Unit User Manual

VIB-E-DD-389A-0.1

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Disclaimer:

Every effort has been made to ensure the accuracy of the material provided herein; however Vibtech assumes no responsibility regarding the use of the material. Additionally, Vibration Technology Ltd. shall not be liable for any misuse of this product.

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1 Introduction

This User Manual contains some important information about the Vibration Technology Ltd seismic data acquisition Unit. It is important that you read the information contained herein before putting your Unit into operation.

1.1 Related Documents

VIB-E-US-388 Unite System Installation & Network Deployment Manual
VIB-E-US-390 Unite System Maintenance Manual
VIB-E-PC-146 Unite System Software Update Procedure
VIB-E-US-389 Unite System User Manual

2 Electrical Interface and Connectors

2.1 Pin Numbering

2.1.1 Power/Ethernet Connector

Pin	Signal
A	PWR (external battery)
B	GND (external battery)
C	Internal battery pack enable
D	n/c
E	TX+
F	TX-
G	RX+
H	RX-

2.1.2 Sensor Connector

Pin	Signal
1	Sensor +ve
2	Sensor -ve

3 LEDs

State	LEDop	LEDcomm
Critical Low Battery	**OFF**	**OFF**
Bootloader fails to start	**AMBER**	**AMBER**
Bootloader fail	**RED FLASHING**	**OFF**
Critical internal failure (e.g. boot test fail)	**RED**	**OFF**
Low (or no external) battery + Sensor Resistance pass	**AMBER**	**Any**
Running correctly (e.g. booted) + Sensor Resistance pass	**GREEN**	**Any**
Low (or no external) battery + Sensor Resistance fail	**FLASHING AMBER**	**Any**
Running correctly (e.g. booted) + Sensor Resistance fail	**FLASHING GREEN**	**Any**
RSSI good (RSSI>=TBD) or LAN connected	**Any**	**GREEN**
RSSI moderate (TBD<=RSSI<TBD)	**Any**	**AMBER**
RSSI poor (TBD<=RSSI<TBD) or No Infrastructure Connection (Autonomous)	**Any**	**RED**
No GPS Lock	**Any**	**FLASHING Any**

4 WLAN Information

The table below contains the WLAN properties

Parameter	Data
Radio	Phillips BGW200
RF output power	max 16dBm
Receiver sensitivity	-86dBm
Receiver input level (max)	-20dBm
Operating frequency	2.402 – 2.480 GHz, ISM band
Antenna	Mobile Mark SDM202400/1575 Rev B
Gain	2dBi

5 Regulatory Information

5.1 FCC and IC Compliance

5.1.1 FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

5.1.2 Caution

No modification to the radio or antenna is permitted, and any modification could cause the device to cease to comply with FCC rules part 15, and thus void the user's authority to operate the equipment.

5.1.3 IC Compliance

Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
This device has been designed to operate with an antenna having a maximum gain of 9dBi.
Having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms. The antenna incorporated within the device has a maximum gain of 2dBi and may not be removed, replaced or modified without the explicit permission of Vibration Technology Ltd.
The installer of this radio equipment must ensure that the device is located or pointed such that the antenna does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

5.1.4 RF exposure statement

This modular transmitter MUST have a separation distance of at least 2.5 cm between the antenna and the body of the user or nearby persons, excluding hands, wrists, feet, and ankles.

6 Guidelines for Safe and Efficient Use

6.1 General

Read this information before using your Unit.
For any exceptions, due to national requirements or limitations, when using your Unit, please contact Vibration Technology Ltd.

Note: Changes or modifications to the product not expressly approved in writing by Vibration Technology Ltd will void the user's authority to operate the equipment.

6.2 Product Care

- Do not open or disassemble your Unit. Doing so will void any warranty. The Unit does not contain any user serviceable or replaceable components. Service may only be performed by Vibration Technology Ltd or an authorised service agent.
- Do not expose your Unit housing to solvents or any substance containing solvents such as paints or lacquers.
- Do not expose your Unit to hot or cold temperatures outside of those specified in the data sheet.
- Do not expose your Unit lit candles, cigarettes, cigars, naked flames etc.
- Do not drop or throw your unit as it could sustain damage
- If your Unit is to be stored, store it in a place that is dry and protected from extreme heat or cold. Ensure that the battery is charge to approximately 30% and avoid storing with a discharged battery.

6.3 Radio Frequency Exposure

The Unit contains a small radio transmitter and receiver. During communication with Unite Infrastructure or Data Harvesters, the Unit receives and transmits radio frequency (RF) electromagnetic fields (microwaves) in the frequency range 2400 to 2500 MHz. Although the output power of the radio transmitter is very low, the user should remain more than 20cm away from the antenna dome on top of the Unit whilst it is operating.
If you are in proximity to a Unit whilst it is powered on, you will be exposed to some of the transmitted RF energy. This exposure is well below the prescribed limits in all national and international RF safety standards and regulations.

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