

900 MHz WIRELESS RF REMOTE MODULE

DoorKing Part Number
1470-080

This 900 MHz wireless RF remote module provides wireless communication for a 2358-010 tracker expansion board revision "N" or higher to a 900 MHz wireless baseboard in a access control system. Use this 900 MHz wireless boards **ONLY** with DoorKing: 1833, 1835, 1837 and 1838 multi-door access controller access control systems. **DO NOT** use with 1838 Access Plus model.

Antenna Options

Range **WILL VARY GREATLY** depending on individual setup: Antenna height above the ground, background signal interference, physical obstructions (trees, buildings etc.). Adverse weather (rain) **CAN** also affect antenna range.

Cabinet Mounted
900 MHz Antenna Kit
P/N 1514-019

Range is Up to **1500 ft**
direct-line-of-sight.

Externally Mounted
900 MHz Antenna Kit
P/N 1514-079

Range is Up to **1500 ft**
direct-line-of-sight.

900 MHz Wireless
Dual Band Repeater
P/N 2332-080

Range is Up to **1500 ft**
direct-line-of-sight.
See instruction sheet for
more information.

900 MHz
Short Range
Cabinet Mounted
Antenna (Supplied)

Range is Up to **300 ft**
direct-line-of-sight.

900 MHz Wireless Enclosure Options

Antenna Mount
Single Board
Enclosure
P/N 2351-080

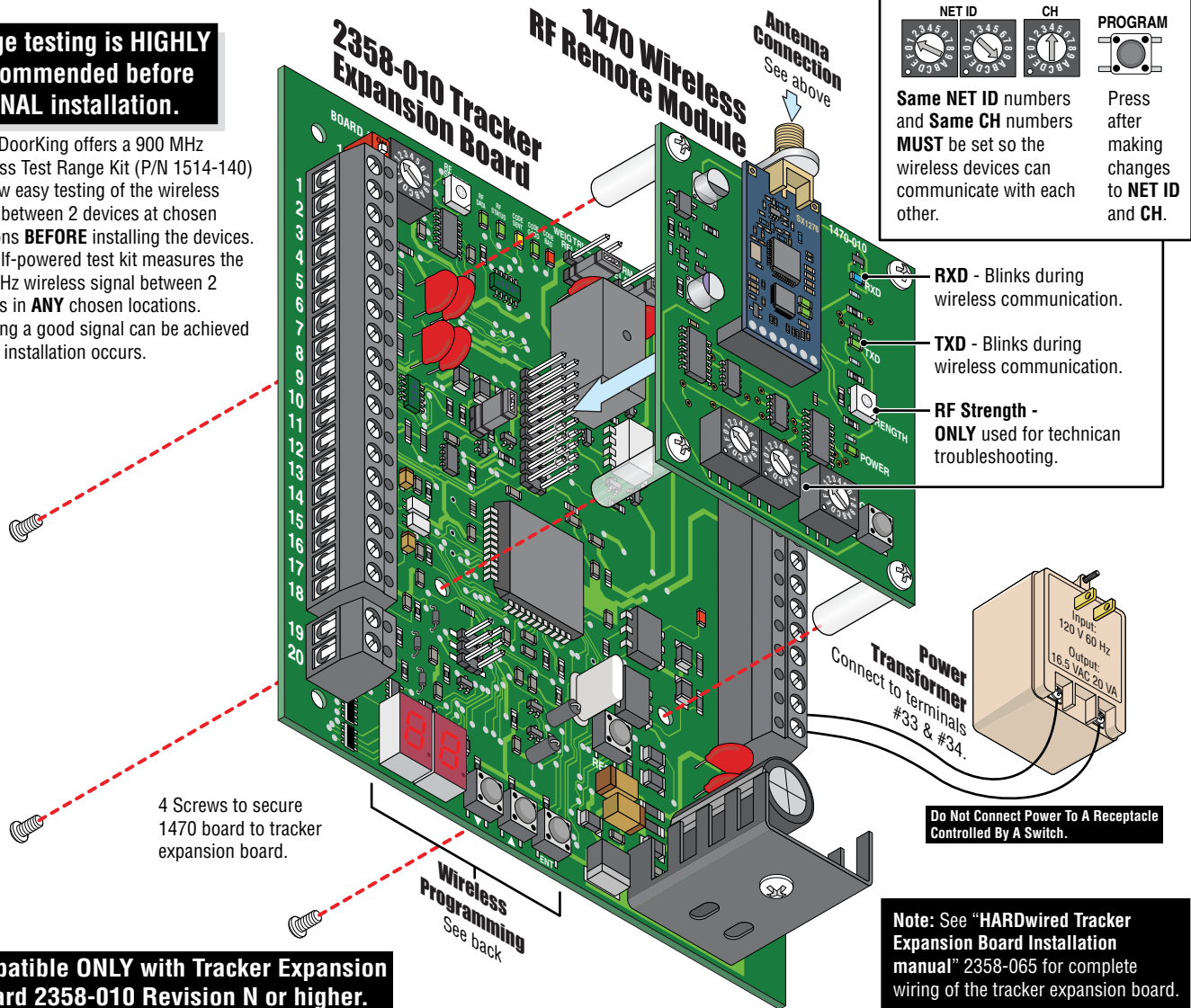
Single Board Enclosure with
Built-In Card Reader and Lighting
DK Prox Reader - P/N 1815-333
HID Reader - P/N 1815-392
AWID Reader - P/N 1815-292

Installation

Plug the 1470 wireless RF remote module into the **wireless connector** and secure boards with 4 screws to the 2358 tracker expansion board. See the **HARDwired tracker expansion board manual** 2358-065 to connect desired options to tracker board terminals #1- #34 to manage a remote access point. **DO NOT CONNECT ANY WIRES TO TERMINALS #10, #17, #27, #28 or #29 (Used for HARDwire communication line ONLY)**. Power transformer must connect to tracker expansion board #33 and #34 (**REQUIRED**). Antenna is **REQUIRED**.

Range testing is **HIGHLY**
recommended before
FINAL installation.

Note: DoorKing offers a 900 MHz Wireless Test Range Kit (P/N 1514-140) to allow easy testing of the wireless signal between 2 devices at chosen locations **BEFORE** installing the devices. The self-powered test kit measures the 900 MHz wireless signal between 2 devices in **ANY** chosen locations. Ensuring a good signal can be achieved before installation occurs.



Compatible ONLY with Tracker Expansion Board 2358-010 Revision N or higher.

1470-065 Issued 11-18
Version F

Wireless RF Remote Module Tracker Expansion Board Programming ONLY DoorKing Part Number 1470-080

1. Press a button to activate LED display.
2. Press **ENT** button and then use **▼▲** scroll buttons to display desired “Program Step” number from list below.
3. Press **ENT** button to enter selected program step number.
4. Select desired data while in program step using **▼▲** buttons.
5. Press **ENT** button to **enter** selected data.
6. Press **ENT** button **AGAIN** to **EXIT** programming **OR** after 10 seconds, board will **automatically EXIT** programming.

| Program Step | Description | Options | Selection Number | Function | Factory Default |
|--------------|---|---------|------------------|--|-------------------------|
| 1 | Door Strike Timer | 00 - 99 | 00 | Sets Strike Time for output relay (term 25 & 26) 0.25 second strike time | 01: 1 second |
| | | | 01 - 99 | Strike time in 1-second increments | |
| 2 | Free Exit Timer, Strike Time | 00 - 99 | 00 | Set Strike Time for RX (Request to Exit) of output relay (input at term 18) 0.25 second Egress Strike time | 01: 1 second |
| | | | 01 - 99 | Egress Strike time in 1-second increments | |
| 3 | Door Ajar Timer | 01 - 99 | 00 | Timer starts when valid access has been granted. 1 second Door Ajar Timer | 12: 60 secs |
| | | | 01 - 99 | Timer set in 5-second increments: 01 = 5 seconds, 10 = 50 seconds | |
| 4 | Aux Relay Timer | 00 - 99 | 00 | Timer setting for Aux Relay activation in 5-second increments 1 second Door Ajar Timer | 12: 60 secs |
| | | | 01 - 99 | Timer set in 5-second increments: 01 = 5 seconds, 10 = 50 seconds | |
| 5 | Free Exit Timer, Aux Relay | 00 - 99 | 00 | Set Strike Time for RX of Aux relay (ONLY available if Dual Door Mode step 12 is ON) 0.25 second Egress Strike time | 01: 1 second |
| | | | 01 - 99 | Egress Strike time in 1-second increments | |
| 6 | Free Exit, No Strike | 0 - 1 | 0 | Set RX (Request to Exit) function. Activate Output Relay or do not Activate Output Relay Do Not Activate Output Relay or Reader Beeper/LED when RX input is received | 01: Activate |
| | | | 1 | Activate Output Relay and Reader Beeper/LED for Free Exit Strike Time when RX received | |
| 7 | Not Used | | | | |
| 8 | Door Switch Logic | 0 or 1 | 0 | Sets type of Door Switch contacts N.O. contact from door switch with Door Closed (Circuit Open - CO) | 0: N.O. |
| | | | 1 | N.C. contact from door switch with Door Closed (Circuit Close - CC) | |
| 9 | Auto Relock | 0 or 1 | 0 | Turns on Auto Relock function (not available if Dual Door Mode, step 12 is ON) Output Relay is activated for Strike Time | 0: Disabled |
| | | | 1 | Door Contact Switch required. If door returns to closed position during Strike Time door will “relock” after 1 second, even if strike time has not expired. | |
| 10 | Beeper / LED Hold Open | 0 or 1 | 0 | Sets how BEEPER or LED will function during Hold Open When Hold Open occurs, Beeper or LED is active only during Strike Timer | 0: |
| | | | 1 | When Hold Open occurs, Beeper or LED will remain active during Hold Open | |
| 11 | Hold Open or Hold Egress functions | 0 or 1 | 0 | Sets how Aux & Alarm Relay responds during Hold Open or Hold Egress situation No Aux Relay functions. Alarm will be in “Reset”. If Alarm Relay is set for “integral” mode, Alarm relay will not activate. If Alarm Relay set for “Bypass” mode, Alarm Relay will activate for Hold Open period or Extended Egress Hold. | 0: No Relay Function |
| | | | 1 | Aux Relay will function for all settings. If Alarm Relay is set for “integral” mode, Alarm relay will not activate. If Alarm Relay set for “Bypass” mode, Alarm Relay will activate for Hold Open period or Extended Egress Hold. | |
| 12 | Dual Door Mode | 0 or 1 | 0 | Sets Tracker to function as 2 Access Points (2 tracker addresses) Disabled, Tracker functions as single access point | 0: Disabled |
| | | | 1 | Dual Mode: Tracker functions as set board address and next sequential address Card Read will be sent to controller as set board address, access is granted or denied Card then sent as set address +1, access granted or denied. Aux Relay becomes 2nd output relay. All other Aux Relay functions disabled. Door Contact switch becomes RX for 2nd address. | |
| 13 | Not Used | | | | |
| 14 | Not Used | | | | |
| 15 | Aux Relay Functions | 0 - 12 | 0 | Sets function for Aux Relay Aux Relay Disabled | 0: Disabled |
| | | | 1 | No Door Ajar Timer: Requires Door Contact Switch. Aux Relay activates when Door Not Closed. | |
| | | | 2 | No Door Ajar Timer, Pulse: Requires Door Contact Switch. Aux Relay “pulses” when Door Not Closed. | |
| | | | 3 | Door Ajar Timer: Requires Door Contact Switch. When door opens, start Door Ajar Timer. When timer expires Aux Relay activates for Aux Relay timer or until door closes, whichever occurs first. | |
| | | | 4 | Door Ajar Timer, Pulse: Requires Door Contact Switch. When door opens, start Door Ajar Timer. When timer expires Aux Relay Pulses for Aux Relay timer or until door closes, whichever occurs first. | |
| | | | 5 | Door Ajar, Pulse warning the ON: Requires Door Contact Switch. When door opens, Pulse Aux Relay and start Door Ajar Timer. When timer expires Aux Relay ON for Aux Relay timer or until door closes, whichever occurs first. | |
| 6 | Door opens for any reason, Start Door Ajar timer and pulse Aux Relay. When Door Ajar timer expires, start Aux Timer and continue Pulsing Aux Relay. When Door Closes or both timers expire, turn off Aux Relay. | | | | |

Programming continued on next page

| Program Step | Description | Options | Selection Number | Function | Factory Default |
|--------------|--|---------|--------------------------------------|--|---------------------------|
| 15 | Aux Relay Functions | 0 - 12 | 7 | Aux Relay as 2nd Alarm Relay. Aux Relay will mirror Alarm Relay functions. | 0: Disabled |
| | | | 8 | Aux Relay as 2nd Alarm Relay, PULSE. Aux relay will Pulse during any Alarm Relay activation. | |
| | | | 9 | Good Card: Aux Relay will activate for Aux Relay timer for any Access Granted Card | |
| | | | 10 | Any Card: Aux Relay will activate for Aux Relay Timer when any card has been presented. | |
| | | | 11 | Bad Card: Aux Relay will activate for Aux Relay timer when a card has been denied | |
| | | | 12 | Warn before Hold Open or Release of Hold Open: Aux relay will activate for Aux Relay timer when scheduled Hold Open begins or ends. Output Relay will be delayed until Aux Timer expires. Do not set Aux Timer above 60 seconds in this mode. | |
| 16 | Alarm Relay Functions Door Operation Note: PROPER Condition: The access control system OR request to exit device HAS activated the OUTPUT RELAY on the tracker expansion board and the door contact switch is CLOSED (Door is OPEN). This indicates that the door has been PROPERLY OPENED . FORCED Condition: The access control system OR request to exit device has NOT activated the OUTPUT RELAY on the tracker expansion board and the door contact switch is CLOSED (Door is OPEN). This indicates that the door has been FORCED OPENED . | 0 - 4 | Sets function for Alarm Relay | | 0: Disabled |
| | | | 0 | Aux Relay Disabled | |
| | | | 1 | Bypass Mode: Alarm Relay provides "Bypass" to Alarm Door Switch. With proper door input (access or egress) activate Alarm Relay, start Strike timer and Door Ajar timer. When Door Ajar timer expires, deactivate Alarm Relay. If second Door Contact Switch is provided, generate transaction for Door Ajar and Door Closed following Door Forced condition. Also generate transaction for Door Forced condition. | |
| | | | 2 | Integral Mode, Door Ajar Timer: Door Contact Switch connected to Tracker, Alarm Relay provides connection directly to Alarm System. When door is opened for any reason, start Door Ajar timer. When Door Ajar timer expires and Door is still OPEN, activate Alarm Relay. Reset when door closes. Send Door Ajar and Door Close transactions. | |
| | | | 3 | Integral Mode, Proper and Forced condition: Door Contact Switch connected to Tracker, Alarm Relay provides connection directly to Alarm System. With proper door input (access or egress) start Strike timer and Door Ajar timer. When Door Ajar timer expires and Door is still OPEN, activate Alarm Relay. Reset when door closes. If door is opened without proper condition, activate alarm relay. When door closes deactivate Alarm Relay. Send Door Ajar, Door Close and Door Forced transactions. | |
| | | | 4 | Gate Alarm Function: Alarm Relay will activate for 1 second when tracker board receives a "Gate Forced" or "Gate Obstructed" transaction from the operator control board. | |
| 17 | Controller Check-In Time | 0 - 99 | 5 | <p>This function will set 'how often' the tracker board checks in with the controller for scheduled hold open times. Example: a hold open time is scheduled for 8:00 AM and the check-in time is set for 5. If the tracker board last checked in with the controller at 7:59 AM, the scheduled 8:00 AM hold open time will not initiate until 8:04 AM.</p> <p>Every time a tracker board polls the controller, this consumes time on the network – the more tracker boards on the network polling the controller may create a short delay on the tacker board network. To manage this, adjust how often the tracker boards check in to the controller board. Your options are Zero (0) to 99 minutes cycle.</p> <p>If there are NO Hold-Open Schedules programmed for a specific Tracker Board address you can program this tracker board "Controller Check-In Time" (Step#17) to a Zero (0) minute Polling cycle.</p> | 5 Min Polling Cycle |

Programming continued on next page

Wireless Programming ONLY (1470 RF Remote Module)

| Program Step | Description | Options | Selection Number | Function | Factory Default |
|---|--|-------------|----------------------------|---|---|
| 18 | Low Byte MAC | 1 - 99 | 5 | Preset at Factory. Do Not Change. Contact DoorKing tech support. Low Byte Value MAC address used only for 900MHz. Assigned during manufacturing. | 5 |
| 19 | Reset to Factory Defaults | 5 | | Sets all parameters to Factory Default | |
| 20 | View RF POT Setting | Adjustable | | Sets maximum amount of allowable signal strength loss | |
| 21 | View RF Signal Strength | LED Display | | Displays current signal strength between Baseboard and Tracker. <ul style="list-style-type: none"> • 79 or lower - GOOD. (74-76 or lower preferred) • 80-85 - Unreliable signal strength. • 86-99 - NO signal. | |
| 22 | Card Code Forwarding (Factory Set) | 0 or 1 | 0 1 | Sets Wireless Tracker to act as Repeater Do Not Change. Contact DoorKing tech support. 0 Repeater Mode OFF 1 Repeater Mode ON | 0: Off |
| 23 | Same Zone Address Relay Delay | 0 - 20 | | Adding relay control delay to Trackers using the same Zone Addresses If more than one tracker board is set to the same address (zone addresses), then change this value to a unique number. Only program this for tracker boards with the same addresses. Start out with a value of 1 then increase the next board to 2, then the 3rd board to 3 etc... This will prioritize the relay access order of the same zone address boards. | 0 |
| 24 | Lost Wireless Communication Options (Factory Set) Preset at Factory. Do Not Change. Contact DoorKing tech support. | 0 - 5 | 0 1 2 3 4 5 | When wireless communication is lost with the base for "X" number of minutes defined in step 17, this step will instruct the tracker board what action to take. 0 Does nothing 1 Counts the number of lost communication transactions 2 Reboot the RF module only 3 Set RF module with net ID and channel selected 4 Initialize RF module then reboot RF remote module 5 Restore programming value, sets RF remote module net ID and CH, then reboots RF module address boards. | 1: counts the number of lost com trans. |
| 25 | View the Number of Lost Wireless Communications | 0 - 99 | | View the number of lost communication transactions with the base. Use the ▼▲ arrows buttons to change the value. | 0 |
| 26 | Air Busy Wait Time (Factory Set) | 0 - 20 | 2 | Preset at Factory. Do Not Change. Contact DoorKing tech support. 2 This value is set to 2. No need to adjust. | 2 |
| Error codes on LED Displays for Baseboard and Tracker Board | | | | | |
| E1 - Relay connected to 4-pin terminal pins 1 & 2 is on for more than 5 seconds. Relay 1 in 1830 should be set for 00 seconds (0.25 second strike time) | | | | | |
| E2 - Relay connected to 4-pin terminal pins 3 & 4 is on for more than 5 seconds. Relay 2 in 1830 should be set for 00 seconds (0.25 second strike time) | | | | | |
| A1 - Board address is invalid for Tracker. Board address is improperly set as 0, 1, 2 or 19. | | | | | |
| A2 - Dual Mode - Bad Address, 18 or 19 not allowed. | | | | | |

Important Notices

FCC – United States

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 and Regulations. 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.

Notice:

DoorKing does not provide a power transformer on units sold outside of the United States. Use only transformers that are listed by a recognized testing laboratory to power the access control system. **An Inherently Protected Transformer must be used to power this device.** These systems require a 16.5-volt, 20 VA transformer.

Listing:

This product has been tested to and found to be in compliance with the UL 294 Safety Standard and Certified to CAN/ULC-S319-05 by Intertek Testing Services NA Inc. (a Nationally Recognized Testing Laboratory) and is ETL listed.

Performance Levels

| | |
|---|---|
| Destructive Attack: | Level I |
| Line Security: | Level I |
| Endurance: | Level IV |
| Standby Power: | Level I (Level II with 12 VDC, .7 Ah, SLA battery, required for Canadian certification) |
| Single Point Locking Device with Key Locks: | Level I |

Glossary for UL 294

ACCESS CONTROL SYSTEM: A collection of means, measures and specific practices that when combined, form or compose a systematic approach, which enables an authority to control access to areas and resources in a given physical facility. An access control system, within the field of physical security, is generally seen as the second layer in the security of a physical structure.

ALARM: A condition indicating a state of alert or tamper detection.

ALARM SIGNAL: A transmission of an alarm condition or alarm report.

CONTROLLED AREA: A room, office, building, facility, premises, or grounds to which access is monitored, limited, or controlled.

EQUIPMENT: Any part of an electronic access control system, such as access control units, reader interface modules, access point actuators, access point sensors, keypads, and the like.

PROTECTED AREA: A room, office, building, facility, premise or grounds to which access is monitored, and limited and/or controlled, whereby the authorized person of the Access Control System may grant access to non-authorized persons.

RESTRICTED AREA: A room, office, building, facility, premise or grounds to which access is monitored, and limited and strictly controlled, whereby only the administrator of the Access Control System shall issue credentials that will lead to access.



Conforms To UL STD 294
Certified To CAN/ULC-S319-05

Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices are used in a normal manner with a well-constructed network, DoorKing wireless products should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. DoorKing, Inc. accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using DoorKing wireless products, or for failure of DoorKing wireless products to transmit or receive such data.

Safety and Hazards

Do not operate DoorKing wireless products in areas where cellular modems are not advised without proper device certifications. These areas include environments where cellular radio can interfere such as explosive atmospheres, medical equipment, or any other equipment which may be susceptible to any form of radio interference. DoorKing wireless products can transmit signals that could interfere with this equipment. Do not operate DoorKing wireless products in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, DoorKing wireless products **MUST BE POWERED OFF.** When operating, DoorKing wireless products can transmit signals that could interfere with various onboard systems.

The driver or operator of any vehicle should not operate DoorKing wireless products while in control of a moving vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.



Copyright 2019 DoorKing®, Inc. All rights reserved.