive Efficiency Boost

Efficiency up to 75% with adaptive optimization

Easy Care

Hot pluggable PSU - Easy to replace fans
Full redundant Power Supply modules in each amplifier

Digital Processing

Unique performances thanks to DDS digital modulator

Controls

LCD display, Web GUI and SNMP

Stereo coder & Soft clipper

Always included

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

GENERAL SPECIFICATION

Output frequency range	87.5 to 108MHz in 1Hz steps
Output Power	20kW (tol. +0/-0.5dB)
Output connector	EIA 3+1/8" flange, other 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 50Ω/10KΩ selectable)
Soft Clipper with band limitation	Included
Power consumption	Typ. 27,8kVA - Max. <30.4kVA
Number of LDMOS in each amplifier	5
AEB - Adaptive Efficiency Boost	Included
AC Input voltage and frequency	400Vac three phase star conn. (with power neutral) and 230Vac three phase delta conn. (without power neutral)
AC/DC Power Supplies	N.3 fully redundant power supplies, hot pluggable from the front panel (each amplifier)
Operative temperature & fans	-5°C to +45°C @MSL. N.2 fans on the rear panel (each amplifier)
Maximum operative altitude	3000m ASL. For higher altitudes please contact our sales dept.
Maximum operative humidity	95% non-condensing
Housing	Rack Cabinet 19" 38U - dimensions: 570 x 1900 x 1000 mm (W x H x D)
Weight	<350Kg

Amplifier with fully redundant hot-plug power supply

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*

Included in S-FULL-UN

HARDWARE OPTIONS

H-HS	*High Stability (±50Hz)*
H-SAT	*Embedded Satellite receiver demodulator. DVB-S/S2 (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	*Second Redundant Embedded 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 (Auto EQ & dynamic ratios), bass effects, dual multiband processor (up to 9 bands), AGC, 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-DRM+	*BNC input for DRM+ external modulator & display digital power measurement*

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.*

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