

CYPRESS

INTEGRATION SOLUTIONS

WMR-7000 SYSTEM

Operations Manual

Wireless Mobile Reader



System Description

The Wireless Mobile Reader is the newest member of the Suprex family of products.

The WMR products are based on the Suprex SPX-5600 series of products and they support a wide range of additional features:

Additional features:

- AES Encryption for secure communications upon request
- No channel selection is required as the units are preconfigured at the factory.
- Diagnostic indicator on Central unit for determining operational status of the unit
- Repeaters for challenging installations for additional distance and line-of sight

Initial setup and configuration.

The Wireless WMR system operates as a matched pair of units that share the same communication channel. Each pair is configured at the factory to operate without the need to set channels.

Each pair communicates using an intelligent addressing algorithm. This allows multiple pairs of units to operate in the same environment without interfering with each other.

Up to 8 units can operate in the same area without factory modifications

Unit channel selection is made at the factory and no field settings are necessary.

Initial Setup:

This manual will cover the basic installation procedure for a typical Suprex WMR system.

The first step will be to configure and test the units at a bench top location where both the Central and Remote units are close together. This will allow the setup and configuration process to occur with both sides of the operation in view.

Setup is modified minimally when using EXP-1000 units. Please make note.

Unpack Units



WMR-7211 Base Unit



WMR-7XXX Mobile Unit



RPT-5651
Optional Repeater



Optional Holster
WMR-HOLB



Optional smartcharger for NiMH
Batteries (not included)

Remove cover from Central unit and check interior for any shipping damage.
Remove any packing material if present.

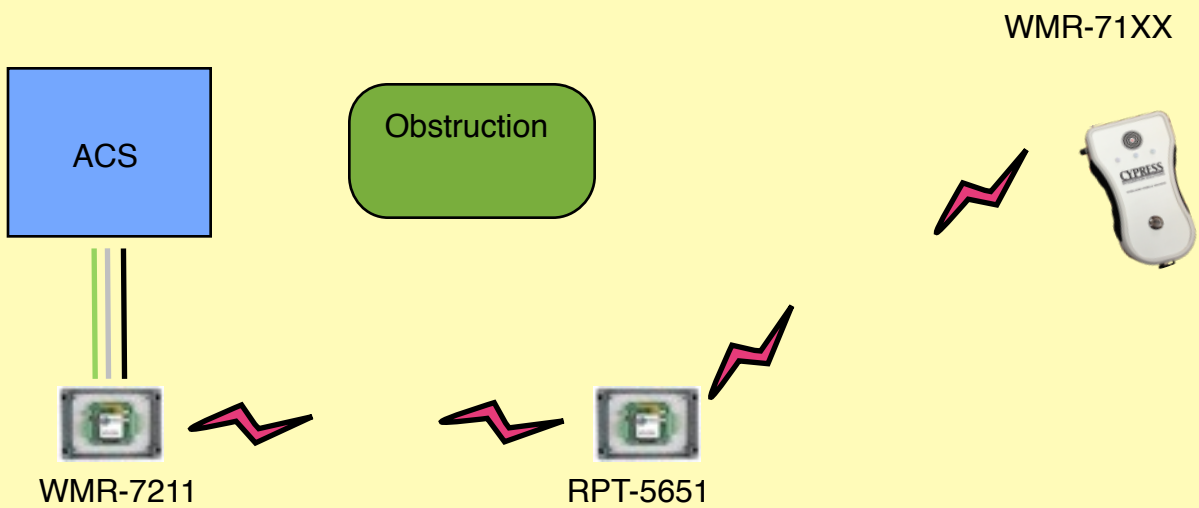
Before installing the units in the field they should be assembled and tested at a convenient "Bench top" location. This will make it easier to verify / change settings and check operation when both units are visible at the same time.

It is also a chance to become familiar with the system if this is the first time using the Suprex system. It is much more difficult to configure and test the units when they are several hundred feet apart.

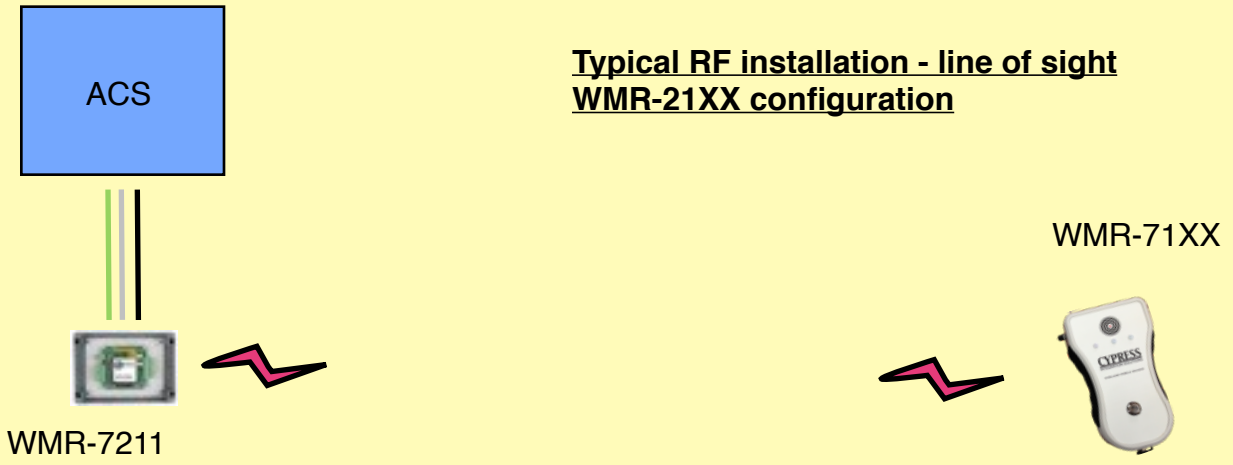
The units as shipped are configured as a matched pair and are ready to plug in and operate.

The Central unit needs to have a suitable power supply installed.

Typical RF installation with repeater

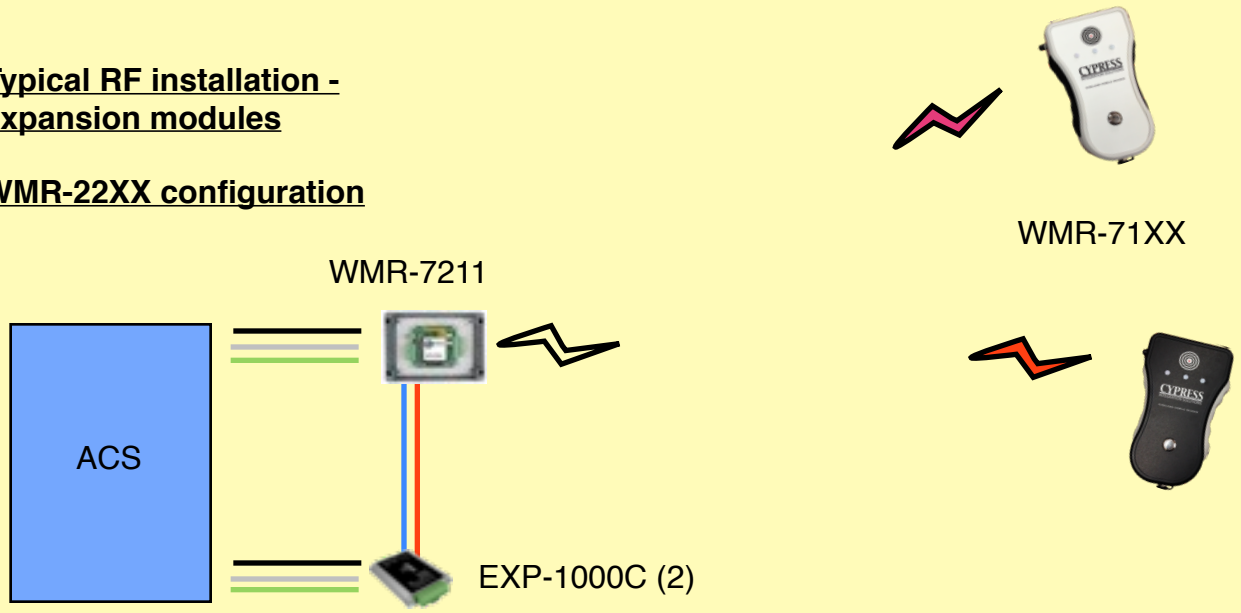


Typical RF installation - line of sight WMR-21XX configuration



Typical RF installation - expansion modules

WMR-22XX configuration





Credential Read Area

Communication Status
LED
BLUE

Card Verification
LED
GREEN

Lanyard Post

Power and Card
Acknowledge
LED
RED

Power Button

Charging Port
with weatherproof
cover

Case Colors

Grip Colors



Operation:

The Remote reader unit will read a Wiegand RF proximity badges. The badge data is sent through a radio link to a Central panel interface module that generates Wiegand data for a connected access control panel.

An access control panel determines whether the badge is valid or invalid. When valid badge data is presented, the panel will trigger either an LED, Strike Relay output, or both, depending upon the type of panel. Any low (Ground) connection on the Central LED input will activate the Card Verification LED to Green on the handheld unit. The Central unit LED input is connected to the panel output and the status of this panel output is what is displayed by the Card Verification LED on the handheld unit. The panel also determines the amount of time the LED remains Green for valid badges.

A Central unit Communication Status LED will alternate Red and Green when the units are not communicating. This may happen when the Central unit powers up without the Remote unit having power. Once both units are powered up, the Central Unit diagnostic LED should enter a flashing green on and off mode. This should occur within 30 seconds of both units having power applied.

The Remote unit Communication Status LED should also be flashing BLUE when the units are communicating.

User operation:

When successfully linked to the WMR-7211 base unit, The Communication LED on the WMR handheld will flash **BLUE**, and the Power LED will remain **RED** when idle.

When a badge is presented the WMR handheld unit will beep to indicate that the badge was read (sensed). Additionally the **RED** Power LED will temporarily turn off.

The Card Verification LED will illuminate to **Green** for valid badges. Additionally the valid badge verification includes a **VIBRATE** feature.

To Conserve power the handheld unit will auto power off and the Power LED will turn off after 3 minutes of inactivity.

WMR-7211 and EXP-1000 Cable Recommendations

RS-485 connection (WMR-7211 to EXP-1000)

PVC - Belden 9744 - 22 AWG 2 twisted pair, 4,000 feet max.

Plenum - Belden 82741 - 22 AWG 2 twisted pair, 4,000 feet max.

Wiegand and LED

PVC - Belden 9873 - 20 AWG 3 pair shielded, 500 feet max.

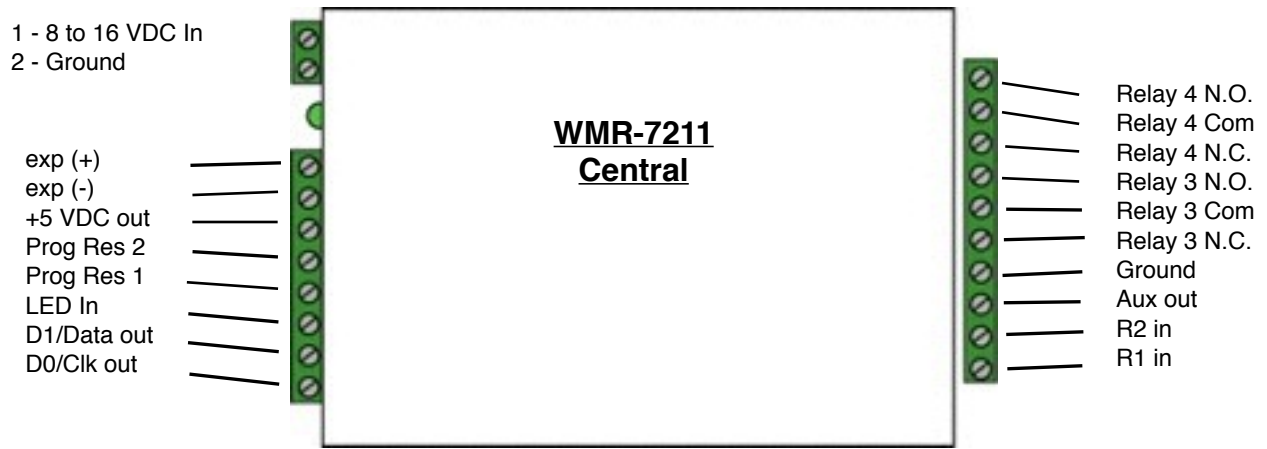
Plenum - Belden 83606 or 85164 - 20 AWG 3 pair shielded, 500 feet max.

Power (local)

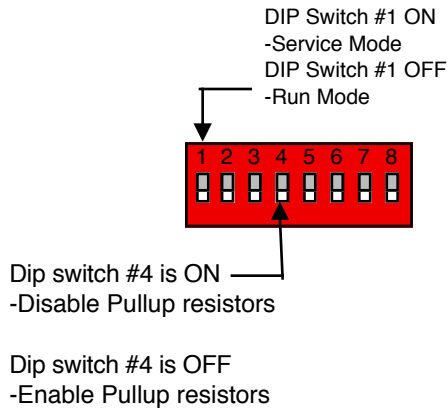
PVC - Belden 8461 - 18 AWG 1 pair, 25 feet max.

Plenum - Belden 82740 - 18 AWG 1 pair, 25 feet max.

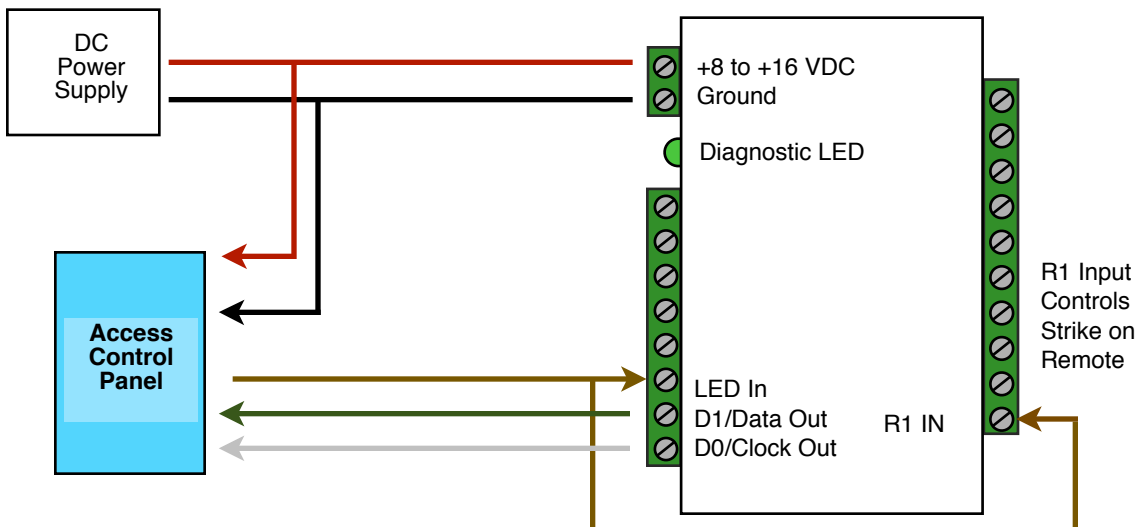
External connections and DIP Switch Settings



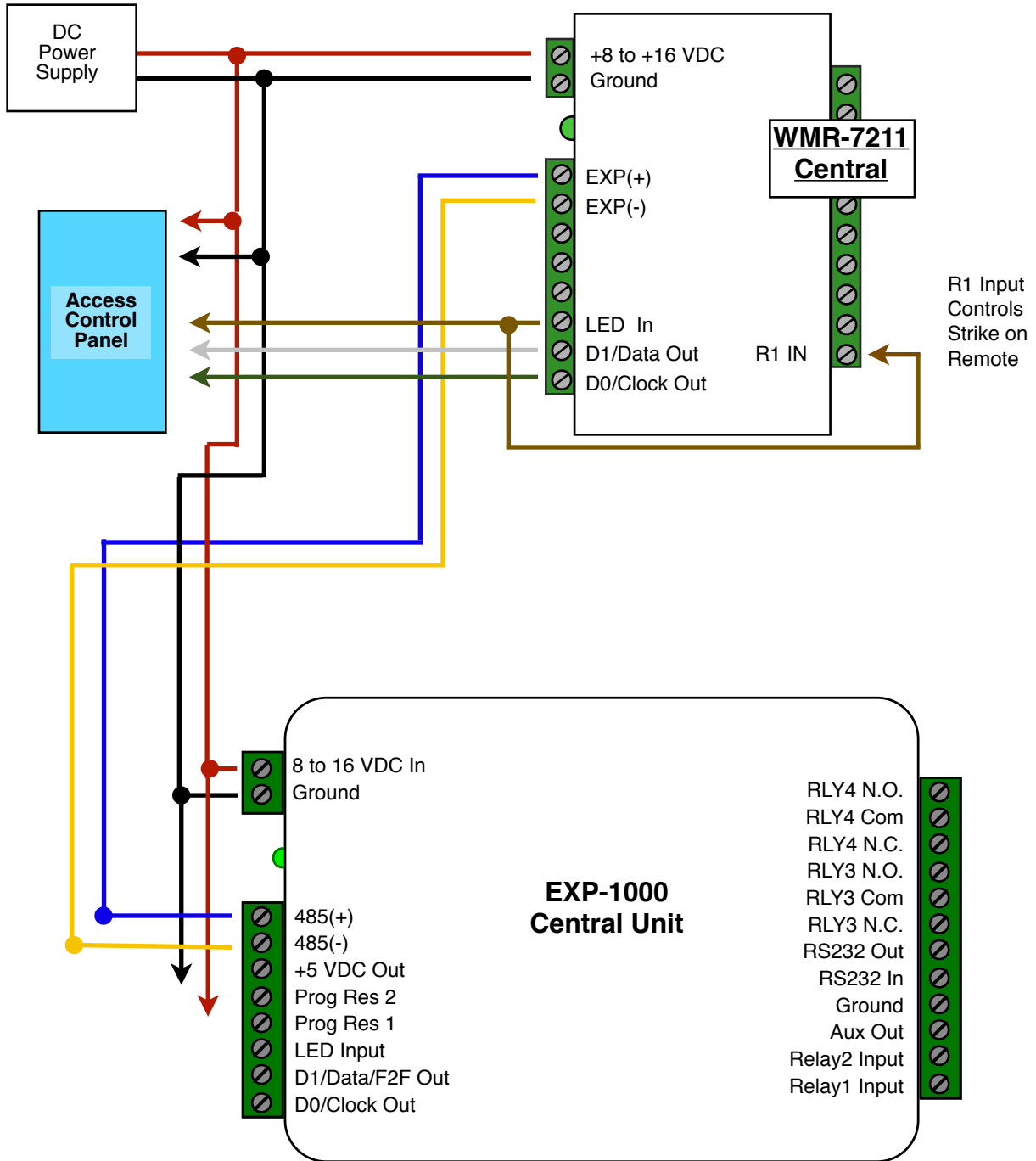
Central Unit Settings



WMR-7211 Central Quick Reference



Cypress Suprex Series - Wiegand Expansion Module Panel "Central" interface





Cypress' mobile reader allows for portable credential verification

- For use in front gate operations or secured areas utilizing HID proximity, iClass, MiFare, and other common access card technologies.
- For efficient deployment for varying traffic patterns, traffic overflow, and multi-occupant vehicles.
- Enable random challenge in secured areas with immediate validation.
- Secure wireless communications (AES).
- Wiegand or Serial access control panel interface - (sold separately)
- Optional durable holster
- Flexible mustering applications



Physical Specifications:

8.25" x 5" x 2" - 1.5 lbs (with batteries - not included)

Environmental Specifications:

- Temperature Range -40 to 85 C

Electrical Specifications:

WMR-7211 (*Central Unit*) - *required and sold separately*

- Supply Voltage 8-16VDC
- Current 300mA

(Handheld Unit)

- 4 X AA Batteries Alkaline or NiMh (not included)
- WMR-RCHB - Smartcharger for NiMh batteries (optional - not included)

Radio Specifications:

Frequency	2.4 GHz ISM band
Type	Direct Sequence Spread Spectrum
Transmit Power	15 dBm
Receive Sensitivity	-103 dBm

Security encryption:

- Wireless communications AES encryption upon request

Card Technologies:

WMR-710X	Farpointe Prox - HID Prox (125 kHz)
WMR-712X	Farpointe - AWID Prox (125 kHz)
WMR-713X	HID Multiclass - iClass and MiFare (125 kHz and 13.56 MHz)
WMR-714X	Indala Prox Format (125 kHz)
WMR-715X	Multiple formats (custom) (125 kHz)
WMR-717X	Farpointe 13.56 MHz

*Other technologies available upon request

Options:

- WMR-HOLB Durable Nylon Holster

Typical wireless range:

- Internal - Up to 150 feet
- Outdoor - Up to 250 feet (Distances given are typical line of sight. Actual distance will vary depending upon terrain, RF environment, building materials, and height of antenna).

* Range may be expanded using RPT-565X repeaters.

CYPRESS

INTEGRATION SOLUTIONS

WMR-7211

*Wireless Mobile Reader
Base Unit*



Cypress Suprex WMR-7211 - Introduction

Overview:

The WMR-7211 is one part of a two part solution. The WMR-7211 provides the access control panel interface when using the WMR-7000 series of handheld readers. The WMR-7000 series of RF Wireless solutions provide portable wireless card readers that can interface to most access control manufacturers panels. In the case of the WMR-7000 series of wireless products optional repeaters / extenders are also available.

Features:

- Service mode for setup and configuration.
- “Quiet” protocol to conserve bandwidth and power
- Interfaces with most wiegand based access control systems
- Multifunction indicator for determining operational status of the unit
- Auxiliary I/O connections available for Door/Gate/Panel status signaling.
- Multiplexing of RF bridge providing for additional door/gate on a single RF link.
- Economical expansion capabilities using Suprex Lynk technology

Electrical Specifications:

(Each Unit)

Supply Voltage 8-16VDC
Current 500mA

RF Specifications:

Frequency 2.4 GHz ISM band
Type Direct Sequence Spread Spectrum
Transmit Power 15 dBm
Receive Sensitivity -103 dBm

Electrical and Mechanical Specifications

Physical	WMR-7211 - Weatherproof Enclosure 6.75" x 3.75" x 2.00" - 1.0 lb	
Temp	Storage(-55°C to + 150°C) Operating(-40°C to +80°C)	
Humidity	95% (non-condensing)	
Power	Input	Unreg Input 8 to 16 VDC* @ 300mA Max
	Output	+5VDC @100mA
Data I/O	Interface	Reader -Wiegand, Strobed (Clock & Data), LED - 0 - 30V