GMDSS TEST SET

For Maritime Radio Survey

Aeromarine SRT Ltd.

PRODUCT CATALOGUE

Professional solutions for GMDSS inspections
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RADIO SURVEY

GMDSS TESTERS
PROFESSIONAL SOLUTIONS FOR GMDSS RADIO SURVEY

SIMPLY USE IT
We supply the testers with very friendly software. The procedure of test report generation is fast and simple.

BUY AT BEST PRICE
Here you purchase from manufacturer directly. Therefore we can offer you the best prices and risk reducers.

GET IT DELIVERED
The test instruments are shipped for free of charge to any location globally. Receive your order within 5 working days!

MINIMIZE YOUR RISKS
We provide global two years warranty against manufacture and firmware faults. We assure continuous customer support, our tech team is always ready to help.

Complete GMDSS Test set for annual surveys, performance tests, shore-based maintenance of GMDSS radio equipment. Meets or exceeds all IMO and IACS requirements.
AUTOMATED WORK
SURVEY EASY.
TEST AUTOMATICALLY
AIS Tester M1

AIS Tester is professional equipment for surveyors to provide mandatory annual testing of the Class A and Class B AIS mobile stations and AIS-SARTs in accordance with requirements of IMO and SOLAS. Complies with IMO circular letter “Guidelines on annual testing of the AIS unit MSC.1/Circ.1252”.

Tester is capable to send/receive AIS or DSC messages with complete decoding of AIS data, including MMSI and coordinates, to simulate AIS data transmission, and to generate the “virtual vessel” calls.

Allows to measure frequencies and power levels in all AIS channels, simulate NMEA data transmissions, receive the data from pilot plug or external sensors. With this professional test equipment a surveyor makes his job with pleasure. The tester provides possibility to make all measurements in automatic mode. Also the test report can be generated by the tester in a suitable form and in correspondence with all IMO requirements.

**Complete Set:**

- AIS Tester - Main Unit
- 4 power supply batteries AA type)
- USB Computer cable (USB A - USB A)1.5 m
- RF Cables: TNC - TNC, BNC - BNC
- Attenuator
- RF Adapter BNC - UHF
- Antenna
- Cable (DB9 - NMEA) with output for connection to pilot plug with open wires
- Calibration Certificate
- Technical description and user manual

**Test scope:**

- Any AIS Class A and Class B
- VHF Radios with channels DSC
- AIS Base Stations
- AIS-SARTs
- Aids to Navigation devices (AtoN)
ONE PORTABLE DEVICE

COMPLETE RADIO INSPECTION SCOPE
MRTS-7M is modern GMDSS Multi Tester designed on basis of latest radioengineering technologies.

We took the best from all the testers of previous generation and put it into MRTS-7M, applying all the latest engineer technologies allowing to make this device comfortable in use. Its user-friendly interface, lightweight and small dimensions assure ease of periodic surveys of GMDSS equipment in accordance with IMO standards.

And using the new cutting-edge software a surveyor can manage the test results on any PC with minimum efforts.

Don’t change your OS to fit your GMDSS Tester!

MRTS-7M software complies with Windows, MAC OS X and Linux. Downloading of results is automatic, through USB interface.

The test reports for all the range of tested equipment is also automatic. No need to compose test reports manually, just press the button and report is automatically generated. All you need is to print it and sign.

And finally, surveyors are able to select their native language in software, it’s multi language now!

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).
- IMO Resolution A.802(19) and SOLAS - 74/88

The smallest GMDSS Tester with the same functionality

Main unit dimensions: 100 x 200x 45 mm
Total dimensions with box: 303 x 268 x 116 mm

Very compact and lightweight

Main unit weight: 0.4kg
Total weight with box: 2.5kg
WIDE TARGET RANGE

- MF/HF
- MOB device
- RADAR SART
- AIS
- NAVTEX
- VHF
- PLB
- AIS SART
- GMDSS
- EPIRB

MRTS-7M TEST SCOPE
MRTS-7M enables 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;

— SART:
  • signal level measurement;
  • counting the number of sweeps;
  • verify signal in frequency range of 9140...9560 Mhz;

— 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.
RELIABLE WITH ALL BEACONS
TEST ANY EPIRB
AND PRINT THE REPORT
BEACON TESTER 406 02

BEACON Tester 406 02 enables professional checking of all types of maritime emergency radio beacons that operate in COSPAS-SARSAT system.

Provides mandatory annual or shore-based EPIRB testing in accordance with IMO Circular MSC.1/Circ.1039, 1040.

Device has simple, user-friendly interface enabling user to provide precise measurements of all beacon’s parameters and make complete decoding of any C/S message.

All measurements on 406 MHz and 121.5 MHz channels can be done with tester’s antenna (included in standard set) or through optional attenuator (requested separately).

Test results are shown on the display and saved in nonvolatile memory of the instrument.

Software is compatible with Windows, Mac OS or Linux. After survey use the software to store test results on a computer and generate test report automatically. There are 2 types of test reports available: for annual testing or shore-based maintenance; both fully comply with all IMO requirements. Just insert vessel’s details and print the document.

Test scope:

- EPIRB
- PLB
- All types of COSPAS-SARSAT beacons
- S-VDR capsules
- Ship Security Alert Systems (SSAS)
- MoB devices

Complete set:

- BEACON Tester 406 02
- 4 power supply batteries AA type
- USB Computer cable (USB A - USB A) 1.5 m
- Antenna
- Calibration Certificate
- Technical description and user manual (English)
- Software
ENSURES SAFETY BEING SMALL AND INTUITIVE
BEACON TESTER 406 MINI

It is the most small and lightweight Beacon Tester. And with that any EPIRB or PLB of any manufacturer can be checked by this test tool. The measurements are provided from any mobile device connected to the Tester via Wi-Fi link.

Measure frequency and power level on channels 406 MHz and 121.5 MHz. Complete decoding of Cospas-Sarsat message and 15-digits HEX code.

BEACON Tester 406 Mini doesn’t require any installations or additional settings to provide testing. Software is preinstalled on the device. No Internet connection is required! No need to download software. The tester has internal server and creates its own Wi-Fi link for connection to mobile device. After connecting by Wi-Fi, the app will be opened in a standard browser and you can start testing.

All measurements are managed from your mobile device. All platforms are supported: Android, iOS, Windows, MAC OS, Linux, etc. Intuitive interface of the software enables even beginner surveyor to provide professional testing. Make sure a beacon is reliable and ready for emergency. Test report will be generated automatically, just click for a needed one:

All test procedures are provided in accordance with all IMO requirements and comply with circular letters IMO Circ.1040 and MSC.1/Circ.1039. Generated test reports correspond to the IMO standards.

Complete Set:

- BEACON Tester 406 Mini
- Antenna 406/121MHz
- Antenna Wi-Fi
- Power cable (USB A – micro USB 1.5m)
- USB Power adapter
- Attenuator with RF cables (optional)
- Calibration certificate
- Technical description and operation manual

Test scope:

- EPIRB
- PLB
- All C/S beacons
- S-VDR capsules
- SSAS (Ship Security Alert System)
- MoB devices
FAST CHECK OF RADAR SART
VERIFY ALL ESSENTIAL SART PARAMETERS
SART Tester STU-1

Accurate, independent validation of the Radar-SART operation in accordance with the requirements of IMO Resolution A.802(19) and SOLAS - 74/88.

The SART Tester is portable and easy in use. It is far more effective and reliable than the primitive self-test function offered by any SART. Use STU-1 to ensure that SART meets all the appropriate performance requirements. Measurements of SART parameters are made through the broadcast.

**STU-1 performs:**
- automatic measurement of SART parameters
- measurement of response signal duration within the range of 50...150 us
- measurement of response signal power level within the range of Pr = 300...950mW
- signal reception and verifying on frequency range of 9140...9560 MHz
- counting the number of sweeps
- calculation of the distance from SART across radial line on the radar screen

**Dimensions:** 117 mm x 76 mm x 23 mm  
**Weight:** 105g

**Features:**
- Any 9GHz SART can be tested;
- Easy and quick audio-control of the sweep signal presence;
- Number of sweeps is displayed in view of graph;
- Easy connection to PC, laptop, notebook to operate the tests and process measured data;
- Windows/Mac OS user friendly desktop software;
- Automatic test report creation;
- 2 year extended warranty.

**Complete set:**
- RADAR-SART Tester
- PC Cable (USB – USB)
- Technical description and operation manual (English)
- Device packing
RF DESIGN  SMART  SAFETY SOLUTIONS

EPIRB PCB

Channels: 406MHz / 121.5MHz / AIS-SART

EPIRB PCB is ready solution can be used in your product under your brand. PCB supports first and second generation EPIRB technology due to SDR solutions. Developed under Cospas-Sarsat T.001, T.007, IEC61097-2, RTCM SC11000, IC RSS287 standards and specifications.

Supports any combination of 3 channels: 406MHz, 121.5MHz, AIS-SART.

Meets IMO and GMDSS standards. Small size.

AIS-SART PCB

Channels: AIS-SART


PCB based on SDR technology, Built-in GPS receiver.

Meets IMO and GMDSS standards. Small size.

PLB PCB

Channels: 406MHz / 121.5MHz / DSC / AIS-SART

PLB PCB is ready solution can be used in your product under your brand. Personal beacon locator PCB is available as combination of 406MHz, AIS-SART, 121.5MHz, DSC channels.

Developed under Cospas-Sarsat and RTCM standards.

Easily integratable and adjustable. Small size.
SPECIFICATIONS:

406MHz channel:
- COSPAS-SARSAT frequency – can be adjusted in 406.0-406.1MHz range with 3kHz step
- 406MHz channel power - 37dBm +/-2dBm (5W)
- Modulation – phase modulation 1.1 radian
- Modulation type - digital with phase discretization - 0.00044 radians
- Data rate – 400 Baud
- ID and MMSI coding by PC or laptop
- Power supply -7.2V
- Currency consumption – 40mA
- Operation modes - emergency/test
- Self test
- Operation temperature range: - 20°C +55°C
- Standards – T.001, T.007, IEC61097-2, RTCM SC11000, IC RSS287, ETS300 066

121.5 MHz channel:
- Operation frequency -121.5MHz
- Power - 50mW
- Modulation – AM sweep tone 400-1500Hz
- Modulation type – digital
- Frequency stability - not less than2ppm
- Power - 7.2V
- Currency consumption (average) – 30mA
- Operation temperature range – -20°C +55°C

AIS-SART channel:
- Operation frequencies:
  - channel 1 -161.975 MHz
  - channel 2 -162.025 MHz
- Power – 33dBm (2W)
- Modulation – GMSK
- Modulation type – digital
- Frequency stability - not less than 2ppm
- Data rate – 9600 Baud
- ID and MMSI coding by PC or laptop
- Operation mode - emergency or test
- Self test – battery voltage control, output power, frequency capture, GPS source
- Power supply -7.2V
- Currency consumption (with GPS) – 18mA
- Temperature range: -20°C +55°C
- Specification - IEC_61097-14

RF DESIGN & TECHNOLOGIES

Our company offers a wide range of electronic design services in field of Radio frequency (RF) engineering in maritime and aviation areas. Applying our experience to RF design and manufacturing, we offer PCB engineering and development services to companies of such various industries as telecom, commercial, industrial, aerospace and military.
Aeromarine SRT is a small business committed to providing expert engineering support to the private industry in all phases of system development in the fields of digital communications and signal processing systems. These capabilities encompass the engineering activities of System Engineering and Analysis, algorithm design, detailed hardware and software design, prototype hardware and software development and production manufacturing.

We can also develop and manufacture your product under exclusivity agreements.

**ENGINEERING DISCIPLINES:**
- Modulation And Demodulation
- Detection And Estimation
- Error Control Coding/Decoding
- Information Theory
- Feedback Control Systems
- Macroprocessors
- Digital Signal Processing
- Electromagnetic Field Theory

**SYSTEM DESIGN/ANALYSIS:**
- System Specification Preparation
- Computer Simulation Modeling
- Link Analysis
- Performance Analysis
- DSP Algorithm Design
- Test Specifications
- Channel Modeling
- System Effectiveness & Availability
- Integration Planning

**SIGNAL PROCESSING:**
- Analog/Digital Filtering
- Spectral Analysis
- Synchronization Techniques
- Spread Spectrum Techniques
- Interleaving
- Matched Filtering
- Correlation
- Signal Acquisition & Tracking Control
- Digital Demodulation

**HARDWARE DESIGN:**
- High Speed Logic Circuits
- Microprocessor Based Circuits
- Special DSP Processors Design
- FPGA Logic Design
- RF Design (DC to 6 Ghz)
- Analog Design

**ENGINEERING APPLICATION:**
- Phase Lock Loops (Digital & Analog)
- AGD, AFC (Digital & Analog)
- Signal Synthesizers
- Transmitters & Receivers
- Channel Simulators
- Special Test Equipment For Systems, Subsystems, and Circuit Cards
- Search And Rescue Beacons
- AIS-SART

Aeromarine SRT particular specialization is in providing custom hardware development of prime item equipment and supporting test equipment. This can include proof of concept models, engineering prototypes, and production model designs.

Theoretical basis of communications and signal processing systems and their hardware and software implementations. This includes considerable complementary experience in technical project management. This unique combination of engineering expertise and engineering management results in elegant, innovative, practical low cost technical solutions.

Aeromarine SRT design facilities include the latest in CAD design tools such as Advanced System Modeling software, Solid Modeling Mechanical Packaging, AnSoft Designer tools for Analog/RF circuit design, DSP development workstations, FPGA design, in-house PWB design including flex circuitry, Automation Testing Software and many others.
Cospas-Sarsat Professional
Special use devices

01 BEACON Simulator BG-105
BEACON Simulator BG-105 is high-precision simulator of Cospas-Sarsat emergency beacons: 406MHz EPIRB, ELT, PLB. The device allows to simulate up to 5 simultaneously beacons with messages overlay in time. Designed under T.001.

02 Cospas-Sarsat Reference Orbitography Beacon ROB-105
ROB-105 is being developed as validation equipment for Galileo or Cospas-Sarsat systems. It is a highly accurate, adjustable generator of SAR signals in the 406.0-406.1MHz frequency band on 5 channels simultaneously. The device is capable to emulate any C/S SAR beacon: EPIRB, PLB or ELT. Designed under T.022.

03 Sarsat Beacon Monitoring System SBM 406
Sarsat Beacon Monitoring System is specially designed for 406MHz emergency radio beacon signals detection, reception, verifying, decoding and positioning. SBM 406 can be used in coast guard centres. The system reduces the emergency signal reception and reduces processing time up to 30 minutes faster comparing to satellite channel path.

IT ALLOWS START RESCUE OPERATION IMMEDIATELY!
Company profile

Aeromarine SRT is a global supplier of GMDSS Testers for radio surveyors and inspectors. Our test instruments are designed to provide the most efficient checking of marine radio equipment for customers all over the world with excellent quality and extended guaranty.

Our Mission

Our mission is to develop, manufacture and deliver efficient equipment that a radio surveyor estimates as a comfortable and reliable tool of his everyday work. Aeromarine SRT strives to provide all Testers with as user-friendly interface as possible, which assures easy and prompt testing of each type of equipment. Our dream is to supply Testers that do all job automatically, and we are half way.

We supply professional test devices to check a range of GMDSS equipment:

- AIS, AIS-SARTs
- Cospas-Sarsat beacons
- MF/HF and VHF GMDSS radios with DSC
- GMDSS stations
- NAVTEX
- Man Over Board (MOB) devices
- SSAS
- S-VDR capsules
- AtoN
- Base Stations
- SART
Our History

Our company was founded in year 2001 by engineers, having great experience in domain of Cospas-Sarsat safety solutions.

The objective was to apply ready researches and to develop modern efficient and useful radio equipment.

We developed and started serial production of a range of maritime safety equipment: EPIRB, RADAR SART, SART, ELT and accessories: hydrostatic release unit etc. Since that time our company has passed a long way and acquired a great experience in this domain. We have extended our professional standards and enriched our groundwork.

For the moment our staff is 24 persons, which are 15 qualified engineers and two of them are PhDs in Technical Sciences.

Since 2002 the company represents products on the international market and now Aeromarine SRT Ltd is one of the prime vendors of the full range of GMDSS test equipment. Actually Aeromarine SRT Ltd is the Research and Production Company and its main activity is design and manufacture of GMDSS test equipment.

Some of the industry leading companies in the world use our solutions in their business

Aeromarine SRT Testers are used and appreciated by ship and aircraft surveyors, classification societies, administrative authorities, airborne and maritime equipment suppliers all over the globe. All GMDSS Testers provide checking in accordance with IMO and SOLAS standards and ITU requirements.

Using our test equipment even a beginner surveyor makes inspection procedure simply, fast and professionally.

Besides we do offer RF-design services in a field of Cospas-Sarsat engineering.

Aeromarine SRT develops unique solutions for integrating into a customer’s product to face specific requirements and/or increase efficiency of device.
Companies and firms worldwide are currently surveying by Aeromarine SRT testers

Our customers are leveraging the power of Aeromarine SRT solutions to grow their business

20+ years of experience 3 000 testers sold to 72 countries worldwide


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