FURUNO

OPERATOR'S MANUAL

MULTI-COMMUNICATION UNIT

MODEL   IB-782

FURUNO ELECTRIC CO., LTD.

NISHINOMIYA, JAPAN

•Your Local Agent/Dealer

FIRST EDITION : AUG. 2001
        B   : OCT. 24, 2001

⚠ SAFETY INSTRUCTIONS

Safety Instructions for the Operator

⚠ WARNING

ELECTRICAL SHOCK HAZARD
Do not open the equipment.

Only qualified personnel should work inside the equipment.

Immediately turn off the power at the switchboard if water leaks into the equipment or something is dropped in the equipment.

Continued use of the equipment can cause fire or electrical shock. Contact a FURUNO agent for service.

Do not disassemble or modify the equipment.

Fire, electrical shock or serious injury can result.

Do not place liquid-filled containers on the top of the equipment.

Fire or electrical shock can result if a liquid spills into the equipment.

Immediately turn off the power at the switchboard if the equipment is emitting smoke or fire.

Continued use of the equipment can cause fire or electrical shock. Contact a FURUNO agent for service.

Make sure no rain or water splash leaks into the equipment.

Fire or electrical shock can result if water leaks in the equipment.

⚠ WARNING

Keep heater away from equipment.

A heater can melt the equipment's power cord, which can cause fire or electrical shock.
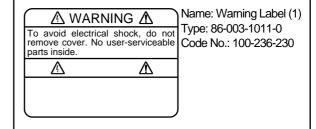
Keep combustible material (such as thinner) away from the equipment.

Fire can result.

Do not operate the equipment with wet hands.

Electrical shock can result.

⚠ CAUTION

A warning label is attached to the equipment. Do not remove the label. If the label is missing or damaged, contact a FURUNO agent or dealer.

⚠ WARNING ⚠	Name: Warning Label (1)
To avoid electrical shock, do not remove cover. No user-serviceable parts inside.	Type: 86-003-1011-0 Code No.: 100-236-230
⚠ ⚠	

Safety Instructions for the Installer

⚠ WARNING

ELECTRICAL SHOCK HAZARD
Do not open the equipment unless totally familiar with electrical circuits and service manual.

Only qualified personnel should work inside the equipment.

Turn off the power at the switchboard before beginning the installation.

Fire or electrical shock can result if the power is left on.

Do not install the equipment where it may get wet from rain or water splash.

Water in the equipment can result in fire, electrical shock or equipment damage.

Be sure that the power supply is compatible with the voltage rating of the equipment.

Connection of an incorrect power supply can cause fire or equipment damage. The voltage rating of the equipment appears on the label above the power connector.

⚠ CAUTION

Ground the equipment to prevent electrical shock and mutual interference.

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FOREWORD

A Word to the Owner of the IB-782

FURUNO Electric Company thanks you for purchasing the IB-782 Multi-Communication Unit. We are confident you will discover why the FURUNO name has become synonymous with quality and reliability.

For over 50 years FURUNO Electric Company has enjoyed an enviable reputation for quality and reliability throughout the world. This dedication to excellence is furthered by our extensive global network of agents and dealers.

Your equipment is designed and constructed to meet the rigorous demands of the marine environment. However, no machine can perform its intended function unless properly installed and maintained. Please carefully read and follow the operation and maintenance procedures set forth in this manual.

We would appreciate feedback from you, the end-user, about whether we are achieving our purposes.
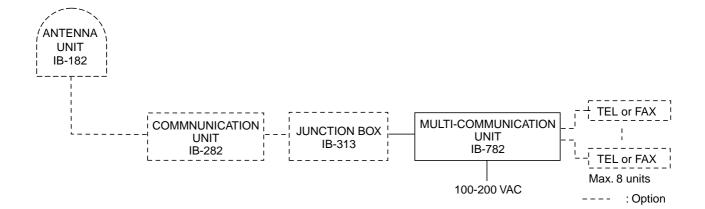
Thank you for considering and purchasing FURUNO.

Features

The main features are

- Permits connection of maximum eight additional telephones and faxes for the FELCOM 82.
- Individual IDs may be assigned, for individual calling and communication log management.
- Automatic call transfer

SYSTEM CONFIGURATION

```
ANTENNA          COMMNUNICATION        JUNCTION BOX        MULTI-COMMUNICATION        TEL or FAX
UNIT                 UNIT                 IB-313                 UNIT
IB-182               IB-282                                      IB-782                 TEL or FAX
```

ANTENNA UNIT IB-182

COMMNUNICATION UNIT IB-282

JUNCTION BOX IB-313

MULTI-COMMUNICATION UNIT IB-782

TEL or FAX

TEL or FAX

100-200 VAC

Max. 8 units

- - - - : Option

EQUIPMENT LIST

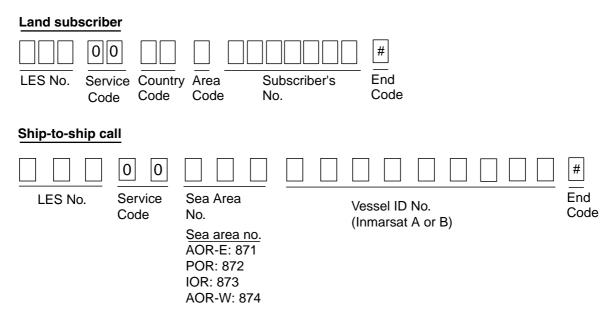| Name	Type	Qty	Remarks
Multi-Communication Unit	IB-782		
Installation Materials	—	1 set	• Power cable (3 m) • Tapping screw (Φ4.5, 4 pcs.)

1. OPERATION

1.1 Equipment Overview

The [POWER] switch is located on the rear panel. When the power is applied, the diagnostic test checks the equipment for proper operation, and the "Line LEDs" on the front panel light and go off in numerical order. After the diagnostic test is completed, only the power lamp lights. The 1A circuit protector protects the equipment from overcurrent.

Lights during automatic call forwarding.

Lights when the power is on.

Front panel

POWER connector

POWER Switch

Circuit Protector

Ground Terminal

Cable Gland

Rear panel

1.2 Calling

Below is the procedure for how call a land subscriber, make a ship-to-ship call.

1. Pick up the handset and dial "0" (number for connecting with Inmarsat services). Listen for the dial tone.
2. Enter subscriber's complete number (vessel ID no.), then press the [#] button.

Land subscriber

☐☐☐	0 0	☐☐	☐	☐☐☐☐☐☐	#
LES No.	Service Code	Country Code	Area Code	Subscriber's No.	End Code

Ship-to-ship call

☐ ☐ ☐	0 0	☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	#
LES No.	Service Code	Sea Area No.	Vessel ID No. (Inmarsat A or B)	End Code

Sea area no.
AOR-E: 871
POR: 872
IOR: 873
AOR-W: 874

3. Talk with subscriber.
4. Hang up the handset.

Note 1: Dial number within 20 seconds after picking up the handset, or the call will be cancelled.

Note 2: If you misdial, hang up the handset and dial again. In addition, dial each number within five seconds of the previous number, or the call will be cancelled.
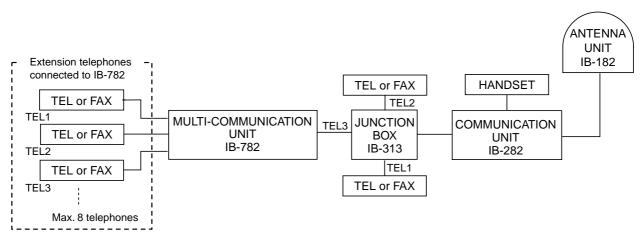
1.3 Receiving

To answer a call:

1. When a phone rings, pick up its handset and talk with the party.
2. Hang up the handset upon completion of the call.

1.4 Intercom

The intercom function is available when two or more telephones are connected to the IB-782. It allows communication between the telephones of the IB-782 and the telephones/handset of the communication unit IB-282 and between the telephones of the IB-782.

Connections for intercom feature

Calling IB-782's telephones

1. Pick up the receiver and listen for the dial tone.
2. Dial party's extension number, then press the [#] button. For example, if the party's extension number is "2," dial [2], [#].
3. Talk with party.

    Note: The busy tone sounds if an invalid extension number is dialed. Hang up the receiver and dial again.

4. Hang up the receiver upon completion of the call.

Calling communication unit's telephones

1. Pick up the receiver and dial "0" (number for connecting with Inmarsat services). Listen for the dial tone.
2. Press the [*] button, dial party's extension number, then press the [#] button. For example, if the party's extension number is "2," dial [*], [2], [#]. Dial "0" to call the communication unit's handset.
3. Talk with party.
4. Hang up the receiver upon completion of the call.

Calling from communication unit's handset to IB-782's telephone

1. Pick up the handset, then press the [Intercomm] key.
2. Dial [3], [0], and party's extension number (1-8).
3. Talk with party.
4. Press the [☎] key and hang up the handset upon completion of the call.

3

Calling from communication unit's telephone to IB-782's telephone

1. Pick up the receiver and listen for the dial tone.
2. Dial [*], [3], [0], party's extension number (1-8), [#].
3. Talk with party.
4. Hang up the receiver upon completion of the call.

1.5 Forwarding a Call

A call may be forwarded to another telephone as follows:

How to forward a call

1. Without hanging up the receiver, press the [HOOK] key.
2. Dial telephone extension number and [#].
3. After the call has been forwarded, hang up the receiver.

Note: The busy tone sounds if an invalid extension number is dialed. Cancel forwarding as below.

Canceling forwarding

If the called party does not answer, cancel forwarding by press the [HOOK] key. You may also cancel forwarding by hanging up the receiver.

1.6 Automatic Call Forwarding

Calls can be automatically forwarded to another telephone as follows:

Setting

Dial [*], [9], [0], [0], extension telephone number to forward call to, [#].

Note: The SEND LED on the front panel lights when setting automatic call forwarding.

Cancelling

Dial [*], [9], [0], [0], [#]

1.7 Receive-Only Telephone

Any telephone connected to the IB-782 can be designated as a "receive-only telephone." This requires setting of a DIP switch. For this procedure see paragraph 2.3.

Setting

From the telephone to set as "receive only", dial [*], [5], [9], [1], [#]

Cancelling

From the telephone not designated as receive-only telephone, dial [*], [5], [9], [1] and the telephone number you wish to cancel as a receive-only telephone.
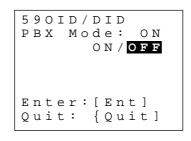
Note: The intercom function is not available from a "receive-only telephone."
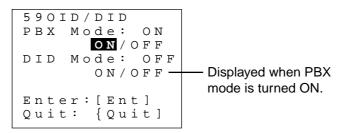
2. SETTINGS

2.1 PBX Mode Settings

Set the PBX mode from handset connected to the communication unit of the FELCOM 82 to enable use of the IB-782.

1. Turn on the communication unit.
2. From the handset of the communication unit, press [FUNC Quit], [5], [9], [8] to display the OID/OID menu.

```
590ID/DID
PBX Mode:  ON
          ON/OFF


Enter:[Ent]
Quit: {Quit]
```

OID/DID menu

3. Press the [⟨⟨] or [⟩⟩] key to select "PBX Mode" to ON.

```
590ID/DID
PBX Mode:  ON
     ON/OFF
DID Mode:  OFF
     ON/OFF ──── Displayed when PBX
                 mode is turned ON.
Enter:[Ent]
Quit: {Quit]
```

OID/DID menu

4. Press the [⟩⟩⟨] key to select DID Mode. Press the [⟨⟨] or [⟩⟩] key to select OFF.

```
590ID/DID
PBX Mode:  ON
       ON/OFF
DID Mode:  OFF
       ON/OFF

Enter:[Ent]
Quit: {Quit]
```
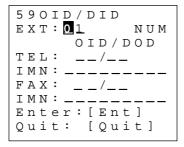
OID/DID menu

5. Press the [Ent] key.
6. Press the [FUNC Quit] key to finish.

2.2 OID/DID Setting

Set the ID number of each telephone connected to the IB-782, from the handset connected to the communication unit. The two-digit ID number should be the same as the telephone no. (01-08); for example, TEL No. 2 would be "02." ID numbers should be set after setting the PBX mode, the instructions for which appear in the paragraph 2.1.

1. Turn on the communication unit.
2. From the handset, press [FUNC Quit], [5], [9], [3].

```
590ID/DID
EXT:01    NUM
       OID/DOD
TEL:  __/__
IMN:_____
FAX:  __/__
IMN:_____
Enter:[Ent]
Quit: [Quit]
```

OID/DID menu

3. Enter telephone ID number in the EXT field, using the numeric keys.
4. Press the [⌣] key, then enter OID/DID number and Inmarsat number. If the OID/DID number is 03 and the IMN is 343164710 hit the following keys:

    [0] [3] [0] [3] [⌣] [3] [4] [3] [1] [6] [4] [7] [1] [0]

    The cursor can be shifted with the arrow keys. The OID/DID number is a hexadecimal number – you can switch to alphabet with the [Mode] key. To cancel input, press the [Func Quit] key.

5. Press the [Ent] key.
6. Press the [FUNC Quit] key to quit.

2.3 DIP Switch Setting

SW No.	Function	Default Setting	ON	OFF
1	How to connect to Inmarsat services	OFF	Connect with OFF HOOK.	Connect by dialing 0 or 9.
2	—	ON	Fixed at "ON."	—
3	Receive only	OFF	YES	NO
4	—	OFF	—	Fixed at "OFF."

2.4 Changing Number for Connection to Inmarsat Services

The number for connection to Inmarsat services can be 9 or 0. Dial as below to select number desired.

[*]   [9]   [1]   [0]   [0 or 9]   [#]

3. MAINTENANCE

⚠ WARNING

Do not open the equipment.

Only qualified personnel should work inside the equipment.

3.1 Cleaning

Dust or dirt can be removed from the equipment with a soft, dry cloth. Do not use chemical cleaners to clean the equipment – they may remove paint and markings.
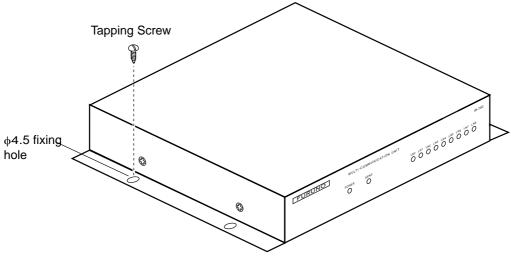
4. INSTALLATION

4.1 Mounting

Mounting considerations

The IB-782 can be mounted on a desk or on a bulkhead. Keep the following points in mind when selecting a mounting location:

- Leave sufficient space around the unit for maintenance and servicing.

- Locate the unit away from direct sunlight because heat can build up inside the cabinet.

- Install the unit near the telephone or facsimile which is to be connected.

- The mounting location should be stable and moderate in temperature and humidity.

- Locate the unit away from areas subject to rain and water splash.
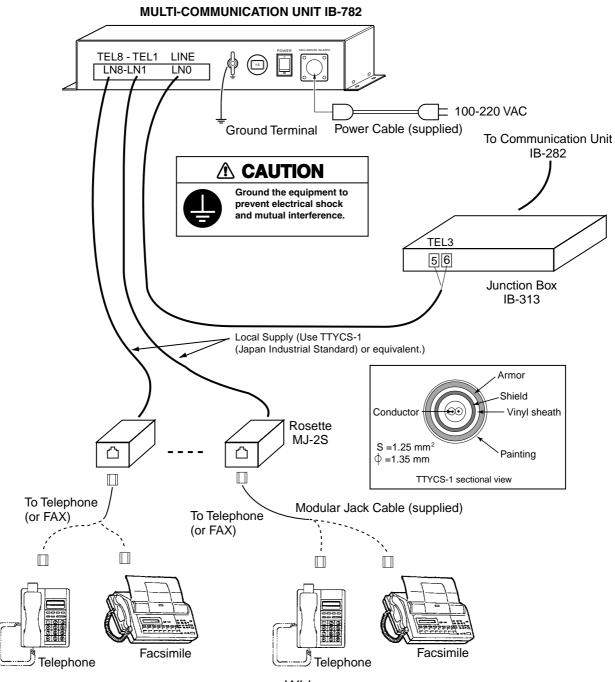
Mounting procedure

Fix the unit to the mounting location with four tapping screws (supplied).

IB-782

4.2 Wiring

Follow the illustration below to wire the IB-782.

MULTI-COMMUNICATION UNIT IB-782

TEL8 - TEL1   LINE
LN8-LN1   LN0

POWER

1A

100V-220VAC 50-60Hz

100-220 VAC

Ground Terminal   Power Cable (supplied)

To Communication Unit
IB-282

⚠ CAUTION

Ground the equipment to prevent electrical shock and mutual interference.

TEL3

5 6

Junction Box
IB-313

Local Supply (Use TTYCS-1
(Japan Industrial Standard) or equivalent.)

Armor

Shield

Conductor

Vinyl sheath

S =1.25 mm^2
Φ =1.35 mm

Painting

TTYCS-1 sectional view

Rosette
MJ-2S

To Telephone
(or FAX)

To Telephone
(or FAX)

Modular Jack Cable (supplied)

Telephone   Facsimile   Telephone   Facsimile

Wiring

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SPECIFICATIONS OF THE MULTI-COMMUNICATION UNIT
IB-782

8/8/01

1. GENERAL

(1) Outside line	1
(2) Extension line	8
(3) Dialing Method	NTT PB signal

2. POWER SUPPLY

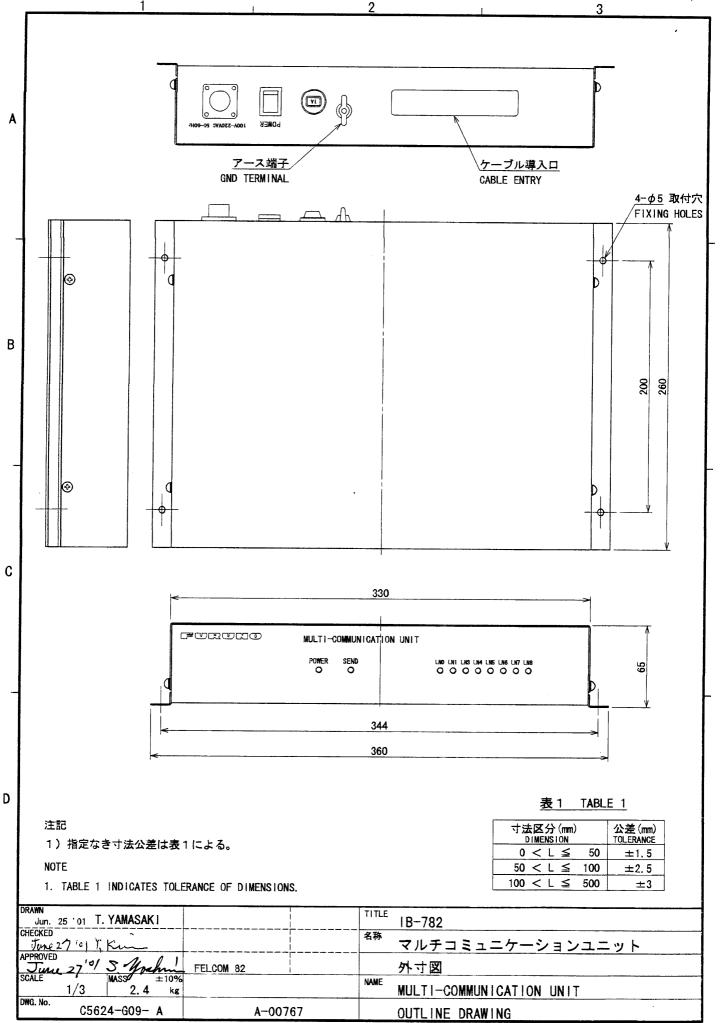|	
(1) Main Unit	100-220 VAC, 1 phase, 50-60 Hz, 20 VA
(2) Power Consumption	10 W or less

3. ENVIRONMENTAL CONDITION

(1) Ambient Temperature	-15°C to +55°C
(2) Relative Humidity	93% at 40°C
(3) Water proofing	Main Unit: IPX2
(4) Vibration	IEC 60945

4. COATING COLOR

(1) Main Unit	Panel: N3.0 Newtone No. 5, Cover: 2.5GY5/1.5

アース端子
GND TERMINAL

ケーブル導入口
CABLE ENTRY

POWER

100V-220VAC 50-60Hz

4-φ5 取付穴
FIXING HOLES

200

260

330

FURUNO   MULTI-COMMUNICATION UNIT

POWER   SEND   LN0 LN1 LN3 LN4 LN5 LN6 LN7 LN8

65

344

360

表1   TABLE 1

寸法区分(mm) DIMENSION	公差(mm) TOLERANCE
0 < L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3

注記

1) 指定なき寸法公差は表1による。

NOTE

1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.

DRAWN Jun. 25 '01 T. YAMASAKI			TITLE IB-782
CHECKED June 27 '01 Y. Ku			名称 マルチコミュニケーションユニット
APPROVED June 27 '01 S. Yoshi	FELCOM 82		外寸図
SCALE 1/3	MASS 2.4 kg	±10%	NAME MULTI-COMMUNICATION UNIT
DWG. No. C5624-G09- A		A-00767	OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

S-1

FURUNO

FURUNO ELECTRIC CO., LTD.

		TITLE	IB-782
		名称	マルチコミュニケーションユニット
			相互結線図
		NAME	MULTI-COMMUNICATION UNIT
			INTERCONNECTION DIAGRAM

DRAWN Oct 12'00 IYAMASAKI
CHECKED Oct 12'00 I.I
APPROVED Oct 12.00 S. foshi
SCALE | FELCOM 82
MASS ±10% kg
DWG. No. C5624-C05- A

通信制御ユニット
COMMUNICATION
CONTROL UNIT
IB-282

17JE-13370-
02(D8C) W1

J3
TEL1 (L1) >1
TEL1 (L2) >2
TEL2 (L1) >3
TEL2 (L2) >4
TEL3 (L1) >5
TEL3 (L2) >6
>37

100~115/
200~220 VAC,
1φ, 50/60Hz

接続箱
JUNCTION
BOX
IB-313

1 2
3 4
5 6

*TTYCS-1

TB1 LINE

マルチコミュニケーション
ユニット
MULTI-COMMUNICATION UNIT
IB-782

TB1
TEL3-1
TEL3-2
TEL3-3
TEL3-4
TEL3-5
TEL3-6
TEL3-7
TEL3-8

GND

100-220 VAC

3m

*TTYCS-1

MJ-2S
L1
L2

2C, 2m

(L1) TEL/FAX
(L2) /MODEM

注記
1) * : 造船所手配。

NOTE
1. * : SHIPYARD SUPPLY.

A

B

C