

Complying with GMDSS carriage requirements

## MARINE VHF RADIOTELEPHONE

with built-in DSC

Model **FM-8500**

### General features

- All-in-one unit design including radiotelephone, DSC facility and watch keeping receiver
- Fully meets ITU, IEC, ETSI, IMO for GMDSS and other related standards
- Compact cabinet for ease of installation

### VHF features

- Precision PLL frequency synthesizer for high frequency stability as required for DSC operation
- Output power 25 W, reducible to 1 W
- Dual watch and multiple watch

### DSC features

- Continuous DSC watch on CH70
- Prevention of accidental distress alert
- File editing for emergency readiness
- Automatic entry of own ship position with manual override



The FURUNO FM-8500 is a cost-effective all-in-one marine VHF radio system consisting of a 25 W VHF radiotelephone, a DSC modem and a CH 70 Watch Receiver. It complies with GMDSS carriage requirements for safety and general communications.

The FM-8500 offers simplex/semi-duplex voice communications on all ITU channels in the 156-174 MHz VHF band. Other standard features are Dual Watch and Multiple Watch functions which allow a watch on CH 16 and another selected frequency.

Full Class A DSC functions are provided for distress

alert transmission and reception, as well as the general call formats: Individual Telephone, All Ships, Group and Area Call. Distress alert can be readily transmitted but an arrangement is provided to prevent an accidental activation. The FM-8500 maintains a continual watch on CH 70 even while you are using another VHF channel. Upon receiving an incoming DSC message the FM-8500 gives aural and visual alarms.

The compact cabinet allows a flexible and space-saving installation on a navigation console or at the conning position.

# SPECIFICATIONS OF FM-8500

## VHF Section

### GENERAL CHARACTERISTICS

1. **Class of Emission** G3E (voice), G2B (DSC)
2. **Communication System** Simplex/Semi-duplex
3. **Channel Program**  
 General version: 55 channels (RR Appendix 18)  
 U.S.A. version: General, US channels,  
 Weather channels  
 Nordic version: General, Fish/Pleasure private
4. **Power Supply** 24 VDC, +30%, -10%
5. **Display** 24 characters x 2 lines,  
 character 5 x 7 dots, backlit  
 LCD (dimnable)

### TRANSMITTER

1. **Frequency Range** 155.00 - 161.475 MHz
2. **RF Output Power** 25 W, reducible to 1 W  
 US version: CH67, CH13 at 1 W, manual override for FULL
3. **Frequency Stability** 1.5 kHz (-20°C to +55°C)
4. **Time-out Timer**  
 Deactivates the transmitter after an uninterrupted  
 transmission of more than 5 minutes

### RECEIVER

1. **Frequency Range** 155.00 - 166.075 MHz
2. **Receiving System**  
 Double-conversion superheterodyne  
 IF: 21.4 MHz and 455 kHz
3. **AF Output Power** 3 W (internal 8 loud speaker)  
 2 mW (200 handset)
4. **Audio Response** De-emphasis of 6 dB/oct +1/-3 dB
5. **Sensitivity** -5 dBμV at SINAD 20 dB
6. **Adjacent Channel Selectivity** 70 dB (+15°C to +35°C)

## DSC Section

### 1. Distress Call and Message

Distress call attempt is transmitted as five consecutive calls. It is repeated after a random delay of between 3.5 and 4.5 min from the beginning of initial call.

### 2. Message Storage

Receive: 50 distress messages plus 50 non-distress messages  
 Transmit: 50 non-distress messages plus 99 files containing station ID, telephone No.

3. **Interface** Nav data: IEC61162  
 Printer: FURUNO MIF w/Interface box

### 4. Alarm

Aural and visual on receipt of a DSC call

### 5. Receiver Characteristics

DSC frequency: CH70  
 Calling sensitivity: Symbol error rate 10<sup>-2</sup>, input -3 dBμV  
 Watch keeping: Continuous watch on CH70

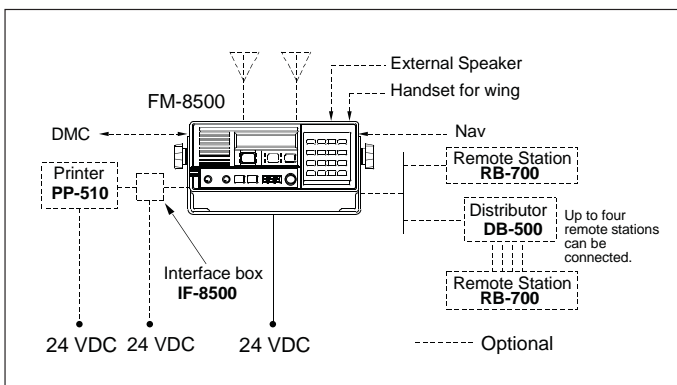
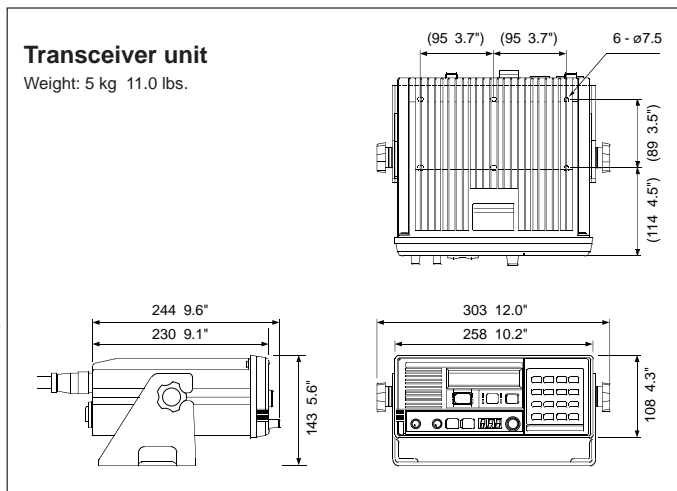
## EQUIPMENT LIST

### Standard

- |                           |        |
|---------------------------|--------|
| 1. Transceiver unit       | 1 unit |
| 2. Handset                | 1 set  |
| 3. Installation materials | 1 set  |

### Optional

1. Whip antennas for VHF and DSC
2. Coaxial antenna cable
3. Remote Station RB-700
4. Distributor DB-500 (Required to connect 2 or more sets of the RB-700. Extension kit is required in DB-500 to connect 3 sets of RB-700 or more)
5. Extension handset
6. Mic receptacle box
7. Printer PP-510
8. Interface box IF-8500 for PP-510
9. AC-DC changeover unit



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

**FURUNO U.S.A., INC.**  
 Camas, Washington, U.S.A.  
 Phone: +1 360-834-9300 Telefax: +1 360-834-9400

**FURUNO (UK) LIMITED**  
 Denmead, Hampshire, U.K.  
 Phone: +44 2392-230303 Telefax: +44 2392-230101

**FURUNO FRANCE S.A.**  
 Bordeaux-Mérignac, France  
 Phone: +33 5 56 13 48 00 Telefax: +33 5 56 13 48 01

**FURUNO ESPAÑA S.A.**  
 Madrid, Spain  
 Phone: +34 91-725-90-88 Telefax: +34 91-725-98-97

**FURUNO DANMARK AS**  
 Hvidovre, Denmark  
 Phone: +45 36 77 45 00 Telefax: +45 36 77 45 01

**FURUNO NORGE A/S**  
 Ålesund, Norway  
 Phone: +47 70 102950 Telefax: +47 70 127021

**FURUNO SVERIGE AB**  
 Västra Frölunda, Sweden  
 Phone: +46 31-7098940 Telefax: +46 31-497093

**FURUNO SUOMI OY**  
 Helsinki, Finland  
 Phone: +358 9 341 7570 Telefax: +358 9 3417 5716

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