CHAMBERLAIN
LiftMaster
PROFESSIONAL

# Wiegand Receiver with Passport Technology
# Installation and Operation Instructions

## SPECIFICATIONS

**Power:** 12VDC, 50 mA

**Temperature Rating:** -40º to +185º F

**RF Frequency:** 390 MHZ

**Accessory Transmitters**
**Visors:** CPT1, CPT2, CPT3, CPT4
**Keychains:** CPTK1, CPTK3, CPTK1PH, CPTK3PH


## TABLE OF CONTENTS



## OVERVIEW

The Wiegand Receiver (CPWR) is a communication device that transmits an information packet to an access control unit such as a Sentex Telephone Entry System. All receiver units utilize the latest in Chamberlain® rolling code technology.

## ACCESS CONTROL COMPATIBILITY

The CPWR outputs a 26-bit or 30-bit Wiegand format compatible with Sentex access control systems.

**⚠ WARNING**

*Children operating or playing with a garage door/gate opener can injure themselves and others. The door/gate could close and cause serious injury or death. Do not allow children to operate the door control push button or the remote control transmitters.*

*Install the receiver (and all control push buttons) out of the reach of children and away from all moving parts of the door/gate hardware, but where the door/gate is visible.*

# Setting the Switches

Before making changes to any of the DIP switches, power MUST be disconnected from the receiver (unplug the terminal block from J2 on the circuit board). **Otherwise, your changes will not take effect.** Also, when setting the receiver's DIP switches, refer only to the numbers silk screened on the PC board (not the numbers on the DIP switch itself).

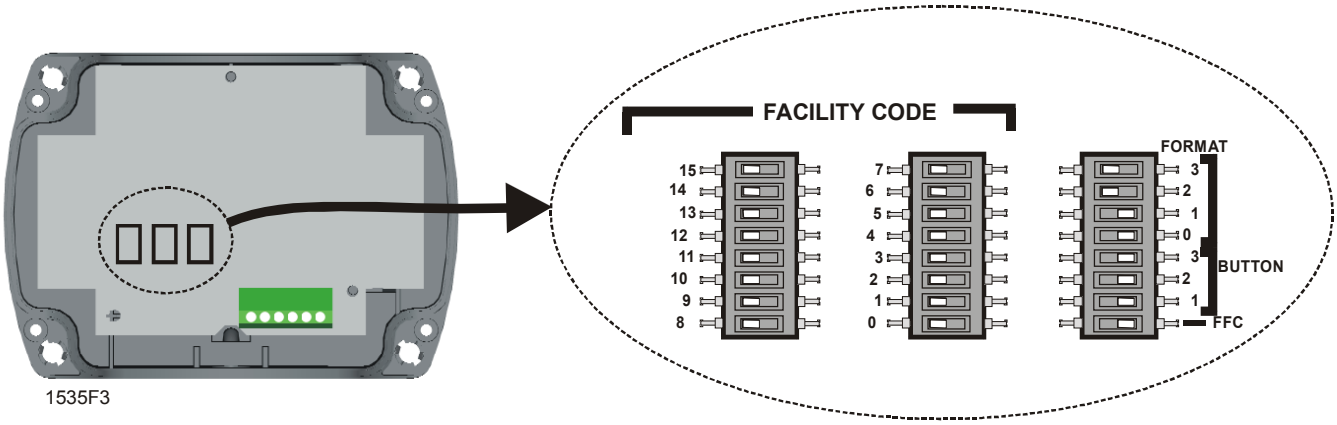


**Figure 1: DIP Switch Location**

## STEP 1: REMOVE FRONT COVER

Turn screws counterclockwise 1/4 turn and remove front cover.

## STEP 2: DISCHARGE STATIC

Before or while touching the circuit board, discharge any static electricity:

(1) Use a grounding strap **OR**

(2) Touch a cold, grounded, metallic pipe.

## STEP 3: OUTPUT CODE FORMAT

The output code format switch settings are factory-set for the 30-bit format (see Figure 2). To change the settings to 26-bit, refer to Figure 3.

**30-bit Switch Settings (Default):**

S1, 3 = OFF or 0
S1, 2 = OFF or 0
S1, 1 = ON or 1
S1, 0 = ON or 1

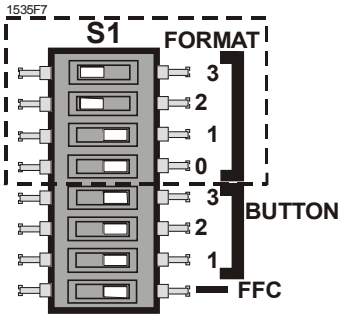


**Figure 2: 30-bit DIP Switch Setting**

**Left = OFF or 0**
**Right = ON or 1**

**26-bit Switch Settings:**

S1, 3 = OFF or 0
S1, 2 = OFF or 0
S1, 1 = ON or 1
S1, 0 = OFF or 0

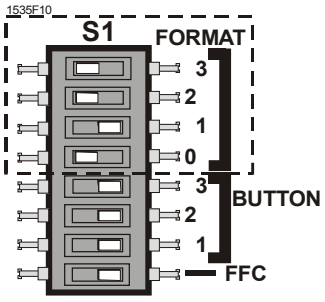


**Figure 3: 26-bit DIP Switch Setting**

## STEP 4: SET THE TRANSMITTER BUTTON RESPONSE(S)

There are three DIP switches used to set the transmitter button response(s). See Figure 4 or Figure 5.

To disallow receiver response to transmitter buttons, move the DIP switch(es) to the LEFT. All button switches are factory set to ON.

- **Switch S1, 1 controls Button #1 and Button #4***
- **Switch S1, 2 controls Button #2**
- **Switch S1, 3 controls Button #3**

* If using a CPT4 transmitter, Button #4 reacts to Button #1 settings, but uses a unique identification number and facility code.

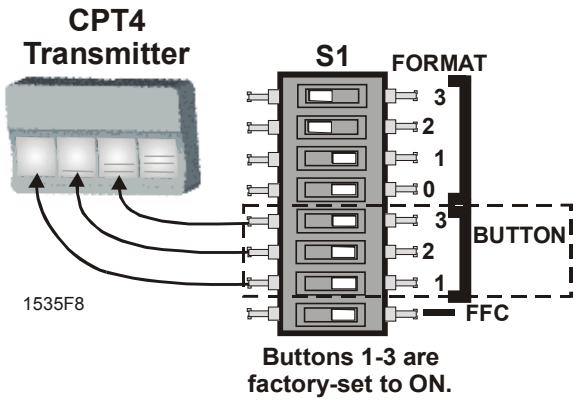


**Figure 4: CPT4 Transmitter Button Switches**

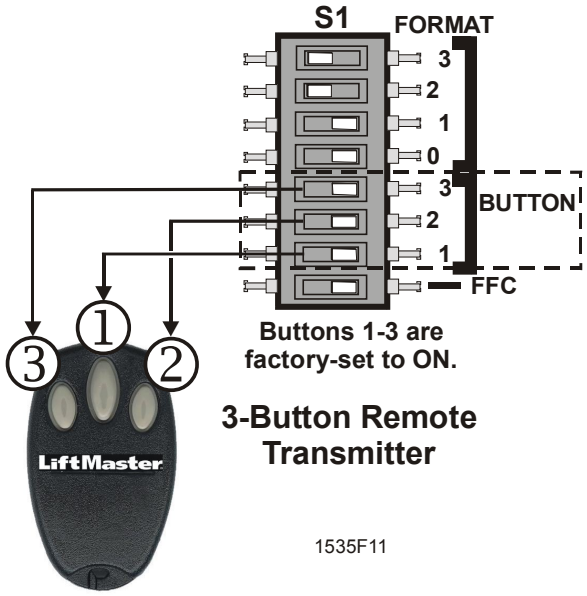


**Figure 5: 3-Button Transmitter Button Switches**

## SETTING A FIXED FACILITY CODE (FFC)

1. The FFC switch must be in the ON position (switch set to right).
2. Set the receiver's facility code switches (labeled 0-5) to match the facility code of the access control system.

   *Refer to the switch settings chart in the Appendix on page 6 for assistance.*

   **NOTE:** For installations that require the facility code of the transmitters to be passed to the access control system, set the FFC switch to the OFF position (set switch to left). *Facility codes are set in the transmitter at the factory to avoid code duplication.*

**Facility code switches**
**6-15 are not used (must remain in the OFF or left position).**

**FFC Factory Setting = ON (switch set to right).**
**Facility Code Factory Setting = All OFF (switches set to left).**

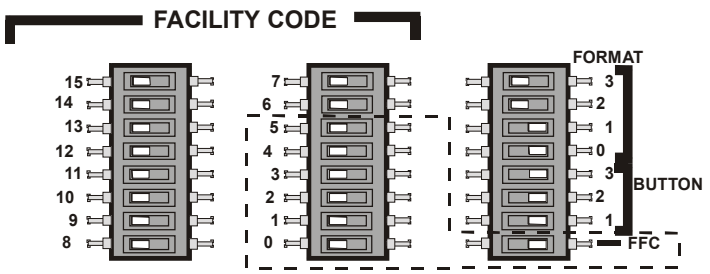


**Figure 6: Facility Code Switches**

# Installation and Wiring

## PARTS SUPPLIED

- Wiegand Receiver
- Antenna
- Installation and Operation Instructions

## PARTS *NOT* SUPPLIED

- # 6 Mounting Hardware
- 5-conductor shielded cable; 22 AWG wire
- Extension Kit (Optional)

## STEP 1: MOUNT THE RECEIVER

Mount receiver to surface using #6 hardware (not supplied). Refer to Figure 8 for receiver mounting hole locations.

**NOTE:** Mount receiver with 18" of space above the receiver for the antenna. Also, receivers should be installed at least 5 feet apart to avoid "cross-talk".

## STEP 2: CONNECT THE ANTENNA

Screw on antenna clockwise and slide rubber boot down to meet o-ring (see Figure 7).

**CAUTION**

*The outside of the antenna connector is not ground. If using an extension kit, do not allow it to contact a metal object.*

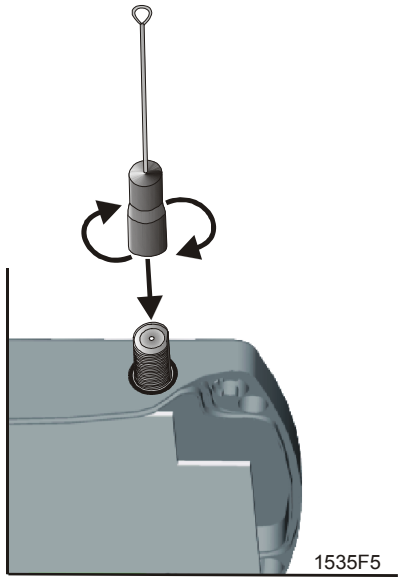


**Figure 7: Antenna Attachment**

## STEP 3: CONNECT SIGNAL/POWER WIRES

Remove the terminal block from J2 on the circuit board. Connect wires from the CPWR 6-pin connector to the access control system. Refer to Figure 8. Then re-insert the terminal block onto J2.

Wire the CPWR to the access control systems' **card reader** port. Refer to the access control system's installation instructions for appropriate wiring detail. A *typical* wire connection might resemble the following:

| CABLE SIGNALS | WIRE COLOR |
|---|---|
| LED | BROWN |
| DATA 1 | WHITE |
| DATA 0 | GREEN |
| +12VDC | RED |
| COMMON (GND) | BLACK |
| SHIELD | SHIELD |

**NOTE:** At power up, the CPWR will perform a system check and produce a series of LED flash sequences. This is normal.

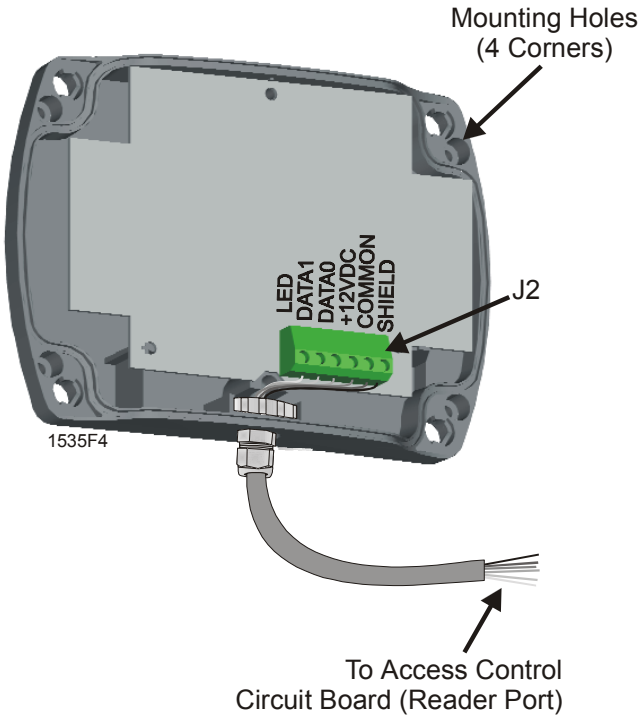


**Figure 8: Signal and Power Connections**

# Testing and Troubleshooting

### STEP 1: CHECK THE POWER
Ensure that the red POWER LED is lit (see Figure 9). If not, check your power connections and/or source. Voltage reading should be within the range of 9VDC – 18VDC.

### STEP 2: CHECK FOR RECEIVER OPERATION
The SIGNAL LED (refer to Figure 9) should be flickering continuously, indicating that the RF receiver circuitry is operating.

### STEP 3: TEST THE TRANSMITTER/RECEIVER
Press the transmitter button previously set in step 4, page 3, within view of the receiver. If the DATA-yellow and VALID-green LEDs do not light, review the **Setting the Switches** and **Connect Signal/Power Wires** sections.

*If the DATA-yellow and VALID-green LEDs flash repeatedly and simultaneously, the format settings may be incorrect (refer to **Output Code Format**).*

If reception of the transmitter's signal is significantly reduced, there may be strong RF interference from other sources. Common sources of interference include fluorescent lights, neon signs, mercury vapor lamps, arc welders, and arcing power lines. Interference due to lighting can be limited by having an electrician wire a noise suppressor into the lamp, light, or sign circuit.

**WARNING**

*Call your local power company if interference is due to arcing power lines.*

**NOTE:** It may be required to press the transmitter button twice at first use.

### RECEIVER LED REFERENCE
(Refer to Figure 9.)

**SIGNAL – Red**
This LED, when lit, indicates that the receiver has detected the presence of RF energy. It is normal for this LED to flicker continuously while the receiver is powered up.

**DATA – Yellow**
This LED indicates that the receiver recognizes the transmission data as coming from a Chamberlain® transmitter with Passport technology.

**VALID – Green**
This LED indicates that the receiver is sending a Wiegand format output to the access control system.

**POWER – Red**
This LED indicates that the receiver has power.

**GRANTED – Green**
This LED indicates that the access control system has validated the transmitted code and has granted access.

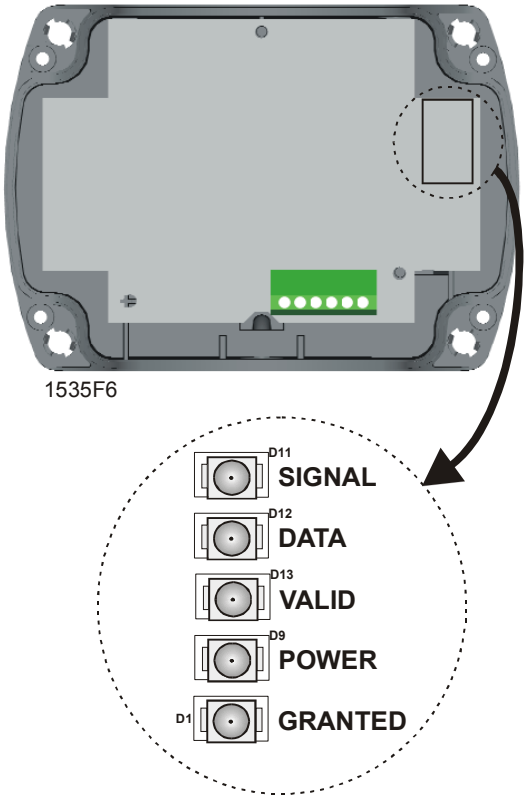


**Figure 9: Location of LEDs**

### STEP 4: ATTACH THE FRONT COVER
Attach front cover of receiver by turning screws clockwise 1/4 turn. Do not overtighten.

# Appendix: Facility Code Switch Settings

Refer to Figure 1 on page 2 for the facility code DIP switch location. Also, when setting the receiver's DIP switches, refer only to the numbers silk screened on the PC board (not the numbers on the DIP switch itself).

| FC | 000 | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | 012 | 013 | 014 | 015 | 016 | 017 | 018 | 019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** |
| **3** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 |
| **2** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 |
| **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** |
| **0** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** |

| FC | 020 | 021 | 022 | 023 | 024 | 025 | 026 | 027 | 028 | 029 | 030 | 031 | 032 | 033 | 034 | 035 | 036 | 037 | 038 | 039 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **4** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **3** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2** | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** |
| **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** |
| **0** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** |

| FC | 040 | 041 | 042 | 043 | 044 | 045 | 046 | 047 | 048 | 049 | 050 | 051 | 052 | 053 | 054 | 055 | 056 | 057 | 058 | 059 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **4** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **3** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** |
| **2** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 | **1** | **1** | **1** | **1** | 0 | 0 | 0 | 0 |
| **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** | 0 | 0 | **1** | **1** |
| **0** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** | 0 | **1** |

| FC | 060 | 061 | 062 | 063 |
|---|---|---|---|---|
| **5** | **1** | **1** | **1** | **1** |
| **4** | **1** | **1** | **1** | **1** |
| **3** | **1** | **1** | **1** | **1** |
| **2** | **1** | **1** | **1** | **1** |
| **1** | 0 | 0 | **1** | **1** |
| **0** | 0 | **1** | 0 | **1** |

## FCC REQUIREMENTS

This device complies with FCC Rules Part 15 and IC Canada Rules and Regulations. 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. FCC rules prohibit adjustments to or modification of receiver and/or remote control transmitter circuitry except for changing the code setting and replacing the remote control transmitter battery. **There are no other serviceable parts.**

## LIMITED WARRANTY

LiftMaster warranties the receiver against original manufacturing defects for a period of three (3) years, measured from the day of initial shipment by LiftMaster. This warranty is conditioned upon LiftMaster being paid in full for all equipment; this warranty is not effective until such payment in full has been received. The warranty period shown above applies only to the LiftMaster receiver with Passport technology). Since this is a manufacturer's warranty, not a dealer's warranty, installation, removal, and freight charges are not part of this warranty, nor shall the installer be held liable in any way for removal, repair or installation of the Passport system unless otherwise stated in a separate dealer's warranty. This warranty does not extend to systems or compartments that show evidence of damage caused by vandalism, acts of God (e.g., lightning, flood), abuse, or unauthorized or improper service.

CHAMBERLAIN®
LiftMaster®
PROFESSIONAL



**FOR TECHNICAL SUPPORT**
**OR TO ORDER REPLACEMENT PARTS**

**Call our toll free number: (800) 528-2806**

Prepare to provide the following information when ordering parts:

- **Part Number**
- **Part Name**
- **Model Number**
- **Manufacturer's Date**

Installation and service information
is available six days a week (Monday-Saturday).