

Section 1

General Description

The ClearPath Spectrum Wireless System is comprised of two devices; a Coordinator (S-COR) that functions in a similar role as traditional wireless system receivers, and a Transceiver (S-TRX) that functions in a similar role as traditional wireless transmitters, but this is where the similarities end. The Spectrum Wireless System provides several industry firsts:

- Digital two-way communication allows for greater security and ensures successful signal transmission between devices.
- LCD screen (S-COR) for quick and easy programming.
- Upon switch activation, the Transceivers communicate valuable information that is displayed on the LCD screen including: device ID, signal strength and battery monitoring.
- Pairing of multiple Transceivers with Coordinators.
- Two built-in outputs (S-COR).
- 3 year battery life (S-TRX).
- 5 year battery life for NexGen wireless (NGS-IR-A, NGS-CT-HSS, NGS-CT-P).

ClearPath Spectrum products operate at 2.4 GHz, making the wave length more than 5 times shorter than commonly-used frequencies. Shorter waves pass through cracks and barriers easier, and transceivers will continue to attempt to contact the Coordinator until it receives an acknowledgement.

Section 2

Basic Installation

The S-COR is typically installed inside the door operator housing area (header box), since the power supply and operator control are located there.



NOTICE: For proper operation, it is important to ensure that the antenna for the S-COR is located outside the operator housing. This can be accomplished by drilling a 3/8" to 1/2" hole in the housing and carefully pulling the antenna through. Please do not alter or modify the antenna for the S-COR in any way. **SEE FIGURE 1 FOR DETAILED INSTALLATION WITH GROMMET.**

Section 3

Technical Data

Model..... ClearPath Spectrum™ S-COR
 Input Power..... 12-24V AC or DC
 Output Contacts.....Form C
 Relay 1 Contact Rating.....3A:24V AC
 Relay 2 Contact Rating.....1A:24V AC
 Temperature Rating..... -22 °F to 158 °F
 (-30 °C to 70 °C)

Weight..... 0.25 lbs.
 Physical Size..... 3 3/4"L x 2 1/4"W x 1"H



NOTICE: This device complies with Part 15 of the FCC rules. Operation of this device 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. Any changes or modifications not expressly approved by MS SEDCO could void the user's authority to operate this equipment.

Section 4

Programming the Coordinator —

Single Openings: S-COR

Upon power up, the screen will read “MS Sedco: Press Select to Begin.” Press Select.

The next screen will show “Opening Type.” The default is Single. Press Select to skip this step and move on, or to verify the selection, press the > key. The next screen should then show Single*, with the * indicating the current selection. Press Select to move to the next step, < to move back to the original screen and press Select, or > to change setting to Vestibule and press Select (skip to Section 5 for Vestibule programming).

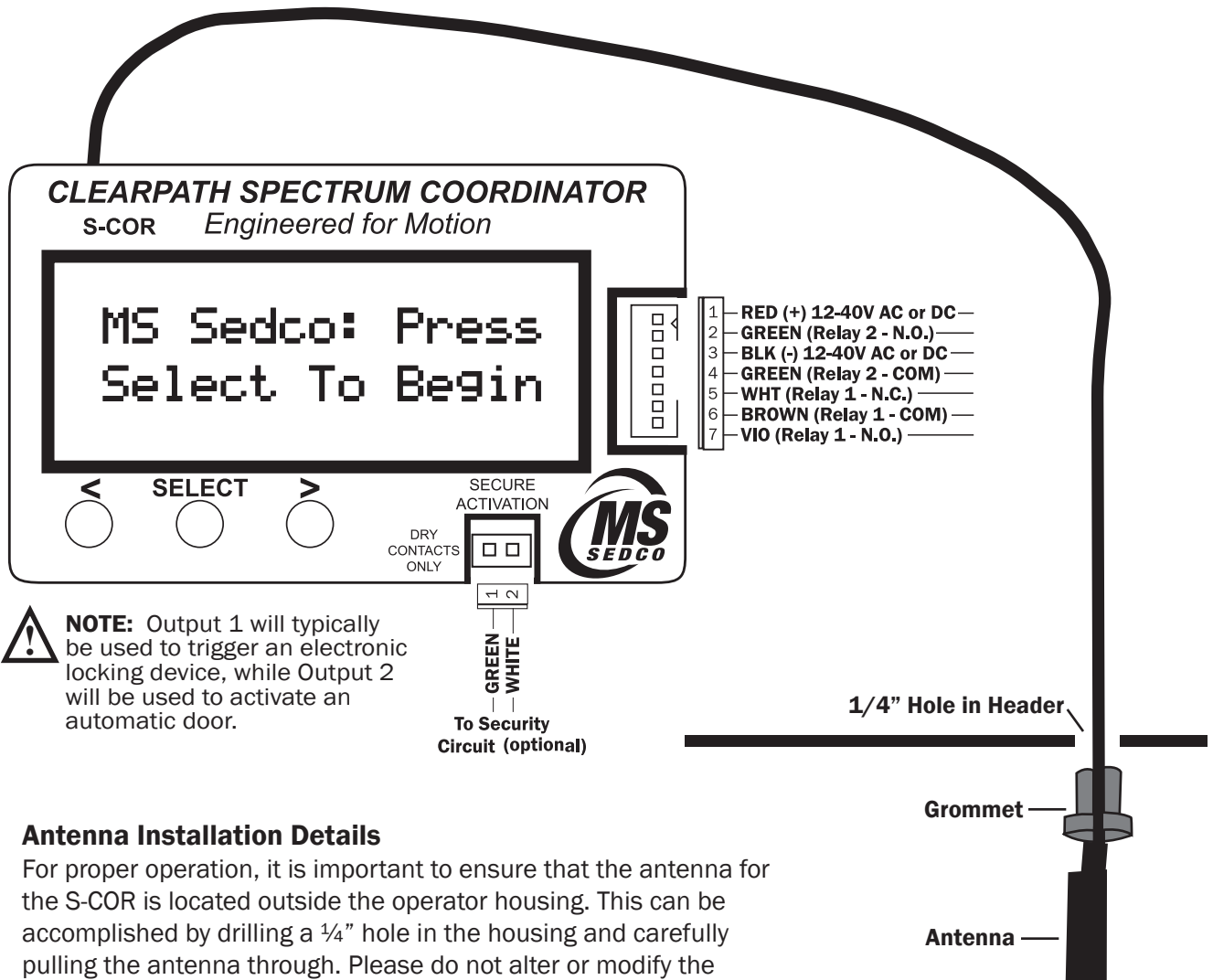
The next screen will show “Channel Select.” Four channels are available, with the default being channel 1. In most cases, the channel will remain at the default, and the installer may press Select to skip the step, if one wishes to auto scan to the cleanest channel, or manually choose a different channel for better performance when two openings are in close proximity, this can be accomplished by using the arrow keys. (Note that in manual mode, the current channel selection will be indicated with an asterisk (*), then press Select.

The next screen will show “Pair Device.” THE COORDINATOR WILL ONLY RESPOND TO TRANSCEIVERS THAT HAVE BEEN PAIRED. Use the arrow keys to choose the location of the Transceivers. The available choices are Outside, Inside, and HH (hand-held). Choose the appropriate location for the Transceiver and press select. The screen will then show "Press Device Pair Button". Press and hold the PAIR button on the Transceiver's circuit board (See Figure 2). A Red/Orange LED on the transceiver should “long flash” for 1 - 2 seconds, to indicate correct pairing. Upon pressing the PAIR button, the screen should display "IDXXXX-XX Paired Press Select". If LED is not seen for 1 - 2 seconds, repeat the Pairing process. At the end of two minutes, if the Coordinator has not received a pairing signal, the screen

FIGURE 1
Wiring Diagram



NOTE: To reset S-COR to factory settings, press and hold < and > buttons upon power up.



NOTE: Output 1 will typically be used to trigger an electronic locking device, while Output 2 will be used to activate an automatic door.

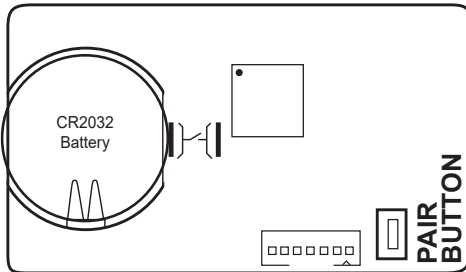
Antenna Installation Details

For proper operation, it is important to ensure that the antenna for the S-COR is located outside the operator housing. This can be accomplished by drilling a 1/4" hole in the housing and carefully pulling the antenna through. Please do not alter or modify the antenna for the S-COR in any way.

1. Drill 1/4" hole (typically in header).
2. Insert antenna through drilled hole.
3. Grommet provided has a cut on one side. Squeeze grommet to "split".
4. Place split grommet around antenna.
5. Push grommet into hole and ensure it is fully seated.

will read “Pair Failed Press Select.” In either case, the screen will give you an option to pair additional devices. When all devices have been paired, choose “No” or “Skip” to move on to the next screen.

FIGURE 2
S-TRX Transceiver Circuit Board



The next screen will read “Add Setting.” This is the place where users can program additional features into the device. Five additional settings are available: HH Signal Range, Output Delay, SecureActivation, Ratchet Relay, and Unpair Devices. These are covered below:

Output Delay – This controls the delay time between output relays 1 and 2 and can be adjusted via the arrow keys. Remember, Output 1 is typically the locking device, and Output 2 is typically an automatic door. After adjusting time with the arrow keys, press Select to move on to the next step.

SecureActivation – Many times an automatic door with wireless activation is installed after a security system is already in place. SecureActivation allows the outside Transceiver to be integrated into the security system.

When SecureActivation is turned on, the outside switch will not activate the door unless given clearance from the security system. There are two choices for turning “On” this feature, Normally Open (N.O.) and Normally Closed (N.C.), depending on whether the circuit is normally open or normally closed. Once programming is complete, connect the SecureActivation 2-wire harness included to the Normally Open (N.O.) and Common (COM) of the security device and plug the harness into the SecureActivation socket on the S-COR (Figure 1).



WARNING: The Security Clearance input requires a dry contact. Do not apply voltage!

Ratchet Relay – If Ratchet Relay is turned on, the output 2 relay will remain closed until a second signal is received.



NOTICE: Connect device to be used in ratchet mode to Output 2.

HH Signal Range – ClearPath Spectrum devices transmit a much greater distance than other wireless products used in the automatic door industry. Since a hand-held Transceiver can be paired with multiple Coordinators in a building, or with two buildings in closer proximity, the default HH Signal Range is set to “Reduced”, requiring a very strong signal for the hand-held Transceiver to operate. If a hand-held Transceiver will not be used with any openings nearby, the range can be expanded to “Normal” by using the arrow keys and pressing Select when Normal displays on the screen.

UnPair Devices – Transceivers can be unpaired by Type, a Single Device (requiring the PAIR button to be pushed on that device to unpair), or All Devices, which will unpair the Coordinator from all Transceivers.

Section 5

Programming the Coordinator –

Vestibule Openings: Primary S-COR (Figure 3)

A vestibule application requires two Coordinators: **A Primary and Secondary.**

The **Primary Coordinator (S-COR)** is considered the “brain” that controls all sequencing or timing functions at an opening, thus all Transceivers plus the Secondary Coordinator are paired to the Primary Coordinator.

For consistency, it is assumed the **Primary Coordinator** is the exterior opening and controls sequencing the interior opening where the Secondary Coordinator will be located.

The **Secondary Coordinator** must be paired to the Primary Coordinator only for sequencing to work properly. No other devices are paired to the Secondary.



NOTE: PROGRAM THE PRIMARY COORDINATOR FIRST - TO PROGRAM A SECONDARY COORDINATOR SKIP TO SECTION 6

Upon power up, the screen will read “MS Sedco: Press Select to Begin.” Press Select.

The next screen will show “Opening Type.” The default is Single. Use the arrows to choose Vestibule, then press Select.

The next screen will show Vestibule Primary, press Select.

The next screen will show “Channel Select.” Four channels are available, with the default being channel 1. In most cases, the channel will remain at the default, but should one wish to auto scan to the cleanest channel, or manually choose a different channel for better performance when two openings are in close proximity,

this can be accomplished by using the arrow keys. (Note that in manual mode, the current channel selection will be indicated with an asterisk [*]), then press select.

The next screen will show "Pair Device." THE COORDINATOR WILL ONLY RESPOND TO TRANSCEIVERS THAT HAVE BEEN PAIRED. Use the arrow keys to choose the location of the Transceiver (see Figure 3). The available choices are Outside, Inside, Vest Inside, Vest Outside, Vest Both, Secondary, and HH (hand held). The functions of these locations are described below:

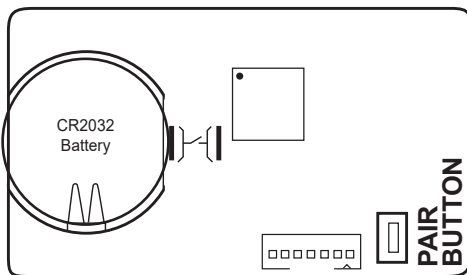
- Outside will cause the exterior opening to activate, then the interior opening.
- Inside will cause the interior opening to activate, then the exterior opening.
- Vest Inside will only activate the interior opening.
- Vest Outside will only activate the exterior opening.
- Vest Both and HH will activate both openings simultaneously.
- Secondary is for sequencing the Coordinator programmed as the "Secondary" at the interior opening.



NOTE: Only select this option once the Secondary Coordinator has been properly programmed (see Section 6) and is ready for pairing.

Choose the appropriate location for the Transceiver and press select. The screen will then show "Press Device Pair Button". Press and hold the PAIR button on the Transceiver's circuit board (See Figure 2). A Red/Orange LED on the transceiver should "long flash" for 1 - 2 seconds, to indicate correct pairing. Upon pressing the PAIR button, the screen should display "IDXXX-XX Paired Press Select". If LED is not seen for 1 - 2 seconds, repeat the Pairing process.

FIGURE 2
TRX Transceiver Circuit Board



The next screen will read "Add Setting." This is the place where users can program additional features into the device. Six additional settings on the Primary Coordinator are available: HH Signal Range, Output Delay, Vest Delay, SecureActivation, Ratchet Relay, and Unpair Devices. These are covered below:

Output Delay – This controls the delay time between output relays 1 and 2 and can be adjusted via the arrow keys. Remember, Output 1 is typically the locking device, and Output 2 is typically an automatic door. After adjusting time with the arrow keys, press Select to move on to the next step.

Vest Delay – This controls the delay time in the sequencing of the vestibule doors when the exterior or interior switch is activated. The delay time can be adjusted by pressing the arrow keys.

SecureActivation – Many times an automatic door with wireless activation is installed after a security system is already in place. SecureActivation allows the outside Transceiver to be integrated into the security system.

When SecureActivation is turned on, the outside switch will not activate the door unless given clearance from the security system. There are two choices for turning "On" this feature, Normally Open (N.O.) and Normally Closed (N.C.), depending on whether the circuit is normally open or normally closed. Once programming is complete, connect the SecureActivation 2-wire harness included to the Normally Open (N.O.) and Common (COM) of the security device and plug the harness into the SecureActivation socket on the S-COR (Figure 1).



WARNING: The Security Clearance input requires a dry contact. Do not apply voltage!

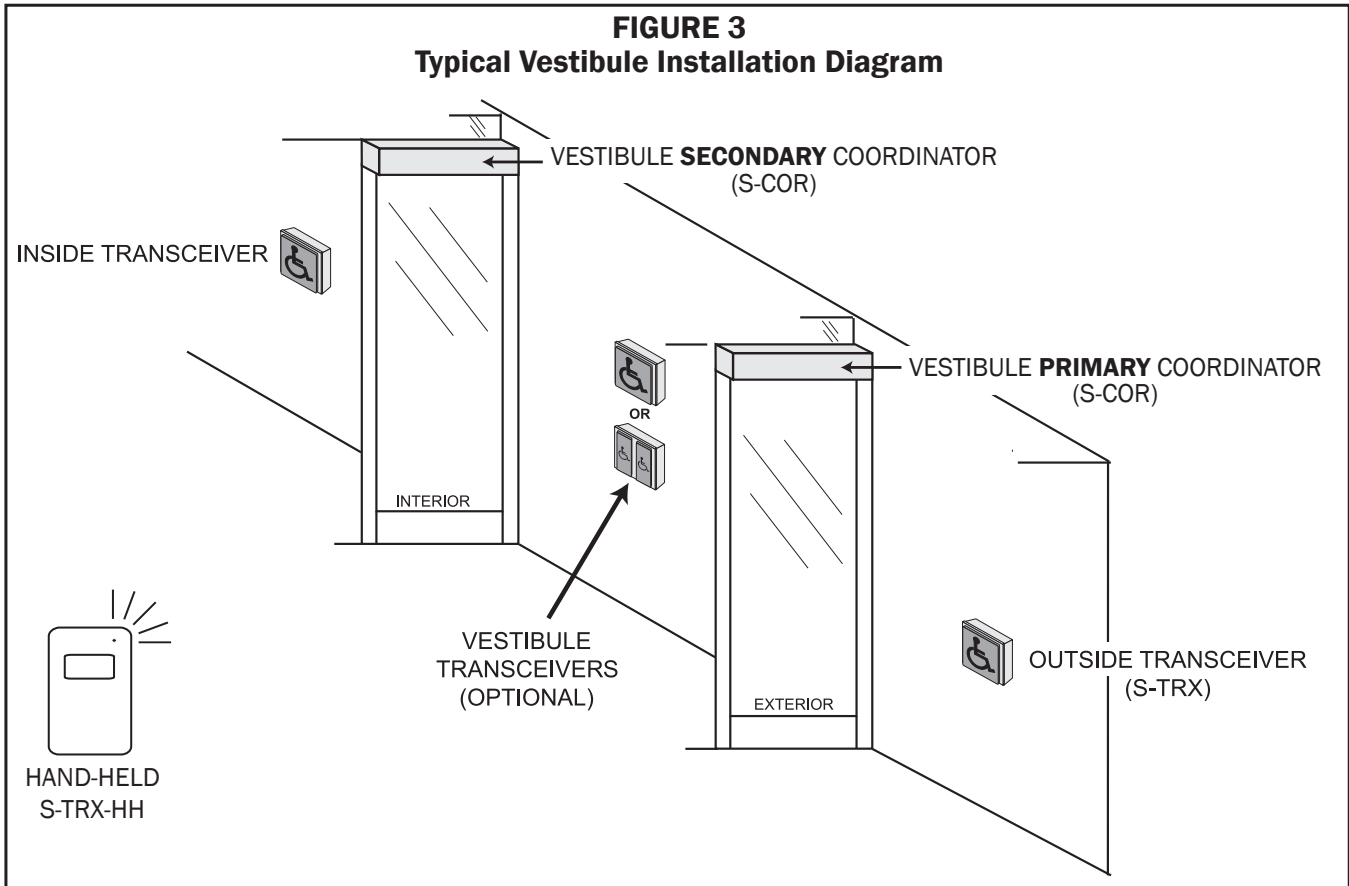
Ratchet Relay – If Ratchet Relay is turned on, the output 2 relay will remain closed until a second signal is received.



NOTICE: Connect device to be used in ratchet mode to Output 2.

HH Signal Range – ClearPath Spectrum devices transmit a much greater distance than other wireless products used in the automatic door industry. Since a hand-held Transceiver is paired with multiple Coordinators in a building, or with two buildings in closer proximity, the default HH Signal Range is set to "Reduced", requiring a very strong signal for the hand-held Transceiver to operate. If a hand-held Transceiver will not be used with any openings nearby, the range can be expanded to "Normal" by using the arrow keys and pressing Select when Normal displays on the screen.

Unpair Devices – Transceivers can be unpaired by Type, a Single Device (requiring the PAIR button to be pushed on that device to unpair), or All Devices, which will unpair the Coordinator from all Transceivers.



All Transceivers (S-TRX) pair to the Primary Coordinator (S-COR) only.

The Secondary Coordinator (S-COR) must pair with the Primary Coordinator (S-COR) for vestibule sequencing to function properly.

Section 6

Programming the Coordinator

Vestibule Openings: Secondary S-COR (Fig. 3)

Upon Power Up, the screen will read "MS Sedco Press Select To Begin". Press Select. The next screen will show "Opening Type". The default is Single. Use the arrows to choose Vestibule, then press Select.

The next screen will show Vestibule Primary press > button and Vestibule Secondary will appear on screen. Press Select and the screen will show, "Press < Button Pair To Primary" for 2 minutes.



WARNING: The Primary S-COR must be powered up and on the proper screen simultaneously for successful pairing.

Prior to pressing the < button on the Secondary Coordinator, the Primary Coordinator must be on the proper screen to accept pairing. On the Primary Coordinator press Select until the "Pair Device" screen is

showing. Press the > button until "Secondary" is displayed, press Select and the screen should show "Press Device Pair Button". At this time press the < button on the Secondary S-COR until the screen shows "Press < Button Found Coordinator" and the Primary Coordinator screen shows "IDxxx-xx Paired Press Select" for a successful pairing. In the event the pairing was not successful the screen will show "Pair Failed Press Select" after 2 minutes. In either case, pressing Select will give you the option to pair the Secondary S-COR again.

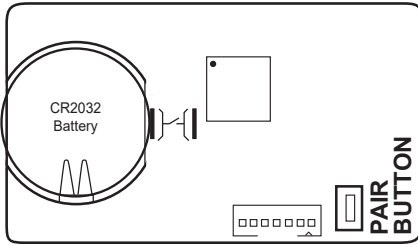


NOTE: Once the Secondary S-COR is successfully paired, the Vestibule Delay Time must be set in Add Settings ON THE PRIMARY COORDINATOR.

The next screen will show "Channel Select." Four channels are available, with the default being channel 1. In most cases, the channel will remain at the default, but should one wish to auto scan to the cleanest channel, or

manually choose a different channel for better performance when two openings are in close proximity, this can be accomplished by using the arrow keys. (Note that in manual mode, the current channel selection will be indicated with an asterisk (*), then press Select.

FIGURE 2
TRX Transceiver Circuit Board



The next screen will read “Add Setting.” This is the place where users can program additional features into the device. Two additional settings on the Secondary Coordinator are available: Output Delay and SecureActivation. These are covered below:

Output Delay – This controls the delay time between output relays 1 and 2 and can be adjusted via the arrow keys. Remember, Output 1 is typically the locking device, and Output 2 is typically an automatic door. After adjusting time with the arrow keys, press Select to move on to the next step.

SecureActivation – Many times an automatic door with wireless activation is installed after a security system is already in place. SecureActivation allows the outside Transceiver to be integrated into the security system. When SecureActivation is turned on, the outside switch will not activate the door unless given clearance from the security system. There are two choices for turning “On” this feature, Normally Open (N.O.) and Normally Closed (N.C.), depending on whether the circuit is normally open or normally closed. Once programming is complete, connect the SecureActivation 2-wire harness included to the Normally Open (N.O.) and Common (COM) of the security device and plug the harness into the SecureActivation socket on the S-COR (Figure 1).



WARNING: The Security Clearance input requires a dry contact. Do not apply voltage!

Section 7

Operational Mode

In operational mode, whenever a Transceiver is activated, the Coordinator screen will display the following information: ID, battery status and signal transmission strength (see Figure 4).

FIGURE 4
S-COR Screen when S-TRX is Activated



Transceiver ID: 4 digit automatically assigned

Signal Strength: **** Optimal
*** Good
** OK
* Weak

Battery Status: Battery OK
Replace Battery

Single Pairing Abbreviations:

Outside Actuator: -OS
Interior Actuator: -IN
Handheld: -HH

Vestibule Pairing Abbreviations:

Outside Actuator: -OS
Interior Actuator: -IN
Handheld: -HH
Vest Inside: -VI
Vest Outside: -VO
Vest Both: -VB
Secondary: -SE