Remote Wiegand Interface MG-WR1

Instructions

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INTRODUCTION

The Remote Wiegand Interface is intended for long-range access to a secure facility or entry point. It is available in 433MHz or 868MHz frequency. The interface acts in the same fashion as a proximity door reader by allowing you to use remote controls to unlock controlled doors. Each MG-REM1 remote control has a family number and up to 5 card numbers and is identified to the access control system in the same manner as an access card (see the *DGP-ACM11 Reference Manual* for more information on programming access cards). This feature is useful when, due to the remote's range, you don't want one access code to open multiple doors simultaneously.

INSTALLATION INSTRUCTIONS

The MG-WR1 is powered by and connected to the DGP-AMC11 controller as shown in Figure 6 on page 2 or to two doors as shown in Figure 7 on page 2.

1. Apply 12Vdc from the DGP-AMC11 controller's **+** and **-** terminals to the MG-WR1's **RED** and **BLK** terminals.
2. Connect the MG-WR1 to the reader terminals of the desired door(s) on the DGP-AMC11 controller through a Double-Pole Double-Throw (DPDT) Relay (not supplied).

⚠️ *If you are connecting the MG-WR1 to two doors, you must enable this relay option (see "Keypad Keys [5] and [6]" on page 2).*

3. Connect the Esprit 636/646 LED Keypad (not included) to the MG-WR1 through its on-board PROGRAM serial interface (see Figure 1 on page 1).

PROGRAMMING

The MG-WR1 is programmed through the use of the Esprit 636/646 keypad (not included). Programming allows the MG-WR1 to act as an interface between the remote and the DGP-AMC11 controller. This programming tells the MG-WR1 how to manage the remote control.

A description of the MG-WR1's programmable features follows, as well as detailed instructions on how to program your MG-WR1 module.

Figure 1: MG-WR1 Overview
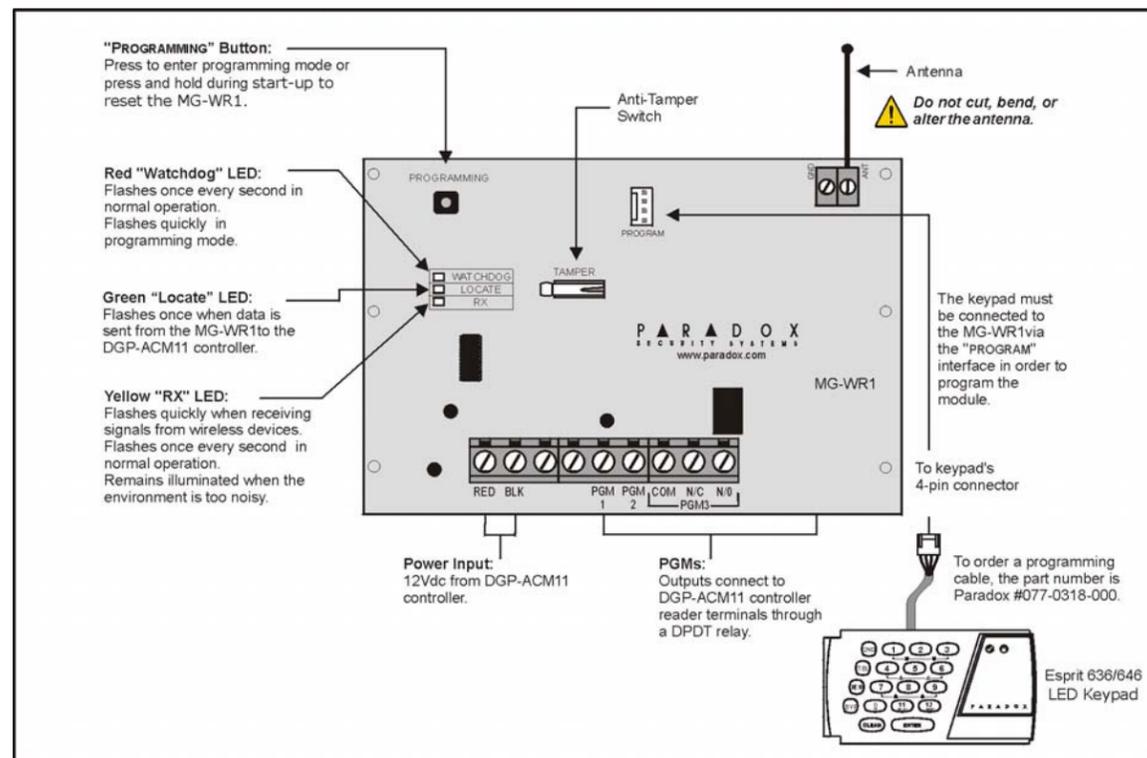
Figure 2: Family Code Display

Because the Esprit 636 does not include an LCD screen, the family code is displayed using binary format.

👆 LCD keypads will display data on the screen

Table 1: Binary Conversion Chart

Keypad Button	Numerical Value
3	1
2	2
1	4
2nd	8
6	16
5	32
4	64
TBL	128

Reading the Family Code From the Binary Display

Example:

1 + 8 + 32 + 128 = 169

The family code displayed in this example is 169.

Perform the following steps to enter programming mode:

1. Ensure the keypad's 4-pin serial cable is connected to the "PROGRAM" interface on the MG-WR1. The keypad keys illuminate lightly.
2. Press the "PROGRAMMING" button on the MG-WR1. The keypad beeps quickly five times.
3. Press **[ENTER]** on the keypad. The keypad beeps once.
4. Enter the **[INSTALLER CODE]**. (Default: **757575**). The keypad beeps quickly five times and the **[ENTER]** key flashes to let you know you are in programming mode.

Section [001]: Installer Code

Section **[001]** allows you to customize your installer code. To program the MG-WR1, you must be logged in as an installer. The default installer code is 757575.

Perform the following steps to program an installer code:

1. Ensure that you are in programming mode (see "Programming" on page 1).
2. On the keypad, enter programming section **[001]**. The keypad beeps quickly five times and the **[ENTER]** key remains illuminated until you complete this programming action.
3. Enter your new 6-digit **[INSTALLER CODE]**. The keypad beeps quickly five times and the **[ENTER]** key flashes to let you know you are still in programming mode.
4. To continue programming the module, enter programming section **[001]** to **[004]** or press the **[ENTER]** key to exit programming mode.

Section [002]: Family Code

Section **[002]** allows you to program a family code. A family code is used when generating card numbers and identifies to which family a group of cards belongs. You can program each remote to have its own family code to easily identify the events generated by the user of that remote. You can also assign the same family number, for example, to remote controls belonging to occupants of a particular condo to easily track and manage their generated events. The family code for the MG-WR1 can be any 3-digit value of your choice between 000 and 255. The default family code is 000.

⚠️ *To ensure that cards are generated using the family code you are creating, you must enable this programming option on the MG-WR1. See "Keypad Key [4]" on page 1.*

Perform the following steps to program a family code:

1. Ensure that you are in programming mode (see "Programming" on page 1).
2. On the keypad, enter programming section **[002]**. The keypad beeps quickly five times and the **[ENTER]** key remains illuminated until you complete this programming action.
3. Enter a **[FAMILY CODE]**. (Default: **000**). The keypad beeps quickly five times and the **[ENTER]** key flashes to let you know you are still in programming mode.
4. To continue programming the module, enter programming section **[001]** to **[004]** or press the **[ENTER]** key to exit programming mode.

👆 Family Codes are displayed in binary format. (see Figure 2 on page 1)

Section [003]: Options

Section **[003]** provides you with additional programmable options on the MG-WR1. You can configure how the MG-WR1 recognizes buttons pressed on the remote, set its communication format and configure its relay function. Refer to Table 2 on page 2 for a quick reference on keypad key settings.

Keypad Keys [2] and [3]

These keys determine the amount of card numbers assigned to the remote as well as each card number's associated button or button combination used on the remote.

Perform the following steps to program the remote's button pattern:

1. Ensure that you are in programming mode (see "Programming" on page 1).
2. On the keypad, enter programming section **[003]**. The keypad beeps quickly five times and the **[ENTER]** key remains illuminated.
3. Depending on how you would like the MG-WR1 to recognize buttons pressed on the remote, press the **[2]** and **[3]** keys on the keypad to turn them "ON" (illuminated) or "OFF" (not illuminated). See Table 2 on page 2 for a quick reference on keypad key settings.

   Each remote button has its own card number:
   Keypad keys **[2]** and **[3]** are "OFF" (not illuminated).

   Each remote button has the same card number except the panic button:
   Keypad key **[3]** is "ON" (illuminated) and keypad key **[2]** is "OFF" (not illuminated).

   Each remote button has the same card number including the panic button:
   Keypad key **[2]** is "ON" (illuminated) and keypad key **[3]** is "OFF" (not illuminated).

4. Press the **[ENTER]** key to complete the programming action.
5. To continue programming the module, enter programming section **[001]** to **[004]** or press the **[ENTER]** key to exit programming mode.

Keypad Key [4]

This key enables/disables the MG-WR1's family code feature. With this feature enabled, the MG-WR1 uses the family code, set in Section **[002]** (see "Section [002]: Family Code" on page 1), to generate card numbers. With this feature disabled, the MG-WR1 uses the remote's serial number as a default family code.

Perform the following steps to enable/disable the family number feature:

1. Ensure that you are in programming mode (see "Programming" on page 1).
2. On the keypad, enter programming section **[003]**. The keypad beeps quickly five times and the **[ENTER]** key remains illuminated.
3. Depending on how you would like the MG-WR1 to generate a family code, press the **[4]** key on the keypad to turn it "ON" (illuminated) or "OFF" (not illuminated). See Table 2 on page 2 for a quick reference on keypad key settings.

   MG-WR1 uses the family code created in Section [002]:
   Keypad key **[4]** is "ON" (illuminated).

   MG-WR1 uses the remote's serial number as a family code:
   Keypad key **[4]** is ""OFF" (not illuminated).

4. Press the **[ENTER]** key to complete the programming action.
5. To continue programming the module, enter programming section **[001]** to **[004]** or press the **[ENTER]** key to exit programming mode.

Figure 3: MG-REM1 Remote Control

Keypad Keys [5] and [6]

These keys enable the MG-WR1's relay function. The relay can be programmed as a panic relay or a 2-door option relay. When the 2-door option is enabled, the MG-WR1 can control up to two access doors. When the panic relay is enabled, pressing buttons ⏻ and ➜ on the remote will generate a panic alarm and activate the panic relay for 30 seconds (see Figure 3 on page 2 for the location of the remote's buttons). The panic relay can also be connected to an alarm device such as a siren (see Figure 4 on page 2) or to an input of the Digiplex system (see Figure 5 on page 2)

Perform the following steps to program the relay function:

1. Ensure that you are in programming mode (see "Programming" on page 1).
2. On the keypad, enter programming section **[003]**. The keypad beeps quickly five times and the **[ENTER]** key remains illuminated.
3. Depending on how you would like to program the relay, press the **[5]** and **[6]** keys on the keypad to turn them "ON" (illuminated) or "OFF" (not illuminated). See Table 2 on page 2 for a quick reference on keypad key settings.

   Relay is deactivated:
   Keypad keys **[5]** and **[6]** are "OFF" (not illuminated).

   Relay is used for the 2-door relay option:
   Keypad key **[5]** is "OFF" (not illuminated) and keypad key **[6]** is "ON" (illuminated).

   Relay is used as a panic relay:
   Keypad key **[5]** is "ON" (illuminated) and keypad key **[6]** is "OFF" (not illuminated).

4. Press the **[ENTER]** key to complete the programming action.
5. To continue programming the module, enter programming section **[001]** to **[004]** or press the **[ENTER]** key to exit programming mode.

Figure 4: Bell Connection

BELL / SIREN

Figure 5: Zone Connection

See The *Digiplex Installation Guide* for more information on zone connection
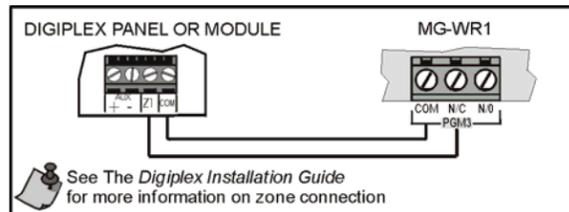
Figure 6: Connecting to one DGP-AMC11 Module
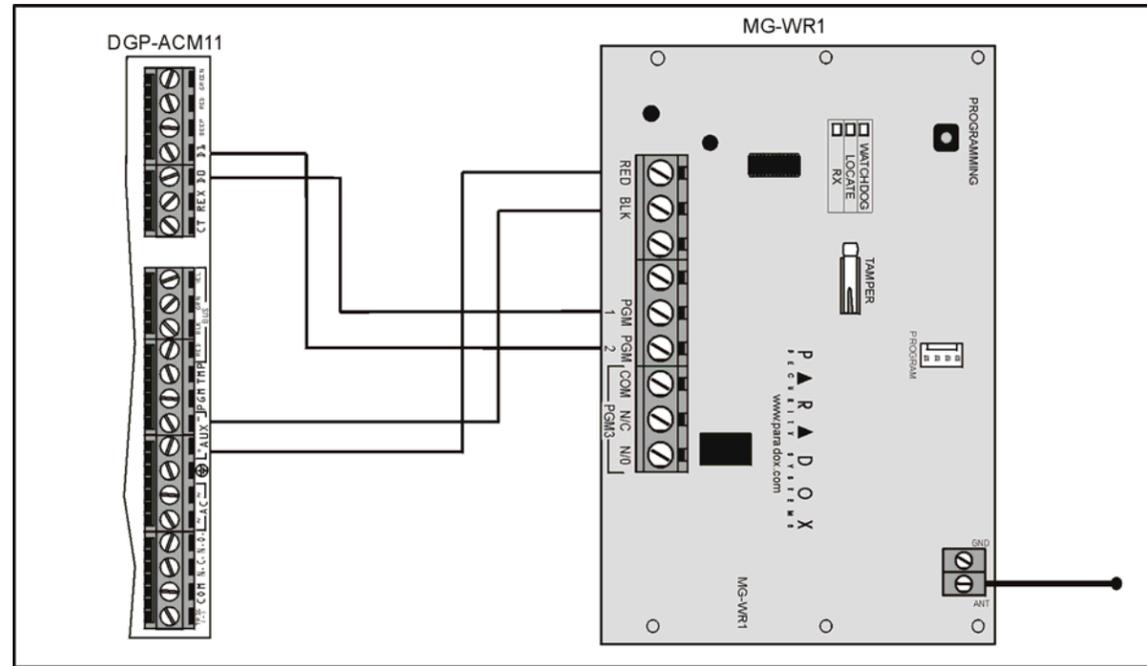
Figure 7: Connecting to two DGP-AMC11 Modules
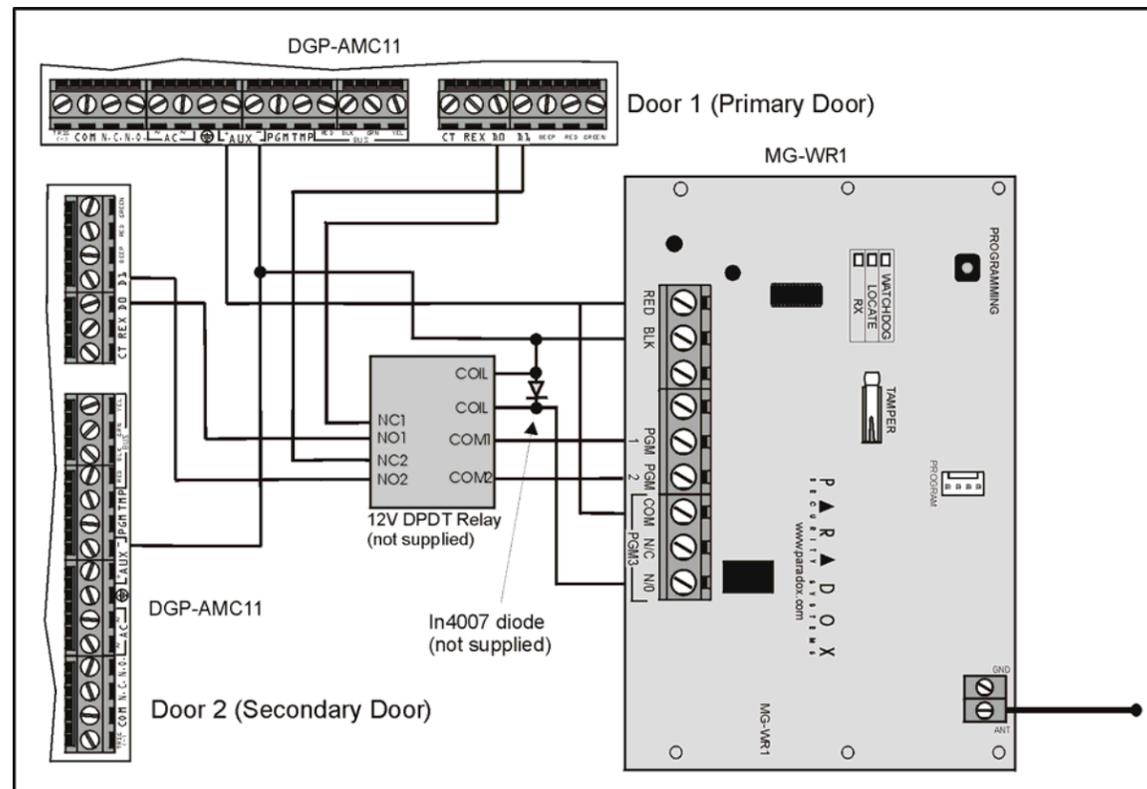
Table 2: Section [003] Options

Option	Keypad key ON/OFF*		Result
Communication Format	**[2ND]**	**[1]**	
	OFF	OFF	Wiegand 26 communication format
	OFF	ON	Reserved for future use
	ON	OFF	Reserved for future use
	ON	ON	Reserved for future use
Remote's Button Pattern	**[2]**	**[3]**	
	OFF	OFF	Each remote button has a different card number
	OFF	ON	Each remote button has same card number except panic button
	ON	OFF	Each remote button has same card number including panic button
	ON	ON	Reserved for future use
Family Code Selection	**[4]**		
	ON		Uses family code set in Section 002
	OFF		Uses remote's serial number as family code
Relay Function	**[5]**	**[6]**	
	OFF	OFF	Relay deactivated
	OFF	ON	Relay used for 2-door relay option
	ON	OFF	Relay used as panic relay
	ON	ON	Reserved for future use

*ON = keypad key is illuminated/ OFF = keypad key is not illuminated

SPECIFICATIONS

MG-WR1 Specifications		Remote Specifications	
Frequency	433MHz (MG-WR1) 868MHz (MG-WR186)	**Frequency**	433MHz, 868MHz
Formats	26-bit Wiegand	**Range**	Max. 100m (300 ft.)
Operating Temperature	0°C to 49°C (32°F to 120°F)	**No. of buttons**	4
Dimensions	15cm H x 16cm L x 3cm W (6in H x 6.5in L x 1.1in W)	**Functions**	5
Power	12Vdc	**Panic**	Yes
Current	50mA		
Outputs	Wiegand Output		
2-door Option	Form "C" Relay output rated at 5A/28Vdc		
Panic Option	Form "C" Relay output rated at 5A/28Vdc		
Programming Keypad	Esprit 636 or 646 LED keypad		