RTX3 Wireless Expansion Module V5.3



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Reference and Installation Manual

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Specifications

•	
Power input voltage:	12Vdc
Frequency:	433MHz or 868MHz
Sensitivity:	-120 dBm
Current consumption:	50 mA
Dimensions and Weight:	15cm x 16cm x 3cm (6in x 6.5in x 1.1in) / 24g
Operating temperature:	0°C to 49°C (32°F to 120°F)
Humidity:	5 - 90%
PGM outputs:	PGM1 and PGM2 - 150mA PGM transistor outputs PGM3 - form C relay output rated at 5A/28Vdc, N.O./N.C. (PGM4 optional)
Range:	Refer to the appropriate transmitter Instructions
Other:	Di-pole antenna; Error Correction Algorithm
Approvals:	EN50131-3: Security Grade 2, Environmental Class II, Certification Body Intertek For the latest information on product approvals, visit our website at www.paradox.com

Hardware Compatibility

	EVO	Spectra SP	Stand Alone
Zones	32	32	32
Remotes	32/96/999	32	32
Remote Control Type	REM1 RAC1 REM2 RAC2 REM3 REM15	REM1 RAC1 REM2 RAC2 REM3 REM15	REM1 REM15
Wireless PGMs	8	16	-
Wireless Keypads	-	8	-
Wireless Siren	8	4	-
Wireless Repeater	-	2	-
PX8 Output Module	-	-	4

Overview

This chapter provides an overview of the RTX3 Wireless Expansion Module ("RTX3"), including the package contents provided with the RTX3, the system features and an overview of the RTX3 components.

Description

The RTX3 is a 2-way, 32 zone wireless expansion module which enables EVO and Spectra SP Series control panels to support wireless hardware such as sirens, motion detectors and remote controls.

Included Items Antenna

Required/Optional Items

- Mounting hardware
- Optional 12Vdc external power supply (PS17)

Compatibility

- EVO 192 / EVOHD control panels
- Spectra SP series control panels

Features

- Up to 32 wireless zones
- Support for REM1 / REM2 / REM3/ REM15 / RAC1 / RAC2 remote controls
- Support for wireless PGMs
- Support for all Magellan
 transmitters including 2WPGM
- Support for two RPT1 and eight K32RF / K37 (SP Series only)
- Support for SR130 / SR150
 Wireless Sirens and RPT1
 Wireless Repeater (EVO and SP Series)
- Support for PX8 Output Module
- In-field firmware upgrade through BabyWare software via serial or 4-wire connection
- RF jamming supervision
- Low battery, tamper and checkin supervision
- Transmitter signal strength display
- 3 PGM outputs and 1 optional output
- Noise level test and indicator

RTX3 Board and Connectors

The following graphic displays the RTX3 board and connectors.



Figure 1: RTX3 Board and Connectors

1.	LED display (see <i>LED</i>	7.	Mode Programming button: Used
	Feedback on page 8)		for programming Stand Alone
2.	Firmware upgrade serial		RTX3 modules (see Stand Alone
	connector (see Firmware		Programming on page 17 and
	<i>Upgrade</i> on page 20)		System Reset (see System Reset on
3.	Anti-tamper switch		page 7)
4.	PCB screw	8.	Program connector: Connect the
5	Antenna		keypad to the Program connector
٦. ح			to program in Stand Alone mode
6.	Mounting clips	9.	Wiring slot

Chapter 1: Installation

This section describes how to connect the RTX3. The following diagram displays RTX3 installation.



Figure 2: RTX3 Installation

1. Control panel Digiplex connection.

Notes:

- When using the RTX3 as a stand-alone device: connect an external 12Vdc power supply to the RED and BLK terminals
- Battery backup is recommended
- 2. Use a relay if the current draw exceeds 150mA on PGM1 or PGM2. Connect the RTX3's RED connector to the relay's RED connector, and the RTX3's PGM connector (PGM1 or PGM2) to the relay's BLK connector.
- 3. Connect PGM3 and PGM4 to external power supplies if additional power is required. A PS-817 is recommended. Connect the PGM's N/O connector to the external power supply's "+" connection. Connect the power supply's "-" connector to the device's "-" connector. Connect the PGM's COM connector to the device's "+" connector.
 - **Note:** Write down the serial number of all wireless modules used with the RTX3.

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Antenna Installation

Secure the antenna to the **ANT** terminal connector as displayed below.

Note: A 433 MHz antenna is displayed.



Figure 3:Antenna Connection

System Reset

System Reset restores the RTX3 factory settings. IMPORTANT: System Reset only functions during the first 30 seconds after RTX3 power up.

To reset the system:

- Press and hold the **Programming** button for 5 seconds. The **BUS RX** LED flashes (see *LED Feedback* on page 8).
- 2. Release the button and press it again while the LED flashes to reset the RTX3 default settings.

Installation

LED Feedback

The following tables display LED feedback.



Chapter 2: Programming

This section describes how to program the RTX3 for Spectra SP series control panels, EVO series control panels and for stand-alone installations.

Programming RTX3 for Spectra SP Series Panels

When connected to a Spectra SP Series control panel, RTX3 settings are programmed through control panel programming sections. For detailed instructions refer to the *Spectra SP Series Programming Guide*.

Notes:

- Programming for a Spectra SP series system requires K32 or K10V/H keypads v2.0 or higher
- Only one RTX3 module can be connected to a Spectra SP Series panel

Programming for EVO Series Panels

Program RTX3 settings for EVO panels with either a keypad or BabyWare PC software.

Programming RTX3 with a Keypad

When connected to an EVO panel, program RTX3 settings through the keypad by entering Module Programming Mode.

To enter Module Programming mode:

- 1. Press and hold the [0] key.
- 2. Enter the **[INSTALLER CODE]**.
- 3. Enter section [4003].
- 4. Enter the module [SERIAL NUMBER].
- 5. Enter the required [DATA].
- Note: When used without a K641 or K641R keypad, enable EVO option [1] in section [3029].

After Programming RTX3 for EVO Control Panels

Program the zones, PGMs, sirens and remote controls into the EVO panel. Refer to EVO section [3034] and RTX3 section [001]* options [2] and [3] for wireless transmitter supervision options. **Requirement:** Configure all wireless sirens in an EVO system to a single RTX3.

* For instructions on entering 3-digit RTX3 section numbers see *RTX3 Programming Sections for EVO Panels* on page 10.

Section	Feature		Details	
[001]	Op	otion		
	[1]	Low battery supervision	For RTX3 version 1.5 and higher, this option is always on on : default	
	[2]	Check-in supervision	OFF: default	
	[3]	Check-in supervision time interval	оғғ: 24 hours (default) ол: 80 minutes	
	[4]	RF Jamming supervision	OFF: default	
	[5]	On-board module tamper supervision	OFF: default	
	[6]	PGM1 initial state	оғғ: Normally Open (default) ол: Normally Closed	
	[7]	PGM2 initial state	оғғ: Normally Open (default) ол: Normally Closed	
[8] Transmit tam signal		Transmit tamper signal	огг: RTX3 ignores tamper signal (default) ом: RTX3 reports tamper signal	
[002]	Rem	ote Control Optio	ns	
	[1]	REM2 visual and auditory feedback compatibility options*	 OFF: Old visual and auditory feedback (Supported by REM2 v2.00 or lower) ON: New visual and auditory feedback (default) 	
			Note : Requires REM2 v2.01 and higher	

RTX3 Programming Sections for EVO Panels

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Section	Feature	Details
	* The new visual and au system status: stay arme status feedback has not arm, instant arm and exi rejection beep will be he	ditory feedback includes the following ed, instant armed and exit delay. Other changed. For REM2 v1.04 or older, stay it delay status are not supported, and a eard when the system is in these status.
[030]	View Transmitter, Remote Control and PGM Serial Numbers	To view a transmitter's 6-digit serial number: Press and hold the transmitter's anti- tamper switch
See Details	Remote Controls	 To program remotes controls: Refer to User Code and Remote Control Programming sections in the EVO Programming Guide OR: Program through BabyWare
		Note: When programming remote controls (excepting a DSP series keypad) for a system, enable EVO option [1] in section [3029] and refer to <i>RTX3 Remote Control</i> <i>Programming for EVO</i> on page 15
[601] to [632]	Transmitter signal strength	[601] = Zone input 1 [632] = Zone input 32 3 or less = weak (move transmitter) 4 to 10 = OK
[701] to [732]	Current battery life	[701] = Zone input 1 [732] = Zone input 32 View number of weeks the batteries have been in the transmitter.
[801] to [832]	Previous battery life	[801] = Zone input 1 [832] = Zone input 32 View number of weeks the previous batteries were in the transmitter

Section	Feature	Details
[671] to [678]	2WPGM Signal Strength	Sections [671]-[678] correspond to Zone inputs 1 - 8 Signal Strength: • 3 or less: weak - move transmitter • 4 to 10: οκ
[901] to [908]	Assign 2WPGMs	Sections [901]-[908] correspond to Zone inputs 1 - 8
		To assign 2WPGMs:
		Enter a 6-digit serial number or press and release the transmitter's tamper switch
		To delete an assigned 2WPGM:
		Enter 000000 as a serial number
		Note: If a section between [901] to [904] is empty, the RTX3 uses the on board PGM
[910] to [989]	PGM Programming	To program Two-Way PGM activation event, deactivation event and PGM Delay options, see <i>RTX3 PGM Options for</i> <i>EVO</i> on page 14
[991]	View two-way PGM Tamper Trouble	PGM # in tamper trouble is displayed
[992]	View two-way PGM Supervision Trouble	PGM # in supervision trouble is displayed
[2850]	Assign RTX3	Assign the RTX3 that the sirens will be configured to
Note : The following programming sections correspond to sirens 1-8		
EXAMPLE: [2852]: Learn Siren 2		

Section	Feature	Details
[2851] to [2858]	Learn Siren	Press and hold the Reset/Training switch for 3 seconds after entering the section to learn the siren WARNING : When pressing the Reset/ Training switch, the SR130/SR150 squawks and the strobe light flashes five times to confirm siren registration to the panel
[2861] to [2868]	Assign Partition to Siren	Assign sirens to either one partition or to all eight partitions. 00 : Assigned to ALL 8 partitions 01-08 : Assign to selected partition
[2871] to [2878]	Display Siren Signal Strength	Press and hold the Reset/Training switch for 3 seconds after entering the section to display the siren signal strength that the panel receives. Requires keypad K32LCD V1.3 and higher
[2870]	Temporary Siren Tamper Switch Deactivation for Maintenance	Press [ENTER] after entering the section to deactivate tamper alarm until the cover is reinstalled or after 30 minutes

Programming

RTX3 PGM Options for EVO

PGM Number	Event Group	Feature Group	Start #	End #
PGM1	[910]	[911]	[912]	[913]
PGM2	[920]	[921]	[922]	[923]
PGM3	[930]	[931]	[932]	[933]
PGM4	[940]	[941]	[942]	[943]
PGM5	[950]	[951]	[952]	[953]
PGM6	[960]	[961]	[962]	[963]
PGM7	[970]	[971]	[972]	[973]
PGM8	[980]	[981]	[982]	[983]
Default Data	000	000	000	000

PGM Activation

PGM Deactivation

PGM Number	Event Group	Featu Grou	ire ip	Start #	End #
PGM1	[914]	[915	5]	[916]	[917]
PGM2	[924]	[925	5]	[926]	[927]
PGM3	[934]	[935	5]	[936]	[937]
PGM4	[944]	[945	5]	[946]	[947]
PGM5	[954]	[955	5]	[956]	[957]
PGM6	[964]	[965	5]	[966]	[967]
PGM7	[974]	[975	5]	[976]	[977]
PGM8	[984]	[985	5]	[986]	[987]
Note For all events see PGM programm <i>Guide (default data is set to 000).</i>		grammir o 000).		18 Ion in EVO Pro OFF Deactiv ON Deactiv	p <i>aramming</i> ation Event ation Event
		PGM D	Delay	ON PGM Tir	mer or
PGM Number	Delay (000	-255)		Option Beactiv	ation Event
PGM1	[918]			[919]	
PGM2	[928]			[929]	
PGM3	[938]			[939]	
PGM4	[948]			[949]	

PGM5	[958]	[959]
PGM6	[968]	[969]
PGM7	[978]	[979]
PGM8	[988]	[989]
Default Data	005	OFF

The following options apply to sections [919], [929]... [989]:

Option [1]: PGM deactivation after: See table on right

Option [2]: PGM base time: **ON**: Minutes **OFF:** Seconds (default)

Option [8]: Flexible PGM deactivation*: See table on right

* **Requirement**: To program "Flexible PGM deactivation" (option [8]) the "PGM deactivation after option" (option [1]) must be ом.

RTX3 Remote Control Programming for EVO

IMPORTANT: The following section **does not** apply to DGP series keypads.

Section	Feature	Details
[040] to	View or	Each section includes 8 positions corresponding
[043]	Delete used	to 8 remote controls programmed in the system
	Remote	(the system enables up to 32 remote controls).
	Controls	EXAMPLES: [040]: remote controls 1 to 8.
		[043]: remote controls 25 to 32
		To view/delete remote controls:
		1. Enter a section
		2. Select the remote control position
		corresponding to the remote control to be
		deleted
		3. Press [ENTER]. Any remote control position
		displaying * will be deleted

Section	Feature		De	tails		
[201] to [232]	Assign Remote Controls to the System	Sections [201] controls 1-32 To assign ren 1. Enter a sect 2. Press and he until you he	-[232] corr note contr ion old a butto ar a confir	respond t rols to th on on the mation b	e syste e syste remote eep. The	te m: control e remote
		control is as	signed		•	
[301] to [332]	Assign Remote	Sections [301]-[332] correspond to remote controls 1-32				
	Users	1. Select a rem 2. Enter a User appropriate 001 to 255)	note contro number (section (c	ol: Enter a 001 to 25 orrespor	a sectior 55) in the ading to	1. 2 Users
[401] to	Program / Mo	odify Remote	Control Se	ettings		
[432]	Sections [401]	-[432] correspond to remote controls 1-32.				
	//	_//	_////////			
		ooou - regular a دران		im, see b		Ν/Δ
		• •	N/A	• + •	N/A	N/A
	[0]: Button dis [1]: Regular ar [2]: Stay arm [3]: Instant arr [4]: Force arm [5]: Disarm [6]: Stay/insta [7]: Panic 1 (Pe	sabled m n nt disarm plice)	[8]: [9]: [STA [FOF [ARM [DIS [BYF [MEI	Panic 2 (1 Panic 3 (1 AY]: Smok RCE]: Utility ARM]: Utility P]: Utility M]: Utility	non-me fire) ty key 1 key 2 lity key 3 key 4 key 5	dical) 3

Programming Stand-Alone RTX3 Modules

The RTX3 can be used as a Stand-Alone module. This section describes how to program the RTX3 in Stand-Alone mode.

Requirement

Use a PX8 in conjunction with the RTX3 to program wireless transmitters in Stand-Alone mode (see the PX8 Instructions for more information).

To enter Programming mode:

- 1. Connect a 636 or 646 keypad to the **Program** connector (see #8 in *Figure 1 on page 5*).
- 2. Press the **Mode Programming** button (see #7 in *Figure 1 on page 5*).
- 3. Press [ENTER] on the Esprit keypad.
- 4. Enter the installer code (default: 757575).
- 5. Enter the required section number.

Stand Alone Programming

Section	Feature		Details
[000]	Installer Code		Set installer code (4 or 6 digits. Default: 757575)
[004]	PGM Initi	al State	
	Option		
	[6]	PGM1 initial state	оғғ: Normally open (default) ол: Normally closed
	[7]	PGM2 initial state	оғғ: Normally open (default) ол: Normally closed
[201] to [232]	to Remote Control Assignment		Sections [201]-[232] correspond to remote Controls 1- 32
			To assign a remote control:
			 Press [ENTER]. After the confirmation beep, press and hold any button on the remote until you hear two beeps.
			To delete a remote control:
			Press [2nd] followed by [ENTER].

Section		F	eature	Details	
[401] to	Remote Control Button Options				
[432]	Sections	[401-[432] correspond to	o remote controls 1-32.	
		Optic	on		
	[1]	[2]	[3]	Definition*	
	OFF	OFF	OFF	No Arm or Disarm	
	ON	OFF	OFF	Regular Arm (default)	
	OFF	ON	OFF	▲ Regular Arm	
	ON	ON	OFF	🔒 Regular Arm	
				🗨 Regular Arm	
	OFF	OFF	ON	🔒 Force Arm	
	ON	OFF	ON	Force Arm	
				🕤 Stay Arm	
	OFF	ON	ON	🔒 Regular Arm	
				🕤 Stay Arm	
	ON	ON	ON	🔒 Stay Arm	
	* Buttons used to arm the system are also used to disarm the system				
	Opt	ion			
			To select	Enable button Θ for PGM	
	[4]		PGM see	activation Default: on	
			section [011]		
	[5]		IO SELECT	Enable button 🝗 for PGM	
			section [012]	activation Default: on	
			To select		
	[6	6]	PGM see	Enable button 🕐 for PGM	
			section [013]	activation Default: ON	
			To select	Enable button \rightarrow for PGM	
	[7	7]	PGM see	activation Default: on	
			section [014]		
	[8]			Enable button $\bigcirc + \rightarrow$ for	
				Panic Alarm (default: ON)	

Section	Feature		Details
[011] to [014]	PGM Output Activation [011]: Remote Button		See sections [401] to [432]
	Option		
	[1]	Activate PGM 1 output	Default on in section [011]
	[2]	Activate PGM 2 output	Default on in section [012]
	[3]	Activate PGM 3 output	Default on in section [013]
	[4]	Activate PGM 4 output	Default on in section [014]
[021] to	PGM Latch	n / Delay	
[024]	Sections [0	21]-[024] corres	pond to PGMs 1-4
	Option		
	[0]	Latched	
	[1]	1 second	
	[2]	5 seconds	(default)
	[3]	10 seconds	
	[4]	20 seconds	
	[5]	40 seconds	
	[6]	60 seconds	
	[7]	2 minutes	
	[8]	4 minutes	

Section		Details	
[002]	PGM Outp		
	Option		
	[0] No PGM output on panic alarm		
	[1]	[1] Toggle PGM 1 on panic alarm	
	[2]	Toggle PGM 2 on panic alarm	
	[3]	Toggle PGM 3 on panic alarm	(default)
	[4]	Toggle PGM 4 on panic alarm	

Firmware Upgrade

Upgrade RTX3 firmware using either a serial connection or a four-wire connection.

For firmware upgrade instructions see the *Firmware Upgrade Instructions* document at: Paradox.com > Software > BabyWare.

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Programming

Patents

One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, 5119069, 5077549 and RE39406 and other pending patents may apply. Canadian and international patents may also apply.

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