



One portable device
Complete Radio Inspection Scope



MRTS-7M

Marine Radio Test Set MRTS-7M (AE) is intended to carry out the operation, maintenance and servicing tests of all range of GMDSS safety equipment, including VHF and MF/HF radios with DSC, NAVTEX receivers, AIS stations, AIS-SART, EPIRB, PLB and more.

As a surveyor you will love our new software that turns inspection job easy and enjoyable. By USB cable you save all test results in customized and user-friendly database on PC or MAC, then you only need to select type of test report needed – the app will generate it automatically in rtf/pdf/html format. Finally Windows, MacOs and Linux are supported!

All the test procedures are provided in accordance with international standards, such as:

- IMO A.948 (23) or A.997(25), A.1020(26) resolutions (for marine radio stations);
- The circular letter MSC.1/Circ.1252 (for AIS stations);
- IMO Circular MSC.1/Circ.1039, 1040 (for C/S beacons).

Marine Radio Test Set MRTS-7M is available in 4 versions:

Basic version – for testing VHF and MF/HF radios with DSC and NAVTEX receivers;

A-version – for testing AIS stations as well as VHF, MF/HF radios with DSC and NAVTEX;

E-version – for testing Cospas-Sarsat radio beacons and VHF, MF/HF radios with DSC and NAVTEX;

AE-version – full version that includes testing of all the above-mentioned equipment.

The tester is capable to transmit and receive the signal by:

- broadcast antenna
- direct connection by means of power sensor meter, attenuator and cables (conductive measurements)

The tester MRTS-7M should be calibrated every two years.

COMPLETE SET

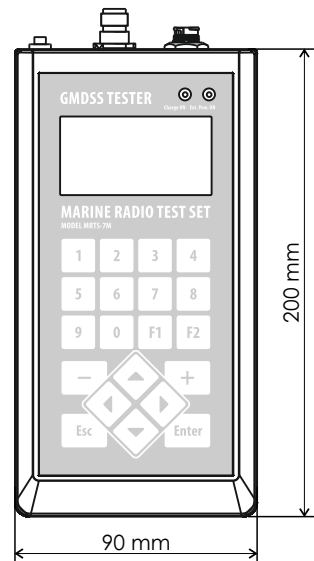
1. Main unit (MRTS – 7M)
2. Power supply unit
3. Telescopic antenna
4. Power sensor VSWR meter (VHF PS1) 60W
5. NMEA IN/OUT cable (DB9 fem – open wire 1.5m)
6. USB-A – USB-B cable
7. Watertight & crushproof plastic box
8. User Manual
9. Calibration Certificate
10. Package
11. MF/HF Attenuator 200W

Dimensions of main unit: 90 x 200 x 50 mm

Weight of main unit: 0.4 kg

Dimensions of plastic box: 303 x 268 x 116 mm

Total weight with box: 1.9 kg



WIDE TARGET RANGE



VHF



MF/HF



GMDSS



AIS SART



AIS



MRTS-7M(AE) TEST SCOPE



NAVTEX



EPIRB



PLB



MOB device

GMDSS MULTI TESTER



MRTS-7M (AE) supports testing of the following equipment:

- VHF transceivers:
 - operation tests on any simplex channel including 6, 9, 13 and 16 channels;
 - measurement of carrier frequency and frequency deviation;
 - measurement of antenna VSWR, forward and reflected power;
- VHF transceivers with DSC:
 - test of correct transmission/reception of DSC messages by means of transmission/reception, routine or test calls to particular MMSI number and Distress (to all ships) messages;
 - check the MMSI code programmed in equipment without any broadcast emission;
 - measurement of carrier frequency and frequency deviation;
 - measurement of forward and reflected power, VSWR;
- MF/HF radiotelephone equipment:
 - measurement of frequency in range (1600 – 30000) kHz;
 - measurement of output power;
 - operation tests in frequency range (1600 – 30000) kHz;
- MF/HF radiotelephone equipment with DSC:
 - test of correct transmission/reception of DSC messages by means of transmission/reception of Selective Test call to particular MMSI number and Distress (to all ships) messages on any of 6 distress channels;
- NAVTEX equipment:
 - operation tests by means of sending test messages;
- VHF equipment of duplex radiotelephony (portable):
 - operation tests on channels 6, 9, 13, 16 (at least);
 - measurement of output power, carrier frequency and frequency deviation;
- VHF equipment of duplex radiotelephony with airplanes including operating on 121.5MHz and 123.1MHz:
 - operation tests by transmission/reception of modulated signal;
 - measurements of frequency, output power level and frequency modulation depth;
- VHF radiotelephone stations operating in range (300 - 337) MHz (intended for river-sea vessels):
 - measurement of output power, carrier frequency and frequency deviation;
- AIS mobile stations Class A and Class B and AIS-SARTs working in the Marine-VHF band:
 - measurement of output power, carrier frequency and antenna VSWR;
 - receiving and decoding of the AIS messages;
 - sending data/messages to AIS stations;
 - passing the DSC polling information (channel 70);
 - checking AIS respond to so called "virtual vessel".
- COSPAS-SARSAT radio beacons operating on 406MHz 121.5MHz and 243MHz frequencies:
 - reception, demodulation and decoding of the emergency information transmitted on channel 406MHz;
 - frequency measurement of 406MHz, 121.5MHz and 243MHz signals;
 - audio-control of the sweep 121.5MHz and 243MHz signals presence;
 - power level measurement on 406MHz, 121.5MHz and 243MHz channels;
 - measurement of total transmission time of 406MHz signal;
 - measurement of unmodulated carrier duration of 406MHz signal;
 - estimation of the equivalent radiated power of 406MHz signal through broadcast.

MRTS-7M test scope

Version Tested equipment	Basic	A	E	AE
VHF radio stations with DSC	+	+	+	+
MF/HF radiotelephone equipment with DSC	+	+	+	+
MF/HF controllers with DSC	+	+	+	+
VHF equipment of duplex radiotelephony (portable)	+	+	+	+
VHF equipment of duplex radiotelephony with airplanes including operating on 121.5MHz and 123.1MHz	+	+	+	+
VHF radiotelephone stations operating in range 300 - 337 MHz (intended for river-sea vessels)	+	+	+	+
NAVTEX equipment	+	+	+	+
AIS mobile stations Class A and Class B, base stations working in the Marine - VHF band	-	+	-	+
AIS-SARTs	-	+	-	+
COSPAS-SARSAT radio beacons operating on 406MHz 121.5MHz and 243MHz frequencies	-	-	+	+