



**SIMPLIFY  
ACCESS &  
CONTROL**

**Simple Host Integration Protocol  
(SHIP)  
Panel Guide**

# **Intelli-Site**

## **Security Management Software**

### **Simple Host Integration Protocol (SHIP) Panel Guide**

## SHIP Panel Guide

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## SHIP Panel Guide

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When calling, please be at the computer prepared to provide the following information:

- Product version number, found by selecting the  **About** button from the Intelli-Site Application Menu.
- The type of computer being used including, operating system, processor type, speed, amount of memory, type of display, etc.
- Exact wording of any messages that appear on the screen.
- What was occurring when the problem was detected?
- What steps have been taken to reproduce the problem?
- It is highly recommended that the user generate a support package for transmission to Intelli-Site technical support staff. To generate the package, run the Intelli-Site Configuration Utility. *Create Support Package...* is the last option in the **Tools** menu.

# SHIP Panel Guide

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## SHIP Panel Guide

### 1 Introduction

The Simple Host Integration Protocol (SHIP) panel allows 3<sup>rd</sup> party software to send Engine-based actions to Intelli-Site.

This guide defines the protocol and messaging format that is SHIP so that a 3<sup>rd</sup> party can write a program to interface with Intelli-Site. Then this guide explains using the SHIP driver and panel in Intelli-Site Security Management Software.

# 2 The Simple Host Integration Protocol

The Simple Host Integration Protocol (SHIP) is a TCP/IP protocol that allows an external application to communicate with Intelli-Site. The external application can send many of the Engine-based actions to Intelli-Site as well as SHIP actions.

## 2.1 TCP/IP Communication Method

The application can be written as either a server or client application. A server application listens for TCP/IP connections from the SHIP driver. Once the SHIP driver has connected to the server application, messages from the application can be sent to Intelli-Site. If the application is a client, then the SHIP driver must listen for TCP/IP connections from the application. The application must then initiate the connection with the SHIP driver before messages can be sent.

---

**Note: Security and best practices suggest that the SHIP driver should initiate the connection to the external application.**

---

Intelli-Site treats the external application just like any other panel. There is no authentication necessary, but the SHIP driver will only connect with the IP Address designated in the communication method node. The TCP Port number is not fixed but is configurable. The default Port number is 3001. See [Communication Method Node](#) for more information.

## 2.2 SHIP Message Format

Messages sent between Intelli-Site and the external application are simple text strings. Every message from the application will be a string and every message from the SHIP driver will be a string. Each message string from the application contains one command and the target. If desired, a frame can be added to the message. This frame can contain a **Start String** and/or an **End String**. If either a **Start String** or an **End String** is defined, they must be part of every message. Either they are used for every message or not at all. This frame will be applied to the messages from the SHIP driver as well.

---

**Note: Only one message per TCP/IP packet is allowed.**

---

# SHIP Panel Guide

## 2.2.1 Application Messages

Each application message is an action and a target if applicable. Only one action per message is allowed. Most Engine-based actions are useable. In addition, there is the SHIP action **DownloadCard** used to download a single card. The format of the message varies in how the target is specified.

### 2.2.1.1 Engine-based Action Message Format

Figure 1 shows the **Actions** dialog for the Engine-based actions. These are the actions that the application can send to the SHIP driver. Because only one action is allowed per message, the conditional actions are not supported.

---

**Note: The action string is case-sensitive. It must be sent just as it appears in this figure.**

---

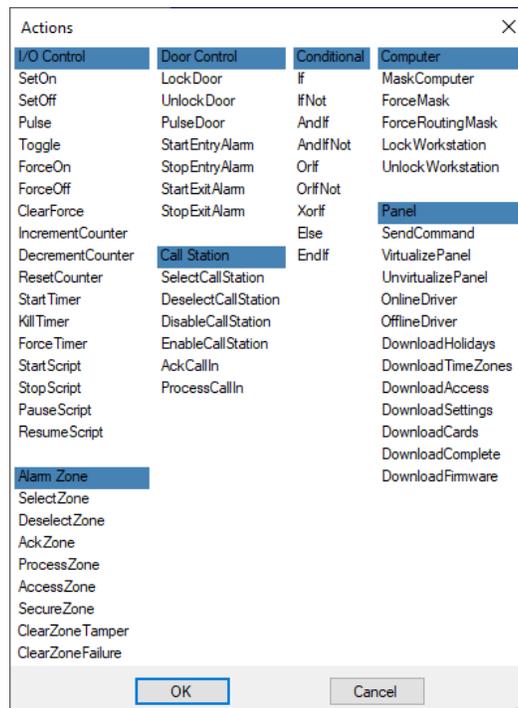


Figure 1 - The Engine-based Actions

## SHIP Panel Guide

An Engine-based action message from the application to the SHIP driver is the action name and its target node ID enclosed in square brackets if necessary. The message format is:

```
<start string><Action> <[node ID]><end string>
```

Where <start string> and <end string> are the **Start** and **End Strings**, if defined. (See [SHIP Panel Quick Config](#)) For example, we want to toggle an I/O Point with node **ID** 1334. The **Start String** is xXx. There is no **End String**. This message is:

```
xXxToggle [1334]
```

### 2.2.1.2 SHIP Actions

A SHIP action message from the application to the SHIP driver is the action name and its target. There is only one SHIP action. It is **DownloadCard**. The target is the card ID. The message format is:

```
<start string>DownloadCard <card ID><end string>
```

Where:

<start string> and <end string> - The **Start** and **End Strings**, if defined. (See [SHIP Panel Quick Config](#))

<card ID> - The card ID is the card number, site code, and format ID separated by a colon. **Card number is required**. Site code and format ID are not. If the format ID for the target card is not the default ID, then all three parts must be included. The default site code is 0. The default format ID is 26. Do not supply the colon separator if the format ID or site code is not included.

---

**Note: The format ID values are found on the access control panel node's properties dialog, on the Card Config tab.**

---

For example, we want to download card 123456789 with site code 5. It is a 35-bit HID Corporate card. The format ID for this kind of card is 35. The **Start String** is xXx. There is no **End String**. This message is:

```
xXxDownloadCard 123456789:5:35
```

## SHIP Panel Guide

### 2.2.2 SHIP Driver Messages

There are three possible messages from the SHIP driver.

- Heartbeat
- ACK
- NAK

#### 2.2.2.1 Heartbeat Message

The Heartbeat message is a “Keep Alive” message. It is sent at regular intervals to ensure the TCP/IP connection is alive. The message is:

```
<start string>Heartbeat<end string>
```

Where `<start string>` and `<end string>` are the **Start** and **End Strings**, if defined.

This is the only message from the driver that is not a response. There is no response from the external application for this message either. The external application receives the message and knows the connection is still alive.

#### 2.2.2.2 ACK Message

The ACK message is returned to the application when a well-formed, valid message is received from the application. Its format is:

```
<start string>ACK<end string>
```

Where `<start string>` and `<end string>` are the **Start** and **End Strings**, if defined.

#### 2.2.2.3 NAK Message

The NAK message is returned to the application when the message received from the application is either malformed, invalid, or the target is invalid. Its format is:

```
<start string>NAK<end string>
```

Where `<start string>` and `<end string>` are the **Start** and **End Strings**, if defined.

## SHIP Panel Guide

Notice there is no information explaining what was wrong. That information will be written to the Activity database as an exception. Run an Exceptions report to see it.

Another way to see the messages in real-time is to use the **Messages** window on the SHIP driver. Both the **Driver** and **Translation** checkboxes must be checked to see all the information.

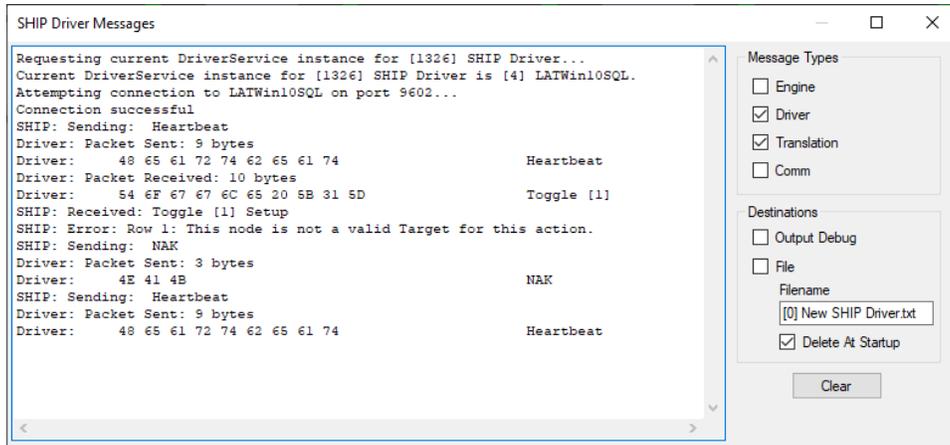


Figure 2 - Sample SHIP driver Messages window

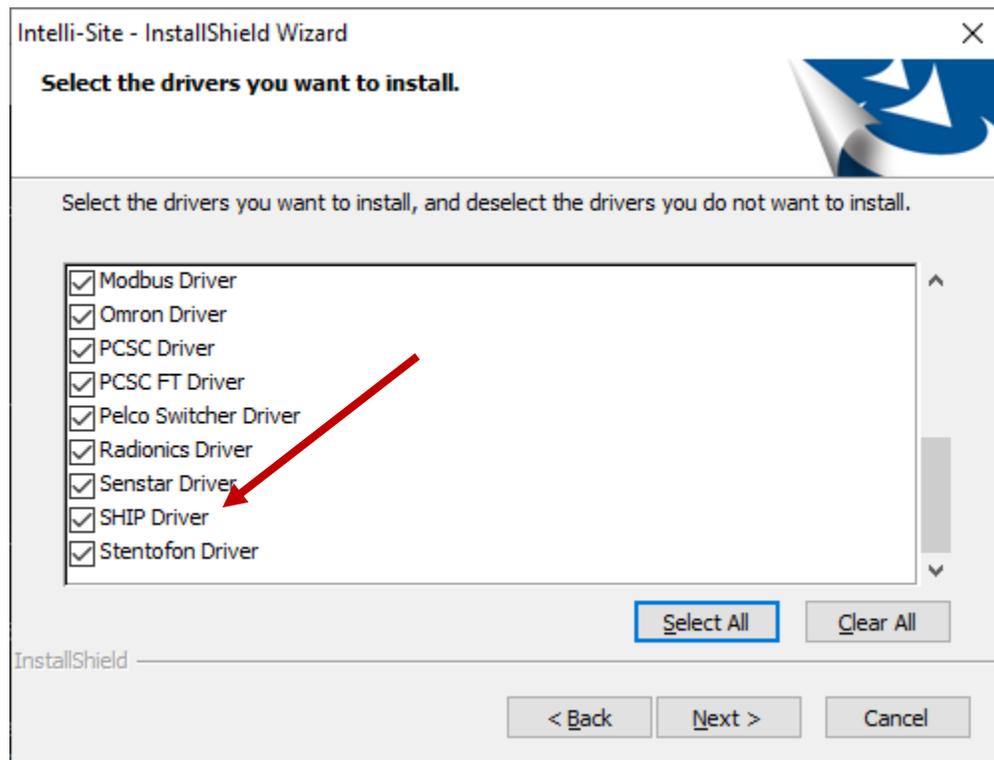
## SHIP Panel Guide

### 3 Installation Guide

The SHIP drivers in Intelli-Site must be installed. No external software is needed.

If Intelli-Site has been installed without the SHIP drivers, run the Intelli-Site installer again and select **Modify**.

During the installation or modify installation process, you are presented with the **Select the drivers you want to install** window.



**Figure 3 - Select the drivers you want to install.**

Ensure the **SHIP Driver** option is checked then continue with the installation or modification. You may need to scroll to locate the driver as the list is in alphabetical order.

# 4 Hardware Management View

The SHIP Driver and SHIP panel are best added and configured in  **Hardware Management View**.

## 4.1 Setup

The SHIP Driver and SHIP panel are best added and configured in  **Hardware Management View**. Before we begin though, it is important to have the IP address and Port number used by the external application. The setup process is straight forward.

1. Add a SHIP Driver
2. Add a Communication Method to the driver
3. Add a SHIP Panel
4. Configure the SHIP Panel
5. Enable the SHIP Driver

### 4.1.1 Add a SHIP Driver

Adding a SHIP Driver is simple, but important. Without it, no communication with the external application can occur.

Launch the Desktop Client and login.

Hardware is managed in the  **Hardware Management View**. If you are not in  **Hardware Management View** (Figure 4), click on  and select .

# SHIP Panel Guide

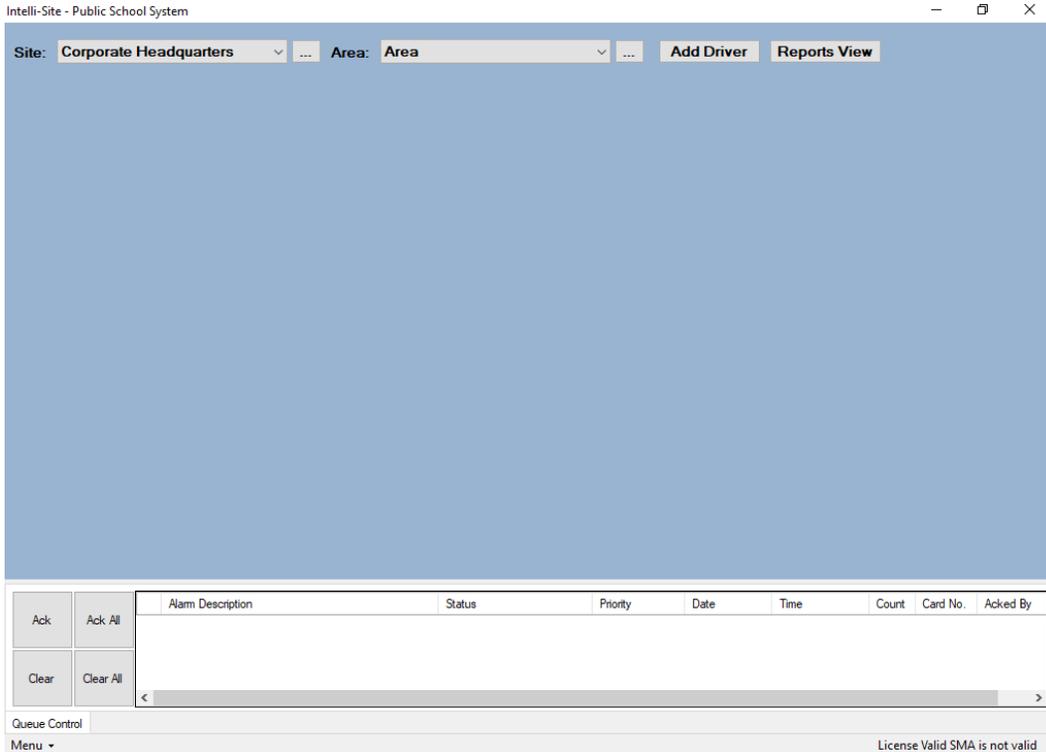


Figure 4 - Hardware Management View

To add the SHIP driver, click **Add Driver**. The **Choose Driver Type** dialog displays.

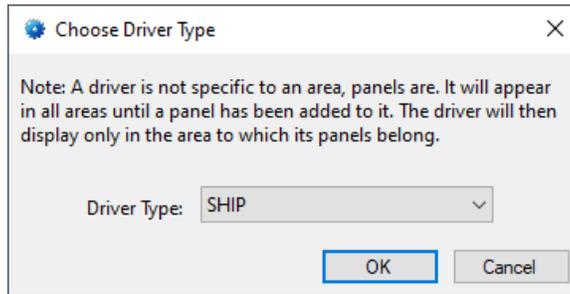


Figure 5 - Choose Driver Type Dialog

Select *SHIP* from the **Driver Type** drop-down menu in the **Choose Driver Type** dialog. Click **OK**. A new SHIP driver icon is added to the screen and its properties dialog opens.

# SHIP Panel Guide

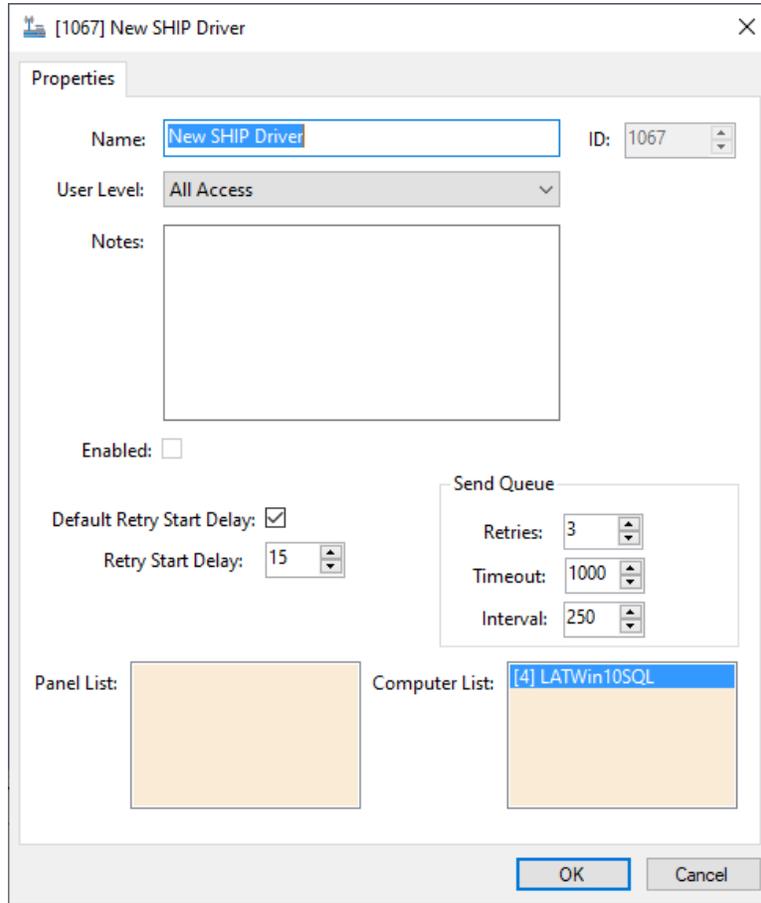


Figure 6 - SHIP Driver Properties Dialog

Please change the name of the driver to reflect the use and/or location of the panels that this driver will manage.

---

**Note:** For an explanation of all of the driver properties, see [SHIP Driver Node](#).

---



Figure 7 - SHIP Driver Icon

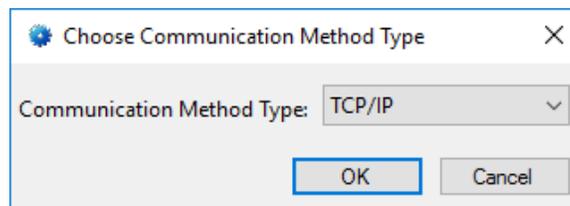
Notice the warning icon, . This appears when the driver needs a communication method. So, let's add one.

## SHIP Panel Guide

### 4.1.2 Add a Communications Method

Each SHIP driver must have a communication method defined and configured. Without one, the Intelli-Site Driver Service does not know where or how to communicate with the external application.

The communication method is added using the right-click context menu on the driver. Right-click on the driver icon and hover over *Comm Method*. The side menu opens. At this time, it only has one option, *Add Comm Method*. Select it. The **Choose Communication Method Type** dialog appears.



**Figure 8 - The Choose Communication Method Type dialog**

There are two (2) possible communication methods for the SHIP driver. They are *TCP/IP* and *TCP/IP Listener*. If the driver initiates the connection to the external application, use *TCP/IP*. If the external application initiates the connection, the driver must be set up to listen for a connection. Choose *TCP/IP Listener*. For this example, we will use *TCP/IP*. Click . A new TCP/IP communication method node is added to the driver and its properties dialog opens.

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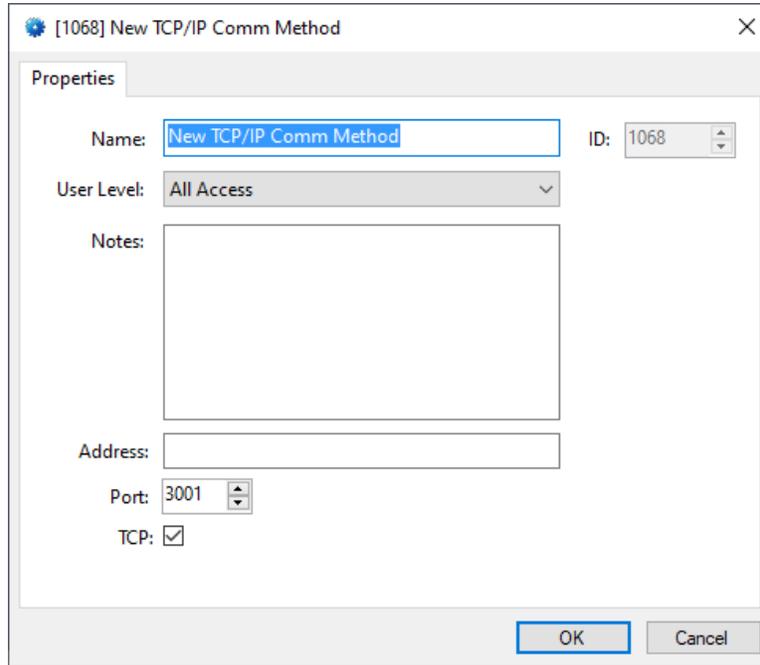


Figure 9 - The TCP/IP Communication Method properties dialog

---

**Note:** For a full explanation of all of the fields on this dialog, please read [Communication Method Node](#).

---

This is where the IP address and port of the external application goes. Enter the IP address in the **Address** field. The **Port** number is the default port number for the driver. If for some reason, the external application is set up at a different port, enter the new port here as well. Please change the name and click .



Figure 10 - The driver icon with a communication method

Notice the warning icon is no longer on the front of the driver icon.

It's now time to add a panel to the driver.

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### 4.1.3 Add a SHIP Panel

Once a SHIP driver has been added, it's time to add a SHIP panel to it.

Right-click on the SHIP Driver and select *Add Panel*. The **Add Panel** dialog displays.

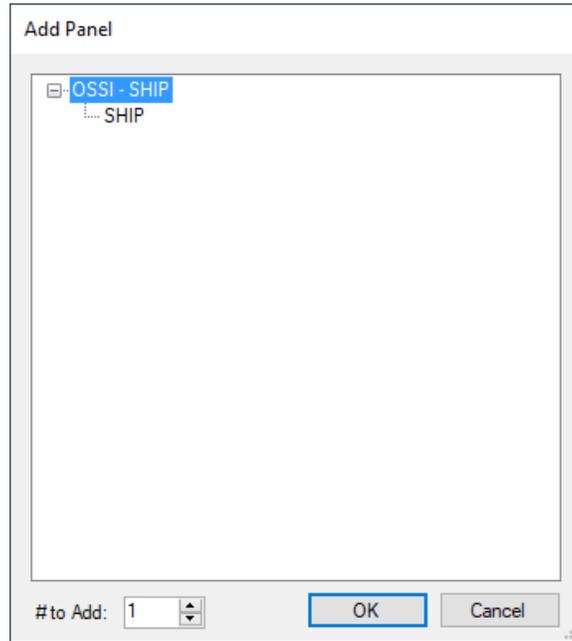


Figure 11 - Add Panel Dialog

This dialog only displays the panels that are appropriate for the target driver. Select the SHIP panel. Leave **# to Add** set to 1. There should only be one panel per driver. Click **OK**. A **New SHIP** icon is added to the target SHIP driver.



Figure 12 - A new SHIP panel attached to the SHIP driver

Next comes configuring the panel.

## SHIP Panel Guide

### 4.1.4 Configure the SHIP Panel

The SHIP panel is configured using the **Quick Config** dialog. To open the **Quick Config** dialog, right-click on the SHIP icon and select *Quick Config*.

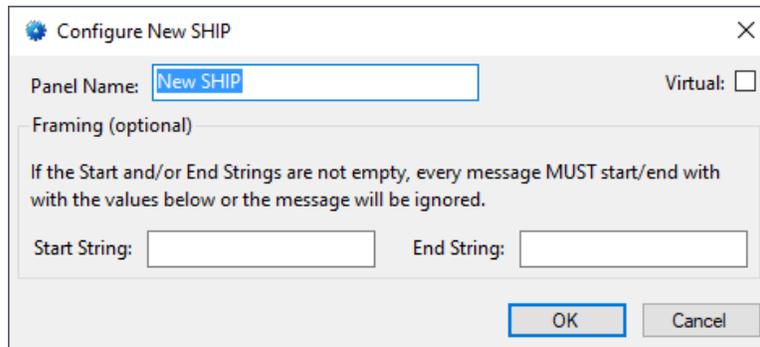


Figure 13 – SHIP Panel Quick Config Dialog

Change the **Panel Name** to describe its use or location. In our example, it is the Lock Down Application.

If the messages from the external application contain **Start** and/or **End Strings**, fill in the appropriate strings here. They are optional. Then click .

---

**Note:** For more information on all of the fields and properties of an SHIP panel, see [SHIP Panel Node](#).

---

### 4.1.5 Enable the SHIP Driver

At this point, the SHIP panel and the SHIP driver are configured, but the driver is not online. A quick way to know this is that the communication indicator is grey.

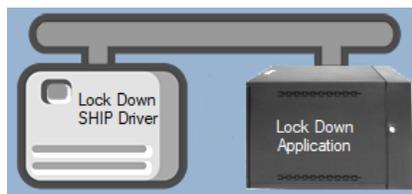


Figure 14 – Disabled SHIP Driver

## SHIP Panel Guide

Right-click on the driver to open the context menu; select *Enable Driver*. The communications indicator will change color to green when it's online.

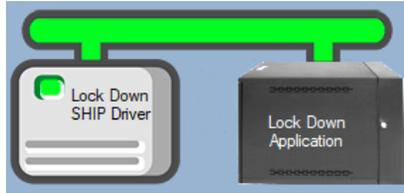


Figure 15 - Enabled SHIP Driver

If for some reason the Engine cannot connect to the Driver Service or the Driver cannot connect to the SHIP, the communication indicator will be red.



Figure 16 - Enabled SHIP Driver that is not communicating with the Driver Service

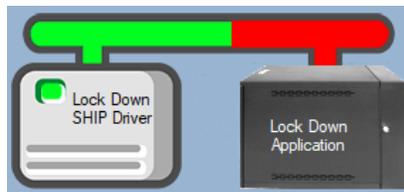


Figure 17 - Enabled SHIP Driver that is communicating with the Driver Service but NOT the external application

Congratulations! The SHIP is integrated and ready to use in screen design for **Live View**. Screen design occurs in **Design View**.

## SHIP Panel Guide

### 5 Design View

 **Design View** is the home of the Project Node Tree and the place where screens and screen objects are programmed. The following sections explain the SHIP Driver node properties, communication method node properties, and the SHIP panel node properties.

#### 5.1 SHIP Driver Node

The SHIP driver node is found by expanding **Setup->Computer Setup->Drivers**.



Figure 18 - SHIP Driver node in the Project Node Tree

Right-click on the driver node and select *Properties* to open the properties dialog.

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The screenshot shows a dialog box titled "[1067] Lock Down SHIP Driver". It has a "Properties" tab. The "Name" field is "Lock Down SHIP Driver" and the "ID" is "1067". The "User Level" is set to "All Access". There is a "Notes" text area. The "Enabled" checkbox is checked. The "Default Retry Start Delay" checkbox is checked, and the "Retry Start Delay" is set to "15". The "Send Queue" section has "Retries" set to "3", "Timeout" set to "1000", and "Interval" set to "250". The "Panel List" contains "[1069] Lock Down Applicat" and the "Computer List" contains "[4] LATWin10SQL". "OK" and "Cancel" buttons are at the bottom.

**Figure 19 - SHIP Driver properties dialog**

**Name** – edit box; the name for the node; the name doesn't have to be unique

**ID** – numeric (disabled); the unique identifier of this node; generated by Intelli-Site

**User Level** – drop-down menu (default: All Access); the User Level a user must possess to open the properties for this node

**Notes** – multiline edit box; any notes the user may have for the node

**Enabled** – check box; when checked the driver is enabled

**Default Retry Start Delay** – check box (default: checked); if the driver did not connect, pause before attempting to connect again

## SHIP Panel Guide

**Retry Start Delay** – numeric (default: 15); number of seconds to wait between retries on connection attempts

**Retries** – numeric (default: 3); number of retries for sending a packet

**Timeout** – numeric (default: 1000); number of milliseconds to wait for a response before assuming the packet was not received

**Interval** – numeric (default: 25); number of milliseconds to wait after a timeout before sending the packet again

**Panel List**- drop box; the SHIP node attached to this driver

**Computer List** – drop box (default: the computer on which the Engine is running); the computer node on which this driver is running

### 5.2 Communication Method Node

The communication method node is a child of the driver.



Figure 20 - Communication Method node in the Project Node Tree

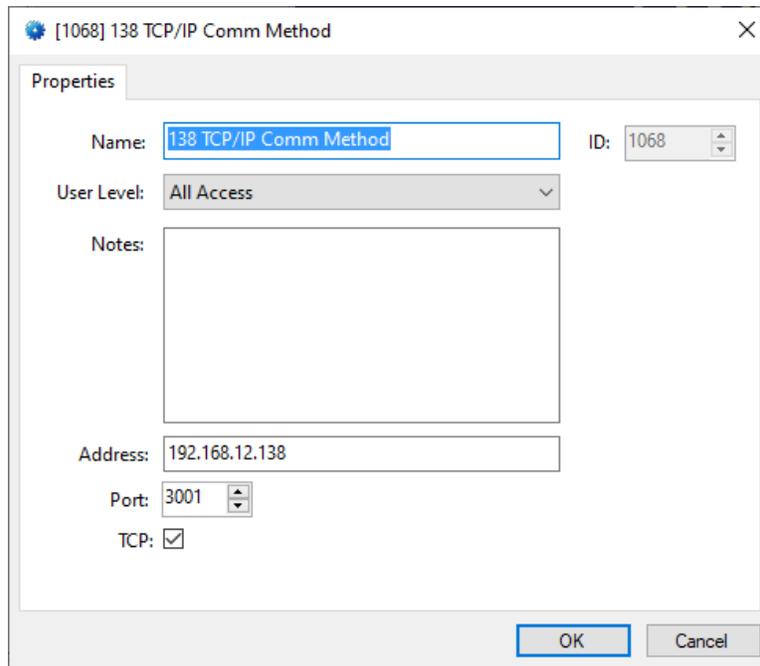
Right-click on the node and select *Properties* to open the properties dialog.

There are two possible communication methods for the SHIP driver: *TCP/IP* and *TCP/IP Listener*.

#### 5.2.1 TCP/IP Communication Method

If the SHIP driver will initiate the connection to the external application, the *TCP/IP* communication method is the proper choice. Right-click on the node and select *Properties* to open the properties dialog.

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**Figure 21 - Communication Method node properties dialog**

**Name** – edit box; the name for the node; the name doesn't have to be unique

**ID** – numeric (disabled); the unique identifier of this node; generated by Intelli-Site

**User Level** – drop-down menu (default: All Access); the User Level a user must possess to open the properties for this node

**Notes** – multiline edit box; any notes the user may have for the node

**Address** – edit box; the IP address of the panel

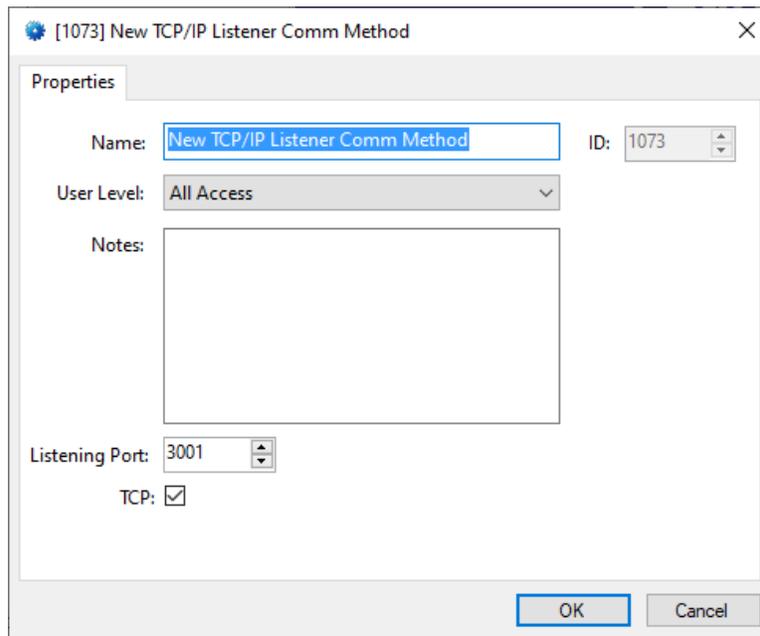
**Port** – numeric (default: 3001); the TCP or UDP port number

**TCP**- checkbox (default: checked); when checked, the driver will communicate with the panel using TCP; when not checked, the driver assumes UDP is the desired communication protocol

## SHIP Panel Guide

### 5.2.2 TCP/IP Listener Communication Method

If external application will initiate the connection to the SHIP driver, the *TCP/IP Listener* communication method is the proper choice. Right-click on the node and select *Properties* to open the properties dialog.



**Figure 22 - Communication Method node properties dialog**

**Name** – edit box; the name for the node; the name doesn't have to be unique

**ID** – numeric (disabled); the unique identifier of this node; generated by Intelli-Site

**User Level** – drop-down menu (default: All Access); the User Level a user must possess to open the properties for this node

**Notes** – multiline edit box; any notes the user may have for the node

**Address** – edit box; the IP address of the panel

**Listener Port** – numeric (default: 3001); the TCP or UDP port number

## SHIP Panel Guide

**TCP**- checkbox (default: checked); when checked, the driver will communicate with the panel using TCP; when not checked, the driver assumes UDP is the desired communication protocol

### 5.3 SHIP Panel Node

The SHIP panel node is found by expanding **System Layout** then the Site and Area to which the SHIP panel was added in  **Hardware Management View**. In the example below, the panel was added to the site **Corporate Headquarters** and the area **Area**.

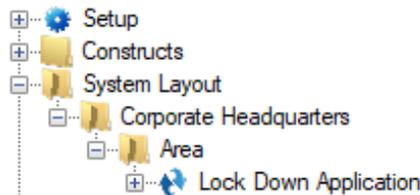


Figure 23 - The SHIP panel node in the Project Node Tree

The SHIP panel node is the root node for the panel. The following sections will explain:

- The properties of the SHIP panel node
- The configuration of the SHIP panel (a.k.a. **Quick Config**)
- The child nodes of the SHIP panel

#### 5.3.1 SHIP Panel Node Properties

Right-click on the SHIP panel node to open the properties. Here there are additional fields that are not accessible through the **Quick Config** dialog. They correspond to those features that aren't part of the day to day running of the system.

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[1069] Lock Down Application

Properties

Name: Lock Down Application ID: 1069

User Level: All Access

Notes:

Framing (optional)

If the Start and/or End Strings are not empty, every message MUST start/end with the values below or the message will be ignored.

Start String: End String:

Virtual:

Virtual Point:

Event buffer delta (min): 0

Apply OK Cancel

Figure 24 - SHIP node properties dialog

**Name** – edit box; the name for the node; the name doesn't have to be unique

**ID** – numeric (disabled); the unique identifier of this node; generated by Intelli-Site

**User Level** – drop-down menu (default: All Access); the User Level a user must possess to open the properties for this node

**Notes** – multiline edit box; any notes the user may have for the node

**Start String** – edit box; if present, every message to and from the external application must begin with this string

**End String** – edit box; if present, every message to and from the external application must end with this string

**Virtual** – check box; when checked the panel is virtualized, allowing the driver to be brought online without having the physical panel available

## SHIP Panel Guide

**Virtual Point** – drop box; this I/O Point will be set when the panel is virtualized, clear when it is not

**Event buffer delta (min)** – numeric (default: 0); only applies to panels that buffer data; the Engine compares the time an event occurs versus the current time, if the difference is greater than the **Event buffer delta**, the event is logged but not acted upon.

### 5.3.2 SHIP Panel Quick Config

The **Quick Config** dialog is accessible either in  **Hardware Management View** or in  **Design View**. To open the **Quick Config** dialog, right-click on the SHIP panel node and select *Quick Config*.

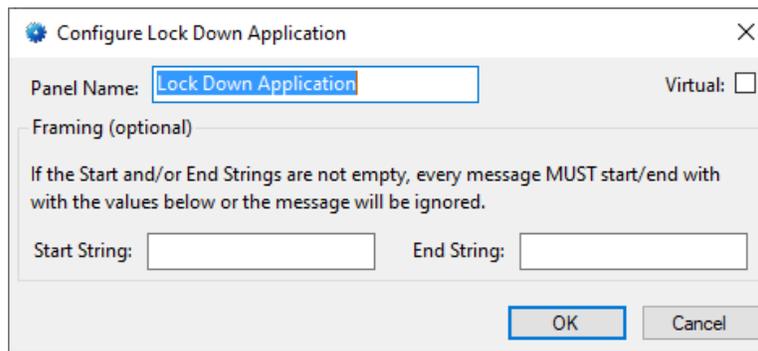


Figure 25 - SHIP panel Quick Config dialog

**Panel Name** – edit box; the name of the SHIP panel; updating this field will change the name of the node

**Virtual** – check box; when checked the panel is virtualized, allowing the driver to be brought online without having the physical panel available

**Start String** – edit box; if present, every message to and from the external application must begin with this string. The message will be ignored if it does not.

**End String** – edit box; if present, every message to and from the external application must end with this string. The message will be ignored if it does not.

# SHIP Panel Guide

## 5.3.3 SHIP Panel Child Nodes

The SHIP panel has only one child node, the Alarms node.

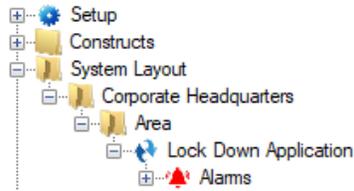


Figure 26 - SHIP panel child node

### 5.3.3.1 Alarms

There is only one alarm for the SHIP panel. It is **Panel Status**.

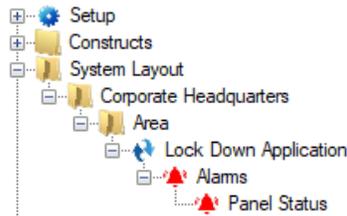


Figure 27 - SHIP panel Alarms child nodes

The **Panel Status** point is high when the panel is offline (assuming the driver is online, and the panel is not virtualized). It is a standard I/O Point. For more information about the I/O Point see the User's Guide.

## SHIP Panel Guide

### Revision History

2019-06-19 Creation Date

2021-06-04 Removed the supported OSes. See the User's Guide for this information.  
Fixed a few grammatical errors.  
Revised section 2.2.1 and added the SHIP specific action **DownloadCard**