FURUNO
USA

GMDSS CONSOLE
DEALERS MANUAL

These Instructions are intended for Furuno authorized Agents and Dealers ONLY!
These Instructions should not be released to the operator or owner of the equipment.

OSE-GMD-10Z

RC15xx
EQUIPMENT SETUP AND TESTING

DMC-5 (Refer to Installation Manual)

The setup and testing of the DMC-5 should be done last. This unit will expect to see all equipment connected to it in service.

1. After power up the unit should display:

Watch Pos: auto 11:25

2. Verify that *Pos* shows *auto*. This shows that The DMC-5 is receiving NMEA data. Check connections if not displayed.

3. Press **SETUP** then **4** to setup the VHF input.

4. Press **SELECT** to highlight *NO.1*.

5. Press **ENT** to store.

6. Press **SETUP** then **5** to setup the MF/HF DSC port.

7. Press **SELECT** to highlight *J3E*. This is the mode of emission for the distress call.

8. Press **ENT** to store.

9. Press **SETUP** then **6** to setup the Inmarsat C port.

10. Press **SELECT** 3 times to highlight *SES(EGC)*.

11. Press **ENT** to store.

12. The display should now return to the Watch screen shown below:

Watch Pos: auto 11:25 VHF MF/HF S EGC

13. This display indicates all attached equipment VHF, MF/HF DSC and Immarsat C with EGC receiver are turned on.

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DP-6 (Refer to Installation Manual and Operator's Manual)

Self Test

1. Press [F6] to display the System menu.
2. Press [——►] to highlight *Change.*
3. Press [↓] to select *Self Test.*
4. Press [Enter] to start the test. The following is an example of the display:

Self Test

Terminal Unit Test	:	Ver. *.**	:OK
Main Unit Test	:	Ver. *.**	:OK
Modem Unit Test	:	Ver. *.**	:OK
Radio Unit Test	:	ID xxxx	:OK
DSC Unit Test	:	ID xxxx	:OK
Printer Unit Test	:	Printer All Character	:OK

a) Terminal Unit Test : Displays terminal software version.
b) Main Unit Test : Displays the Main Unit software version.
c) Modem Unit Test : Displays the Modem software version.
d) Radio Unit Test : Displays the ID of the SSB connected to the system.
e) DSC Unit Test : Displays the ID of the DSC connected to the system.
f) Printer Unit Test : Prints an all character test.

5. If *NG* appears, check associated equipment before moving on to setup of the unit.
6. Press [F6] to display the System menu.
7. Press [——►] to highlight *Change.*
8. Press [↓] to select *Tune.* Verify Tune is *ON.*
9. Press [↓] to select *Freeze.* Verify Freeze is OFF.
10. Press [↓] to select *AGC.* Verify AGC is *OFF* except when using a FS-5000.
11. Press [↓] to select *Emission.* Verify Emission is *ON.*
12. Press *ESC* to exit.

DP-6 (Continued)

Answerback and ID Codes

IMPORTANT The answerback code and ID code can be written only once, be sure to review these codes before accepting.

1. Press [F5] then the [5] key.

2. Enter the vessel's answerback code. Use the code already assigned from past service or if adding new service, enter 9 digit MMSI followed by a space then four alpha characters, a space, then X. (Example: 123456789 FURU X)

3. After verifying information entered, press [ENTER] to accept.

4. Press [F5] then 6, 7, 8 or 9 key:
   6 – Group ID code (Group Sel Call #, 4 or 5 digit)
   7 – Group ID code (Group MMSI #, 9 digit)
   8 – Select ID code (Sel Call #, 4 or 5 digit)
   9 – Select ID code (MMSI #, 9 digit)

   Most new installations will only have a 9 digit MMSI number.

5. Verify information on each screen and press [ENTER] after each completed entry. Then repeat steps for next entry.

6. Press [F4] then the [1] NMEA Data key. The screen should show NMEA data from the Felcom 12 GPS. If not, check NMEA connections on DB-120 PCB and Felcom 12 status screen.

7. Enter station call list per customer requirement (see Operator's Manual).

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DSC-60

1. To set the MMSI, refer to the Dealers Manual. (See Pg 2, Changing the MMSI)
2. After completing the MMSI change, run the DSC-60 self-test.
3. Verify that all associated console equipment is powered on.
4. Press [3/TEST/DEF], to start the self-test.
5. The test will run automatically and continue to completion. The display below will show the results. The results will print.
6. When the test is complete, verify all tests show *OK* and press [CANCEL] to end (see Page 8-1 and 8-2 of the Operators Manual).

** DSC-60 daily test**			
MAIN CPU	:OK	Ver.XX	
MODEM	:OK	Ver.XX	
RCVR1	:OK		
REMOTE RT	:OK	XXXXX	
REMOTE DP	:OK	XXXXX	

MAIN CPU:	ROM/RAM Test executed and Version Number.
MODEM:	Modem test and Version Number.
RCVR1:	Distress/Safety watch receiver test.
REMOTE RT:	ID of connected SSB.
REMOTE DP:	ID of connected NBDP unit.

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Felcom 12

1. The terminal (display) should show a good status screen (see Pgs 8 and 9 of the Installation Manual).

2. Verify GPS status as *3D* and that current latitude/longitude is displayed.

3. Verify that all stats shown on right hand side of screen show *OK*.

4. Press [F7], then the [6] key. Then press the [3] key to run a self test and press [ENT] key to start.

5. *Now Communications Unit – testing* will be displayed.

6. When the test is complete, verify all tests show *OK* and press [ENT] to end (see Pgs 8-3 and 8-4 of the Installation Manual).

Communcations Unit

CPU1	xxx-xxxx-xxx	CPU2	xxx-xxxx-xxx
ROM	OK	ROM	OK
RAM	OK	RAM1	OK
DP-RAM	OK	RAM2	OK
Viterbi	OK	EEPROM	OK
		GPS	OK
		DP-RAM	OK

Press any key to escape.

7. Perform the Performance Verification (PV) Test (see Pgs 8-4 thru 8-6 in the Installation Manual). This test can take about 15 minutes and will verify all operations.

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FM-8500 (This setup must be performed on both FM-8500's, refer to the FM-8500 Installation Manual)

1. Rotate the VOLUME knob clockwise to turn on unit.

2. Press **1** (Position) the Longitude/ Latitude and UTC time should be displayed. This NMEA information should be coming from the Felcom 12. If it is not displayed check the NMEA cables and connections (see RC1515, RC1525 and RC1525 Electrical and NMEA Connections diagram).

3. The display should now show:

```
TEST    VHF   CH 70
auto
```

4. Press the **SELECT** key. The setup menu appears.

```
Setup menu<             >
1  2  3  4  6  9        ALM
```

5. Press the **9** key to display the system menu.

```
System menu     <          >
V  P  ID  DSC  RT  CH   PO
```

6. Select **ID** press **ENT**.

```
System    <        >
V  P  ID  DSC  RT  CH   PO
```

7. Enters the ship's MMSI number, press **CANCEL** if incorrect. Press **ENT** to accept. Press **ENT** to return to the system menu.

```
System    <        >
V  P  ID  DSC  RT  CH   PO
```

8. Select **RT** and press **ENT**.

FM-8500 (Continued)

```
RT 1-Mode: USA/ WX <          >
                OFF[1]  ON[2]
```

9. Press **2** to select USA mode. Press **CANCEL** to exit to the system menu.

10. The next procedure is for the second VHF only. This will block the CH 70 DSC receiver from responding to DSC calls. Only one VHF onboard should be set for automatic DSC.

11. Select **DSC** from the system menu press **ENT**.

```
DSC: receiver   <       >
            CH70[1]   VHF[2]
```

12. Press the **2** key to select VHF.

13. All other settings are to be at default (see Pgs 20 thru 26 of the Installation Manual).

14. Press **ENT**.

15. Select **P** at the system menu.

```
System          <       >
V P ID DSC RT CH PO
```

16. Select **ON** then press **ENT**. Press **Cancel** until the main screen returns.

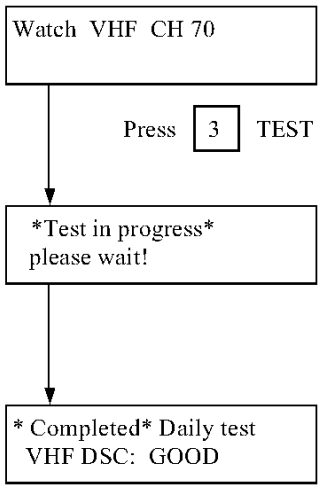
17. These procedures with the exception of step 10 must be performed on both VHFs.

18. Next perform the self test procedure.

19. Select a channel not in use. Press and hold down the PTT switch for more than one second before starting the self test.

20. Follow the procedure on the next page.

FM-8500 (Continued)



21. If you did not press the PTT switch, **except VSWR** will appear instead of **GOOD**.

22. The Distress Alarm will sound and the red LED near the **DISTRESS** key light. Press **ALARM STOP** to silence the alarm.

23. Record any errors (see Operator's and Installation Manuals).

24. Press **CANCEL** to end the test.

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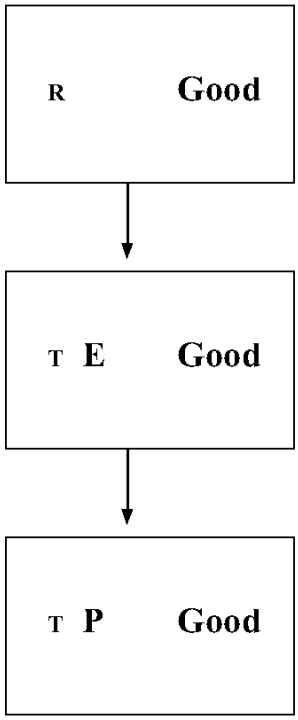
EQUIPMENT SETUP AND TESTING

FS-1562 (Refer to Chapter 4 of Installation Manual)

1. Turn RF GAIN control fully clockwise (maximum).

2. Turn off FS-1562 transceiver. While pressing and holding down the [TX] key, turn on the power.

3. Release the [TX] key. The following self test should be displayed:



Receiver section tested good.

Transmitter Exciter section tested good.

Transmitter Power Amplifier section and Antenna Coupler tested good.

4. If *NO GOOD* appears (refer to FS-1562 Service Manual). Do not continue until unit tests are good.

5. After the self test procedure, turn transceiver power off and then back on.

6. Press the [2182] key.

7. Press the [TX TUNE] key. *TUNE* appears on the LCD. *OK* appears when tuning is complete (see Pgs 4-2 and 4-3 of the Installation Manual). If *OK* does not appear, check antenna, ground system and antenna coupler.

FS-1562 (Continued)

8. Open the antenna coupler and record the status (on or off) of LEDs, CR1 thru CR22.

9. Set S1 on the coupler board to MANUAL.

10. Set dip switches S4 thru S6 according to the status recorded in step 8 (see Pgs 4-2 and 4-3 of the Installation Manual).

DIP SWITCH		LED
S4	#8	CR1
	#7	CR2
	#6	CR3
	#5	CR4
	#4	CR5
	#3	CR6
	#2	CR7
	#1	CR8
S5	#8	CR9
	#7	CR10
	#6	CR11
	#5	CR12
	#4	CR13
	#3	CR14
	#2	CR15
	#1	CR16
S6	#8	CR17
	#7	CR18
	#6	CR19
	#5	CR20
	#4	CR21
	#3	CR22

Be sure that S6 #1 is always set to **OFF**.

11. Return S1 to AUTO, confirm the LEDs did not change. If they changed, go back to MANUAL and recheck settings.

12. When all LEDs match between AUTO and MANUAL, leave S1 in AUTO, and reinstall the cover on the antenna coupler, securing all 8 screws in the cover.

13. Set the frequency to any valid channel other than 2182 KHZ. If the SSB radio is on 2182 KHZ, it will not respond to other equipment during the self test. This will lead to errors during testing.

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EQUIPMENT SETUP AND TESTING

FS-5000 (Refer to Installation Manual, FS-5000)

1. To execute a self test, press the [RCL] key, enter 9900 and then press the [ENT] key. This test should show *OK*. If an error code appears, record it (see Pg 2-3 in the Installation Manual). Do not continue unless *OK* appears.

2. After *OK* appears, change the following settings to meet GMDSS requirements:
   a) Power reduction on both 2182 and 2187.5 is disabled.
      [STO] 9927 [ENT] 1 [ENT]
   b) Minimum output power is 60W or more. [STO] 9928 [ENT] 1 [ENT]
   c) Settings for NBDP connection:
      1) Enable BK RELAY. [STO] 9982 [ENT] 1 [ENT]
         Not enabled when a separate receive antenna is used.
      2) TX delay time. [STO] 9913 [ENT] 10 [ENT]
   d) Enable dummy load (default setting). [STO] 9981 [ENT] 1 [ENT]

3. Press the [2182] key.

4. Press the [TX TUNE] key. *TX TUNING* appears on the LCD. *OK* appears when tuning is complete (see Pgs 3-23 and 3-24 of the Installation Manual). If *OK* does not appear, check antenna, ground system and antenna coupler.

5. Open the antenna coupler and record the status (on or off) of LEDs, CR1 thru CR23.

6. Set S1 on the coupler board to MAN.

7. Set dip switches S4 thru S6 according to the status recorded in step 5 (see Pgs 3-23 and 3-24 of the Installation Manual).

DIP SWITCH		LED
S4	#8	CR1
	#7	CR2
	#6	CR3
	#5	CR4
	#4	CR5
	#3	CR6
	#2	CR7
	#1	CR8
S5	#8	CR9
	#7	CR10
	#6	CR11
	#5	CR12
	#4	CR13
	#3	CR14
	#2	CR15
	#1	CR16
S6	#8	CR17
	#7	CR18
	#6	CR19
	#5	CR20
	#4	CR21
	#3	CR22
	#2	CR23

Be sure that S6 #1 is always set to **OFF**.

FS-5000 (Continued)

8. Return S1 to AUTO, confirm the LEDs did not change. If they change, go back to MAN and recheck settings.

9. When all LEDs match between AUTO and MAN, leave S1 in AUTO, and reinstall the cover on the antenna coupler, securing all 12 screws in the cover.

10. Replace all covers on the transceiver unit.

11. Set the frequency to any valid channel other than 2182 KHZ. If the SSB radio is on 2182 KHZ, it will not respond to other equipment during the self test. This will lead to errors during testing.

RC15xx
EQUIPMENT SETUP AND TESTING

After the installations are completed, proceed through the setup procedures.

The MMSI number and INMARSAT number will be needed to complete the setup and testing procedures.

1. Power on the PR850A and PR300 (if installed). Power on the battery charger.

2. The E Meter should be displaying the battery voltage. Press the [SEL] key and the battery charge current should be displayed.

3. The battery Amp/Hour rating is set at the factory for 220 Amp/Hour. If your batteries are a different rating, this must be changed. The settings can only be set in increments of 20 Amp/Hour. A setting of 220 is sufficient for 225 Amp/Hour. Never set the rating higher than what you have installed. To change the Amp/Hour setting, refer to Pg 21 of the E Meter's Owners Manual.

4. Install the printer paper and turn on the printers.

5. Turn on all of the following equipment before starting the setup procedures:
   a) FS-1562 (RC1515 and RC1525) or FS-5000 (RC1540)
   b) DSC-60
   c) DP-6 Main and Terminal Units
   d) Felcom 12 Comm. Unit and Terminal Unit
   e) FM-8500 (VHF1 and VHF2)
   f) DMC-5 (optional)

6. Each piece of equipment goes through a self test on start up and will show any errors discovered during this process.

7. After all equipment has booted up, check the DB-120 PCB in the console. There are 2 LED's. The left LED should flash as NMEA DATA is received from the Felcom 12 GPS. The right LED should be on constantly indicating power to the PCB.

8. Now proceed through setup and test procedures for all equipment.