

**Intelli-Track User Guide** 

# Intelli-Track User Guide Version 3.9

For Windows 7 Professional and Ultimate (32- or 64-bit), Windows Server 2003, Server 2003 R2 and Server 2008 R2

W228 N727 Westmound Drive Waukesha WI 53186 262-522-1897 888-488-2623 ossi-usa.com

## Copyright

Copyright © 2014 OSSI, LLC All rights reserved.

Information in this document is subject to change without notice. The software described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of those agreements. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or any means electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's use without the written permission of OSSI.

OSSI, LLC W228 N727 Westmound Drive Waukesha, WI 53186 U.S.A.

Telephone: (262) 522-1897 Toll Free: (888) 488-2623 Fax: (262) 522-1872

 Intelli-Track User Guide	

#### **Trademarks**

**Intelli-Site**® is registered in U.S. Patent & Trademark Office.

All other registered and unregistered trademarks are the sole property of their respective owners.

#### **EULA**

BY OPENING THIS PACKAGE CONTAINING THE PROGRAM DISKETTES, THE COMPUTER SOFTWARE THEREIN, AND THE ACCOMPANYING USER DOCUMENTATION (COLLECTIVELY, THE "PROGRAM"), YOU ARE ACCEPTING AND AGREEING TO THE TERMS OF THIS AGREEMENT. THE PROGRAM IS LICENSED TO YOU AND NOT SOLD. IF YOU ARE NOT WILLING TO BE BOUND BY THE TERMS OF THIS AGREEMENT, YOU SHOULD PROMPTLY RETURN THE PACKAGE IN UNOPENED FORM, AND YOU WILL RECEIVE A REFUND OF YOUR MONEY. THIS AGREEMENT REPRESENTS THE ENTIRE AGREEMENT CONCERNING PROGRAM BETWEEN YOU AND ("LICENSOR"), AND IT SUPERSEDES ANY PRIOR PROPOSAL, REPRESENTATION, OR UNDERSTANDING THE BETWEEN PARTIES.

Licensor hereby grants to you, and you License Grant. accept, a nonexclusive, nontransferable license to use the Software in machine-readable, object code form only, and only as authorized in this Agreement. The Software may be used only by the number of concurrent users for which you have paid license fees. If you have paid license fees for one user, then you may use the Software on a single computer owned, leased, or otherwise controlled by you; or in the event of the inoperability of that computer, on a back-up computer selected by you only during the extent of such inoperability. If you have paid license fees for two or more users, concurrent use on two or more computers or use in a local area network or other network is permitted. You agree that you shall solely use the Program for your internal needs. You agree that you will not assign, sublicense, transfer, pledge, lease, rent, or share your rights under this Agreement. You agree that you may not reverse assemble, reverse compile, or otherwise translate the Software.

You may make one copy of the Software on a separate set of diskettes for the purpose of back-up in the event the program diskettes are damaged or destroyed. You may make one copy of the User Documentation for back-up purposes. Any such copies shall include Licensor's copyright, trademark, and other proprietary notices. Except as expressly authorized in this Paragraph, no copies of the Program or any portions thereof may be made by you or any person under your authority or control.

- 2. <u>Licensor's Rights</u>. You acknowledge and agree that the Program is the valuable property and trade secret of Licensor or Licensor's third party licensors. You further acknowledge and agree that all rights, titles, and interests in and to the Program, including all associated intellectual and industrial property rights, are and shall remain with Licensor or Licensor's third party licensors.
- 3. <u>Third Party Beneficiary.</u> You agree that OSSI, LLC. ("**OSSI**") is a third party beneficiary of this Agreement. Though OSSI has no obligations to you under this Agreement and you may not seek any claim against Intelli-Site as a result of this Agreement or the Program, Intelli-Site shall have the right to enforce this Agreement on its own behalf.
- 4. <u>License Fees</u>. The license fees paid by you are paid in consideration of the license granted to you under this Agreement.
- 5. <u>Term</u>. This Agreement is effective upon your opening of this package and shall continue until terminated. You may terminate this Agreement at any time by returning the Program and all copies thereof and extracts there-from to Licensor. Licensor may terminate this Agreement upon the breach by you of any term hereof. Upon such termination by Licensor, you agree to immediately return to Licensor the Program and all copies thereof and extracts therefrom.
- 6. Limited Warranty. Licensor warrants for a period of ninety (90) days from the date of commencement of this Agreement that the program diskettes in which the software is contained are free from defects in material and workmanship. Licensor further warrants for a period of one (1) year from the date of commencement of this Agreement the Program shall operate substantially in accordance with the functional specifications in the User Documentation. Licensor does not warrant that the functions contained in the Software will meet your requirements or that the operation of the Software will be uninterrupted or error-free. If during such one (1) year period, a reproducible defect in the Software appears, you may return the Program to Licensor for either a replacement or, if so selected by Licensor, refund of the license fee paid by you under this Agreement. You agree that the foregoing constitutes your sole and exclusive remedy for breach by Licensor of any warranties made under this Agreement. EXCEPT FOR THE WARRANTIES SET FORTH IN THIS PARAGRAPH, THE PROGRAM IS LICENSED "AS IS", AND

LICENSOR DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

- Limitation of Liability. THE CUMULATIVE LIABILITY OF LICENSOR OR ANY OWNER OF ANY ELEMENT OF THE PROGRAM TO YOU OR ANY OTHER PARTY FOR ANY LOSS OR DAMAGES RESULTING FROM ANY CLAIMS, DEMANDS, OR ACTIONS ARISING OUT OF OR RELATING TO THIS AGREEMENT SHALL NOT EXCEED THE LICENSE FEES PAID TO LICENSOR FOR THE USE OF THE PROGRAM. IN NO EVENT SHALL LICENSOR OR ANY OWNER OF ANY ELEMENT OF THE PROGRAM BE LIABLE FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR EXEMPLARY DAMAGES OR LOST PROFITS, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME STATES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILTY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
- 8. <u>Severability</u>. Should any term of this Agreement be declared void or unenforceable by any court of competent jurisdiction, such declaration shall have no effect on the remaining terms hereof.
- 9. <u>No Waiver</u>. The failure of either party to enforce any rights granted hereunder or to take any action against the other party in the event of any breach hereunder shall not be deemed a waiver by that party as to subsequent enforcement of its rights under this Agreement or subsequent actions in the event of future breaches.
- 10. <u>U.S. Government Restricted Rights</u>. The Program is provided with RESTRICTED RIGHTS. Use, duplication, or disclosure by the government of the United States is subject to restrictions as set forth in subparagraph (c)(1)(ii) of The Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or in subparagraphs (c)(1) and (2) of the Commercial Computer Software--Restricted Rights clause at 48 CFR 52.227-19, as applicable. Contractor/Manufacturer is Intelli-Site, Inc., 1805 Royal Lane, Suite 104, Dallas, Texas, 75229 U.S.A. You shall take all acts necessary to protect the rights of Licensor in the Program, including without limitation all acts described in the regulations referenced above.

- 11. Compliance with Laws. You represent, warrant and covenant that in using the Program it will comply with all applicable laws, regulations and government orders that may be issued or be in existence with respect thereto. You agree that you do not intend to and will not, directly or indirectly (a) export or transmit the Program, any related technical information and other data and materials to any country to which such export or transmission is restricted by any applicable U.S. regulation or statute, without the prior written consent, if required, of the Bureau of Export Administration of the U.S. Department of Commerce, or such other governmental entity as may have jurisdiction over such export or transmission, (b) provide the Program, any related technical information and other data and materials in any manner to any third party whom Customer knows or has reason to know will utilize such material in the design, development or production of nuclear, chemical or biological weapons or (c) provide the Program to any third party who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government.
- 12. Governing Law. The rights and obligations of the parties under this Agreement shall not be governed by the provisions of the U.N. Convention on Contracts for the International Sale of Goods; instead, this Agreement shall be governed by and construed in accordance with the laws of the State of Texas, U.S.A., without reference to any conflicts of law provisions thereof. It is the express wish of the parties that this Agreement and all related documents be drawn up in English. C'est la volonté expresse des parties que la présente convention ainsi que les documents qui s'y rattachent soient rédigés en anglais.

# **Technical Support Assistance**

# OSSI, LLC Headquarters

OSSI, LLC W228 N727 Westmound Drive Waukesha WI 53186 262-522-1897 888-488-2623

# Technical Support

Technical support is available via Telephone or Email. Contact Intelli-Site Technical Support 8:00 AM to 5:00 PM Central Standard time. If calling after hours, please leave a detailed voice mail message, and someone will return your call as soon as possible.

Email: <u>support@ossi-usa.com</u>

Phone: 888-488-2623

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-Track Menu Application Bar.
- Product License and SMA numbers used for registration.
- 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 execute a System Information Report and export that report to Adobe .pdf format for transmission to Intelli-Site technical support staff.

# **Table of Contents**

Trademarks	4
EULA	5
Technical Support Assistance	9
Section 1 – Introduction	14
1.1 Overview	
1.2 Key Features	14
1.3 Optional Features	
1.4 Minimum System Requirements	
1.5 Display Settings	
1.6 Symbols and Conventions	
1.6.1 Notes, Tips, and Cautions	
1.6.2 Fonts	
1.6.3 Display Buttons	
1.7 Software Controls	17
1.7.1 Using the Mouse	17
1.7.2 Data Fields	17
1.7.3 Drop-Down Menus	17
1.7.4 Checkboxes	
Section 2 – Installation Guide	19
2.1 Software Components	19
2.2 Installing Intelli-Track Software	19
2.2.1 Software Installation Step-By-Step	20
2.2.2 Create the Network Share on the Server Computer	24
Section 3 – Quick Start Guide	25
3.1 Running Intelli-Track the First Time	25
3.1.1- ServerStation First Run	25
3.1.2 Workstation First Run	26
3.2 Intelli-Track Basics	28
3.2.1 The Application Menu Bar	28
3.2.2 Run Mode	30
3.2.3 Graphic Design Mode	31
3.2.4 Driver Service and Server Shutdown	32
3.3 Getting Started	
3.3.1 Add <i>tres</i> RTUs for each <i>tres</i> Receiver	32
3.3.2 Antenna Setup	35
3.3.3 Create the Graphical Representation of the Installation	42
3.3.4 Tag Setup	
3.3.5 Add Intelli-Track Drivers for the <i>tres</i> Receivers	57
3.4 Setting Up Remote Workstations	60
3.4.1 Specify the Network Share Name	
3.4.2 Add the Remote Workstation Computers	
3.4.3 lmhosts File	

Section 6 – Run Mode	65
6.1 The Run Mode Screens	65
6.1.1 LeadIn	65
6.1.2 Main Screen	66
6.1.3 Antenna Setup Screen	66
6.1.4 Tag Setup Screen	74
6.1.5 Antenna State Help Screen	
6.2 The Information Manager	86
6.2.1 Queue Control	86
6.2.2 Monitor Control	88
6.2.3 Shunt Control	89
6.2.4 Operator Messages	90
Section 7 – Graphic Design Mode	91
7.1 The Project Node Tree Context Menu	
7.1.1 Delete	
7.1.2 Replace All	
7.1.3 Find	
7.1.4 Create Popup Tree View	
7.1.5 Export to DB	
7.1.6 Export	
7.1.7 Import	
7.1.8 Add Node	
7.1.9 Add Node and Edit.	
7.1.10 Rename From file	
7.1.11 Reprogram	
7.1.12 Replicate	
7.1.13 Properties	
7.2 The Project Node Tree	
7.2.1 I/O Points and Their Functionality	
7.2.2 System Registry Data Node	
7.2.3 System Control	
7.2.4 System Layout	
7.2.5 Screens	
7.2.5 Shared Screen Objects	. 126
7.2.7 DataBase	. 126
7.2.8 Computers	. 131
7.2.9 Documentation	
7.2.10 Images	. 133
7.2.11 Sounds	. 134
7.2.12 Priorities	. 135
7.3 Actions Popup Dialog	. 137
7.3.1 IO Control Actions	. 138
7.3.2 Screen Control Actions	. 138
7.3.3 Conditional Actions	. 139
7.3.4 Event Actions	. 140
7.3.4 Database Actions	. 140

7.3.4 General Actions	145
7.3.5 Computer Actions	145
7.3.6 Reports Actions	
7.3.7 RTU Actions	146
7.3 The Graphics Toolbar	147
7.3.1 Selection Tools	147
7.3.2 Drawing Tools	147
7.3.3 Alignment and Layout Tools	148
7.3.4 Property Manipulation Tools	149
7.4 Graphic Design	150
7.4.1 Creating New Screens	
7.4.2 Adding a Graphical Object	151
7.4.3 Importing Custom Graphic Files	
7.4.4 Add a Graphic TTS Message	
7.4.5 Using the Replicate Function	
7.4.6 Reprogramming Wizard	153
7.4.7 Graphic Object Properties	154
Section 8 – Documentation and Reporting Mode	176
8.1 Intelli-Track Reports	
8.1.1 Reports Tab	
8.1.2 Report Display Screen	
8.1.3 RFID Reports	
8.1.4 System Reports	
8.2 Intelli-Track User Manual	
Section 9 – Driver Service	192
9.1 Starting the Driver Service	
9.2 Driver Service Tray Shortcut Menu	
9.3 Driver Configuration	
9.3.1 Adding a Driver	
9.3.2 Driver Configuration Dialog	
9.3.3 States of the Driver Icon	
9.3.4 Driver Context Menu	
9.3.5 Driver Messages Window	
9.4 Statistics	201
9.5 Global Configuration	201
9.6 About Driver Service	201
9.7 Shutting Down the Driver Service	201
Section 10 – Server	202
10.1 Server Status	
10.1.1 File Menu	
10.1.2 Help Menu	
10.3 Server Registration	
10.4 Licensing	
10.5 Software Maintenance Agreement (SMA)	
Appendix I – Domain Table	207

	Intelli-Track User Guide	
Appendix II – Glossary		208

#### Section 1 - Introduction

This section describes the following:

- Overview
- Key Features
- Minimum System Requirements
- Display Settings
- Symbols and Conventions
- Technical Support Assistance

#### 1.1 Overview

Intelli-Track is a specialized implementation of the Intelli-Site software. It is a scalable, PC-based system designed specifically provide RFID asset tracking. OSSI partnered with *tres* Transponder and Reader Engineered Systems to provide a powerful, easy to administer, asset tracking solution for museums, hospitals, car dealerships, or any application requiring accountability of valuable assets. The solution provides a multitude of system events including: new tag, unauthorized tag, missing tag, tag moving, unescorted tag, battery low in tag, battery removed from tag, and tag in an area too long. The system provides event reports filtered on time, date, tracking zone, or specified event. The solution can be easily upgraded to Intelli-Site if additional sub-system integration is required.

# 1.2 Key Features

There are three (3) Intelli-Track software packages.

The basic Intelli-Track package, (SFT-IT-01), supports:

- Eight (8) tresRFID Readers/Antennas
- Five hundred (500) tags
- One (1) Workstation connection

The middle package, (SFT-IT-02), supports:

- Thirty-two (32) Readers/Antenna
- Two thousand (2000) tags
- Two (2) concurrent Workstation connections

The top level package, (SFT-IT-03), supports:

- An unlimited number of Readers/Antennas
- An unlimited number of tags
- Five (5) concurrent Workstation connections

**Unlimited** *tres***RFID Readers/Antennas** - The number of *tres***RFID** Readers/Antennas and tags is unlimited.

**Intuitive Graphical User Interface (GUI)** – Intelli-Track users are presented with a very simple and easy-to-use control "point-and-click" interface.

**Easy-to-Use RFID Tag and Antenna Management Screens** – Intelli-Track comes with specialized screens to manage tags and antennas in Run Mode making setup and personalization of the software simpler than ever.

**User controlled access** – Intelli-Track uses its own user database to restrict and manage access to modules and functions. All access to the Intelli-Track system is controlled by password.

**Operating System** – Intelli-Track runs on the Microsoft Windows 7 (Professional or Ultimate) in 32- or 64-bit environments as well as Windows Server 2003, Server 2003 R2 and Server 2008 R2 (each with the latest Service Packs). Two Workstation licenses are included with the basic package (one local and one remote).

**Database** – Intelli-Track utilizes SQL 2008 R2 (included) for Tag Management.

**Reports** – Intelli-Track includes a built-in report generator to provide quick, pre-defined reports that include data specific to system operations.

**Network** – Intelli-Track uses TCP/IP to provide an integrated, networked system. Intelli-Track easily integrates into existing networks, reducing overall installation and maintenance costs.

# 1.3 Optional Features

**Upgrade Path** – Intelli-Track may be upgraded to Intelli-Site ES (Part Number SFT-ES-UPGRD) in order to unlock Intelli-Site's full integration capabilities and capacities.

# 1.4 Minimum System Requirements

Operating System: Windows 7 (Professional or Ultimate) 32- or 64-bit,

Windows Server 2008 R2 (SP1), Windows Server 2003 R2 (SP1), Windows Server 2003 (SP2)

CPU (Processor): Intel CORE2 Duo 2.0GHz

RAM (Memory): 4GB DDR2 800 MHz

HDD (Disk Space): 200GB 7200RPM SATA-II 300

VGA (Video): 128MB VRAM @ 1280x1024, (32 bit color)

Display: 17" VGA (Touch screen optional)

Input Devices: Mouse, keyboard, and 8X DVD-ROM drive

Network & Protocols: 10/100/1000 network adapter with Windows TCP/IP

Sound: Windows compatible sound card or USB sound

adapter

Note: For Windows Server 2008 R2 - Windows Media Player is required. This feature does not have to be enabled, but its components are required for the Workstation to run properly. The 'Desktop Experience' Windows Feature is automatically enabled by the CS Installer to ensure that this requirement is met.

Note: For Windows 7 – Windows 7 automatically disables the sound card if no speakers are present. A cheap pair of headphones will suffice.

# 1.5 Display Settings

Intelli-Track runs at a minimum screen setting of  $1280 \times 768$  with small fonts for optimum viewing. The computer on which the software runs should be set to this screen resolution before Intelli-Track is started.

# 1.6 Symbols and Conventions

# 1.6.1 Notes, Tips, and Cautions

Special comments, or areas that demand extra-close attention, are flagged throughout this manual with separating lines and a boldface keyword, as shown below.

Note: When scanning a set of instructions, pay attention to information separated by lines, as shown here. It may save some time, or help avoid common mistakes.

#### 1.6.2 Fonts

Words or phrases that appear as display buttons, keyboard keys, or Nodes, in either drop-down menus or dialogs, appear in **bold**.

#### 1.6.3 Display Buttons

In general, when the manual refers to a graphic screen button, the button name and its graphic will be displayed. Text buttons will be displayed in bold font. For example: the **Graphic Design** 

**Mode** witton located on the Main Application Bar Menu.

#### 1.7 Software Controls

Some of the procedures contained in this manual specifically mention using the mouse or keyboard to perform actions. As Intelli-Track systems can be configured to use touch-screen monitors in addition to a mouse and keyboard, when this manual refers to "click " or "select" a button, substitute the action "touch."

#### 1.7.1 Using the Mouse

When a mouse is connected to the computer, it will operate the software with minimal use of the keyboard. This manual assumes that a standard two-button mouse will be used for all actions required by the Intelli-Track software. In many cases, there are keyboard shortcut keys that allow the operation of the software without using the mouse.

#### 1.7.2 Data Fields

Intelli-Track Properties dialogs display data fields that permit the addition or modification of data. There are two ways data can be added or modified. Some fields are editable allowing the user to type in them, and others are the targets of drag-and-drop. The drag-and-drop fields are orange. The editable data fields display white when enabled, allowing the user to type in the field.

#### 1.7.3 Drop-Down Menus

Drop-down menus are used with some data fields. The menus are enabled by clicking on a small down arrow at the far right of the field. Click the down arrow to display the menu selections. Click the desired menu selection to display it in the data field.

## 1.7.4 Checkboxes

Checkboxes are commonly used on Properties dialogs. They identify when a specific item has been turned on or off. Several checkboxes can be selected at one time. Click on the checkbox to select or deselect it.

#### Section 2 - Installation Guide

This section describes the Intelli-Track software system:

- Software Components
- Installing Intelli-Track Software

# 2.1 Software Components

Intelli-Track is an object-oriented collection of linked software components that communicate using an industry standard, socket interface.

Intelli-Track has four main software components:

- **Intelli-Track Server** The Server is the "engine" of the system. All communications to Workstations and field equipment are controlled through the Intelli-Track Server.
- **Intelli-Track Workstation** The Workstation is the human interface to the system. All monitoring and system maintenance is performed via the Workstation.
- Intelli-Track Driver Service The Driver Service runs in the background to provide constant updates and status of attached Drivers.
- tresRFID Drivers Drivers allow Intelli-Track to communicate with the installed equipment. The hardware status and other information is converted to Intelli-Trackspecific commands and passed to the Server. Likewise, Intelli-Track information and commands are passed to the Driver and converted to a control sequence that the hardware understands.

# 2.2 Installing Intelli-Track Software

There are two types of installations: **ServerStation**, and **Workstation**. The **ServerStation** selection will install the Intelli-Track Server and Workstation software along with all necessary drivers and the Driver Service software. The **Workstation** selection will only install the Intelli-Track Workstation used to remotely manage an Intelli-Track Server.

Note: The Intelli-Track basic package (Part Number SFT-IT-01) allows for one remote Workstation.

#### 2.2.1 Software Installation Step-By-Step

The following walks through installing Intelli-Track.

Verify that your hardware meets minimum system requirements as described in <u>Section 1.4 Minimum System Requirements</u>

**Operating System Prerequisite:** Ensure that Microsoft's Windows .NET Framework 4 Client Profile has been installed. This software may be downloaded via "Windows Update" or directly from www.microsoft.com

Note: For Server 2003 users - ensure that Microsoft's Windows .NET Framework 3.5 (SP1) has been installed.

Insert the software installation DVD into the computer DVD drive. After a few seconds, the OSSI welcome dialog will display momentarily.

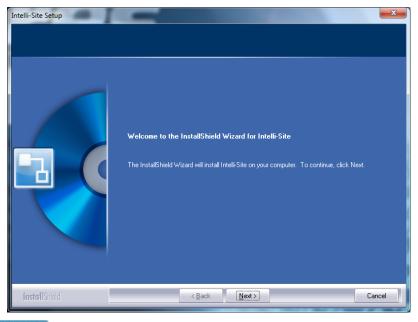


The InstallShield® Wizard displays on the screen.



After the InstallShield Wizard is prepared, the Select Language dialog displays. Select to continue the installation.

The InstallShield Welcome dialog displays.



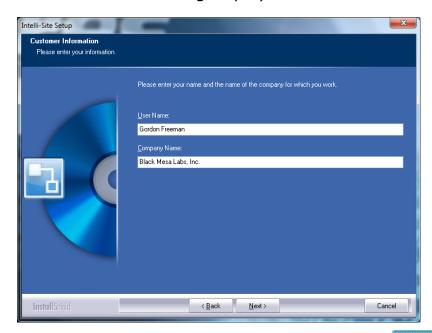
Select to continue the installation process.

The License Agreement dialog displays.



Select \_\_\_\_\_\_ to accept the License Agreement.

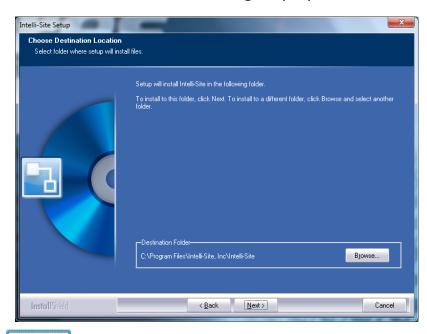
The Customer Information dialog displays.



Enter your User Name and Company Name, then select

## Note: You must enter both User Name and Company Name.

The Choose Destination Location dialog displays.



Select to accept the default installation path (recommended) or select to choose a different location for your installation.

The Setup Type dialog displays next.



Select to install the software on the server computer, (or Select to install the remote Workstation). The default selection is Workstation. If Next is pressed, only the Workstation will be installed.

#### Note: The installation may take several minutes to complete.

Lastly, the Install Complete dialog displays.



Select finish to complete the installation. Your computer will shut-down and restart automatically if "Yes" is selected.

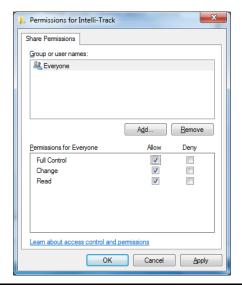
#### 2.2.2 Create the Network Share on the Server Computer

If you installed the ServerStation and will manage the Server from a remote Workstation then you must create a network share on the Server computer.

After restarting your computer, share the Intelli-Site subdirectory which can be found in the install directory usually **Program Files\Intelli-Site, Inc\Intelli-Site**. The share name may only contain alpha-numeric characters. See the example below:



Ensure that permissions for the share you created are unrestricted. See the example below:



Note: It is only necessary for you to create a share on the Server computer.

# **Section 3 – Quick Start Guide**

This section helps get you up and running quickly. It covers:

- Running Intelli-Track the First Time
- Quick Setup of *tres* Antennas and Tags
- Setting Up Remote Workstations

#### 3.1 Running Intelli-Track the First Time

In order to launch Intelli-Track, you must double-click the

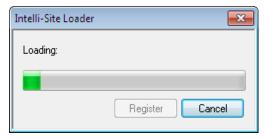
Intelli-Track icon located on the Windows Desktop.

Note: Initial start-up will differ, depending on whether you selected the ServerStation or Workstation option.

#### 3.1.1- ServerStation First Run

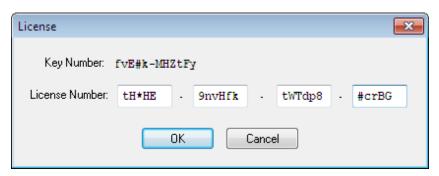
The Loader Program is launched by double-clicking the Intelli-

Track (Loader) icon on the Windows Desktop.



The Register button is disabled in Intelli-Track. The button will cancel start-up.

The product License Dialog will display. At this point, you may either enter a license number (obtained from technical support) or select Cancel. If you don't enter a license number the software will run in demonstration mode, meaning the Server and Driver Service will shut down after 3 hours. They software can be restarted.

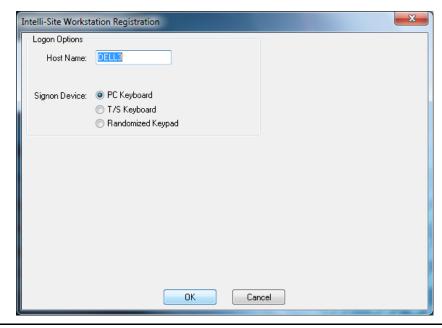


Note: Your license number is based on the Key Number displayed in the license dialog. Every computer will generate a unique Key Number. You need to supply your Key Number (and appropriate Purchase Order reference) to technical support in order to obtain a License Number. Save a screen shot of the License dialog and email it with the Purchase Order reference to <a href="mailto:licensing@ossi-usa.com">licensing@ossi-usa.com</a>.

The Loader Program will then run the Workstation.

#### 3.1.2 Workstation First Run

The first time the Workstation runs, the Workstation Registry dialog displays:



Note: On this and many other dialogs there are large blank areas because Intelli-Track is a special version of Intelli-Site. In Intelli-Site ES, these blank areas are populated with fields associated with features unavailable in Intelli-Track.

**Host Name:** Enter the name of the computer where the ServerStation is installed. The default value is the

local machine name.

Signon Device: One of three options:

- PC Keyboard standard keyboard and mouse combination.
- T/S Keyboard provides for a full touch screen keyboard layout.
- Randomized Keypad provides a "scrambled" hexadecimal keypad for touch screen.

Click the button to start the registration. A screen prompt will momentarily display to verify the Loader is working, followed by the Workstation Login dialog:



The default User name is **master** and the default Password is **m**.

Note: The password is case-sensitive. For security reasons, the password for the user "master" should be changed immediately.

Note: The Server will not accept connections from remote Workstations until it has been properly configures. See <u>3.4</u> Setting Up Remote Workstations.

#### 3.2 Intelli-Track Basics

This section describes the basics of Intelli-Track.

- The Application Menu Bar
- Run Mode
- Graphic Design Mode
- Driver Service and Server Shutdown

#### 3.2.1 The Application Menu Bar

The Application Menu Bar is displayed by clicking the button, located in the bottom left corner of the Workstation window. The user can move the Menu Application bar by clicking in the blue title bar and dragging it. Close the Application Menu Bar by clicking the **Exit** button, clicking on the button again, or by selecting a mode button.

When the Workstation is not logged into the Server, the menu bar has the following options:





**About** – displays the About Workstation screen, which shows copyright information, EULA, version information, and license information.



**Log On/Off Mode** – allows a user to log onto or off of the Intelli-Track system. The command does not exit the Workstation.



**Workstation Registration** – allows a user to configure the Workstation Registration. This option will only be available if a user is logged-off.

Once the user logs in, the application menu bar has the following options:





**Run Mode** – the mode that is the graphic interface for the user to operate the system.



**Graphic Design Mode** – the mode in which the Project is designed, the Project Node Tree is managed and the screens for use in Run Mode are designed and managed



**Documentation and Reporting Mode** – allows a user to view and print documentation and predefined system reports.



**Save Project** – enables you to configuration changes and, optionally, create a back-up copy of the current Project File. This option is only available while the software is in Graphic Design Mode.



**About** – displays the About Workstation screen, which shows copyright information, EULA, version information, and license information.



**Log On/Off Mode** – allows a user to log onto or off of the Intelli-Track system. The command does not exit the Workstation.



**Exit Application** – allows a user to exit the Workstation. This option is only available if a user is logged in

#### 3.2.2 Run Mode

**Run Mode** is the main working mode for Project monitoring and control. **Run Mode** displays when the system starts, and has four main elements:

- **Title Bar** the Title Bar is found at the top of the Workstation screen. It displays the Project currently being managed on the left and has window controls on the right.
- **Operations Area** the Operations Area displays the screen the user selected.
- **Information Manager**—the Information Manager (IM) displays operational information for alarm display and management.
- **Status Bar** the Status Bar is found at the bottom of the screen. It displays the Menu button on the left, which provides access to different modes of the system. On the right is status information including Operator Information, Shunts, Alarms, Events, date and time.



#### 3.2.3 Graphic Design Mode

**Graphic Design Mode** is the mode where the Project is designed. The Project Node Tree is managed and the screens for use in **Run Mode** are designed and managed in **Graphic Design Mode**. It has five main elements:

- Title Bar the Title Bar is found at the top of the Workstation screen. It displays the Project currently being managed on the left and has window controls on the right.
- The Project Node Tree the Project Node Tree contains all of the elements of the Project; may be referred to as the Tree.
- **Screen Design Area** the Screen Design Area displays the screen the user is designing
- **Information Manager**—the Information Manager (IM) displays operational information for alarm display and management.
- Status Bar the Status Bar is found at the bottom of the screen. It displays the Menu button on the left, which provides access to different modes of the system. On the right is status information including Operator Information, Shunts, Alarms, Events, date and time.



#### 3.2.4 Driver Service and Server Shutdown

To shut down the Driver Service program, locate the Driver

All drivers active

Service icon in the system tray | • and right-click. Select "**Exit**" from the dialog.

To shut down the Server program, located the Server icon in the

Intelli-Site

Windows system tray and right-click. Select "**Exit**" from the dialog, then select "**Immediate Shutdown**" from the pop-up dialog.

# 3.3 Getting Started

This section walks you through the process of customizing the software for your particular installation. Additions and modifications need to be made in the Workstation and the Driver Service.

The Workstation modifications are:

- Add tres RTUs for each tres Receiver
- Antenna Setup
- Create the Graphical Representation of the Installation
- Tag Setup including assigning tags

The configuration of the Driver Service is:

Add Intelli-Track Drivers for the tres Receivers

Note: Before you begin, it is best to have an image or map of your site layout. The preferred formats are png or wmf, but any image format will do. This image is used to give a visual reference for the zones and antennas of your particular installation. While it isn't strictly necessary, it is helpful for users to manage the system in the future.

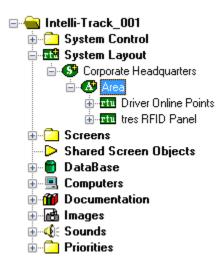
#### 3.3.1 Add tres RTUs for each tres Receiver

The software representation of the *tres* Receiver is the *tres* RTU (Remote Terminal Unit). The RTU is used to communicate with and monitor the state of the *tres* Receiver. A *tres* RFID RTU must be added and configured for each of the Receivers in the facility that is to be controlled and monitored by Intelli-Track.

Nodes can only be added to the Project Node Tree in **Graphical Design Mode**. After logging into the Workstation, click on the

button and select the **Graphic Design Mode** icon. The Tree displays to the left of the screen. The section 7.2 The Project Node Tree gives a detailed look into the Tree.

The **System Layout** node is where all of the RTUs for your facility will be added. Care should be used when adding nodes to make it easy for future users to locate a specific node. We suggest giving all RTUs descriptive names that explain their location and purpose, and organizing them so that the Tree reflects the facility. The software comes with generic nodes to get you started.

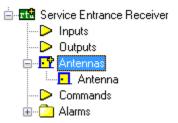


Expanding the **System Layout** node reveals the **Corporate Headquarters** node. Expanding it reveals the **Area** node.
Expanding **Area** reveals two nodes: a virtual point RTU named **Driver Online Points** and a tres RFID RTU named **tres RFID Panel**. The **Corporate Headquarters** node would be your
facility. The **Area** node is a logical part of your facility such as
the first floor or Parking Garage A. The **tres RFID Panel** would
be the first of the RTUs to be added, for example, Service
Entrance Receiver.

The names for the nodes can be changed to fit your facility by right-clicking on the node selecting "**Properties...**" from the context menu. The properties dialog for the node displays. All nodes have a **Name** field. The value in this field is what displays in the Tree and wherever this node is referenced. Change the node of the **Area** node to reflect an area of your facilty. Click . This saves the changes made to the properties of the node. If the **Name** field was modified, the Tree will reflect that change.

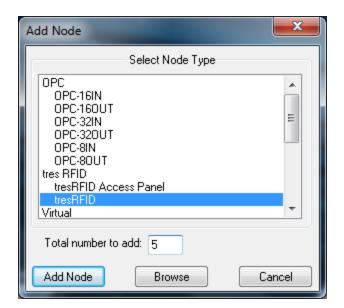
Now let's modify the **tres RFID Panel** node to map to a specific **tres** Receiver in that area. Right-click on the node and select "**Properties...**".

First change the value in the **Name** field. Then make note of the **Domain** number. Appendix I – Domain Table is a convenient way to keep track of the different domain numbers. You will need this information when we add drivers to the Driver Service. Click



Expand the *tres* RFID RTU (renamed Service Entrance Receiver in the figure above) to expose the child nodes. There is an **Antennas** node. Expand it. All of the antennas connected to the *tres* Receiver should be listed here. Intelli-Track has one **Antenna** node per *tres* Receiver. (Other RFID Receivers Intelli-Site ES supports allow for multiple antennas.) Rename the **Antenna** node to reflect which tres Receiver this is. The antenna node will be used and unless the name is changed you will have multiple references to "Antenna" and won't be able to tell which "Antenna" is actually being referenced.

To add another tres RFID RTU node, right-click on the Area (Hopefully you changed the name.) From the context menu, select "Add Node...". The Add Node dialog displays. Scroll through the Node Type list and select tresRFID.



To add more than one node to the Area, enter then number to add in the **Total number to add** field. Click the Add Node button. The number of nodes specified will be added to the Area node. The default name for each of them is "tres RFID Panel". Rename each of these nodes and their antennas as well. Remember to make note of the domain numbers.

Once all the RTUs have been added and configured, it is time to logically associate them to locations and zones.

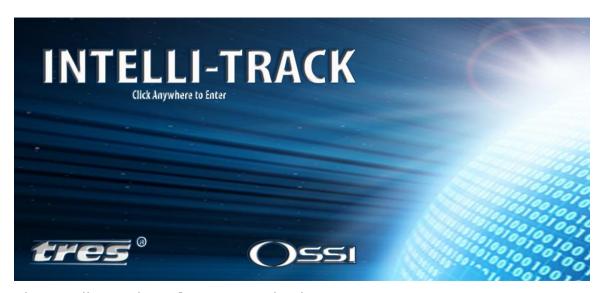
#### 3.3.2 Antenna Setup

This section walks through setting up antennas, locations, zones and associating zones and locations.

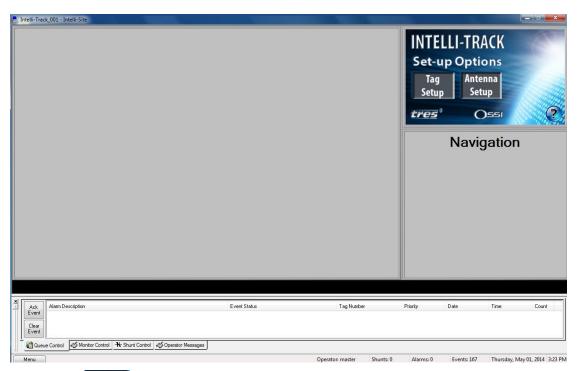
#### 3.3.2.1 Define Antenna Locations

To define antenna locations, switch to Run Mode by clicking the

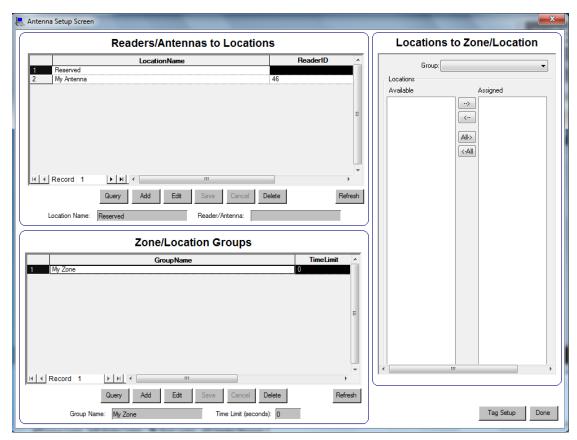
button and selecting the **Run Mode** icon. The Tree will disappear. If the LeadIn screen is visible, which it should be if this is the first time you've run the software, click anywhere on the screen as the image says.



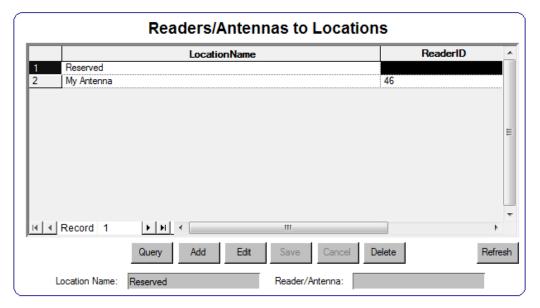
The Intelli-Track **Main Screen** displays.



Click the Setup button to open the Antenna Setup screen.



This section focusses on the **Readers/Antennas to Locations** table.



**Location Name:** The name of the location for the antenna

**Reader/Antenna:** A drop-down list of the antennas in the project. Each time a tres RFID RTU is added, the name for the antenna is added to the list.

There are two records in **the Readers/Antennas to Locations** table. The first record is "Reserved". This record is used by the software and should not ever be modified or deleted.

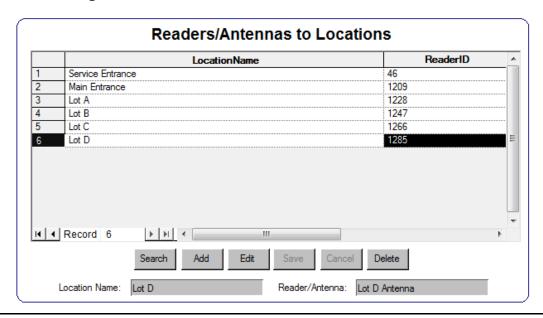
Note: Deleting the "Reserved" record may cause the database and the project to be corrupted which may mean you will have to reprogram your project from the ground up.

The second record in the table is "My Antenna". It is a sample record. Click on the second record. The background should be black. This means the record is selected. Click the button. The **Location Name** and **Reader/Antenna** fields become active. The **Reader/Antenna** field is a drop-down list of the antennas of all the tresRFID RTUs in the project. It is set to be the first antenna in the list. The **Location Name** is an edit field. Enter the name for the location for this antenna. Then click the button.

Add a new location for each of the antennas in the project by clicking Add then entering the name in **Location Name** field and selecting the desired antenna from the **Reader/Antenna** drop-down list. Of course, remember to click Save .

Note: There is nothing to prevent an antenna from being used in more than one location. Care must be taken to ensure proper assignment.

When done, the Readers/Antennas to Locations should look something like this:

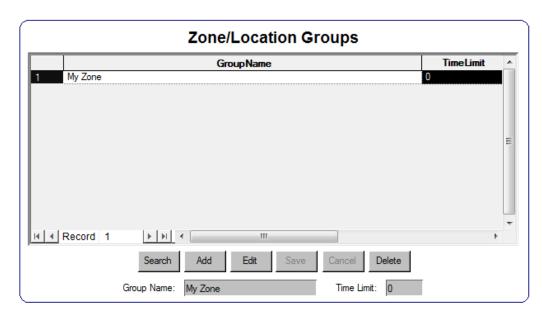


Note: The ReaderID is the node number for the Antennas node under the tresRFID RTU. The antennas themselves are children of the Antennas node. tres RFID panels for Intelli-Track only allow one antenna, but other RFID panels can accommodate multiple antennas.

#### 3.3.2.2 Create Zones

There are regions of your facility that are distinct from each other. For example, the Service Department is separate from the Sales Department; the parking garage is distinct from the visitors' lot. Each of these areas or zones contains one or more antenna. Take a moment to think about your particular installation. What is your traffic flow, what are the different logical zones? How long should any one tag remain in any zone? Each zone must be defined in Intelli-Track.

A Zone Group definition consists of a group name and a time limit.



**Group Name**: The name for the zone group

**Time Limit:** The time in seconds that a tag may remain in

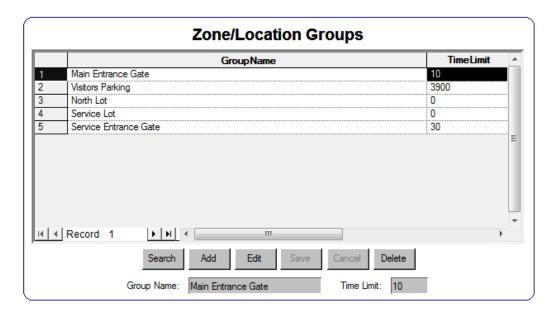
this zone group. When this time expires, the Alarm I/O point, **Over Time Limit Tag**, is set which causes an entry to be written to Queue Control. A time limit of zero (0) means there is

no time limit for this zone group.

Notice that once again the list is pre-populated with an example zone: My Zone. Click to modify the sample zone to fit your particular needs.

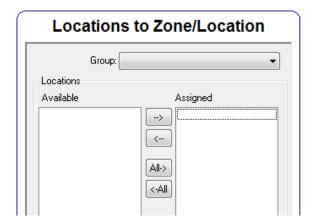
Add new zone groups by clicking Add then entering the name in **Group Name** field and the desired time limit in the **Time Limit** field. Remember, the time limit is in seconds and can only be whole numbers. Of course, remember to click Save.

When done, the Zone/Location Groups should look something like this:



# 3.3.2.3 Assign Locations to Zones

Now that the locations and zones have been created, it's time to associate them by assigning Locations to Zones.

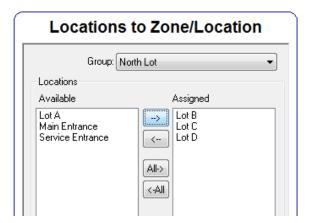


**Group:** A drop-down list contain all of the defined zones

**Available:** A list of the locations not assigned to the group

**Assigned:** A list of the locations assigned to the group

Click on the **Group** drop-down list and select a zone group. The **Available** and **Assigned** lists populate appropriately. Click on a location in the **Available** list that is part of the zone group. Multiple locations can be selected using the standard Shift+click or Ctrl+click methods. Once all of the locations that are to be assigned to the zone have been highlighted, click to move them to the **Assigned** list.



Each modification to a "Locations to Zone" assignment is effective immediately; it is saved as the change is made.

Repeat for every zone group in the **Group** drop-down list.

Note: There is nothing to keep a location from being part of more than one zone group. Care must be taken to ensure proper assignment.

# 3.3.3 Create the Graphical Representation of the Installation

Now that all of the locations and zones have been defined and associated, it's time to create the graphical representation of the installation. This representation will be what the users monitor the most. It will depict the zones and the antennas and display the current state of all antennas, changing color if and when a location raises an alarm.

Using a map of your facility, we will lay out the zones then drop the *tres* RFID antennas. This will enable users to monitor the facility and easily identify any alarms and where the alarm is happening.

Creating the graphical representation of the installation must be done in **Graphic Design Mode**. To switch modes, click the

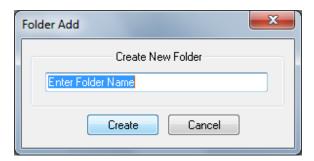
Menu button and select the **Graphic Design Mode** icon. The Tree displays to the left of the screen.

Before we can use the image of your facility, it must be added in Intelli-Track.

## 3.3.3.1 Add the Installation Image to Intelli-Track

Expand the **Images** node in the Tree. There are several folders containing various images that can be used when designing screens in Intelli-Track. We need to add another folder for the image of the facility layout.

Right-click on **Images** and select "**Add Node...**". The Folder Add dialog displays.

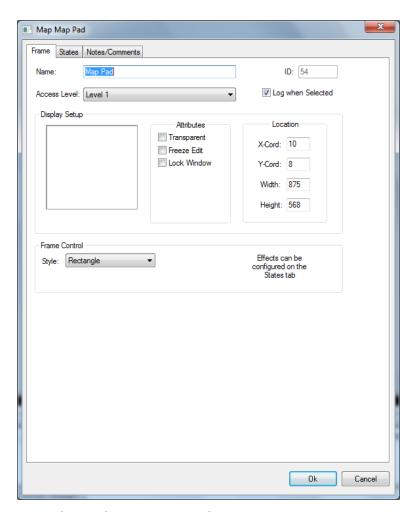


Enter the name for the new folder. This folder is where your images will be filed for use. Click Create. A new folder will appear at the bottom with the name specified. A new folder is created on disk as well. It is a subfolder of Intelli-Site, Inc\Intelli-Site\Sites\Intelli-Track\_001\Images folder.

Right-click on the newly created folder in the Tree and select "Import...". A standard Windows Open dialog displays. Locate the image to import and click the Open button. Intelli-Track will copy that image file into the folder it created in the *Images* folder. It is now ready to be used.

# 3.3.3.2 Add the Installation Image to the Main Screen

Now let's add the image to the **Main Screen**. Expand the **Screens** node in the Tree. Double-click on the **Main Screen** node. The **Main Screen** will display on the right if it wasn't already being displayed. Right-click on the large rectangle on the left to bring up the properties for the **Map Pad** object.



Switch to the **States** tab.

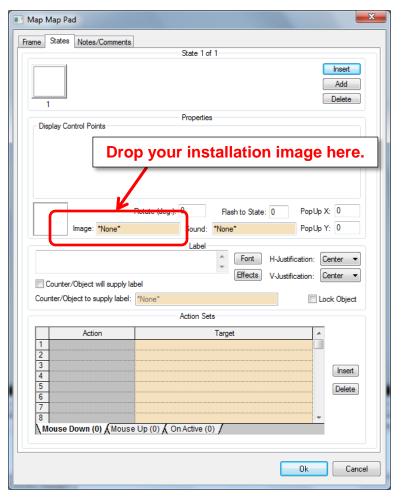
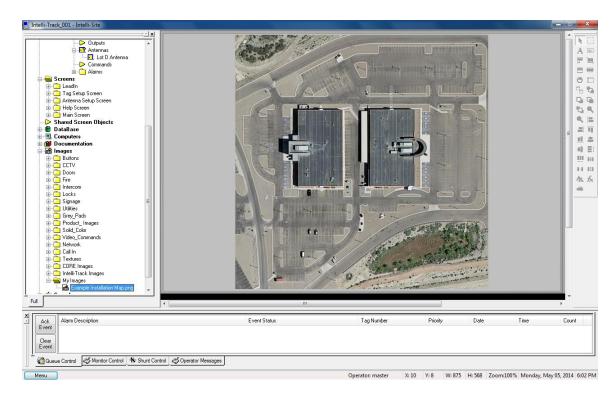


Image field. The orange color indicates the field can be the target of a drag and drop. To drag and drop, find the installation image in the Tree. Hold down the right mouse button and drag the mouse to the field. Let go of the button and it will drop the image file into the targeted field if it is allowed. A circle with a slash through it indicates the field cannot be a target of the item being dragged.

Click to save the changes.

Intelli-Track will load the image onto the Main Screen.

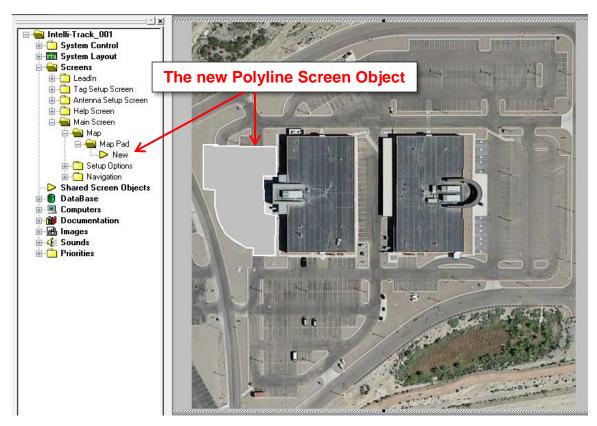


## 3.3.3.3 Draw the Zones on the Map



On the right side of the Intelli-Track window is the drawing toolbar. If it is grey, the focus is not on the screen which means the tools cannot be used. The focus is most likely on the Tree. To move the focus to the screen, click anywhere on the screen to the right of the Tree. The drawing toolbar will become enabled. See section 7.3 The Graphics Toolbar for detailed information about this toolbar.

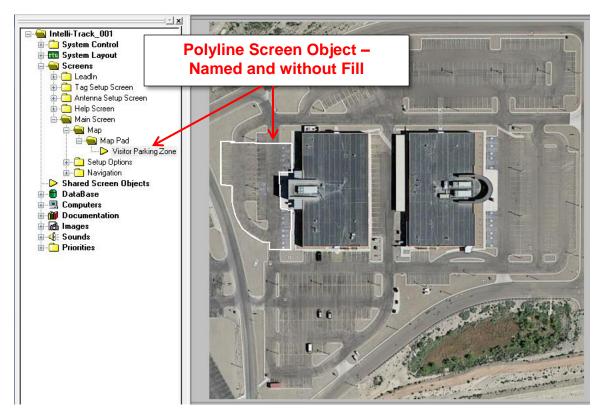
The tool we will use is the **Polyline Control**. With it, you will trace the outline of each zone on the map. Click on the **Polyline Control** to select it. The mouse cursor changes to the drawing cursor. Move to the map and draw the first zone, clicking to place a "corner" or turn in the shape. Press the escape key, **Esc**, to end drawing. IntelliTrack will close the polygon and add the new screen object to the Tree under the **Map** screen object.



Right-click on the newly created screen object to open its properties. Change the name to match the zone that it is.

Switch to the **States** tab. Click the Effects button. The Effects dialog appears. Here you can customize the look and feel of the screen object. To be able to see the map through the object click **None** in the **Fill** group box. This will leave the outline of the object but let the map show through. If the outline color is hard to see on the map, change the **Highlight Color** field to a color that is more visible. Click ok to save the effects then click ok again to save the changes to the properties.

Note: A different state can be added to an object that will be displayed under conditions you specify. The advanced programming for states is covered in 7.4.7.2 States Tab.

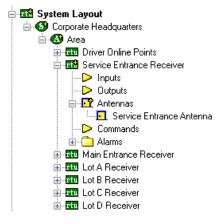


Repeat this section for each zone. Once all of the zone screen objects have been added to the map, the tres RFID Antennas can be placed on the map.

## 3.3.3.4 Drop the Antennas on the Zones

Now that the zones have been drawn on the map, add the antennas. Drag and drop each antenna onto the map to create an antenna screen object that is pre-programmed to display the state of the antenna when the Workstation is in **Run Mode**.

In the Tree, expand the *tres* RFID RTU to expose the antenna node.



Drag the antenna and drop it on the map. The polyline control object cannot be the target of a drop because it cannot have child nodes. You'll have to drop the antenna away from any of the polyline control objects. Once it is dropped, the antenna object can be dragged around the screen and placed on top of the polyline control object.

Note: The antenna screen object is made up of multiple objects. Take care when selecting the object to click the parent object when moving it.

Drag and drop the antennas from each of the *tres* RFID RTUs onto the map and position them appropriately.



## 3.3.4 Tag Setup

Tag Setup consists of:

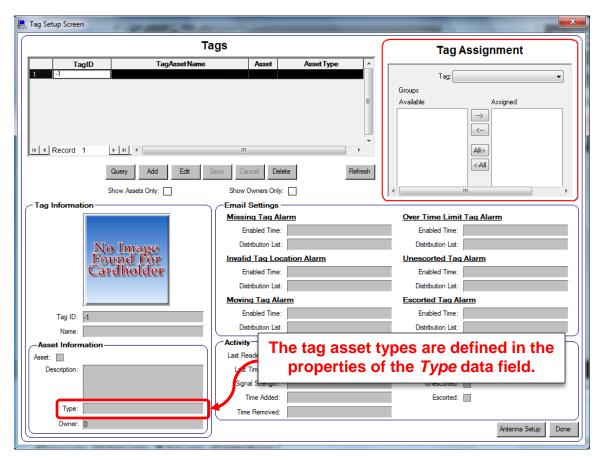
- Defining Asset Types
- Configuring Unescorted Tag Pre-Alarm Delay
- Assigning Tags to Assets and Owners
- Assigning Zones/Groups to Tags

## 3.3.4.1 Define Asset Types

Intelli-Track was developed to answer a need for asset tracking. It is important to know where an asset is at any given time. It is also important that the correct personnel are in possession of any asset. Therefore, tags fall into two categories: owners and assets. Owners are personnel. Assets are generally things. What constitutes an asset differs from installation to installation. The asset types must be defined before being assigned.

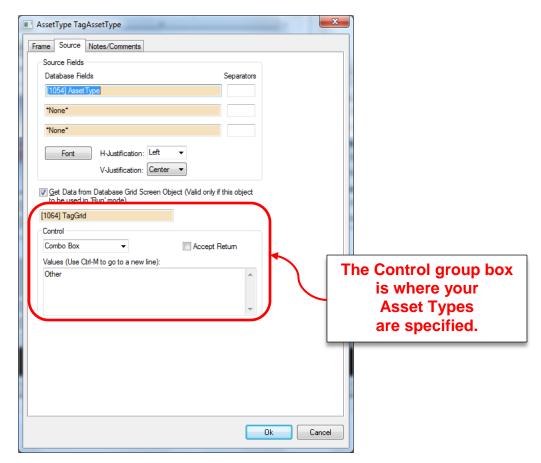
An asset can be of any number of types. Even visitors can be considered assets since they need to be escorted. The types of assets are not defined by Intelli-Track but are customizable for your installation. To specify the types of assets, you will modify the properties of the **TagAssetType** screen object on the **TagSetup Screen**.

In **Graphic Design Mode**, expand the **Screens** node in the Design Tree. Double-click **Tag Setup Screen** to open the **Tag Setup Screen** for editing.



In the Asset Information group, locate the field **Type**. The grey box next to the word **Type** is the data field; **Type** is the label. Right-click on the data field to open the properties dialog. Switch to the **Source** tab.

The **Control** group box defines the type of control this screen object is. It could be an Edit Box, a Combo Box, or a Date/Time Display field. In this case it is a Combo Box. The **Values** field contains the entries for the combo box. The only value currently defined is "Other".



Place the cursor in the **Values** box and type the names for the different asset types for your installation. Each type must be on a different line. To add a new line, use Ctrl-M. The Enter key is the hot key for the default action, in this case OK. Pressing the Enter key will save the changes and close the dialog not add a new line.

The order the types appear in this box is exactly the order they will appear in the combo box on the **Tag Setup Screen**. The default value for the **Type** field is the first entry in the list. You might want to consider putting the most common type at the top. If you decide to change the order of the list after tags have been entered, that's fine. Just don't delete an entry that has been used. When all of the asset type names have been entered, click

Note: All tag, must have a Type even owner tags. Include an asset type for owner tags as well.

## 3.3.4.2 Configure Unescorted Tag Pre-Alarm Delay

Assets may require an owner escort in some zones. For example, a company car (asset) has been checked out by an employee (owner). That employee is the only one that can drive the car through the Main Entrance Zone. If that company car enters the Main Entrance Zone without the correct owner, the gate will not open and an alarm will be sent to Intelli-Track.

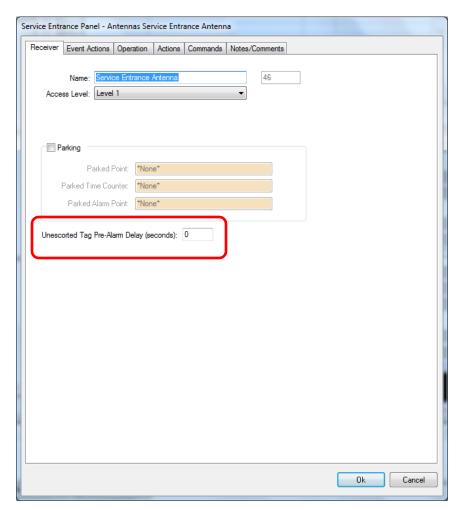
It is quite likely that the tresRFID Receiver will detect the asset tag before it detects the escorting owner. Therefore, a small a grace period should exist to allow the Receiver time to detect the owner before an alarm is raised. This grace period is called **Unescorted Pre-Alarm Delay**.

**Unescorted Pre-Alarm Delay** is a property of the antenna of a tresRFID RTU. It is the minimum number in seconds the Receiver should wait for the correct escorting owner to be detected. If the escort is not detected before the delay expires, the **Unescorted Alarm** will be raised and will stay high until the proper owner arrives or the asset leaves.

<u>Section 4 - Asset Tracking</u> explains the escort process as well as everything about asset tracking in Intelli-Track.

Only the receivers that will be used to monitor and control escort activity will be modified. The default value for the **Unescorted Pre-Alarm Delay** is zero (0) meaning the alarm will never be raised.

In **Graphic Design Mode**, expand a tresRFID RTU to reveal the antenna node. Right-click and select "**Properties...**" to open the properties dialog. Locate the **Unescorted Pre-Alarm Delay** field.



Enter the minimum delay in seconds desired in the edit box. Due to software timing, up to a full second may be added. Click to save the changes and close the dialog.

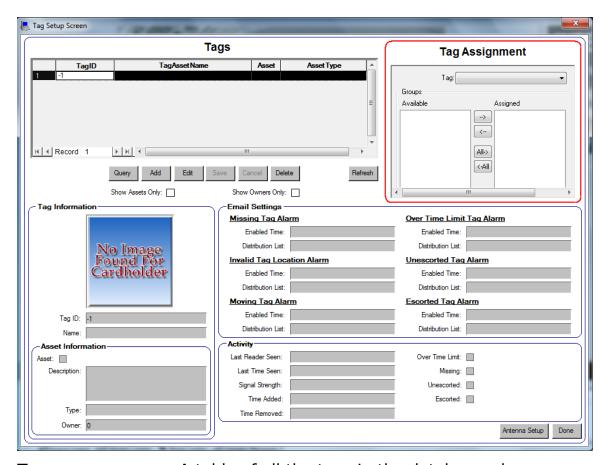
Do this for each of the tresRFID antennas that are to monitor and control escorting.

# 3.3.4.4 Assign Tags to Assets and Owners

Assigning tags to owners and assets must be done in **Run Mode**. Switch to **Run Mode** by clicking on the Menu button and select **Run Mode**.

To bring up the Tag Setup screen, click Setup

Note: Section <u>6.1.4 Tag Setup Screen</u> goes into this screen in detail. The current section will only discuss those fields necessary to quickly get started.



**Tags:** A table of all the tags in the database when

the screen was opened or since the Refresh

button was last pressed

**Tag Assignment:** A compound table displaying the

zones/groups to which a tag is assigned.

This table is active at all times.

Modifications made to this table go into

effect immediately.

**Tag Information group box –** Information identifying a tag

and owner/asset assignment

**Tag ID:** The tag identification number **REQUIRED** 

**Name:** The name of the person or asset to which

this tag is assigned

Asset Information group box – Information about the Asset or

Owner

**Asset:** Checked if this tag is assigned to an asset

**Description:** The description of the tag assignee

The tag type selected from a drop-down list Type: Owner:

If this tag is assigned to an asset, this field

specifies the owner. An owner is not

required.

The Tags table contains a record with tag number -1. DO NOT Note: DELETE/MODIFY RECORD -1. Doing so will corrupt the project causing you to have to start all over again.

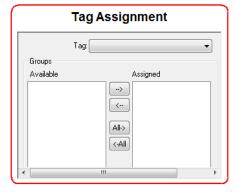
To add a tag, click Add . The only required field is the **Tag ID**. Enter the tag ID. Enter the name of the person or asset in the **Name** field. If the tag is being assigned to an asset, check the Enter a description for the tag assignee in the **Description** box. Select the tag type from the drop-down list of the **Type** field. If there is an owner for the asset tag, select it from the drop-down list of the **Owner** field. **None** is the default value.

Once all these fields have been filled in, click Save. The entry is added to the **Tags** table. Repeat for all of your tags.

## 3.3.4.5 Assign Zones/Groups to Tags

Now that the tags are in the database, it is time to define the areas each tag is allowed to be. If a tag appears in an area it isn't supposed to be, an alarm will be raised. If a tag is in an area too long, an alarm will be raised. If a tag is supposed to be escorted and the escort is not present, an alarm will be raised. Section 7.2.4.3.2 Alarms goes into the various alarms in detail.

The **Tag Assignment** table allows you to control where a tag is allowed to go.



A drop-down list of all of the defined tags Tag:

**Available:** A list of the zones/groups that have not been assigned to

the selected tag

**Assigned:** A list of zones/groups in which the selected tag is

allowed to be without raising an alarm

Click on the **Tag** drop-down list and select a tag. The **Available** and **Assigned** lists populate appropriately. Click on a zone in the **Available** list in which the tag is allowed. Multiple zones can be selected using the standard shift+click or control+click methods. Once all of the zones that are to be assigned to the tag have been highlighted, click to move them to the **Assigned** list.

Each modification to a tag assignment is effective immediately; it is saved as the change is made.

Repeat for every tag in the **Tag** drop-down list.

At this point it is important to understand the importance of Tag Assignment and new or added tags and, even more so, removed or deleted tags.

## 3.3.4.5.1 New and Added Tags

A tag is considered new or added when it receives a zone assignment and it previously had none. The tag need not be brand new to the system where the user just added it to the tag list and defined to whom or what it is associated.

# 3.3.4.5.2 Removed Tags

A tag is considered removed if it no longer has zones assigned to it. It must have had at least one zone assignment previously before it can be considered removed.

The difference between removed and deleted is significant. If a tag is deleted, it is no longer part of the system. When it is deleted it does not show up as removed in the reports unless the assignments have been removed before the tag was deleted. A deleted tag, because it is no longer in the system, is ignored if it is detected by any antenna that is part of the installation.

On the other hand, a tag that has been removed is still in the system. When it is detected by an antenna, the Server will report it as an unauthorized tag. The tag will show up in the Removed Tags report. If the asset or person to which the tag has been assigned returns, all that must be done is to assign zones. It will then appear as being added. All of the additions and removals of this tag will appear on the reports.

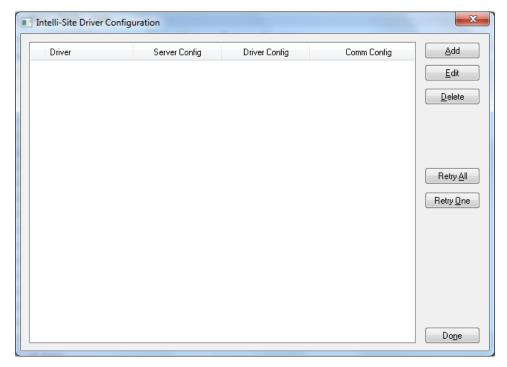
### 3.3.5 Add Intelli-Track Drivers for the tres Receivers

For Intelli-Track to communicate with a *tres* receiver, it needs a tresRFID driver. Drivers are managed in the Intelli-Track Driver Service.

Note: In <u>3.3.1 Add tres RTUs for each tres Receiver</u> you were instructed to make note of the Domain numbers for each tresRFID RTU. You will need that list before continuing.

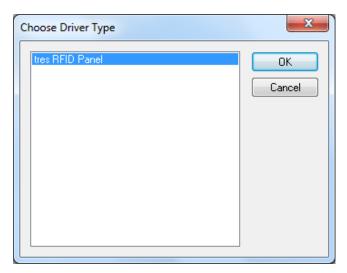
When the Intelli-Track Loader runs, it loads the Intelli-Track Server, the Intelli-Track Driver Service, and the Intelli-Track Workstation.

When the Driver Service runs, it opens the Intelli-Site Driver Configuration window.

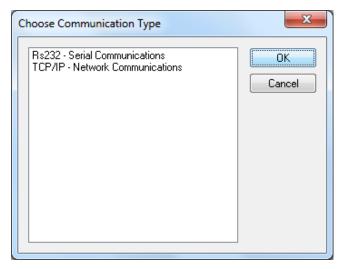


If this window is not open, it can be opened from the Driver Service icon, in the Windows system tray. Right click on the icon and select **Open**. The window will open.

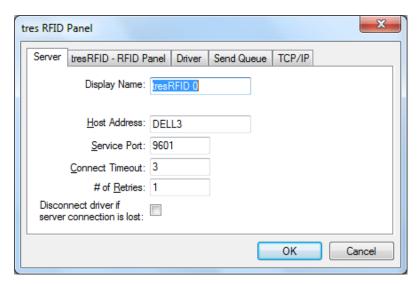
Click Add . The Choose Driver Type dialog appears.



In the Choose Driver Type dialog, click on "tres RFID Panel" to select it then press  $\bigcirc$  . The Choose Communication Type dialog displays.

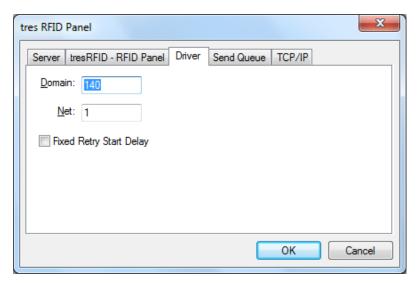


Highlight the correct communication method for the *tres* RFID receiver being configured then click The dialog that appears next depends on the communication method selected. The difference between the two dialogs is the tab dedicated to the communication method.



On the **Server** tab, change the **Display Name** to reflect the name of the tresRFID RTU to which it is connected.

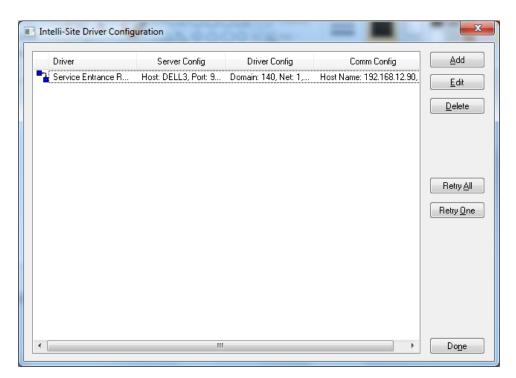
Switch to the **Driver** tab.



In the **Domain** field, enter the Domain number for the corresponding tresRFID RTU. (This is why you needed Appendix I – Domain Table.)

Switch to the protocol tab. If the communication method chosen was TCP/IP, the tab is named **TCP/IP**. If the communication method was Rs232, it is named **Rs232**. It is assumed the reader understands enough to properly configure the protocol portion.

Click to save the tresRFID Driver. The dialog disappears and an entry appears in the Driver list in the Driver Configuration window.



Add a tres RFID Panel driver for each tresRFID RTU in the Tree. The **Domain** in the driver must match the **Domain** of one RTU.

After adding the drivers, bring them online one at a time. Rightclick on a driver in the list and select "**Online**" from the context menu. This does two things. First, the Driver Service will attempt to connect to the Server and the physical **tres** Receiver. Second, the Driver Service will set the driver to automatically come online when the Driver Service starts up.

The icon next to the driver name changes color depending on the state of the connection to the Server and to the physical device. Section <u>9.3.3 States of the Driver Icon</u> goes into details on the connection indicator.

# 3.4 Setting Up Remote Workstations

It is not enough to install the Workstation on a different computer. The Intelli-Track Server will only accept connections from computers that have been authorized to connect to it.

Outside of the Intelli-Track software, a share of the Intelli-Track folder must be created. See <u>2.2.2 Create the Network Share on the Server Computer</u> for instructions on creating the share. This is necessary since the remote Workstation needs read, write, and delete access to the Intelli-Track folder.

After the share has been created, the name of the share must be specified in the software. In addition, a **Computer** Node must be added for each of the computers that may connect to the Server.

## 3.4.1 Specify the Network Share Name

To specify the network share name, launch the Workstation on the computer running the Server and logon. By default, the Workstation starts in **Run Mode**. Most of the changes to the system can only be performed in **Graphic Design Mode**.

To switch modes, click the button in the lower left. This brings up the Application Menu Bar. Click on the **Graphic** 

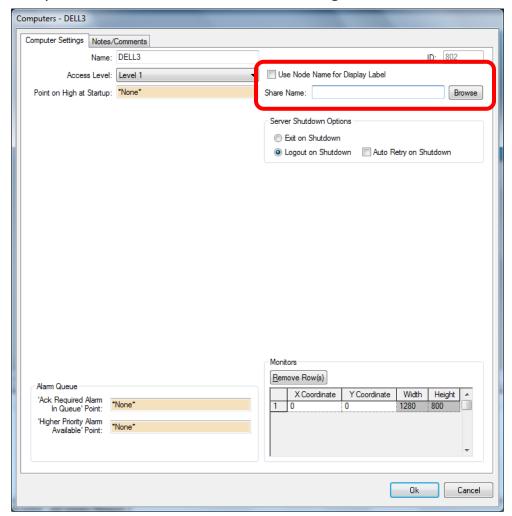
Design Mode icon. The Project Node Tree, sometimes referred to as "the Tree", displays to the left. Section 7.2 The Project Node Tree discusses the Tree in detail. The screen objects on the right are not active in Graphic Design Mode. They are only active when the Workstation is in Run Mode. Alarms will be reported to the Workstation and appear in Information Manager at the bottom of the screen. When the Workstation returns to Run Mode, the screen objects are updated to the current state.

Locate the **Computers** node in the Tree and expand it by clicking on the  $\oplus$ icon next to it. There will be one node beneath the **Computers** node. It will be the local computer. In this example, the local computer is named DELL3.



The share resides on the Server computer; therefore, the network share is specified in the settings or properties for the Server computer node.

Right-click on the local computer node and select "**Properties...**" from the resultant context menu. The properties for the node display. The **Share Name** property is enabled only for the computer on which the Server is running.



Click the Browse button to bring up the Browse for Folder dialog this is a Windows dialog to locate network shares. Select the network share for Intelli-Track then click the button. The share name will appear in the **Share Name**. Click the button on the properties dialog to save the changes.

## 3.4.2 Add the Remote Workstation Computers

Each of the computers that will be used to connect to the Server must be defined under the **Computers** node.

Right-click on the Computers node and select "Add Node and Edit..." from the context menu. Enter the name of the remote computer in the Name field then click the button. A new node appears under the Computers node for the computer just added.



Do these steps for each computer.

#### 3.4.3 Imhosts File

Intelli-Track references other computers by their name not their address. In most cases host name to IP address translations are resolved by DNS servers. If the Intelli-Track Server does not have access to a DNS server, it can cause the Intelli-Track Server to appear to hang while it attempts to resolve a name or even to fail to connect because the name cannot be resolved. To prevent this behavior, add an entry to the Imhosts file for each of the computers and devices with which the Server will communicate.

Windows provides a sample Imhosts file, named Imhosts.sam, in %windir%\system32\drivers\etc\. The file that is actually used has no file extension. If there is an Imhosts file without an extension, edit it and add the appropriate name to address definitions. If not, edit the sample file and save it without an extension. You may need to rename the file and then edit it.

The file contains good instructions on the proper form of an entry. An entry should be in the form:

<IP Address> <Name> #PRE

For example:

192.168.1.50 DELL3 #PRE

Don't forget the #PRE.

	Intelli-Track User Guide	
--	--------------------------	--

Once all of the IP address-to-name mappings have been defined and the file saved, reboot the computer so the mappings are loaded.

# Section 6 - Run Mode

**Run Mode** is the main working mode for Project monitoring and control. Run Mode displays when the system starts.

This section discusses RFID Tag management and tracking and provides details on Alarm monitoring operations including:

- The Run Mode Screens
- The Information Manager

### 6.1 The Run Mode Screens

Intelli-Track has five screens:

- LeadIn
- Main Screen
- Tag Setup Screen
- Antenna Setup Screen
- Help Screen

#### 6.1.1 LeadIn

The **LeadIn** screen displays when the user logs into the Workstation.

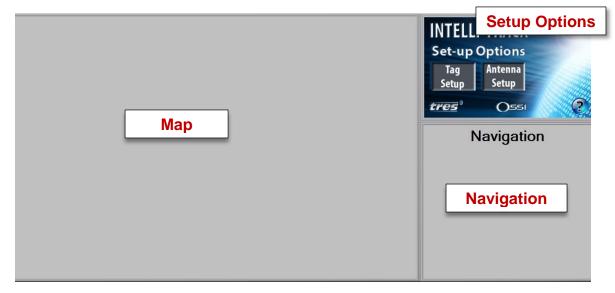


This screen acts as a cover page for the system. It is suggested that the image be replaced by a custom image with the company logo and a disclaimer. Be sure to include "Click Anywhere to Enter" on the image. Section 7.4.7.2 States Tab particularly the **Image** field to learn how to add or change the image.

#### 6.1.2 Main Screen

The Main screen is intended to be the screen where the user spends the majority of his time. It contains three areas:

- Setup Options
- Map
- Navigation



**Setup Options**: Contains buttons to bring up the Tag Setup

screen, the Antenna Setup screen, and the

Antenna State Help screen.

**Map:** Intended to be used as the map of the

customer's system with screen objects for all

the zones and antennas.

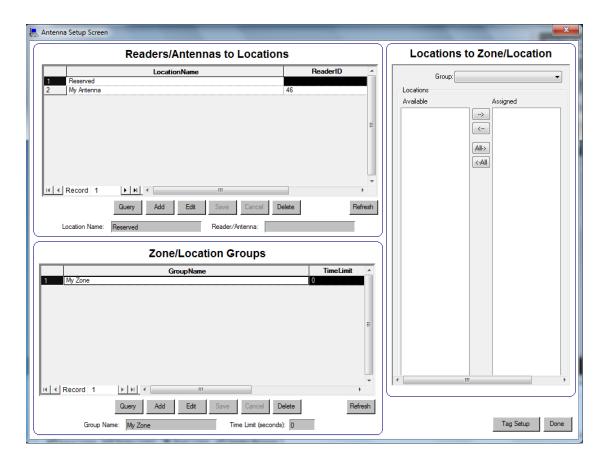
**Navigation**: Some facilities may be too expansive or

complex for a single map. When that is the case, this area is intended to contain buttons to bring up additional screens. The map would then contain screen objects to indicate which Navigation screen is in an alarm state. These screen objects would be programmed to popup

or display another screen.

## 6.1.3 Antenna Setup Screen

The **Antenna Setup** screen is where locations and zones are created, and locations are assigned to zones.

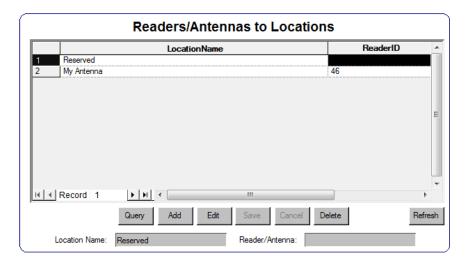


# **6.1.3.1 Readers/Antennas to Locations**

The **Readers/Antennas to Locations** table is where the antennas from the tresRFID RTUs are mapped to a location for an installation. There should be an entry in the table for each and every antenna in the system.

Note: Before an antenna can be mapped to a location, the tresRFID RTU must be added to the Project. Once the RTUs are in the Project, each of the antennas will be listed in the Readers/Antennas field.

This table allows the user to add, edit and delete records as well as query the list for a subset of records. There is also a button to refresh the table.



**Location Name:** The name of the location for the antenna

**Reader/Antenna:** A drop-down list of the antennas in the

project. Each time a tresRFID RTU is added, the name for the antenna is added

to the list.

Note: The first record in the table is "Reserved". Do not delete or modify this record. Doing so may corrupt the Project and/or the database that is unrecoverable. This is a good reason to make regular backups.

#### 6.1.3.1.1 Add an Antenna to a Location

To add an antenna to a location, click Add. The save and cancel buttons become active while all the others become inactive. The fields **Location Name** and **Reader/Antenna** become active as well. The buttons and fields will remain this way until either save or cancel is clicked.

Type in the name for the location in the **Location Name** field. Then select the antenna from the **Reader/Antenna** drop-down list. This list contains the names of the antenna nodes for all the tresRFID RTUs in the Project.

To save the new location mapping, click Save . Clicking will cancel without saving.

#### 6.1.3.1.2 Edit an Antenna to a Location

To edit an antenna to location mapping, click on the target mapping in the list. Then click the list. The save and the list. The save and the buttons become active while all the others become inactive. The fields **Location Name** and **Reader/Antenna** become active as well. The buttons and fields will remain this way until either save or cancel is clicked.

Change the information.

To save the modifications, click Save . Clicking will cancel without saving.

#### 6.1.3.1.3 Delete an Antenna to a Location

To delete an antenna to location mapping, click on the target mapping in the list then click Delete. The following dialog will display.



Clicking " $\underline{Y}$ es" will cause the selected record in the table to be deleted. " $\underline{N}$ o" will abort the deletion.

### 6.1.3.1.4 Search the Readers/Antennas to Locations Table

While the Readers/Antennas to Locations table is scrollable, finding a particular record, or a group of records, may not be easy. The table can be queried to find all records fitting a particular set of conditions. Both the **Location Name** and the **Reader/Antenna** fields are used to define the conditions.

To find a particular record, click Query. The Query becomes Search. The Cancel button becomes active and all the other buttons become inactive. The data fields are ready for the search criteria.

The value of the **Reader/Antenna** field is "\*\*\*\*" to match any antenna. By clicking on the drop-down arrow, you can change the value to any antenna in the list.

Wild cards are not allowed by the query. Instead, the query will find all records that begin with the value specified in the **Location Name** field.

Once the location name and antenna values are set, press The table will populate with the records that match the query criteria.

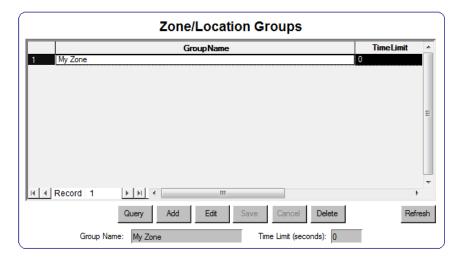
#### 6.1.3.1.5 Refresh

The Readers/Antennas to Locations table is not live. This means that changes made to the table by anyone logged in from a different Workstation will not automatically appear in this table. The Refresh will reload the table from the Server. This is also the best way to reload the full table after a query is made.

## **6.1.3.2 Zone/Location Groups**

**Zone/Location Groups** are locations or areas of your facility that are logically one unit. For example, the parking garage is one unit. It may have two entrances and several floors but it is one location. A Zone/Location Group must have at least one antenna. There is no upper limit to the number of antennas.

This table allows the user to add, edit and delete records as well as query the list for a subset of records. There is also a button to refresh the table.



**Group Name**: The name for the zone group

**Time Limit:** The time in seconds that a tag may remain in

this zone group. When this time expires, the Alarm I/O point, **Over Time Limit Tag**, is set which causes an entry to be written to Queue Control. A time limit of zero (0) means there is no time limit for this zone group. Zero is the

default value.

### 6.1.3.2.1 Add a Zone/Location Group

To add a Zone/Location Group, click Add. The save and cancel buttons become active while all the others become inactive. The fields **Group Name** and **Time Limit** become active as well. The buttons and fields will remain this way until either or cancel is clicked.

Type in the name for the zone in the **Group Name** field. Then enter the maximum time any tag may remain in this zone in the **Time Limit** field. A time limit of zero (0) means there is no time limit for this zone.

To save the new zone, click Save . Clicking will cancel without saving.

### 6.1.3.2.2 Edit a Zone/Location Group

To edit an existing Zone/Location Group, click on the target zone in the list. Then click the list. The save and save buttons become active while all the others become inactive. The fields **Group** Name and Time Limit become active as well. The buttons and fields will remain this way until either save or cancel is clicked.

Change the information.

To save the modifications, click Save . Clicking will cancel without saving.

## 6.1.3.2.3 Delete a Zone/Location Group

To delete a zone/location group, click on the target group in the list then click Delete. The following dialog will display.



Clicking " $\underline{Y}$ es" will cause the selected record in the table to be deleted. " $\underline{N}$ o" will abort the deletion.

## 6.1.3.2.4 Search the Zone/Location Group Table

While the Zone/Location Group table is scrollable, finding a particular record, or a set of records, may not be easy. The table can be queried to find all records fitting a particular set of conditions. Both the **Group Name** and the **Time Limit** fields are used to define the conditions.

To find a particular record, click Query. The Query becomes Search. The Cancel button becomes active and all the other buttons become inactive. The data fields are ready for the search criteria.

The default value of the **Time Limit** field is zero (0); therefore, entering a zero (0) in the **Time Limit** field means match any zone. Any other value entered into this field must be an exact match.

Wild cards are not allowed by the query. Instead, the query will find all records that begin with the value specified in the **Group Name** field.

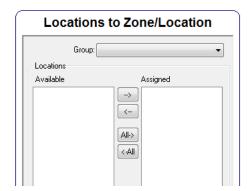
Once the zone name and time limit values are set, press The table will populate with the records that match the query criteria.

#### 6.1.3.2.5 Refresh

The Zone/Location Group table is not live. This means that changes made to the table by anyone logged in from a different Workstation will not automatically appear in this table. The will reload the table from the Server. This is also the best way to reload the full table after a query is made.

## 6.1.3.3 Locations to Zone/Location

This special combination table is where the various locations are assigned to the zones/groups.



**Group:** A drop-down list contain all of the defined zones

**Available:** A list of the locations not assigned to the group

selected in the Group field

Assigned: A list of the locations assigned to the selected

group

Move the selected Available location to the

Assigned list on the right

Move the selected Assigned Location to the

Available list on the left

Move all of the locations in the Available list to the

Assigned list on the right



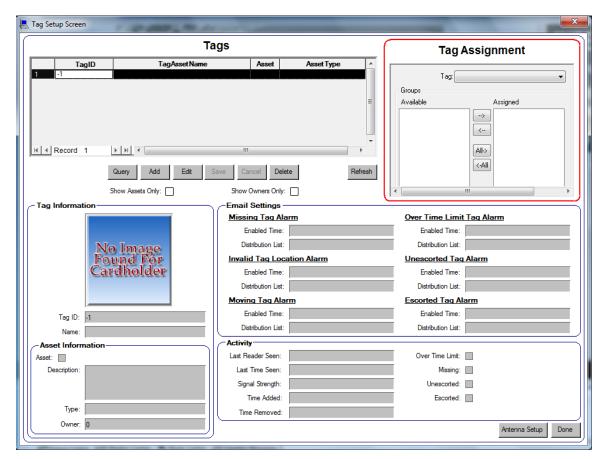
Move all of the locations in the Assigned list to the Available list on the left

Each modification to a Locations to Zone assignment is effective immediately; it is saved as the change is made.

Note: There is nothing to keep a location from being part of more than one zone group. Care must be taken to ensure proper assignment.

### 6.1.4 Tag Setup Screen

The **Tag Setup** screen is where tags are assigned to assets and owners, assigned to zones, and where email notifications are setup for the possible alarms and events generated for a tag. The user can also see a snapshot of the activity for the tag.



Tag Assignment: A compound table displaying the

zones/groups to which a tag is assigned.

This table is active at all times.

Modifications made to this table go into

effect immediately.

Note: The Tag Assignment table is not part of adding or editing a tag. It is a separate function. Once a tag has been added, it can then be assigned to zones/groups.

**Tags:** A table of all the tags in the database when

the screen was opened or since the Refresh

button was last pressed

**Show Assets Only:** A check box to list only Asset tags in the

Tags table, when checked, **Show Owners Only** is deactivated, must be cleared to

reactivate Show Owners Only

**Show Owners Only:** A check box to list only Owner tags in the

Tags table, when checked, **Show Assets** 

Only is deactivated, must be cleared to

reactive Show Assets Only

**Tag Information group box –** Information identifying a tag

and owner/asset assignment

**Tag ID:** The tag identification number **REQUIRED** 

**Name:** The name of the person or asset to which

this tag is assigned

**Asset Information group box** – Information about the Asset or

Owner

**Asset:** Checked if this tag is assigned to an asset

**Description:** The description of the tag assignee

**Type:** The tag type selected from a drop-down list

**Owner:** If this tag is assigned to an asset, this field

specifies the owner. An owner is not

required.

**Email Settings group box** – Settings to send an email when an

alarm is set for the tag being added or edited.

Each alarm has its own settings.

**Enabled Time:** The Time Zone in which reporting of this

alarm will occur

**Distribution List:** The Distribution List node that defines

the email distribution list

**Activity group box** – A snapshot of the tag activity

**Last Reader Seen:** The antenna at which the tag was last

detected

**Last Time Seen:** The time the tag was last detected

**Signal Strength:** The strength of the signal from the tag

**Time Added:** When the tag was assigned to a group

**Time Removed:** When the tag assignments were access

to all groups was removed

## 6.1.4.1 Tags

Intelli-Track was developed to answer a need for asset tracking. It is important to know where an asset is at any given time. It is also important that the correct personnel are in possession of any asset. Therefore, tags fall into two categories: owners and assets. Owners are personnel. Assets are generally things. The distinction between the two categories exists because some assets require an escort or owner, a specific owner, in some situations. What constitutes an asset differs from installation to installation.

An asset can be of any number of types. Visitors might even be considered assets since they require an escort. The types of assets are not defined by Intelli-Track but are customizable for your installation. To specify the types of assets, you will modify the properties of the **TagAssetType** screen object on the Tag Setup Screen. Section <u>3.3.4.1 Define Asset Types</u> is a quick walk-through in defining tag asset types.

This section will discuss:

- Adding a tag
- · Editing a tag
- Email notification settings
- Deleting a tag
- Searching for a specific tag or a set of tags
- Refreshing the Tag Setup screen

# 6.1.4.1.1 Add a Tag

To add a tag, click Add. The Save and Cancel buttons become active while all the others become inactive. The fields in the **Tag Information, Asset Information,** and **Email Settings** group boxes become active as well. The buttons and fields will remain this way until either Save or Cancel is clicked.

Enter the tag ID or number in the **Tag** ID field. Type in the name of the tag holder in the **Name** field. If this tag is being assigned to an asset, check the **Asset** check box. Fill in the **Description**. Select the **Type** and, if appropriate, the **Owner**. If email notifications are required for this tag if an alarm is set, then select the time zone and distribution lists from the drop-down lists for the **Enabled Time** and **Distribution List** fields for the desired alarm.

To save the new tag, click Save . Clicking Cancel will cancel without saving.

This tag will not show up as a new tag in any of the reports until it is assigned at least one zone. See <u>6.1.4.2 Tag Assignment</u>

## 6.1.4.1.2 Edit a Tag

To edit an existing tag, click on the target tag in the list. Then click The and Cancel buttons become active while all the others become inactive. The fields in the **Tag Information, Asset Information,** and **Email Settings** group boxes become active as well. The buttons and fields will remain this way until either Save or Cancel is clicked.

Change the information.

To save the modifications, click Save . Clicking will cancel without saving.

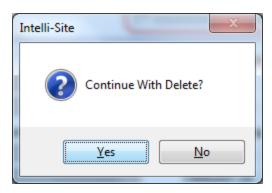
## 6.1.4.1.3 Delete a Tag

There is a difference between a deleted tag and a removed tag. A tag is considered removed if it no longer has zones assigned to it. It must have had at least one zone assignment previously before it can be considered removed.

The difference between removed and deleted is significant. If a tag is deleted, it is no longer part of the system. When it is deleted it does not show up as removed in the reports unless the assignments have been removed before the tag was deleted. A deleted tag, because it is no longer in the system, is ignored if it is detected by any antenna that is part of the installation.

On the other hand, a tag that has been removed is still in the system. When it is detected by an antenna, the Server will report it as an unauthorized tag. The tag will show up in the Removed Tags report. If the asset or person to which the tag has been assigned returns, all that must be done is to assign zones. It will then appear as being added. All of the additions and removals of this tag will appear on the reports.

To delete a tag, click on the target tag in the Tags table then click Delete. The following dialog will display.



Clicking "Yes" will cause the selected record in the table to be deleted. "No" will abort the deletion.

Note: We recommend removing all assigned zone/groups instead of deleting tags. This keeps the tag in the database. A tag that is not in the Tags list is ignored if it is detected by any antenna.

## 6.1.4.1.4 Search the Tags Table

While the Tags table is scrollable, finding a particular record, or a set of records, may not be easy. The table can be queried to find all records fitting a particular set of conditions.

To find a particular record, click Query. The Query becomes Search. The Cancel button becomes active and all the other buttons become inactive. The data fields are ready for the search criteria.

The default value of the **Time Limit** field is zero (0); therefore, entering a zero (0) in the **Time Limit** field means match any zone. Any other value entered into this field must be an exact match.

Wild cards are not allowed by the query. Instead, the query will find all records that begin with the value specified in the edit fields, the fields that accept typed information.

#### The check boxes

Once the zone name and time limit values are set, press The table will populate with the records that match the query criteria.

# 6.1.4.1.5 Refresh

The Zone/Location Group table is not live. This means that changes made to the table by anyone logged in from a different Workstation will not automatically appear in this table. The will reload the table from the Server. This is also the best way to reload the full table after a query is made.

# 6.1.4.2 Tag Assignment



**Tag:** Target Tag for the group assignment

**Available:** A list of the groups (zones) not assigned to the tag

selected in the Tag field

**Assigned:** A list of the groups (zones) assigned to the

selected group

Move the selected Available group to the Assigned

list on the right

Move the selected Assigned group to the Available

list on the left

Move all of the groups (zones) in the Available list

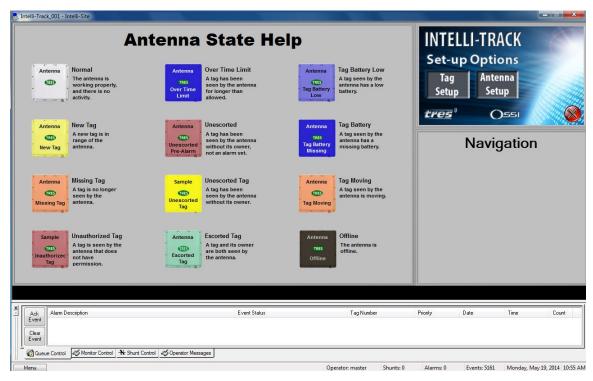
to the Assigned list on the right

Move all of the groups (zones) in the Assigned list

to the Available list on the left

## 6.1.5 Antenna State Help Screen

The **Antenna State Help** screen, called the **Help Screen** in the Tree, illustrates the various possible states an antenna screen object. It is invoked by clicking on the which is on the right side of Main Screen in the same group as the Tag Setup and Antenna Setup buttons.



There are twelve (12) possible states for an antenna. Each state is triggered by a condition detected by the antenna. More than one state can be triggered at a time. For instance, the **Tag Battery Low** state is triggered by a tag having a low battery. It's important to know that a tag needs a new battery, but it is more important to know that a tag is moving.

The order of precedence of the states determines which state will display. The state with the highest precedence will display. That order is:

```
Unauthorized Tag >> (takes precedence over)
Over Time Limit >>
Unescorted Tag >>
Unescorted Tag Pre-Alarm >>
Missing Tag >>
Tag Moving >>
New Tag >>
Tag Battery Missing >>
Tag Battery Low >>
Escorted Tag >>
Normal
```

The **Offline** state displays when the driver is offline which is of course the highest precedence.

The state displayed does not change the behavior of the system. If Intelli-Track has determined that the conditions for Escorted Tag exist, then the appropriate behavior will occur even if one or both of the tags have low batteries.

To exit the help screen, click which can be found on the right side of the screen near tag setup and antenna setup.

The following sections explain each of the twelve (12) states.

# 6.1.5.1 Escorted Tag

A tag and its owner are both seen by the antenna. For an antenna to report this state, ONLY two tags are within range of this antenna: an asset tag and its owner. If another tag enters the range, the state will become **Tag Moving** or a higher precedence state.

# **6.1.5.2 Missing Tag**

A tag is no longer seen by the antenna. For some reason, a tag that was in range is no longer detected. If this tag shows up at another antenna in the system (or back at this antenna), this antenna will return to the Normal state.

This is an instantaneous state because the **Missing Tag** alarm I/O point is pulsed.

### 6.1.5.3 New Tag

A new tag is in range of the antenna. A new tag is one that is not currently in this antenna's list of tags within its range. This is a momentary event. When a tag enters the range, the antenna tells the Server there is a new tag. If the tag is not authorized to be in the antenna's zone, the state will immediately change to **Unauthorized Tag**. If the tag is an asset needing an escort, then the state will change to **Unescorted Pre-Alarm**. If the tag is authorized and an escort is not required, the state will return to the pervious state.

#### 6.1.5.4 Normal

The antenna is working properly, and there is no unusual activity, nothing to report.

#### 6.1.5.5 Over Time Limit

A tag has been seen by the antenna for longer than allowed. A tag has been in range of this antenna for longer than the time limit defined in Antenna Setup. An entry is made in the Queue Control which specifies which tag is over the time limit. The alarm description will say "antenna name – Over Time Limit Tag" where antenna name is the name of the tresRFID RTU associated with this antenna. The tag ID is listed in the Tag Number field.

This is an alarm state. The screen object flashes color to indicate the alarm state.

# 6.1.5.6 Tag Battery Low

A tag seen by the antenna has a low battery. An entry is written to Queue Control specifying which tag has a low battery. The alarm description will say "antenna name – Tag Battery Low" where antenna name is the name of the tresRFID RTU associated with this antenna. The tag ID is listed in the Tag Number field.

This is an instantaneous state because the **Tag Battery Low** alarm I/O point is pulsed, set on then set off quickly.

# 6.1.5.7 Tag Battery Missing

A tag seen by the antenna has a missing battery. An entry is written to Queue Control specifying which tag is missing its battery. The alarm description will say "antenna name — Tag Battery Missing" where antenna name is the name of the tresRFID RTU associated with this antenna. The tag ID is listed in the Tag Number field.

This is an instantaneous state because the **Tag Battery Missing** alarm I/O point is pulsed.

# **6.1.5.8 Tag Moving**

A tag seen by the antenna is moving. As long as at least one tag in range of this antenna is moving, this state is active. Tags broadcast every two (2) seconds, so it may take two seconds before the antenna clears this event.

This is an instantaneous state because the **Tag Moving** alarm I/O point is pulsed.

## 6.1.5.9 Unauthorized Tag

A tag is seen by the antenna that does not have permission. The tag in question was not assigned to the zone that this antenna covers.

This is an alarm state. The screen object flashes color to indicate the alarm state.

## 6.1.5.10 Unescorted Tag

A tag has been seen by the antenna without its owner. An asset tag has been within the range of this antenna without its owner longer than the **Unescorted Tag Pre-Alarm Delay**. If the owner tag is detected this alarm will be cleared and the state for the antenna will change to **Escorted Tag**.

This is an alarm state. The screen object flashes color to indicate the alarm state.

### 6.1.511 Unescorted Pre-Alarm

A tag has been seen by the antenna without its owner, not an alarm yet. An asset tag has entered the range of the antenna. This asset tag has a designated owner. The owner tag has not been detected yet.

The time limit is the **Unescorted Tag Pre-Alarm Delay** property of the Antenna node for the tresRFID RTU. If the delay expires and the owner is not detected, the **Unescorted Tag** alarm will be set, the alarm will be written to the Queue Control queue, and the state for this antenna will change to **Unescorted Tag**, unless there is a higher precedence state.

This is an alarm state. The screen object flashes color to indicate the alarm state.

#### 6.1.5.12 Offline

The antenna is offline. It can be offline for a number of reasons:

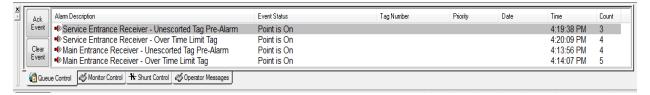
- The driver is not connected to the Server
- The driver is not connected to the tres RFID Receiver

# 6.2 The Information Manager

Intelli-Track allows the user to monitor system activity and alarm conditions in real-time through the **Information Manager (IM)**.

The IM is typically displayed in all operating modes, allowing alarms to be monitored while using other system features. The IM displays in the bottom portion of the screen and provides four tabs to view and respond to monitoring activity. They are:

- Oueue Control
- Monitor Control
- Shunt Control
- Operator Messages

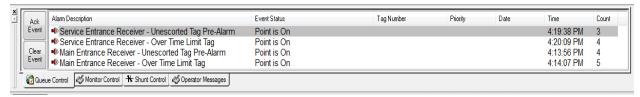


The Tabs on the bottom of the window will toggle between the four IM queues. The IM window may be resized.

# 6.2.1 Queue Control

The **Queue Control (Alarm Status)** tab of the Information Manager is the default tab. It displays all of the alarms that have been triggered. Conditions may also be displayed that are not alarm conditions, but are events that need to be displayed, like Unescorted Tag Pre-Alarm.

When the Queue Control tab is selected, the Control buttons display. The buttons are used to acknowledge and clear events from the queue.



The Queue Control list displays in columns.

**Alarm Description:** Displays the text description of the alarm:

for example "Service Entrance Receiver – Over

Time Limit Tag"

**Event Status**: Displays the status of the condition: for example,

"Point is On"

**TagNumber:** The TagID that caused the event if there is one

**Priority**: Displays the priority assigned to the event

(alarm); priorities are set in the Properties of a node on the **Actions** tab. See<u>7.2.12 Priorities</u>.

**Date**: Displays the date of the occurrence

**Time**: Displays the time of day of the occurrence

**Counter:** Displays the number of times the event/alarm

has been activated

The data columns can be resized to suit individual users. The column data is sorted by clicking on the column heading. Select the border between column headings to make the columns wider or narrower. Scroll bars automatically display when necessary to allow for scrolling up and down through the list or left and right if column data extends past the display boundaries.

A **Red Speaker** icon displays at the beginning of the alarm in the Queue Control list. The red speaker represents an event that **has not** been acknowledged by the operator. When an event is acknowledged, the red speaker changes to a **Green Check Mark** icon. The event can then be cleared from the queue.

Not every event written to the queue must be acknowledged. Those that do not require acknowledgement appear in the queue with a **Green Check Mark** ✓ icon instead of the red speaker. Whether or not an event must be acknowledged is determined by the "**Acknowledge Required**" property of the I/O point found on the **Operations** tab.

An event can be acknowledged and cleared by using the Queue Control Buttons or via the Acknowledge/Clear dialog.

# 6.2.1.1 Queue Control Buttons

After selecting an event from the queue display, the Control buttons are used to perform the designated action. Alarm conditions will continuously sound (loop) an audible alarm (if configured) until acknowledged.



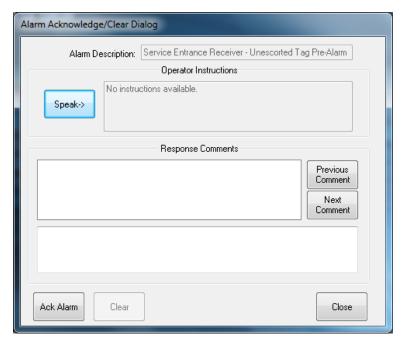
The **Ack Event** button acknowledges the event and silences the audible alert (if configured to sound alert), but does not display a dialog.



The **Clear Event** button clears the selected event in the Queue Control window and silences any associated audible alerts.

### 6.2.1.2 Acknowledge/Clear Dialog

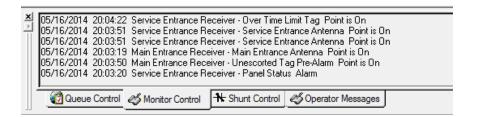
An Acknowledge/Clear dialog can be displayed by clicking the right mouse button on the alarm text in the queue. This dialog performs the same function as the control buttons, but provides an area to input instructions or comments (for example, as to condition resolutions.



The dialog will show the **Alarm Description**, **Operator Instructions**, **Response Comments** along with the **Ack Alarm**, **Clear** and **Close** buttons. An event must be acknowledged before it can be cleared.

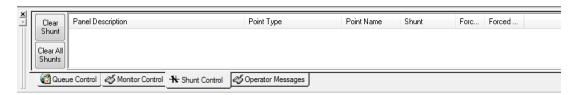
#### 6.2.2 Monitor Control

The **Monitor Control** tab displays a continuous list of activity. Items listed in this queue are viewed but cannot be selected or acted on.



#### 6.2.3 Shunt Control

The **Shunt Control** tab displays the status of points that are under manual control. At times, some points are purposefully selected to be shunted or forced to display on another monitor. Shunted and forced points are considered under manual control because the system did not automatically put them in this condition. The status of these points can be monitored, or points can be selected for manual control, by using the Shunt Control - Control buttons. Following is an explanation of the Control buttons.





The **Clear Shunt** button clears the shunt for the selected shunt under manual control.



The **Clear All Shunts** button clears all shunts under manual control.

Additionally, when the "Action" button is added to any IM Layout, this will invoke the Actions on Queue "Action" button events that are configured in the specified I/O Point properties.

The Shunt Control Queue displays the following data. These headings represent the system defaults but the headings and associated data can be user defined for the window.

**Panel Description:** Displays the RTU for which data is being displayed. This RTU name is the same as the name provided in the Project Node Tree **System Layout** sub-Node.

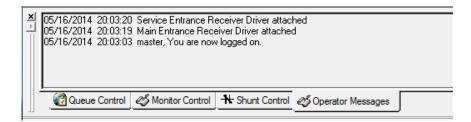
**Point Type:** Displays if the point is for input or output

Point Name: Displays the name of the point

**Alarm Shunt:** Displays if the alarm has been shunted **Point Shunt:** Displays if the point has been shunted **Forced On:** Displays if the point has been forced on **Forced Off:** Displays if the point has been forced off

## **6.2.4 Operator Messages**

The **Operator Messages** tab displays all messages to the User logged to a Project. Items listed in this queue are view only and cannot be selected, or acted on.



# **Section 7 – Graphic Design Mode**

**Graphic Design Mode** is the mode where the Project is designed. The Project Node Tree is managed and the screens for use in Run Mode are designed and managed in Graphic Design Mode.

When Graphic Design Mode is started, the Project Node Tree, Mode Window, Information Manager Window, and Graphics Toolbar all display. The Information Manager remains active and will continue to display alarms and events as they occur.

This section goes over:

- The Project Node Tree Context Menu
- The Project Node Tree
- The Graphics Toolbar
- Creating Graphic Objects
- Graphic Object Properties
- Creating New Screens including adding Navigation Screens to the Main Screen

# 7.1 The Project Node Tree Context Menu

The Project Node Tree context menu appears when the user right-clicks on a node in the Project Node Tree. Not every menu option applies to the target node. Those options that don't apply at the time the menu is opened will be deactivated and appear greyed-out.

The context menu may have different options depending on the target node. This section details all of the possible menu option.

#### **7.1.1** Delete

This option is used to delete the target node. When it is selected, the user is presented with a confirmation dialog before the node is deleted. This operation is permanent. Once a node is deleted it cannot be restored.

This option has a hotkey. The Delete key performs the same function.

Note: Nodes deleted from the Tree cannot be recovered. Nodes that are "protected" cannot be deleted.

### 7.1.2 Replace All

Use this option to replace all Access Levels or I/O Point Settings.

Note: Both the Node selected and all of its children will be changed. It will overwrite existing Node configuration for all Nodes affected by the replace function.

#### 7.1.2.1 Access Level

Every node has an Access Level. A user's **System Mask** must include the assess level of the target node for that user to have access to the properties of the target node.

This option allows the user to change the access levels of the target node and all of its children.

## 7.1.2.2 I/O Point Settings

All I/O Points have an **Operations** tab. This option provides a means to program the common elements on that tab for all of the I/O Points for the selected node and all of its child nodes.

#### 7.1.3 Find

The Find menu option allows the user to find by or by name. The user can also find all objects (and, optionally, their children) that reference the selected object and all objects it references.

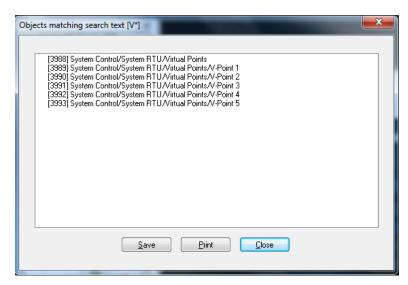
# 7.1.3.1 By ID...

The **Find** -> **By ID...** context menu option allows the user to find a specific node using its ID number.

# 7.1.3.2 By Name...

The **Find** -> **By Name...** context menu option allows the user to search the Tree by name. The search string can contain the '\*' wildcard. The whole tree is not searched, only the target node and its children.

If multiple matches exist, an Objects matching search text dialog appears listing the matches.

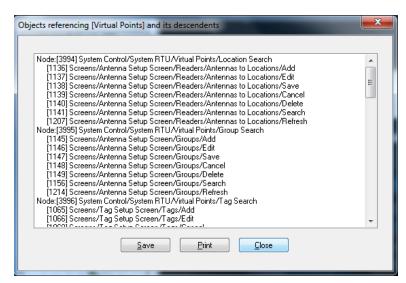


The search results can be saved to a text file or printed. Doubleclicking on a node in the results will locate that node in the Project Node Tree.

# 7.1.3.3 All objects referencing this node...

This menu option searches the tree for all objects that reference the target node. When **Find -> All objects referencing this node...** is selected, the user is asked if the child nodes of the target node should be part of the search.

The results of the search are presented in a dialog.

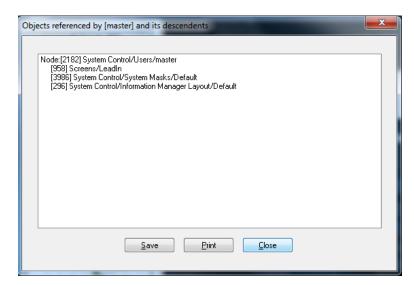


The search results can be saved to a text file or printed. Doubleclicking on a node in the results will locate that node in the Project Node Tree.

## 7.1.3.4 All objects this node References...

This menu option searches the target node for all objects that it references. When **Find** -> **All objects this node Reference...** is selected, the user is asked if the child nodes of the target node should be part of the search.

The results of the search are presented in a dialog.



The search results can be saved to a text file or printed. Doubleclicking on a node in the results will locate that node in the Project Node Tree.

## 7.1.4 Create Popup Tree View...

The **Create Popup Tree View...** option creates a popup window containing the selected node and all of its children. The nodes in this view can be manipulated in the same manner as those in the Project Tree Node window.

# **7.1.5 Export to DB...**

**Export to DB...** will export the notes and comments for each not to a notes and comments reports database.

# 7.1.6 Export...

The **Export...** option allows certain nodes to be exported individually for use with other Projects. The file created will have an Intelli-Track extension (\*.exp).

# 7.1.7 Import...

The **Import...** option will import previously exported Intelli-Track nodes. Only Intelli-Track files (\*.exp) may be imported.

#### 7.1.8 Add Node...

When this option is selected, a child node of the appropriate type is added to the target node.

#### 7.1.9 Add Node and Edit...

When this option is selected, a child node of the appropriate type is added to the target node. The Properties dialog for the new node is opened.

#### 7.1.10 Rename From file...

This menu option allows the user to rename an RTU and its children from a formatted text (\*.txt) file.

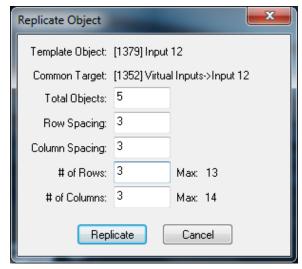
## 7.1.11 Reprogram...

This option brings up the Reprogramming Wizard for either this item (node) only or this item (node) and its children as specified by the user. See section <u>7.4.6 Reprogramming Wizard</u>.

## **7.1.12** Replicate...

This menu option allows a screen object to be automatically replicated on a screen based on user entered parameters.

When the **Replicate...** option is selected for a screen object, the Replicate Object dialog appears.



Template Object: The selected screen object

**Common Target:** The node that is the target for the

replication

**Total Objects:** The maximum number of objects including

the Template Object that will exist when the

replication is complete

**Row Spacing:** The number of pixels between rows

**Column Spacing:** The number of pixels between columns

**# of Rows:** The maximum number of rows to create; max. 13

**# of Columns:** The number of columns to create; max. 14

When Replicate is pressed, the software copies the template object, replacing the common target in the copies with the next I/O point in the tree starting at the common target. For example, a screen object was created using virtual point Input 12. Input 12 is a child object of a Virtual Inputs RTU that has 16 total I/O point children. Based on the Replicate Objects dialog above, when this screen object is replicated, the software will copy the template object at most four (4) times because there are four more Input points (Input 13, Input 14, Input 15, and Input 16) in the Tree. The new objects will be placed so that each row has the correct number of columns. Inputs 13 and 14 will be on the same row as Input 12. Inputs 15 and 16 will be on the second row.

# 7.1.13 Properties...

This menu option opens the Properties dialog for the selected node. The Properties dialog contains all the configurable information for the node and what it represents.

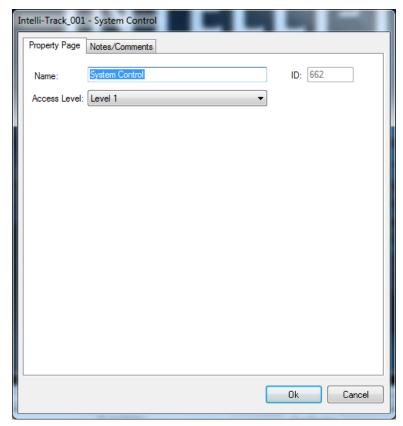
# 7.2 The Project Node Tree

The Project Node Tree, or the Tree for short, contains all the building blocks of the Project.



To examine a node in the Project Node Tree, the properties must be opened. To open the properties of a node, right-click on the node and select "**Properties...**" from the resultant context menu. The Project Tree Context Menu is explained in section 7.1 The Project Node Tree Context Menu.

Tree objects (nodes) are user-configured via their Property Pages. Just what *can* be configured on a Node varies; however, there are three common items that appear on every node's Property Page:



**ID:** The unique identifier of this node;

generated by Intelli-Track

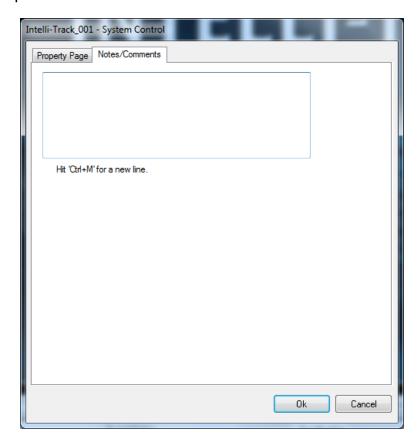
**Name:** The name for the node; then name

doesn't have to be unique

Access Level: The Access Level a user must possess

to open the properties for this node

In addition, every node has a **Notes/Comments** tab. On this tab, the user can write special notes and comments. The Project Notes Report lists all non-blank notes and comments.



# 7.2.1 I/O Points and Their Functionality

Some nodes are I/O Points; nodes that are used for input and output in the Intelli-Track system. The following nodes are the types of I/O Points:

- RTU I/O Points
- Virtual Points
- System Time Zones
- System Schedules
- System Notification Points
- System Monitors

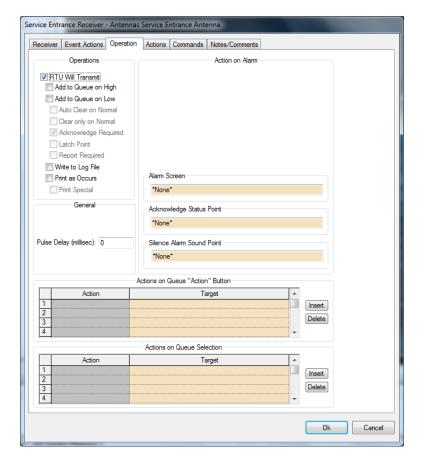
All I/O Points share common functionality:

 Actions can be performed when the state of the point changes.

- I/O Points may be assigned as Control Points so that a given set of actions are only performed when Control Point is set on.
- I/O Points can be used as Display Control Points to show the visual state of a point when in Run Mode.

## 7.2.1.1 Operation Tab

All I/O Points have an **Operation** tab.



## **Operations** group box

- RTU Will Transmit: If checked, this setting will determine whether the I/O Point's activity is transmitted. This selection also enables the controls below it. If this control is checked, then controls below it are checked, the control settings below remain valid after the RTU Will Transmit box is unchecked. This allows the user to "lock" the other controls for editing once they have been previously set.
- Add to Queue on High: Sends an alarm to the Information Manager (IM) Queue whenever the state of this I/O Point goes High. If this point already exists within the IM Queue and goes high subsequent times, its counter will increment to show how many times it went high, and the Date/Time will update to show its last transition.
- **Add to Queue on Low:** Sends an alarm to the IM Queue whenever this I/O Point goes **Low**.
- **Auto Clear on Normal:** Automatically clear the alarm from the IM Queue when the I/O Point's state returns to normal
- **Clear only on Normal:** Requires this I/O Point's state to be normal before it can be cleared from the IM Queue
- **Acknowledgement Required:** Requires the alarm in the IM Queue be acknowledged before it can be cleared

Note: "Acknowledge Required" takes precedence and negates the functionality of "Auto Clear on Normal". When using "Auto Clear on Normal" in conjunction with "Acknowledge Required", the user must manually clear the point from the queue after Acknowledging.

- **Latch Point:** Lock the point's state **high** until the corresponding alarm in the IM Queue is acknowledged
- **Report Required:** The user must enter a written report in the Ack/Clear Dialog window before the alarm can be cleared from the IM Queue

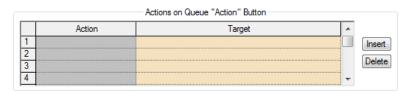
- **Write to Log File:** Writes I/O Point activity to the Intelli-Track log file. Reports can be run against this log file.
- **Print as Occurs**: Print state changes to an online printing device, assuming one is connected and the Server is configured for online printing
- **Print Special:** Print special characters within the point's printout to draw attention to higher priority alarms

## **General** group box

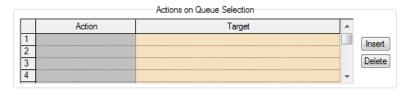
**Pulse Delay**: The duration of the pulse before returning to a normal state. The expected value is in milliseconds, so 1000 = 1 second.

# **Action on Alarm** group box

- **Alarm Screen:** The screen to display when an alarm for this I/O Point in the IM Queue is selected
- **Acknowledge Status Point:** The I/O Point that to set when the current point is acknowledged in the IM Queue
- **Silence Alarm Sound Point:** When the supplied I/O Point is **high**, silence the associated alarm sound; this does not affect the alarm point's Acknowledge or Clear status
- Actions on Queue "Action" Button group box Items in a Queue may have actions associated with them that can be executed from within the queue. These actions and their respected targets are placed here. These actions will run when the Queue "Action" button is used in Run Mode only.

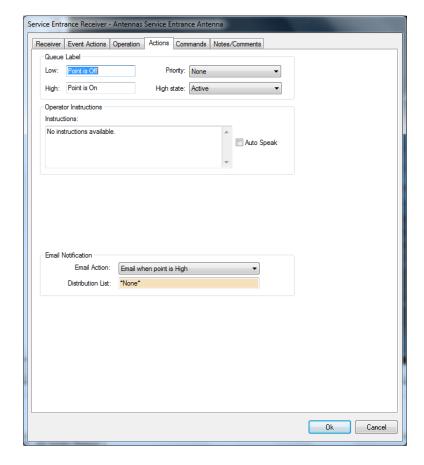


**Actions on Queue Selection** group box - Items in a Queue may have actions associated with them that can be executed when they are selected in the queue. These actions and their respected targets are placed here.



#### 7.2.1.2 Actions Tab

All I/O Points have an **Actions** tab.



# Queue Label group box

**Low:** The label to be used in the IM Queue to

show when this point is low.

**High:** The label to be used in the IM Queue to

show when this point is high.

**Priority:** Assigns a Priority to this point. See section

7.2.12 Priorities

**High State**: Defines if this point is considered **High** when

Active (default) or Normal.

**Operator Instructions** group box

**Instructions**: The text to be spoken, via Windows Text-

to-Speech if Auto Speak is checked. This text will be spoken only once - upon the point's transition to its active state.

**Auto Speak**: Will initiate Text-to-Speech announcement

of the text message written in the

instructions text box.

**Email Notification** group box - The **Email Notification** can be used to notify via email when an I/O Point has reached a defined state. When the I/O Point has reached that state Intelli-Site will generate an email to all email addresses listed.

**Email Action**: This is an action defined through a drop

down list with I/O Point states. Actions

include:

Email when point is High Email when point is Low Email on point state change

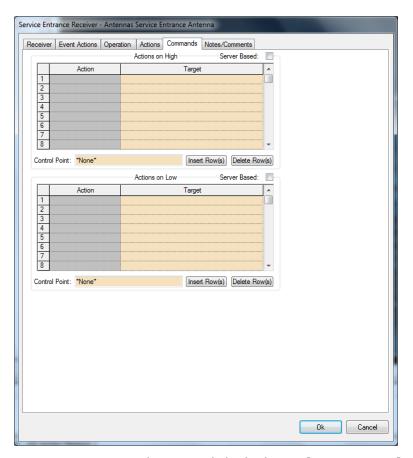
**Distribution List:** The distribution list to use when

sending the email notification; See 7.2.3.5

**Distribution Lists** 

#### 7.2.1.3 Commands Tab

All I/O Points have a **Commands** tab. The **Commands** tab is where actions are defined that will be executed when the I/O point is set (High) or cleared (Low).



There are two action grids, one labeled **Actions on High**, the other labeled **Actions on Low**. All actions listed in the **Actions on High** grid are performed when the I/O point is set. All actions listed in the **Actions on Low** grid are performed when the I/O point is cleared.

Each grid contains the following fields:

**Server Based:** When checked, the actions are performed on

the Server; when unchecked the actions are performed on the Workstation. The actions for

Server Based are greatly limited.

**Action**: The action to be performed; click here to

popup the Actions window. For definitions of

available Actions, read Actions Popup in

<u>Section 3 – Node Properties.</u>

**Target**: The target of the action, if applicable

**Control Point:** If a Control Point is present, the actions in the

grid will only be performed if the Control Point

is high.

Insert Row(s)

Inserts a row, or series of rows, depending on the focus of the matrix. If one line selected, it will insert one row. If three selected, it will insert three.

Delete Row(s)

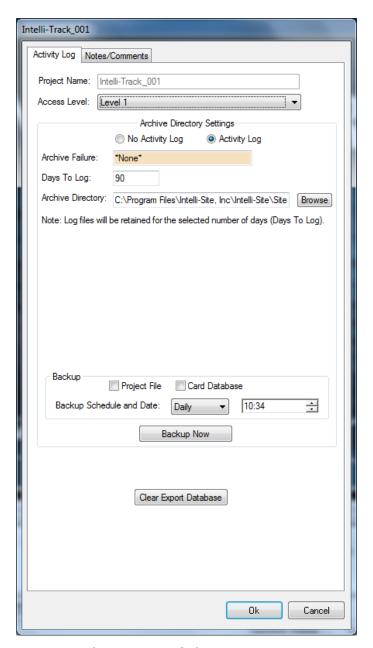
Deletes the row(s) selected.

## 7.2.2 System Registry Data Node

At the root of the Project Node Tree is the System Registry Data Node. The node is named for the directory in which the project is stored. The default Intelli-Track project name is Intelli-Track\_001. By editing its properties, a user can configure activity logging and backup parameters and even force a backup to occur.

# The Activity Log Tab

The activity log is an electronic record of system activity. The method by which these events are stored is configured on the **Activity Log** tab.



**Project Name:** The name of the Project

NOTE: the name of the Project is the Project Directory name. To edit the name of the Project, exit the Server and rename the Project Directory folder using Windows Explorer.

CAUTION: You must ensure that MSDE Server and Intelli-Site Server are stopped before you rename or copy a Project Directory.

**No Activity Log:** Disables activity logging **Activity Log:** Enables activity logging

**Archive Failure:** This I/O point is set if the backup fails

Days to Log:

The number of days that must pass before logs are archived in the Archive Directory. Logs older than the number of days listed (default is 90 days) will be moved to the Archive Directory and deleted from the logs directory. This process occurs each night at midnight.

**Archive Directory:** 

The directory path to store archive activity logs and backup files. Use the **Browse** button to find the directory path. The file storage location can be set to any available and supported mass storage media: either local-machine or network-accessible. Upon initial backup, a new subdirectory - ...\Recover will be created and all backups will be placed into subdirectories that reflect the date of the backup: Example: C:\Program Files\Intelli-Site, Inc\Intelli-Site\Recover\20080530 would be the folder

**Project File:** Includes the project file, project.bin, in the

archive.

**Card Database:** Includes the database in the archive; the

RFID tags are stored in the Card Database

for the backup created on 30 May, 2008.

**Backup Schedule and Date:** Backup can setup to occur

Daily, Weekly, or Monthly at the specified

time

**Backup Now:** This button invokes an immediate backup in

accordance with the backup settings.

**Clear Export Database:** Allows the user to reset a

previously exported database. (Used in

conjunction with the **Export to DB...** function

for creating Notes and Settings documentation from the Project).

## 7.2.3 System Control

The System Control sub-Tree contains the nodes associated with the management and user of the Intelli-Track software. It contains the nodes:

- System Masks
- Users
- System RTU
- Information Manager Layout
- Distribution Lists

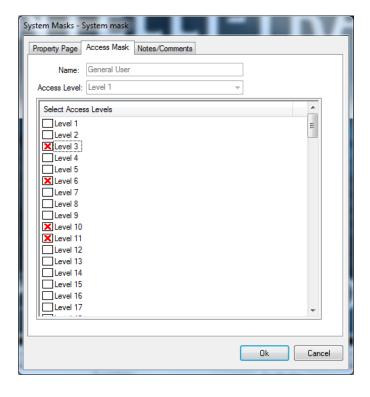


# 7.2.3.1 System Masks

The **System Masks** node contains the defined system masks. A system mask is a collection of access levels that a user is granted when assigned that system mask. The **Default** system mask contains all access levels.

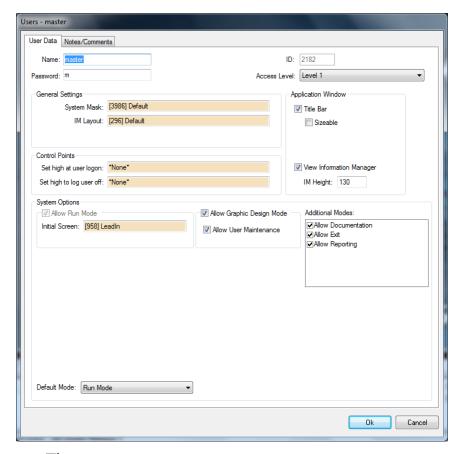
System masks allow an Intelli-Track administrator to restrict user access to portions of the Project. Since every node in the Project has an Access Level and there are a total of 128 Access Levels, it is possible to restrict access at a granular level.

The **Access Mask** tab of a System Mask is where the user specifies the Access Levels that are included in the System Mask.



#### 7.2.3.2 Users

Users are the login accounts for Intelli-Track. Each User node defines what that login is authorized to manage and/or operate in the Project. The system administrator adds new users in this area and configures their user properties individually.



**Name:** The user name

Password: The password used to login to Intelli-Track

General Settings group box

**System Mask:** Which access levels this user has; drag

and drop a system mask node here

IM Layout: Which IM layout, if any, to use

**Application Window** group box

**Title Bar:** Display the Title Bar

**Sizeable:** Can resize the Intelli-Track application

window

**View Information Manager:** Display the Information

Manager

**IM Height:** Height in pixels of the Information Manager

window

**Control Points** group box

**Set high at user logon:** Drag and drop an I/O point that

will be set when this user logs on

**Set high to log user off:** Drag and drop an I/O point that

when the I/O point is set, this user will be

logged off

**System Options** group box

**Allow Run Mode:** This user may use Run Mode

**Initial Screen:** Drag and drop the screen that

displays when this user enters Run Mode

**Allow Graphic Design Mode:** This user may enter

Graphic Design Mode

**Allow User Maintenance:** This user may perform User

Maintenance

**Additional Modes:** Which additional modes this user has

## **7.2.3.3 System RTU**

The **System RTU** node contains a collection of internal points.

- Virtual Points
- System Time Zones
- System Schedules
- System Notification Points

#### 7.2.3.3.1 Virtual Points

While it is possible for any user to utilize these virtual points, it is best to treat these as reserved by the system. There are several different Virtual Point RTUs that can be added to the System Layout that can be used for customer programming.

## 7.2.3.3.2 System Time Zones

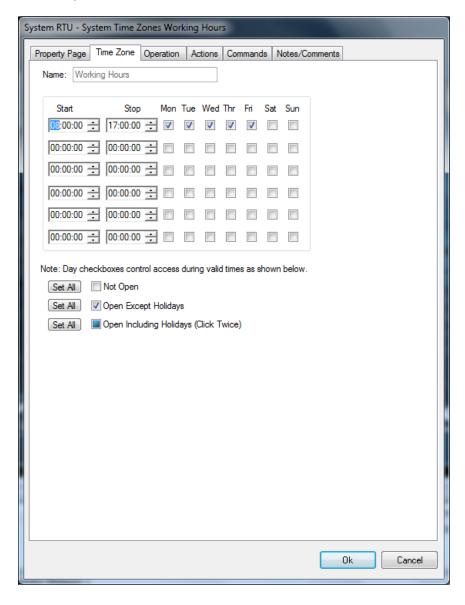
Intelli-Track contains three (3) pre-defined Time Zones:

- Always
- Working Hours
- Nights and Weekends

These time zones are used on the Tag Setup screen for email notification of alarms triggered by tags.

A System Time Zone is a Virtual Point whose current state (high or low) follows the System Time (time-of-day and day-of-week). When the system's time-of-day and day-of-week match the System Time Zone settings, the System Time Zone sets high. System Time Zones may function as Control Points for other I/O points. In this case, an I/O Point will only execute its actions if the System Time Zone is on.

A System Time Zone consists of up to six Time Periods. A Time Period is comprised of a start and stop time interval coupled with a selection of days-of-week.



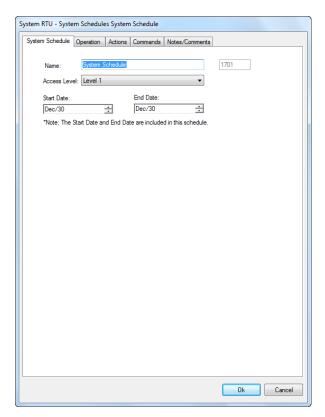
The example above represents business hours: 08:00:00 to 17:00:00, Monday through Friday and 10:00:00 to 15:00:00 on Saturdays during non-holidays and holiday hours are 08:00:00 to 16:00:00 Monday through Friday and closed on Saturday. System Schedules are Holidays See System Schedules below.

Enter the start and stop times for each interval, then select the associated day-of-week. An unchecked box indicates that the day-of-week is not selected – the start and stop intervals do not apply. A bold checked box (click once) indicates that the time interval applies to the day-of-week except during holidays. A gray checked box (click twice) indicates that the time period applies to the day-of-week including holidays. Clicking the Set All buttons (adjacent to the example check boxes) will set all days-of-week of all intervals to the state shown.

## 7.2.2.3.3 System Schedules

A System Schedule is a Virtual Point whose current state (high or low) follows a range of dates. The virtual point is on (set high) if the current System Date falls within the range of dates.

Like a System Time Zones, the System Schedule's actions are executed depending on its state and it can be used as a Control Point for other I/O Points.



**Start Date:** The beginning date of the system schedule

**End Date:** The end date for the system schedule

For example, if you want a System Schedule for the first Quarter of the year, enter Jan/1 as the Start Date and March/31 as the End Date.

Note: System Schedules are inclusive, meaning that the start and end date include the date entered.

#### 7.2.2.3.4 System Notification Points

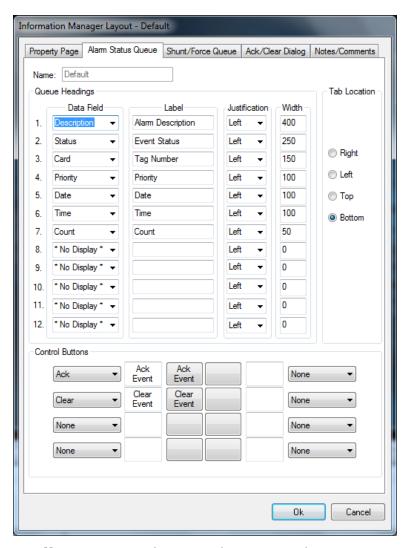
**System Notification Points** are virtual alarm points the IntelliTrack uses to inform the user of various system events.

# 7.2.3.4 Information Manager Layout

The **Information Manager (IM) Layout** node assigns the Intelli-Track IM display preferences. Additional IM Layout nodes can be created to customize an individual user's personal settings.

In the properties for an IM Layout is a tab to configure the look and feel of each of the tabs in the IM Layout.

## 7.2.3.4.1 Alarm Status Queue Tab



**Queue Headings** group box - There can be up to 12 fields reported for each entry in the queue. They are: Description, Status, Priority, Date, Time, Count, Card, Server, Acked By, Screen, Zone, Zone Group.

**Data Field:** The field to display in this column

Label: Column header label

Justification: Left, Right, Center

**Width:** Width of the column in pixels

**Tab Location:** Where the tabs for each of the IM components

present: Right, Left, Top, Bottom

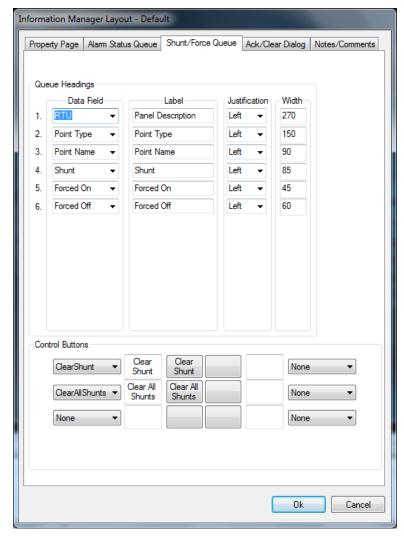
Note: The user must log off and log in before any changes to the tab

locations will take effect.

**Control Buttons** – Up to eight (8) buttons can configured. The possible actions for each button are: Select, Action, Ack, Ack All, Clear, Clear All, Up, Down

## 7.2.3.4.2 Shunt/Force Queue Tab

The **Shunt/Force Queue** tab allows the user to define how Shunted and Forced I/O points display in the queue.



**Queue Headings** group box - There can be up to six (6) fields reported for each entry in the queue. They are: RTU, Point Type, Point Name, Shunt Forced On, Forced Off

**Data Field:** The field to display in this column

Label: Column header label

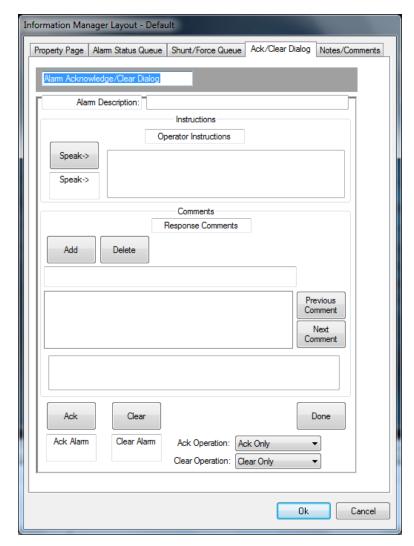
Justification: Left, Right, Center

Width: Width of the column in pixels

**Control Buttons** – Up to eight (8) buttons can configured. The possible actions for each button are: Select, Action, Ack, Ack All, Clear, Clear All, Up, Down

## 7.2.3.4.3 Ack/Clear Dialog Tab

The **Ack/Clear Dialog** tab allows the user to define specific functionality for the dialog that displays when an alarm is to be acknowledged or cleared from the Alarm Status Queue.



**Dialog Title Field**: Allows the user to edit the title of the Ack/Clear Dialog. The default text in this field is **Alarm Acknowledge/Clear Dialog**.

**Alarm Description Title Field:** Allows the user to edit the title of the Alarm Description Field. The default text in this field is **Alarm Description:**.

**Instructions:** Allows the user to edit the Operator

Instructions title and the Speak -> button text.

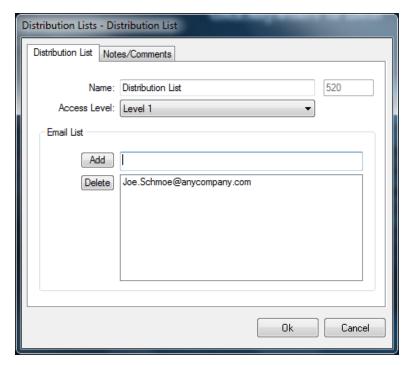
**Comments:** The Comments area allows the user to Edit the title

of the Response Comment Field and to

Add/Edit/Delete standard Response Comments.

#### 7.2.3.5 Distribution Lists

Distribution List nodes are used to define the list of email addresses that will receive email notifications. In Intelli-Track, these distribution lists are used to notify when tag events and alarms happen.



To add an address to the list, type a valid address into the field next to the Add button then click Add. The address will be appended to the list in the box below it.

To delete an address in the list, highlight the target address then click the Delete button.

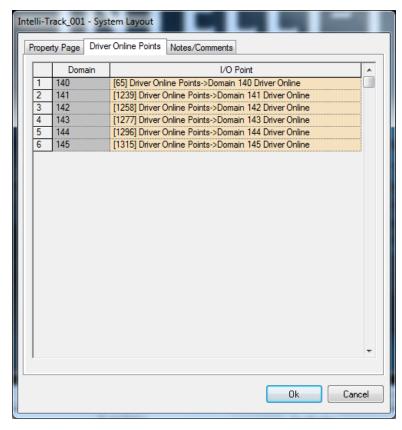
Click Ok to save the changes.

### 7.2.4 System Layout

The **System Layout** node functionally organizes a Project. Sites and Areas must be added to the System Layout node before hardware devices can be added and configured to work with the system. For example, sites may be separate buildings or floors of a multi-floor facility, and areas may be rooms on a floor or different types of equipment.

#### 7.2.4.1 Driver Online Points Tab

The System Layout node properties dialog contains the Driver Online Points tab. Driver Online Points are used to monitor the connection state of equipment drivers in the system. As RTUs are added to the System Layout, the Driver Online Points grid will automatically add a field that represents the new domain of the driver added. Intelli-Track automatically creates the Driver Online Points for tresRFID RTU nodes and populates the table on this tab.



The I/O point is set to high whenever the driver associated with the Domain is connected to the Server.

#### 7.2.4.2 Sites and Areas

When a new Site node is added, the node will show the **Site** sicon next to the node name. The Site node will automatically create an **Area** sub-node. Area sub-nodes display the **Area** con next to the sub-node name. Additional Area nodes can be added to each Site. Hardware and Software Components (RTUs) are added to Area nodes.

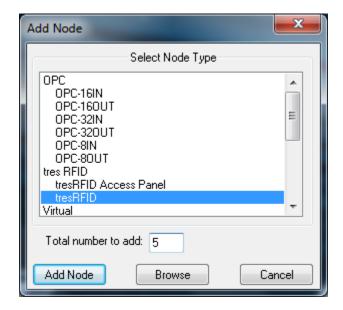
#### 7.2.4.3 tres RFID RTUs

Intelli-Track's purpose is to track assets using **tres**RFID Receivers. Intelli-Track must communicate with these receivers to know where tags are in the system. Intelli-Track does this through drivers in the Driver Service and RTUs that are added to Areas under the System Layout.

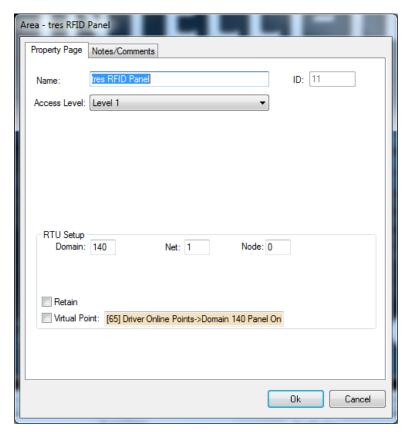
In Intelli-Track, the available RTUs are:

- OPC OLE for Process Control
- tresRFID Both the tresRFID Receiver and the tresRFID Access Panel
- Virtual Virtual Points in groups of 16, 32, 64, 128, and 256; while the individual RTUs designate Virtual Input and Virtual Output, there is no difference between the two sets.

To add a tres RFID RTU node, right-click on the Area then from the context menu, select "**Add Node...**". The Add Node dialog displays. Scroll through the **Node Type** list and select tresRFID.



To add more than one node to the Area, enter then number to add in the **Total number to add** field. Click the Add Node button. The number of nodes specified will be added to the Area node. The default name for each of them is "tres RFID Panel".



Domain, Net, and Node: The unique address for the RTU.

Not every RTU uses all three numbers. For the tresRFID RTU, only the Domain number is used.

The Domain for the tresRFID Driver in the Driver Service must match the RTU's Domain number for communication between the Server and the actual tresRFID Receiver to work.

Virtual Point: Drag and drop an I/O Point into this field; the point will be set when the Driver is online. Check this field when the RTU is to be "virtualized." Instead of sending messages to and from the actual hardware, the system will short circuit and pretend the hardware is there. This is good for developing projects and not all the hardware is present.

Expanding the tresRFID RTU node reveals several sub-nodes.

- Inputs Reserved for future development; there are no inputs currently
- Outputs Reserved for future development; there are no outputs currently
- Antennas The antennas attached to the *tres*RFID Receiver, only one is currently supported by *tres*RFID.
- Commands Reserved for future development; there are no commands currently
- Alarms These I/O Points are set and cleared depending on conditions reported by the *tres*RFID Receiver

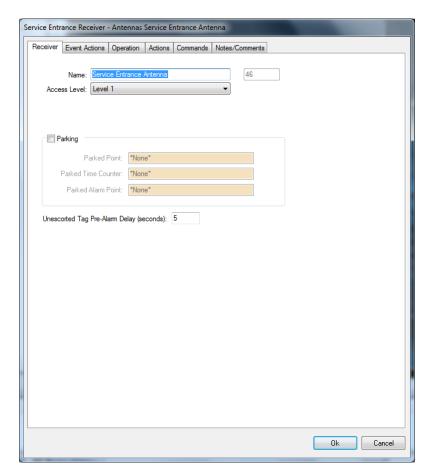
#### **7.**2.4.3.1 Antennas

Under the Antennas node is the actual antenna node.

Note: tresRFID Receivers only support one antenna in Intelli-Track.

There are other RFID readers that Intelli-Site supports that allow multiple antennas per receiver.

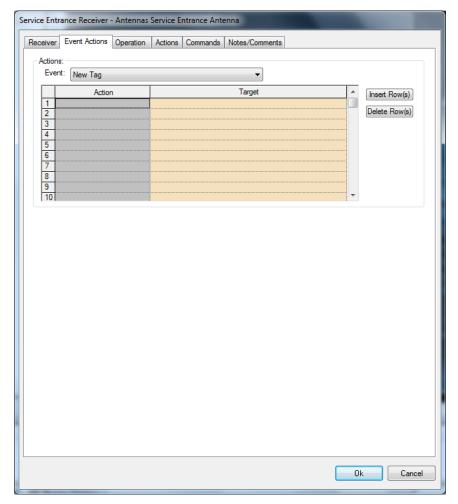
#### Receiver Tab



Unescorted Tag Pre-Alarm Delay: The time, in seconds, to wait before setting the Unescorted Tag alarm point if an asset tag is determined to be unescorted; when set to zero (0) unescorted tags will not trigger the Unescorted Tag alarm

#### Event Actions Tab

This tab contains a table of actions that will be performed when an event occurs. The actions are defined per event. If there is an action that should occur for all of the events, then an entry must be made in each table.



#### **Events:**

The list of specific events for which an event table exists. The tresRFID events are New Tag, Missing Tag, Unauthorized Tag, Unescorted Tag, Over Time Limit Tag, Tag Moving, Battery Low, and Battery Removed

**Action**: The action to perform; see <> for the available

actions

**Target**: The target of the action if applicable

Inserts a row or series of rows depending on the

focus of the matrix; if one line is selected, one row is inserted; if multiple lines are selected, the same

number of rows is inserted

Deletes the selected row(s)

#### Add an action to an Event Table

1. Select the target event in the **Event** drop down list. The table associated with the selected event will display.

- 2. Click the **Action** field for the first row. The Actions dialog will appear.
- 3. Select the desired action. Double-click the action or single-click and then press the OK button to close the dialog. The selected action appears in the **Action** field.
- 4. Drag and drop a target node into the **Target** field.
- 5. To insert a row in the table, click on the row number to highlight it. Then press Insert Row(s). A new row will appear before the highlighted row.
- 6. To delete one or more rows, click to highlight the row or rows to delete. Then press Delete Row(s). The highlighted row or rows is deleted.

#### 7.2.4.3.2 Alarms

The following sections explain each of the eleven (11) alarm points on the tresRFID RTU that correspond to the Alarms reported by the *tres*RFID Receiver.

#### Panel Status

This point is on, set to 1, when the tresRFID Driver in the Driver Service is connected to the actual **tres** RFID Receiver. If the Driver is not connected for any reason, this point is off, set to 0.

This point is not reported by the **tres**RFID Receiver. It is part of Intelli-Track's method to keep the user informed about the connectivity of the system.

## New Tag

This point is pulsed when new tag is in range of the antenna. A new tag is one that is not currently in this antenna's list of tags within its range. When a tag enters the range, the antenna tells the Server there is a new tag.

It is possible for a tag to be detected by more than one antenna. The Server uses signal strength to determine where a tag truly is. The antenna that reports the strongest signal is assumed to be the real location of the tag.

## Missing Tag

When the **tres**RFID Receiver has determined a tag has left its range, the **Missing Tag** alarm point is pulsed.

## Unauthorized Tag

The Server has determined a tag in this antenna's list is not authorized to be in this location. The tag in question was not assigned to the zone that this antenna covers. The **Unauthorized Tag** alarm point on this tresRFID RTU is set and remains set as long as at least one tag in this zone doesn't have a zone assignment for this zone.

## Unescorted Tag Pre-Alarm

The **Unescorted Tag Pre-Alarm** point is set when an asset tag in the antenna's location requires an escort. If the owner tag for this asset enters the location, this point is cleared and the **Escorted Tag** point is set. If the owner tag does not appear before the **Pre-Alarm Delay** expires, this point will be cleared, but the **Unescorted Tag** point is set. The **Unescorted Tag** point remains set until the correct owner tag arrives or the offending tag leaves this location.

## Unescorted Tag

The **Unescorted Tag** alarm is set if the **Pre-Alarm Delay** time expires and an asset tag that requires and owner is present but the corresponding owner tag is not detected.

This alarm point is cleared when the corresponding owner is in the location or the asset tag leaves the location. This alarm point will remain set as long as at least one tag is determined to be unescorted.

### Over Time Limit Tag

The **Over Time Limit Tag** alarm point is set when a tag has been in a location longer than the Time Limit specified for the zone/location group in the Antenna Setup. It will remain set as long as one tag has been in the location too long. The **Over Time Limit Tag** alarm point will be cleared when the tags at this location have not been present past the Time Limit.

## Escorted Tag

The **Escorted Tag** alarm point is set when both an asset and its corresponding owner are present in this location. Multiple asset and owner pairs can be present. The **Escort Tag** alarm point is cleared when there are no asset and owner pairs in the location for this **tres**RFID Receiver.

## Tag Battery Low

The **Tab Battery Low** alarm point is pulsed when a tag reports this condition in this zone. This alarm point is not triggered by the same tag unless it stops reporting this condition then begins again or if the tag leaves the zone and either the Driver has decided the tag is missing or the Server has informed the Driver that the tag has moved to another zone.

# Tag Battery Missing

When a tag seen by the antenna has a missing battery, the **Tag Battery Missing** alarm point is pulsed. This alarm point is not triggered by the same tag unless it stops reporting this condition then begins again or if the tag leaves the zone and either the Driver has decided the tag is missing or the Server has informed the Driver that the tag has moved to another zone.

## Tag Moving

Some tags have accelerometers in them. These tags can report when they are actually moving. The **Tag Moving** alarm I/O point is pulsed when a tag first reports it is moving. The point will be pulsed each time a tag begins moving within the location.

#### 7.2.5 Screens

Intelli-Track **Screens** define the graphic interface viewed on the monitor when accessing a Project. If no screens are specified, the system operates with a blank-black screen. Screens are different from images or photos, which may be used for other purposes. Each screen used by Intelli-Site is custom created.

The Screen design is based on customer graphic files, graphic images created using the Graphic Design Mode, or a combination of both. For example, icons and floor plans can be created using third-party software application and imported into the Intelli-Site Project. Additional graphic images can then be used in conjunction with the imported images.

Intelli-Track installs and utilizes five (5) screens. Adding and modifying screens is explained in 7.4 Graphic Design

## 7.2.5 Shared Screen Objects

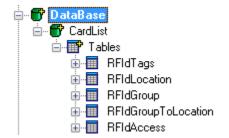
Shared Screen Objects are special screen objects that can appear on multiple screens. While they may appear on more than one screen, their data is stored in one place. When a shared screen object is dropped on a second screen, it does not invoke the Reprogramming Wizard because it is not creating a new object.

#### 7.2.7 DataBase

Intelli-Track contains a database titled Cardlist.mdb to support tag management options. Modifications to the database fields are done at the DataBase node in the Project Node Tree.

The Cardlist database contains five (5) tables. They are:

- RFIdTags
- RFIdLocation
- RFIdGroup
- RFIdGroupToLocation
- RFIdAccess



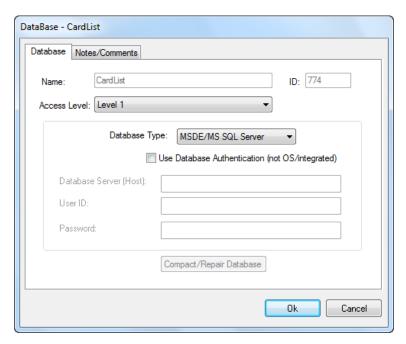
These tables store the information added using the Tag Setup and Antenna Setup screens.

Additional tables can be added and Fields can be added to existing tables or new ones. The fields on a table display in in to colors in the Project Node Tree. Fields that display **Red** cannot be edited, moved or deleted. Fields that are **Green** can be edited or deleted but cannot be moved. Any node added by the user will display **Green**.

Note: Fields added by the User to the tables will not be included in the Intelli-Track System Reports. Crystal Reports must be used to process reports using the additional data.

## 7.2.6.1 Select Database Type

- 1. Expand Database Node and right-click on the CardList Node
- 2. The default Database Type selection is MSDE. .If optional database support is licensed, the user has the choice of MS-Access, MS-SQL Server, or Oracle.
- If MS-SQL Server or Oracle is selected, the database host Server computer must be identified by network name. See Section 16 for additional details on optional database selections.
- 4. If MSDE/MS SQL Server is selected, then this means that both computers will be running the included installed MSDE, or the user can replace MSDE with SQL Server. This means that both server computers must have SQL Server installed for database redundancy to work, as it already does with MSDE. If a single/external SQL Server is present, then do not select this option.



## 7.2.6.2 Add/Edit/Delete a Field to Database

- 1. Expand the table Node under the Database Node to view existing fields for the database.
- 2. To <u>add</u> a field, right-click the table you wish to add a field to and select **Add Node**. The **Field Add** dialog will display.

- 3. After entering the required fields, click OK to save the field. The field will display as a **green** field, meaning it can be edited or deleted, but not moved.
- 4. To <u>edit</u> a green field, right-click the field and select **Properties**. Click **OK** to save changes.
- 5. To <u>delete</u> a green field, right-click the field and select **Delete**.

## 7.2.6.3 Add/Edit/Delete a Table to Database

- 1. Expand the table Node under the Database Node to view existing fields for the database.
- 2. To <u>add</u> a table, right-click on the CardList database and select **Add Node**. The **Add Table** dialog will display.
- 3. After entering the required fields, click OK to add the table to the Project.
- 4. To <u>edit</u> the properties of a table, right-click the table and select **Properties**. Click **OK** to save changes.
- 5. To <u>delete</u> a table, right-click the table and select **Delete**.

# 7.2.6.4 Database Table Add Dialog

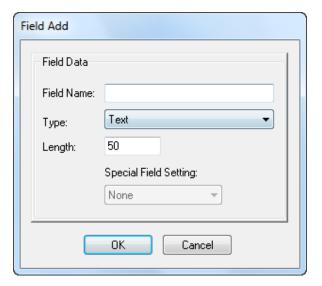


**Add Existing Table**: Allows the addition of an existing table to the Project. The Get Existing Table button will assist in finding the tables available.

**New Table Name**: The name for the table; only applicable for a new

**New Table Fields (Optional)**: A means to add fields to a table upon table creation. Fields can be added/deleted at a later time.

## 7.2.6.5 Field Add Dialog



Field Name: Name of the field

**Type**: The field type; all standard ODBC field types are

available

**Length:** The length of the field

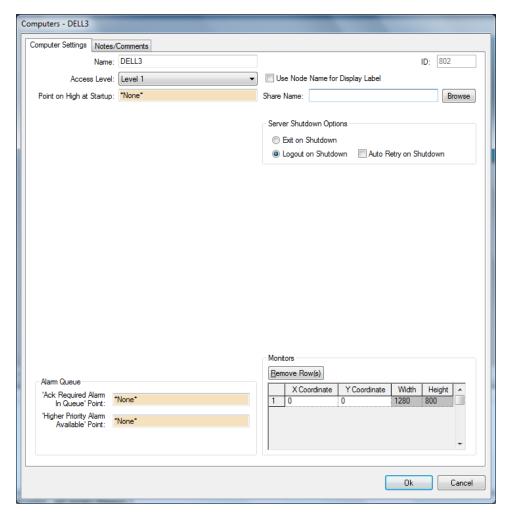
Special Field Setting: Used if the given field is a photo or

signature.

Important: A user can add fields to the Database node but these additional fields are not included as part of the predefined Intelli-Track Reports. Additional reports that include data not listed in the Intelli-Track Reports, and reports including user added fields must be generated using Crystal Reports (Version CRW32 7.0.1.192 or lower) if these reports are to be viewed within the Documentation and Reporting Mode.

## 7.2.8 Computers

The **Computers** node is a list of Workstations that can access this Project or computers running Intelli-Track Drivers. Each Project automatically places a node into the Tree for the first Computer configured on the system. This is typically the Server computer. The user configuring the system adds additional computers.



**Point on High at Startup:** Set the I/O Point dropped here whenever this Workstation logs in; clear this point when the Workstation logs off

**Share Name:** Defines the path to the Server network share; this field is only active for the Server computer node

**Server Shutdown Options** group box – defines the behavior of the Workstation when the Server shuts down

- **Exit on Shutdown:** Exit the Workstation when the Server disconnects
- **Logout on Shutdown:** Log the user out of the Server; the Workstation continues to run
- **Auto Retry on Shutdown:** The Workstation will try to reconnect to and login to the Server when the connection to the Server is lost

## Alarm Queue group box

- 'Ack Required Alarm In Queue' Point: The I/O
  Point is set when there is an alarm in the event
  that requires acknowledgment; when there are no
  events needing to be acknowledged, this point will
  be cleared.
- **'High Priority Alarm Available' Point:** The I/O Point is set when a high priority alarm is in the queue; it is cleared when there is no high priority alarm in the queue.
- **Monitors** group box Used to allow pop ups to target specific monitors in a multi-monitor installation
  - **Remove Rows:** Select a row(s) and press this button to remove them from the list. If a monitor is unplugged form the computer and the Workstation is re-started it will be removed from this list.
  - **X Cord:** This setting will be automatically entered. The user can then change these values to match their values if the monitor configuration has been altered.
  - **Y Cord:** This setting will be automatically entered. The user can then change these values to match their values if the monitor configuration has been altered.
  - **Width:** This setting will be automatically entered. The user can then change these values to match their values if the monitor configuration has been altered.
  - **Height:** This setting will be automatically entered. The user can then change these values to match their values if the monitor configuration has been altered.

#### 7.2.9 Documentation

The **Documentation** node lists the default reports available for the Intelli-Track system as well as Intelli-Track Manual. The data provided through the reporting feature is derived from the Project Node Tree.

Some of the reports are predefined and cannot be changed and others require a value to be input by the user before it can be completed. Reports are displayed on the screen but can also be printed. The History Report under the System sub-Node requires multiple entries from the user before it can be run and displayed.

Documentation for the Intelli-Track software and other third party software can be stored in the Manuals folder. The default path to this folder is:

..\Sites\<Project\_Name>\Documentation\Manuals.

The document formats the system will automatically display are HTML, HTM, RTF and RPT. Documents stored in Microsoft Word (\*.doc) format require Microsoft Word be installed on that computer. Documents stored in Adobe Acrobat (\*.pdf) format require Adobe Acrobat Reader be installed.

When adding items to the Manuals directory to make them available from within Intelli-Track, you must exit and restart the Intelli-Site Workstation connection.

# 7.2.10 Images

The **Images** node stores all the image files associated with a Project. Intelli-Track loads some base images but allows for a variety of image types to be imported into a Project. The images stored under this node can be used to design sophisticated screens.

Image files can also be copied to the Image node folder via the Windows Explorer copy function. The files will be stored on the Intelli-Track Server drive path ..\<Project\_Name>\Images. All images used by a Project must reside on the Server.

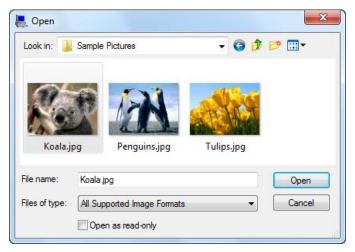
# 7.2.10.1 Use Node Tree Images

- 1. Expand the **Images** sub-Node.
- Locate the graphic file to be used and drag and drop the image to the **Graphic Mode** screen and resize accordingly. The image will display in the mode window.

3. To <u>edit</u> the Properties of an image, right-click on the "new image" and select **Properties**. Click **OK** to save.

## **7.2.10.2 Add Images**

- 1. Expand the **Images** node on the Project Node Tree.
- 2. To <u>add</u> an image, right-click the mouse button on the Images node and select **Import**. A windows dialog will display to locate the graphic file to be imported, similar to the following example.



- 3. Locate and click to highlight the **"graphic filename"**. For example, it might be the **Live.jpg** file in the above window.
- 4. Click the **Open** button to import the image. The system will display the file under the **Images** sub-Node. The graphic file is now available to add to the Project.

#### **7.2.11 Sounds**

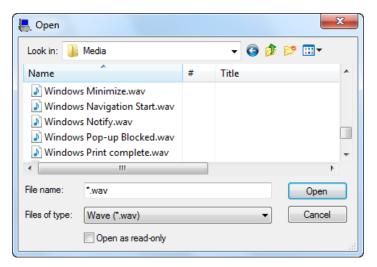
The **Sounds** Node contains the sounds associated with the Project. Sound files are stored as **waveform-audio** (wav) files. Sounds are assigned to graphic objects and alarms in the Project.

Intelli-Track installs with four predefined Sound sub-nodes. These four sub-Nodes are **Selections, Alarms, Intercom** and **Doors**. Additional sound files (wav) can be copied or imported into to one of the existing Sounds sub-node for use with a Project.

#### Add a Sound File

1. Expand the **Sounds** Node in the Project Node Tree.

2. To <u>add</u> a sound file, right-click the mouse button and select **Import**. A windows dialog similar to the following will display to locate the file to be imported.



3. Locate the .wav file to be imported into the Sounds Node. Select the filename and click the Open button to import the file. The wav file will display under the Sounds Node in the Project Node Tree.

#### 7.2.12 Priorities

The **Priorities** node contains the priorities associated to the Project. The priorities establish a hierarchy of alarms that are displayed within the **Information Manager's (IM) Queue Control**. Alarms of a highest priority are displayed first followed by alarms of lower priority. Colorsand sounds can be defined for each priority to expedite the end user's awareness of alarms. Any given alarm showing in the Queue Control will list its Priority.

Note: When planning the color scheme for the priorities, try to keep colors consistent with level of the priority. An example might be Duress and Panic priorities would both display red in the queue but an Intercom Call priority would display green.

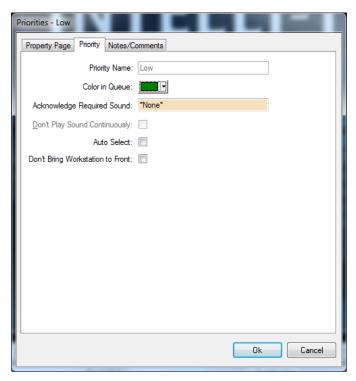
Intelli-Track installs sixteen (16) priorities. The first four (4) are:

- None Priority 1
- Low Priority 2
- Medium Priority 3

• High - Priority 4

Notice that the higher the number the higher the priority. Therefore Priority 16 is the highest priority.

## **Priority tab**



**Color in Queue**: The display color for the priority in the Queue. The default setting is **Black**. Click the down arrow to select a **Color** for the queue display.

Acknowledge Required Sound: This sound is played when an alarm condition of this priority is displayed. When several alarms display at the same time, the highest priority alarm will sound first and the other alarms will step until all are sounded. The default setting is None. To set the sound, drag and drop a "Sound File Name (.wav)" into the Acknowledge Required Sound field.

**Don't Play Sound Continuously**: Sound the alarm once rather than play continuously

**Auto Select:** Automatically select the alarm in the Alarm Queue

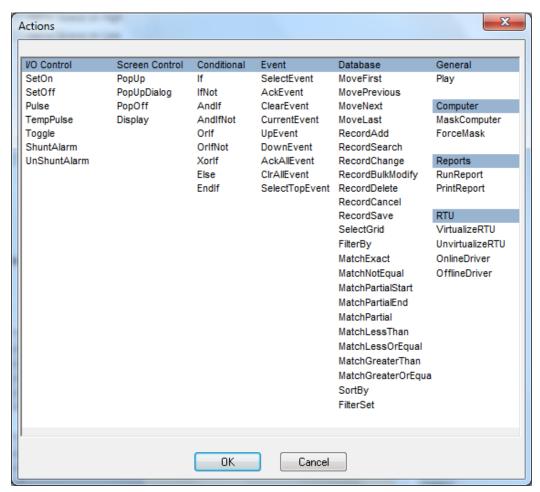
**Don't Bring Workstation to Front**: Won't bring the Workstation to the front

# 7.3 Actions Popup Dialog

The Actions Popup dialog, also referred to as the Actions Popup Grid, is a list of available actions. Actions are triggered either through screen object control when operating in Run Mode or when the state of an I/O Point changes.

Many actions require a target, some do not. Intelli-Track will only allow valid targets for an action. If the action is selected first, only valid targets will be allowed to be dropped into the **Target** field. If the target is present when an action is selected, a warning dialog appears to inform the user that the target does not match the action.

The content of the Actions Popup are dictated by the action grid for which the action is being selected. Only actions allowed for that action grid will display. This section provides an overview of all available actions.



The actions are divided into categories to help aid in locating a specific action.

#### 7.3.1 IO Control Actions

I/O Control actions can be applied to any I/O target.

VO Control
SetOn
SetOff
Pulse
TempPulse
Toggle
ShuntAlarm
UnShuntAlarm

**SetOn:** Sets the target I/O Point on or **high**.

SetOff: Sets the target I/O Point off or low.

**Pulse:** Sets the I/O point on for its pulse duration as configured under the properties of the

point and then sets the point off

**TempPulse:** Sets the I/O point on for a pulse duration (in minutes) that is input by the user via a popup dialog box

**Toggle:** Toggles the I/O point from one state to another; if the point is currently high, this action will set the point low, if the targeted point is low, it will set the point high.

ShuntAlarm: Cosmetically ignores an alarm.
Shunting an alarm prevents the alarm from being added to the IM Queue, even though the I/O Point is in its "add-to-queue-on" state. The target of this action must be an alarm.

**UnShuntAlarm:** Removes a previously-applied shunt of an alarm. The target of this action must be an alarm.

#### 7.3.2 Screen Control Actions

Screen Control actions allow the user to switch screens of various kinds and control Screen Lists.

Screen Control
PopUp
PopUpDialog
PopOff
Display

**PopUp:** Displays a popup action window; the target of this action must be a screen but not a full-sized screen

**PopUpDialog:** Displays a popup action window with Windows title bar; the target of this action must be a screen though not a full-sized screen

**PopOff:** Pop off a window that has been displayed using the **PopUp** action; the action requires no target (in which case it Pops-Off the current window), though you may specify a screen as the target.

**Display:** Display another screen and make the new screen the primary screen; the target of this action must be a screen.

#### 7.3.3 Conditional Actions

Conditional Actions are used to create complex logical relationships (IF, OR, XOR) between I/O points in an Action Grid.

Conditional

If

IfNot

AndIf

AndIfNot

Orlf

OrlfNot

Xorlf

Else

EndIf

**If:** The target point must be in its active (ON) state in order for the next Action in the Action Grid to be executed.

**IfNot:** The target point must be in its inactive (OFF) state in order for the next Action in the Action Grid to be executed.

**AndIf:** The target point AND the previously-listed target point must both be in their active (ON) states in order for the next Action in the Action Grid to be executed.

**AndIfNot:** The target point AND the previously-listed target point must both be in their inactive (OFF) states in order for the next Action in the Action Grid to be executed.

**OrIf:** Either the target point OR the previously-listed target point must be in their active (ON) states in order for the next Action in the Action Grid to be executed.

**OrIfNot:** Either the target point OR the previously-listed target point must be in their inactive (OFF) states in order for the next Action in the Action Grid to be executed.

**XorIf:** Either the target point OR the previously-listed target point must be in their active (ON) states, but not both points, in order for the next Action in the Action Grid to be executed.

**Else:** Executes the following Action(s) if the preceding conditions are not satisfied. This Action accepts no valid target.

**EndIf:** Ends a series of conditional Action statements.

#### 7.3.4 Event Actions

Event Actions allow the event commands available through the **Control Buttons** on the **Information Manager (IM)** to be applied to Screen Objects.

SelectEvent
AckEvent
ClearEvent
CurrentEvent
UpEvent
DownEvent
AckAllEvent
CIrAllEvent
SelectTopEvent

SelectEvent: Used to open an event from the Queue Control tab within the IM; functions the same as right-clicking the mouse to open the Alarm Acknowledge/Clear Dialog

**AckEvent:** Used to acknowledge the selected alarm in the Oueue Control of the IM

**ClearEvent:** Used to clear the selected alarm from the Queue Control of the IM

**CurrentEvent:** Highlights and selects an event (if none is highlighted) in the Queue Control of the IM; it functions the same as a single left mouse click on a highlight alarm event

**UpEvent:** Used to move up one event on the Queue Control of the IM

**DownEvent:** Used to move down one event on the Queue Control of the IM

**AckAllEvent:** Used to acknowledge all listed events on the Queue Control of the IM

**CIrAllEvent:** Used to clear all listed events on the Queue Control of the IM

**SelectTopEvent:** Used to select the highest priority alarm in the master queue if the action has no target, and the highest priority alarm in the pop queue if the action has a popup queue target.

#### 7.3.4 Database Actions

Database Actions are used to manipulate the data in user-defined tables. Refer to <u>7.4.7.4.2 Database Grid Control Tab</u> for information on creating User-Defined Database tables.

**MoveFirst**: Selects the first record of the target database grid

**MovePrevious**: Selects the previous record of the target database grid

Database MoveFirst MovePrevious MoveNext MoveLast RecordAdd RecordSearch RecordChange RecordBulkModify RecordDelete RecordCancel RecordSave SelectGrid FilterBy MatchExact MatchNotEqual MatchPartialStart MatchPartialEnd MatchPartial MatchLessThan MatchLessOrEqual MatchGreaterThan MatchGreaterOrEqua SortBy

FilterSet

**MoveNext**: Selects the next record of the target

database grid

**MoveLast**: Selects the last record of the target

database grid

**RecordAdd**: Adds a record of the target database grid;

all database field objects that reference the target grid will become editable (The values are only added after a **RecordSave** action

or the entire add is cancelled by the

**RecordCancel** action)

**RecordSearch:** Must be performed twice: First time to

activate the database field objects that reference the target grid so that the user may enter data for the query string; second to proceed with the query based on the entered data; the search is canceled by the

**RecordCancel** action

**RecordChange**: Edits the selected record of the target database grid; all database field objects

that reference the target grid will become editable (The values are only edited after a **RecordSave** action or the entire edit is

cancelled by the **RecordCancel** action)

**RecordBulkModify:** Allows the user to select multiple records in the database grid and make

modifications to a field or number of fields; modifications will be saved to all selected

records

**RecordDelete**: Deletes the selected record of the

target database grid

**RecordCancel**: Cancels an edit of a record change for

the target database grid

**RecordSave**: Saves an edit of a record change for the

target database grid

**SelectGrid**: Sets the target grid subsequent actions will

be based upon. **SelectGrid** tells **SortBy** 

which database grid to execute upon

See Structure to Filter/Sort below for details on how to use filter/sort actions.

- **FilterBy:** Set which field to filter by
- **MatchExact**: Filters for values equal to the value specified as the target. The target's Node name is the value used in this action
- **MatchNotEqual**: Filters for values not equal to the value specified as the target. The target's Node name is the value used in this action.
- MatchPartialStart: Filters for a partial match beginning with the value specified as the target. The target's Node name is the value used in this action
- **MatchPartialEnd**: Filters for a partial match ending with the value specified as the target. The target's Node name is the value used in this action
- **MatchPartial**: Filters for a partial match with the value specified as the target. The target's Node name is the value used in this action.
- MatchLessThan: Filters for values less than a numeric value specified as the target. The target's Node name is the value used in this action. This action only works when filtering by a database field of a numeric type
- MatchLessOrEqual: Filters for values less than or equal to a numeric value specified as the target. The target's Node name is the value used in this action. This action only works when filtering by a database field of a numeric type
- MatchGreaterThan: Filters for values greater than a numeric value specified as the target. The target's Node name is the value used in this action. This action only works when filtering by a database field of a numeric type

**MatchGreaterOrEqual**: Filters for values greater than

or equal to a numeric value specified as the target. The target's Node name is the value used in this action. This action only works when filtering by a database field of a

numeric type

**SortBy**: Set which field of a target database grid to

sort by

**FilterSet**: Marks the end of a series of filter/sort

actions. If no filter/sort actions precede the **FilterSet** action, it will simply 'reset' the database grid specified in the proceeding

SelectGrid action

Note: the user is allowed to accept returns in a database field edit box, which gets its data from a database grid.

## 7.3.4.1 Structure to Filter/Sort

Actions must be listed in a specific order to make use of the filter/sort database functionality.

The **SelectGrid** action marks the beginning of the filter/sort set as it sets the Database Grid subsequent actions will be executed upon.

Each group of filtering actions must reference a database field set by the **FilterBy** action. You may have multiple filter actions against a single **FilterBy** action and you may have multiple **FilterBy** action 'groups'.

Any number of filter actions (those actions that begin with **Match**) must follow the corresponding **FilterBy** action.

The **SortBy** action must follow all filter actions (if applicable) yet be before **FilterSet**.

The **FilterSet** action marks the end of the filter/sort actions presented above. All proceeding actions executed at once with this action.

#### 7.3.4.2 Actions within a Filter Set

Individual filter actions when used with other filter actions will either imply a logical AND or a logical OR depending on the nature of the action.

Or

Some filter actions when grouped together, or even repeated within a filter set, imply a logical OR function. For example, if a filter set had a **MatchPartialStart** twice with different values as a target ('x' and 'y'), it would result in a logical OR filter and only display values whose **FilterBy** field start with 'x' OR 'y'.

#### And

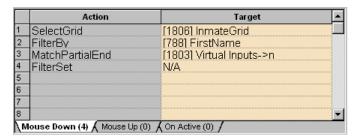
Some actions when grouped together imply a logical AND function. For example, if a filter set had both a **MatchGreaterThan** and a **MatchLessOrEqual** action with different values as the target ('3' and '7'), it results in a logical AND so that only values greater than 3 AND less than or equal to 7 display.

## 7.3.4.3 Example Scenario

Assume we have a database table of inmates for a prison facility. This table has four fields (field type in parenthesis): **FirstName** (text), **LastName** (text), and **Location** (integer), **CardNumber** (text). We've created a database grid Screen Object to display this information and want to create some Screen Objects that will filter/sort the information.

#### Case 1

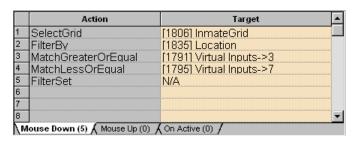
Filter the InmateGrid database grid for first names ending with 'n'.



Note: A virtual point named 'n' was created so that the MatchPartialEnd action would find all values in the FirstName field that end with 'n'.

#### Case 2

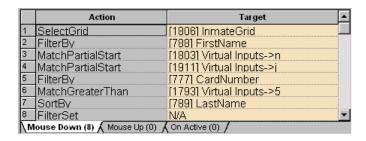
Filter the InmateGrid database grid for locations greater than or equal to 3 but less than 7.



Note: again, virtual points named '3' and '7' were created to be targets for the filter actions used above.

#### Case 3

Filter the InmateGrid database grid for first names starting with n or j whose card number is greater than 5; sort the results by last name.



#### 7.3.4 General Actions

General actions do not fall into any particular category. There is only one (1) general action in Intelli-Track.



Play:

Play a sound wave file; the target for this action must be a sound or message

# 7.3.5 Computer Actions

Computer actions are specifically for managing various Workstation functions.



**MaskComputer:** Selects a target computer for the **ForceMask** action. The target for this action must be a **computer** node

ForceMask: Forces a System Mask to the computer set with the MaskComputer action. The MaskComputer action must precede this action. The target for this action must be a System Mask.

## 7.3.6 Reports Actions

Report actions are specifically for managing various Report functions from the Run Mode environment. In Intelli-Track there are only two (2) report actions.



Run Report: Allow a user to run a report while in Run Mode

**Print Report:** Allow a user to print a report while in **Run Mode** 

#### 7.3.7 RTU Actions

RTU actions are specifically for managing RTU functions from the Run Mode environment. The target for all RTU actions must be an RTU.



**VirtualizeRTU:** Sets a RTU from a live to a virtual state

UnVirtualizeRTU: Sets a RTU from a virtual to a

live state

**OnlineDriver:** Bring the targeted RTU's Driver

online

**OfflineDriver**: Takes the targeted RTU's Driver

offline

# 7.3 The Graphics Toolbar



The graphics toolbar displays on the right side of the screen in Graphic Design Mode. It contains the tools necessary to create and modify graphics. There are four types of tools:

- Selection Tools
- Drawing Tools
- Alignment or Layout Tools
- Property Manipulation Tools

#### 7.3.1 Selection Tools

The selections tools are used to select one or more screen object.

- **Select a Control** tool displays the arrow cursor. It is used to select graphic objects. This is the default tool.
- Select Multiple Controls tool allows selection of multiple objects by dragging a bounding box over an area of the screen. All objects fully contained within the bounding box will be selected.
- Show Hidden Controls tool is used to display graphic objects that may be hidden. For example, objects that have no frame.

# 7.3.2 Drawing Tools

There are a variety of tools to draw screen objects. Most of the tools behave the same way. Click the tool to select it. Move the mouse to the design screen in the general area for the control. Hold down the right mouse button and drag the mouse. The outline of the control grows as the mouse is dragged. Release the mouse button when the control is the desired size. The control can be further formatted as necessary.

- **Text Control** tool creates a text box
- **Database Field Control** tool draws a database field control which is used to display a database field
- Poly Line Control tool is used to draw a control with an irregular shape. This tool behaves differently than the other drawing tools. For this tool, you will be outlining the shape of the control with mouse clicks. Select the tool. Move the mouse to the location on the screen where the poly line screen control will be. Right-click to select the first point. Move the mouse to the second point and click. Move to the third point and click, and so on. When the shape of the object has been defined, press the Esc key on the keyboard. This will case a line to be drawn from the first point to the last point for the screen object. The object will be drawn and filled in so you can see it.
- Framed Rectangle Control tool draws a framed rectangle control
- Rectangle Control tool draws a rectangle control
- Rounded Rectangles Control tool draws a rectangle control with rounded corners
- Ellipse/Circle Control tool draws a circle or ellipse control
- Database Grid Control tool draws a database grid control. The Tags table on the Tag Setup screen is a database grid control.
- Database Side-by-Side Control tool draws a database side-by-side control. The Tag Assignment control on the Tag Setup screen is a database side-by-side control.

# 7.3.3 Alignment and Layout Tools

The alignment and layout tools are used to adjust the controls on the screen or to adjust the view of the screen.

To adjust the alignment of a group of objects, first select the object that is the anchor for the alignment. Next, hold down the shift key and select the other objects. Then click the desired tool. All the objects will align with the first object selected.

**Left align controls** tool aligns the left edge of multiple objects to the left edge of the first control selected

- **Right align controls** tool aligns the right edge of multiple objects to the right edge of the first control selected
- **Top align controls** tool aligns the top edge of multiple objects to the top edge of the first control selected
- Bottom align controls tool aligns the bottom edge of multiple objects to the bottom edge of the first control selected
- Align vertical centers tool aligns the vertical centers of multiple objects to the vertical center of the first control selected
- Align horizontal centers tool aligns the horizontal centers of multiple objects to the horizontal edge of the first control selected
- **Evenly space controls vertically** tool spaces the selected controls evenly between the top most and bottom most control
- **Evenly space controls horizontally** tool spaces the selected controls evenly between the right most and left most controls
- Move control to background tool moves the selected control to background or bottom layer of display
- Move control towards background tool moves the selected control back one level of display layering
- Move control towards foreground tool moves the selected control up one level of display, towards the top or foreground
- Move control to foreground tool moves the selected control to the top level of display, the foreground
- Zoom In magnifies the display
- Zoom Out shrinks the display

# 7.3.4 Property Manipulation Tools

The property manipulation tools are used to adjust the size, font, and effects of objects.

To adjust the properties of a group of objects, first select the object that has the desired property: height, width, font, or effects. Next, hold down the shift key and select the other objects. Then click the desired tool. All the objects will be changed to have the same appearance as the first object selected.

- Size controls equally tool is used to make all the selected controls the same size as the first control selected
- Make same width tool is used to make all the selected controls the same width as the first control selected
- **Make same height** tool is used to make all the selected controls the same height as the first control selected
- Make same font tool is used to set the font of all the selected to controls to the font of the first control selected
- Make same effects tool is used to set the effects of all the selected controls to the effects of the first control selected

# 7.4 Graphic Design

The toolbar options allow creation of graphic images that can be used to operate Intelli-Track. Floor plan images, site elevations, and mechanical representations can be imported and combined with the graphics. Any shape necessary to operate a fully functional asset tracking system can be generated.

An important feature of Intelli-Track is the ability to assign an action to a graphic object. Instead of just showing a picture of a button, actions can be assigned to the image. If the button is selected, the action (or list of actions) is performed.

To make the graphic interface easier to implement, some preprogrammed objects can added to a Project screen. These objects include buttons, images, and sounds.

This section describes how to use some of the more common graphic features and their operation to provide an understanding of how more sophisticated programming can be performed with Intelli-Track. At the end of this section we will walk through adding Navigation screens to the Main Screen. We will use many of the graphic devices that we are described in this section.

## 7.4.1 Creating New Screens

When using Intelli-Track, screens define the graphic interface that is viewed on the monitor. Screens are different from images or photos used for other purposes. Screens are the foundation for other screen objects. Intelli-Track comes with five pre-configured screens. For most situations these are sufficient. But there may be times when a customer needs different behavior.

The screen design can be based on custom images, graphic images created using the Graphic Toolbar, or a combination of both. For example, icons and floor plans can be created using a third-party software application and then imported into the Intelli-Site Project. Additional graphic images can then be used in conjunction with the imported images.

Screens can be added, edited and deleted the same way other nodes in the Tree through the Project Node Tree Context Menu.

Note: Details for defining Graphic Screen Properties can be found later in this section under 7.4.7 Graphic Object Properties.

The next several sections will detail adding the various screen objects.

# 7.4.2 Adding a Graphical Object

Use any of the <u>Drawing Tools</u> of the Graphics Toolbar to add a screen object.

- 1. Click the tool.
- 2. On the screen (or even another screen object), drag a box the approximate size of the text to be inserted. A shadow follows the mouse until the button is released. A grey object appears.
  - If the tool is the **PolyLine** tool, click to set the first point for the object, and then continue clicking to draw the desired shape. To close the object, press the ESC key on the keyboard.
- 3. Right-click on the grey object and the properties dialog displays.
- 4. Click the **States** tab.
- 5. In the white entry box under the **Label** section, type the text to display for the box. The **Font**, **Effects**, and **Justification** entries affect the presentation style of the label.

# 6. Click OK

## 7.4.3 Importing Custom Graphic Files

Custom graphic files can be imported into the Project Node Tree **Images** sub-Node. Imported graphics can be saved in a widevariety of formats, including:

Graphics Interchange Format (\*.gif)

Tagged Image File Format (\*.tif)

Windows Icons (\*.ico)

Windows Cursors (\*.cur)

TrueVision Targa Format (\*.tga)

Encapsulated Postscript (\*.eps)

PhotoShop 3.0 Format (\*.psd)

Portable Network Graphics Format (\*.png)

SUN Raster Format (\*.ras)

WordPerfect Format (\*.wpg)

Macintosh Picture Format (\*.pic)

JPEG Format (\*.jpg)

Windows Bitmap Format (\*.bmp)

Windows Metafile Format (\*.wmf)

# Note: Windows Metafile Format (\*.wmf) is the only vector-based image format supported.

Images can be added to the Project File either by copying or moving the images to the ..\Sites\Project\_0##\Images folder on the Intelli-Track Server (the Project\_0## represents the Project name.) or by right-clicking on the Images node and importing images.

# 7.4.4 Add a Graphic TTS Message

Graphics can be designed to speak a custom text message using the Text-to-Speech (TTS) module.

- 1. Create a Message
- 2. Right-click the graphic to open its Properties and select the **Actions** tab.
- 3. Select Play from the Action field.

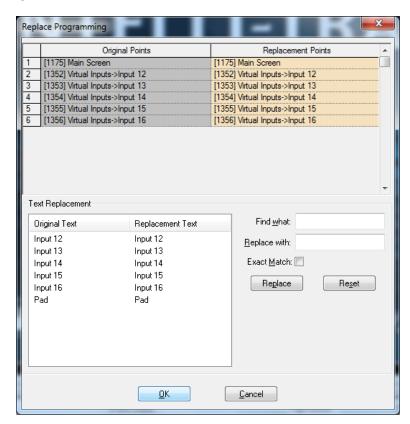
4. At the **Target** field, drag and drop the **Message** into the cell. Click to save.

## 7.4.5 Using the Replicate Function

- 1. At the Project Node Tree, expand the Screens sub Node to reveal existing Screen Objects.
- 2. Right click on a Screen Object that needs to be replicated.
- 3. A table will appear where the number of objects, rows, etc can be specified.
- 4. Selecting the Replicate button at this point will create the number of specified objects.

## 7.4.6 Reprogramming Wizard

The Reprogramming Wizard is invoked in one of two ways. It will open if a screen object is dragged from the Tree onto the screen to create a copy of the screen object. The Programming Wizard may also be executed by right-clicking on any Screen Object or Screen in the Tree in order to reprogram one or more Screen Objects at once.



**Original Points/Replacement Points**: The original point of the existing graphic object and which point will replace it; drag and drop the replacement points

**Original Text/Replacement Text**: Shows the original text of

the graphic object and what will replace it

Find what/Replace with: Text to find for replacement

**Exact Match**: Requires the full text strings to be exact

**Replace**: Replace text in the "Find what:" box with the

"Replace with:" box

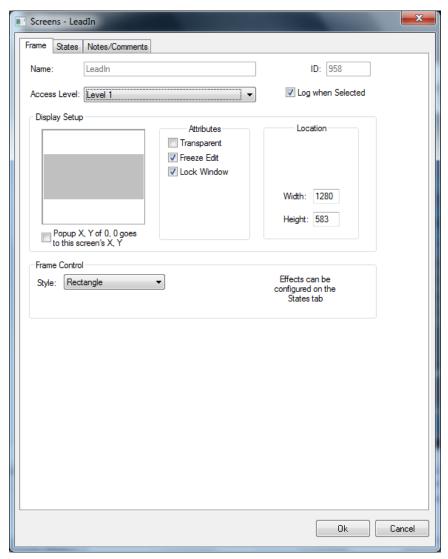
**Reset**: Resets all text changes made

## 7.4.7 Graphic Object Properties

After a graphic object has been designed, programming and performance information is assigned to the object through the Properties: **Frame**, **States**, **and Notes/Comments** tabs.

#### 7.4.7.1 Frame Tab

The Frame Tab assigns the base characteristics of an object. It is used to assign an access level, the type of object frame, frame attributes, size, and position of the object.



Name: Name of the object as it will appear in the Project Node Tree; not the same as an object label

**Access Level:** The access level required to view and edit the properties of this object node; the default value is **Level 1**.

ID: The unique identification number assigned by Intelli-Track to track the contents of the Project Node Tree; cannot be edited as it is a system-defined value

**Log When Selected:** Logs all actions associated with this Screen Object to the History Log when activated on the **Frame** tab

**Display Setup** group box - Represents the associated graphic object and assignment of the object's attributes and location on the screen. A thumbnail of the graphic displays in the large field to the left of the **Attributes** selections.



## **Attributes** group box

**Transparent:** Set the object to transparent for display. This attribute must be checked when an object will be configured to flash to state (read below).

**Freeze Edit:** Lock the object's screen position so that it cannot be moved. This feature is useful when building a display. A screen can be designed without accidentally moving an object.

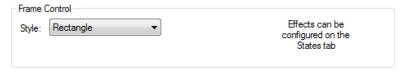
**Lock Window:** Prevents the object from being redrawn each time the window is displayed. Each time Intelli-Track displays the screen, it redraws the entire screen. Under normal conditions, this is unnecessary. Selecting this option prevents the system from redrawing the object, eliminating a pause and flash when the screen is displayed.

# **Location** group box

**Width:** Width, in pixels, of the object **Height:** Height, in pixels, of the object

**Frame Control** group box - Used to select the type of frame to be displayed

Select one of the sixteen frame styles listed in the combo box on the left to define the basic shape of the object. The default setting for the radio button depends on the tool that was used to draw the object. The radio button selection will match the selected tool. For example, if the **Rounded Rectangle** tool was used to draw the object, the **Rounded Rectangle** frame style will automatically be selected.



**None**: No frame; this type of object is typically used as a

label.

**Frame**: A frame, as opposed to having a shape. Frames are

typically used to create buttons. Frames allow for the setup of three-dimensional effects, such as raised or depressed beveled edges. Three-dimensional effects

cannot be assigned to any other shape frame.

**Rectangle**: the object will have a rectangular or square

shape with square corners

**Round Rectangle:** the object will have a rounded rectangular or square shape with rounded corners,

Ellipse / Circle: the object will have an elliptical or circular

shape, like this:  $\bigcirc$  or  $\bigcirc$ .

**Triangle** 

**Diamond** 

Pentagon

Hexagon

Octagon

Arrow

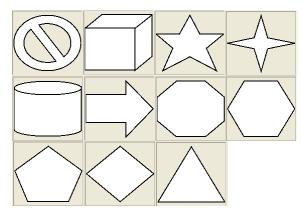
4-pointed Star

5-pointed Star

Cube

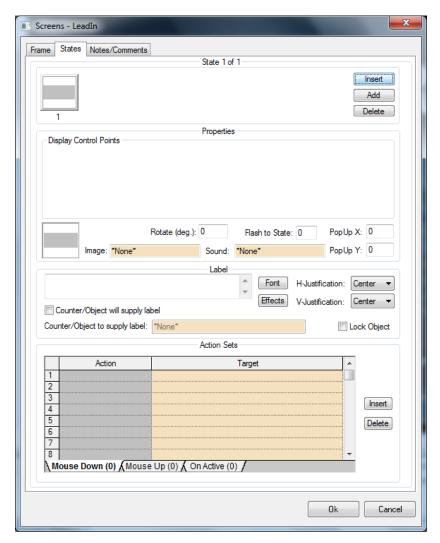
Cylinder

Circle-Slash



#### 7.4.7.2 States Tab

The **States** tab allows definition of all of the states assigned to an object. The tab displays all of the associated data and graphical effects for the selected state.



A state is defined as a programmed condition under which the equipment and the Intelli-Track interface. In its simplest form, a change of state could be something like a new tag is detected. For a new tag, it could be Unauthorized, Battery Missing, Battery Low, etc. Each of these conditions may warrant a new state.

## State Entries group box

In the example below two states are displayed. The buttons on the right are used to manage the states and the order the states are assigned to an object.

#### **States Icons**



The thumbnail images show a graphic display of each state associated with the object. Click on the thumbnail image to display the selected state's characteristics.

Scroll through the displayed states using the **Previous** and **Next** buttons.

Note: The "Highest" number state will be set active if two or more states resolve to "True" in the Display Control Points.

**Insert:** Insert a new state and copy all of the data associated from the previous state. The state will occupy the displayed state's location (thereby pushing all following states back one number).

**Add:** Add a new state to the end of the existing sequential order of states. A dialog displays asking if the previous state's data is to be copied.

**Delete:** Delete a state. The remaining states will be renumbered automatically.

**Properties** group box - The Properties fields are used to define the image file name, associated sound, associated control points and some display parameters. The state's specific parameters are displayed one at time. The state's number and its order when associated with other states is displayed at the top of the fields.



**Graphic Display Window:** Shows a preview of the given state's graphic properties

- **Image:** Drag and drop an image into this field to be used as a graphic object. Graphic files can be copied from the **Image** node or imported from a folder on a disk or hard drive.
- **Sound:** Drag and drop a sound file to be played upon activation of the state. A wave file can be copied from the **Sounds** node.
- **Rotate (deg):** The angular rotation to the object shown in the drag and drop field. Enter a numerical value between 0 and 359, corresponding to the number of degrees of rotation. The default setting is **0**.
- **Flash to State:** The state number to which the object should flash; the object will continue to flash between the two assigned states. The object has to be a transparent object, chosen on the **Frame** tab.
- **PopUp X:** The horizontal starting pixel location of an associated popup window. For example, if the value is 450, then the graphic's top left-most edge will start 450 pixels from the left. The default setting is **0**.
- **PopUp Y:** The vertical starting pixel location of an associated popup window. For example, if the value is 303, then the graphic's top left-most edge will start 303 pixels from the top. The default setting is 0.

## Label group box



**LabelEntry:** The large data entry field is used to enter the label text to be associated with the object

**Font:** Used to select the desire font. When clicked, the Font dialog displays. The label text can be formatted as to size, font, font style, color, and effects.

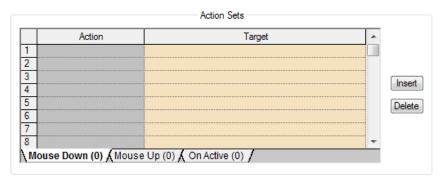
**H-Justification:** Horizontal justification for the label within the object

**V-Justification**: Vertical justification for the label within the object

**Counter/Object will supply label** check box will allow a an object to be dropped to supply an analog display of the current value. If chosen this will overwrite any text entered in the label field.

**Effects:** Used to select the graphical effects to be applied to the state. When clicked, the Effects dialog displays.

#### **Action Sets**



There are three ways actions are initiated: on **Mouse Down**, on **Mouse Up**, and when a point is **Active**. The actions assigned to each are displayed by clicking the associated tab. The number of actions assigned to the tab are displayed next to the tab title in parentheses.

**Mouse Down**: displays the list of actions to be performed when the mouse button is clicked down. Only those actions assigned to **Mouse Down** display when this tab is active. This tab is the default display.

**Mouse Up:** displays the list of actions to be performed when the mouse button is released (up). Only those actions assigned to **Mouse Up** display when this tab is active.

On Active: displays the list of actions performed when an associated point is active. This initiation method is used to have a point set off a system action or display automatically.

Note: To select and copy (Cut and Paste) multiple Actions Sets from one tab to another, use the Ctrl-c [Copy] and then Ctrl-v [Paste] key combinations. When selecting multiple rows of actions to copy, the same amount of rows must be highlighted prior to pasting.

**Action:** The action to be performed on a given event

(Mouse Down, Mouse Up, On Active). Multiple actions can be assigned for each state, and the order in which the actions appear in the **Action** column is the order the actions are carried out. To display the list of Actions, click the mouse in the numbered entry box for the **Actions Column**. The list of Actions will display on the screen. See 7.3

**Actions Popup Dialog** 

**Target**: The target of a given action. Some actions require

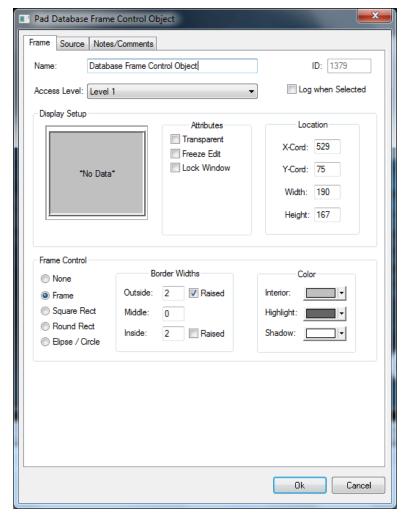
no target, though most do.

## 7.4.7.3 Database Field Control Object Properties

Database Field Control objects behave a bit differently than Graphic Objects. Database Field Control objects have a **Frame** tab where their graphic properties are defined, and a **Source** tab, by which database properties are configured.

#### 7.4.7.3.1 Frame Tab

The **Frame** tab is the same as the **Frame** tab for other graphics objects with a few additions.



Name: Name of the object as it will appear in the Project Node Tree; not the same as an object label

**Access Level:** The access level required to view and edit the properties of this object node; the default value is **Level 1**.

ID: The unique identification number assigned by Intelli-Track to track the contents of the Project Node Tree; cannot be edited as it is a system-defined value

**Log When Selected:** Logs all actions associated with this Screen Object to the History Log when activated on the **Frame** tab

**Display Setup** group box - Represents the associated graphic object and assignment of the object's attributes and location on the screen. A thumbnail of the graphic displays in the large field to the left of the **Attributes** selections.



## **Attributes** group box

**Transparent:** Set the object to transparent for display. This attribute must be checked when an object will be configured to flash to state (read below).

**Freeze Edit:** Lock the object's screen position so that it cannot be moved. This feature is useful when building a display. A screen can be designed without accidentally moving an object.

**Lock Window:** Prevents the object from being redrawn each time the window is displayed. Each time Intelli-Track displays the screen, it redraws the entire screen. Under normal conditions, this is unnecessary. Selecting this option prevents the system from redrawing the object, eliminating a pause and flash when the screen is displayed.

## Location group box

**Width:** Width, in pixels, of the object **Height:** Height, in pixels, of the object

**Frame Control** group box - The Frame Control options are used to select the type of frame to be displayed and the format and color of the object and its border.



Intelli-Track User Guide	
 intein-Track User Guide	

Select one of the five frame style radio buttons listed on the left to define the shape of the object. The default style is Frame.

**None**: the object will not have a frame at all. This type of object is typically used as a label.

**Frame**: the object will have a frame, as opposed to having a shape. Frames are typically used to create buttons. Frames allow for the setup of three-dimensional effects, such as raised or depressed beveled edges. Three-dimensional effects cannot be assigned to any other shape frame.

•	the object will have a rectangular or
square s	hape with square corners, like: 🔲 or 📙
	the object will have a rounded lar or square shape with rounded corners or $\square$ .
Ellipse / Circle	: the object will have an elliptical or
circular s	hape, like this: Oor O.

**Border Widths** group box - When an object is defined as a frame, borders can be added around it. There are three types of borders associated with frames -outside, middle, and inside.

To create three-dimensional effects, raise the inside and/or outside borders. This effect makes the frame look like a popped up or pushed in button. If the inside and outside borders are raised, the effect will be that of a popped up button on top of a button. These effects are achieved by using different colors to show a highlighted border edge and a shadowed border edge.

**Outside:** The width of the outside border in pixels. The default setting is **two** with the **Raised** checkbox unselected. Select the **Raised** checkbox to show the outside of the border having a raised edge, producing a three-dimensional effect of the button being popped up.

**Middle**: The width of the middle of the border in pixels; when zero (**0**), the middle to the border does not display; the default setting is **0**.

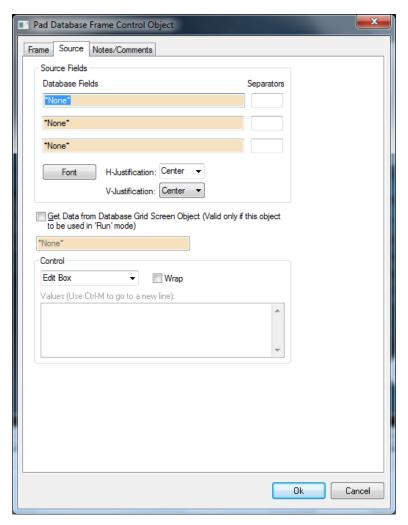
**Inside:** The width of the inside border in pixels. Select the **Raised** checkbox to show the border with a raised inside edge, producing a three-dimensional effect of a button being pushed in. The default setting is **zero** with the Raised checkbox unselected.

**Color** group box - Allows the user to configure Interior, Highlight and Shadow colors for the Database Grid object.



#### 7.4.7.3.2 Source Tab

The **Source** tab is where the database field or fields are specified for use by this screen object.



**Source Fields** group box – The database fields to be displayed

**Database Fields:** Drag and drop the database fields to display

**Separators:** A text separator between source fields when multiple source fields are used; for example, if the 1<sup>st</sup> source field were "lastname" and the 2<sup>nd</sup> "firstname", you might place a comma "," in the top separator box

**Font:** Used to select the desire font. When clicked, the Font dialog displays. The label text can be formatted as to size, font, font style, color, and effects.

**Justification:** Set the justification of the text (left, right, center; top, center, bottom)

**Get Data...** checkbox: Retrieves the data from the associated database grid control in the adjacent drop field.

## **Control** group box

Drop down box: The type of control this database field will be. **Edit Box** allows the user to edit the content of this field from this control. **Combo Box** enables the user to select from defined values (configured in the list window below). A combo box can have many values.

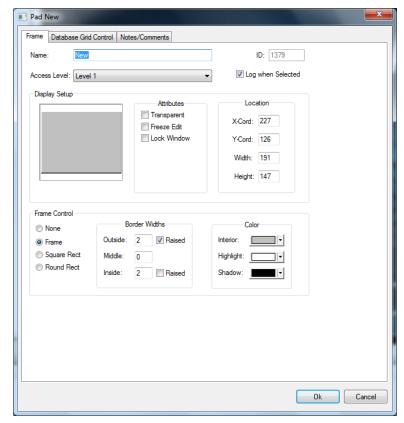
Values: When the control type is **Combo Box**, list the desired values in this box. Each line is an available value. Use Ctrl+M to go to a new line and add a new option. In addition to the "display";;"store" format, two additional formats have been added: #ChildIndex# [idnumber] and #ChildIDNum# [idnumber] If a combo value has these formats, the Tree node with the ID "idnumber" is found, and its children are filled into the combo. #Database# [displayID][storeID] StoreID is optional. If displayID and store ID are database fields, and they have the same parent, the combo will be filled with values from the database.

## 7.4.7.4 Database Grid Control Object Properties

Database Grid Control objects behave a bit differently than Graphic Objects. Database Grid Control objects have a **Frame** tab where their graphic properties are defined, and a **Databse Grid Control** tab, by which database and grid properties are configured.

#### 7.4.7.4.1 Frame Tab

The **Frame** tab is the same as the **Frame** tab for other graphics objects with a few additions.



Name: Name of the object as it will appear in the Project Node Tree; not the same as an object label

**Access Level:** The access level required to view and edit the properties of this object node; the default value is **Level 1**.

ID: The unique identification number assigned by Intelli-Track to track the contents of the Project Node Tree; cannot be edited as it is a system-defined value

**Log When Selected:** Logs all actions associated with this Screen Object to the History Log when activated on the **Frame** tab

**Display Setup** group box - Represents the associated graphic object and assignment of the object's attributes and location on the screen. A thumbnail of the graphic displays in the large field to the left of the **Attributes** selections.



## **Attributes** group box

**Transparent:** Set the object to transparent for display. This attribute must be checked when an object will be configured to flash to state (read below).

**Freeze Edit:** Lock the object's screen position so that it cannot be moved. This feature is useful when building a display. A screen can be designed without accidentally moving an object.

**Lock Window:** Prevents the object from being redrawn each time the window is displayed. Each time Intelli-Track displays the screen, it redraws the entire screen. Under normal conditions, this is unnecessary. Selecting this option prevents the system from redrawing the object, eliminating a pause and flash when the screen is displayed.

# **Location** group box

**X-Cord:** Horizontal starting location for the object on the screen; value is based on the screen width in pixels, specifically 1280 where the left edge of the screen is 0

**Y-Cord:** Vertical starting location for the object on the screen; value is based on the screen width in pixels, specifically 768 where

Width: Width, in pixels, of the objectHeight: Height, in pixels, of the object

**Frame Control** group box - The Frame Control options are used to select the type of frame to be displayed and the format and color of the object and its border.



Select one of the five frame style radio buttons listed on the left to define the shape of the object. The default style is Frame.

**None**: the object will not have a frame at all. This type of object is typically used as a label.

**Frame**: the object will have a frame, as opposed to having a shape. Frames are typically used to create buttons. Frames allow for the setup of three-dimensional effects, such as raised or depressed beveled edges. Three-dimensional effects cannot be assigned to any other shape frame.

-	the object will have a rectangular or	
square	shape with square corners, like: $\square$ or $\square$ .	
	the object will have a rounded	
rectangular or square shape with rounded corners,		
like: ☐	□ or □.	

**Ellipse / Circle**: the object will have an elliptical or circular shape, like this: Or O.

**Border Widths** group box - When an object is defined as a frame, borders can be added around it. There are three types of borders associated with frames -outside, middle, and inside.

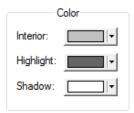
To create three-dimensional effects, raise the inside and/or outside borders. This effect makes the frame look like a popped up or pushed in button. If the inside and outside borders are raised, the effect will be that of a popped up button on top of a button. These effects are achieved by using different colors to show a highlighted border edge and a shadowed border edge.

**Outside:** The width of the outside border in pixels. The default setting is **two** with the **Raised** checkbox unselected. Select the **Raised** checkbox to show the outside of the border having a raised edge, producing a three-dimensional effect of the button being popped up.

**Middle**: The width of the middle of the border in pixels; when zero (**0**), the middle to the border does not display; the default setting is **0**.

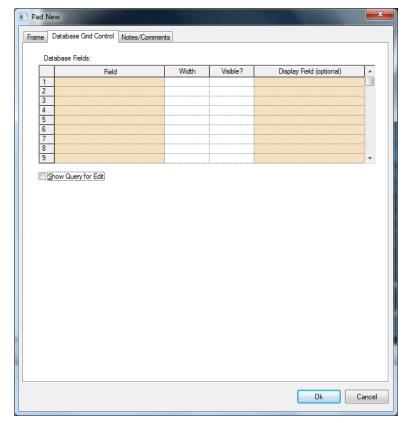
**Inside:** The width of the inside border in pixels. Select the **Raised** checkbox to show the border with a raised inside edge, producing a three-dimensional effect of a button being pushed in. The default setting is **zero** with the Raised checkbox unselected.

**Color** group box - Allows the user to configure Interior, Highlight and Shadow colors for the Database Grid object.



#### 7.4.7.4.2 Database Grid Control Tab

On the Database Grid Control tab, the database fields and the look and field of the grid are defined.



Database Fields grid - Defines the content and look of the grid

**Field:** Drag and drop a database field to display; the name of this database field is the column header

Width: Width in pixels of the of the column

Visible?: Is this column visible

**Display Field:** (Optional) The database field to display using the **Field** to determine which record in the database to actually display; both database fields must be in the same table and **Field** must be a database key

**Show Query for Edit:** When checked, the database query will display.



Enter a standard SQL query and select **Refresh**. The grid will display the data that matches the query. To clear the query, click **Reset**.

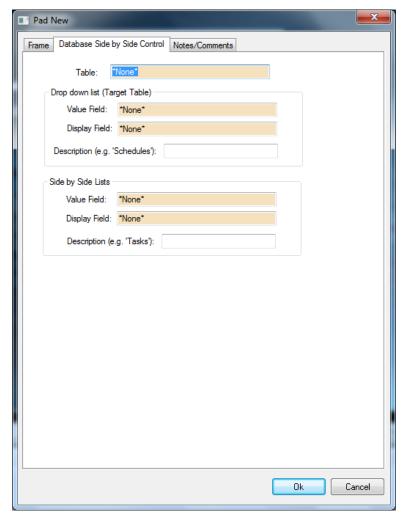
## 7.4.7.5 Database Side by Side Control Object Properties

Database Side by Side Control objects have a **Frame** tab and a **Database Side by Side Control** tab.

The **Frame** tab is the same as the basic Frame tab. See  $\underline{7.4.7.1}$  Frame Tab.

## 7.4.7.5.1 Database Side by Side Control Tab

The **Database Side by Side Control** tab is where the source database table and the database fields are defined for the control.



**Table:** The database table from which the data will be pulled

- **Drop down list (Target Table)** group box The drop down list above the side by side lists
  - **Value Field:** The database field that contains the target values for the drop down list
  - **Value Field** to determine which record in the database to actually display; both database fields must be in the same table and **Value Field** must be a database key
  - **Description:** The label for the drop down list
- **Side by Side Lists** group box The two side by side list boxes that contain the values to assign or remove
  - **Value Field:** The database field that contains the target values for the list
  - **Display Field:** The database field to display using the **Value Field** to determine which record in the database to actually display; both database fields must be in the same table and **Value Field** must be a database key

# **Section 8 – Documentation and Reporting Mode**

This section describes the Documentation and Reporting Mode.

- Intelli-Track Reports
- Intelli-Track User Guide

The **Documentation and Reporting Mode** button opens the Documentation control screen. The two documentation tabs available at the bottom of the left-hand window are **Reports** and **Manuals**.

## 8.1 Intelli-Track Reports

There are basically two types of Intelli-Track Reports: Tag Reports that are useful for Tag Management both Asset and Owner, and System Reports that are useful for providing information on event history, statistics and detailed system information.

## 8.1.1 Reports Tab

The **Reports** tab automatically displays when **Documentation** and **Reporting Mode** is started. The **RFID** and **System** nodes display the pre-configured reports.

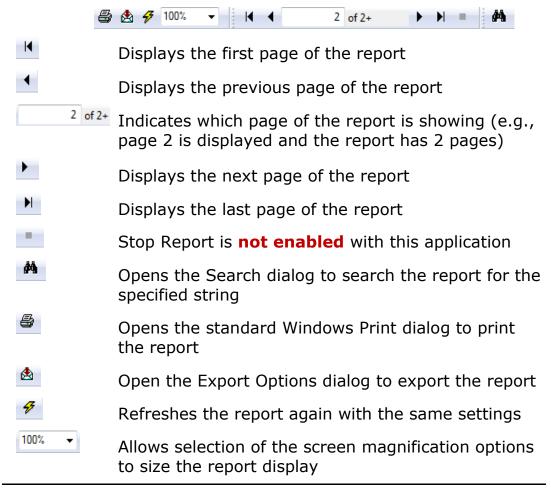
Listed under the RFID node are five (5) predefined reports. They are Asset Removed Report, Asset Report, Asset Zone Report, New Asset Report, and Owner Zone Report.

Listed under the Systems node are, at minimum, the Master History Report, Project Notes Report and the System Information Report. Under the Master History Report node are the Asset Event Report and Asset Setup Report. In addition to the default reports, custom reports can be created and viewed from the **Reports** tab.

Reports are saved in the (RPT) format to be read by Intelli-Track. **Crystal Reports** is a third-party reporting product used to create additional reports from the database. Intelli-Site is fully compatible with Crystal Report documents. Some of the reports require user input to run. For reports requiring User input, a value entry dialog necessary to run the report will display. Values may be entered explicitly, or "wildcard" search parameters may be used. All reports are displayed to the screen and can be printed or exported to various file formats.

## 8.1.2 Report Display Screen

Any report generated will appear in the Report Display screen. At the top of the screen will be the Report toolbar.



Note: The screen magnification drop-down options apply only to the screen display of the report and do not affect how it will print if sent to a printer. The "Whole Page" option displays the report, as it will look when printed.

## 8.1.3 RFID Reports

The RFID Reports are:

Asset Removed Report

- Asset Report
- Asset Zone Report
- New Asset Report
- Owner Zone Report

## 8.1.3.1 Asset Removed Report

The Asset Removed Report lists the dates and times that asset tags have been removed in the time frame specified.

The Asset Removed Report columns are:

- Tag ID
- Asset Name
- Description
- Type
- Time Removed

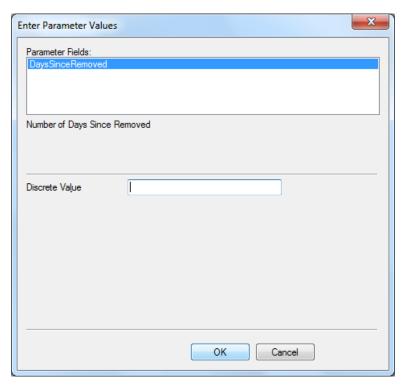
The report is sorted by "Time Removed". The most recently removed assets will appear at the bottom of the report.

A tag is considered removed if it currently has no assigned zoned meaning there are no zones in the facility in which the tag is authorized. A removed asset is not a deleted asset. If a tag is deleted, it will not appear in the report.

An active tag will not appear on this report even if an asset tag had been removed in the time specified, but has had zones assigned to it since it was last removed. Tags can be added and removed repeatedly. This report will only list those tags that are removed at the time the report is generated.

Before a tag can be considered removed, it had to be considered new. A tag is considered to be new when it receives its first zone assignment after having no zone assignments. A tag is still considered to be new if it used to have access to the facility but had all zone assignments removed previously. As soon as a tag goes from having no zone assignments to at least one zone assignment, it is considered a new tag.

To generate the Asset Removed Report, double-click on the **Asset\_Removed\_Report.rpt** node. An Enter Parameter Values dialog displays.



The report parameter is "**Number of Days Since Removed**". In the **Discrete Value** field enter the number of days the report will cover. Whatever is entered, the report will search for all asset tags removed from this moment back that many days. To see the tags removed in the last 24 hours, enter a one (1). To see the tag for the last 90 days, enter 90.

Click to generate the report. The report will appear in the report screen on the right.

This report will not show tags that have been removed and added nor each time an asset has been removed, only assets that are currently removed. To see that activity, generate an **Asset Event Report** which can be found under the **System** node.

## 8.1.3.2 Asset Report

The Asset Report lists all of the assets in the database regardless of their added or removed status.

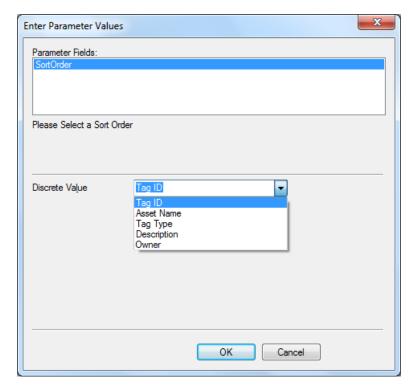
The Asset Report columns are:

- Tag ID
- Asset Name
- Tag Description
- Type

#### Owner

The report can be sorted by any of the columns.

To generate the Asset Report, double-click on the **Asset\_Report.rpt** node. An Enter Parameter Values dialog displays.



The report parameter is "**Sort Order**". The **Discrete Value** is a combo box containing the possible columns by which the report can be sorted. In this case, the combo box contains Tag ID, Asset Name, Tag Type, Description, and Owner.

Click to generate the report. The report will appear in the report screen on the right.

## 8.1.3.3 Asset Zone Report

The Asset Zone Report lists each zone and the assets that are in or were last seen in that zone at the time the report is generated. The assets that have never been detected by an RFID antenna are listed in "No Zone".

The Asset Zone Report is divided by zones with the "No Zone" appearing first. In columns within a zone are:

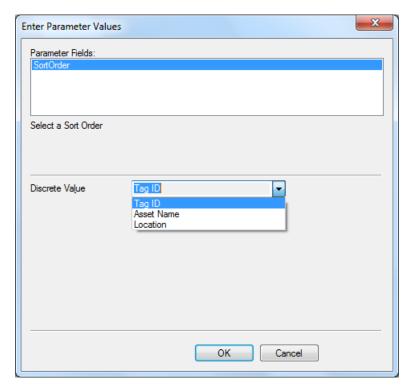
- Tag ID
- Name

- Type
- Location Name
- Description

The zones are reported in alphabetical order with "No Zone" being first. If a zone has no tags in it, the zone is not listed in the report.

The data within each zone can be sorted by Tag ID, Asset Name, or Location.

To generate the Asset Zone Report, double-click on the **Asset\_Zone\_Report.rpt** node. An Enter Parameter Values dialog displays.



The report parameter is "**Sort Order**". The **Discrete Value** is a combo box containing the possible columns by which the report can be sorted. In this case, the combo box contains Tag ID, Asset Name, and Location.

Click to generate the report. The report will appear in the report screen on the right.

## 8.1.3.4 New Asset Report

The New Asset Report lists the dates and times that asset tags have been added in the time frame specified.

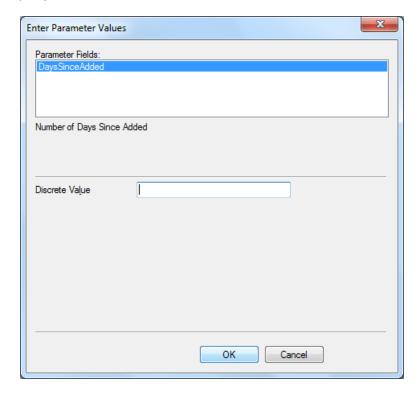
The Asset Removed Report columns are:

- Tag ID
- Asset Name
- Description
- Type
- Time Added

The report is sorted by "Time Added". The most recently added assets will appear at the bottom of the report.

This report will only list those tags that are added or new at the time the report is generated. A tag is considered to be new or added when it receives its first zone assignment after having no zone assignments. A tag is still considered to be new if it used to have access to the facility but had all zone assignments removed previously. As soon as a tag goes from having no zone assignments to at least one zone assignment, it is considered a new tag.

To generate the New Asset Report, double-click on the **New\_Asset\_Report.rpt** node. An Enter Parameter Values dialog displays.



The report parameter is "Number of Days Since Added". In the Discrete Value field enter the number of days the report will cover. Whatever is entered, the report will search for all asset tags added from this moment back that many days. To see the tags added in the last 24 hours, enter a one (1). To see the tag for the last 90 days, enter 90.

Click to generate the report. The report will appear in the report screen on the right.

This report will not show tags that have been added and removed nor each time an asset has been added, only assets that are currently have at least one zone assignment. To see that activity, generate an **Asset Event Report** which can be found under the **System** node.

## 8.1.3.5 Owner Zone Report

The Owner Zone Report lists each zone and the owner tags that are in or were last seen in that zone at the time the report is generated. The owner tags that have never been detected by an RFID antenna are listed in "No Zone".

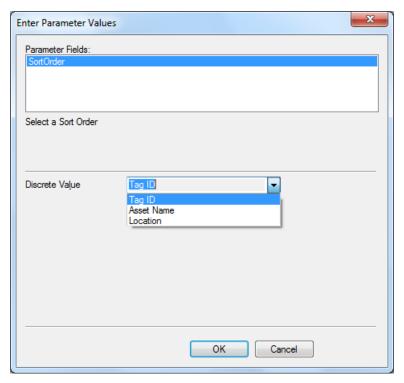
The Owner Zone Report is divided by zones with the "No Zone" appearing first. In columns within a zone are:

- Tag ID
- Name
- Type
- Location Name
- Description

The zones are reported in alphabetical order with "No Zone" being first if there are any tags. If a zone has no tags in it, the zone is not listed in the report.

The data within each zone can be sorted by Tag ID, Asset Name, or Location.

To generate the Asset Zone Report, double-click on the **Owner\_Zone\_Report.rpt** node. An Enter Parameter Values dialog displays.



The report parameter is "**Sort Order**". The **Discrete Value** is a combo box containing the possible columns by which the report can be sorted. In this case, the combo box contains Tag ID, Asset Name, and Location. Asset Name and Owner name are synonymous.

Click to generate the report. The report will appear in the report screen on the right.

# 8.1.4 System Reports

The system reports are:

- History Reports
- Project Notes Report
- System Information Report

# 8.1.4.1 History Reports

The Intelli-Track software allows the daily log files of system activity to be viewed. These log files are generated daily on a midnight-to-midnight time frame. Date ranges, transaction types, and search strings can be entered to produce a specific report of system activity. The data is defined using the History Report dialog.

Once the data is defined, those settings can be saved and reused. The saved history report settings appear under the **Master History Report.rpt** node. Intelli-Track ships with two such reports:

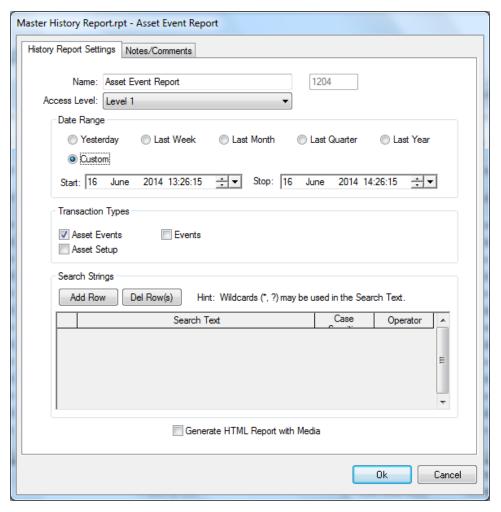
- Asset Event Report
- Asset Setup Report

All Master History reports look basically the same. The columns are:

- Date
- Time
- User/Data
- Card (or Tag Name)
- Status
- Description
- User Comments

## 8.1.4.2 Asset Event Report

The Asset Event Report is a Master History Report of Asset Events. To set the date range for the report, right-click on the **Asset Event Report.rpt** node and select "**Properties...**" to open the properties of the report.



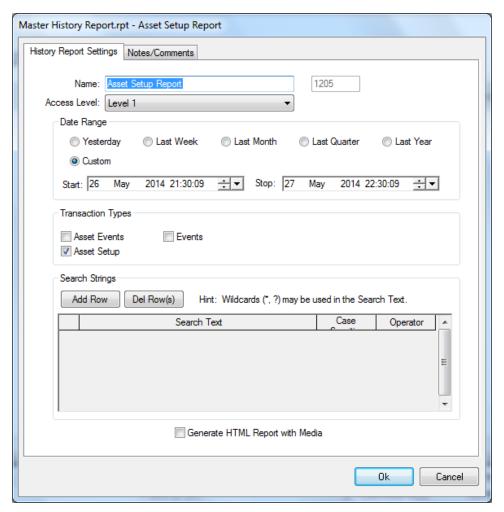
Notice the **Transaction Types** for this report are **Asset Events**.

Select the desired date range. For a custom report, enter the specific start and end dates for the report. Then click The property changes are saved.

To generate the report, double-click on **Asset Event Report.rpt**. The report displays in the report screen to the right.

#### 8.1.4.3 Asset Setup Report

The Asset Setup Report is a Master History Report of Asset Setup system log entries. To set the date range for the report, right-click on the **Asset Setup Report.rpt** node and select "**Properties...**" to open the properties of the report.



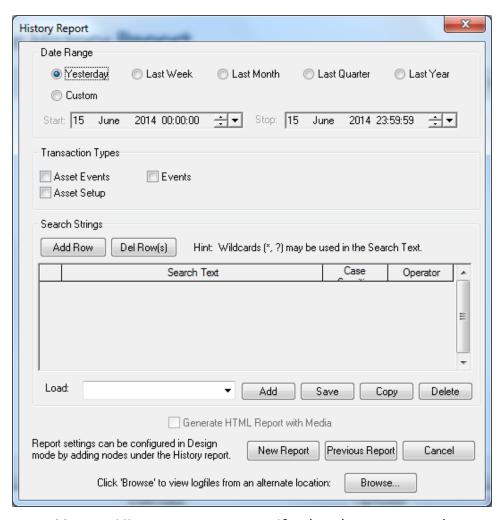
Notice the **Transaction Types** for this report are **Asset Setup**.

Select the desired date range. For a custom report, enter the specific start and end dates for the report. Then click The property changes are saved.

To generate the report, double-click on **Asset Setup Report.rpt**. The report displays in the report screen to the right.

## 8.1.4.4 Master History Report

The Master History Report can report on anything that has been written to the system log files. The History Report input dialog is where the report parameters are defined. This dialog appears when the **Master History Report.rpt** node is double-clicked.



To generate a Master History report, specify the date range, the transaction type, add any search strings, the click the New Report button. The report will display in the report screen to the right.

The user can pick from various report ranges or choose custom and save the parameters of the report to file. The user can then recall that same report pressing the **Load Settings** button and choosing from saved report parameters.

The following details the various elements of defining a Master History report.

## 8.1.4.4.1 Date Range Fields

The **Start** and **Stop** fields are used to enter the start and stop dates and times for the log file search. Only those activities occurring between the dates and times specified will be included in the History Report. The default setting for both fields is the day and time the dialog displays.



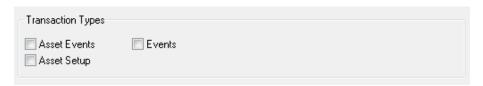
Click the large down arrow button to display the calendar to select a date.

- Use the ≤ and ≥ buttons to scroll to the desired year.
- Use the \( \square\) and \( \sumeta\) buttons to scroll to the desired month.
- Click on a date to select it from the calendar.

Alternately, click the date, month, year, hours, minutes, or seconds setting and use the  $\equiv$  up and down arrows to scroll to the desired setting.

# 8.1.4.4.2 Transaction Types

The transaction type defines which log file transactions to include in the report.



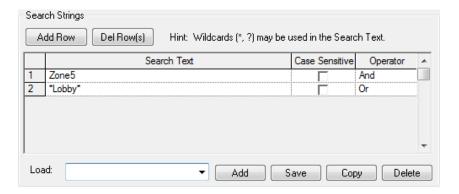
**Asset Event** Events generated by RFID tags that aren't setup events

**Asset Setup** RFID Added and Removed Events

**Events** All events

## 7.1.4.4.3 Search Strings

The Search Strings entries allow further refining of the history report content. The search will locate matched ASCII text strings in the log files. The search feature can be case sensitive if selected. The Operator field allows for AND, OR & NOT Boolean search evaluations.



#### 8.1.4.4.4 Report Buttons

**New Report** Generate a new report from the new data

parameters given

**Previous Report** Display the last report generated

**Cancel** Cancel without generating a report or saving

the settings changes

**Browse** Browse for log files saved in an alternate

location

#### **8.1.4.2 Project Notes Report**

The Project Notes report is a compilation of all of the notes in the Project. Every node in the Project Tree has a **Notes/Comments** field. This report displays all of those notes and comments sorted by Tree Node ID.

The format of the report is:



To generate the Project Notes report, double-click on the **Project Notes.rpt** node under the **System** node **Documentation and Reporting Mode**. The report displays in the report display screen on the right.

## 8.1.4.3 System Information Report

The System Information Report provides a detailed list of the installed Intelli-Track license, the Intelli-Track components that have been installed as well as their versions; in addition it may include other system information. It is a tool for technical support if you ever need to contact them.

To generate the System Information Report, double-click on the System Information.rpt node under the System node in Documentation and Reporting Mode. The report displays in the report display screen on the right. It may take a few moments to generate.

#### 8.2 Intelli-Track User Manual

The **Documentation and Reporting Mode** allows the Intelli-Track User Guide to be viewed. The manual is found on the Manuals tab.

To view the manual, double-click on the Intelli-Track User Guide.htm node on the Manuals tab in Documentation and **Reporting Mode**. The manual will appear in the Document Display screen to the right.

At the top of the Document Display screen is the **Document Toolbar**. The toolbar is comprised of five (5).



Previous Page Go back to the previous page; inactive when grey

Go to the next page; inactive until a

Next Page Previous Page has been performed

Home Return to the beginning of the document

Stop Stop the current

Print Print the document

## Section 9 - Driver Service

The Intelli-Track Driver Service provides the user with the means to manage Drivers. Drivers are the communication interface between the Server and the physical device. In Intelli-Track there is only one available driver, the tresRFID panel driver which communicates with the *tres*RFID receivers.

This section discusses the Intelli-Track Driver Service including:

- Starting the Driver Service
- Driver Configuration
- Statistics
- Global Configuration
- About Driver Service
- Shutting Down the Driver Service

# 9.1 Starting the Driver Service

The Intelli-Track Driver Service is started when the Loader program runs. If the Driver Service is running, a Driver Service icon, will be in the Windows system tray.

Note: The Driver Service icon will change colors depending on the state of the Drivers. See section <u>9.3.3 States of the Driver Icon</u> for the explanation of these colors.

To run the Driver Service by hand, look for the short cut in the Start menu. Remember Intelli-Track is a special version of Intelli-Site. Locate the Intelli-Site folder in the Start menu. In this folder you will find the Driver Service.

# 9.2 Driver Service Tray Shortcut Menu

Right-click the Intelli-Track Driver Service icon in the tray to access the shortcut menu.

**Open:** Opens the Driver Configuration window

**Statistics**: Opens the Driver statistics window

About Driver Service: Opens the Driver Service About

window, which lists copyright information, the

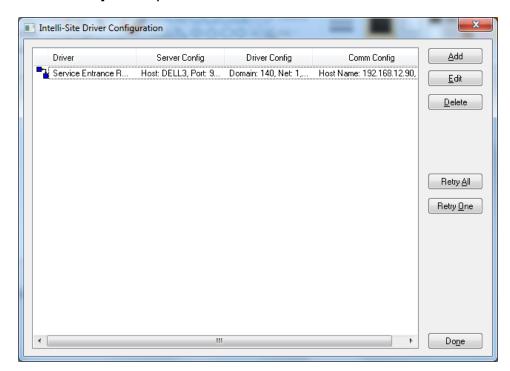
EULA, and version information

**Exit**: Launches the **Shutdown** Menu. The Intelli-

Track administrator may select an **Immediate Shutdown** (shut down immediately) or wait for queued Driver messages to be processed.

# 9.3 Driver Configuration

The Driver Configuration window is where Drivers are added, deleted, and managed. To open the Driver Configuration window, right-click on the Driver Service icon in the System Tray. Select the "**Open**" option from the context-menu.



**Driver:** Lists the Drivers. The color of the icon

displayed next to the Driver shows that Driver's current state. To learn more about Driver States, see section <u>9.3.3 States of the Driver</u>

Icon.

**Server Config:** Lists the Server host and port number for the

referenced Driver

**Driver Config:** Lists the Driver configuration information such

as its **Domain** and **Net** 

Comm Config: Lists the communication configuration for the

equipment with which the drive connects

Opens the Add Driver dialog

<u>E</u>dit

Opens the Driver Configuration dialog for the selected Driver

<u>D</u>elete

Deletes the selected Driver

Retry <u>A</u>ll

Resets all reconnect attempts. The Drivers will reattach any red connections at the next retry opportunity. If the Server side is red, the software performs a complete retry attempt. If the Server is not red and the Driver is, it will retry the Driver side. The Driver side automatically tries to reattach itself, but slows down the retry time from 30 seconds to 1 minute, to 2 minutes to 5 minutes. So, if it is currently waiting for 5 minutes to reattach the driver side, it will try immediately.

Retry <u>O</u>ne

Do<u>n</u>e

Restart the selected Driver

Closes the Driver Configuration window

## 9.3.1 Adding a Driver

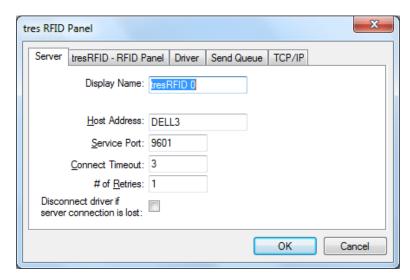
- 1. Click Add
- 2. Select the Driver to be added. Click to continue.
- 3. Select the communication type Rs232 or TCP/IP and click

# Note: Once the communication type is set, it cannot be changed.

- 4. The Driver Configuration window appears. Each RTU has a unique tab that's specific to that RTU. All the others are the same and discussed below in Driver Configuration. Reference the RTU Guide for instructions on configuring the RTU tab.
- 5. Complete configuration and click to continue. The newly added Driver is now listed in the Driver Configuration window in an Offline state (Blue-Blue).

## 9.3.2 Driver Configuration Dialog

#### 9.3.2.1 Server Tab



**Display Name:** The name of the specific Driver

(e.g. Lot D Antenna)

**Host Address:** The host name of the Intelli-Track Server,

the default value is the name of the local computer as the software assumes the

Driver Service and the Server are running on the same computer (though this is not a

requirement)

**Service Port:** The port the Driver will use to connect to the

Server. It MUST be 96## where \*\* are the last two digits in the project name. If the Project name is Intelli-Track 001, the

Service Port must be 9601

**Connect Timeout:** The number of Driver/Server connection

attempts before a Driver times out

**# of Retries:** The number of automatic Driver/Server

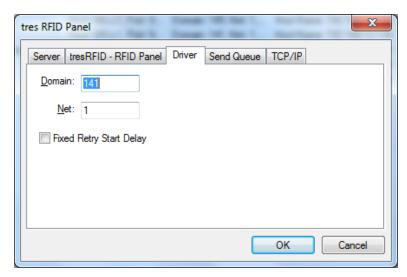
connection retries before a timeout event

**Disconnect driver if server connection is lost:** If checked,

the Driver will disconnect for the device if

the Server connection is lost.

#### 9.3.2.2 Driver Tab



**Domain:** The domain of the Driver, this value must match

the domain number of the RTU as configured within

the Project Node Tree

**Net:** The net of the Driver, this value must match the

net number of the RTU as configured within the

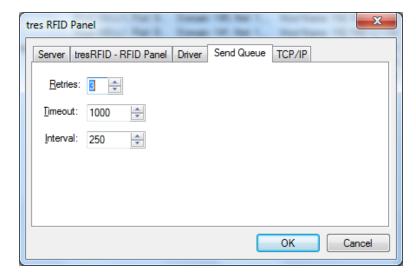
**Project Node Tree** 

Fixed Retry Start Delay: When a driver loses connection with

a field device that is normally polled its default condition is to increment the retry delay (to keep from continuously retrying a lost connection). If this check-box is selected, the retry delay will not increment, so the reconnection attempts will be

continuous at the initial retry rate.

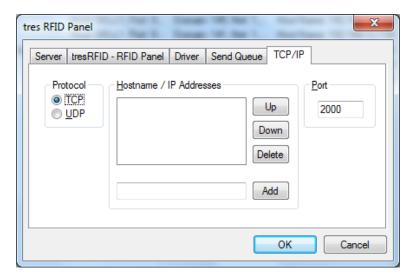
# 9.3.2.3 Send Queue Tab



**Retries:** Number of retries, up to 5

**Timeout:** Time value before packet is timed out **Interval:** Time between packets being sent out

## 9.3.2.4 TCP/IP Tab



**Protocol:** The protocol for Driver communications, either TCP

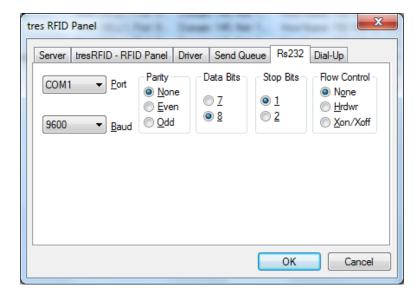
or UDP; TCP is the default

**Hostname/IP Addresses:** The hostname or IP address of the

RTU

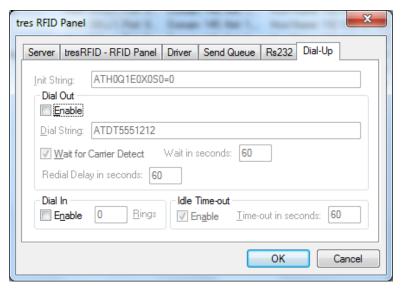
**Port:** The port the RTU listens on

#### 9.3.2.5 Rs232 Tab



All values here are standard COM communication configuration and must match the configuration of the RTU.

## 9.3.2.5 Dial-Up Tab



If the RTU is a dialup device, enter modem configuration parameters here. The fields are standard to modem configuration.

#### 9.3.3 States of the Driver Icon

The color of the icon next to a given Driver shows its state.

**Green-Green:** This Driver is online and functioning appropriately

Green-Yellow: The Driver is timing out

Green-Red: The Driver has timed out

Blue-Blue: The Driver is offline

White-White: Reconnecting

Yellow-Red: Server has timed out

Blue-Blue indicates the user has intentionally left this driver offline; its normal state is offline. The Driver Service icon will be Green-Green when all of the drivers are in their normal state. If at least one of the drivers is not in the normal state, the Driver Service icon will display the different colors too.

#### 9.3.4 Driver Context Menu

The Driver context menu displays by right-clicking on a Driver in the Driver Configuration window. The menu options are:

Online/Offline: sets the Driver online if offline,

and offline if online; this setting is

remembered and applied each time the Driver

Service is started

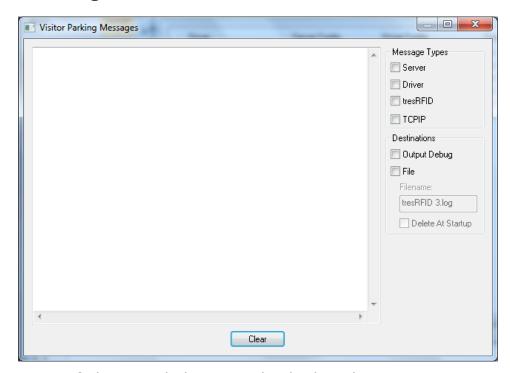
Configure: opens the Driver Configuration dialog

**Messages**: open the Driver Messages window

## 9.3.5 Driver Messages Window

The Driver Messages window allows the user to view all the messages between the Server, the Driver, and the RTU as well as the protocol messages.

To display the Driver Messages window, right-click on a Driver and select "Messages" from the Driver context menu.



The messages of the typed that are checked under **Messages Types** are displayed as they are transmitted or received. To clear the screen, click Clear.

# 9.3.5.1 Messages Types

These checkboxes are the types of messages to display. Any combination of types can be selected. For any messages to display, at least one type must be checked.

**Server:** Display all messages to/from the Intelli-Track

Server

**Driver:** Display all messages to/from the Driver

**tresRFID:** Display all tresRFID RTU messages

**Rs232/TCPIP:** Display all Rs232/TCPIP messages

#### 9.3.5.2 Destinations

In addition to the window, the messages can be written to Output Debug and/or to a file.

**Output Debug:** Reserved for internal use

**File:** Write messages to a file as specified in the

Filename field

**Filename:** The filename in which messages will be

written; all message files are written into the

base Intelli-Site directory (C:\Program
Files\Intelli-Site\Intelli-Site by default)

**Delete At Startup:** Overwrite the file specified in Filename

when starting messages

#### 9.4 Statistics

The Driver Statistics window provides statistics for each of the Drivers. The statistics are cumulative. All of the statistics can be cleared or just the statistics for the selected driver.

The Driver Statistics window is opened by selecting the "**Statistics**" option in the Driver Service Tray Shortcut Menu.

# 9.5 Global Configuration

If the Intelli-Track Server base port is modified, the Global Configuration of all of the Driver Services must be modified as well.

The Global Configuration window is displayed by selecting "Global Configuration" in the Driver Service Tray Shortcut Menu.

#### 9.6 About Driver Service

The "**About Driver Service...**" option of the Driver Service Tray Shortcut Menu opens the Driver Service About window, which lists copyright information, the EULA, and version information.

# 9.7 Shutting Down the Driver Service

To shut down the Driver Service, select "**Exit**" from the Driver Service Tray Shortcut Menu. Then select "**Immediate Shutdown**" from the pop-up dialog to shut down immediately or wait for gueued Driver messages to be processed.

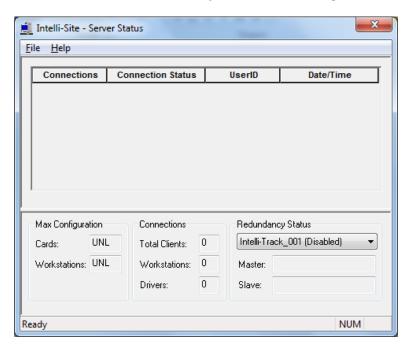
# Section 10 - Server

This section discusses the Intelli-Track Server: Server Status

- Server Registration
- Licensing
- Software Maintenance Agreement (SMA)

#### 10.1 Server Status

The Server Status window displays the operational status of the Intelli-Site Server. To access the Server Status window, right-click the Server Icon in the tray and select "Open...".



**Connections:** The name of the computer/Driver

connected to the Server

Connection Status: The connection's status

**UserID:** The ID (name and ID number) of the user

on that connection, if applicable

**Date/Time:** The date and time the connection was

established

Max Configuration group box

Cards: Not Applicable to Intelli-Track

The number of cards allowed in the card

management database

Workstations: The number of Workstations allowed in

this license

**Connections** group box

**Total Clients:** The current number of clients connected

to the Server

**Workstations:** The current number of Workstations

connected to the Server

**Drivers:** The current number of Drivers connected

to the Server

**Redundancy Status** group box

**Project:** This drop down field lists all Projects

current running on that Server. To view

the status of a Server running a

redundancy enabled Project, select the Project in this field. The Server's status will show in the corresponding fields listed

below

**Master:** Lists the current Master Server, assuming

the Project selected is a redundant Server

Project

**Slave:** Lists the current Slave Server, again

assuming the Project selected is a

redundant Server Project

10.1.1 File Menu

The following are the File menu options:

**Register...** Launches Server Registration

**Refresh** Refreshes the data shown in **Server Status** 

Always On Top Places the Server Status window so that it is

always the foremost screen

**Hide** Hide the **Server Status** window; to view

again, click on the Server icon in the tray

**Update Configuration** Runs the Configuration Unlock program;

see 10.4 Licensing

**Update SMA** # Allows the user to enter the SMA number; see

10.5 Software Maintenance Agreement (SMA)

**Check Cards** Not Applicable to Intelli-Track

Performs card management maintenance (i.e. revoke access to expired cards to all panels) on demand. This function is run automatically every midnight, but can be forced to run by

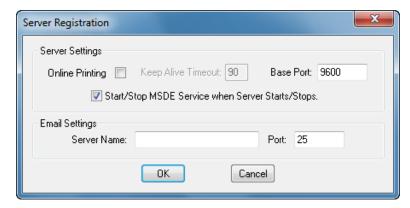
using this function.

## 10.1.2 Help Menu

The Help menu contains one option, "**About Server**". Selecting this opens the About Intelli-Site Server windows which lists copy right information, the EULA, and version information.

# 10.3 Server Registration

Server Registration allows the user to configure a few base settings for the Intelli-Track Server. The Server Registration dialog can be found by selecting the "**Register...**" option of the File menu in the Server Status window.



Online Printing: This checkbox enables printing of logged

events as they occur; the default setting is

unselected.

Keep Alive Timeout: The time, in seconds, after which the

Workstation will be notified that Server has

gone offline

**Base Port:** The base port default is 9600 and rarely

needs to be changed

Note: If the Server base port is changed, the Workstation(s) base port(s) must be changed to match, and Driver(s) service port(s) must be set to the same range as the Server.

## **Start/Stop MSDE Service when Server Starts/Stops:**

MSDE is a database management service that is installed with Intelli-Track. Selecting this checkbox will ensure that the service automatically stops when the Server stops and starts when the Server starts.

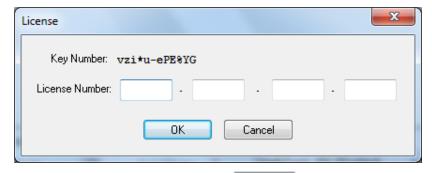
**Email Settings**: **This option is obsolete.** Email settings are

handled elsewhere.

# 10.4 Licensing

A license is not required to run the Intelli-Track software. Without one, the software will run in **Demonstration Mode**. Demonstration Mode restricts functionality allowing active driver connections for a maximum of three hours. The Server will automatically shut down after three hours, but it can be restarted. There is no limit to the number of times the software can be restarted. Demonstration Mode allows the user to design and demonstrate the project before it is put into the field.

Every time an unlicensed Intelli-Track Server is started, the License dialog will appear.



To run in Demonstration Mode, click Cancel

The license number is based on the Key Number displayed in the License dialog. Every computer will generate a unique Key Number. To obtain a license send the Key Number (and appropriate Purchase Order reference) to technical support. Save a screen shot of the License dialog and email it with the Purchase Order reference to <a href="mailto:licensing@ossi-usa.com">license</a> is generated and returned in 1 to 2 business days. Usually the license is sent out the very same day.

Note: At the same time a request for license is sent, go ahead and request an SMA number as well. See 10.5 Software Maintenance Agreement (SMA).

If the Intelli-Track Server is running, the license can be entered via the Server Status window. Select the "**Update Configuration...**" option in the File menu to open the License dialog.

The license key is case sensitive. It must be entered exactly as it appears in the email message or it won't be accepted.

# 10.5 Software Maintenance Agreement (SMA)

A Software Maintenance Agreement (SMA) provides the product updates for defect fixes, software upgrades, and technical support for the duration of the agreement. A one-year SMA is included in the purchase of Intelli-Track. Like the license, the SMA number is tied to the computer hardware on which the Intelli-Track Server is installed.

The SMA number must be set in Intelli-Track before a software upgrade is allowed. Therefore, it is strongly suggested that the SMA Key be sent to technical support at the same time the license is requested.

Locate the SMA Key using the "**Update SMA** #" option of the File menu of the Server Status window.



Send the SMA Key Number along with the Purchase Order information to <a href="mailto:licensing@ossi-usa.com">licensing@ossi-usa.com</a>. When technical support sends the SMA number back, enter that number here.

 Intelli-Track User Guide	
miem Hack eser Gaiae	

# **Appendix I – Domain Table**

<b>tres</b> Receiver Name	Domain

# Appendix II - Glossary

- 1. **Added Tag** A tag that previous had no zone assignments but now has at least one.
- 2. **Alarm -** An I/O Point that is set to Add to Queue on High or Low will present an Alarm to the operator in Run Mode
- 3. **Base Port –** The Server's TCP base port
- Checkbox Software object that can be selected by the operator or programmer
- 5. Child A sub-folder or sub-node element in the tree
- 6. **Constructs** A software element or object that provides for a central location for related parameters or functional elements
- 7. **Control Points** A point used to control a Screen Object state or that allows Actions to be executed in an Action Grid
- 8. **Database** Database is used for card holder management, custom database functionality, and, optionally, event logging
- 9. **Demonstration Mode** An unlicensed installation of Intelli-Track with restricted functionality allowing active driver connections for a maximum of three hours; there is no limit to the number of times the software can be restarted
- Display Control Points A Display Control Point is used to allow the state of a Screen Object to display
- 11. **Drag-and-Drop** Using the mouse to add parameters to an object's property page or to add objects to a graphic screen. Left click on the item and hold the left mouse button down while moving the object, then release the left mouse button to drop the object.
- 12. **Driver** A software construct that allows communications between the field device and the Intelli-Track system.
- 13. **Driver Service** A software framework used to manage driver connections to various field devices
- 14. **Drop-Down Menu** A window's combo box that offers the user a choice of options for selection
- 15. **Event** Any function that is reported to or operated upon by the Intelli-Track system; may include Alarms, tag actions, system notifications or operator actions
- 16. **Field** A configurable parameter on a property page
- 17. **Graphics Design Mode** The Intelli-Track mode within which the user can create graphics objects, modify the tree, and complete other project file modifications
- 18. **Heartbeat** A regular signal sent by the Intelli-Track system from the server to the other devices (Workstations, other servers, and field devices) on the Intelli-Track network. The Heartbeat is used to determine the operational status of all of the devices on the network.

- 19. **I/O Points** Any input to or output from the Intelli-Track system
- 20. **ID** The identification number assigned to each object in the tree (automatically assigned)
- 21. **Key Number –** The number generated by the computer during licensing
- 22. **License Number** A number issued by Intelli-Track, matched to the Key Number, authorizing the use of the Intelli-Track software for the keyed computer
- 23. **Loader Program** The Intelli-Track Loader program is a batch-file launcher that allows the user to start all Intelli-Track programs from a single desktop icon; in addition, other "non-Intelli-Track" programs may be launched as long as the program executables reside in the Intelli-Track sub-folder
- 24. **Mode** The Intelli-Track user interface is divided into various Modes: Run Mode, Graphic Design Mode, Documentation and Reporting.
- 25. **New Tag** A tag that previous had no zone assignments but now has at least one.
- 26. **Node** All project elements (objects) are represented as nodes in the project node tree and stored in the project.bin file in the project directory (C:\\Program Files\Intelli-Site, Inc\Intelli-Site\Sites\Intelli-Track\_001)
- 27. **Node Tree –** The graphical representation of the Intelli-Track project file
- 28. **Object –** Any software element in the Intelli-Track project
- 29. **Parent –** Any node that has sub-nodes
- 30. **Password** Project access security password
- 31. **Popup** A screen that "pops-up" over the main screen
- 32. **Project** Intelli-Track's functional parameters are created and stored as a project
- 33. **Project Directory** The subdirectory, located under the Sites directory that contains all of the project file elements
- 34. **Project File** Specifically, the project.bin file which contains the binary representation of all project data elements
- 35. **Properties -** Any user-configurable software element
- 36. **Property Page** Every node has a property page with one or more tabs. These are used to configure all of the functional elements of the node.
- 37. **Pulse** Set an I/O point on for its pulse duration as configured under the properties of the point and then sets the point off
- 38. **Radio Button** A parameter that can be selected as true or false, that is related to other elements, the selection of which is mutually exclusive
- 39. **Randomized Keypad** A login password technique that populates a hexadecimal keypad in a random layout each time it is presented to the user
- 40. **Removed Tag –** A tag that no zone assignments

- 41. **Reprogramming Wizard** A semi-automatic method for reprogramming the functional elements of a Screen Object or a Screen
- 42. **RTU** Remote Terminal Unit Any field device or software object that can be communicated with by Intelli-Track (e.g., a *tres*RFID Receiver)
- 43. Run Mode The primary operator's interface in Intelli-Track
- 44. **Screen Objects** Programmable graphic elements used for display and control
- 45. **Server –** The Intelli-Track Server software
- 46. **Server Redundancy** The method for ensuring high availability of the Intelli-Site Server
- 47. Sub-node A child node
- 48. System Monitor A video target
- 49.**T/S Keyboard –** 101-key keyboard display used for touch-screen only applications
- 50. **Tree** The graphical representation of the Intelli-Track project
- 51. Virtual Point A software I/O point
- 52. Virtualize Setting an RTU to Virtual mode
- 53. **Workstation** The Intelli-Track software element that allows user interface to the Intelli-Track system