



HF Antenna Tuning Unit , FK 855U

For matching HF transceivers to antennas used in submarine applications

- ◆ Tuning range 1.5 MHz to 30 MHz
- ◆ Fully automatic tuning
- ◆ 400 W CW and PEP at 100 % duty cycle
- ◆ 1000 W CW and PEP with restrictions
- ◆ Tuning of all rod, whip and broadband antennas used in submarine applications
- ◆ Low probability of intercept (LPI)
- ◆ Extremely short setting time
- ◆ Silent tuning over the entire frequency range from 1.5 MHz to 30 MHz
- ◆ Maintenance-free
- ◆ MTBF 12 000 h (calculated)
- ◆ Continuous monitoring of operational status
- ◆ Extremely rugged design



ROHDE & SCHWARZ

Specifications

Frequency range	transmit: 1.5 MHz to 30 MHz receive: 10 kHz to 30 MHz
RF input power	max. 400 W PEP and CW (without restrictions) 10 m rod antenna <1.8 MHz: max. 400 W PEP and CW 1.8 MHz to 2.5 MHz: max. 500 W PEP and CW 2.5 MHz to 30 MHz: max. 1000 W PEP and CW 12 m rod antenna 1.5 MHz to 2.2 MHz: max. 700 W PEP and CW 2.2 MHz to 30 MHz: max. 1000 W PEP and CW
Duty cycle	100% for 400 W input power on all antennas 100% for 1 kW input power (10 m and 12 m rod antennas only and $f > 3.5$ MHz) 2:1 RX/TX for 1 kW input power (10 m and 12 m rod antennas only and $f \leq 3.5$ MHz), max. 10 min TX
Input impedance	50 W, VSWR <1.5:1, typ. 1.3:1
Antennas	rod antennas: 7 m to 12 m broadband antennas: nominal impedance 50 W, VSWR <3:1 wire antennas: 15 m to 30 m whip antennas: 5 m to 8 m
Silent tuning (memory size)	1500 predefined frequencies for learning antenna characteristic
Tuning time	
First tuning	typ. <0.5 s, max. 3 s
Repeated tuning	typ. <0.1 s
Silent tuning	<5 ms
Antenna connection	unbalanced isolated M5 connection for antennas, 50 W adapter with coaxial N type connector on request, e.g. for broadband antennas
Power supply	19 V to 31 V, approx. 1.2 A
RF tuning power	40 W \pm 1 dB, VSWR <2
Connectors	
RF connector	N female
Control and power supply	round, 26-contact
Antenna connector	M5
Earthing screw	M8
Maximum distance	
Between antenna base and ATU	\leq 30 cm
Between transceiver and ATU	\leq 50 m
Environmental data	
Temperature range	
Operating temperature range	-40 °C to +55 °C in line with MIL-STD-810E, meth. 501.3 and 502.1, cat. A2 and C2
Storage temperature range	-40 °C to +85 °C in line with MIL-STD-810E, meth. 501.3 and 502.1, cat. A2 and C2
Humidity	
Operation	30 °C/55 °C, 95% rel. humidity, duration of 10 days; in line with MIL-STD-810E, meth. 507.3, proc. III
Vibration (without shockmount)	
Random	4 Hz to 50 Hz, 0.01 g ² /Hz, 2 h per axis; in line with MIL-STD-810E, meth. 514.4, proc. I, cat. 9
Shock resistance (without shockmount)	max. 40 g, 45 Hz to 2000 Hz spectrum, in line with MIL-STD-810E, meth. 516.4, proc. I 400 g, shock response spectrum in line with BV043, edition 1985, for submarines
Class of protection	IP 53 in line with EN 60529 (VDE 0470)
Electromagnetic compatibility	in line with MIL-STD-461E (CS114, RE101, RE102, RS101, RS103)
MTTR	30 min
MTBF	12 000 h in line with MIL-HDBK-217E
Dimensions without shockmounts (W × H × D)	310 mm × 290 mm × 516 mm
Depth including antenna insulator	614 mm
Weight	30 kg
Installation position	user-selectable
Color	RAL 7001, navy grey

Ordering information

Designation	Type	Order No.
Antenna Tuning Unit	FK 855U	6116.3503.07
Recommended extra		
Shockmount		on request
Cables and connectors		
ATU Control Cable	GK 2903	6117.9505.xx ¹⁾
Mating Connector Set	ZF 4106	6120.5507.02
Documentation		
User manual	FK 855U	6124.8052.12

¹⁾ Order number depending on cable length.



More information at
www.rohde-schwarz.com
 (search term: FK855U)



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