

RX 3002

VLF - HF Receiver



RX 3002 VLF - HF Receiver

FEATURES

Software defined	Easy upgrade of waveforms
Preselector	High protection against co-site interference
ALE	Optional 2 nd and/or 3 rd generation ALE
VLF MSK-reception	With external demodulator MSK 1001M
Built-in test	Comprehensive built-in test
Optional FH receive mode	With ext. controller

GENERAL

The RX 3002 receiver is used for communications in the frequency range 10 kHz to 30 MHz, particularly suitable for:

- Operation on board of all kinds of naval ships
- Military and civilian land based installations
- Mobile stations, e.g. vehicle cabins for special applications
- Stations for border control, police and other security organisations
- Embassy nets
- Stations for international organisations



Hagenuk Marinekommunikation

A company of the ATLAS ELEKTRONIK Group

RX 3002

VLF - HF Receiver

The RX 3002 is designed for voice and data reception and contains the complete receiver unit with built-in AC power supply (additional DC input optional) and reserves space for built-in options such as a preselector and / or multifunction data modem.



RX 3002 front view



Rubidium frequency standard RS 1010 (option)



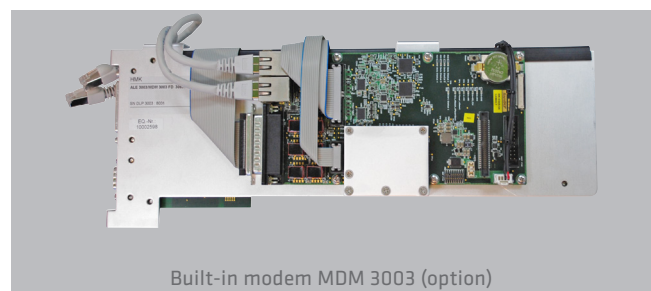
Internal 40 dB preselector PSI 3000 (option)

Please note that the individual configuration and implementation of selected options depends on the customer's application.

TECHNICAL DATA

Frequency range	10 kHz – 30 MHz
Frequency resolution	1 Hz
Frequency tuning	In decades from 1 Hz to 10 MHz via keyboard and/or single knob flywheel
Channel memory	1000
Frequency stability	$< 1 \times 10^{-8}$ per day, options on request
Frequency changing time	≤ 10 ms
Modes of operation	
Standard	DSB (A2A, A3E) FSK (F1B analogue/digital) SSB (J3E USB/LSB) ISB (B9W) CW (A1A) DATA (USB/LSB/ISB)
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 with external L22 equipment acc. to STANAG 5522
Control interface	RS 232, RS 422, RS 485 and RS 422 Bus 1200, 2400, 4800, 9600, 19200, 38400 Baud

Passband tuning	$\pm 50\%$ of selected bandwidth in 10 Hz steps
BFO	± 5 kHz in 10 Hz steps
Sensitivity	Without HF-preselection (10 dB, SINAD with CCITT-Filter) A3E at $m=0.5$, $B=6$ kHz 40 kHz – 200 kHz $< 4 \mu V_{EMF}$ 0.2 MHz – 30 MHz $< 3 \mu V_{EMF}$ A1A at $B=300$ Hz 10 kHz – 40 kHz typ. $1 \mu V_{EMF}$ 0.04 MHz – 30 MHz $< 0.4 \mu V_{EMF}$ J3E at $B=0.3 - 2.7$ kHz 10 kHz – 40 kHz typ. $3 \mu V_{EMF}$ 0.04 MHz – 30 MHz $< 1 \mu V_{EMF}$
Max. antenna input volt. (for 10 min.)	$30 V_{EMF}$ at 10 kHz – 1.5 MHz $100 V_{EMF}$ at 1.5 MHz – 30 MHz $50 V_{EMF}$ at 30 MHz – 400 MHz
Intercept point	(3 rd order) > 30 dBm (1 MHz – 30 MHz)
Scan functions	Scan by channel, frequency sweep
IF-bandwidths	0.1, 0.15, 0.3, 0.6, 1.5, 2.4, 2.7, 3.2, 3.4, 6.0, 7.0 kHz, others on request
AGC	Selectable 25, 200, 500, 1000, 3000 ms. Output is maintained within 3 dB for a change in input of 134 dB for input levels between $0.4 \mu V_{EMF}$ and $2 V_{EMF}$
Reference input	10 MHz, 0 dBm +/- 10 dB



RX 3002

VLF - HF Receiver

GENERAL DATA

Power supply	100 VAC – 264 VAC, 47 Hz – 63 Hz, appr. 50 VA
Optional input	21 VDC – 32 VDC, floating, appr. 50 VA
Operating temperature	-15 °C to +55 °C
Humidity	Max. 95 % up to 40 °C
Shock	Acc. to BV 0430, sheet 16 (without shockmounts), 30 g / 11 ms resp. 15 g / 20 ms all directions
Vibration	Acc. to BV 0440, diagram 1 and 6 (-10 dB)
EMI/EMC	Acc. to VG 95373/IEC 945 and MIL-STD-461 C/462
Dimensions	
Height	133 mm (3 U without rack)
Depth	426 mm without handles)
Width	483 mm (19")
Weight (without options)	Approx. 11 kg

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
IB 3000	Interface board, BCD frequency output (TTL-level 100 Hz steps), NMEA interface for GMDSS functions
FS 3000 M	1 MHz freq. reference output interface for VLF-MSK demodulator MSK 1001M
DLP 3003	Data link processor plug-in board for automatic link establishment ALE 3003 and/or high speed multi-wave- form data modem MDM 3003, up to 19200 bps
L11 capability	Acc. to MIL-STD-188-203-1A
L22 capability	Acc. to STANAG 5522

OPTION ACCESSORIES

Rubidium frequency standard RS 1010	For up to 6 receivers
KG 3/500	3 U housing
Headphone	
Windows remote control software	

Hagenuk
Marinekommunikation GmbH
Hamburger Chaussee 25
24220 Flintbek | Germany

Phone: +49 4347 714-101
Telefax: +49 4347 714-110
info@hmk.atlas-elektronik.com
www.hmk.atlas-elektronik.com

 **Hagenuk Marinekommunikation**
A company of the ATLAS ELEKTRONIK Group