M-H6 Features

The Sure Cross® wireless system is a radio frequency network with integrated I/O that operates in most environments to eliminate the need for wiring runs. Wireless MultiHop data radio networks are formed around a MultiHop master and one or more slaves and extend the range of a Modbus or other serial communication network. Use the MultiHop H6 and H6D radios to convert Banner 1-wire serial sensors into a wireless input that can be used in a tree or mesh-type MultiHop network.

Benefits

- Deliver factory automation or IIoT solutions by connecting any Banner 1-wire serial sensor for applications such as:
    - Ultrasonic distance measurement for tank level monitoring, distance sensing, etc
    - Vibration and temperature monitoring for predictive maintenance motor health
    - Temperature and humidity monitoring for energy management, process monitoring, etc
- MultiHop networks are self-healing, auto-routing RF networks with multiple hops that extend the network's range and improve link performance
- Large D-cell battery in the H6 gives extended battery life on a tree or mesh-type MultiHop network
- 10–30 V DC-powered H6D eliminates the need for battery replacement and handles continuous data sampling and reporting
- External antenna gives the option to extend antennas to the proper location and/or replace them with a higher dB gain antenna

Internal battery model

10 to 30 V DC model

- **Eliminate control wires**—The Sure Cross wireless system is a radio frequency network with integrated I/O that removes the need for power and control wires
- **Reduce complexity**—Machine or process reconfiguration made easier; great for retrofit applications
- **Deploy easily**—Simplified installation on existing equipment enables deployment in remote and hard-to-access locations where implementing a wired solution would be difficult, impractical, or not cost-effective
- Selectable transmit power levels of 250 mW or 1 Watt for 900 MHz models and 65 mW for 2.4 GHz models
- DIP switches for user configuration
- Frequency Hopping Spread Spectrum (FHSS) technology ensures reliable data delivery
- Transceivers provide bidirectional communication between the master and slave radios, including fully acknowledged data transmission

M-H6 Models

Models	Frequency	Power	I/O
DX80DR2M-H6	2.4 GHz ISM Band	Battery integrated into the housing	**Inputs**: 1-Wire serial interface for one 1-wire serial sensing device
DX80DR2M-H6D	2.4 GHz ISM Band	10 V DC to 30 V DC	

Configuration Instructions

Set Up Your MultiHop Network

To set up and install your wireless MultiHop network, follow these steps:

1. If your radios have DIP switches, configure the DIP switches of all devices.
2. Connect the sensors to the MultiHop radios if applicable.
3. Apply power to all devices.
4. If your MultiHop radio has rotary dials, set the MultiHop Radio ID. If your MultiHop radio has no rotary dials, continue to the next step.
5. Form the wireless network by binding the server and repeater radios to the client radio. If the binding instructions are not included in this datasheet, refer to the quick start guide or product manual.
6. Observe the LED behavior to verify the devices are communicating with each other.
7. Configure any I/O points to use the sensors connected to the Sure Cross devices.

8. Conduct a site survey between the MultiHop radios. If the site survey instructions are not included in this datasheet, refer to the product manual.
9. Install your wireless sensor network components. If the installation instructions are not included in this datasheet, refer to the product manual.

For additional information, refer to one of the following documents:
- MultiHop Data Radio Quick Start Guide: 152653
- MultiHop Data Radio Instruction Manual: 151317
- MultiHop Register Guide: 155289

Configure the DIP Switches

Before changing DIP switch positions, disconnect the power[1]. Any changes made to the DIP switches are not recognized until after power is cycled to the device. For parameters not set using the DIP switches, use the configuration software to make configuration changes. For parameters set using the DIP switches, the DIP switch positions override any changes made using the configuration software.

Access the Internal DIP Switches

Follow these steps to access the internal DIP switches.

1. Unscrew the four screws that mount the cover to the bottom housing.
2. Remove the cover from the housing without damaging the ribbon cable or the pins the cable plugs into.
3. Gently unplug the ribbon cable from the board mounted into the bottom housing. Skip this step if there is no ribbon cable (integrated battery models) or the ribbon cable is glued down (for C housing models).
4. Remove the black cover plate from the bottom of the device's cover.
   The DIP switches are located behind the rotary dials.
5. Make the necessary changes to the DIP switches.
6. Place the black cover plate back into position and gently push into place.
7. If necessary, plug the ribbon cable in after verifying that the blocked hole lines up with the missing pin.
8. Mount the cover back onto the housing.
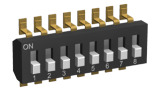
DIP Switch Settings (MultiHop M-H6 Model)

Device Settings	Switches							
	1	2	3	4	5	6	7	8
Serial line baud rate 19200 OR User defined receiver slots	OFF	OFF						
Serial line baud rate 38400 OR 32 receiver slots	OFF	ON						
Serial line baud rate 9600 OR 128 receiver slots	ON	OFF						
Serial line baud rate Custom OR 4 receiver slots	ON *	ON *						
Parity: None			OFF	OFF				
Parity: Even			OFF	ON				
Parity: Odd			ON	OFF				
Disable serial (low power mode) and enable the receiver slots select for switches 1-2			ON *	ON *				

Transmit power
    900 MHz radios: 1.00 Watt (30 dBm)
    2.4 GHz radios: 0.065 Watts (18 dBm) and 60 ms frame
					OFF *			

Transmit power
    900 MHz radios: 0.25 Watts (24 dBm)
    2.4 GHz radios: 0.065 Watts (18 dBm) and 40 ms frame
					ON			

Application mode: Modbus						OFF*		
Application mode: Reserved						ON		
MultiHop radio setting: Repeater							OFF	OFF
MultiHop radio setting: Master							OFF	ON
MultiHop radio setting: Slave							ON *	OFF *
MultiHop radio setting: Reserved							ON	ON

* Default configuration

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[1] For devices powered by batteries integrated into the housing, triple-click button 2, then double-click button 2 to reset the device without removing the battery.

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Application Mode

Modbus mode uses the Modbus protocol for routing packets. In Modbus mode, a routing table is stored in each parent device to optimize the radio traffic. This allows for point to point communication in a multiple data radio network and acknowledgement/retry of radio packets. To access a radio's I/O, the radios must be running in Modbus mode.

Baud Rate and Parity

The baud rate (bits per second) is the data transmission rate between the device and whatever it is physically wired to. Set the parity to match the parity of the device you are wired to.

Disable Serial

Disable an unused local serial connection to reduce the power consumption of a data radio powered from the solar assembly or from batteries. All radio communications remain operational.

Receiver Slots

The number of receiver slots indicates the number of times out of 128 slots/frames the radio can transmit to its parent radio. Setting a slave's receiver slots to four reduces the total power consumption by establishing that the slave can only transmit to its parent four times per 128 slots.

Transmit Power Levels/Frame Size

The 900 MHz data radios can be operated at 1 Watt (30 dBm), 0.5 W (27 dBm), or 0.25 W (24 dBm). For most models, the default transmit power is 1 W or 0.5 W.

For 2.4 GHz radios, the transmit power is fixed at 0.065 W (18 dBm) and DIP switch 5 is used to set the frame timing. The default position (OFF) sets the frame timing to 60 milliseconds. To increase throughput, set the frame timing to 40 milliseconds. For battery-powered devices, increasing the throughput decreases battery life.

> **IMPORTANT:** Prior to date code 15341 and radio firmware version 3.6, the frame timing was 40 ms (OFF) or 20 ms (ON).

Wire Your Sure Cross Device

Use the following wiring diagrams to first wire the sensors and then apply power to the Sure Cross® devices.

Apply Power to the 10-30 V DC Model

Integral 5-pin M12 male quick-disconnect connectors are wired for 10 V DC to 30 V DC power as shown.

5-pin M12 Male Quick Disconnect Connector	Pin	Wire Color	Description
	1	Brown (bn)	10 V DC to 30 V DC
	2	White (wh)	
	3	Blue (bu)	DC common (GND)
	4	Black (bk)	
	5	Gray (gy)	

5-Pin M12 Female Quick Disconnect

This female quick disconnect fitting interfaces with a 1-wire serial sensor. The following information defines the wires and the appropriate connection points in the Sure Cross radio.

5-pin M12 Female Quick Disconnect	Pin	Wire Color	Description
	1	Brown (bn)	Power out + (to sensor)
	2	White (wh)	Device select
	3	Blue (bu)	DC common (GND)
	4	Black (bk)	Device output
	5	Gray (gy)	Serial comms

Set the MultiHop Radio ID

The Modbus ID is an identifying number used for devices within a Modbus system. When using more than one Modbus peripheral, assign each peripheral device a unique ID number.

For MultiHop radios with rotary dials, use the rotary dials to set the device's MultiHop Radio ID. The left dial sets the left digit and the right dial sets the right digit.

- Modbus IDs 01 through 10—Reserved for servers directly connected to the host (local I/O). Polling messages addressed to these devices are not relayed over the wireless link.
- Modbus IDs 11 through 60—Use for MultiHop client, repeater, and server radios. Up to 50 devices (local servers and remote servers) may be used in this system.

If your MultiHop radio does not have rotary dials, you must use the master radio to set the Modbus ID during the binding process.

MultiHop Configuration Software

Use Banner's MultiHop Configuration Software to view your MultiHop radio network and configure the radio and its I/O.

MultiHop Configuration Software Network and Device Overview screen
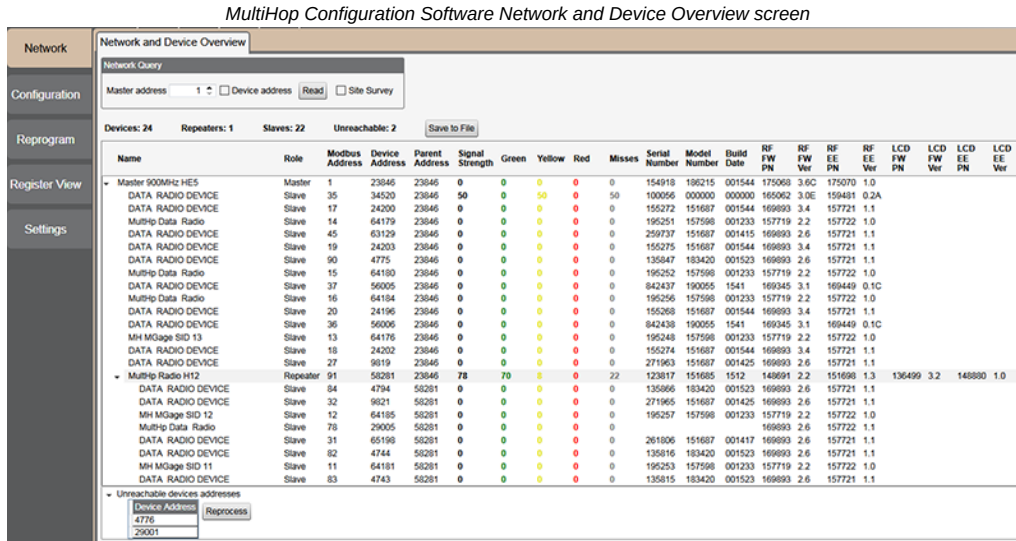
The software connects to a MultiHop client radio using one of four methods.

- Serial; using a USB to RS-485 (for RS-485 radios) or a USB to RS-232 (for RS-232 radios) converter cable.
- Modbus TCP; using an Ethernet connection to an Ethernet radio client.
- Serial DXM; using a USB cable to a DXM Controller to access a MultiHop client radio.
- TCP DXM: using an Ethernet connection to a DXM Controller to access a MultiHop client radio.

Banner recommends using **BWA-UCT-900**, an RS-485 to USB adapter cable with a wall plug that can power your radio while you configure it. The adapter cable is not required when connecting to a DXM Controller.

Download the most recent software revision from the Wireless Reference Library on Banner Engineering's website: www.bannerengineering.com.

Installing Your Sure Cross® Radios

Please refer to one of these instruction manuals to install your wireless network components.

- DX80 Performance Wireless I/O Network Instruction Manual: 132607
- MultiHop Data Radio Instruction Manual: 151317

M-H6 Modbus Register Table

Serial Inputs (General). At every sample interval, a message is sent to the serial sensor to request sensor data. By default, registers are updated every five minutes. Use the MultiHop Configuration Tool to change the sensor's sample times.

Register (4xxxx)	Input #	I/O Type
101	1	Primary IN 1
102	2	Primary IN 2
103	3	Primary IN 3
104	4	Primary IN 4
105	5	Primary IN 5
106	6	Primary IN 6

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Modbus Addressing Convention

All Modbus addresses refer to Modbus holding registers. When writing your own Modbus scripts, use the appropriate commands for interfacing to holding registers. Parameter description headings refer to addresses in the range of 40000 as is customary with Modbus convention.

Install or Replace the Battery for a DX80 Integrated Battery Model

To install or replace the 3.6 V lithium "D" cell battery in any model with a battery integrated into the housing, follow these steps.

1. Remove the four screws mounting the face plate to the housing and remove the face plate.
2. Remove the discharged battery.
3. Install the new battery, verifying the battery's positive and negative terminals align to the positive and negative terminals of the battery holder mounted within the case.
4. After installing the battery, allow up to 60 seconds for the device to power up.
5. Properly dispose of used batteries according to local regulations by taking it to a hazardous waste collection site, an e-waste disposal center, or another facility qualified to accept lithium batteries.

As with all batteries, these are a fire, explosion, and severe burn hazard. Do not burn or expose them to high temperatures. Do not recharge, crush, disassemble, or expose the contents to water.

For non-hazardous locations, the replacement battery is model **BWA-BATT-011**. For non-hazardous or hazardous locations, the replacement battery is Xeno model XL-205F, Banner model **BWA-BATT-001**. For pricing and availability, contact Banner Engineering.
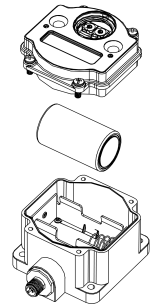
⚠️ **CAUTION:** There is a risk of explosion if the battery is replaced incorrectly.

Modbus Register Configuration

Change the factory default settings for the inputs, outputs, and device operations using the device Modbus registers. To change parameters, set the data radio network to Modbus mode and assign the data radio a valid Modbus slave ID.

Generic input or output parameters are grouped together based on the device input or output number: input 1, input 2, output 1 etc. Operation type specific parameters (discrete, counter, analog 4 to 20 mA) are grouped together based on the I/O type number: analog 1, analog 2, counter 1, etc. Not all inputs or outputs may be available for all models. To determine which specific I/O is available on your model, refer to the Modbus Input/Output Register Maps listed in the device's datasheet. For more information about registers, refer to the MultiHop Product Instruction Manual (p/n 151317).

Specifications

MultiHop 2.4 GHz Radio Specifications

Radio Range

2.4 GHz: Up to 3.2 km (2 miles) with the supplied 2 dB antenna

High-gain antennas are available, but the transmit power and range depends on the antenna gain, environment, and line of sight. Always verify your wireless network's range by performing a Site Survey.

Antenna Minimum Separation Distance

2.4 GHz (65 mW): 0.3 m (1 ft) with the supplied 2 dB antenna

Radio Transmit Power

2.4 GHz Conducted: < 18 dBm (65 mW); EIRP with the supplied 2 dB antenna: < 20 dBm (100 mW)

Spread Spectrum Technology

FHSS (Frequency Hopping Spread Spectrum)

2.4 GHz Compliance (SX243 Radio Module)

Radio module is indicated by the product label marking

Contains FCC ID: UE3SX243: FCC Part 15, Subpart C, 15.247

Radio Equipment Directive (RED) 2014/53/EU

ETSI/EN: EN 300 328 V2.2.2 (2019-07) [RED HarmStds]

Contains IC: 7044A-SX243

ANATEL: 03737-22-04042

ANATEL
Agência Nacional de Telecomunicações

2.4 GHz Compliance (DX80-2400 Radio Module)

Radio module is indicated by the product label marking

Contains FCC ID: UE300DX80-2400: FCC Part 15, Subpart C, 15.247

Radio Equipment Directive (RED) 2014/53/EU

Contains IC: 7044A-DX8024

ANATEL: 15966-21-04042

ANATEL
Agência Nacional de Telecomunicações

Antenna Connection

Ext. Reverse Polarity SMA, 50 Ohms

Max Tightening Torque: 0.45 N·m (4 lbf·in)

Radio Packet Size (MultiHop)

2.4 GHz: 75 bytes (37 Modbus registers)

M-H6 Specifications

Supply Voltage

Integrated battery models: 3.6 V DC (internal battery) [1]

Non-battery models: 10 V DC to 30 V DC (Outside the USA: 12 V DC to 24 V DC, ± 10%)

Wiring Access

Integrated battery models: One 5-pin M12 female quick-disconnect connector

Non-battery models: One 5-pin M12 female quick-disconnect connector and One 5-pin M12 male quick-disconnect connector

Housing

Polycarbonate housing and rotary dial cover; polyester labels; EDPM rubber cover gasket; nitrile rubber, non-sulphur cured button covers

Weight: 0.26 kg (0.57 lbs)

Mounting: #10 or M5 (SS M5 hardware included)

Max. Tightening Torque: 0.56 N·m (5 lbf·in)

[1] For European applications, power this device from a Limited Power Source as defined in EN 60950-1.

Interface

Two bi-color LED indicators

Two buttons

Six character LCD

Certifications

(CE/UKCA approval only applies to 2.4 GHz models)

CE   Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

UKCA   Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

RS-485 Communication Specifications

Communication Hardware (MultiHop RS-485)

Interface: 2-wire half-duplex RS-485

Baud rates: 9.6k, 19.2k (default), or 38.4k via DIP switches; 1200 and 2400 via the MultiHop Configuration Software

Data format: 8 data bits, no parity, 1 stop bit

Environmental Specifications (IP67 Housing Models)

Operating Conditions

–40 °C to +85 °C (–40 °F to +185 °F) (Electronics); –20 °C to +80 °C (–4 °F to +176 °F) (LCD)

95% maximum relative humidity (non-condensing)

Radiated Immunity: 10 V/m (EN 61000-4-3)

Shock and Vibration

All models meet IEC 60068-2-6 and IEC 60068-2-27 testing criteria

Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6

Environmental Ratings

IEC IP67; NEMA 6

For installation and waterproofing instructions, go to www.bannerengineering.com and search for the complete instruction manual (p/n 151317)

Operating the devices at the maximum operating conditions for extended periods can shorten the life of the device.

Included with Integrated Battery Devices

- BWA-HW-001: Mounting Hardware Kit, containing four M5-0.8 x 25mm SS screws, four M5-0.8 x 16mm SS screws, four M5-0.8mm SS hex nuts, and four #8-32 x 3/4" SS bolts
- BWA-9O2-C (900 MHz) or BWA-2O2-C (2.4 GHz): Antenna, 2 dBd Omni, Rubber Swivel RP-SMA Male. (Not included with Internal antenna models)
- Quick Start Guide (128185 for DX80 Gateways or 152653 for MultiHop models)

FCC Part 15 Class A for Intentional Radiators

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.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Statement for Intentional Radiators

This device contains licence-exempt transmitters(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.

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2. This device must accept any interference, including interference that may cause undesired operation of the device.
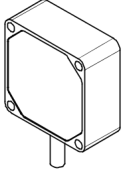
Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes à la norme Innovation, Sciences, et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

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

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

Accessories

Sensors with a Serial Interface

The following sensors are designed to be used with any of the 1-Wire Serial Interface Nodes.

K50UX1ARA U-GAGE Ultrasonic Sensor • 1-wire serial interface • Range: 100 mm to 1 m (3.94 in to 39.4 in) • Datasheet: 191599 **K50UX1CRA** U-GAGE Ultrasonic Sensor • 1-wire serial interface • Range: 300 mm to 3 m (11.8 in to 118 in) • Datasheet: 191599	
M12FTH4Q Temperature and Humidity Sensor • ±2% Accuracy, 1-wire serial interface • (Requires a 5-pin threaded M12 double-ended cordset less than 3 meters long, such as model DEE2R-5*x*D.) • Datasheet: 162669 **M12FT4Q** Temperature Sensor • 1-wire serial interface • (Requires a 5-pin threaded M12 double-ended cordset less than 3 meters long, such as model DEE2R-5*x*D.) • Datasheet: 162669	
QM30VT1 Vibration and Temperature Sensor • Aluminum housing • 2.09 m (6.85 ft) cable with a 5-pin M12 male quick disconnect (QD) • Datasheet: 212568 **QM30VT1-QP** Vibration and Temperature Sensor • Aluminum housing • 150 mm (6 in) cable with a 5-pin M12 male quick disconnect (QD) • Datasheet: 212568 **QM30VT1-SS** Vibration and Temperature Sensor • Stainless steel housing • 2.09 m (6.85 ft) cable with a 5-pin M12 male quick disconnect (QD) • Datasheet: 212568	

Warnings

⚠ **WARNING:**
- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

IMPORTANT: Please download the complete MultiHop M-H6 Data Radio technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

IMPORTANT: Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los MultiHop M-H6 Data Radio, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

IMPORTANT: Veuillez télécharger la documentation technique complète des MultiHop M-H6 Data Radio sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Install and properly ground a qualified surge suppressor when installing a remote antenna system. Remote antenna configurations installed without surge suppressors invalidate the manufacturer's warranty. Keep the ground wire as short as possible and make all ground connections to a single-point ground system to ensure no ground loops are created. No surge suppressor can absorb all lightning strikes; do not touch the Sure Cross® device or any equipment connected to the Sure Cross® device during a thunderstorm.

Exporting Sure Cross® Radios. It is our intent to fully comply with all national and regional regulations regarding radio frequency emissions. **Customers who want to re-export this product to a country other than that to which it was sold must ensure the device is approved in the destination country.** The Sure Cross wireless products were certified for use in these countries using the antenna that ships with the product. When using other antennas, verify you are not exceeding the transmit power levels allowed by local governing agencies. This device has been designed to operate with the antennas listed on Banner Engineering's website and having a maximum gain of 9 dBm. Antennas not included in this list or having a gain greater than 9 dBm are strictly prohibited for use with this device. The required antenna impedance is 50 ohms. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen such that the equivalent isotropically radiated power (EIRP) is not more than that permitted for successful communication. Consult with Banner Engineering Corp. if the destination country is not on this list.

> **IMPORTANT:**
> - **Never operate a radio without connecting an antenna**
> - Operating radios without an antenna connected will damage the radio circuitry.
> - To avoid damaging the radio circuitry, never apply power to a Sure Cross® Performance or Sure Cross® MultiHop radio without an antenna connected.

> **IMPORTANT:**
> - **Electrostatic discharge (ESD) sensitive device**
> - ESD can damage the device. Damage from inappropriate handling is not covered by warranty.
> - Use proper handling procedures to prevent ESD damage. Proper handling procedures include leaving devices in their anti-static packaging until ready for use; wearing anti-static wrist straps; and assembling units on a grounded, static-dissipative surface.

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

Document title: Sure Cross® MultiHop M-H6 Data Radio
Part number: 152725
Revision: M
Original Instructions
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152725