

ATU 3050 A

HF Antenna Tuning Unit



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FEATURES

RF input power	500 Watts CW and PEP +1 dB
Tuning	3x 2000 frequencies memory Fast tuning algorithm (1 sec typ.) 20 msec tuning from memory BITE capability Firmware update via Series 3003 exciter
Chassis	Pressurized waterproof aluminium case with cooling ribs A-magnetic design
Bypass function	Equipped

GENERAL

The automatic digital antenna tuning unit ATU 3050 A is a high-quality, 500 Watt remote-controllable antenna tuning unit. It is suitable for matching whip or long-wire antennae of approx. 7 m to 15 m length to a 50 Ω transmission line within the 1.5 MHz to 30 MHz range. In addition, it can be used as a 'line flattener' in order to correct the voltage standing wave ratio (VSWR) of resonant antennae.

The ATU 3050 A can be used at distances of up to approx. 50 m from the HMK transceiver. The ATU 3050 A is operated via the respective control devices of the HMK transceiver. All control signals and the voltage supply of the ATU 3050 A are also supplied by the HMK transceiver.

During initial system setup, the device tunes automatically between transceiver/transmitter and connected antenna. The frequency-dependent tuning results are saved in the ATU 3050 A in three independent memories for enabling silent tuning in up to three different antenna configurations to enable silent tuning. This enables operation under various antenna conditions.

The housing of the ATU 3050 A is robust, fully sealed and suited to ambient conditions at the installation site.



Hagenuk Marinekommunikation

A company of the ATLAS ELEKTRONIK Group

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TECHNICAL DATA

Frequency range	1.5 MHz – 30 MHz
RF input power	Up to 500 Watts CW / PEP + 1 dB
Tuning memory	3 tables of 2000 channels each
Input impedance	50 Ω
Tuning accuracy	VSWR typ. better than 1.2:1, max 2:1
Tuning time	Typ. 1 sec, < 20 msec from memory
Tuning power	25 W – 45 W
Tuneable antennas	7 m to 15 m whip or long-wire antennae 5 m to 7 m whip with reduced frequency range
Circuit protection	Internal spark gap at antenna insulator
Duty cycle	Continuous
RF connector	N-type
Interfaces	Antenna Power supply & control (RS 422 with 38.4 kBit/s)
Cable length between TRX and ATU	50 m with recommended cable Others on request
Power supply (from TRX 3050)	22 VDC – 29 VDC Max 2 A during tuning Max 1.5 A in quiescent state or when transmitting
Environmental specifications	
Operating temp.	-30 °C to +65 °C, acc. to MIL-STD-810H, method 501.7 procedure II, method 502.7 procedure II
Storage temp.	-40 °C to +85 °C, acc. to MIL-STD-810H, method 501.7 procedure I, method 502.7 procedure I
Humidity	50 °C, 95% RH, acc. to MIL-STD-810H, method 507.6 procedure II

Shock	30g / 20 ms; half sine, 3 shocks per main axis (pos./neg.), acc. to MIL-STD-810H, method 516.8 procedure I (without shock mounts)
Vibration	
General	Acc. to MIL-STD-810H, method 514.8 procedure I (with shock mounts)
Environmental	Acc. to MIL-STD-810H, method 528.1 type I (with shock mounts), covers MIL-STD-167-1A
Pressure	Ati 4.572 m (15.000 ft), acc. to MIL-STD-810H, method 500.6 procedure I
EMC	MIL-STD-461G, procedure CS114, CS115, CS116, RE101, RE102, RS101, RS103; DIN EN 60945:2003-07, chapter 9.3, 10.3, 10.4, 10.5, 10.6, 10.9
Salt fog	MIL-STD-810H, method 509.7
Sand and dust	MIL-STD-810H, method 510.7 procedure I
Solar radiation	MIL-STD-810H, method 505.7 procedure I – cycling, A2 basic hot (30 °C to 63 °C)
Enclosure	IP X6, acc. to IEC 60529:1989 +AMD1:1999+AMD2:2013 CSV
Dimensions (without shockmounts)	
Height	235 mm
Depth	784 mm (incl. handles)
Width	335 mm
Weight	Approx. 36,0 kg
MTBF	> 33.000 hours (acc. to GB25)
MTTR	< 35 min



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