HD5310 Radio Operator Manual Anchor Module

HD5310 Operator Manual

Product Description:

The Anchor and RAM work together as an engineered solution for indoor warehouse distribution centers. The system is designed per the request of the customer and is setup and installed by trained service installers according to local regulations.

The Anchor utilizes a UWB radio to determine the presence of RAM devices. The UWB transceiver allows for 10cm accuracy. The Anchor communicates via an ethernet connection to an external server for location processing. It is powered by the standard of Power-Over-Ethernet.

The system consists of single board containing two radios that uses the UWB radios to communicate to RAM located onto lift trucks. The system uses ToF (time of flight) to get positioning in a warehouse. Only one radio is allowed at a time. DW1000 is to cover channel 3 and 5 and the QM33100 covers channel 5 and 9.

Note: Channel 3 is not available for use in Canada. Channels are not user selectable by the end user.

This product is for indoor use only: UWB devices may not be employed for the operation of toys. Operation onboard an aircraft, a ship or a satellite is prohibited.

Tech Specs:

Power Input:

- Module will draw 3 watts.
- PoE is set up to be able to have input on either connector.
- PoE is electrically isolated from the rest of the board.
- System is negotiating to be IEEE 802.3at Type 2, Class 4 (PoE+) 25-30W.

Operating Temperature:

- -40 to +45 °C

Wireless Communications Interfaces:

- IEEE 802.15.4-2020 UWB IEEE 802.15.4z-2020 (BPRF

Main Board:

- The main board containing the connectors, PoE circuit, power supply, ethernet switch, the main microcontroller, two UWB radios, the power supplies to feed the radios, and the antenna.

RF Information:

- Core frequency into PLL (phase lock loop) 38.4 MHz

- Date Rate 6.81 MHz
- Transmit frequencies
    - Channel 3 4492.8 MHz center frequency 499.2 MHz Bandwidth
      USA Only – Not for use in Canada and is not selectable by the user
    - Channel 5 6489.6 MHz center frequency 499.2 MHz Bandwidth
    - Channel 9 7987.2 MHz center frequency 499.2 MHz Bandwidth
- Modulation BPM / BPSK.

Antenna, Internal or External:

- The antenna is in copper and is not modifiable.
- Any unauthorized change to the antennas is not permitted and will void the radio's regulatory compliance.

Serviceability:

- The entire module is NOT field serviceable. Changes or modifications not expressly approved by Crown Equipment Corporation could void the user's authority to operate the equipment.

Radio Certifications and Notices FCC and IC:

SAR: This wireless mobile and/or portable device has been shown to be compliant for localized specific absorption rate (SAR) for uncontrolled environment/general exposure limits specified in ANSI/IEEE Std. C95.1-1999 and had been tested in accordance with the measurement procedures specified in IEEE 1528-2003, OET Bulletin 65 Supp. C, RSS-102 and Safety Code 6.

This device meets the U.S. FCC's and ISED Canada's requirements for exposure to radio waves and is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy. For satisfying RF exposure compliance requirements, body-worn operations are restricted to belt-clips, holsters or similar accessories that have no metallic component in the assembly and must provide at least 230 mm separation between the device, including its antenna, and the user's body. Cet appareil est conforme aux exigences des États-Unis en matière d'exposition aux ondes radioélectriques, de la FCC et d'ISED Canada. Il est conçu et fabriqué pour ne pas dépasser les limites d'émission imposées pour une exposition à l'énergie de radiofréquence (RF). Pour satisfaire aux exigences de conformité en matière d'exposition aux radiofréquences, les opérations portées sur le corps sont limitées aux pinces de ceinture, étuis ou accessoires similaires ne comportant aucun composant métallique dans l'assemblage et doivent ménager une distance minimale de 230 mm entre l'appareil, son antenne, et le corps de l'utilisateur.

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 B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*
- *—Reorient or relocate the receiving antenna.*
- *—Increase the separation between the equipment and receiver.*
- *—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *—Consult the dealer or an experienced radio/TV technician for help.*

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.

2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;

2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties.

Additional Information:

Anchor chain

- The max umber of anchors in a chain is 10.
-

Labels

- The following label is attached to the module.

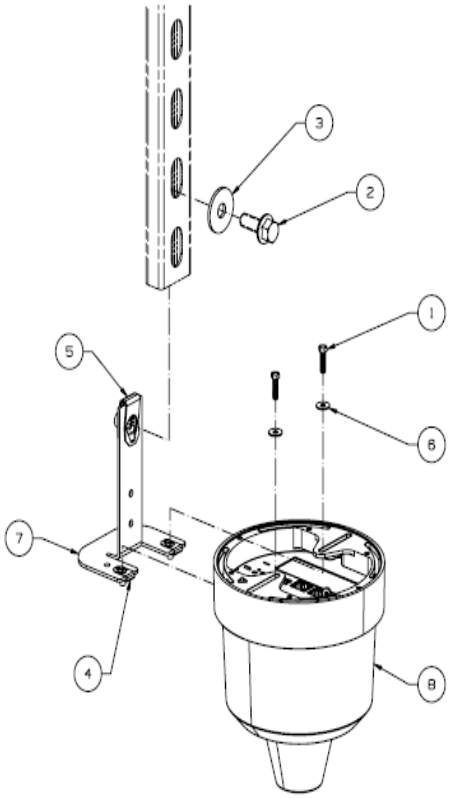
Mounting

- This module is intended to be mounted in a vertical position with the cone pointed down.
- This module is to be mounted from the ceiling.

Assembly Diagram

ITEM	DESCRIPTION	QTY
1	060013-062	2
2	060017-112	1
3	060030-382	1
4	060031-029	2
5	060031-030	1
6	060131-022	2
7	172050	1
8	172052-001	1

NOTES:
1. MAXIMUM AMBIENT AIR TEMPERATURE SURROUNDING ANCHOR: 45°C (113°F)
2. MAXIMUM NUMBER OF ANCHORS THAT CAN BE DAISY CHAINED: 7



DRAFT
NOT TO BE USED FOR PART PROCUREMENT
REVISED 03-25-2025

ER NO	WEB	DATE	DESCRIPTION
ER2867	A	00-00-00	NEW DOCUMENT

REFERENCE ASME Y14.5M - 1994
METRIC DRAWING
ALL DIMENSIONS IN MILLIMETERS

TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONS .xx
ANGLES ±1/2°

FLAT DEVELOPMENTS & THEIR DIMENSIONS MAY NOT CONFORM TO MANUFACTURING PRACTICES OF ALL CROWN FACILITIES OR OTHER SUPPLIERS.

THIRD ANGLE PROJECTION

FINISH	NONE
PROJECT	T2287
DRAWN BY	AFREEMAN
DATE	AUG-07-23
CHECKED BY	JFRADY
SCALE	1:2

CROWN www.crown.com

RAW MATERIAL SPEC

Sheet 01 of 01

PART NAME	DOCUMENT NUMBER	REVISION
KIT INFRASTRUCTURE UWB RTLS	172204	A

172204nxm000_a

4 3 2 1

TOP VIEW of Anchor Module:

FRONT VIEW of the Anchor Module:

REAR VIEW of the Anchor Module:

Bottom View:


MODEL HD5310
P/N 172664
S/N AC2025260020
FCC ID: YGP5300-01
IC: 9016A-HD5300A
P1
P2
PoE OUTPUT PORT
INTENDED TO CONNECT TO
HD5310
175407-A