CV-7600 Series-BLE
Bluetooth Card Reader
INSTALLATION INSTRUCTIONS

THIS PACKAGE INCLUDES:

- 2- #6 x 1" Self-Tapping Screws
- 2- 6-32 x 1" Pan Head Phillips Screws
- 1- Single Gang Mounting Plate
- 1- 6-32 x 1/4" Pan Head Phillips Screw
- 1- 6-32 x 1/4" Tamper-Resistant Button Head Hex Drive Screw

1. GENERAL DESCRIPTION

A key component of a physical security electronic access control system, a mobile-ready reader combining BLE and contactless smart card technologies is based on RFID technology.

In operation it is capable of reading data stored on a contactless smartcard credential via high frequency—or reading data from mobile credential stored in a smartphone's wallet app via BLE technology—and without physical contact, and then passing the data obtained to the physical access control system.

Access control systems typically manage and record the movement of individuals through a protected area, such as a locked door.

## 2. CONEKT WALLET APP

Instructions:

1) Using the target smartphone, download and install the Conekt Wallet App. The App can be found on the Apple Store or Google Play Store or by the following link:

http://onelink.to/sb6srb

2) Once installed, launch the Conekt Wallet App, then select the "+" button to load a new Conekt Mobile Access Credential.

3) When prompted, enter the 16- character Conekt Registration Key. This will download and activate the Conekt Mobile Credential. The Conekt Registration Key may be manually entered or, using the associated QR code, scanned with the smartphone's camera.

4) The Conekt Mobile Access Credential will now appear in the Conekt Wallet App, ready to use.
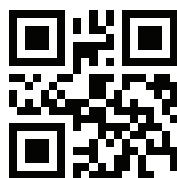
3. SPECIFICATIONS (WITH CARD READER DRAWING)

|		
Input Voltage	8 to 14 VDC	
Current Draw	40 mA typical @ 12VDC 195 mA peak	
Frequency	13.56 MHz (contactless smartcard) 2.4 GHz (BLE)	
Cabling	24 AWG minimum, multi-conductor stranded with foil shield	
Interface	Wiegand (26-bit formats), ABA Track II magnetic strike (clock & data) or OSDP	
Operating Temperature	-40°F to 149°F (-40°C to 65°C)	
LED Control	Blue, Red, Green, Amber and Off	
Read Range	**Physical:**	Up to 1.5" (38mm)
	Mobile:	CV-7600: Up to 1 ft (30 cm) CV-7615: Up to 15 ft (4.6 m)
Audio Tone	Beeper included standard	
Protection	IP67	
Dimensions	**Mullion:** 1 3/4"W x 11/16"H x 1 13/16"D (44mm x 119mm x 30mm)	
	Switch Plate: 3"W x 5 1/8"H x 1 3/16"D (76mm x 130mm x 30mm)	

Notes:

1. Optimized for use with devices supporting BLE version 4.2.
2. Carrying the ETL Label and tested by Intertek, conforms to UL Standard 294.
3. Self evaluated.
4. Linear power supplies are recommended for best operation.
5. Using CV-MCS Clamshell Contactless Smartcard with 12 VDC at the reader (other credentials may be less). Read ranges subject to the smartphone used, the manner in which used, as well as the installation and it's environment.
6. Ex. Belden 9535 or similar, supporting the five conductors comprising the physical layer of the Wiegand interface (power, ground, data 0, data 1, and/or beeper and LED). Alternatively, Belden 9539 or similar, for all reader functions. Contact your access control system manufacturer for specific requirements.
7. CSN = Card Serial Number
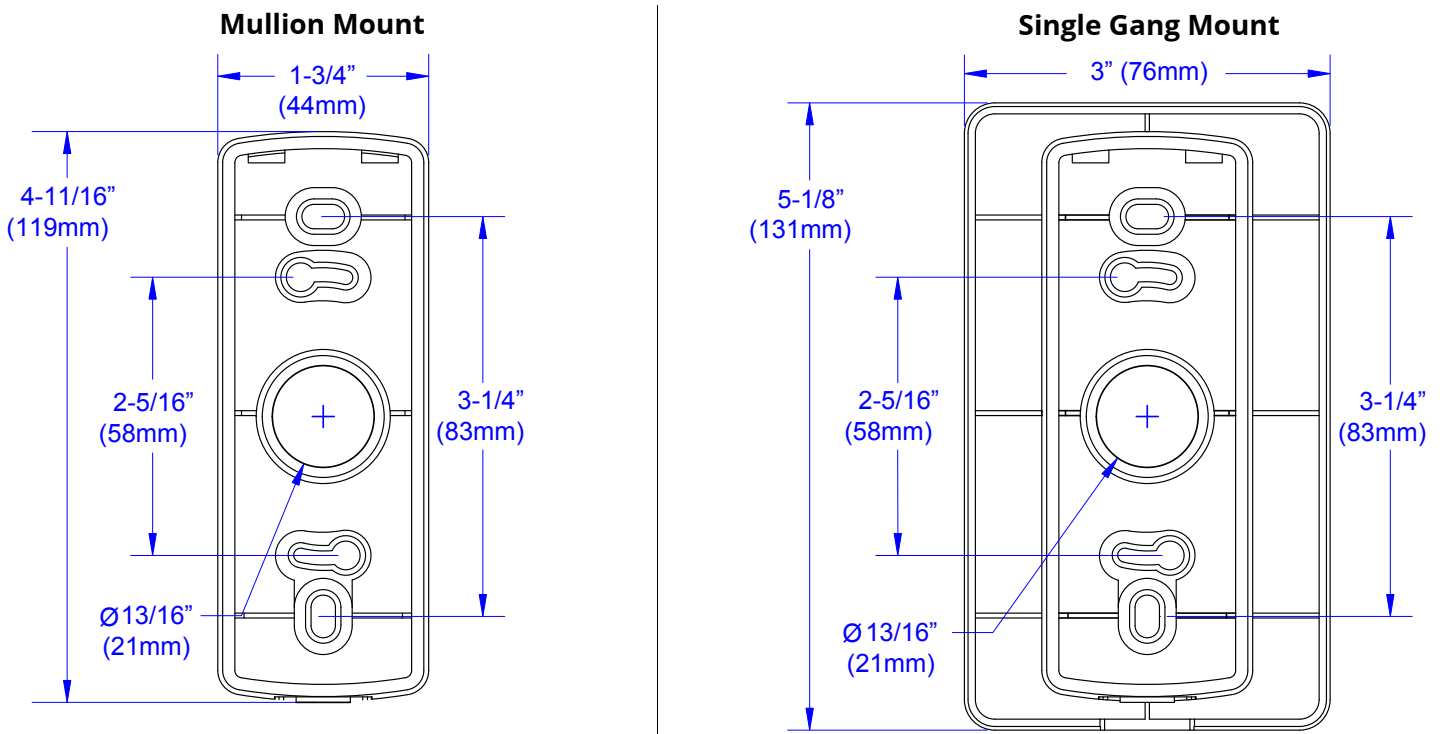
4. WIRING TO STAND ALONE KEYPAD CM-550SK
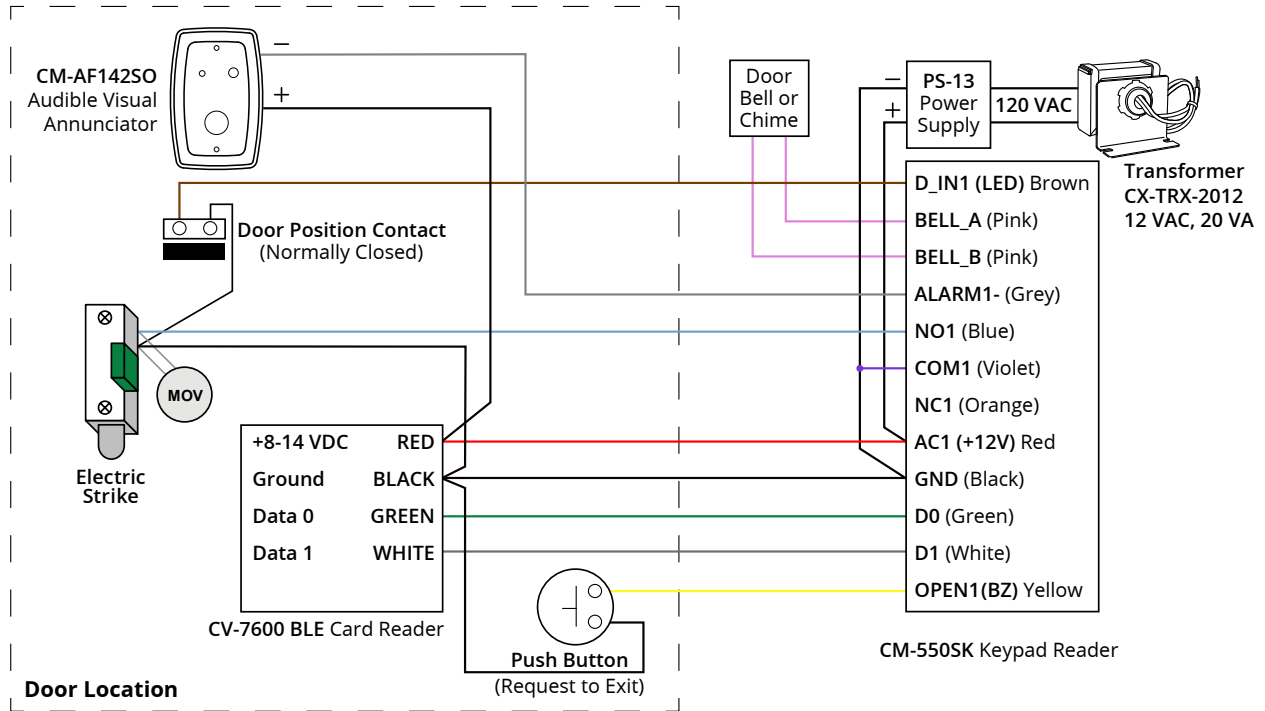
5. INSTALLATION (DRAWING, AND MULLION & SINGLE DRAWING)

Each reader must be installed either indoors or outdoors. Mounting options shown below. For installation, use supplied #6 mounting screws or equivalent security screws.

Mullion Mount

Single Gang Mount

Notes:

a) Single Line LED:

This is the standard operating mode and does not make use of the Orange conductor. The LED is Red when the reader is idle and flashes when a card is presented. The LED turns Green when the Brown conductor is pulled low by the access control panel.

b) Dual Line LED:

This mode makes use of both the Brown and Orange conductors. The Brown conductor controls the Red LED and the Orange conductor controls the Green LED. LED states are determined by the access control system option and capability.

WIEGAND	
Wire Color	**Function**
RED	DC (8-14 VDC)
BLACK	Ground
GREEN	DATA 0
WHITE	DATA 1
BROWN	RED LED (a)
ORANGE	GREEN LED (b)
YELLOW	NOT USED
BLUE	BEEPER
VIOLET	READ MODE (c)
DRAIN	SHIELD GROUND

c) Read Mode:

In regards to contactless smart card credentials, the reader will only read and output the credential's Card Serial Number (CSN) when the Violet conductor is pulled low (connected to ground). Otherwise, the reader will only read and output the credential's programmed Sector data.

Unused conductors should be trimmed, isolated and taped back to prevent unintended current flows. Apply positive voltage only to the Red DC Conductor.

d) Cable Requirements:

24 AWG minimum, multi-conductor stranded with an overall foil shield, for example Belden 9535 or similar, supporting the five conductors comprising the physical layer of the Wiegand interface (power, ground, data 0, data 1, and/or beeper and LED).

Alternatively, Belden 9539 or similar, for all reader functions. Contact your access control system manufacturer for their specific requirements. Per the SIA's Wiegand specification, maximum cable length is 500 feet (152 m).

e) Output Formats:

Wiegand (industry standard 26-bit Wiegand and custom Wiegand formats).

f) Grounding:

Shield (drain) continuity must run from the reader to the access panel. Shield (drain) and reader ground must be tied together at the access panel and connect to an earth ground at one point.

g) Power:

Reader may be powered by the access control panel. A linear power supply is recommended for best operation. 8 to 14 VDC, 12 VDC at the reader is best.

h) Read Mode:

For sector data reads, do not connect the Violet conductor (leave it high). For CSN reads, pull the Violet conductor low (connect the Violet conductor to ground).

CREDENTIAL	
Model	**Description**
CV-MBT	BLE Mobile Credentials
CV-MCS	Mobile Clam Shell Cards
CV-MKT	Mobile Key Fob, 2K memory

6. BLUETOOTH LOW ENERGY (BLE) RANGE SETTING PROCESS

This section explains how to use a digital BLE Range Setting control card[1] to manually alter the BLE read range of CV-7600 MIFARE credential readers.

a) Digital Control Card:

To use a digital BLE Range-Setting control card on a smartphone, Farpointe's Conekt Wallet app must be downloaded first. The Conekt app can be found at the Apple® App Store or Google® Play Store. Please follow these steps to download the Conetk mobile app and the digital BLE Range-Setting control card.

Install and Activate the Conekt Wallet App

1. Download the Conekt app.

2. Register the smartphone by entering your phone number when prompted.

3. Enter the token code received via text. The Conekt app is now activated.

Download the Range-Setting Control Card

1. Open Conekt App.

2. Press the '+' sign in the top-right corner.

3. Enter the registration key[2] included with the ship kit, by scanning the QR code or by inputting the 16-character key.

4. Within 30-45 seconds the control card will be ready to use.

b) Install and Activate the Conekt Wallet App

These steps are identical for both physical and digital control cards.

1. Cycle power to the reader.

2. When power is restored, within 10 minutes, present a physical or digital BLE Range-Setting Card to the reader.[3]

3. Reader will respond with a beep(s) acknowledging the BLE Range-Setting Card. The control card can be presented multiple times to the readerto reach the desired BLE read-range mode. With each subsequent presentation of the card to the reader, the reader will respond with incremental beeps (1 through 5 beeps) indicating the read-range setting. See the following chart:

BLE Read-Range[4] Modes

Beeps	Mode	BLE Read-Range
1 Beep	Short Mode	Up to 1 foot (304.8 mm) (Default)[5]
2 Beeps	Medium Mode	Up to 3 feet (914.4 mm)
3 Beeps	Long Mode	Up to 9 feet (2.7 m)
4 Beeps	Max Mode	Up to 15 feet (4.6 m)
5 Beeps	Presentation Mode	Tap and Go (contact with reader)

Notes:

[1]Only the BLE 2.4-GHz performance can be adjusted and not the additional card technologies supported (125-kHz or 13.56-MHz).

[2]Registration key to download the mobile control card can only be used once. If another digital control card is required, or if a physical control card is preferred, please contact Camden at support@camdencontrols.com.

[3]Readers allow for updating within 10 minutes of power up. After 10 minutes, reader will need to be cycled power once again in order to configure.
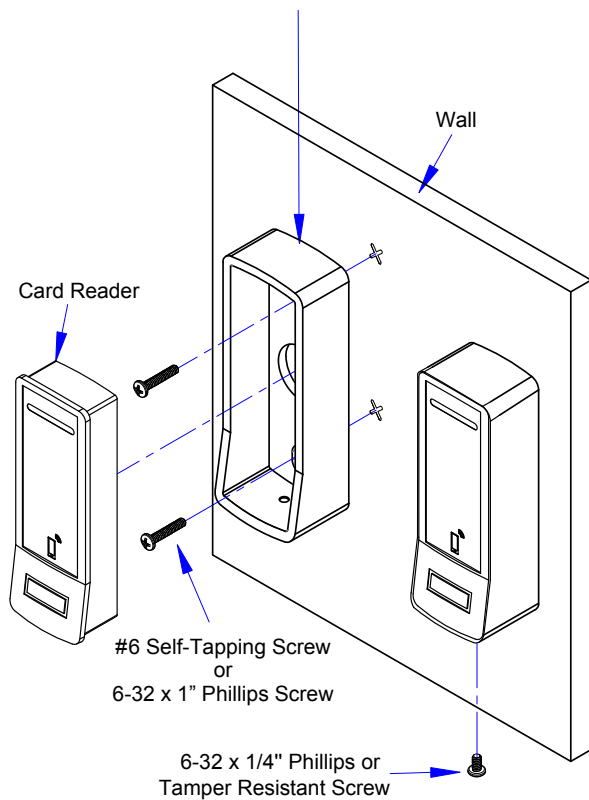
[4]Please note that all mobile devices are designed differently, and read ranges may vary due to component differences, BLE signal strength, phone make and model, phone cases, and other environmental factors. Observed read ranges may be shorter or longer than those indicated in this chart. Please contact Camden's Technical Support for best practices and recommended phone presentation orientation.

[5]Default BLE Read-Range Mode for Conekt mobile-ready readers is in the Short Mode.
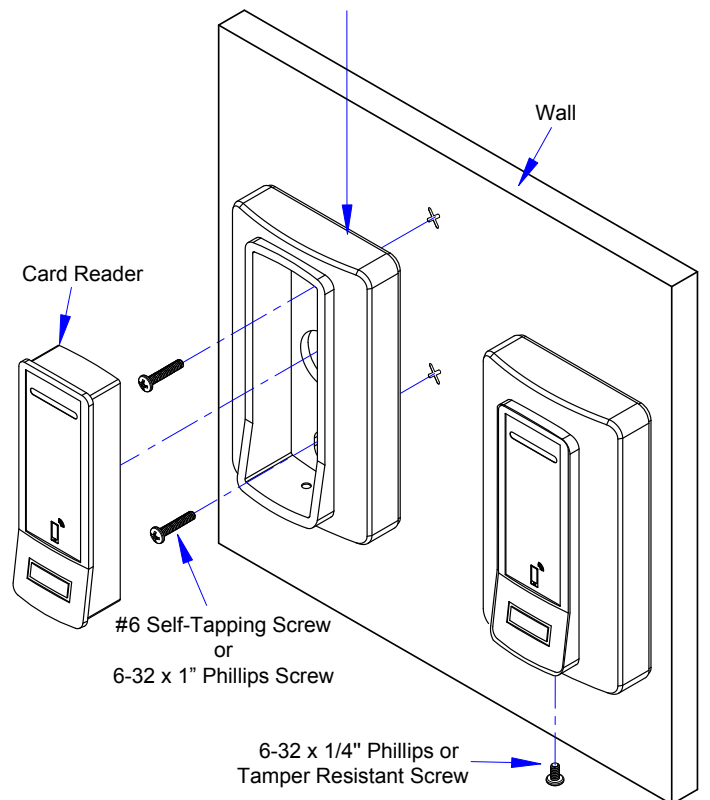
Back Case Mullion Mount

Wall

Card Reader

#6 Self-Tapping Screw
or
6-32 x 1" Phillips Screw

6-32 x 1/4" Phillips or
Tamper Resistant Screw

Back Case Single Gang Mount

Wall

Card Reader

#6 Self-Tapping Screw
or
6-32 x 1" Phillips Screw

6-32 x 1/4" Phillips or
Tamper Resistant Screw

CV-7600 Series Card Reader Dimensions

$1\frac{3}{4}$" [44mm]

1" [25mm]

$4\frac{11}{16}$" [119mm]

$1\frac{1}{4}$" [31mm]

3" [76mm]

1" [26mm]

$5\frac{1}{8}$" [131mm]

$1\frac{1}{4}$" [32mm]
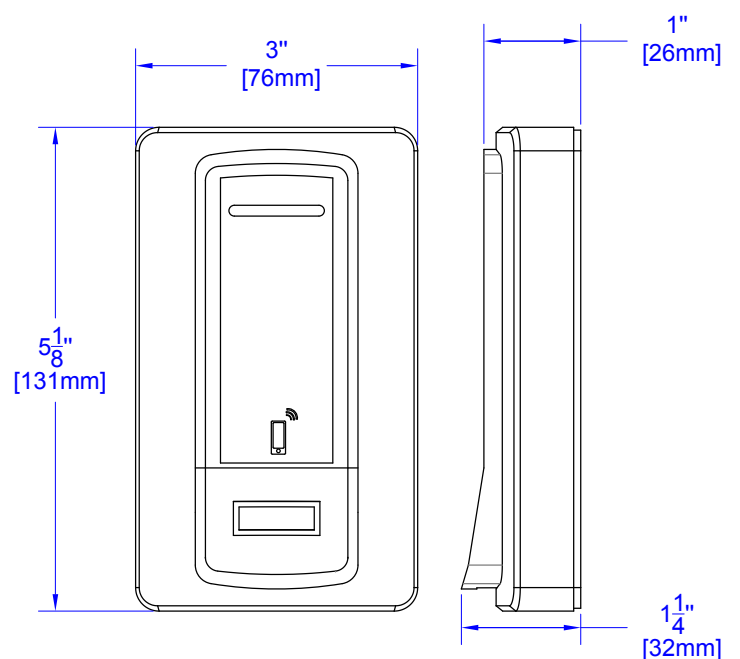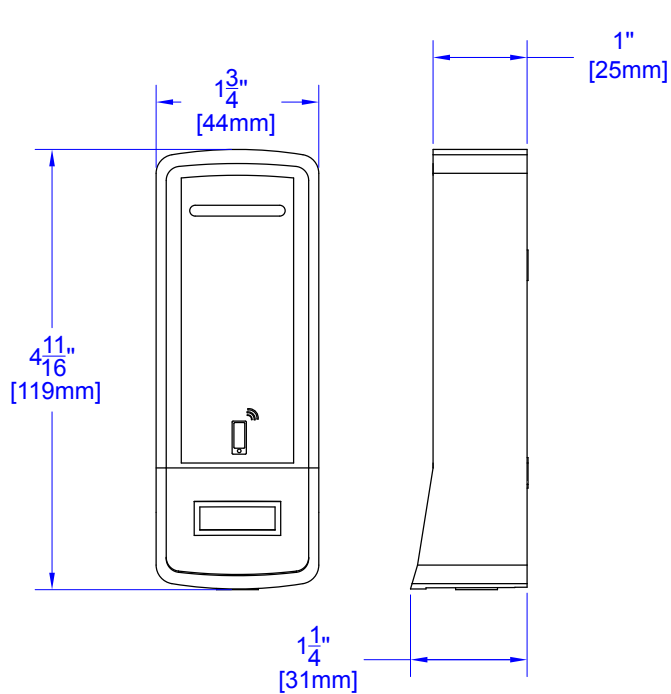
6. TROUBLESHOOTING

a) When the reader is first powered on it will beep 4-times, and the LED will shine red.

b) Presenting a supported access credential will result in the reader beeping and the LED flashing once.

c) Mobile operation is optimized for smartphones supporting BLE (Bluetooth LE) version 4.2 or newer. Further, for the downloading of mobile access credentials, a stable, high-quality internet connection is recommended.

Note:

The access panel controls LED functionality, such as switching the LED to green. If the reader does not recognize the mobile credential, card, tag (no beep, no LED flash) or exhibits short read range, see table below for possible causes and solutions.

Possible Cause	Corrective Action
Incorrect cabling	Verify gauge, connections and cabling length
Not enough power	12 VDC recommended
Incorrect credential used	Verify if credential technology is supported
Reader/access panel not properly grounded	Earth ground needed—verify shield and reader ground are tied at access panel and connect to ground at one point
Supply generating interference	Linear power supply recommended, verify switching power supply before use

Should any of the corrective actions mentioned above not improve performance, disconnect the reader from the access panel and power it with a separate power supply or 9 VDC battery, and re-test card functionality.

By powering the readers separately, most variables that may lead to reduced performance can be eliminated. Should the problem persist, please contact Camden directly.

FCC Compliance Statement

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.

Caution:

Changes or modifications not expressly approved by Camden Door could void the user's authority to operate the equipment.

Product can be used without license conditions or restrictions in all European Union countries, including Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Unite Kingdom as well as other non-EU countries, including Iceland, Norway and Switzerland.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Camden Controls reserves the right to change specifications without notice.

Note:

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.

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