



FireFly™

Central Radio Unit (CRU)

User Guide

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Overview: Central Radio Unit (CRU)

About Central Radio Unit (CRU)

The CRU is a central radio controller with firmware that manages the timing of events and low-level radio communication. The CRU consists of the main CRU device, a Base End Assembly (BEA) and a Head End Assembly (HEA). These three discrete devices make up the CRU. The CRU is intended for use by properly trained seismic field personnel.

Regulatory and Safety Guidelines

Regulations regarding the use of the radio modems vary greatly from country to country. In some countries, the unit can be used without obtaining an end-user license. Other countries, such as United States, require end-user licensing. Consult your local communications governing agency for licensing information. Before operating a CRU with a radio modem, determine if authorization or a license to operate the unit is required in your country. **Obtaining an operator's permit or license for the CRU for the location or country-of-use is the responsibility of the end user.**

NOTE:

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE:

In United States, for the 217 – 220 MHz band, the maximum antenna height above average terrain (HAAT) is 152 meters (500 feet). Improper installation could void the user's authority to operate the equipment.

Certification

Certification, covers technical parameters of the equipment related to emissions that can cause interference. Certification is granted to the manufacturer or importer of the transmission equipment, independent from the operation or licensing of the units. Some countries have unique technical requirements for operation in certain radio modem frequency bands. Unauthorized modification to the units voids the Certification, the warranty and the operational license of the equipment.

CAUTION:

Changes or modifications to this equipment not expressly approved, in writing, by Input/Output could void the user's authority to operate the equipment.

Licensing

Many countries require that the operator of a radio, or radio modem, obtain a license prior to operating the radio, or radio modem. Some do not. Consult your local communications governing agency for licensing information. **Obtaining an operator's permit or license for the Firefly CRU for the location or country-of-use is the responsibility of the end user.**

Before operating this radio modem, you are legally required to obtain frequency licenses as required by the country-of-use. Please contact your local communications governing agency for the licensing requirements for each of these radio modems.

Safety

Exposure to radio frequency (RF) energy is an important safety consideration. The FCC has adopted a safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated equipment as a result of its actions in General Docket 79- 144 on March 13, 1986. Proper use of this radio modem results in exposure below government limits. The following precautions are recommended:

- A 20 cm separation should be maintained between the antenna and all persons during normal operation, per Part 1.1307 of the FCC Rules and Regulations.
- All equipment must be properly grounded according to Input/Output installation instructions for safe operation.
- All equipment should be serviced only by a qualified technician.

FCC ID Label

Figure 1 is an example of the FCC ID label for the CRU radio. Figure 2 shows where the label is located on the CRU radio. The size of the label is approximately 1.75 X 3.50 inches.

FCC ID: MCV-CRU101

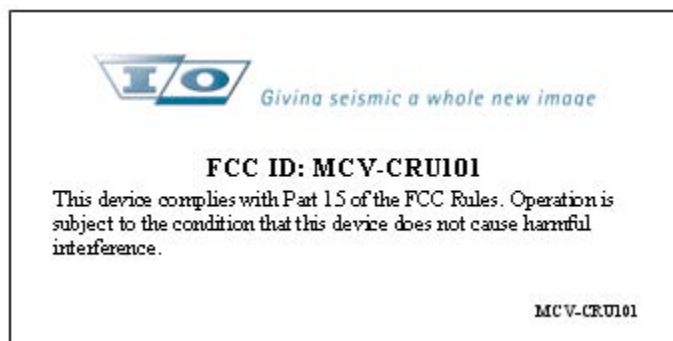


Figure 1. FCC ID Label: CRU Radio



Figure 2. FCC ID Label Location: CRU Radio

Deploying and Operating the CRU

Before you begin

Deploy the CRU by attaching it to the base of the antenna mast. Connect the Base End Assembly (BEA) portion of the CRU, also attaching to the base of the antenna mast. Attach the Head End Assembly (HEA) near the top of the antenna mast, connecting the interconnect cables between the CRU, BEA, and HEA. The CRU will be connected to the CSC via a weatherized Ethernet cable or bridge.

Bringing up the CRU

1. Turn on the CSC.
2. Energize the CRU hardware by attaching to a suitable DC power source.
3. Execute the Firefly software on CSC.

Shutting down the CRU

1. Shut down CSC operating system.
2. Turn off CSC and CRU hardware.