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**INFORMATION DISPLAY**  
COMPANY

# Installation and User Guide

## DC-FB

### DeviceController™ For Flashing Beacon Systems



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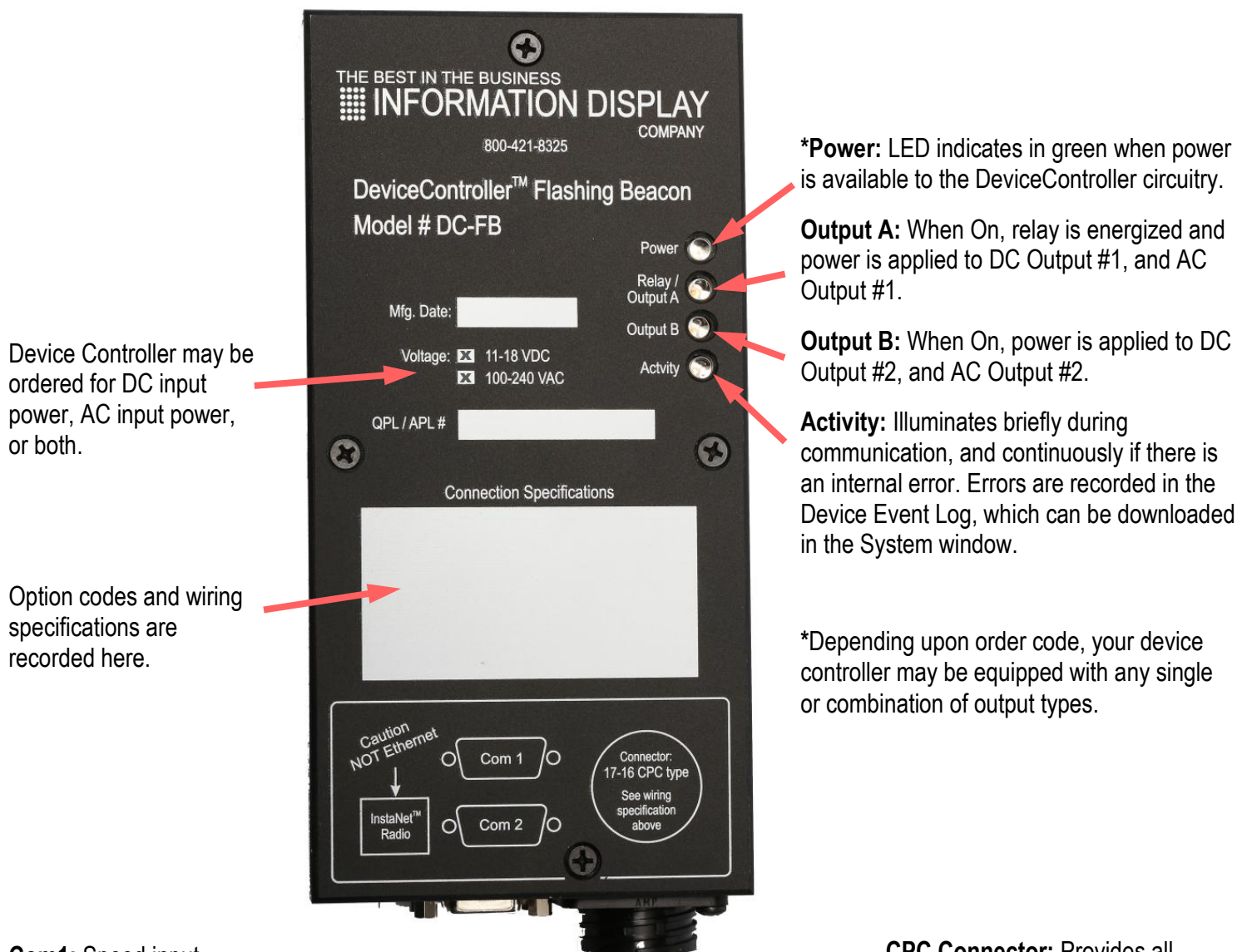
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# DeviceController™ Flashing Beacon Physical Diagram



Device Controller may be ordered for DC input power, AC input power, or both.

Option codes and wiring specifications are recorded here.

**\*Power:** LED indicates in green when power is available to the DeviceController circuitry.

**Output A:** When On, relay is energized and power is applied to DC Output #1, and AC Output #1.

**Output B:** When On, power is applied to DC Output #2, and AC Output #2.

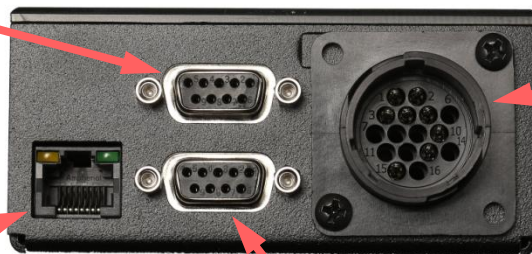
**Activity:** Illuminates briefly during communication, and continuously if there is an internal error. Errors are recorded in the Device Event Log, which can be downloaded in the System window.

\*Depending upon order code, your device controller may be equipped with any single or combination of output types.

**Com1:** Speed input (radar or other speed measurement device) for data collection and speed and presence sensing.

InstaNet™ 900MHz Radio Node connector.

**Amber LED** indicates power to radio is On,  
**Green LED** indicates radio link is active.



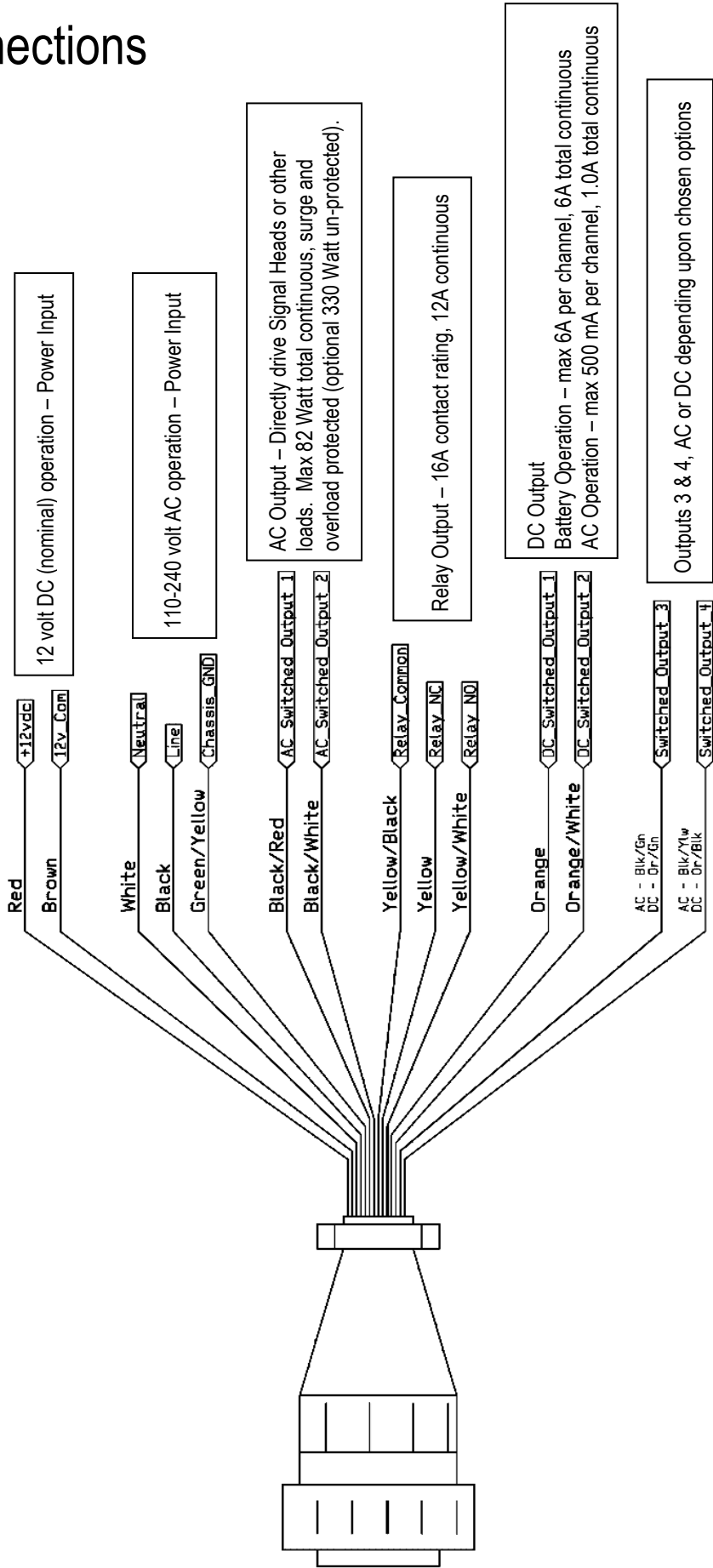
**Com2** - Connect to the DeviceController using communication devices such as Serial Cable, Ethernet Converter, Cellular Modem, Ethernet Radio, or other RS-232 capable serial devices.

**CPC Connector:** Provides all inputs and outputs to the Device Controller.

Wiring of the connection may vary according to purchase specifications to meet differing standards in different areas.

**The following cable diagram shows the standard variations.**

# Device Controller Cable Connections – IDC Standard



# Software Installation

## Introduction

DeviceManager™ is designed for use with Information Display Company (IDC) devices manufactured after January 2002. Field upgrades are available for all units manufactured before that date.

The installer is found on the CD enclosed with your product or provided by IDC customer service.

☞ **Note: The person running the installer must have administrative rights to the computer.**

### **Note to previous DeviceManager or DisplayManager users! PLEASE READ BEFORE INSTALLING.**

The installer will preserve your previous data files and Scheduler settings. The installer will prompt you to make a backup copy of your files if you so desire. All files in the My Documents\SpeedCheck\Documents and Settings\All Users\Shared Documents\SpeedCheck\Data Files or Users\Public\Public Documents\SpeedCheck\Data Files folder will be moved to the new directory location of:

**[Windows XP]** C:\Documents and Settings\All Users\Shared Documents\DeviceManager\Data Files  
OR

**[Vista, Windows 7 and later]** C:\ProgramData\Information Display\DeviceManager\Data Files

☞ **Note:** The Excel-based TrafficAnalyzer has been replaced with a version which does not require Excel. The old Excel-based Traffic Analyzer program and data have been saved in the Data Files folder in a folder named "Old Data files."

## System Requirements

1. PC running Windows XP or later operating system.
2. The installer will check for the presence of Microsoft **.NET Framework V2.0 or higher**, which is required to run DeviceManager. .NET Framework V2.0 is a free upgrade available from the Microsoft website.
3. The installer will check for the presence of Microsoft **.NET Framework 4**, which is required to run the TrafficAnalyzer application. .NET Framework 4 is also available from Microsoft as a free download.

## File Names

Software and firmware files used by the DeviceManager system include the following:

**IDC Firmware <xxxx>.hex** is the firmware program that resides in the device, controlling all functions of the display and any options purchased with it. This file can be updated through your DeviceManager application.

**<device\_name> <mm-dd-yy> <hh:mm>;[\_nn].csv** is the vehicle speed data file as it appears on your PC after downloading.

This file will be saved in:

**[XP]** C:\Documents and Settings\All Users\Shared Documents\DeviceManager\Data Files  
OR

**[Vista, Windows 7 and later]** C:\ProgramData\Information Display\DeviceManager\Data Files

The data file name will have a trailing two-digit file number representing the time of day the data files were downloaded. For example, "Fifth & Main Sep-26-08 15;44.csv"

## DeviceManager Software Overview

1. **DeviceManager:** This software runs on a PC device enabling the user to set up the various functions of a sign or flasher, run the Scheduler, and download vehicle speed data.
2. **TrafficAnalyzer:** This software is loaded on the PC to process the raw data to provide visual aids for analysis of the traffic speed data gathered by the data logging device.

### How to Install the Software

**STEP 1:** The person running the installer must have administrative rights.

**STEP 2:** Check to make sure you have the following:

Windows XP or later operating system  
DeviceManager Software installation CD or downloaded file set

**STEP 3:** Insert the DeviceManager Software installation CD.

Double-click the **DeviceManager Installer** file and follow the prompts on the screen to complete the installation. If the installer does not detect “.NET Framework 2”, the installer will quit. If “.NET Framework 4” is not detected, a warning will appear.

**STEP 4:** Confirm that each user has a desktop icon for DeviceManager and another desktop icon for TrafficAnalyzer.

### Upgrading Firmware in Devices Previously Using our Legacy “SpeedCheck PC” Application

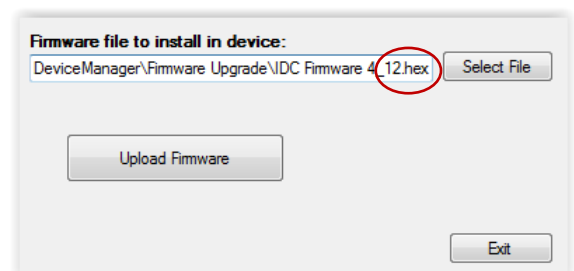
Users of the legacy **SpeedCheck PC** application must install new firmware on each device to ensure full compatibility. The installer program has loaded the latest firmware version ready for uploading to the device. You must be connected with a device to install the new firmware.

1. First connect to your device with Bluetooth, cable, or InstaNet remote communication. See [Onsite/Bluetooth Connection Setup](#).
2. On the System tab, choose **Install New Firmware**. DeviceManager automatically looks in the Firmware Upgrade folder for the latest firmware file.
3. Click on **Select File**. This will bring up the location of one or more firmware files. Firmware files have a **.hex** extension and are placed in the following folder:

[XP] C:\Documents and Settings\All Users\Shared  
Documents\DeviceManager\Firmware Upgrade

OR

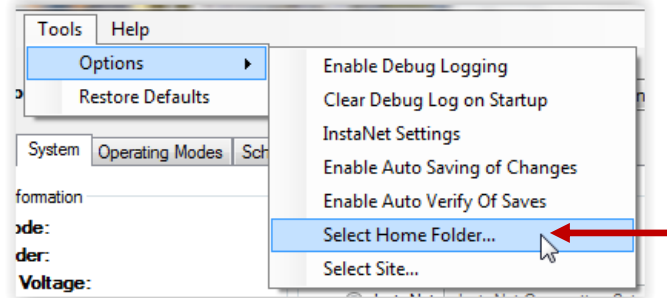
[Vista, Windows 7 and later] C:\ProgramData\Information  
Display\DeviceManager\Firmware Upgrade



4. If more than one firmware file is located in the Firmware Upgrade folder, choose the file with the larger numeric value and click on **Open**. This will bring you back to the screen above.
5. Click on **Upload Firmware**.  
After a successful firmware file upload, the device resets and, if enabled, displays the test sequence. Check the current date and time and update, if necessary. Before setting the time and date, you should download any vehicle speed data you want to keep. See the section on [Downloading Traffic Data](#).

☞ **Note:** If an operating schedule was active at the time of firmware uploading, that schedule will remain active. If the Scheduler was not being used, the operating modes remain as they were set in the Operating Modes tab prior to uploading firmware.

**Unusual installation situation:** For security reasons, some workplace networks move the My Documents folder to a location other than the PC's hard drive. DeviceManager on Windows XP saves and references files stored in the DeviceManager folder located in the My Documents folder. The My Documents folder must be available for the installer to work successfully. After installation, the My Documents folder can be moved to a location of your choosing, e.g., a network location. Choose **Select Home Folder** in the Tools/Options menu to point to the new folder location.





# Introduction to DeviceManager™

## Overview

The DeviceManager application is produced by Information Display Company and provides communication between a Windows-based personal computer and Information Display Company's speed display signs, flashers, and device controllers.

The DeviceManager application is designed to communicate directly with our hardware via Bluetooth® wireless, a direct serial cable connection, or wireless cell modem or radio connection.

## Requirements

The DeviceManager application will run on any Windows operating system, Windows XP or later. DeviceManager requires that the **.NET Framework v2.0** or later is installed. The .NET Framework V2.0 is a free upgrade available from the Microsoft® website and the newest version is included on all new PCs. The communication method must be Bluetooth, RS-232 cable, or Network.

Cable connection requires your laptop to have an RS-232 com port available. USB to RS-232 adapters are available at most computer stores.

A compatible external Bluetooth device is shipped with all new software packages. Bluetooth communication hardware is built into many laptops and is also available as an external USB plug-in device. **Not all built-in Bluetooth modules will communicate with IDC devices.** Laptops using the Motorola Bluetooth driver will not work with DeviceManager.

The external Bluetooth device provided is a Class 1 Bluetooth device capable of communication distances of up to 300 feet. Laptop computers with internal Bluetooth usually use Class 2 or 3 devices with limited communication distances of 30 feet or less. **For best results always use the Bluetooth device provided with DeviceManager.** See the instructions included with the device to choose between internal and external Bluetooth.

## DeviceManager™ Operation

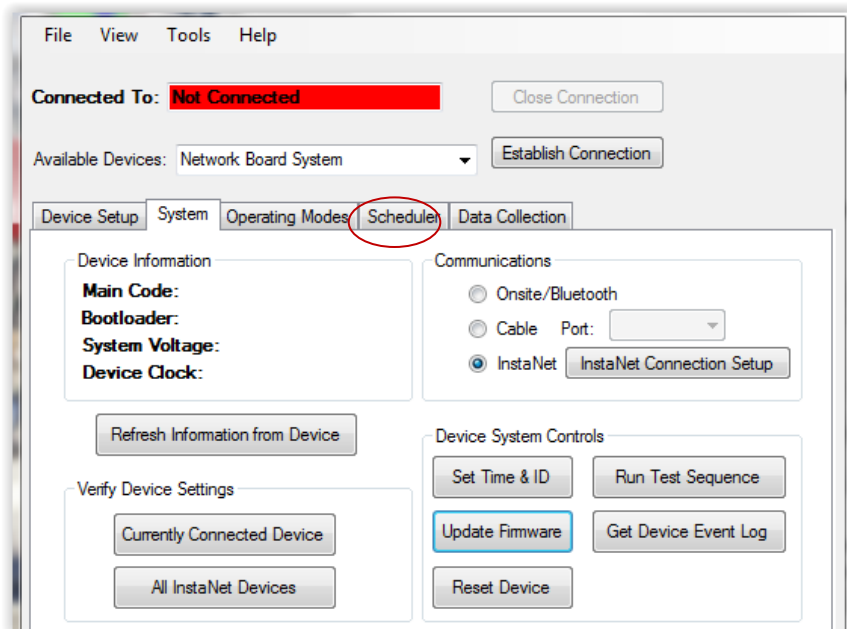
DeviceManager allows the setting of communication and operation parameters of the system. There are five basic steps in using DeviceManager.

1. Select the communication method: Onsite/Bluetooth, Cable, or InstaNet.
2. Establish communication with the IDC device.
3. Set the device's internal clock-calendar and provide an alphanumeric name for the device.
4. Select whether one set or two sets of speed settings will be used, or if the Scheduler is to be used.
5. Enter the desired parameters for the choice selected in #4 above
  - a. If the Scheduler is not used, enter the desired speed parameters and apply the settings to program the device.
  - b. If the Scheduler is to be used, create a schedule or use an existing one and send the schedule to the device.

**Note:** You can set up multiple schedules without connection to the device. You can select and apply the appropriate schedule once connected to the device.

# Initial System Screen

Before connecting to a device, the initial DeviceManager screen appears as shown here.



Several tabs are displayed to allow you to set program options.

The **Scheduler** tab allows you to create and edit schedules without being connected to a device. You will send the schedules to a device after establishing a connection.

If a device is not configured for Scheduler, the Scheduler tab will not be displayed when connected.

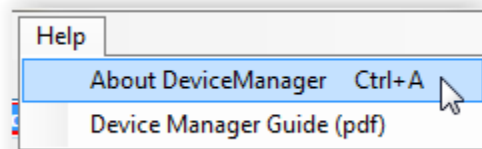
All other tabs require connection to the device before changes can be made.

## DeviceManager Version

The version number of DeviceManager currently installed can be found by clicking on **Help** and choosing **About DeviceManager**.

## DeviceManager Guide

This document can be viewed at any time by selecting **Device Manager Guide (pdf)** from the Help menu. A PDF viewer, such as Adobe Acrobat® reader, must be installed to view the guide.



# Communication Methods


A communications method must be chosen before establishing a connection. Each communication method requires its own unique hardware setup.

- **Onsite/Bluetooth** requires a PC laptop with internal or external Bluetooth capabilities. External is preferred. You must be within range of the receiving device to send and receive information using Bluetooth technology. The maximum range is theoretically 300 feet with the external Bluetooth device; however, the shorter the range, the more quickly and accurately you can send information. For best results, position yourself in front of the device using the external Bluetooth.
- **Cable connection** requires an RS-232 serial port connection on your laptop. Most laptops manufactured today do not have an RS-232 com port. USB to RS-232 adapters are readily available at most computer stores.

- **InstaNet** enables the user to change function settings, update firmware, download speed data, and perform diagnostics, all from a central office location. Communication methods include fiber via media converter, WAN TCP/IP via Ethernet converter, cellular modem, radio/RF modem via serial cable or Ethernet converter, and direct serial connection.

## Onsite/Bluetooth Connection Setup

When connecting using Bluetooth, the **Establish Connection** button will bring up a window with a listing of all the Bluetooth devices in the area. In addition to the DeviceController or other IDC product, it may also show cell phones, headsets, computer mice, etc. For this reason, it is important for you to set your Device ID with a name describing what it is and including its location, e.g., "Lincoln HS Flasher North," so you can verify that you are connecting to the correct device.

1. Insert the USB Bluetooth dongle provided in a USB port on your laptop. Wait for recognition. The Bluetooth icon will appear among the task bar icons at the bottom of the screen. 

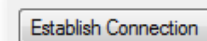
2. Open **DeviceManager**. The window should show Not Connected on a red background.

Connected To: **Not Connected**

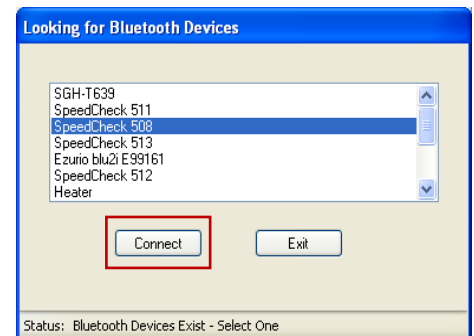
3. Click the **Onsite/Bluetooth** button.



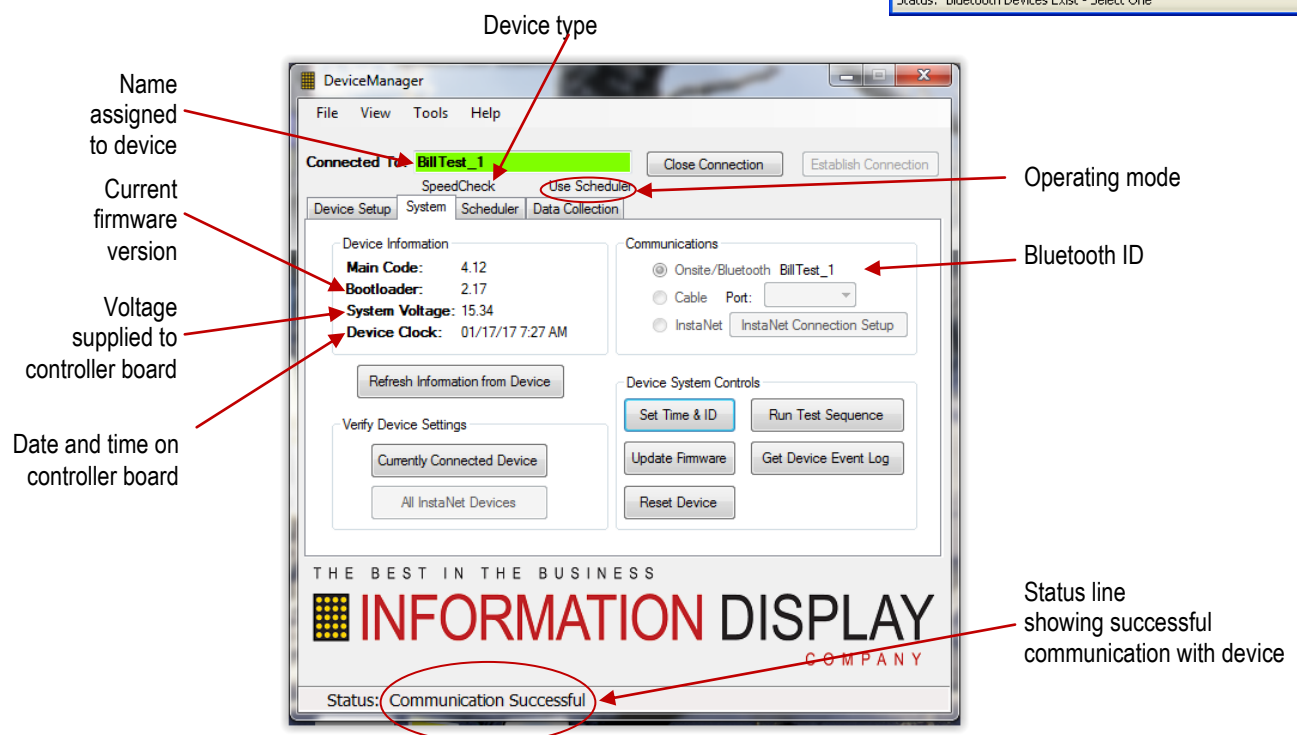
4. Click on **Establish Connection**.



5. Bluetooth devices within range will appear in the window. Highlight the correct device and click the **Connect** button.



When connected, the background is green and DeviceManager will display the Device ID and other information.



## Cable RS-232 Serial Connection Setup

A cable connection requires a standard RS-232 cable. Most laptops manufactured today do not have an RS-232 port. USB to RS-232 adapters are readily available at most computer stores.

1. Connect the serial cable between the computer and Com2 of the Device Controller.

2. Window should show Not Connected with a red background.

3. Click the **Cable** button and choose the correct COM port number, if your PC has multiple ports.

4. Click on **Establish Connection**.

Establish Connection

Connected To: **Not Connected**

### Communications

☐ Onsite/Bluetooth

☒ Cable Port: **COM1**

DeviceManager will connect immediately to the device. The background is green when successfully connected. See the **Communication Successful** status line as in the screenshot above.

## InstaNet Connection Setup

With the InstaNet communication network, each device can be programmed, updated or changed, and data can be downloaded without having to travel to the device location.

InstaNet is the trade name for IDC's remote device connection option set. Communication methods include fiber via media converter, WAN TCP/IP via Ethernet converter, cellular modem, radio/RF modem via serial cable or Ethernet converter, and direct serial connection.

Resources required:

- DeviceController
- An InstaNet connection option installed in the device
- PC with DeviceManager installed and Internet connectivity
- Knowledge of the device's remote IP address and associated device location

The Device ID is the "name" you have given to the DeviceController via **Set Time & ID**. The Device ID must also be unique and descriptive enough for you to identify each device. No two devices can have the same Device ID.

### Communications

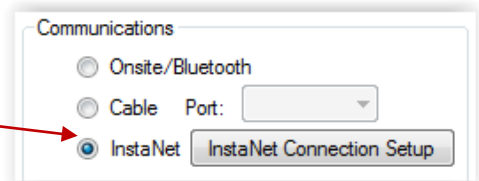
☐ Onsite/Bluetooth

☐ Cable Port:

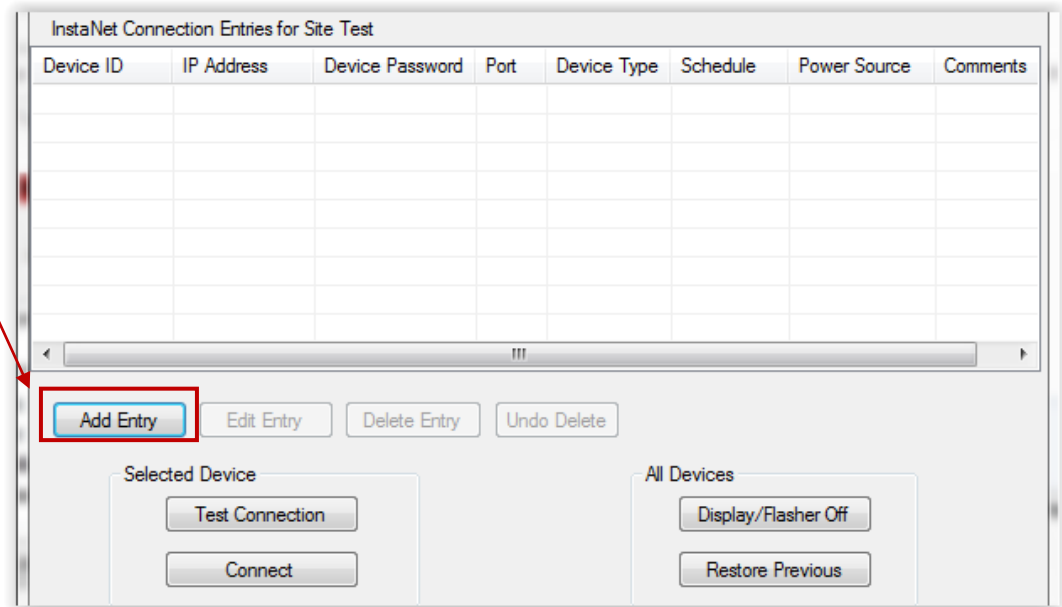
☒ InstaNet **InstaNet Connection Setup**

## Initial connection of InstaNet-enabled devices

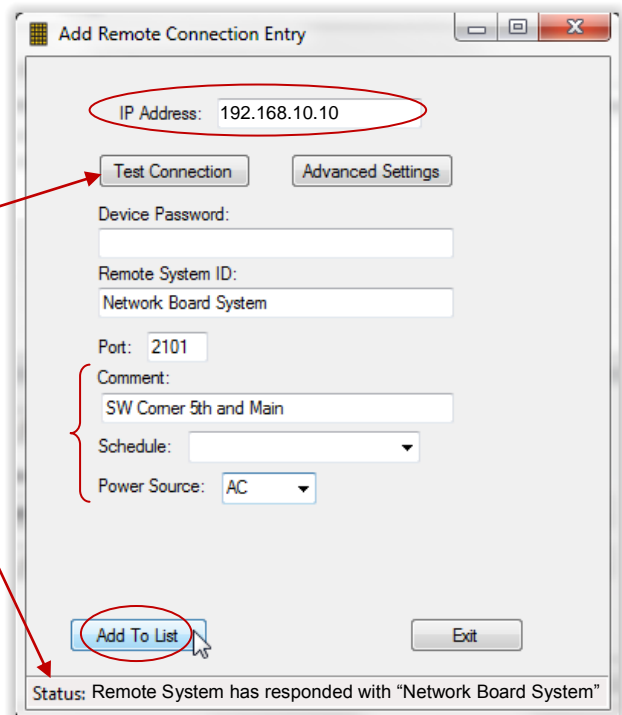
1. The wireless modem must be activated and configured with a valid IP address. Make sure the device is powered on for at least two (2) minutes before trying to connect with it.
2. From the Communications screen choose the InstaNet button and click on **InstaNet Connection Setup**.



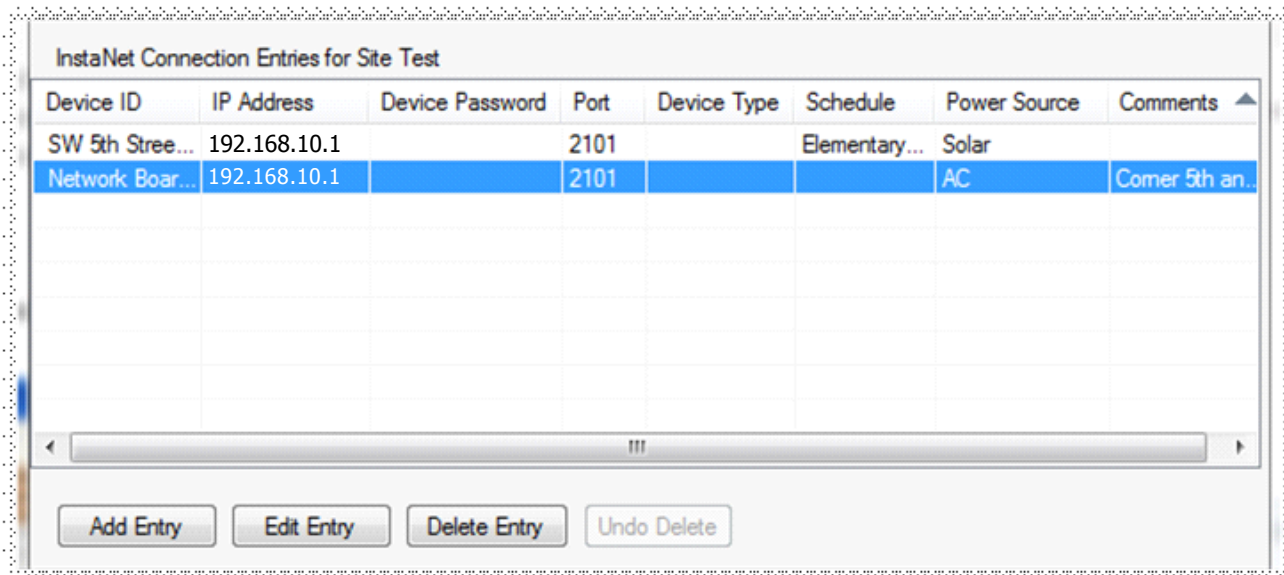
3. Click **Add Entry**.



4. Enter the IP address of the cell modem, Ethernet converter, IDC InstaNet Hub, radio modem, or media converter.
5. A password may or may not have been enabled during the device setup. If a password is in use, type it into the Device Password field.
6. Click on **Test Connection**.  
A successful connection will respond with "Remote System has responded with *name of device*" in the **Status** bar.
7. Add optional information, such as a comment, schedule and power source.
8. Click **Add To List**.
9. Repeat the process for each device having an IP address.



This InstaNet Connection Setup window is also used to edit or delete existing device connections. The columns in this window can be resized to make viewing easier.



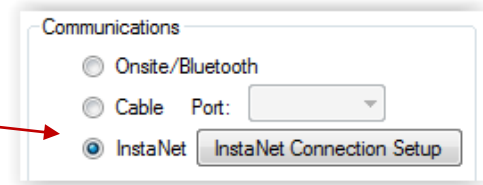
The screenshot shows a window titled "InstaNet Connection Entries for Site Test". It contains a table with 8 columns: Device ID, IP Address, Device Password, Port, Device Type, Schedule, Power Source, and Comments. The second row is highlighted in blue. Below the table is a horizontal scrollbar and four buttons: "Add Entry", "Edit Entry", "Delete Entry", and "Undo Delete".

Device ID	IP Address	Device Password	Port	Device Type	Schedule	Power Source	Comments
SW 5th Stree...	192.168.10.1		2101		Elementary...	Solar	
Network Boar...	192.168.10.1		2101			AC	Comer 5th an..

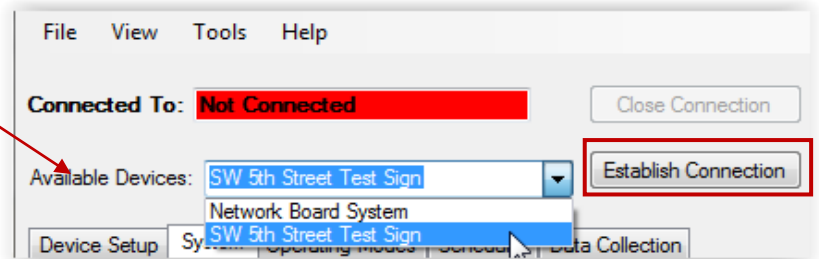
Buttons: Add Entry, Edit Entry, Delete Entry, Undo Delete

## Connect to a Single Network-connected Device

Click on the **InstaNet** button in the Communications window.



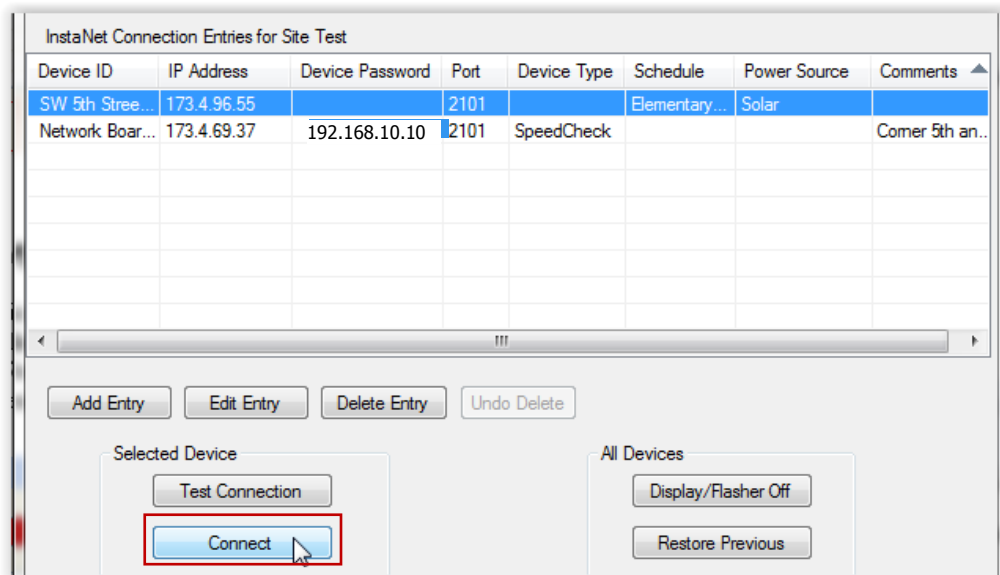
From the Available Devices drop-down list, choose the device you want to connect to and click on **Establish Connection**.



Once connected, the device name shows in green and you now have remote access to all user enabled features of the Device.

**Warning:** Do not click on **InstaNet Connection Setup** as this will break the current InstaNet connection.

You may also choose a device from the InstaNet Connection Entries, then click on **Connect**.

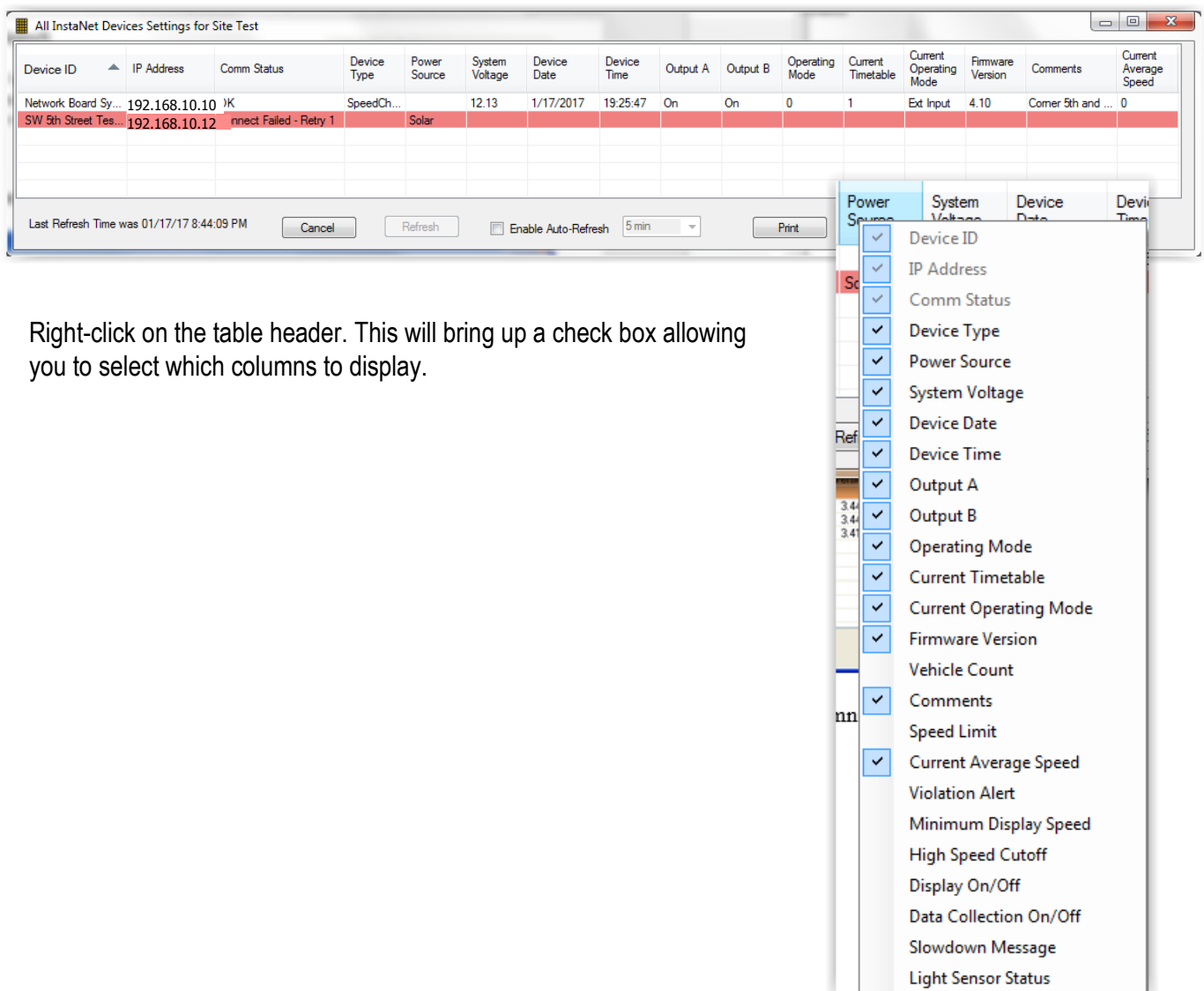


[View All InstaNet Devices](#)

Click on **"All InstaNet Devices"** to test the connection to every device entered in the InstaNet Connections Entries screen. Only those devices properly configured for Internet / InstaNet access will display.

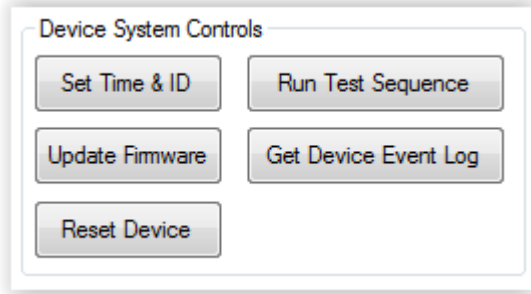
This enables two-way remote communication from your TMC to be able to program and update your devices, download speed data, and conduct diagnostics via NTCIP, fiber, WAN TCP/IP, cellular modem, radio/RF modem, serial, or Ethernet.

The table below is a sample of the information received back from the devices. Column width is adjustable. Click on a column header to sort by that field.





# Device System Controls



**Set Time & ID** allows you to enter a name for the device location in the device itself, and to set the internal time and date clock. The ID field allows up to 24 alphanumeric characters. Be as specific as possible when naming devices. This will help identify the device when connected to it remotely.

**Run Test Sequence** turns outputs ON and OFF in sequence for two (2) seconds each.

**Update Firmware** allows you to choose a new firmware file, typically provided by the Information Display Company support department, and install that new firmware into the display.

**Get Device Event Log** downloads the event log from the device, saves it as a text file and displays it in a popup window in reverse time order (e.g., most recent entry first.)

**Reset Device** will reset the device and rerun the power-on Test Sequence, if enabled. Self-test activates each output successively for two (2) seconds each. You will not be able to communicate with the device until it has completed the reset.

## Set Time & ID Screen

The Set Time & ID screen allows naming of the display location (24 characters) and setting the display's internal clock-calendar.

Resetting the time will erase the data collection memory. If you have data you need to download, do so before resetting the time and date. See the section on [Downloading Traffic Data](#).

We recommend setting the Device ID string to a recognizable name such as an intersection or landmark name for later identification. Examples are "Flashers – IDC Elementary" or "Flasher 6th & Main". Do not use (-, / \,).

Time Reference will appear only if you have the GPS TimeKeeper option installed. Time Reference tests the operation of the GPS.

A screenshot of the "Set Time & ID" screen. At the top, there is a label "Device ID:" followed by a text input field containing "SW 5th Street Test Sign" and a dropdown arrow. Below this is a "Date" section with a text input field showing "01/18/17" and a "Today's Date" button. Underneath is a "Time" section with a text input field showing "09:07 PM" and a "Current Time" button. There is a checkbox labeled "Enable Daylight Savings" which is checked. At the bottom, there is a "Time Reference" button, a "Send Changes to Device" button, and an "Exit" button.

## Install New Firmware Screen

DeviceManager automatically looks in the Firmware Upgrade folder for the latest firmware file.

1. Click on **Select File**.

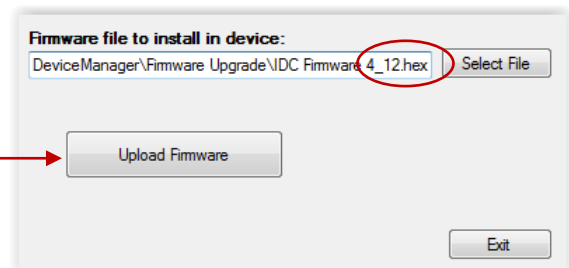
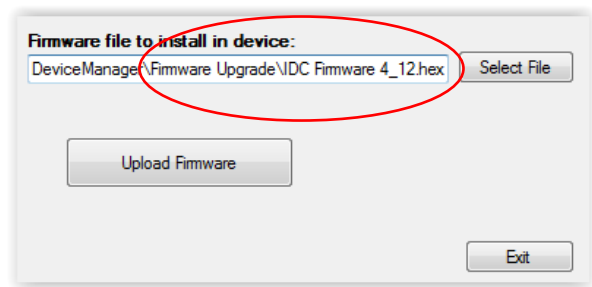
This will bring up the location of one or more firmware files. Firmware files have a **.hex** extension and are placed in the following folder:

**[XP]** C:\Documents and Settings\All Users\Shared Documents\DeviceManager\Firmware Upgrade

**OR**

**[Vista, Windows 7 and later]** C:\ProgramData\Information Display\DeviceManager\Firmware Upgrade

2. If more than one firmware file is located in the Firmware Upgrade folder, choose the file with the larger numeric value.
3. Click on **Open**. This will bring you back to the upload screen.
4. Click **Upload Firmware**.

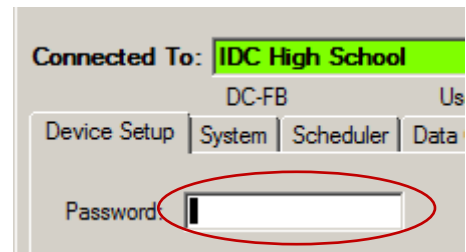


After a successful firmware file upload, the device resets and, if enabled, displays the test sequence. Check the current date and time, and update if necessary. Before setting the date and time, you will need to download any vehicle speed data you wish to keep. See the section on [Downloading Traffic Data](#).

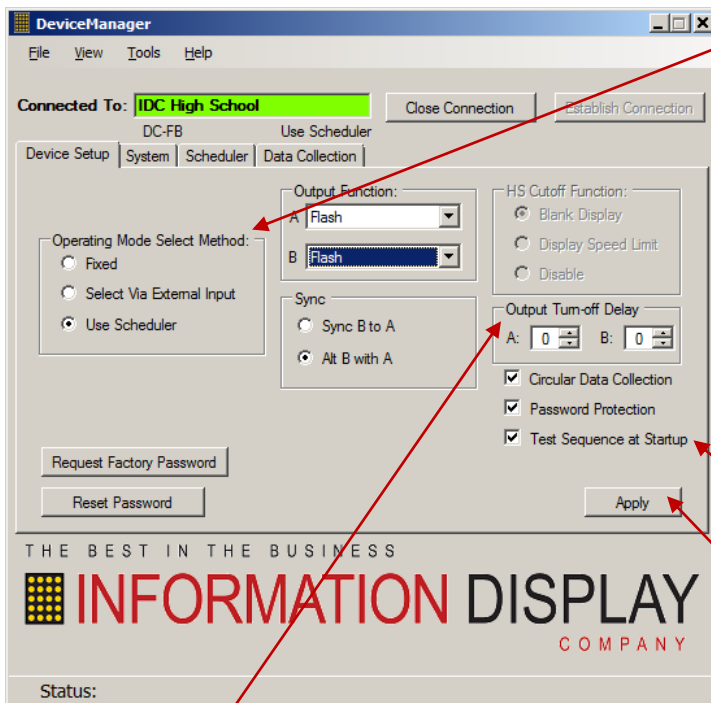
**Note:** If an operating schedule was active at the time of firmware uploading, that schedule will remain active. If the Scheduler was not being used, the operating modes remain as they were set in the Operating Modes tab prior to firmware uploading.

# Device Setup Tab

The Device Setup screen initially appears as shown on the right, requiring a password to access changing of the basic device operating modes. After entering the password “unlock”, the screen appears generally as shown below, depending upon purchased options.



Once you have entered the correct password, the Device Setup screen will look like this example.



Choose how this device will be controlled.

**Fixed:** In this mode, there is only one set of operating parameters, which apply at any time the Device Controller is powered on.

**Via External Input:** Two sets of operating parameters can be set up and an external device, such as a switch used to select between the two modes.

**Use Scheduler:** Device operating modes are changed according to date and time as programmed with the Scheduler. (“Use Scheduler” shows only when the Scheduler has been purchased with your device.)

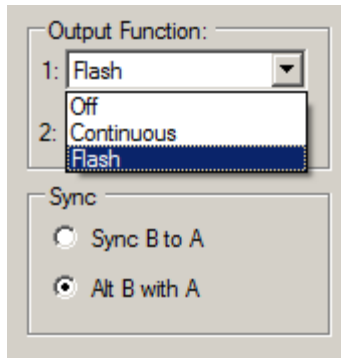
**Test Sequence at Startup** initiates the power-on rollup sequence when the device is first powered on.

Click **Apply** when finished with changes. The setup data will be sent to the connected device.

**Output Turn-off Delay** is used to extend the length of time that an output stays On. For instance, output A turns On a blank-out sign when radar detects a vehicle at above 40 mph. If you want the sign to stay illuminated for five (5) seconds after the radar detection, you would set the A delay to 5.

Another example is a cross-traffic warning which illuminates a beacon when a loop detector or radar sensor detects approaching traffic on a cross street. If you want the warning flasher to continue operating for an additional seven (7) seconds after detection, you would set the appropriate output delay to 7.

**Output Function** allows selection of the type of function for Output 1 and 2 when they are set to ON.



**Off** will prevent the selected output from turning on even if the operating mode is set to ON.

**Continuous** will provide a continuous voltage at the selected output when its mode is set to ON.

**Flash** will provide a 1 second 50% duty cycle output when its mode is set to ON.

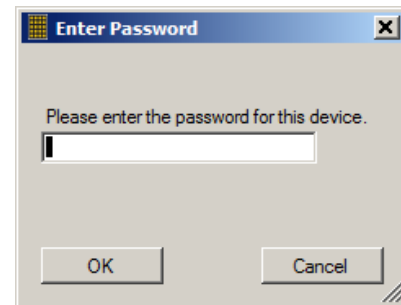
**Strobe** will provide a single 50 millisecond pulse at the moment its mode is set to ON.

**Sync:** If outputs A and B are both set to FLASH, sync determines whether they flash together or alternately.

**Password Protection**, when activated for the device currently connected, will prompt you for a password then immediately disconnect and reconnect with the new password. Any subsequent connections will require entering the password. Passwords are case sensitive, and can be up to 12 alphanumeric characters.

Setting a password:

1. Check password protection.
2. Enter a new password (up to 12 alphanumeric characters).
3. Re-enter the new password and click **OK**.
4. Keep a record of your device/password combination.



Once password protection is enabled, you will need to enter the password each time you connect via Onsite/Bluetooth or Cable.

Passwords for InstaNet connected devices need to be entered only the first time a connection is made, if not entered on the InstaNet Connection Setup screen.

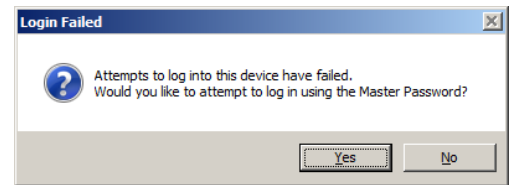
**Reset Password** allows you to reset the device password. You will be prompted for the existing password and the new password.



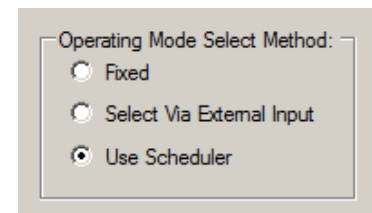
**Forgotten Password.** If the password is entered incorrectly five times, you will be asked if you want to use the Master Password.

To obtain the Master Password:

1. Select **Yes** in the Login Failed box.
2. Call IDC customer support at (800) 421-8325 and identify yourself.
3. Provide the information that appears in the Enter Password window.
4. IDC will give you a unique one-time login code.
5. Enter the code in the Master Password dialog box and click **OK**.
6. Enter a new password, re-enter it a second time and click **OK**.
7. Login to the device using the new password.



**Operating Mode Select Method** settings allow selection among Fixed, Via External Input, or Scheduler.

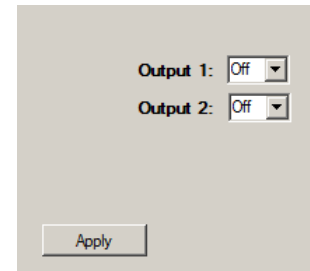


**Fixed** will provide an ON/OFF selection for each of the 2 primary output channels 1 and 2.

**Output 1** refers to the Relay Output, AC Switched Output 1, and DC Switched Output 1.

**Output 2** refers to AC Switched Output 2 and DC Switched Output 2.

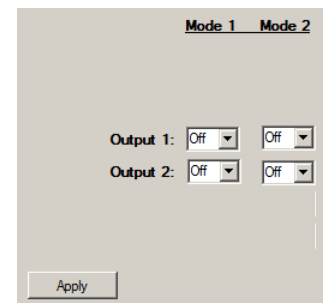
**Output 3 & 4** refers to DC Switched Outputs 3 and 4.



**Select via External Input** provides two sets of operating parameters which are selected by the condition of the external switch 1 input.

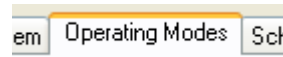
**Mode 1** settings are selected if external switch #1 is open.

**Mode 2** settings are selected if this Input and Ground are connected together (switch closed). Additional hardware is required to enable this feature.



**Use Scheduler** displays the **Scheduler Tab** rather than the **Operating Modes** tab. The output settings will be handled by Modes set up in the Scheduler, which is fully discussed later in this manual.

# Operating Modes Tab



The Operating Modes tab appears if either “Fixed” or “Select via External Input” is selected. A connection with a device must be established to view and change these settings. Some settings are visible only if the appropriate options are selected in the Device Setup tab. See the Device Setup Tab section.

The Operating Modes Tab allows you to turn On or Off:

**Output 1**

**Output 2**

**Data Collection** (if equipped)

**Output 1**, when set to “ON”, turns On the physical outputs: DC output 1, AC output 1, and Relay.

**Output 2**, when set to “ON”, turns On the physical outputs: DC output 2 and AC output 2.

If you selected **Fixed** in the Device Setup box, there will be only one column of parameters available. These parameters will determine how the device operates 24/7.

If you selected **Via External Input** in the Device Setup box, a second set of parameters will display. An external switch or relay (connected between Input 1 and Ground) will then be used to select between these two modes of operation. **Mode 1** settings are selected if the connection is open, and **Mode 2** settings are selected if the connection is closed.

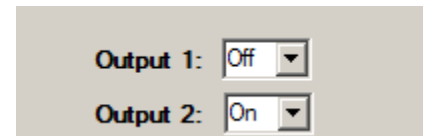
The Mode Settings include the following parameters. You can enter speed inputs in the range of 0 – 99.

**Data Collection:** ON/OFF. Only appears if equipped with radar and data collection options, and enabled on the Device Setup page.

## Operating Mode:

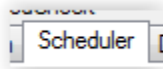
**Without Radar:** Set Output 1 and 2 to either ON or OFF

**With Radar:** Set Output 1 and 2 to ON, OFF, or ON at a specified speed of an approaching vehicle.



Note: After setting or changing these parameters you must click “**Apply**” to transfer these settings to the device.

# Scheduler Tab



If you have purchased the DeviceManager Scheduler option, the **Scheduler Tab** will be present and it allows selection and editing of the Scheduler's Operating Modes, Daily Timetables, and Schedules with Exceptions. Schedules are best created before connecting to a device. Naming of the Modes, Timetables and Schedules for easy identification will assist you when choosing which schedule to send to a device.

An unlimited number of different schedules can be created in advance without being connected to a device. Each schedule should be saved with a unique identifying name.

**Operating Modes:** named output configurations which provide a specific mode of operation. Example: "Flash/Data ON" indicates that flashers and data collection are both turned on.

**Daily Timetables:** the time(s) of day that the selected operating modes take effect.

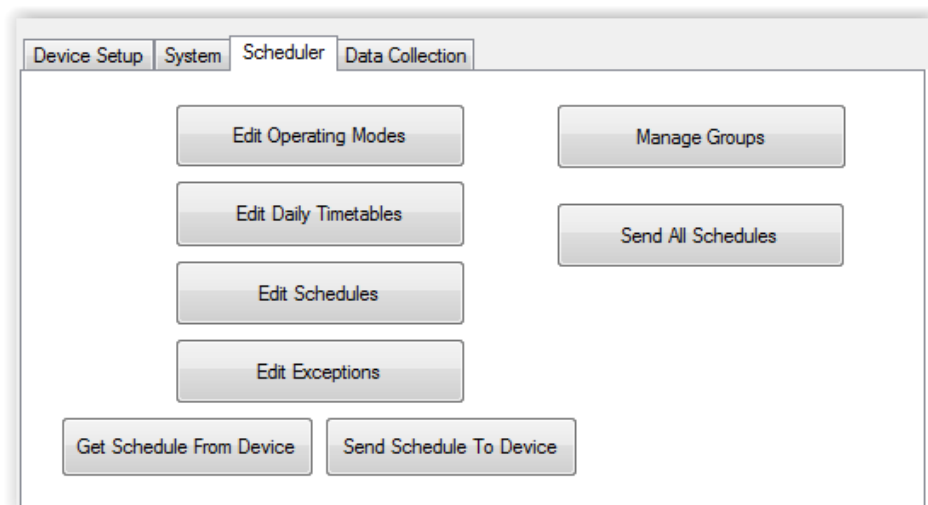
**Schedules:** the calendar that tells the DC what days to run specific daily timetables.

**Exceptions:** dates that vary from the normal weekly schedule, for example, individual holidays or special events, or a contiguous range of dates such as spring and summer vacation.

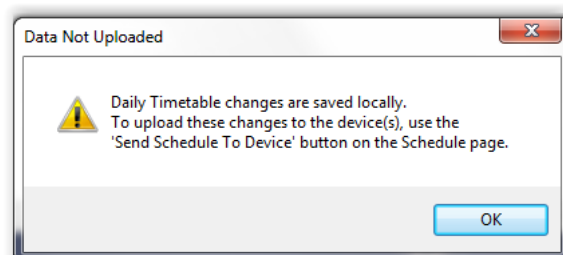
**Get Schedule From Device:** downloads the current schedule settings from the connected device: modes, timetables schedules, and exceptions.

**Manage Groups:** allows for assigning schedules to a group of devices, and sending a saved schedule to a device or a group of devices via an InstaNet connection.

**Send Schedule To Device:** used to send a schedule to a single device.

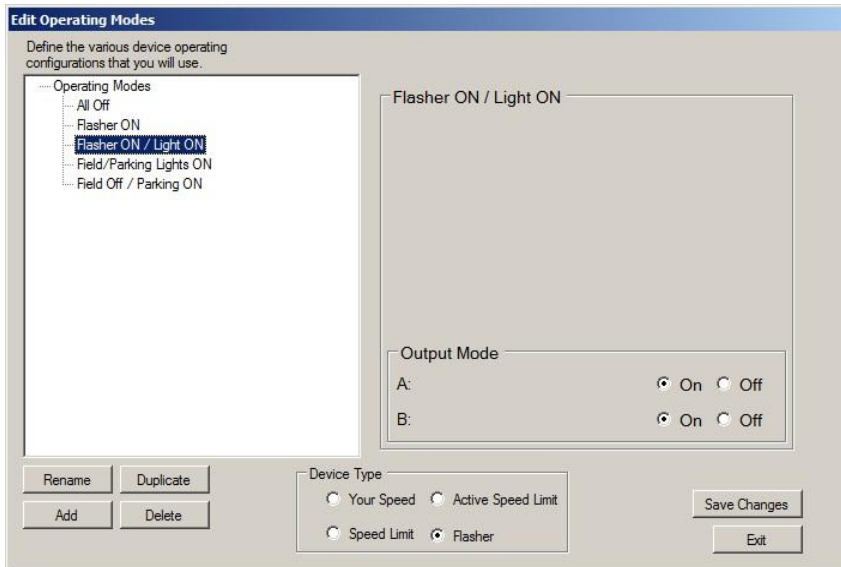


Making changes to the Operating Modes, Daily Timetables, or Schedules does not automatically send those saved changes to a device. After saving changes you will see a message reminding you to connect to the device then send the changed schedule.



## Create/Edit Operating Modes

You may configure any number of operating modes. Each mode can be programmed with your choice of settings depending upon the options purchased or selected on the Device Setup page. If an option is not enabled in the Device Setup page, the corresponding operating mode selection is not shown.

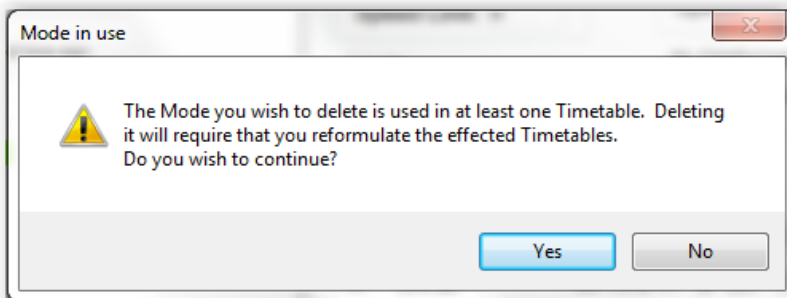


Click “**Add Mode**” to create a new mode, and give it a name that describes its function. In the example shown, “Flasher ON/Light ON” is used for a mode in which the flasher is running and an external crosswalk light is activated. “Flasher ON” is flasher operation only, without the crosswalk light.

Right-click on a mode name to rename, duplicate or delete the mode. The “ALL OFF” mode cannot be renamed, duplicated or deleted.

Each mode created must identify the **Device Type** as: Your Speed, Speed Limit, or Flasher.

Any selected mode can be duplicated to make entering similar modes easier. Select the mode you want to duplicate, and click the **Duplicate** button. Remember to rename the duplicated mode with a unique name. Check all settings carefully.



Since Modes, Timetables, and Schedules are all interlinked, deleting or renaming a Mode used in a timetable will cause that timetable to stop working until the appropriate renamed mode is selected in the Daily Timetable setup screen.

The basic operating mode selections are:

**Data Collection:** ON/OFF

(Appears only if equipped with radar and data collection options, and enabled on the Device Setup page.)

**Output Mode:**

**Without Radar:** Set Output 1 and 2 to either ON or OFF

**With Radar:** Set Output 1 and 2 to ON, OFF, or ON at a specified speed of an approaching vehicle.

 **Note:** Remember to click **Save Changes** before returning to the previous screen.



## Create/Edit Daily Timetables

You may configure any number of **Daily Timetables**. A timetable sets the times during a day that the mode of operation changes. Timetables should be named to make them easily identifiable.

To create a new timetable, click **Add**.

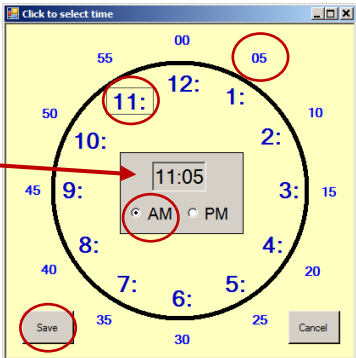
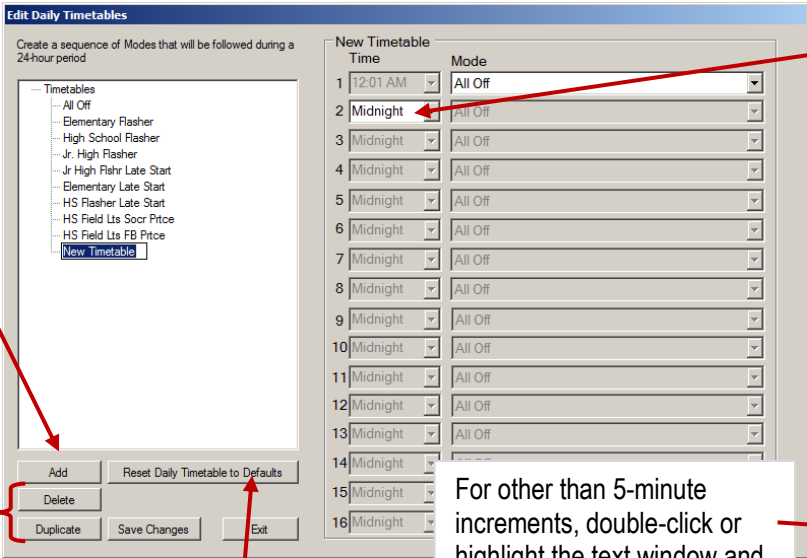
To rename, delete, or duplicate a timetable, right-click on the name of the timetable and click the menu option.

Reset a selected timetable by clicking **Reset Daily Timetable**.

To enter or change the time for a mode to take effect, click on the time window and the **clock window** below will pop up.

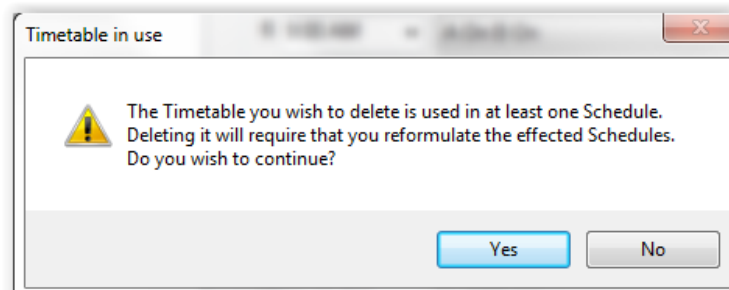
To select the time, click on the hour, the minutes, and AM or PM, then click Save.

For other than 5-minute increments, double-click or highlight the text window and type in the desired time.



The **All Off** timetable may not be renamed, duplicated or deleted.

Since Modes, Timetables, and Schedules are all interlinked, deleting or renaming a Timetable that is used in a Weekly Schedule will cause that Weekly Schedule to stop working until the appropriate renamed Timetable is selected in the Edit Weekly Schedules screen.



This sample timetable illustrates mode changes.

Elementary - Normal

	Time	Mode
1	12:01 AM	All Off
2	7:15 AM	Flasher ON / Light ON
3	8:00 AM	All Off
4	2:45 PM	Flasher ON
5	3:30 PM	All Off
6	Midnight	All Off
7	Midnight	All Off
8	Midnight	All Off
9	Midnight	All Off
10	Midnight	All Off
11	Midnight	All Off
12	Midnight	All Off
13	Midnight	All Off
14	Midnight	All Off
15	Midnight	All Off
16	Midnight	All Off

Buttons: Add, Reset Daily Timetable to Defaults, Delete, Duplicate, Save Changes, Exit

In the sample on the left, the device uses the ALL OFF mode from 12:01 AM until 7:15 AM.

When students arrive in the early morning, flashers operate and a luminaire above the crosswalk is illuminated.

When students are leaving in the afternoon, the flashers operate and the luminaire above the crosswalk is NOT illuminated.

All Timetables automatically start at 12:01 AM and end at 12:00 PM. To avoid confusion between 12:00 AM and 12:00 PM, 12:00 displays as either "Noon" or "Midnight."

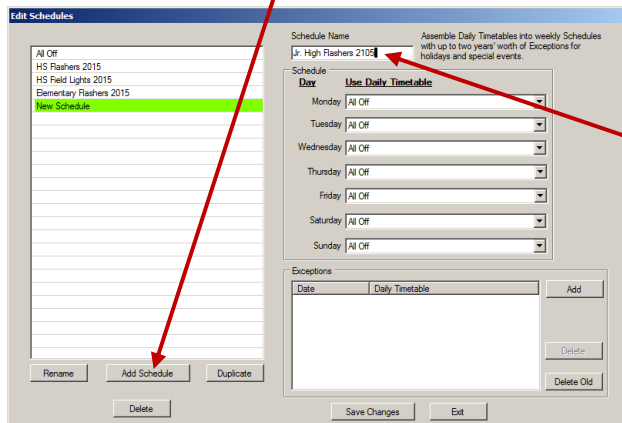
☞ Note: You must click the **"Save Changes"** button to save the changes you make to this screen.

☞ **Note:** If you installed DeviceManager over a previous version of PC SpeedCheck you can delete the unused Timetables (e.g., Timetable3, Timetable4) to clean up the appearance of the Edit Daily Timetables screen.

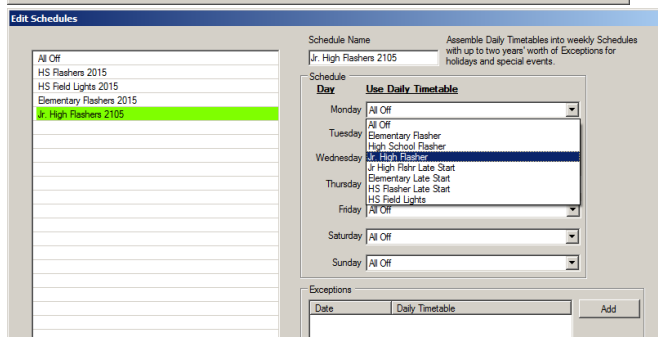
## Create/Edit Schedules

You may create any number of weekly **Schedules**, and each can be set to run any of the previously defined Daily Timetables on any of the 7 days of the week. To complete the yearly calendar, you will then define any dates that vary from this baseline calendar in the Exceptions window.

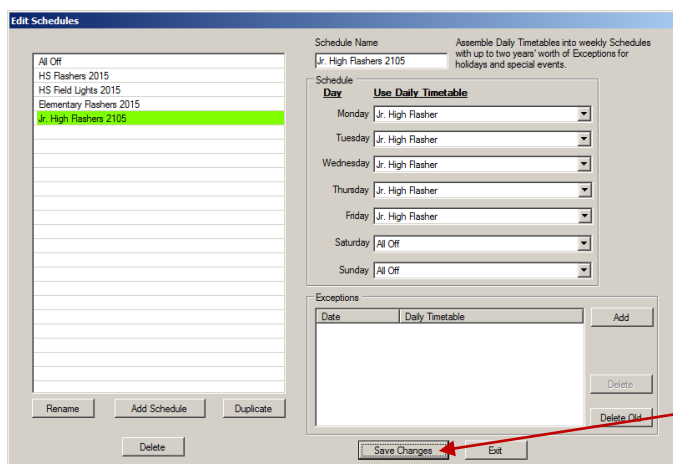
To create a new Schedule, click the **“Add Schedule”** button.



Enter a name that will clearly identify the schedule you are creating. This is the name you will see when choosing which schedule to send to a device. Right-click on a schedule name to rename, duplicate, or delete; or use the menu options at the bottom of the screen.



Use the drop-down menu to choose a timetable for each day of the week. When you select Monday's timetable, that same timetable is used to automatically fill in Tuesday thru Friday. If a different timetable is needed for any of those other days of the week, you can easily change those days individually. The same occurs for weekends, where the Saturday selection is automatically applied to Sunday.



In this example, Monday through Friday uses the “Jr. High Flasher” timetable, and Saturday and Sunday use the All Off timetable.

See the [Exceptions](#) section below for creating/editing exceptions.

Be sure to click **Save Changes**.

**Note:** If you installed DeviceManager over a previous version of PC SpeedCheck, you can delete the unused Schedules (e.g., Schedule3, Schedule4) to clean up the appearance of the Edit Schedules screen.

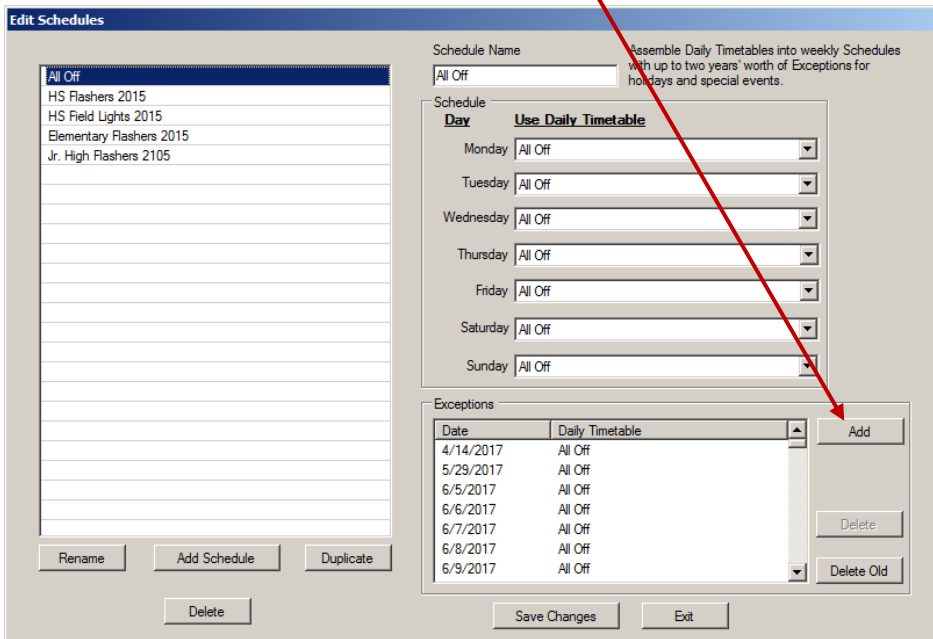
## Create/Edit Exceptions

The **Edit Exceptions** window provides a simple way to deviate from the regular schedule.

Different Daily Timetables can be created for single non-recurring event days, such as holidays or for a range of dates, such as summer vacation. Since the same exceptions may apply to several schedules, Exception Lists such as “School District Vacation” can be created, and then added to the schedules they apply to, e.g., Elementary, Junior High, and High Schools.

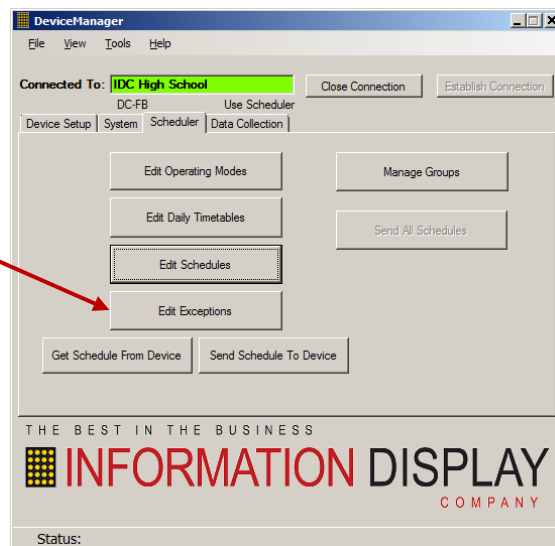
There are two ways to create Exceptions.

1. **When creating a schedule:** Click the “**Add**” button in the Exceptions box.  
The exceptions created will apply to the current schedule.



2. **From the Scheduler tab page:**

Click the **Edit Exceptions** button.



## Create an Exception List with exception dates

1. Choose “Add New List.”
2. Name the list, e.g., “2015 District Vacation Dates” as shown below.
3. In the Exception Dates column, click on “**Create New.**”
4. Use the calendar to enter a single date or a range of dates.
5. From the drop-down list, choose the timetable you want to apply to these dates.

**Add Exception Date**

Exception Start Date: Apr 06 2017

Exception End Date: Apr 06 2017

Use the following daily timetable:

- All Off
- Elementary Flasher
- High School Flasher
- Jr. High Flasher
- Jr High Flashr Late Start
- Elementary Late Start
- HS Flasher Late Start
- HS Field Lts Socr Pttce
- HS Field Lts FB Price**

**Edit Exceptions**

**Exception Lists**

Default  
2015 District Vacation Dates  
Football Practice Dates  
Soccer Practice Dates

Individual lists of exceptions are created in this column. Lists can be duplicated, renamed, or deleted.

Add New List    Rename  
**Save**    Delete  
Create Duplicate

**Exception Dates**

**Create New**

Date	Daily Timetable
4/1/2017	All Off

Exceptions for the selected list display here. Columns can be adjusted for width and sorted.

Change...  
Delete Selected  
Delete Expired

**Schedule Exceptions**

HS Flashers 2015

Date	Daily Timetable
4/14/2017	All Off
6/15/2017	All Off
6/16/2017	All Off

Exceptions for the schedule shown above (HS Flashers 2015) are displayed here. Columns can be adjusted for width and sorted.

Add All  
Add Selected  
Delete Selected  
Delete Expired  
Delete All

Save & Exit    Cancel

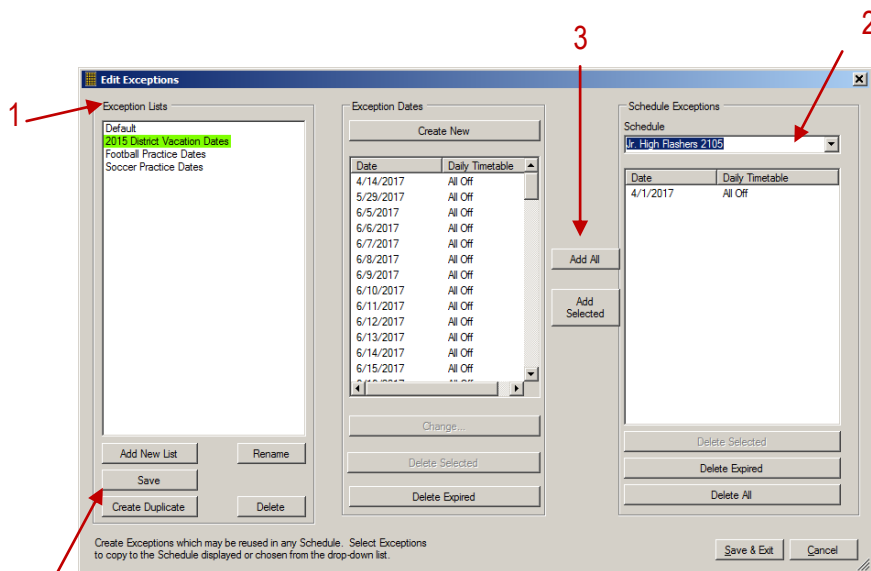
Create Exceptions which may be reused in any Schedule. Select Exceptions to copy to the Schedule displayed or chosen from the drop-down list.

Create additional lists if needed, e.g., “Early Release Dates.”  
Any list can be duplicated to make new lists faster to create.

Remember to **Save** the list.

## Add Exceptions to a Schedule

1. Select the exception list you wish to apply. Click on column headings to sort. Drag to adjust column widths.
2. Click the schedule to which you wish to apply exceptions from the drop-down list of available schedules.
3. Control-click to add the exceptions to the selected schedule using **Add All** or **Add Selected**.
4. These exceptions are now ADDED to any existing exceptions.
5. **Save** when finished.

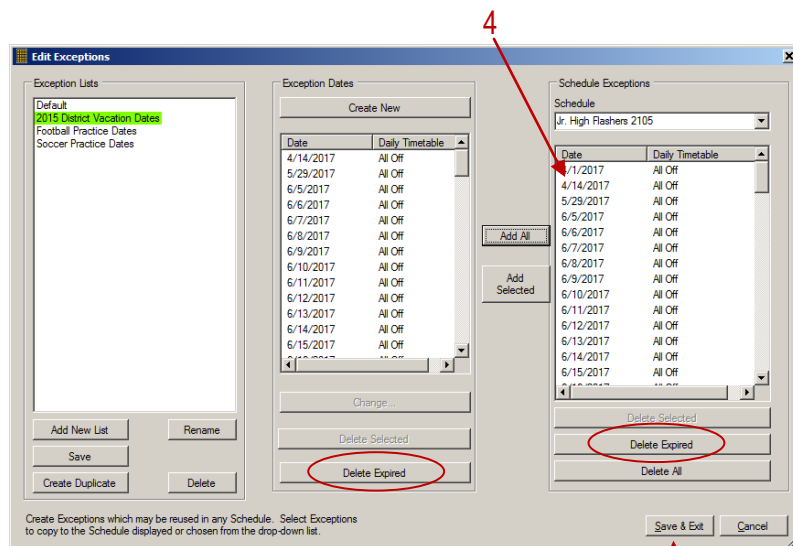


**Delete Expired** will delete any exception that has expired (passed) as of the current date.

**Delete Selected** will delete only the exceptions highlighted.

**Change** allows individual or multiple exceptions to be edited. *Individual* allows changes of date and daily timetable. *Multiple* only allows changes to the daily timetable.

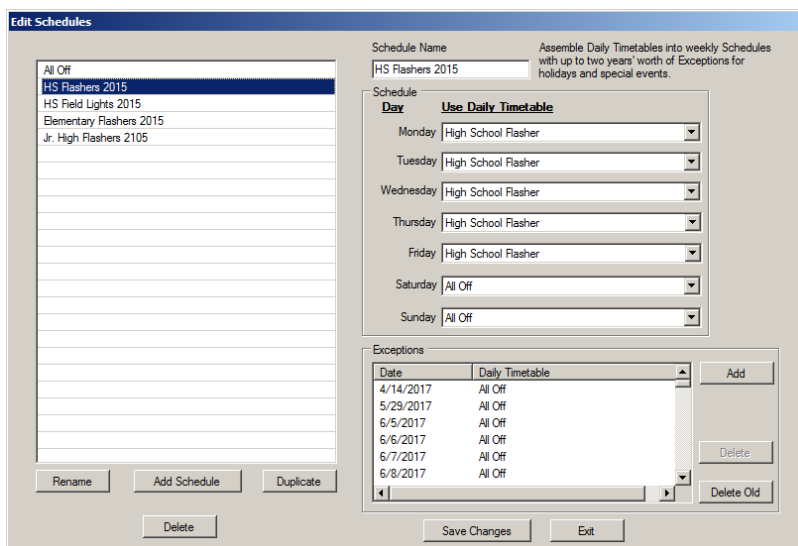
**Save & Exit** to save the schedule and exception selections you make on this page.



To verify that the exception items have been added to the schedules:

- Select the schedule option in the Scheduler tab window.
- Select the schedule you want to verify to bring up the window at right.
- Make sure the exception dates are listed.

The **Operating Mode**, **Timetable**, and **Schedule** selections are saved in the DeviceManager software for later uploading to your devices.



# Irregular Schedules

In those situations where a device will be scheduled to operate a relatively few days during a year, and/or on an irregular schedule, create the schedule using only Exception Dates.

In the example below, the field lights at a high school will be scheduled to turn On and Off according to the schedules for football practice and soccer practice.

**Edit Schedules**

Schedule Name: HS Field Lights 2015

Assemble Daily Timetables into weekly Schedules with up to two years' worth of Exceptions for holidays and special events.

Schedule: **Use Daily Timetable**

Monday: All Off

Tuesday: All Off

Wednesday: All Off

Thursday: All Off

Friday: All Off

Saturday: All Off

Sunday: All Off

Exceptions:

Date: Daily Timetable

Add

Delete

Delete Old

Rename Add Schedule Duplicate

Delete Save Changes Exit

Begin with a "Blank" schedule. The Weekly Schedule is set to the default "All Off" for all days of the week.

Click on **Add** in the Exceptions box. The Edit Exceptions window will open.

In the Edit Exceptions window, select **Add New List**, and give this list a name. This will be our list of Football Practice Dates.

Select **Create New** and the Add Exception Date window will pop up.

Click the Exception Start Date box. In the popup calendar, select the first date of football practice.

**Edit Exceptions**

Exception Lists:

Default

2015 District Vacation Dates

New List

Add New List

Rename

Save

Create Duplicate

Delete

**Edit Exceptions**

Exception Lists:

Default

2015 District Vacation Dates

Football Practice Dates

Add New List

Rename

Save

Create Duplicate

Delete

Create Exceptions which may be reused in any Schedule. Select Exceptions to copy to the Schedule displayed or chosen from the drop-down list.

**Add Exception Date**

Exception Start Date: Use the following daily timetable:

Apr 06 2017

April, 2017

Sun Mon Tue Wed Thu Fri Sat

26 27 28 29 30 1

2 3 4 5 6 7 8

9 10 11 12 13 14 15

16 17 18 19 20 21 22

23 24 25 26 27 28 29

30 1 2 3 4 5 6

Today: 3/29/2017

Cancel

Now, click the selection box and select the timetable for High School Football Practice Field Lights

**Add Exception Date**

Exception Start Date: Use the following daily timetable:

Apr 06 2017

Exception End Date: Use the following daily timetable:

Apr 06 2017

All Off

Elementary Flasher

High School Flasher

Jr. High Flasher

Jr. High Flasher Late Start

Elementary Late Start

HS Flasher Late Start

HS Field Lts FB P...

HS Field Lts FB P...

HS Field Lts FB P...

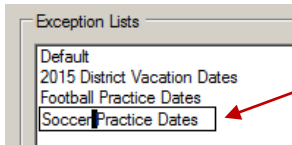
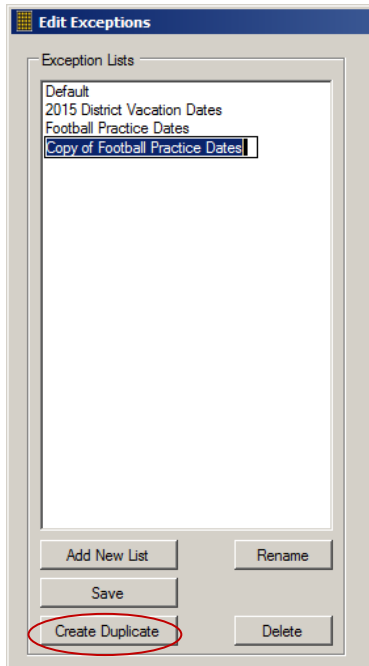
Continue with date and timetable selections until you have the full list of football practice dates complete as shown here.

**Exception Dates**

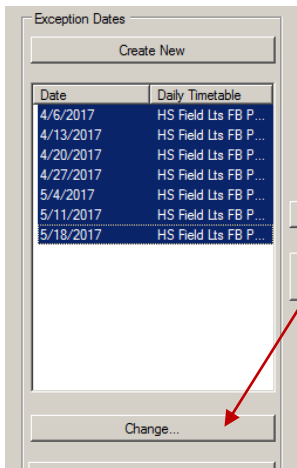
Create New

Date	Daily Timetable
4/6/2017	HS Field Lts FB P...
4/13/2017	HS Field Lts FB P...
4/20/2017	HS Field Lts FB P...
4/27/2017	HS Field Lts FB P...
5/4/2017	HS Field Lts FB P...
5/11/2017	HS Field Lts FB P...
5/18/2017	HS Field Lts FB P...

Now we'll add the Soccer practice dates. To make it a little easier, we'll duplicate what we already have for football practice by highlighting "Football Practice Dates" and selecting **Create Duplicate**.

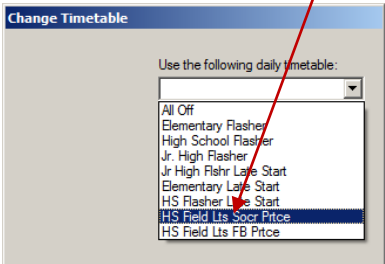


Change the name to "Soccer Practice Dates"

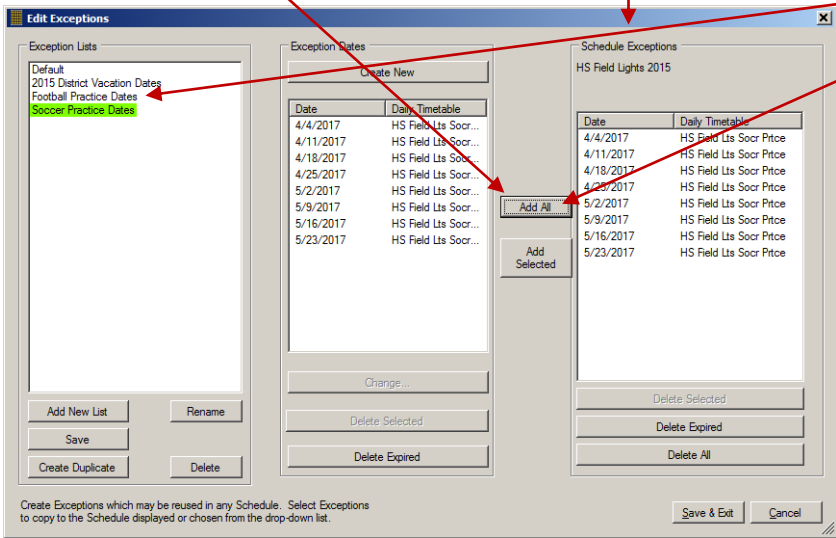


Now select all of the exceptions that were created for football practice and click on **Change**.

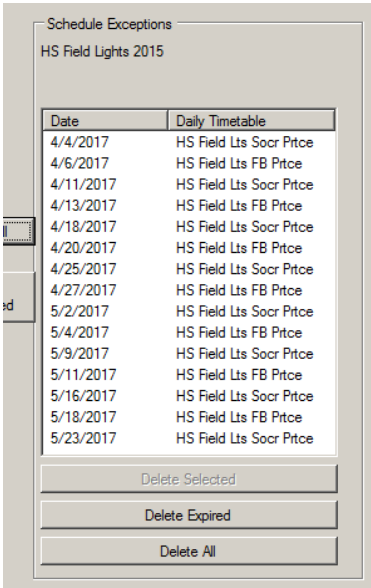
You will be given an option to change the timetables of all of the exceptions at once. Choose the timetable for High School Field Lights for Soccer Practice.



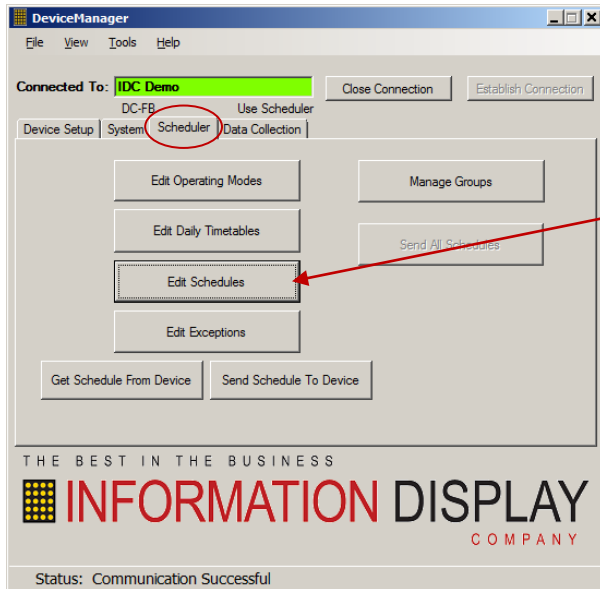
Now click **Add All**. You have just added these exceptions to the Schedule.



Next, select Football Practice Dates and again click **Add All**. The football exceptions are now also added to the Schedule as shown below.







From the DeviceManager main screen, select the **Scheduler** Tab and click on the Edit Schedules button to bring up the schedule page.

Click on the schedule you just created and you now have a complete schedule created entirely of selected dates rather than the weekly schedule method.

**Edit Schedules**

Schedule Name: HS Field Lights 2015

Assemble Daily Timetables into weekly Schedules with up to two years' worth of Exceptions for holidays and special events.

Schedule:

Day	Use Daily Timetable
Monday	All Off
Tuesday	All Off
Wednesday	All Off
Thursday	All Off
Friday	All Off
Saturday	All Off
Sunday	All Off

Exceptions:

Date	Daily Timetable
4/4/2017	HS Field Lts Soor Pttce
4/6/2017	HS Field Lts FB Pttce
4/11/2017	HS Field Lts Soor Pttce
4/13/2017	HS Field Lts FB Pttce
4/18/2017	HS Field Lts Soor Pttce
4/20/2017	HS Field Lts FB Pttce

Buttons: Add, Delete, Delete Old, Save Changes, Exit

Buttons: Rename, Add Schedule, Duplicate, Delete

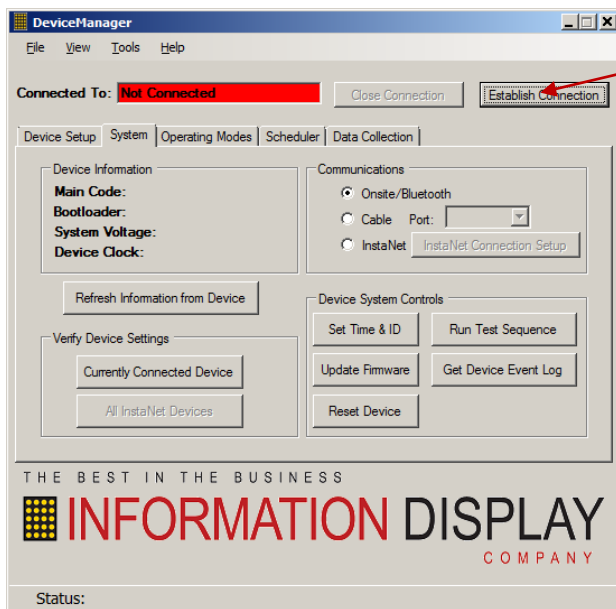
## Send Schedule to Device

Once a schedule has been created, it only takes a minute to send it to each device in your system.

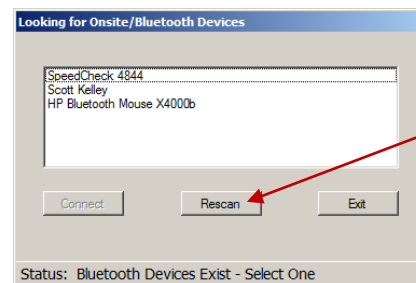
This section assumes you are connecting to your device with a Bluetooth connection from a laptop, the simplest and most common method. Sending via cable connection is identical except for the Bluetooth search/selection screen.

If you have remote communication with your devices, sending schedules is covered in the InstaNet connection section.

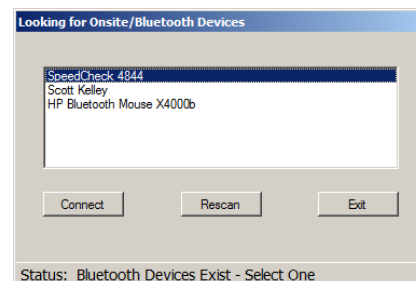
To send a saved schedule to a device:



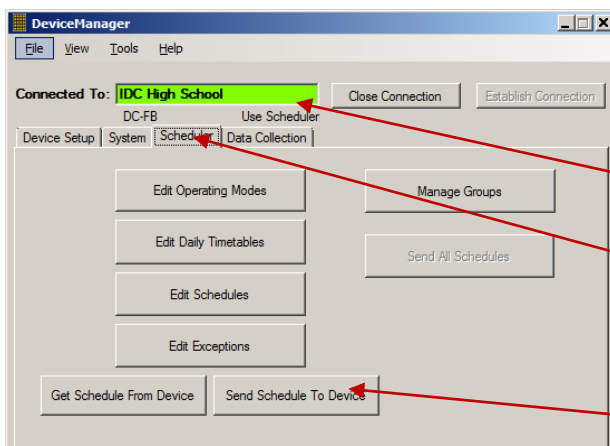
In DeviceManager, click on the **Establish Connection** button. You will see the screen below.



If you have not recently connected to this device, click on **Rescan** to have DeviceManager search for the Bluetooth signal from your device.



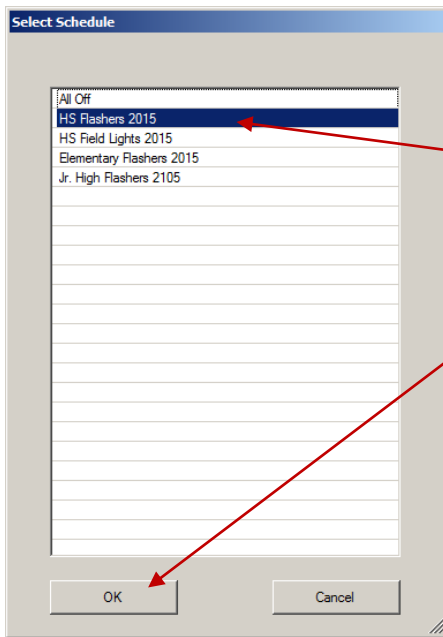
Double-click on the name of the Bluetooth device in your device (written on the data-plate on the Device Controller.)



A connection will be established with the device, and the name of the device will display in the **Connected To** box with a green background.

Select the Scheduler Tab to display the screen shown here.

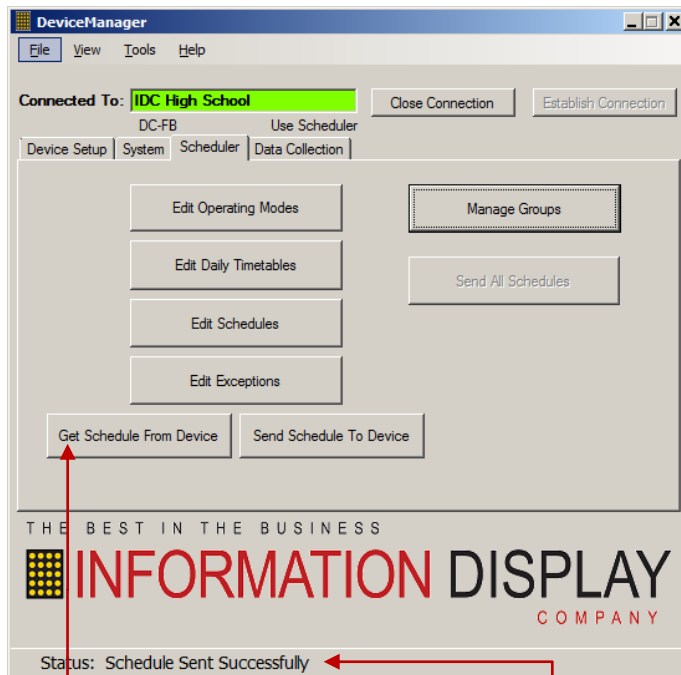
Click on **Send Schedule To Device**.



Highlight the correct schedule for the device you are programming.

Click **OK**.

As DeviceManager is communicating with the device, the communication status will display at the lower left corner of the DeviceManager window.

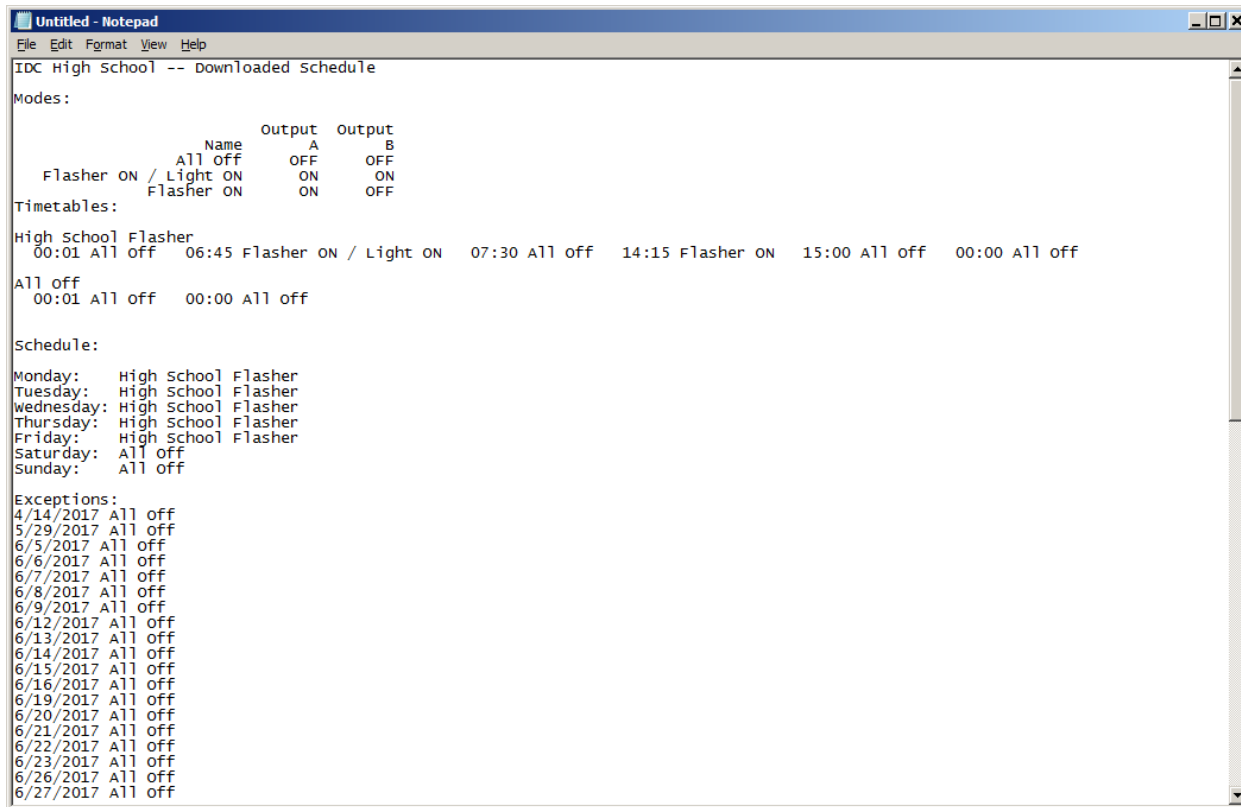


To verify the device has received the correct schedule, click on **Get Schedule From Device**. The screen below will display.

When communication is complete, the **Status** bar will display **Schedule Sent Successfully**.

## Get Schedule From Device

When connected to any device running in Scheduler mode, you can download the schedule information from the device to verify that it contains the correct schedule. The downloaded schedule can be saved as a text file or webpage for double-checking at the office, or later reference.



```
Untitled - Notepad
File Edit Format View Help
IDC High School -- Downloaded Schedule

Modes:
      Name      Output  Output
      All off    A        B
Flasher ON / Light ON  OFF    OFF
Flasher ON         ON     ON
Flasher ON         ON     OFF

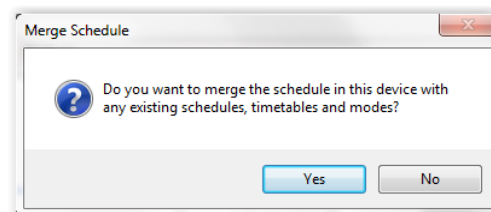
Timetables:
High School Flasher
00:01 All off  06:45 Flasher ON / Light ON  07:30 All off  14:15 Flasher ON  15:00 All off  00:00 All off

All off
00:01 All off  00:00 All off

Schedule:
Monday:  High School Flasher
Tuesday: High School Flasher
Wednesday: High School Flasher
Thursday: High School Flasher
Friday:   High School Flasher
Saturday: All off
Sunday:   All off

Exceptions:
4/14/2017 All off
5/29/2017 All off
6/3/2017 All off
6/6/2017 All off
6/7/2017 All off
6/8/2017 All off
6/9/2017 All off
6/12/2017 All off
6/13/2017 All off
6/14/2017 All off
6/15/2017 All off
6/16/2017 All off
6/19/2017 All off
6/20/2017 All off
6/21/2017 All off
6/22/2017 All off
6/23/2017 All off
6/26/2017 All off
6/27/2017 All off
```

After the schedule is downloaded, a prompt is displayed asking if you want to merge the downloaded device into the schedule database. This is useful when the original source schedule is not available for some reason and needs to be recreated based on what is stored in the device.



# Manage Groups

Manage Groups is used to send Scheduler information to multiple devices. If you have a large number of devices with the same schedule, using Manage Groups could be a convenience and save you time. Each device must first be individually set up with an IP address, device ID, correct time and date, and other user-controlled features. Depending on how many devices you have, it may be easier to send Schedules, one at a time, to each device.

Before using Manage Groups you must do the following:

1. Connect to each device and add it to the connection setup list.
2. Create the Modes, Timetables, and Schedules for the devices. Name the schedules for easy identification.
3. Organize on paper which devices can operate on the same schedule. This will be your group to be managed.

The process of Manage Groups is as follows:

1. Delete any unused groups
2. Create Major groups by device type
3. Create subgroups. All devices in each subgroup use the same schedule. This displays as a folder.
4. Add the Schedule the group of devices will be using.
5. Add the devices to the group.
6. Send All Schedules will automatically send the selected schedule to all devices.

Click on **Manage Groups**. Group and Device Manager will display the common device types as groups, e.g., Driver Feedback, Flashers, Speed Limit.

Right-click on the device group (Driver Feedback is our most common device type) and rename the group, e.g. "Elementary Schools."

Another possible group might be "Elementary School Flashers." Right-click and choose Add Group, select the device type, e.g. Flasher, then assign the group a name. The best way to organize your devices is to group similar device types together.

## Send All Schedules

This command will send the schedules selected in Manage Groups to each device listed under the group or subgroup using that schedule. Options for sending schedules are:

- Select All Devices,
- Select by Schedule
- Click on individual devices
- Ctrl-click to select multiple devices.

Send All Schedules will automatically connect to each device, send the appropriate schedule, disconnect, and repeat the process until all devices configured in the InstaNet Connection Setup screen have received their schedules.

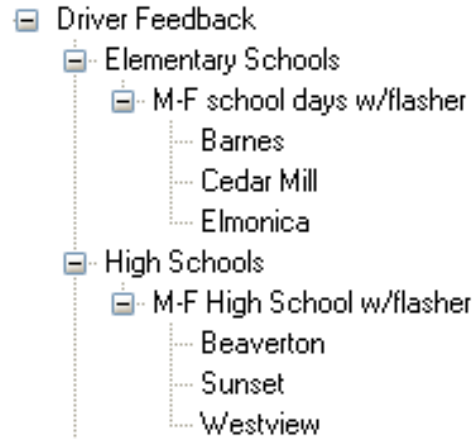
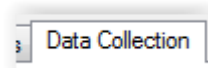
Passwords are not required for each device when using Send All Schedules since the passwords are stored in the InstaNet Connection Setup data.

Subgroups can be used to organize devices into unique groups. All devices under a subgroup will use the same schedule.

1. Right-click on a major group and choose

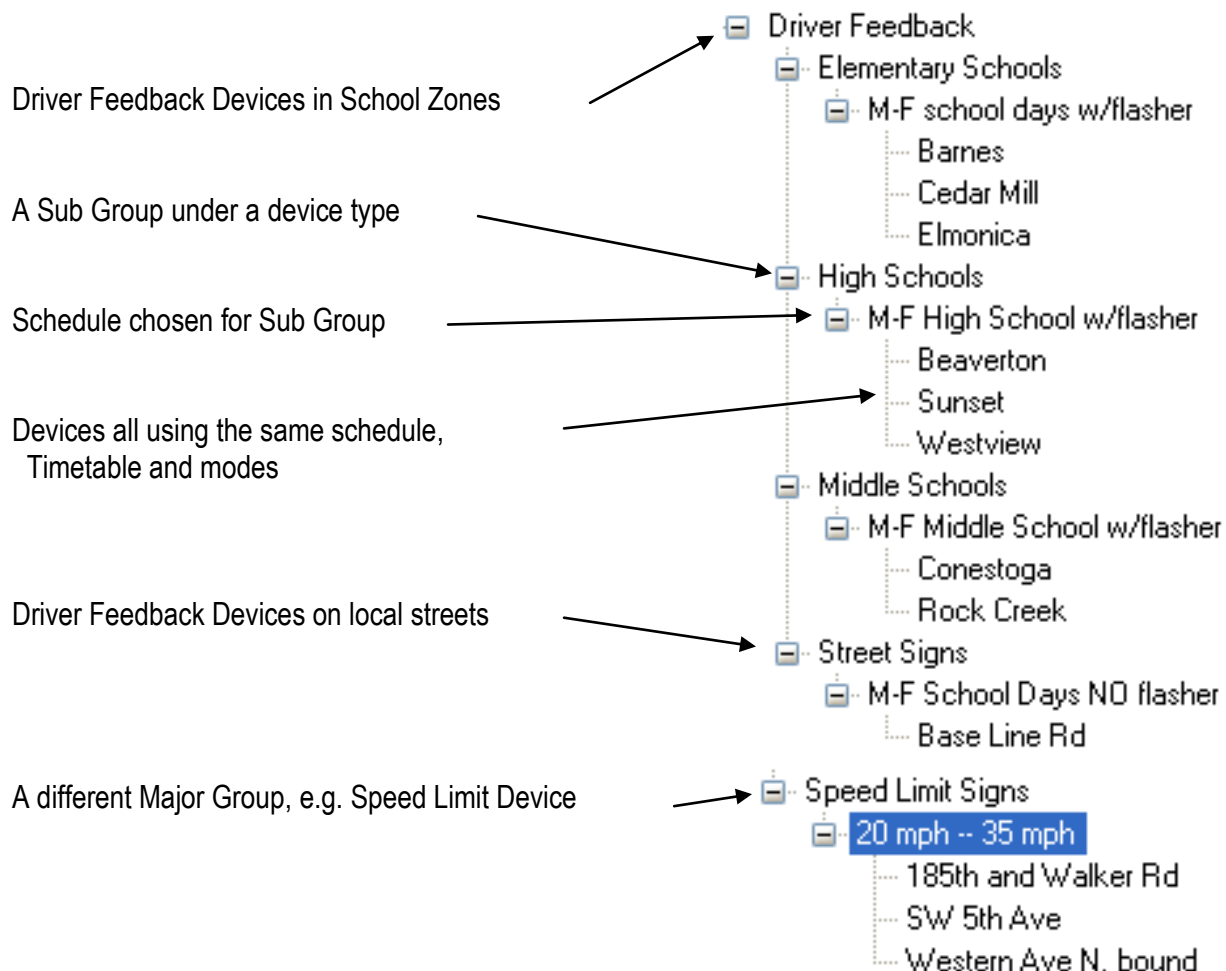
**Add Group** – Sub Group - Assign a name.

2. Right-click the sub group - Select a schedule
3. Right-click the schedule to add devices



Using schools as an example:

Many schools may have the same start and stop times, so they could share the same Scheduler timetable. All devices in a group must use the same schedule (timetable and modes). You can have multiple subgroups as this example illustrates. Rather than send schedules to devices one at a time, Manage Groups will send the selected schedule to all devices listed under that subgroup schedule.



# Data Collection Tab

Data Collection is an optional feature. The **Data Collection** tab allows viewing of the current device ID, and the current number of vehicle speed data samples in the device's internal memory. It also allows you to download the speed data to your PC and erase the data collection memory.

Speed data is placed on your PC hard drive, and then subsequently used by the **TrafficAnalyzer** program to analyze and graph traffic speed trends.

Data Collection can be operated independently of the device controller outputs. For a flasher system, for example, data can be collected whether flashers are operating or not.

**Refresh Vehicle Count** will update the vehicle count while this screen is open.

**Get Data From Device** initiates the download of stored speed data to your PC.

When the memory is full, no new vehicle speed data can be recorded, unless you select the Circular Collection option in the Device Setup tab.

**Reset Memory** will reset the memory, erasing all vehicle speed data previously captured.

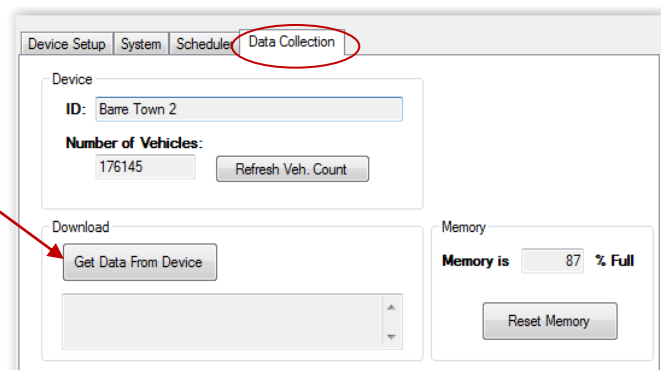
**Circular Data Collection** prevents the data memory from filling to a point where it stops collecting data. When nearly full (98% @ 240,000 data points), circular data collection overwrites the oldest data records.

## Downloading Traffic Data

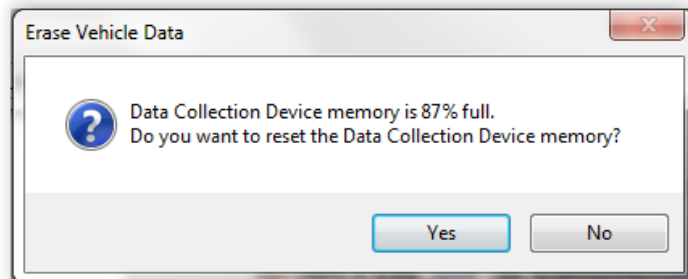
The process for downloading stored traffic data from a device is the same regardless of your connection to the device-- Bluetooth, serial cable or InstaNet. TrafficAnalyzer can then be used to read and analyze the data.

Click the **Data Collection** tab.

Next click on **Get Data From Device**.



After the data downloads, choose whether to reset your data memory.



The downloaded data files can be found on in these locations.

[XP] C:\Documents and Settings\All Users\Shared Documents\DeviceManager\Data Files

or

[Vista, Windows 7 and later] C:\ProgramData\Information Display\DeviceManager\Data Files

## **A NOTE ABOUT RADAR TRAFFIC COUNTING**

While using radar devices to detect vehicle speeds is quite accurate, the use of this method for absolute vehicle counting is not recommended. Radar detection works by the reflection of high-frequency signals off of moving targets. Those targets (vehicles) each have unique size, shape, and reflection characteristics. Thus, a small car behind a truck will likely be missed in the count, and two like-sized cars traveling close together could be “dithered,” meaning the radar unit cannot tell which target it is measuring at that particular time.

Occasional missed counts and multiple counts can result in errors in the total. However, the speed values will remain accurate, typically within +/- 1 mph. For this reason, we recommend that speed data be used as presented, but that vehicle counts should be considered relative in nature, and should be supplemented by a hard data collection method like a road tube system if vehicle count accuracy is absolutely critical.



# Troubleshooting

## **Bluetooth™ communications not working or erratic**

- Incompatible Bluetooth adapter used with PC. Information Display Company supports Cirago (BTA6210) and Ezurio (BRBLU03) USB Bluetooth radios.
- Incompatible drivers loaded for Bluetooth radio. Cirago and Ezurio do not require installation of drivers. When first inserted, they will automatically install the correct drivers. They are plug and play devices.
- Attempting to “pair” Bluetooth devices will result in being asked for a password. **Do not attempt to pair Bluetooth devices. It is not needed for DeviceManager to communicate.**
- Device not powered, or key switch set to OFF.
- PC computer with Bluetooth too far away. Must be located **within 50 feet in front of the device.**
- Mismatched DeviceManager software is loaded on the PC and/or display controller board. Contact Information Display Company for the latest versions.

## **No test sequence and flasher operation**

- Key switch (if used) in OFF position (fully CCW)
- Power to devices is OFF.
- Scheduler (timer in units) has scheduled the device to be off.

## **Radar detection range too short**

- Device alignment is incorrect.
- Device has metallic or plant obstructions between device and vehicles.
- Device is aligned properly but road curve or grade is affecting detection zone. Try aligning the device face toward or away from center line and/or more toward the grade of the road (up or down) as required.
- Internal metal radar reflector bent or missing. Check inside the device cabinet.
- Radar unit can be factory-set for longer or shorter detection range, or the device may be angled slightly toward the centerline of the road to focus on vehicles closer to the device. The factory setting is a detection range 400 to 600 feet from the device, which is affected by target size, e.g., truck vs. compact car. Contact Information Display Company for more information.

## **Unable to set or reset parameters using the PC computer**

- Outdated or mismatched DeviceManager software is loaded on the PC and/or display controller board. Contact Information Display Company for the latest versions.

## **DeviceManager application not downloading data properly**

- Invalid device name. Make sure the device name programmed with the PC computer is valid and does not include special characters or punctuation.
- Make sure device date/time is set properly with the Set Time & ID menu.
- If using Bluetooth, position in front of the device and/or move closer to it.

## **Communication interrupted**

- Distance between Bluetooth device and device is too great. Move closer.
- If using InstaNet, many variables come in to play with cell phone signal strength. Try to re-establish the connection.
- Internet connection lost. Make sure you have an active Internet connection.

# Sales, Service and Support

You can contact us any time via email at [sales@informationdisplay.com](mailto:sales@informationdisplay.com) or you can request information by completing our online form at [www.informationdisplay.com](http://www.informationdisplay.com). We try to answer all email inquiries within 24 to 48 hours.

If you have a pressing question, please contact us by phone.

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