

ACCREDITED SOLUTION

EXPLORER[®] 110 – CPN Enclosure



Document Name: EXPLORER 110 - CPN Enclosure

Revision: C

Introduction: This document describes step-by-step how to mount the enclosure from CPN Satellite Services GmbH and how to install and configure the EXPLORER 110 terminal.

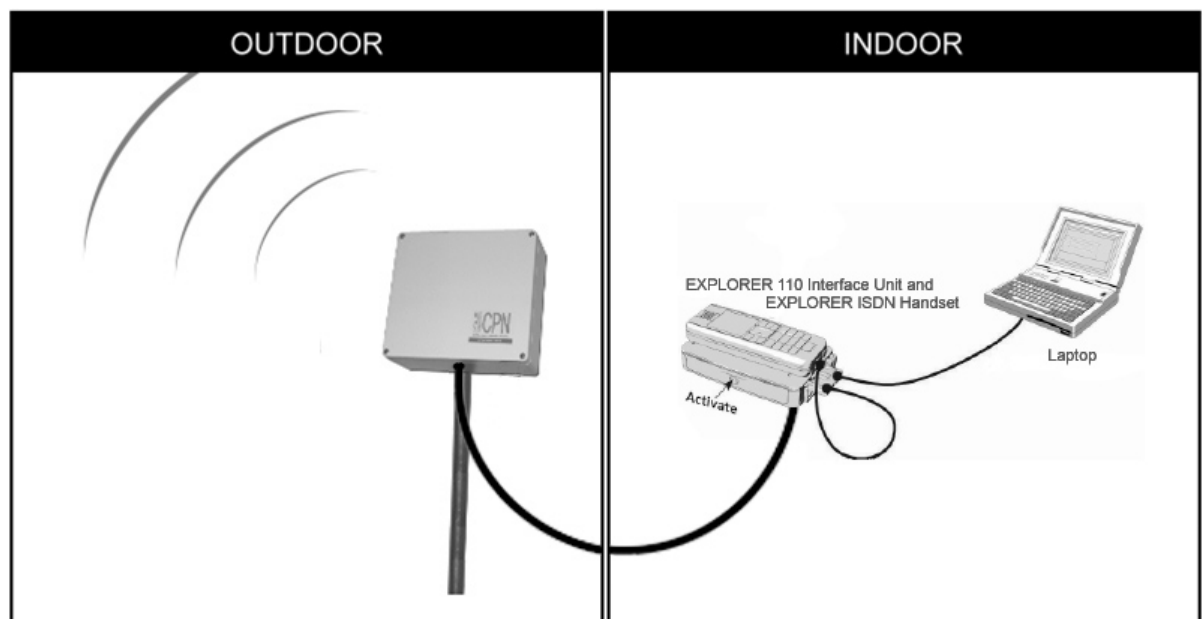
Typical Applications:

- ▶ Data Acquisition / M2M
- ▶ Disaster relief
- ▶ Remote work sites
- ▶ or any other fixed or semi fixed outdoor installation

Product Description: The enclosure is a non-metallic enclosure that is specifically designed to accommodate the EXPLORER 110 terminal.

When mounted inside the Ingress Protection 67 enclosure the EXPLORER 110 terminal can be installed outdoors permanently in any weather condition.

The CPN enclosure and the EXPLORER 110 terminal is the ideal solution for instance as back-up, emergency phone and data communications system or for transferring data from a remote site. The enclosure can be installed up to 30 m (99 ft) away from the EXPLORER 110 Interface Unit. The EXPLORER ISDN Handset and an Ethernet device can be connected directly to the Interface Unit i.e. wired/wireless router, computer, surveillance camera etc.



Features and specifications:

- ▶ IP67 (6 = Totally protected from dust, 7 = Immersion between 15 cm & 1 m)
- ▶ Overall size of enclosure (H x W x D): 250 x 250 x 125 mm (9.8 x 9.8 x 4.9 in)
- ▶ Complete and pre-assembled enclosure, no cutting or drilling necessary
- ▶ No degradation of data throughput or GPS time-to-fix
- ▶ Pole mount kit with adjustable elevation angle included for easy installation
- ▶ Single cable between enclosure and Interface Unit, available in lengths of 10 m (33 ft), 20 m (66 ft), and 30 m (99 ft). Up to 100 m (328 ft) Ethernet cable between Interface Unit and computer
- ▶ Rounded edges, minimal protrusions or exposed pocket areas for accumulation of dust or debris
- ▶ Color of enclosure: White

More product information http://www.cpn.de/index.php?site=cpn_produkte-bgan_de in German.

Product information in [English](http://www.translate.google.com) translated by <http://www.translate.google.com>

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Thrane & Thrane Distributors <http://www.thrane.com/Contact/Distributors.aspx>

Tested on products:

EXPLORER 110 Software version: 02.10.02
EXPLORER ISDN Handset Software version: 1.6.8

Instructions:

Use the EXPLORER ISDN Handset or the web interface in the EXPLORER 110 terminal and the Inmarsat BGAN coverage map found in the User Guide to get a rough indication of the direction of the satellite before choosing where to mount the enclosure.

Make sure that when the EXPLORER 110 antenna is mounted inside the enclosure it has a clear line-of-sight to the satellite and is not blocked by objects like buildings, trees, passing cars etc. If the EXPLORER 110 terminal will be switched OFF from time to time, it will speed-up the GPS time-to-first-fix if it is placed in an open area with a clear view to the sky.

The enclosure must be located such that during transmission, no person can come closer than the minimum safety distance to the front of the antenna of 50 cm (20 inches).

Once a suitable location has been determined, switch ON the EXPLORER 110 terminal and fine tune its position for best possible signal strength/reception. Be careful not to block the received satellite signal. Please refer to the User Guide for further instructions. When in the right position make a note of the % value, shown in the EXPLORER ISDN Handset display. Now adjust the enclosure to best possible azimuth and elevation angle. You may now switch OFF the EXPLORER 110 terminal.

Remove the four screws holding the front cover and the screws that hold the subpanel. Please refer to the step-by-step guide below for mounting the EXPLORER 110 antenna in the correct position.

- Step 1:** Use the specially designed brackets to mount the CPN enclosure to a pole or railing. Tighten all four bolts equally but make sure not to tighten them too hard this might damage the aluminium brackets.

Furthermore make sure that the CPN enclosure is pointing in the direction where the best possible signal strength is obtained which is found by following above instructions.



Figure 1.

- Step 2:** Separate the Interface Unit from the Antenna Unit.

Connect and secure the split cable connector to the EXPLORER 110 antenna.

The rubber seal for the antenna cable can be mounted at any point in the installation.



Figure 2.

- Step 3:** The EXPLORER 110 antenna is mounted on the subpanel using the included M6 screw that fits into the mounting bush in the back of the EXPLORER 110 antenna.

The screw goes through the panel into the back of the EXPLORER 110 antenna. A washer should be placed between the screw and the aluminium plate.



Figure 3.

Step 4: Mount the aluminium subpanel with the EXPLORER 110 antenna in the CPN enclosure using the supplied screws.



Figure 4.

Step 5: Connect the other end of the split cable to the Interface Unit, and plug in the ISDN Handset as shown in figure 5.



Figure 5.

Switch ON the EXPLORER 110 terminal by pressing the Activate button on the Interface Unit.

Wait for the EXPLORER ISDN Handset to power up.

Step 6: Calibrate the elevation to get the most optimal signal strength then tighten the two bolts firmly to make sure the elevation will not change in harsh weather conditions.



Figure 6a.

This is a good time to check that the EXPLORER 110 antenna is pointing in the best possible direction. Use the EXPLORER ISDN Handset display and compare it with the % in signal strength noted earlier.

Make the final calibrations to both azimuth and elevation.

You can also use the EXPLORER 110 web interface <http://192.168.0.1> to check the signal strength.



Figure 6b.

The better signal strength the EXPLORER 110 antenna has the higher data throughput it will offer and the less power it will use and thereby also generating less heat.

Step 7: Before mounting the front cover make a quick test call (see User Manual).



Figure 7.

Secure the front cover on the CPN enclosure with a screw in each corner. Make sure that the split cable seal is placed correctly and that there is no dirt on the seal when the screws are tightened.

The installation of the EXPLORER 110 antenna into the CPN enclosure has now been completed.

Step 8: Pull the cable from the CPN enclosure into the office or building where access to the EXPLORER 110 antenna needs to be and connect the power supply, Ethernet and EXPLORER ISDN Handset to the Interface Unit.



Figure 9.

Your EXPLORER 110 antenna is now safely located outside while you have full access to the EXPLORER 110 Interface Unit from inside your office.

To connect to the built-in web server, simply connect a computer to the Ethernet interface on the Interface Unit. Switch ON the EXPLORER 110 terminal by connecting the Power Supply to the DC input on the Interface Unit.

Power up your computer. Start up the Internet Explorer and type <http://192.168.0.1> to get into the built-in web server in the EXPLORER 110 terminal as shown below.

The screenshot shows the Thrane & Thrane web interface. At the top, there's a header with the company name and the Inmarsat logo. Below the header, there are status indicators for BATTERY, SIGNAL, BGAN, and GPS. The main content area is divided into several sections: STATUS, CURRENT VOICE CALLS, CURRENT DATA CONNECTIONS, TRAFFIC LOGS, CONTACTS, TEXT MESSAGES, DATA CONNECTIONS, BLUETOOTH, SETTINGS, DIAGNOSTIC REPORT, and HELP. The CURRENT DATA CONNECTIONS section is expanded, showing a table with columns for Start Time, Duration, kB Tx, kB Rx, QoS Tx, QoS Rx, IP address, Port type, ID, Cid type, and APN. The table contains one entry for 'Antenna Pointing' with a start time of 2008.03.04 20:52:11 and a duration of 42 secs.

Start Time	Duration	kB Tx	kB Rx	QoS Tx	QoS Rx	IP address	Port type	ID	Cid type	APN
2008.03.04 20:52:11	42 secs	15	46	256	256	161.30.180.69	ethernet	1	1	BGAN.INMAR

Having already successfully pointed the antenna, you should configure the terminal to automatically register at power up. This can be configured under SETTINGS. Please refer to below picture.

The screenshot shows the Thrane & Thrane web interface with the SETTINGS page selected. The settings are organized into a list on the left and a configuration area on the right. The settings include: * Automatically register (checked), * IP header compression (checked), Allow control by SMS (checked), SMS password (lk7fD534), Buzzer Volume (high), Time zone (+02.00), Interface unit light indicators (on), and Antenna unit light indicators (on). At the bottom, there are three buttons: Store settings, Restart Unit, and Reset to Factory Settings. A note at the bottom states: * These settings take effect from the next power-up. The AT Commands section shows the software version: 02.10.02, built on 2007-06-21 at 15:46:38,04.

Click the 'Store settings' button to save the new settings.

Bluetooth can be disabled if not used: found under BLUETOOTH

Note:

It will take approximately 15 min., if instructions are followed step-by-step.

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