

Edwards Wireless Service Application Guide

Models EST3, EST3X, FireWorks

P/N 3102425-EN • REV 002 • ISS 05SEP17

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Important information

Limitation of liability

To the maximum extent permitted by applicable law, in no event will United Technologies Corporation or any of its subsidiaries (collectively "UTC") be liable for any lost profits or business opportunities, loss of use, business interruption, loss of data, or any other indirect, special, incidental, or consequential damages under any theory of liability, whether based in contract, tort, negligence, product liability, or otherwise. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages the preceding limitation may not apply to you. In any event the total liability of UTC shall not exceed the purchase price of the product. The foregoing limitation will apply to the maximum extent permitted by applicable law, regardless of whether UTC has been advised of the possibility of such damages and regardless of whether any remedy fails of its essential purpose.

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While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, UTC assumes no responsibility for errors or omissions.

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Introduction

This application guide describes how to incorporate wireless features into the Edwards® family of fire alarm systems. It is intended for those trained and certified on EST3, EST3X, and FireWorks. Please make sure to review this entire document before attempting to deploy the applications described herein.

The applications described in this document may be used for system commissioning, inspection and testing, and support. The activation of this wireless interface is intended to be used, for this application only, on a temporary basis. Continuous use of the wireless interface may impact or void agency listings.

The applications described in this document were developed using Windows 10 Home, FireWorks 8.1, and 3-SDU 5.3. Edwards Technical Services, Applications Engineering, or Systems Engineering does not currently support Edwards software products running on Windows 10. Please refer to the FireWorks 8.1 and 3-SDU 5.3 software release notes for the supported operating systems.

Note: The Edwards Technical support team will only provide support for the wireless applications described in this application guide when they are installed as *temporary* connections. Permanent wireless connections to UL Listed systems are not supported.

Before you can deploy the wireless applications described in this guide on a customer's network, you must get certain information from the site network administrator to prep the site (e.g., static IPv4 addresses). Working out details beforehand in cooperation with the site network administrator results in a smoother deployment. For details, see "Appendix D – Network administration" on page 49.

Wireless service applications

This application guide tells you how to install the following wireless service applications:

- Wireless panel electronic printer
- Wireless stand-alone FireWorks command and control interface
- Wireless client for nonredundant FireWorks network
- Wireless FireWorks remote client

Referenced documents

The following referenced documents are available on the My-Eddie website (<u>http://www.my-eddie.com</u>):

- 3-RCC Series Remote Closet Cabinets Installation Sheet (P/N 270486)
- MN-COM1S RS-232 to Ethernet Interface Installation Sheet (P/N 3101601-EN)
- MN-BRKT1F Mounting Bracket Installation Sheet (P/N 3102161-EN)
- SIGA-CR Control Relay Module Installation Sheet (P/N 387023P-EN)
- 3-RS485 and 3-RS232 Option Card Installation Sheet (P/N 270489)
- Control-Display Module Installation Sheet (P/N 270493)
- 4X Series Control-Display Module Installation Sheet (P/N 3101777-ML)
- FireWorks 8.1 Software Installation Guide (P/N3100034-EN)
- FireWorks Life Safety Network Application Guide (P/N 3102147-EN)

The following referenced documents are available from the TP-Link Download Center (<u>http://www.tp-link.com/us/download/TL-WA901ND.html</u>):

- TL-WA901ND User Guide (P/N 1910011618)
- TL-WA901ND Quick Installation Guide (P/N 7106505985)

Wireless panel electronic printer

This section describes how to add a wireless panel electronic printer to your EST3(X) life safety system (see Figure 1 below).





What you will need

To add a wireless panel electronic printer to your EST3(X) life safety system, you need the following:

- A Windows 10 tablet PC with the following applications installed (see Table 3 on page 34 for minimum requirements):
 - Lantronix COM Port Redirector 4.3.0.3. For installation instructions, see "Lantronix Com Port Redirector (CPR)" on page 35.
 - PuTTY. For installation instructions, see "PuTTY for Windows" on page 39.
- A control unit with the following:
 - An available unsupervised printer port
 - An available switch and indicator on a 12SW/24LED operator layer module (or equivalent)
- An EST3(X) wireless interface

Installation

1. On the control unit, do the following:

Install a 12SW/24LED operator layer module, if an unused switch and indicator is not already available. For installation instructions, see the product installation sheet.

Install the EST3(X) wireless interface. See "Appendix A – Installing an EST3(X) wireless interface" on page 19.

- 2. Make the necessary changes to the project and project programming. See "Configuring the EST3(X) control unit" below.
- 3. Configure the TP-Link TL-WA901ND for Client Mode operation. You will need to enter the SSID and password of the site's wireless network.

For configuration instructions, see *TL-WA901ND User Guide* (P/N 1910011618) or *TL-WA901ND Quick* Installation Guide (P/N 7106505985).

4. Test the application. See "Testing the application" on page 5.

Configuring the EST3(X) control unit

- 1. Open the project in the 3-SDU.
- 2. Set the port type of the COM port used to connect the wireless interface to Printer. Set the baud rate to 9600 baud. Clear the check box for each event type that you *do not* want sent out the printer port.

Cabinet Configuration	-		×
Selected Cabinet Number: 1 Label: Bldg1Cab1			
Cabinet Network Routing Modules Ports Options			
Port 1 Type Printer Baud Rate 9600 baud 9600 baud Message Annunciation Group Default_Display_Group Service Group Guard Station Event Guard Station Event Acknowledgement: Restorations			
Port 1 Port 2			
St Msg Annunciation Groups		<u>∎</u> ⊆	ose

3. Configure the switch used to turn the WiFi Port on and off, and label the status indicator as shown below.

129	W/24LED - 12SW/24LED_01_04		
	Switch Label	Switch Type	LED Label
1	WIFI_PORT_ON/OFF_SW	Toggle	WIFI_PORT_ON_LED
2	12SW/24LED_01_04_002	Toggle	12SW/24LED_01_04_130
3	12SW/24LED_01_04_003	Toggle	12SW/24LED_01_04_131
4	12SW/24LED_01_04_004	Toggle	12SW/24LED_01_04_132
5	12SW/24LED_01_04_005	Toggle	12SW/24LED_01_04_133
6	12SW/24LED_01_04_006	Toggle	12SW/24LED_01_04_134
7	12SW/24LED_01_04_007	Toggle	12SW/24LED_01_04_135
8	12SW/24LED_01_04_008	Toggle	12SW/24LED_01_04_136
9	12SW/24LED_01_04_009	Toggle	12SW/24LED_01_04_137
10	12SW/24LED_01_04_010	Toggle	12SW/24LED_01_04_138
11	12SW/24LED_01_04_011	Toggle	12SW/24LED_01_04_139
12	12SW/24LED_01_04_012	Toggle	12SW/24LED_01_04_140
13			12SW/24LED_01_04_141
14			12SW/24LED_01_04_142
15			12SW/24LED_01_04_143
16			12SW/24LED_01_04_144
17			12SW/24LED_01_04_145
18			12SW/24LED_01_04_146
19			12SW/24LED_01_04_147
20			12SW/24LED_01_04_148
21			12SW/24LED_01_04_149
22			12SW/24LED_01_04_150
2			1005/2040ED_01_04_151
•			✓ 0K X Cancel

Note: In the figure above, the first LED-switch pair on the operator layer module is used. In practice, you can use any available toggle switch and LED indicator. On EST3 control units, you can also use a 12SW/12LED module instead of a 12SW/24LED module.

4. Open the Rules Editor (Rules > Rules Editor), and then add the rules below.

Note: The [STARTUP] rule below is required only when the wireless interface is connected to an EST3X control unit as shown in Figure 8 on page 23.

```
[STARTUP]
STUP :
    ON CAUX `MN-COM1S_POWER' ;
[WiFi PORT ON/OFF SWITCH]
SW 'WiFi_PORT_ON/OFF_SW' :
    ON 'MN-COM1S_POWER_RELAY' ;
[WiFi PORT ON LED]
RLYCFG 'MN-COM1S_POWER_RELAY' :
    STEADY 'WiFi_PORT_ON_LED' ;
```

5. Compile the rules, and then download the CPU database.

Testing the application

- 1. Start the EST3(X) system.
- 2. Press the WiFi Port ON/OFF switch. Verify the WiFi Port On indicator is on.
- 3. Turn on the tablet PC, and then start PuTTY.
- 4. Reset the EST3(X) system. Verify PuTTY displays the system state changes.

Wireless stand-alone FireWorks command and control interface

This section describes how to add a wireless stand-alone FireWorks command and control interface to your EST3(X) life safety system (see Figure 2 below).





What you will need

To add a wireless stand-alone FireWorks command and control interface to your EST3(X) life safety system, you need the following:

- A Windows 10 2-in-1 laptop with the following applications installed (see Table 3 on page 34 for minimum requirements):
 - FireWorks 8.1 (required PINs: FW-CGSUL). For installation instructions, see "Installing the FireWorks 8.1 software" on page 44.
 - Lantronix COM Port Redirector 4.3.0.3. For installation instructions, see "Lantronix Com Port Redirector (CPR)" on page 35.
- A control unit with the following:
 - An available Gateway Type III port
 - An available switch and indicators on a 12SW/24LED and 24LED operator layer control-display modules (or equivalent)
- On FireWorks, a TCP/IP COM port
- An EST3(X) wireless interface

Installation

1. On the control unit, do the following:

Install a 12SW/24LED and a 24LED operator layer control-display modules (or equivalent), if an unused switch and indicators are not already available. For installation instructions, see the product installation sheet.

Install the EST3(X) wireless interface. See "Appendix A – Installing an EST3(X) wireless interface" on page 19.

- 2. Make the necessary changes to the project and project programming. See "Configuring the EST3(X) control unit" below.
- 3. Configure FireWorks. See "Configuring the FireWorks command and control interface" on page 11.
- 4. Configure the TP-Link TL-WA901ND for Client Mode operation. You will need to enter the SSID and password of the site's wireless network.

For configuration instructions, see *TL-WA901ND User Guide* (P/N 1910011618) or *TL-WA901ND Quick* Installation Guide (P/N 7106505985).

5. Test the application. See "Testing the application" on page 12.

Configuring the EST3(X) control unit

- 1. Open the project in the 3-SDU.
- 2. Set the port type of the COM port used to connect the wireless interface to Gateway Type III. Set the baud rate to 19.2 Kbaud.

 Cabinet Configuration Selected Cabinet Number: 1 Label: Bldg1Cab1 		-		×
Cabinet Network Routing Modules Ports Options Port 1 Type Image: Control of the system	Port 1 Gateway/RDU Settings Primary All_Cabinets Alternate All_Cabinets Port connection is a Control Center Card Access Events G Send no events G Send only Abnormal events G Send All events Command Logging G No Command Logging G Log Partition Commands C Log All Commands			
₩ Msg <u>A</u> nnunciation Groups			<u>n</u> ci	ose

3. Change the message routing options for the the COM port's pseudo point to No_Msg_Annunciation_Groups_Route.

🧭 Object Configuration				- • •			
Object Configuration 🚯 And 🕃 Guard Patrol 🕲 Instruction Text 🚯 Matrix 🕲 Partitions 🕲 Service 🕲 Zone							
Object Configuration							
Search Fields All Fields 🖌 🖳							
Cabinet & LRM Device Type Address Range							
Cabinet 01 - 'Bldg1_Cab1' LOCALTROUBLE LOCALTROUBLE Select Range							
Pick Cabinet Label 1 RM Label Device Type Address Label Text Msg Annunciation Boute Label Alt Msg Annunciation Boute Label							
Bida1 Cab1 3-CPU31		00 Annunciator Supervision 01 01	All Msg Annunciation Groups Route	All Msg Appunciation Groups Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	01 ClassA Failure 01 01	All_Msg_Annunciation_Groups_Route	All Msg Annunciation Groups Route			
Bidg1 Cab1 3-CPU31	LOCALTROUBLE 6	03 Audio Supervision 01 01	All Msg Annunciation Groups Route	All Msg Annunciation Groups Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	04 Internal_Fault_01_01	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	05 Database_Supervision_01_01	All_Msg_Annunciation_Groups_Route	AIL_Msg_Annunciation_Groups_Route			
Bklg1_Cab1 3-CPU31	LOCALTROUBLE 6	06 Code_Supervision_01_01	All_Msg_Annunciation_Groups_Route	AII_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	07 Auxiliary_Port_One_01_01	No_Msg_Annunciation_Groups_Route	No_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	08 Auxiliary_Port_Two_01_01	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	09 Panel_in_Download_Mode_01_01	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	10 Network_Audio_Circuit_A_Fault_01_01	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	11 Network_Audio_Circuit_B_Fault_01_01	All_Msg_Annunciation_Groups_Route	AILMsg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	12 Unexpected_Card_01_01	All_Msg_Annunciation_Groups_Route	AII_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	16 Network_ClassA_CircuitA_Failure_01_01	All_Msg_Annunciation_Groups_Route	AILMsg_Annunciation_Groups_Route			
Bidg1_Cab1 3-CPU31	LOCALTROUBLE 6	17 Network_ClassA_CircuitB_Failure_01_01	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-PS/M1	LOCALTROUBLE 6	00 Annunciator_Supervision_01_03	All_Msg_Annunciation_Groups_Route	AILMsg_Annunciation_Groups_Route			
Bidg1_Cab1 3-PS/M1	LOCALTROUBLE 6	01 Rail_Module_Communications_Fault_01_03	All_Msg_Annunciation_Groups_Route	AII_Msg_Annunciation_Groups_Route			
Bidg1_Cab1 3-PS/M1	LOCALTROUBLE 6	04 Internal_Fault_01_03	All_Msg_Annunciation_Groups_Route	All_Msg_Annunciation_Groups_Route			
•				•			
	R Pick All	F Un-Pick All A Prefab Labels	Edit Message	Routing 🛃 Msg = Label 👖 Close			

4. Configure the switch used to turn the WiFi Port on and off, and label the status indicators as shown below.

12	W/24LED - 12SW/24LED_01_04		
	Switch Label	Switch Type	LED Label
1	WIFI_PORT_ON/OFF_SW	Toggle	WIFI_PORT_ON_LED
2	12SW/24LED_01_04_002	Toggle	WIFI_PORT_TRBL_LED
3	12SW/24LED_01_04_003	Toggle	12SW/24LED_01_04_131
4	12SW/24LED_01_04_004	Toggle	12SW/24LED_01_04_132
5	12SW/24LED_01_04_005	Toggle	12SW/24LED_01_04_133
6	12SW/24LED_01_04_006	Toggle	12SW/24LED_01_04_134
7	12SW/24LED_01_04_007	Toggle	12SW/24LED_01_04_135
8	12SW/24LED_01_04_008	Toggle	12SW/24LED_01_04_136
9	12SW/24LED_01_04_009	Toggle	12SW/24LED_01_04_137
10	12SW/24LED_01_04_010	Toggle	12SW/24LED_01_04_138
11	12SW/24LED_01_04_011	Toggle	12SW/24LED_01_04_139
12	12SW/24LED_01_04_012	Toggle	12SW/24LED_01_04_140
13			12SW/24LED_01_04_141
14			12SW/24LED_01_04_142
15			12SW/24LED_01_04_143
16			12SW/24LED_01_04_144
17			12SW/24LED_01_04_145
18			12SW/24LED_01_04_146
19			12SW/24LED_01_04_147
20			12SW/24LED_01_04_148
21			12SW/24LED_01_04_149
22			12SW/24LED_01_04_150
2			1005///2011/ED_01_04_161
			✓ OK X Cancel

Note: In the figure above, the first switch/LED group on the operator layer module is used. In practice, you can use any available toggle switch and LED indicators.

5. Label the indicator used to indicate when the WiFi port is active as shown below.

24LED - 24LED_01_05		
Switch Label	Switch Type	LED Label
1		WIFI_PORT_ACTIVE_LED
2		24LED_01_05_130
3		24LED_01_05_131
4		24LED_01_05_132
5		24LED_01_05_133
6		24LED_01_05_134
7		24LED_01_05_135
8		24LED_01_05_136
9		24LED_01_05_137
10		24LED_01_05_138
11		24LED_01_05_139
12		24LED_01_05_140
13		24LED_01_05_141
14		24LED_01_05_142
15		24LED_01_05_143
16		24LED_01_05_144
17		24LED_01_05_145
18		24LED_01_05_146
19		24LED_01_05_147
20		24LED_01_05_148
21		24LED_01_05_149
22		24LED_01_05_150
		DALED 01 05 151
-		V OK X Cancel

Note: In the figure above, the first indicator on the operator layer module is used. In practice, you can use any available indicator.

6. Configure AND Group 1 as shown below. AND Group 1 activates a rule that turns the WiFi Port Trouble LED on when the WiFi port is on — *but not communicating* (i.e., the COM port's pseudo point is active).

G Object Configuration	- • •
Object Configuration 🕑 And 🐵 Guard Patrol 🕲 Instruction Iest 🕲 Matrix 🕲 Partitions 🕲 Service 🕲 Zone	
AND Groups	
Label for AND Group 1: Group Description:	
WiFi Port Trouble MN-COMIS power relay is on; COM fault is active	
Activation Number: Activation Event:	
Wrife point active Service Ser	
MN-COMIS_POWER_RELAY	
Add Devices	
🕵 Remove Device	
A Clear Devices	
Edit Message	
Delete Group	
and a pick Devices	
Additive	
-	
* · · · · · · · · · · · · · · · · · · ·	

7. Configure AND Group 2 as shown below. AND Group2 activates a rule that turns the WiFi Port Active LED on when the WiFi port is on — and is communicating (i.e., the COM port's pseudo point is normal).

🧭 Object Configuration		
Object Configuration (And Guard Patrol) Instruct	tion <u>I</u> ext 😳 <u>Matrix</u> 😳 Partitio <u>ns</u> 😳 <u>S</u> ervice 😳 <u>Z</u> one	
AND Groups		
Label for AND Group 2:	Group Description:	
Activation Number: Activation Event:	MN-CUMIS power relay is on; CUM fault is not active	
2 Q4 - Monitor (All Others 💌		
Available Groups:	Devices in Selected Group:	
WiFi_Port_Trouble	Label Text Q1 Q2 Q3 Q4 NA	
WiFi_Port_Active		
😤 Add Devices		
Pt Demous Device		
Remove Device		
Clear Devices		
Edit Message		
🛄 Delete Group		
Pick Devices		
C Additive		
-		
•	•	

8. Open the Rules Editor (Rules > Rules Editor), and then add the rules below.

Note: The [STARTUP] rule below is required only when the wireless interface is connected to an EST3X control unit as shown in Figure 8 on page 23.

```
[STARTUP]
STUP :
    ON CAUX 'MN-COM1S_POWER' ;
[WiFi PORT ON/OFF SWITCH]
SW 'WiFi_PORT_ON/OFF_SW' :
    ON 'MN-COM1S_POWER_RELAY' ;
[WiFi PORT ON LED]
RLYCFG 'MN-COM1S_POWER_RELAY' :
    STEADY 'WiFi_PORT_ON_LED' ;
[WiFi PORT TROUBLE LED]
TRB AND 'WiFi_PORT_TRBL_LED' ;
[WiFi PORT ACTIVE LED]
MON AND 'WiFi_PORT_ACTIVE ':
    STEADY 'WiFi_PORT_ACTIVE_LED' ;
```

9. Compile the rules, and then download the CPU database.

Configuring the FireWorks command and control interface

- 1. Export the project gateway file from the 3-SDU.
- 2. In FireWorks System Builder, create a project, add an EST3 node (or an EST3X node depending on the system), and then import the SDU project gateway file.

😰 Fireworks System Builder		
<u>File Edit View Devices Ap</u>	plications] <u>H</u> elp	
	User Manager System Configuration	
Device Browser Showing Descrip	Receiver Configuration Manager	
My Project	<u>I</u> con Editor <u>M</u> ap Editor	
H FAST · M	Gateway Import	
	<u>C</u> ommunications Manager	
	Edit E-Mail Addresses	
	Edit All E-Mail Actions	
	Test E-Mail Server	
	Assign/Import Icons	
	Set Filtering Parameters	
	Local Mode of Operation	
	Auto-drop Pseudo Points for Selected Node	
	User: ADMIN 3/3/2017 11:24 AM Ve	ersion: 8.10.55

3. In FireWorks Communications Manager, configure a TCP/IP COM port as shown below. Set the TCP/IP address for the same static IPv4 address that you assigned to the MN-COM1S on the EST3(X) wireless interface and set the TCP/IP port number for 10001.

Note: The IP address shown below is an example. Obtain actual static IPv4 addresses from the site network administrator.

Ports Ports Port Properties Label [FAST - Main Campus] Port2 Port Type Port4 © Serial Port © TCP/IP Port Assigned Node Redundant [FAST - Main Campus (Node)] © Status Point ECP Port (Display and Control Center is disabled) Panel Port Unassigned Unassigned Description Unassigned	Communications Manag	ger 📧
Ports Port Properties FAST - Main Campus Label Port2 FAST - Main Campus Port3 Port Type O Serial Port Serial Port Image: Construct of the series o		Ports
Bidg1_Cab1_Port1 TCP/IP Properties IP Address 192 168 IP Port Number	Ports FAST - Main Campus Port2 Port3 Port4	Port Properties Label FAST - Main Campus Port Type C Serial Port FAST - Main Campus (Node) FAST - Main Campus (Node) Status Point ECP Port (Display and Control Center is disabled) Panel Port Unassigned Unassigned Unassigned IDescription Bldg1_Cab1_Port1 ICP/IP Properties IP Address 192 168 1 10 IP Port Number 10001
Add Port Delete Port Apply Help Cancel	Add Port	Delete Port Apply Help Cancel

Testing the application

- 1. Start the EST3(X) system. Verify that the system is normal (no events displayed on the LCD).
- 2. Press the WiFi Port ON/OFF switch, and then verify the following:
 - WiFi Port On indicator is on
 - WiFi Port Trouble indicator is blinking
 - WiFi Port Active indicator is off
- 3. Start System Control, and then on the EST3(X) control unit verify the following.
 - WiFi Port On indicator is on
 - WiFi Port Trouble indicator is off
 - WiFi Port Active indicator is on

Wireless client for nonredundant FireWorks networks

This section describes how to add a wireless client to your nonredundant FireWorks network (see Figure 3 below). For additional information, see *FireWorks Life Safety Network Application Guide* (P/N 3102147-EN).

In this application, the wireless interface is always on. As such, the FireWorks server reports a communication fault whenever the wireless client is not connected. To prevent FireWorks from reporting the communication fault, you must remove the wireless client from the FireWorks project database before you shut down the 2-in-1 laptop or leave the site.



Figure 3: Wireless client on a nonredundant FireWorks network

What you will need

To add a wireless client to your nonredundant FireWorks network, you need the following:

- A Windows 10 2-in-1 laptop with the following application installed (see Table 3 on page 34 for minimum requirements):
 - FireWorks 8.1 (required PINs: FW-CGSUL, FW-NCZZP)
- A TP-Link TL-WA901ND Wireless N Access Point configured for Client Mode

Installation

- 1. On the 2-in-1 laptop, do the following:
 - Install FireWorks 8.1 (see "FireWorks 8.1" on page 43).
 - Change the computer name to something meaningful. For example: FW-CLIENT-X, where X is the next available seat on the nonredundant network. See "Changing the name of your Windows 10 2-in-1 laptop/tablet PC" below.
- 2. Configure the TP-Link TL-WA901ND for Client Mode operation, and then connect it to an MN-FNS switch. The TP-Link TL-WA901ND must be within range of a site WLAN access point.

For configuration instructions, see *TL-WA901ND User Guide* (P/N 1910011618) or *TL-WA901ND Quick* Installation Guide (P/N 7106505985).

3. On the FireWorks server, add a client workstation to the project. For instructions, see the topic "Adding a client workstation," in System Builder Help.

Changing the name of your Windows 10 2-in-1 laptop/tablet PC

Windows 10 gives your computer a random name (DESKTOP- followed by an alphanumeric string). You can use the default name if you wish, but you may want to change it to something more meaningful.

To change the name of your Windows 10 laptop/tablet PC:

- 1. Right-click the Start button, and then click System.
- 2. On the System screen, under Computer name, domain, and workgroup settings, click Change settings.
- 3. In the System properties dialog box, on the Computer Name tab, click Change.
- 4. In the Computer Name/Domain Changes dialog box, in the Computer name box, type the new computer name.
- 5. Click OK, and then restart the laptop/tablet PC.

Wireless FireWorks remote client

This section describes how to add a wireless FireWorks remote client to your FireWorks life safety network (see Figure 4 below).





What you will need

To add a wireless FireWorks remote client to your FireWorks life safety network, you need the following:

- A Windows 10 tablet PC with FireWorks 8.1 Remote Client installed (see Table 4 on page 34 for minimum requirements)
- A FireWorks 8.1 workstation with one of the following remote client software product PIN combinations activated:
 - FW-1S (supports one remote client)
 - FW-1S and FW-4S (supports up to five remote clients)
 - FW-1S, FW-4S, and FW-10S (supports up to 15 remote clients)

Installation

The general steps for adding a wireless FireWorks remote client to your FireWorks life safety network are:

- 1. On the tablet PC, install FireWorks Remote Client. For instructions, see, "FireWorks 8.1 Remote Client" on page 46.
- 2. On the FireWorks 8.1 workstation, do the following:

Set the **WEB_FUNCTIONALITY_ENABLE** property for **Enabled** as shown below.

😰 System Configuration						
Basic UL Email Debug SystemControl Sy	stemBuilder Advanced	SocketCommunication	RCM Rem	noteClient	Network Database	
Properties						
Property Description Value						
BANNER_TEXT Displays Banner text at the top of the Event Acti Florida Academy of Science and Technology						
DIALER_FUNCTIONALITY_ENABLE	Enable Dialer Receive F	unctionality.	Enabled			
EventList	Select the Market place	specific event list to be	UL 864 comp	oliant (US)		
FIREWORKS_SITE_NAME	Site name displayed in S	ystem Control and any	Florida Academy of Science and Technology			
HTML_HOME_URL	Default home page when	the web browser is dis	http://edwardsutcfs.com/			
HTML_SEARCH_URL	The web page you go to when you click the Sear		http://www.google.com			
LOGIN_CASENSITIVE_ENABLE	Enable case sensitive to	userid and password fo	Enabled			
MAKE_TSAS_BLUE	Draw TSAs in the Map w	indow Blue instead of t	Enabled			
MASTER_TIME_UPDATE_HOURS	Amount of time, in hours	to send an update dat	0			
PRINTHISTORY_AII_SYS_BUILDER_ACTIVITI	When enable all System	Builder activities will be	Enabled			
SHOW_DEVICE_DESCRIPTION_IN_LOCATIO	Shows the Device Desc	iption vs Label in the N	Enabled			
ShowLabels	If enabled, show labels.	Otherwise, show descri	Enabled			
WEB_FUNCTIONALITY_ENABLE	Enable Remote Clients t	connect to this FireW	Enabled			
Restore All Defaults Restore Selected Defaults Undo Apply						
Change Password				Н	lelp Cancel	

Assign the Remote Client Connection user right to the remote client users as shown below.



Testing the application

- 1. Start System Control.
- 2. On the tablet PC, double-click the FireWorks 8.1 Remote Client shortcut.
- 3. On the **Remote Client Logon** window, in the **Web Server** box, type the name of the FireWorks 8.1 workstation, and then click **Connect**.

🗱 Remote Client Logon	
File View Help	
FireWorks Graphical Incident Management, Integra and Command/Control System Remote Client	tion,
Web Server: AH450708	Connect
Site: Unknown	
User Password	
Language 🗸	
Logon	Help

4. Wait until Remote Client discovers the FireWorks workstation as shown below.

🗱 FireWorks Remote Client Logon	- • •
File View Help	
FireNor Graphical Incident Management, and Command/Control Sy Remote Client	Integration,
Web Server: AH450708	Connect
Site: Florida Academy of Science and Technology	
User	
Password	
Language English	
Logon	Help
AH450708 discovered.	

 After the FireWorks workstation is discovered, do the following: In the User box, type your FireWorks user name. In the Password box, type your FireWorks password. Click Logon. 6. Verify the Remote Client opens and that the Communications status is OK as shown below.

🐎 Flo	orida Acader	my of Scier	nce and Te	echnolo	ах										×
File	Functions	view F	ieip												
	Туре	V	 Tin 	ne 🏼 🗠	17×	Device	V.	Address	V.	Location	$\nabla \cdot$	Мар	$\nabla \cdot$	User	$\nabla \bullet$
I															_
						Hold Events	3	Sile	nce	Refres	h	Clear All		Clear	
Ne	ew Events	Acknowl	edged Eve	nts All	Events	J									
															~
															-
Even	t Message	Active Dev	rices Nod	le Status	Syste	m Status 0	ptions								
) (C) (0)	(0)	(0)	0)) No.	Active Events	3	4	Comm	unications OK		Events Waiting	: 0	Disabled Points:	0
Got 0	events at 3/9/	/2017 8:48:	44 AM									User: WEB	3/9/2	2017 8:48 AM	1

Appendix A – Installing an EST3(X) wireless interface

This section describes how to add a wireless interface to EST3 and EST3X control units. The wireless interface is required for integrating the following applications:

- Wireless panel electronic printer
- · Wireless stand-alone FireWorks command and control interface

With wireless interface, you can use a Windows 10 2-in-1 laptop or tablet PC, and the site's wireless network or a mobile hotspot network, to remotely connect to the EST3(X) life safety system. Typically, the system operator layer provides controls to turn the connection to the wireless interface on and off and indicators to signal the status of the wireless connection. During normal operation, the connection to the wireless interface is turned off (i.e., power is not applied to the MN-COM1S).

Figure 5 below shows a typical EST3 wireless application.





What you will need

To add an EST3(X) wireless interface, you will need an available COM port on the control unit, and the following equipment:

- A 3-RCC7 enclosure
- A MN-BRKT1F mounting bracket
- A SIGA-CR relay module
- An MN-COM1S module (firmware version 6.11 or later)
- A TP-Link TL-WA901ND Wireless N Access Point configured to operate in Client Mode

Note: Some or all the of the equipment listed above is portable and may be temporarily or permanently connected at the site.

Installation

The general steps for adding a wireless interface to an existing EST3(X) control unit are:

- 1. Assemble the equipment as shown in Figure 6 below.
- 2. Connect the field wiring as shown in Figure 7 on page 22 for EST3 control units or as shown in Figure 8 on page 23 for EST3X control units.

Note: In Figure 7 and Figure 8, the SIGA-CR is shown connected to LOOP2. You can connect the SIGA-CR to either signaling line circuit (LOOP1 or LOOP2).

 Place the TP-Link TL-WA901ND within 50 ft. of the MN-COM1S, within reach of a standard 120 V electrical outlet, and in a location free of obstructions that could degrade or block the wireless signals to the site WLAN access point. For more installation recommendations, see the documentation provided with your wireless client.

Figure 6: EST3(X) wireless interface exploded view



- (1) See 3-RCC Series Remote Closet Cabinets Installation Sheet (P/N 270486)
- (2) See MN-COM1S RS-232 to Ethernet Interface Installation Sheet (P/N 3101601-EN)
- (3) See MN-BRKT1F Mounting Bracket Installation Sheet (P/N 3102161-EN)
- (4) See SIGA-CR Control Relay Module Installation Sheet (P/N 387023P-EN)

Field wiring

For EST3 field wiring connections, see Figure 7 on page 22. For EST3X field wiring connections, see Figure 8 on page 23.

Configuring the PS10-4B NAC/AUX output (EST3X systems only)

On EST3X systems, the PS10-4B is used to power the MN-COM1S on the wireless interface (see Figure 8 on page 23). You must configure the PS10-4B NAC/AUX output as a controlled auxiliary output and program it to turn on at system startup.

To configure the PS10-4B NAC/AUX output:

1. In the 3-SDU, under Cabinet Configuration (Configure > Cabinet), configure the PS10-4B NAC/AUX output used to power the MN-COM1S module as shown below.

Í	🔰 Power Sup	oply Configuration		-		Х
Γ	NAC ID	Class	Туре			^
D	. 1	Class B	Controlled Auxiliary Output			-
	2	Class B	Common Alarm Output			
	3	Class B	Common Alarm Output			
	4	Class B	Common Alarm Output			
						~
					<u> </u>	se

2. In the 3-SDU, under Object Configuration (Configure > Objects), give the controlled auxiliary output used to power the MN-COM1S a meaningful label. For example: MN-COM1S_POWER (see below).

🦪 Object Configuration	Object Configuration								
Object Configuration	Object Configuration 🕒 And 🕲 Guard Patrol 🕲 Instruction Text 🕲 Matrix 😔 Partitions 🕲 Service 🕲 Zone								
Object Configuration	Object Configuration Search Fields All Fields C								
Cabinet & LRM	Cabinet & LRM Device Type Address Range								
0202 PS/NAC 1	PS/NAC_02_02'	✓ ALL DEVICE	TYPEs	▲ All Devices	Select Range				
Pick Cabinet Label	LRM Label	Device Type	Address	Label Text		Abbreviation	Coder	Message	Serial Number Moc 🔺
Cab1	PS/NAC_02_02	PS/NAC	C	PS/NAC_02_02				PS/NAC_02_02	
Cab1	PS/NAC_02_02	CONTROLLEDAUXOUTPUT	1	MN-COM1S_POWER				MN-COM1S_POWER	
Cab1	PS/NAC_02_02	COMMONALARMOUTPUT	2	PS/NAC_02_02_2					
Cab1	PS/NAC_02_02	COMMONALARMOUTPUT	3	PS/NAC_02_02_3					
Cab1	PS/NAC_02_02	COMMONALARMOUTPUT	4	PS/NAC_02_02_4					
									v
] • 📃									+
	중 Dick All F Un-Pick All A Prefab Labels 同 Edit Message ĝ Msg Annunciation Routing 紀 Msg = Label 直 Soc								

3. Open the Rules Editor (Rules > Rules Editor), and then add the rule below.

[STARTUP]	
STUP :	
ON CAUX `MN-COM1S_POWER'	;





Appendix B – MN-COM1S RS-232 to Ethernet Interface

The MN-COM1S RS-232 to Ethernet Interface provides a communication path between a WiFi-enabled computing device and serial devices over a wireless Ethernet connection.

This section provides instructions for:

- Setting up the configuration computer
- Configuring the MN-COM1S
- Upgrading MN-COM1S firmware

Before you begin

To configure the MN-COM1S, you should have a good understanding of basic networking principles, addressing, and terminology. If you do not, consult an IT professional.

If you are installing the device on a managed network, obtain a list of available IPv4 addresses and the required netmask from the site network administrator.

The IPv4 address consists of two parts. The first part identifies the network and the second part identifies where the host (device) is on the network. The netmask (sometimes called the subnet mask) divides the IPv4 address into network address and host address.

When configuring the MN-COM1S, the number entered for the Netmask value specifies how many bits are used for the host part of the IPv4 address starting with the least significant bit as shown in Table 1 below.

Class	Netmask (dot-decimal)	Netmask (dot-binary)	No. of host bits
А	255.000.000.000	11111111.0000000.0000000.000000000	24
В	255.255.000.000	11111111.11111111.00000000.0000000	16
С	255.255.255.000	11111111.11111111.11111111.00000000	8

Table 1: Host bit examples

Setting up the configuration computer

The computer that you use to configure the MN-COM1S must have its Local Area Connection IPv4 properties changed to a static IP address and its Telnet Client feature turned on.

Note: The instructions provided here are for Windows 10 computers. Instructions for Windows 7 computers are slightly different.

Step 1. Connect the MN-COM1S to the configuration computer

Connect the MN-COM1S to the configuration computer as shown below, and then apply power.

Figure 9: Equipment setup



Notes

- The network interface connection on most computers auto-negotiate. If you experience communication issues between the configuration computer and the MN-COM1S, try using an Ethernet crossover cable.
- The MN-COM1S ships with a power cable for connecting a 24 VDC, filtered, and regulated power supply. If a 24 VDC power supply is not available, use a universal AC adapter with compatible ratings.

Step 2. Change the IPv4 properties of the configuration computer's Local Area Connection

- 1. Right-click the Start button, and then click Network Connections.
- 2. On the Network Connections screen, right-click Local Area Connection, and then click Properties.

3. In the Local Area Connection Properties dialog box, on the Networking tab, select Internet Protocol Version 4 (TCP/IPv4), and then click Properties.

Local Area Connection Properties	×					
Networking Sharing						
Connect using:						
Realtek PCIe FE Family Controller						
<u>C</u> onfigure						
This connection uses the following items:						
Client for Microsoft Networks						
File and Printer Sharing for Microsoft Networks						
QoS Packet Scheduler						
Internet Protocol Version 6 (TCP/IPv6)						
Internet Protocol Version 4 (TCP/IPv4)						
Link-Laver Topology Discovery Mapper I/O Driver						
Microsoft Network Adapter Multiplexor Protocol						
< >						
Install Uninstall Properties						
Description						
Transmission Control Protocol/Internet Protocol. The default						
wide area network protocol that provides communication						
across diverse interconnected networks.						
OK Cancel						

4. In the Internet Protocol Version 4 (TCP/IPv4) Properties dialog box, click Use the following IP address, and then set the IP address and Subnet mask values as shown below.

Internet Protocol Version 4 (TCP/IPv4) Properties							
General							
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
O <u>O</u> btain an IP address automatical	ly						
Use the following IP address:		- 1					
IP address:	192 . 168 . 1 . 100						
Subnet mask:	255.255.255.0						
Default gateway:							
Obtain DNS server address autom	natically						
• Us <u>e</u> the following DNS server add	resses:						
Preferred DNS server:							
<u>A</u> lternate DNS server:							
Ualidate settings upon exit	Ad <u>v</u> anced						
	OK Cance	1					

Step 3. Turn the configuration computer's Telnet Client feature on

- 1. Right-click the Start button, and then click Programs and Features.
- 2. On the Program and Features screen, click Turn Windows features on or off.
- 3. On the Windows Features screen, click the Telnet Client check box as shown below.

📷 Windows Features	_		×
Turn Windows features on or off			?
To turn a feature on, select its check box. To turn a check box. A filled box means that only part of the	feature (feature i	off, clear is turned	its on.
🕀 🔳 🚽 Print and Document Services			~
Remote Differential Compression API Su	pport		
RIP Listener			
🗉 🔲 Simple Network Management Protocol ((SNMP)		
Simple TCPIP services (i.e. echo, daytime	e etc)		
SMB 1.0/CIFS File Sharing Support			
Telnet Client			
TFTP Client			
Windows Identity Foundation 3.5			
⊞ ☑ Windows PowerShell 2.0			
🕀 🔳 📕 Windows Process Activation Service			
Windows TIFF IFilter			~
	ОК	Can	cel

Configuring the MN-COM1S

Follow the procedure below to configure the MN-COM1S.

To configure the MN-COM1S:

Note: The instructions provided here are for Windows 10 computers. Instructions for Windows 7 computers are slightly different.

- 1. Right-click the Start button, and then click Command Prompt (Admin).
- 2. At the command prompt, type the following and then press Enter:

ARP -S <temporary IP address> <MAC address>

Where:

<temporary IP address> is the same as the configuration computer's static IPv4 address but with a different host number (e.g., 192.168.1.10)

<MAC address> is the SN number attached to the bottom of the device (e.g., SN: XX-XX-XX-XX-XX)

3. At the command prompt, type the following and then press Enter:

TELNET <temporary IP address> 1

Where <temporary IP address> is the same temporary IP address that you entered in the previous step.

After a short delay, the Command Prompt window displays:

Connecting To <temporary IP address>...Could not open connection to the host, on port 1:

Connect failed

The failed connection message is normal. Do not be alarmed. Proceed to the next step.

4. At the command prompt, type the following and then press Enter:

TELNET <temporary IP address> 9999.

Where <temporary IP address> is the same temporary IP address that you entered in the previous step.

The Telnet window displays the following:

*** Lantronix UDS1100 Device Server *** MAC address 00204AC1E8CF Software version V6.11.0.0 (15050808)

Press Enter for Setup Mode

5. Press Enter, and then use the setup menu commands to configure the MN-COM1S for your application. See Table 2 below.

Note: If the software version is earlier than V6.11.0.0, go to <u>www.lantronix.com</u>, download the latest firmware and then upgrade the MN-COM1S before proceeding. For more information, see "Upgrading MN-COM1S firmware" on page 29.

Option	GatewayType III Port	Panel Electronic Printer Port	Remote Programming Port
BASIC PARAMETERS			
Hardware Ethernet TPI	Ethernet TPI	Ethernet TPI	Ethernet TPI
IP Address	[1]	[1]	[1]
Gateway	[1]	[1]	[1]
Netmask	[1]	[1]	[1]
DNS Server	Not set	Not set	Not set
DHCP FQDN Option	Disabled	Disabled	Disabled
SECURITY			
SNMP is	Enabled	Enabled	Enabled
SNMP Community Name	Public	Public	Public
Telnet Setup is	Enabled	Enabled	Enabled
TFTP Download is	Enabled	Enabled	Enabled
Port 77FEh is	Enabled	Enabled	Enabled
77FEh Access Mode is	Read & Write	Read & Write	Read & Write
Web Server is	Enabled	Enabled	Enabled
Web Setup is	Enabled	Enabled	Enabled
ECHO is	Disabled	Disabled	Disabled
Enhanced Password is	Disabled	Disabled	Disabled
CHANNEL 1			
Baudrate	19200 [2]	9600 [2]	9600 [2]
I/F Mode	4C	4C	4C
Flow	00	00	00

Table 2: MN-COM1S configuration settings

Option	GatewayType III Port	Panel Electronic Printer Port	Remote Programming Port
Port	10001	10001	10001
Connect Mode	C0	C0	C0
Send '+++' In Modem Mode	Disabled	Disabled	Disabled
Show IP Address After 'RING'	Disabled	Disabled	Disabled
Auto Increment Source Port	Disabled	Disabled	Disabled
Remote IP Address	None	None	None
Remote IP Port	00000	00000	00000
Disconnect Mode	00	00	00
Flush Mode	80	00	00
Pack Control	23	N/A	N/A
Disconnect Time	00:00	N/A	N/A
Send Characters	0D 0D	N/A	N/A
EXPERT			
TCP Keepalive	45s	45s	45s
ARP Cache Timeout	600s	600s	600s
Monitor Mode @ Bootup	Enabled	Enabled	Enabled
HTTP Port Number	80	80	80
MTU Size	1400	1400	1400
TCP Re-transmission Timeout	500 ms	500 ms	500 ms
Alternate MAC	Disabled	Disabled	Disabled
Ethernet Connection Type	Auto-negotiate	Auto-negotiate	Auto-negotiate

[1] Obtain from site network administrator.

[2] The Baudrate setting must match the baud rate setting of the control unit's serial port.

Upgrading MN-COM1S firmware

The MN-COM1S firmware must be version 6.11.00. If it is not, go to <u>www.lantronix.com</u> and download the following files:

- Lantronix DeviceInstaller 4.4.0.2 (DeviceInstaller-4402-SA)
- UDS1100 Firmware version 6.11 (uds1100_61100.rom)

To install Lantronix DeviceInstaller 4.4.0.2:

- 1. Right-click the compressed ZIP folder DeviceInstaller-4402-SA, and then click Extract All.
- 2. On the Extract Compressed (Zipped) Folders screen, browse to where you want the files extracted to.
- 3. Check the Show extracted files when complete check box, and then click Extract.
- 4. Right-click setup_di_x86x64cd_4.4.0.2, click Run as administrator, and then follow the on-screen instructions.

To upgrade the MN-COM1S firmware:

1. Click the Start button, and then in the Apps list under Lantronix, click DeviceInstaller.

Note: If DeviceInstaller is not showing a Local Area Connection, click the Options button, and then on the Network tab, check the Local Area Connection check box.

2 Lantronix DeviceInstaller 4.4.0.2					_	
<u>File</u> Edit <u>V</u> iew <u>D</u> evice <u>T</u> ools <u>H</u> elp						
🔎 Search 🛛 🍈 Options 🤤 Exclude 🛛 🌒 Assign	n IP					
E Lantronix Devices - 1 device(s) E	Name	User Name	User Group	IP Address	Hardware Address	Status
🔽 Ready						.::

2. Click Search to find the device.

2 Lantronix DeviceInstaller 4.4.0.2					_	
<u>F</u> ile Edit <u>V</u> iew <u>D</u> evice <u>T</u> ools <u>H</u> elp						
🔎 Search 🛛 🚳 Options 🤤 Exclude 🛛 🗞 Assign	IP					
	Name	User Name	User Group	IP Address 192.168.1.10	Hardware Address 00-20-4A-B2-11-30	Status Online
Ready						

3. In the device list, select the device, and then click Upgrade to start the Device Upgrade Wizard.



4. On the Device Upgrade Wizard – Step 1 of 5 screen, click Create a custom installation by specifying individual files, and then click Next.

Device Upgrade Wizard - Step 1 of 5		×
	This wizard helps install firmware, applications, web pages, and other configuration settings.	
1907	Create a custom installation by specifying individual files (Typical)	
	\bigcirc Use a specific installation file (LXI) (previously saved by user)	
	Browse	
ł	To continue, click Next.	
	< Back Next > Cancel Help	

5. On the Device Upgrade Wizard – Step 2 of 5 screen, browse to where you downloaded uds1100_61100.rom, and then click Next.

Device Upgrade Wizard - Step 2 of 5		Х
Device opgrade wizard - step 2 of 3	Select the firmware ROM file to use or leave blank to keep the existing firmware. Firmware (ROM. SYS, SPB & GZ) File: C:\Temp\uds1100_61100.rom Browse Intermediate Firmware File Needed? (not usually) Browse	
	Would you like to check the Lantronix Website for the latest firmware files? Lantronix Website To continue, click Next. < Back	

6. On the Device Upgrade Wizard - Step 3 of 5 screen, click No other files to install (typical), and then click Next.

Device Upgrade Wizard - Step 3 of 5	You may copy other files over to the device.	×
	No other files to install (typical)	
M B A	O Install files individually	
	○ Install files contained in COB partitions	
	O Install setup records from a file	
	Browse	
	To continue, click Next.	
,	< Back Next > Cancel Help	

7. On the Device Upgrade Wizard – Step 4 of 5 screen, click Next.



8. On the Device Upgrade Wizard – Step 5 of 5 screen, click Close after the firmware successfully updated and the MN-COM1S successfully rebooted.

🔕 Device Upgrade Wizard - Step 5 of 5			×
Device Upgrade Wizard - Step 5 of 5	The installation completed succesfully [192.168.1.10 00-20-4A-B2-11-30] [192.168.1.10 00-20-4A-B2-11-30] 	. Click Close to exit. 2 Succeeded Update firmware (uds1100_61100.rom) Wait for boot with new firmware Succe	X O Failed Succeeded eded
	< Back Next >	Close Help	

Appendix C – Installing software on your 2-in-1 laptop or tablet PC

This section provides instructions for installing software on your 2-in-1 laptop or tablet PC.

Minimum system requirements

For FireWorks stand-alone, FireWorks nonredundant client, and remote programming applications, we recommend using a 2-in-1 laptop with the minimum system requirements listed in Table 3 below.

Processor	7th Generation Intel® Core™ m3-7Y30 Processor (4M Cache, up to 2.60 GHz)
Operating system	Windows 10 Home edition, 64-bit
Memory	4GB Single Channel DDR3L 1600MHz (4GBx1)
Hard drive	128GB Solid State Drive
Video	Intel® HD Graphics
Display	11.6-inch HD (1366 × 768) LED-Backlit Touch Display
Wireless	802.11b/g/n + Bluetooth 4.0, 2.4 GHz, 1x1
USB ports	2 USB 2.0, 1 USB 3.0
HDM1 ports	1

Table 3: 2-in-1 laptop minimum system requirements

For remote client and panel electronic printer applications, we recommend using a tablet PC with the minimum system requirements listed in Table 4 below.

Table 4: Tablet PC m	inimum system	requirements
----------------------	---------------	--------------

Processor	Intel Atom Quad Core
Operating system	Windows 10 Home edition, 32-bit
Memory	2GB
Hard drive	32GB Solid State Drive
Video	Intel® HD Graphics
Display	10.1-inch HD (1280 × 800) IPS Touch Display
Wireless	802.11b/g/n + Bluetooth 4.0
USB ports	1 micro USB, 1 full USB
HDM1 ports	1 mini HDMI

Lantronix Com Port Redirector (CPR)

Lantronix Com Port Redirector creates virtual COM ports that you can use to communicate with serial devices over an Ethernet connection.

This section provides instructions for:

- Installing COM Port Redirector
- Creating a Lantronix CPR port

Installing COM Port Redirector

Note: If you already installed FireWorks 8.x on the 2-in-1 laptop, you do not have to download the setup_cpr_x86x64cd_4.3.0.3 compressed ZIP folder from the Lantronix website. Instead, go to C:\Fireworks\Tools\ Serial Port Tools and install COM Port Redirector from there.

- 1. Go to <u>https://www.lantronix.com/products/com-port-redirector</u>, and then download the latest version of the Stand-alone Com Port Redirector (setup_cpr_x86x64cd_4.3.0.3.exe).
- 2. Right-click the setup_cpr_x86x64cd_4.3.0.3 compressed ZIP folder, and then click Extract All.
- 3. On the Select a Destination and Extract Files screen, browse to where you want to extract the files to, check the Show extracted files when complete check box, and then click Extract.

		×
\leftarrow	Extract Compressed (Zipped) Folders	
	Select a Destination and Extract Files	
	Files will be extracted to this <u>f</u> older:	
	C:\Temp Browse	
	☑ S <u>h</u> ow extracted files when complete	
	<u>E</u> xtract Cance	el 🛛

4. Right-click setup_cpr_x86x64cd_4.3.0.3, click Run as administrator, and then follow the on-screen instructions.

Creating a Lantronix CPR port

1. Click the Start button, in the Apps list under Lantronix, right-click CPR Manager, and then click Run as administrator.



2. On the CPR Manager screen, click Add/Remove.

🔷 CPR Manager	4.3.0.3								-		×
Eile Com Port	Device To	ools <u>H</u> elp)								
Add/Remove	🔜 Save 🖹 R	efresh 🔎	Search For Devices 🛛 🖨 E	kclude							
Com Ports	F	lide 🤤 🛛 C	Com Port List General Tests								
All Com Po	ить (0)		Com Port	IP Address	TCP Port	Com Status	Network Status		2217	BfrWr	SvrRec
Nevrice list			¢					-			ollanse
IP Address	# Posto	TCP Port	Product	ID	HW Address	Neture	rk Interface	Device Name		Port No	me
	# POILS	i cri ront		U	And Audiess	Welwo	IN ERGIDUE	DUALCE MELLE		FOR NO	
٢											
leady											

3. In the Com Ports dialog box, check the check box for the COM ports that you want to add, and then click OK. **Note:** FireWorks supports using COM1 through COM25. The 3-SDU supports using COM1 through COM8.

Com Ports						
Com1	Com21	Com41	Com61	Com81	Com101	Com121 ^
Com2	Com22	Com42	Com62	Com82	Com102	Com122
Com3	Com23	Com43	Com63	Com83	Com103	Com123
Com4	Com24	Com44	Com64	Com84	Com104	Com124
Com5	Com25	Com45	Com65	Com85	Com105	Com125
Com6	Com26	Com46	Com66	Com86	Com106	Com126
Com7	Com27	Com47	Com67	Com87	Com107	Com127
Com8	Com28	Com48	Com68	Com88	Com108	Com128
Com9	Com29	Com49	Com69	Com89	Com109	Com129
Com10	Com30	Com50	Com70	Com90	Com110	Com130
Com11	Com31	Com51	Com71	Com91	Com111	Com131
Com12	Com32	Com52	Com72	Com92	Com112	Com132
Com13	Com33	Com53	Com73	Com93	Com113	Com133
Com14	Com34	Com54	Com74	Com94	Com114	Com134
Com15	Com35	Com55	Com75	Com95	Com115	Com135
Com16	Com36	Com56	Com76	Com96	Com116	Com136
Com17	Com37	Com57	Com77	Com97	Com117	Com137
Com18	Com38	Com58	Com78	Com98	Com118	Com138
Com19	Com39	Com59	Com79	Com99	Com119	Com139
Com20	Com40	Com60	Com80	Com100	Com120	Com140 ∨
<						>
ОК	Cancel	Cł	neck (Range)	1 🔹 to	256 🜲	
Select All	Select No	Unc	check (Range)	1 💠 to	256 🜲	

4. Click Search for Devices to discover the MN-COM1S. Once discovered, the Device List displays the MN-COM1S module's IP address and its hardware (MAC) address.

🔷 CPR Manager 4.3.0.3										_	. 🗆	×
<u>File Com Port Dev</u>	ice <u>T</u> oo	ls <u>H</u> elp										
🏷 Add/Remove 🛛 📊 Save	e 🖹 Ref	fresh 🔎 S	Search For Devices 🛛 🤤 E	xclude								
Com Ports	Hie	de 😑 🛛 Co	m Port List									
All Com Ports (1)	w)	G	om Port 🏷 Com 1 (New)	IP Address		TCP Port	Com Stat	tus Network Status		2217	BfrWr	SvrRec
		<										>
Device List											(Collapse 🔽
IP Address 192.168.1.10	# Ports 1	TCP Port 10001	Product UDS1100	II L	D I J3	HW Address 00:20:4A:B2:11:30	1	Network Interface 192.168.1.100	Device Name		Port N	ame
<												>
Ready									Mod	lified		

5. In the Com Ports list, select the COM port that you want to redirect, and then in the Device List, double-click the MN-COM1S module that you want to redirect the COM port to.

Note: If the host is on the other side of a router or of a firewall, you may have to add UDP ports 30718, 43282, and 43283 to the firewall exception list. You may experience trouble in opening this COM port if these UDP ports are not excluded. For VESDA applications, use TCP port 10001.

A COD 14									_	V
CPR Manager 4.3.0.3								-	ш	×
<u>File Com Port D</u> e	vice <u>T</u> o	ols <u>H</u> elp								
🔯 Add/Remove 🛛 📊 Sa	ve 🖹 Re	fresh 🔎	Search For Devices 🛛 🤤 Ex	clude						
Com Ports	Hi	de 🤤 🛛 S	ettings							
Al Com Ports (1) ⊖ Com 1-1 ⊢ Com 1 (N) 64)		Vindovi Port Name: Vindovi Port Name: Vindovi Port Name: Vindovi Service Name: Paset to Defaults Server Reconnect Server Reconnect Listen Mode □ TCP KeepAlive □ RFC 2217 CTCPOrt Service Host 1 192.168.1.10 2 3 4 5 6 7 8	Cancel Edit	s closed after disconnect closed after disconnect KeepAlive Time (maec DCD, DSR always active TCP Port	Con Status: Clos Network Status: Disc 7 € Conne 7 1	ed onnected ction Timeout (in second 0)) To Firewall To Firewall Deprince executed this port this port bottom outher or i may new perince executed this port bottom outher or i may new perince executed this port outher or i may new perince executed outher or i may new perince executed outher or i may new perince executed outher o	ever)	
IP Addrage	# Porte	TCP Port	Product	ID	HW Addrase	Network Interface	Device Name		Port Name	
9192 168 1 10	1	10001	UDS1100	10	00-20-4A-B2-11-30	192 168 1 100	Device Marile		on realing	
<								Geed		>
							Modi	fied		

6. Click Save.

Testing the connection

Once the equipment is set up and deployed, you can use Lantronix CPR Manager to test the connection.

To test the connection:

- 1. Start Lantronix CPR Manager.
- 2. In the navigation panel, click the COM port that you want to test.
- 3. On the Com XX tab, set the serial port settings for the following values:

Baud Rate: 19200 Data: 8 bits Parity: Even Stop: 1 bit Flow control: None

- 4. Click Open.
- 5. Verify that Com Status is Open and that the Network Status indicates you are connected to the correct IP address.
- 6. Click Close.

PuTTY for Windows

PuTTY is a free and open-source terminal emulator, serial console and network file transfer application. It supports several network protocols, including SCP, SSH, Telnet, rlogin, and raw socket connection. It can also serve as an xterm terminal emulator.

This section provides instructions for:

- Installing PuTTY
- Configuring a PuTTY session
- Opening a PuTTY session

Note: At the time of this publication, the current version of PuTTY is 0.68. We do not anticipate any issue with other versions.

Installing PuTTY

- 1. Go to http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html.
- 2. Under Package files, click putty-0.68-installer.msi, and then click Save.

	Do you want to run or save putty-0.68-installer.msi (2.74 MB) from the.earth.li ?	Run	Save	.	Cancel	×
3.	Click Open Folder.				_	

	The putty-0.68-installer.msi download has completed.	<u>R</u> un	Open folder	<u>V</u> iew downloads	×
l					

4. Right-click putty-0.68-installer, click Install, and then follow the on-screen instructions.

Configuring a PuTTY session

- 1. Click the Start button, in the Apps list under PuTTY, right-click PUtty, and then click Run as administrator.
- 2. In the Category list, under Connection, click Serial, and then do the following:

In the Serial line to connect to box, type or select the COM port that Lantronix CPR Manager uses to redirect serial data to the target MN-COM1S module.

Set the values for Speed, Data bits, Stop bits, Parity, and Flow control as shown below.

Repute Y Configuration		? ×
Category:	Options controlling	local serial lines
Logging Terminal Keyboard Bell Features Window Window Window Translation Selection Colours Connection	Select a serial line Serial line to connect to Configure the serial line Speed (baud) Data bits Stop bits Parity Flow control	COM1 9600 8 1 None V
Data → Data → Proxy → Telnet → Rlogin → SSH → SSH → Senal)pen <u>C</u> ancel

3. In the Category list, under Session, click Logging, and then set the option values as shown below.

🕵 PuTTY Configuration	? ×
Putty Configuration Category: □ Session □ Cogging □ Terminal □ Keyboard □ Bell □ Features □ Window □ Appearance □ Behaviour □ Translation □ Connection □ Data □ Proxy □ Telnet □ SSH □ Serial	? × Options controlling session logging: Options controlling session logging: None Printable output All session output SSH packets SSH packets and raw data SSH packets and raw data Log file name: Browse C:\temp\putty.log Browse (Log file name can contain &Y, &M, &D for date, &T for time, &H for host name, and &P for pott number) What to do if the log file already exists: Always overwrite it Always append to the end of it Always append to the end of it Always append to the end of it Ask the user every time Flush log file frequently Options specific to SSH packet logging Omit known password fields Omit session data
<u>A</u> bout <u>H</u> elp	<u>O</u> pen <u>C</u> ancel

4. In the Category list, click Session, and then under Connection type, click Serial.

🕵 PuTTY Configuration		?	\times
PuTTY Configuration Category: Catego	Basic options for your PuTTY se Specify the destination you want to conne Serial line COM1 Connection type: O Raw Ielnet I cload, save or delete a stored session Saved Sessions Default Settings	? ssion ct to Speed 9600 H Ser	×
···· Data ··· Proxy ··· Telnet		Sa <u>v</u> e <u>D</u> elete	•
⊞. SSH Serial	Close window on exit:		
	○ Always ○ Never	lean exit	
About <u>H</u> elp	<u>O</u> pen	<u>C</u> ance	

5. In the Saved Sessions box, type a name for the session, and then click Save.

🕵 PuTTY Configuration		?	×
Category: 	Basic options for your PuTTY set Specify the destination you want to conner Serial line COM1 Connection type: O Raw Telnet Rlogin SSI Load, save or delete a stored session Saved Sessions FAST - Bldg1 Default Settings FAST - Bldg1 Close window on exit: O Always Never	ession Speed 9600 H Ser Load Save Delete	jal
<u>A</u> bout <u>H</u> elp	<u>O</u> pen	<u>C</u> ance	

Starting a PuTTY session

1. Click the Start button, in the Apps list under PuTTY, right-click PuTTY, and then click Run as administrator.



2. In the Category list, click Session, and then under Saved Sessions, select the stored session, and then click Load.

🕵 PuTTY Configuration		? ×
Putty Configuration Category: □ Session □ Logging □ Terminal □ Keyboard □ Bell □ Features □ Window □ Appearance □ Behaviour □ Translation □ Colours □ Obta □ Proxy □ Telnet □ SSH □ SSH	Basic options for your PuTTY set Specify the destination you want to connection set Serial line COM1 Connection type: O Raw Telnet O Raw Telnet Saved Sessions FAST - Bldg1 Default Settings FAST - Bldg1 Close window on exit: O Always Never Image: Only on content of the set o	? × ession ect to Speed 9600 H • Serjal Load Saye Delete dean exit
<u>A</u> bout <u>H</u> elp	<u>O</u> pen	<u>C</u> ancel

3. Click Open.

FireWorks 8.1

These instructions are for installing FireWorks 8.1 on a Windows 10 2-in-1 laptop. For more information, see *FireWorks 8.1 Software Installation Guide* (P/N 3100034-EN).

The general steps for installing FireWorks 8.1 are:

- 1. Change the Data Execution Prevention settings.
- 2. Download the FireWorks 8.1 software from https://myeddie.edwardsutcfs.com.
- 3. Install the FireWorks 8.1 software.

Changing the Data Execution Prevention settings

- 1. Right-click the Start button, and then click System.
- 2. On the System screen, click Advanced system settings.
- 3. In the System Properties dialog box, on the Advanced tab, in the Performance group, click Settings.
- 4. In the Performance Options dialog box, on the Data Execution Prevention tab, click Turn on DEP for essential Windows programs and services only.

Installing the FireWorks 8.1 software

- 1. Go to <u>http://www.microsoft.com</u>, and then download and install .NET Framework 3.5 (includes .NET Framework 2.0) and .NET 4.0 Framework Client Profile.
- 2. Restart the computer.
- 3. Turn off all antivirus, all malware protection, and all firewalls.

Note: There are typically three firewalls in Windows: Domain, Private, and Public

- 4. If computers are subject to administrative/group policies or other types of controls, these policies/controls must be evaluated/modified to ensure that:
 - Automatic updates are turned off

Updates should be done manually. If system has redundant servers, the servers should be updated separately at alternate dates and times.

- USB ports are 100% active
- Terminal services are not used.

Terminal services will shut off the Aladdin/Sentinel/Gemalto hasps, which will stop Edwards software.

- 5. Go into Window Features, and then do the following:
 - Turn on .NET Framework 3.5 (includes .NET 2.0 and 3.0) and both sub options
 - Make sure .NET Framework 4.6 Advanced Series and all sub options are selected
 - Turn on all options & sub options for Microsoft Message Queue (MSMQ) Server Core
 - Turn on all options and sub options for Simple Network Management Protocol (SNMP)
 - Turn on Simple TCPIP services (i.e. echo, daytime etc.)
 - Turn on Telnet Client
 - Turn on TFTP Client
 - Apply changes.
- 6. Run Windows Update and then get all of the latest updates before starting this procedure.
- 7. Right click on the Windows icon in the lower left of the screen
- 8. Click Run.
- 9. Enter Regedit, and then click OK
- 10. Navigate to: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System.
- 11. In the right pane, look for EnableLUA, click on it and modify its value to 0. Close regedit.
- 12. Restart computer.
- 13. Create a folder on the C drive called leo.
- 14. Copy the entire FireWorks DVD to the leo folder.

- 15. Turn off ALL network connections (physical and wireless).
- 16. Right click on the Windows icon in the lower left of the screen.
- 17. Click Run.
- 18. Enter the following command to instruct the FireWorks installation routine to ignore the flag for Windows 7 Service Pack 2: C:\leo\setup nocareaboutSP
- 19. Click OK.
- 20. FireWorks will start installation.
- 21. If hasp is already programmed, use the PIN code fireworks (all lower case, no spaces
- 22. Note once you click OK, the computer may appear to hang up LEAVE IT ALONE! It may take up to half an hour to go to the next step.
- 23. FireWorks installation is a multi-step process. The system will have to be rebooted manually when prompted.
- 24. Move the FireWorks System Builder and System Control icons from the FireWorks folder on the desktop to the actual desktop.
- 25. Right click on the FireWorks System Builder icon and go to Properties. Then click on Compatibility and check to make sure that the Compatibility mode is NOT selected.
- 26. Right click on the FireWorks System Control icon and go to Properties. Then click on Compatibility and check to make sure that the Compatibility mode is NOT selected.
- 27. Do NOT try to adjust the compatibility of the FireWorks programs. If you try that, FireWorks will not run and will post SQL Automation errors.
- 28. After installation has been completed & you have verified that FireWorks is running ok, run Windows Update again.
- 29. After FireWorks have completed installation and tested, change the EnableLUA value back to 1 and restart. FireWorks will work with the value at 1, but you cannot do any FireWorks software installation.
- 30. If you are running FireWorks Network, ALL FireWorks computers must be at the exact same SQL revision level. Easy way to do this is to run updates on all computers after installation.
- 31. Once everything is working properly, you can enable antivirus and the firewalls.
- 32. Run the Edwards FireWorks Ports Batch file (all programs/Edwards)
- 33. Once FireWorks is running, SHUT OFF Automatic Updates.
- 34. FireWorks servers MUST be up and running for any nodes or workstations to work. If using Redundant Servers are used, the PRIMARY must be up and running when you start Workstations for the 1st time.
- 35. Test system.

FireWorks 8.1 Remote Client

The general steps for installing FireWorks 8.1 Remote Client on a tablet PC are:

- 1. Copy Fireworks Remote Client.exe from the FireWorks 8.1 installation disc and paste it into the C:\Temp folder on the tablet PC.
- 2. In the C:\Temp folder, right-click Fireworks Remote Client.exe, click Run as administrator, and then follow the on-screen instructions.
- 3. On the Windows desktop, rename the Fireworks Remote Client shortcut to something meaningful. For example, the site name.

3-SDU System Definition Utility

The 3-SDU is used to program EST3 and EST3X life safety systems. The 3-SDU requires a 3-SDU USB software key to run.

This section provides instructions for downloading and installing the 3-SDU software. Instructions for using the 3-SDU software are provided in the 3-SDU Help.

Downloading the 3-SDU software

1. Go to https://myeddie.edwardsutcfs.com, and then log on to your My-Eddie account.

Account Information	Guest Registration
Personal ID Number (PIN)	Sign up as a Guest and receive access to:
	New product release notifications
Password	• Information regarding upcoming events
	Access to installation sheets and manual
Remember my PIN Login	Click here to fill out our guest registration form.
Recover PIN	
Forgot Password	

2. In the navigation pane, under Media, do the following:

In the Media Search box, type 3-SDU, and then click Search.

3-SDU	ХQ
Media Type	~

3. In the Media Results pane, under Software, click Download for the required 3-SDU version.

Installing the 3-SDU software

- 1. Open the Downloads folder, right-click the 3-SDU compressed ZIP folder, and then click Extract All.
- 2. On the Select a Destination and Extract Files screen, browse to where you want to extract the files to, check the Show extracted files when complete check box, and then click Extract.

		×
÷	Extract Compressed (Zipped) Folders	
	Select a Destination and Extract Files	
	Files will be extracted to this <u>f</u> older:	
	C:\Temp Browse	
	∑ S <u>h</u> ow extracted files when complete	
	<u>E</u> xtract Cance	I

- 3. Right-click the 3-SDU installation file, click Run as administrator, and then follow the on-screen instructions.
- 4. Plug in your 3-SDU USB software key.
- 5. Click the Start button, in the Apps list under Edwards Software, right-click 3-SDU, and then click Run as administrator.



6. In the Enable Products dialog box, type your name, your company's name, your 3-SDU PIN, and then click OK.

Enable Products
Name:
r Company:
I <u>P</u> IN Code:
<u> </u>

Appendix D – Network administration

This section describes the information you must get from the site network administrator before you can deploy the wireless applications described in this guide on a customer's network.

Note: The wireless applications described in this guide require static IPv4 addresses and they must be able to communicate freely with each other.

What is the site network administrator's contact information	?
Name:	
Phone number:	
Email address:	
Mailing address:	
What approvals/permissions are needed to connect to the lo	cal area network?
What static IPv4 addresses and subnet mask do I need to us	e?
IP addresses:	
Subnet mask:	
How may the MN-COM1S modules be connected to the local	area network?
Wireless	
SSID:	
Password:	
Wired	
Location:	
Switch ID:	
Port number:	
What is the WiFi SSID and password that I need to use? SSID:	
Password:	
Does the application need to connect outside the local area	network?
If so, record the default gateway address:	
Does the local area network have a Domain Name Server (D	NS)?
If so, record the preferred DNS address:	
Record the alternate DNS address:	(optional)

Deployment Checklist

- □ Can the application be connected to the local networks?
- □ Are the computers being used customer-provided or SP-provided?
- □ If SP-provided computers are being used, can they connect to the site network and communicate with the control panels?
- □ Are the panels and computers connected to the network fixed or ad-hoc?
- □ Have the computers been updated and are they current on updates and patches?
- □ Have static IPv4 addresses been assigned for all the devices and computers?
- □ Have all the network ports required by the application been opened?
- □ Have all of the antivirus, anti-malware, and firewalls been shut off?
- □ Can all of the application IP addresses communicate with each other?
- □ Can you ping all of the IP addresses?