

FROM GEORGE M.

General Information

EXHIBIT ①

2. Transceiver specifications

General Specifications	Meets or exceeds all INMARSAT specifications for the Inmarsat-C Network and GMDSS requirements.
Transmit Frequency	1626.5 to 1646.5 MHz
Receive Frequency	1530.0 to 1545.0 MHz
Channel Spacing	5 KHz
Modulation	1200 symbols/sec BPSK
Ambiguity Resolution	Unique Word
Coding	R1/2 K=7 convolutional code, (interleaved code symbols RX).
DataRate	600 bit/sec.
RX Frame length	8.64 seconds.
TX Signalling Access Mode	Slotted ALOHA
TX Message Channel	TDMA & FDMA, interleaved code symbol.
Antenna Interface	Standard 50 Ohm female N-connector, max 100 meter cable
GPS Interface	50 dB antenna amplification, 75 Ohm female F-connector output for GPS Navigator
Terminal Interface	CCITT Rec.V.24/28, 100-9600 Baud IA-5 code, DB-9F connector.
Printer Interface	Standard parallel Centronics, DB-25F connector.
Navigator and Alarm Interface	CCITT Rec.V.10 Special with NMEA 0183 interface and multidrop addressing, female BNC-connector, max. 100 meter cable
System Setup	EEPROM programming from operator terminal
DC Power Source	10.5 to 32 V floating DC. RX: 15 W TX: 80 W
Ambient Temperature	-25°C to 55°C operating -40°C to 80°C storage
Electronic Unit Mounting	Flange mounting
Dimensions H x W x D	75mm x 214mm x 279mm
Weight	3.5Kg.

3. Antenna specifications

Maritime Antenna	Inmarsat-C/GPS omnidirectional antenna, RHC polarized. G/T: -23 dB/K EIRP: 14dBW $\pm$ 2dB at 5° elevation Temperature: -35°C to 55°C operating, -40°C to 80°C storage. Dimensions (H x G): 237mm x 150mm conical ex. mounting. Weight 2.2Kg.
Solar Radiation	Infra-red radiation 500W/m ² (EME).
Relative Humidity	95% non-condensing at 40°C.
Precipitation	Up to 50mm/hour, droplet size 0.5 to 4.5mm (EME).
Ice	Up to 25mm (EME).
Wind	Up to 200 Km/hour.
Vibration Operational	Random 5-20 Hz: 0.02 g ² /Hz 20-150 Hz: -3dB/oct. (1.0g RMS).
Vibration Survival	Random 5-20 Hz: 0.05 g ² /Hz 20-150 Hz: -3dB/oct. (1.7g RMS).
Shock	Half sine 20g/11ms.
Antenna Mounting	Standard 1.5" tube mounting.
Inmarsat-C Protocol support	Message transmission and reception with IA-5, ITA-2 and binary transfer to/from the following destinations: Telex PSTN (telephone modems and fax modems) PSDN (X.25 network) EGC message reception with automatical geographical area selection. Polling and data reporting with automatic transmission of position reports down to 1 per minute. Special Access Codes, GMDSS facilities. Transmit message size: Max 32Kbyte Receive storage: 128Kbyte

As our products are under continuous research and development, any information may change without prior notice.

Exhibit 2 with FC 442

Explanation for question 10

- a This Inmarsat C terminal shall be used in case normal communication procedures with the vessel fail and shall function as an emergency back-up.
- b The objectives we seek to accomplish is to be able to communicate when we need to with our vessel as a measure of safety. We carry between 250-350 crew and passengers on board.
- c It will only utilize the radio act in such terms that there is an increased safety level within our organization.