



Printer Module V2.2 (APR3-PRT1)



Instructions APR3PRT1D-EI03

How Does It Work?

The Printer Module (APR3-PRT1) provides you with the ability to automatically print events as they occur in the system or to manually print the events stored in the Printer Module's 1024 event buffer. *Note: Any events that occurred before the Printer Module was installed are not accessible to the Printer Module.* The events can be sent to a dot matrix printer connected to the Printer Module's parallel port (25 pins) or its serial port (9 pins). The events can also be viewed and printed from a computer connected to the Printer Module's serial port (9 pins). The following details will be printed with each event: Date, Time, Partition #, Event Description and Event Label. The Printer Module also provides one additional programmable output (PGM).

Sample Printout:
 1999/09/28 07:17 Partition 1 Arming with master John Doe
 1999/09/28 18:09 Partition 1 Disarming with master John Doe
 ...

Thanks to the Auto-panel Recognition feature, the Printer Module can be connected to a Spectra, Digiplex or DigiplexNE control panel.

TECHNICAL SPECIFICATIONS

Parallel Port:	Minimum 80 column printer
Serial Port:	1 start bit, 8 data bit, no parity and 1 stop bit (8N1)
Input Voltage:	9-16 VDC
Current Consumption:	28mA maximum
Number of outputs:	One 50mA PGM
On-board Tamper Input:	Yes
Serial Port Baud Rates:	2400, 9600, 19200 or 57600 bps
Event Buffer:	1024 events
Compatibility:	Any Spectra control panel (V2.0 or higher) Any Digiplex and DigiplexNE control panel

INSTALLATION

The Printer Module (APR3-PRT1) is connected to the control panel's communication bus. Connect the four terminals labeled red, black, green, and yellow of each module to the corresponding terminals on the control panel as shown in Figure 1. Please refer to the *Digiplex* or *DigiplexNE Reference & Installation Manual* for the maximum allowable installation distance from the control panel.

Only dot matrix printers that can support a minimum of 80 columns can be directly connected to the Printer Module. **The Printer Module's parallel and serial ports will not support laser and bubble jet printers.** Events can be printed on any dot matrix printer that is connected to the Printer Module's parallel port (25 pins/ DB-25 connector). If you have a serial printer it can be connected directly to the Printer Module's serial port (9 pins/ DB-9 connector) or you can connect one of your computer's COM ports to the Printer Module's

serial port and display the events directly on the computer's monitor using communication softwares like Procomm™, Telix® and HyperTerminal®. Events displayed can then be printed to any printer connected to the computer.

Devices connected to the PGM output must be connected as shown in Figure 1.

The Printer Module does not come equipped with a tamper switch. If required, you can connect a tamper switch to the "TMP" input as shown in Figure 1. When a tamper is detected on the module, it will send a tamper report to the control panel via the bus.

AUTO-PANEL RECOGNITION

This is a feature that allows the Printer Module to be used with the Spectra, Digiplex or DigiplexNE. When connected to the bus, the Printer Module will automatically detect which system it is connected to and adjust its internal communication parameters accordingly. It allows the APR3-PRT1 to be connected to any Digiplex or DigiplexNE control panel as well as any Spectra Control panel V2.0 or higher.

If connecting the Printer Module to a Spectra control panel, refer to the *Spectra Printer Module Instructions (APR3PRT1S-EI)*.

PROGRAMMING METHOD

To access the Printer Module's programming mode:

STEP 1: Press and hold the [0] key.
 STEP 2: Enter the [INSTALLER CODE].
 STEP 3: Enter section [953] (DGP-48) / [4003] (DGP-NE96).
 STEP 4: Enter the Printer Module's 8-digit [SERIAL NUMBER].
 STEP 5: Enter the 3-digit [SECTION] you want to program.
 STEP 6: Enter the required data.

The APR3-PRT1 can also be programmed using the WinLoad Security Software or using the control panel's *Module Broadcast* feature. Refer to the *Digiplex* or *DigiplexNE Reference & Installation Manual* for more details. Please note that the serial number can be located on the Printer Module's PC board.

Section [001] - Options [1] to [8] Partition Assignment

Only the events that occurred in a partition that has been assigned to the Printer Module will be printed. The Printer Module will ignore any events generated in a partition not assigned to the Printer Module. Section [001] options [1] to [8] represent partitions 1 through 8 respectively. To assign the Printer Module to a partition, enable the option that corresponds to the desired partition. Partition 1 is enabled by default.

⚠ The Printer Module can only be assigned to partitions 5 to 8 if connected to a DigiplexNE control panel.

Sections [002] to [013] - Options [1] to [8] Automatic Printing of Zone Status

When the option representing a zone is enabled, the Printer Module will immediately print any zone events that occur. The following zone events can be printed: Zone Open, Zone Closed, Zone Tamper, Zone Fire Loop. To print the Alarm, Alarm Restore, Zone Tamper Restore, and Zone Fire Loop Restore events refer to *Automatic Printing of Event Groups* (section [014] options [1] to [7]) or *Manual Event Group Printing* (sections [027] to [058]). The Printer Module must be assigned to the same partition as the desired zone (see *Partition Assignment*, above). Otherwise, the events originating from that zone will not be printed.

⚠ Sections [008] to [013] can only be programmed if connected to a DigiplexNE control panel.

Section [014] - Options [1] to [7] Automatic Printing of Event Groups

Each option represents an event group. When the option representing an event group is enabled, the Printer Module will automatically print the event as it occurs. The following event groups can be printed:

- [1] Miscellaneous Events* (see below for Miscellaneous Events)
- [2] Arming/Disarming Events
- [3] Alarm and Alarm Restore Events
- [4] Tamper and Tamper Restore Events
- [5] Trouble and Trouble Restore Events
- [6] Special Events** (see below for Special Events)
- [7] Access Events*** (see below for Access Events)

Please refer to the *Digiplex* or *DigiplexNE Installation & Reference Manual* for more detailed information on the event groups.

* = Fire Reset, Contact Module Access, Remote Access, PC Fail To Com, User Code Entered, Bypass Programmed, Delay before Transmitting and Utility Key Pressed

** = Cold Start, Warm Start, Test Reports, WinLoad Login/Logout, Installer In/Out.

*** = Access Granted/Denied, Request For Exit, Door Left Open Alarm, Door Left Open Restore, Door Forced Alarm, Door Forced Restore.

Section [015] - Option [1] Enable Parallel Port

When this option is enabled, you may connect any dot matrix printer directly to the Printer Module's parallel port (25 pins).

Section [015] - Options [3] to [6] Printer Status Options

Some printers do not support these printer conditions:

Digiplex/DigiplexNE Printer Status Mask Options:

- [3] Off-Line Status Mask
- [4] Paper-Empty Status Mask
- [5] Printer Fault Status Mask
- [6] Printer Busy Status Mask

If your printer does not support these printer conditions it is highly recommended that you enable the printer status mask options.

⚠ If the Printer Status Mask options are ignored, printer troubles will not be displayed by the control panel. These options apply only to the parallel port.

Section [016] - Option [1] Enable Serial Port

When this option is enabled, you can connect a serial printer directly to the Printer Module's serial port (9 pins). You can also connect the Printer Module's serial port to your computer's serial COM port so the events can be displayed on the computer screen and then printed from the printer connected to the computer. The Printer Module can use the HyperTerminal® communication program that comes installed with Windows®. Using HyperTerminal®, the Printer Module will display events as they occur on your computer's monitor. To use HyperTerminal® it must first be set up. To set up for the first time:

- 1) Click **Start** (from the Windows® taskbar). Highlight **Programs, Accessories, Communications** and then click on **HyperTerminal®**. The **HyperTerminal®** main window will appear.

- 2) Double-click on **Hypertm.exe**. The **Connection Description** window will appear.

- 3) Enter a name in the **Name** text box and select an icon for your connection file. Click on the scroll bar to scroll through the icon choices. Click **OK**. The **Phone Number** window will appear.

- 4) From the **Connect Using** drop-down list select the **COM** port connected to the Printer Module. Click **OK**. The **COM Properties** window will appear.

- 5) Click on the **Bits per second** drop-down list and select the baud rate that is set in the Printer Module (Section [016] Options [2] & [3]).

- 6) The HyperTerminal® display will appear already connected to the Printer Module. Click on the **Properties** icon (or click **Properties** in the **File** menu). The communication file's Properties window will appear. Click the **Settings** tab. Under **Emulation**, verify that it is set as **Auto Detect**. If not, then click on the drop-down menu and select **Auto Detect**.

You may disconnect by clicking on the **Disconnect** icon (or by clicking on the **Call** menu and clicking on **Disconnect**). To reconnect click on the **Connect** icon (or by clicking on the **Call** menu and clicking on **Connect**). If you have already created a communication file with HyperTerminal®, simply perform step 1 and double-click your communication file.

Section [016] - Options [2] & [3] Baud Settings

Allows you to set the Printer Module's serial port baud equal to the printer's. Refer to the printer's instruction manual to see what baud to set the Printer Module to.

Baud Rate Settings	
[2]	[3]
OFF	OFF — 2400 Baud
ON	OFF — 9600 Baud
OFF	ON — 19200 Baud
ON	ON — 57600 Baud

Section [017] - Option [1] PGM Deactivation Option

When the PGM Activation Event occurs, this option determines when the PGM will return to its normal state (deactivate). When option [1] is OFF, the PGM will deactivate when the PGM Deactivation Event programmed in sections [023] to [026] occurs. When option [1] is ON, the PGM will deactivate when the PGM Timer programmed in section [018] has elapsed.

Section [017] - Option [2] PGM Normal State

When the PGM Activation Event occurs, the PGM will switch to its opposite state (i.e. open to close or close to open). When option [2] is OFF, the PGM is set as Normally Open (N.O.) When option [2] is ON, the PGM is set as Normally Closed (N.C.)

Section [017] - Option [3] PGM Base Time Selection

If option [3] in section [017] is OFF, the value programmed for the PGM Timer in section [018] will be in seconds. If option [3] is ON, the PGM Timer will be in minutes.

Section [018] PGM Timer

If the PGM Output is set to follow its PGM Timer (see section [017] option [1]), the value entered in section [018] represents the amount of time that the PGM will remain activated. To program the PGM Timer, enter a 3-digit decimal value from 001 to 255 in section [018]. Depending on the PGM Base Time (section [017] option [3]), the PGM Timer will either be in seconds or minutes.

Sections [019] to [022]

PGM Activation Event

The PGM Activation Event determines which event will activate the Printer Module's on-board PGM output. The Event Group specifies the event, the Feature Group identifies the source, and the Start # and End # sets the range within the Feature Group. Use the PGM Programming Table in the *Digiplex/DigiplexNE Modules' Programming Guide* to program the PGM Activation Event.

Enter the sections that correspond to the Event Group, Feature Group, Start # and End # of the PGM and enter the required data.

	Event Group	Feature Group	Start #	End #
PGM	[019]	[020]	[021]	[022]

Event Groups 000 to 055 can be used to program the Printer Module's PGM Activation Events. Event groups 062 and 063 can only be used when connected to a DigiplexNE.

Sections [023] to [026]

PGM Deactivation Event

If the *PGM Deactivation Option* is set to follow the PGM Deactivation Event (Section [017] option [1]), the PGM will return to its normal state when the event programmed in sections [023] to [026] occurs. The Event Group specifies the event, the Feature Group identifies the source, and the Start # and End # sets the range within the Feature Group. Use the PGM Programming Table in the *Digiplex/DigiplexNE Modules' Programming Guide* to program the PGM Deactivation Event.

Enter the sections that correspond to the Event Group, Feature Group, Start # and End # of the PGM and enter the required data.

	Event Group	Feature Group	Start #	End #
PGM	[023]	[024]	[025]	[026]

Event Groups 000 to 055 can be used to program the Printer Module's PGM Deactivation Events. Event groups 062 and 063 can only be used when connected to a DigiplexNE.

Section [060]

PGM Test

Entering section [060] will activate the PGM for 8 seconds to verify if the PGM is functioning properly.

Section [017] - Option [5]

Tamper Recognition

The Printer Module does not come equipped with a tamper switch. If one is required, enable option [5] and connect as per Figure 1. When a tamper is detected on the module, it will send a tamper report to the control panel.

Sections [027] to [058]

Manual Event Group Printing

The event groups are represented by sections:
 Sections [027] to [030]: Miscellaneous Events
 Sections [031] to [034]: Arming/Disarming Events
 Sections [035] to [038]: Alarm/Alarm Restore Events
 Sections [039] to [042]: Tamper/Tamper Restore Events
 Sections [043] to [046]: Trouble/Trouble Restore Events
 Sections [047] to [050]: Special Events
 Sections [051] to [054]: Access Events
 Sections [055] to [058]: All Events

Each group of sections from [027] to [058] represent event groups that can be printed when a specified action from the *PGM Programming Table* occurs, such as pressing Utility Keys or when Access is granted. Therefore, whenever the action occurs (Ex: Utility keys 4 and 5 are pressed), the Printer Module will print all the events from the event group associated with the PGM action that has occurred.

Program the manual printing feature as you would a PGM. The Event Group specifies the event, the Feature Group identifies the source, and the Start # and End # sets the range within the Feature Group. Use the PGM Programming Table in the *Digiplex/DigiplexNE Modules' Programming Guide* to program the *Manual Event Group Printing* feature. Enter the sections that correspond to the Event Group, Feature Group, Start # and End # of the event group and enter the required data

	Event Group	Feature Group	Start #	End #
Miscellaneous Events	[027]	[028]	[029]	[030]
Arming/Disarming Events	[031]	[032]	[033]	[034]
Alarm/Alarm Restore Events	[035]	[036]	[037]	[038]
Tamper/Tamper Restore Events	[039]	[040]	[041]	[042]
Trouble/Trouble Restore Events	[043]	[044]	[045]	[046]
Special Events	[047]	[048]	[049]	[050]
Access Events	[051]	[052]	[053]	[054]
All Events	[055]	[056]	[057]	[058]

Example: To print all Arming/Disarming Events (sections [031] to [034]) when User Code 04 is entered, enter the following into sections [031] to [034]:

Section [031]: 0 0 5
 Section [032]: 0 0 0
 Section [033]: 0 0 4
 Section [034]: 0 0 4

Result: Whenever User code 04 is entered, the Printer Module will print all the Arming/Disarming Events that have occurred.

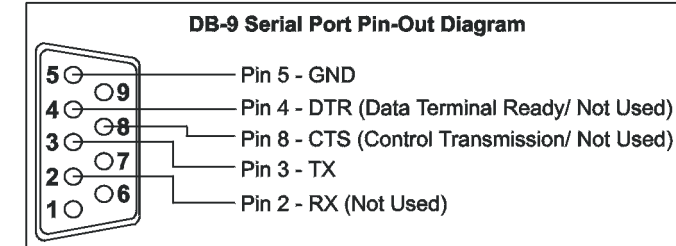
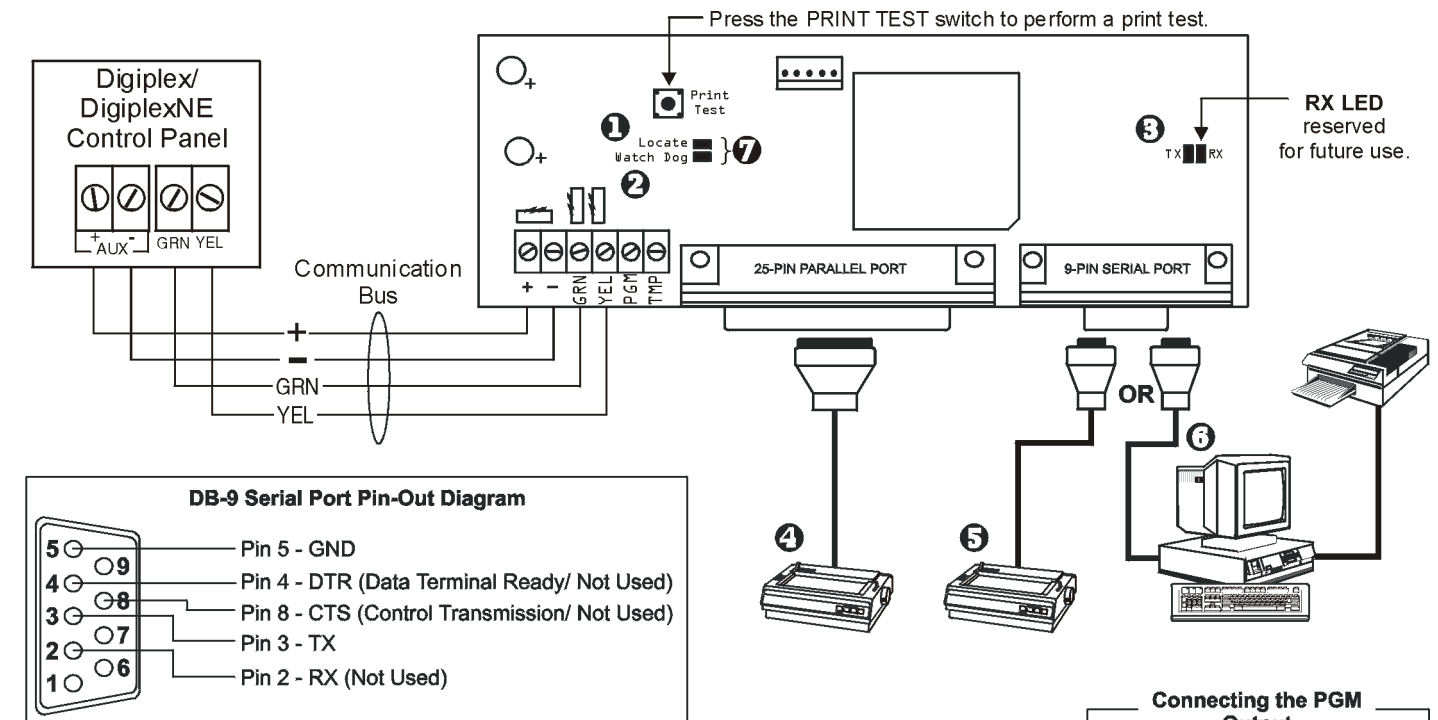
Event Groups 000 to 055 can be used to program the Printer Module's Manual Printing feature. Event groups 062 and 063 can only be used when connected to a DigiplexNE.



If using the Printer Module with a Spectra control panel, refer to the *Spectra Printer Module Instruction (APR3PRT1S-EI)* for more information.

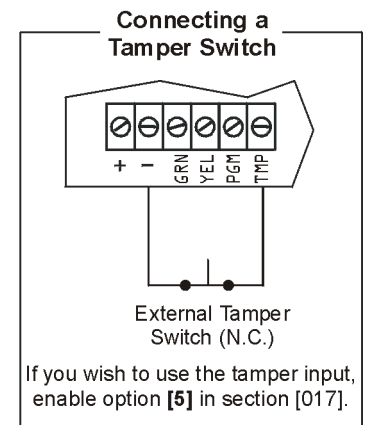
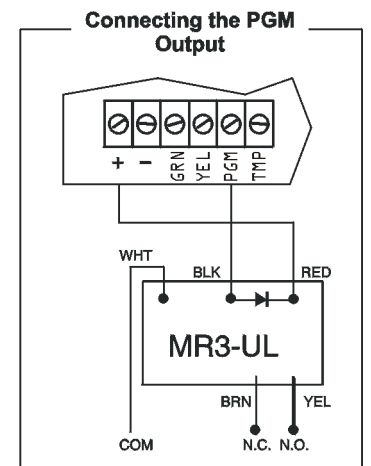
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Figure 1: Connecting the APR3-PRT1



- 1 Green "Locate" LED: Remains illuminated during power up. **Locate:** If it flashes fast during normal operation, it is receiving a "LOCATE" request from the control panel. Press the PRINTTEST switch to stop the locate function.
- 2 Red "Watchdog" LED: Flashes to indicate proper operation.
- 3 Red "TX" LED: Flashes when the Printer Module is transmitting data through the serial port only.
- 4 25-Pin Parallel Port: Connect the Printer Module's 25-pin parallel port to any dot matrix printer. **Note: The dot matrix printer must support a minimum of 80 columns.**
- 5 9-Pin Serial Port: Connect the Printer Module's 9-Pin serial port to a dot matrix printer. **Note: The dot matrix printer must support a minimum of 80 columns.**
- 6 9-Pin Serial Port: Connect the Printer Module's 9-pin serial port to a computer's COM port to view the control panel's events on the computer's monitor. The events displayed on the monitor can then be printed through the printer connected to the computer.
- 7 If both the "LOCATE" and the "WATCHDOG" LEDs are flashing alternately, a communication failure between the Printer Module and the control panel has occurred.

Remove AC power and battery before adding a module to the system. Refer to the Digiplex or DigiplexNE Reference & Installation Manual for the maximum allowable installation distance from the control panel.



If you wish to use the tamper input, enable option [5] in section [017].