MHCORBIN INC
Highway Information Systems

USER'S GUIDE

Platinum
Client Help

PUBLISHED BY

M. H. Corbin Inc.
8355 Rausch Drive
Plain City, Ohio 43064
USA

Phone: 614-873-5216
800-380-1718
Fax: 614-873-8095

Visit our Internet pages at http://www.mhcorbin.com/.

The contents are subject to change without prior notice.

Please observe that this manual does not create any legally binding obligations for M. H. Corbin Inc. towards the customer or end user. All legally binding commitments and agreements are included exclusively in the applicable supply contract or Conditions of Sale.

Table of Contents

Welcome to the M. H. Corbin Platinum Help

There are many new features available in the M. H. Corbin Platinum software. These new features include:

- Improved message scheduling that gives an operator the ability to decide the beginning and ending time for each playlist broadcast as well as the ability to schedule recurring events.
- Improved automatic device polling and status retrieval assists both operators and administrators with monitoring and troubleshooting systems.
- Customizable operations which give an administrator the ability to tailor station updates.
- An integrated chat feature enables operators system-wide to communicate quickly.
- Administrator customizable user access groups allow the administrator to restrict users from performing certain functions and improve security.
- Increased logging information that simplifies troubleshooting and maintenance.
- SQL database platform allows multiple users to update multiple device records quickly and simultaneously.
- Improved Text-To-Speech support enables operators to quickly convert and upload messages in a variety of languages.

If you are upgrading from a previous version of the Platinum software, there are a few differences you will notice.

- The User Interface has been completely redesigned to encompass new features.
- The Platinum Client is a fully-functioning stand alone application. Operators no longer have to worry about having more than one piece of software running to operate their devices.
- The approach to message libraries, playlists, and device groups has been updated to provide the operator with a more robust solution for operating all types of devices, including HARs, beacons, sensors and more.

Contact Us

M. H. Corbin Inc.
8355 Rausch Drive
Plain City, Ohio 4306

614-873-5216

Email: support@mhcorbin.com

Overview

M. H. Corbin Platinum is a software system that allows for remote data management, communication and viewing of transportation communication equipment. The software allows for full control of Highway Advisory Radios (HARs) by monitoring, creating and changing broadcast messages of each HAR connected to the software.

Message recording, editing, review, scheduling and synchronizing are quick and easy through the intuitive graphical user interface that features map displays for each HAR system in your network. Manage and store a library of messages for quick release to the public, including the capability to execute commands for your entire HAR network in just a few simple steps.

M. H. Corbin Platinum can manage other transportation communication devices, such as flashing beacons and variable messages signs (VMS). The software also has the ability to monitor set parameters and alert an administrator or user through email. The software system consists of a central server that manages and stores all information about the devices, and client software that allows a user to manipulate and control the central server from a remote location.

Benefits

- Allows control of a single device or all devices with a single command
- Allows you to get the most out of your HAR system by keeping it up-to-date
- Easy-to-use features such as drag and drop allows for a short learning curve
- Built on a reliable software language to ensure continuous operation
- Scalable from small systems to massive statewide multi-server operations
- Monitor the status of each device without having to travel to the site
- Optional email alerts for specific device parameter problems or issues

Get Started with Platinum!

Operator Quick Start Guide - Quick instructions on how to create messages, update devices, and check status.

Server Administration - For assistance with such tasks as managing devices, users, scripts, operations, Text-to-Speech, or Alerts.

Client Operation - For explanations regarding the pieces of the user interface such as the Properties Tab, the Media Library, or the Scheduler.

Troubleshooting - For troubleshooting and preventative maintenance tips and procedures.

Frequently Asked Questions - For list of the most common problems along with their resolutions.

Rules Language Reference - For explanation on how to write or edit Intellizone scripts

Device Scripting Reference - For details about how M. H. Corbin Platinum interacts with field devices

Platinum Operator Quick Start Guide

This guide is intended for operators accessing a pre-configured Platinum software system. System configuration is an administrative task normally performed during initial installation.

Starting the application

Double-click the Platinum Client icon on the desktop  to start the Platinum Client application.

Connecting

As the application starts it will show a Connection dialog box. This screen remembers the last used settings and should be pre-loaded with all connection information. The only thing the user will need to enter should be their user name and password. Once that is entered, press Connect. The application will connect to the server and download all necessary data.

What you should see now

Once the Client has loaded fully, you will see the default layout of the client display. This consists of the Node window, Map window, and two tabbed multiple-window areas. Most of the areas should be pre-loaded with system information.

Node

The Node window contains the tree organization of all field devices and groupings entered into the database. These will have been entered by the system administrator.

Map

The Map window contains a image which can have device icons placed upon it. This is a geographical, and more user-friendly way of accessing devices. More than one map may have been loaded and will be accessible with the drop-down arrow. The other menu buttons allow for zooming and navigation of the map image.

Properties/Media/Schedule

The lower left area is a tabbed display area where one of three windows may be selected: Properties, Media, or Schedule. The Properties window shows the device properties of the selected device in the Node window (or Map). These properties may include device status information or communications parameters. The Media window shows what messages and playlists are currently stored on the HAR devices. This is important for tracking what messages must be downloaded or updated during a communications update. The Schedule window contains a timeline type display of device update appointments. This window will be needed by the operators for prioritization and automation of updates.

Library

The lower right area is a tabbed display area where one of the following windows can be displayed: Library, Log, Chat, or Monitor. The operators will be primarily using the Library window. This window has 2 areas: Messages and Playlists. The Messages area is where individual messages are created and modified. The Playlists area is where you create/modify playlists. The Log window allows you to see details of the communication between the Platinum Server and the field device. This is helpful if you experience any kind of device update problem. The Chat and Monitor windows are optional and not needed by operators.

Commonly used Menus

File -> Connect - useful when the connection between the application and server has been interrupted or lost. Reconnecting will update the application with any changes.

View - This menu gives you the ability to turn off any of the display windows. The Monitor, Chat, and Schedule windows are almost never needed by the operator and can safely be turned off. There is another option called “Return to default

docking" which is very handy if the user has messed up the display accidentally. This will reset the window arrangements to the default upon restart.

Node -> Change Password - Allows you to change your password.

All the other options in this menu are administrative-type functions.

How to create and edit a message

Place the mouse in the Messages area of the Library window and right-click to see available selections. "Add recording" allows you to record a voice message using a microphone. "Add text-to-speech" allows you to type in text and have the computer generate the audio automatically (if you have this optional feature). "Import audio" allows you to browse to a .wav file and import it into the message library.

Right clicking on an existing message gives you the ability to edit, delete, copy, export, etc.

What are playlists

Playlists are groupings of individual messages intended for broadcast by a HAR. Although not required, Playlists are the usual method for putting messages onto a HAR. Place the mouse in the white area and right-click to see available selections. Typically each HAR will have its own dedicated playlist. The messages are added to a playlist by dragging and dropping them from the message area to the desired playlist. Once the desired messages are in the playlist, right-click on it and select Preview to listen to the message sequence play through. Right-clicking on the individual messages in the playlist allows you to remove or rearrange them.

Putting a message on the HAR

When you are ready to have a HAR updated with new messages you have 2 options:

1. Right-click on the HAR (on map or tree view) and select Playlist. In the Operation Parameters window that pops up, you will have to select the desired playlist from the drop-down menu.
2. A simpler technique is to drag-drop the desired playlist directly onto the HAR (on map or tree view). This will automatically set the correct playlist in the Operation Parameters window. Once the Operation Parameters window is ready, click Next .

NOTE: For the drag-and-drop method to work, a drag-and-drop operation must be configured in the settings.

Operation parameters

Once you have selected the desired device operation, an Operation Parameters window pops up where you can make last-minute changes to the way the device will be updated. The only thing the operator will normally need to change here is possibly the selected playlist. Once everything looks right, click Next to proceed to

the Schedule window.

NOTE: Once you become comfortable with this window, and if it doesn't ever require changes, it can be bypassed by checking the bypass commands box in the settings.

Schedule parameters

The Schedule window allows for many advanced scheduling options (periodic schedules, future schedules, limited duration schedules, etc.). Unless the operator has studied the Help manual or received training on this, it is recommended to accept all the default settings and click Save. The window will close and the device update will proceed. The default settings result in a real time appointment with no pre-determined termination date/time for the update. Once the device is updated it will continue in that state until someone changes it.

NOTE: If scheduling and priority functions aren't used, this screen can be bypassed by checking the bypass schedules box in the settings.

Getting the status of a device

Many device status and current settings are displayed in the Properties window. This includes information like the Communication status, DCC IP address, Active Playlist, etc. To retrieve the latest information or test device connectivity, use the Get Status operation by right clicking on the device in either the Node or Map windows.

Changing device parameters

Occasionally a device parameter may need to be changed. One example would be a DCC receiving a new IP Address. To change device parameters, simply double click the device in the Node or Map windows.

Other HAR operations

Most of the time you will be running a "Playlist" update to the HAR – but there are other possible operations. If you right-click on the HAR it will list all available operations. Other typical ones you might use are: WeatherRadio, ClearMemory, TurnOFF, and TurnON. For detailed changes to the sequence of these operations, please see your administrator.

Customizing your display

In the File menu , Settings option, Node(Roaming) tab, the user can customize many aspects of the client display: text font, text color, etc.

Logging off

When you have completed system updates you can log off or shut down the client program. Logging off is accomplished by going to the File menu and selecting Disconnect. If you don’t intend to get back on the system any time soon, you can

click Exit on the File menu or press the X button on the application.

Getting help

Help is available 2 ways:

Phone: 800-380-1718

Email: support@mhcorbin.com

Server Administration

Administrator's Guide

This section is devoted to assisting Administrators with setup and maintenance of the Platinum system. For information on Operation tasks, refer to the Operation section

The Platinum Client system allows an Administrator the ability to customize the many different elements of the Operation experience. Through the Platinum Client, Administrator's have control over user accounts, access rights, and even how Commands and Operations are performed. Below are articles that explain all of the fundamental components of the Platinum system. Select a topic below for more information:

Managing the System:

- Adding or Editing a Device
- Managing Access Groups
- Managing Users
- Managing Scripts
- Managing Operations
- Managing Commands
- Managing Alerts
- Automated Operations Manager (Intellizone)

General Information:

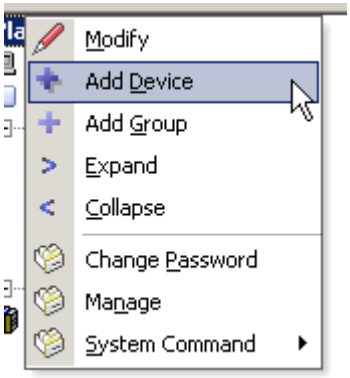
- Platinum Client Settings
- System Commands
- Text-To-Speech Engine
- Platinum Client Release Notes
- Script Quick Reference
- Rules Language Reference
- CSL Language Reference (Intellizone)
- Keyboard Shortcut Reference

Adding or editing devices

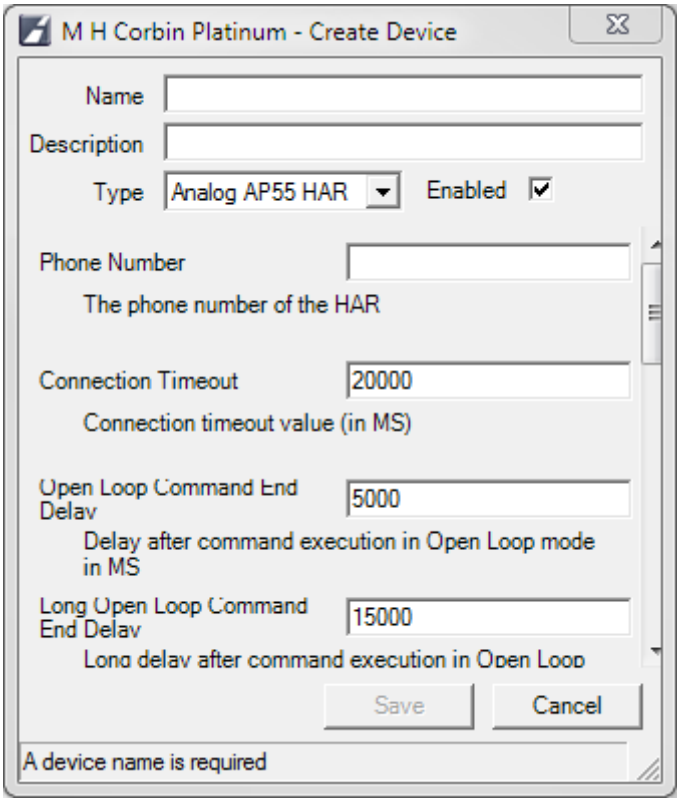
Adding/Editing a Device

Adding a Device

To add a device to the server, you must first Connect to the server. Once you are connected, right click on the Node name in the Node Tree and select the **New Device** option:

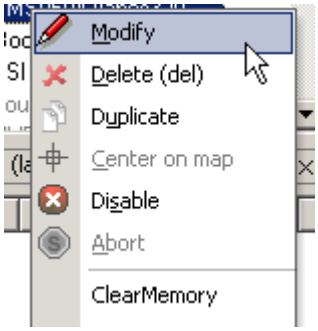


You will be presented with the Create Device dialog:



Modifying a Device

There are two ways to Modify an existing Device. You can either **Right Click** the Device entry in the Node Tree or you can **Right Click** the Device Icon after it has been placed on the Map Window. Either way, the menu displayed is the same. An example of this menu is below:



The options under the divider are Operations that have been associated with the Device Type selected. They will vary according to Device Type. From this menu you can remove the Device from the map, center it, Delete, Modify, or Disable it. Select Modify and the Modify Device dialog will appear. This dialog is exactly the same as the Create Device dialog above, except that it will be populated with the existing Device parameter information.

The definitions for each entry is as follows:

Name	The name you would like to associate with this device.
Description	The device description.
Enabled	Whether or not the device can be used (enabled, checked), or is inactive (disabled, unchecked).
Type	The device type. Depending on your device type selection, the remaining fields of this dialog will vary. For each device type, the input field descriptions can be found by clicking on the following links: • DR1500 HAR with digital DCC • DR1500.150 HAR using analog phone • DR1500.160 HAR using analog phone • AP55 HAR using analog phone • Metretek Beacon • Pager Beacon • RC200 Beacon • iBoot Beacon • SSI Sensor • DC-8 Beacon • DC900 Beacon • WebControl Device • VMS Device • Group Pager Beacon • AXIS 223M Camera • Wavetronix RTMS • Bluetree Beacon

Analog HAR Type Specification

An Analog HAR is operated by DTMF tone sequences. Depending on its revision number it can be operated in **Open Loop Mode** or **Closed Loop Mode** (revision 160 and up). In **Open Loop Mode**, commands sent to the HAR are not verified for accuracy. The command is sent and presumed to have been executed properly. In **Closed Loop Mode**, each command is sent, then verified before another command is sent. **Open Loop Mode** allows for faster communication times, and is the recommended mode of operation. The Dialogic card installed in the Platinum Server machine dials the phone number to the HAR system, and is able to control the system using the analog DTMF tones. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Phone Number	The phone number used to connect to the HAR. Your Platinum Server must be equipped with an Intel Dialogic or other suitable dial-up device in order for the Platinum server to be able to operate this device.
Connection Timeout	This setting determines the amount of time (in milliseconds) that must pass with no response from the HAR to determine that the HAR is no longer connected or not responding. This setting defaults to 20000 (20 seconds).
DR1500 Delay Between DTMF Tones	The delay between DTMF tones (in milliseconds) used when the Platinum Server is communicating with the HAR. This setting defaults to 900 (.9 seconds).
Duration of DTMF Tones	The duration of each DTMF tone (in milliseconds) used when the Platinum Server is communicating with the HAR. This setting defaults to 900 (.9 seconds).
First DTMF Tone Time Out	This setting is only used in **Closed Loop Mode**. (i.e. **Use Closed Loop Mode = YES**) When in **Closed Loop Mode**, the HAR system hardware will respond to the Platinum Server using DTMF tones. This setting indicates how long (in milliseconds) the Platinum system will wait to receive the first DTMF tone response from the hardware before considering the hardware to no longer be connected or not responding. This setting defaults to 5000 (5 seconds).
DTMF Tone Time Out	This setting is also only valid in **Closed Loop Mode**. This setting is used once the first DTMF tone responses have been received from the HAR hardware. After the first tones are received, this setting indicates how long (in milliseconds) the Platinum Server will wait to receive more DTMF tone responses from the HAR

	hardware before considering that HAR to be no longer connected or not responding. This setting defaults to 2000 (2 seconds).
Use Closed Loop Mode	**NOTE: revision 160 and up**. This setting determines whether or not communications to the HAR will occur in Closed Loop Mode. Closed Loop mode requires that the status of every command sent to the HAR be validated before another command is sent. Using Closed Loop Mode will make executing operations on the HAR more reliable, but the speed of execution will decrease. Valid values for this setting are YES or NO.
Open Loop Command End Delay	The delay (in milliseconds) between all standard commands sent to the HAR when operating in Open Loop mode (i.e., **Use Closed Loop Mode**=NO). When sending multiple commands to the HAR in a back-to-back fashion, this parameter indicates the minimum amount of time between commands.
Long Open Loop Command End Delay	The delay (in milliseconds) between all long delay commands sent to the HAR when operating in Open Loop mode (i.e., Use Closed Loop Mode=NO). Long delay commands are commands that take longer to process, such as HAR_OPTIMIZEMSGSPACE, HAR_PERFORMSYSTEMRESET, and HAR_ERASEALLMSGS. When sending multiple commands to the HAR in a back-to-back fashion, this parameter indicates the minimum amount of time between commands.
Erase All Wait Time	The duration (in milliseconds) used when waiting for the HAR_ERASEALLMSGS command to complete before assuming it is safe to issue the next command.
Erase All Command	The HAR command issued during the HAR_ERASEALLMSGS operation. Some older firmware HARs require a 3 digit erase command (999), whereas most newer firmware models require a 5 digit command (99999). This setting is used by the HAR_ERASEALLMSGS Script Keyword.
Access Code	The security code to use when accessing the AP55 device. This code can also be set using the HAR_SetSecurityCode Script Keyword.
Reset Wait Time	This setting determines the amount of time (in milliseconds) the Platinum Server will wait after resetting the system in Open Loop Mode (i.e. **Use Closed Loop = NO**). A reset corresponds to the use of the HAR_PERFORMSYSTEMRESET Script Keyword. This setting defaults to 5000 (5 seconds).
Redial Attempts	The number of times we will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 3000 (3 seconds).
HAR Streaming Server	The HAR audio streaming server, if available. **NOTE:**This option requires that the HAR be connected to a streaming device
Default Playlist Slot Number	The default slot to use for playlist which have no slot designation.
Status Parameters	
Access Code	The access code assigned to the HAR which is required for telephone handset operation. This setting is not used for HARs controlled by a DCC unit, but can be applicable if the HAR is also

	connected to a telephone line. **NOTE:** The access code is changed by issuing a command to the HAR that uses the HAR_SETSECURITYCODE Script Keyword. *This parameter setting corresponds to handset command *71#*
AC Fault Flg	**NOTE: revision 160 and up**. The AC power source fault flag. Valid values are 0 (AC Power FAULT) and 1 (AC Power OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The AC power fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
AC Flg	**NOTE: revision 160 and up**. The AC power flag. Valid values are 0 (AC Power is OFF) and 1 (AC Power is ON). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The AC power fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
AC Pwr Alert Thres	**NOTE: revision 160 and up**. The threshold setting which will cause an AC power source alert alarm to be tripped. Valid settings are 0 and 1. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The AC power alert threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Active Playlist	A comma separated list of message numbers which makeup the active playlist on the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Active Playlist Name	The name of the active playlist which is currently being broadcast by the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*

Active Playlist Slot	The playlist slot number (1001 to 1025) which is currently being broadcast by the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Attenuator Level	The attenuation level at which the HAR transmitter is set. Valid values are 1 to 4. Each numeric value corresponds to a percentage of attenuation. For example, if the number 3 is the desired level, the transmitter will be attenuated to 75 percent of full power. This command requires that a TCM (Transmitter Control Module) be installed with the HAR system. **NOTE:** The attenuator level is changed by issuing a command to the HAR that uses the HAR_SETATTENUATORLEVEL Script Keyword. *This parameter setting corresponds to handset command *65#*
Brdcst List	The broadcast list (similar to a playlist) which is currently being broadcast by the HAR. Setting the broadcast list will override any active playlist. **NOTE:** The broadcast list is changed by issuing a command to the HAR that uses the HAR_SETBROADCASTLIST Script Keyword. *This parameter setting corresponds to handset command *5#*
Brdcst Mon Alert %	**NOTE: revision 160 and up**. The broadcast monitor alert threshold setting determines if a broadcast monitor fault will be generated by checking if the actual broadcast level falls below this threshold. Valid settings are between 0 and 127. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Broadcast Monitor Alert Percentage threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Brdcst Mon Flg	**NOTE: revision 160 and up**. The broadcast monitor alert flag. Valid values are 0 (Broadcast Monitor Alert FAULT) and 1 (Broadcast Monitor Alert Flag is OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Broadcast monitor flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Brdcst Mon	**NOTE: revision 160 and up**. The broadcast monitor percent of

%	full scale. Valid values are 0 to 127. Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Broadcast Monitor Percent is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Build Number	**NOTE: revision 160 and up**. The build number of the HAR firmware. **NOTE:** The build number is retrieved by issuing a command to the HAR that uses the HAR_GETBUILDNUMBER Script Keyword. *This parameter setting corresponds to handset command *301#*
DC Fault Flg	**NOTE: revision 160 and up**. The DC power flag. Valid values are 0 (DC Voltage Alert Flag FAULT) and 1 (DC Voltage Alert Flag is OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The DC fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
DC Voltage	**NOTE: revision 160 and up**. The DC voltage level at the HAR. Valid values are from 0 to 32750 millivolts (i.e., a value of 12350 would be equal to 12.35 volts). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The DC voltage is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
DC Volt Alert Thres	**NOTE: revision 160 and up**. The threshold setting which will cause a DC voltage alarm to be tripped. Valid settings are between 0 and 32767 mV. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The DC voltage alert threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
DTMF Delay for Beacons	**NOTE: revision 160 and up**. The delay between DTMF tones broadcast over the transmitter for RC200 beacon control. Values are in 100 millisecond units, and can be between 0 and 900 (zero to .9 seconds) **NOTE:** The DTMF Delay for Beacons is changed by issuing a

	command to the HAR that uses the HAR_SETDTMFDELAY Script Keyword. *This parameter setting corresponds to handset command *210#*
DTMF Delay for RSP Mode	**NOTE: revision 160 and up**. The delay between DTMF tones issued over the handset or telephone line (in response mode). Values are in 100 millisecond units, and can be between 0 and 900 (zero to .9 seconds) **NOTE:** The DTMF Delay for RSP is changed by issuing a command to the HAR that uses the HAR_SETDTMFDELAY Script Keyword. *This parameter setting corresponds to handset command *210#*
EPROM Checksum	**NOTE: revision 160 and up**. The EPROM checksum number of the HAR firmware. **NOTE:** The EPROM checksum number is retrieved by issuing a command to the HAR that uses the HAR_GETEPROMCHECKSUM Script Keyword. *This parameter setting corresponds to handset command *302#*
Hangup Timeout	The amount of time the HAR will wait before hanging up the telephone line if no commands are being received. This setting is not used for HARs controlled by a DCC unit, but can be applicable if the HAR is also connected to a telephone line. **NOTE:** The hangup timeout is changed by issuing a command to the HAR that uses the HAR_SETHANGUPTIME Script Keyword. *This parameter setting corresponds to handset command *77#*
HAR ID	**NOTE: revision 160 and up**. The ID stored in the non-volatile memory of the HAR firmware. This ID is not the same as the HAR ID stored in the Platinum Database, it is a completely independent setting. It can have a value between 0 and 65535. **NOTE:** The HAR ID is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. It can be set using the HAR_CONFIGURESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
HAR Mode	**NOTE: revision 160 and up**. The HAR Mode Flag. Valid values are: • **1** - OFF • **2** - Playlist • **3** - Alert • **4** - Live • **5** - Auxillary • **0, 6-99** - Other Please consult the DR1500 Operations Manual for more

	information about this setting. **NOTE:** The HAR Mode flag is retrieved by issuing a command to the HAR that uses the HA R_RETRIEVESYSTEMSTATUS Script Keyword *This parameter setting corresponds to handset command *106#*
HAR Mode Alert	**NOTE: revision 160 and up**. The HAR Mode Alert Flag. Valid values are 0 (HAR Mode Alert Flag FAULT) and 1 (HAR Mode Alert Flag OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode Alert Flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
HAR Mode False Alert Mask	**NOTE: revision 160 and up**. The HAR mode "alert if false" bit mask settings. Valid settings are between 0 and 255. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode False Alert Mask is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
HAR Mode True Alert Mask	**NOTE: revision 160 and up**. The HAR mode "alert if true" bit mask settings. Valid settings are between 0 and 255. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode True Alert Mask is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
HAR Submode	**NOTE: revision 160 and up**. The HAR Submode Flag. Valid values are: • **0** - Individual message, non-synchronized • **1** - Playlist, non-synchronized • **2** - Individual message, synchronized • **3** - Playlist, synchronized • **10** - Broadcast auxiliary input • **15** - Broadcast silent • **80** - Alert Please consult the DR1500 Operations Manual for more

	information about this setting. **NOTE:** The HAR Mode flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *106#*
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Modified Time	**NOTE: revision 160 and up**. The date/time stamp which reflects the last time that an operation took place (on the HAR) which affected HAR operations. **NOTE:**The Last Modified Time is retrieved by issuing a command to the HAR that uses the HAR_GETLASTMODIFIEDTIME Script Keyword. *This parameter setting corresponds to handset command *101#*
Last Operation	The last operation that was executed on the HAR. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the HAR. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the HAR.
Master Alert	**NOTE: revision 160 and up**. The Master Alert Flag. Valid values are 0 (Master Alert FAULT) and 1 (Master Alert is OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Master Alert Fault Flag is retrieved by issuing a command to the HAR that uses the HAR_CONTROLMASTERALERTFLAG Script Keyword. *This parameter setting corresponds to handset command *104#*
Message Spacing	The number of seconds to insert between messages in a playlist. Valid values are numbers from 0 to 990, in 10 second increments.This setting is typically used along with the **Play AUX Fill** setting described above. **NOTE:** The message spacing is changed by issuing a command to the HAR that uses the HAR_SETMESSAGESPACING Script Keyword. *This parameter setting corresponds to handset command *4#*

Outdated Msg Alrt	**NOTE: revision 160 and up**. The Outdated Message Alert Flag.; Valid values are 0 (Outdated Message Alert FAULT) or 1 (Outdated Message Alert OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Outdated Message Alert Flag can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Outdated Msg Time	**NOTE: revision 160 and up**. The Outdated Message Time Flag. Valid values are 0 (Outdated Message Time FAULT) or 1 (Outdated Message Time OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Outdated Message Flag can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Play AUX Fill	Specifies whether or not the HAR will broadcast input from the AUX1 input source between messages in a playlist. Valid settings are: • **0** - Silence • **1** - AUX1 input will be played between messages in a playlist **NOTE:** The AUX fill mode is changed by issuing a command to the HAR that uses the HAR_SETAUXFILLBTWNMSGS Script Keyword. *This parameter setting corresponds to handset command *9#*
Record Time Available	**NOTE: revision 160 and up**. The number of seconds of record time that the HAR has left in memory. This represents the largest continuous message that can be recorded on the HAR without erasing other messages, or optimizing the available memory. **NOTE:** The Record Time Available is retrieved by issuing a command to the HAR that uses the HAR_GETAVAILABLETIME Script Keyword. *This parameter setting corresponds to handset command *60#*
Redial Attempts	The number of times the Platinum Server will redial the HAR before reporting a connection error.
Redial Delay	The number of milliseconds to delay between redial attempts.
Report Repeat Count	**NOTE: revision 160 and up**. The Report Repeat Count (over the telephone) setting determines the number of times the HAR will repeat the report that it dictates over the phone line when an alarm is generated. Allowed values are 1 to 9. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Report Repeat Count is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the

	HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Reset Wait Time	The timeout period to wait (in milliseconds) for the HAR to perform the system reset command. This setting is used by the HAR_PERFORMSYSTEMRESET Script Keyword. Setting a value under 12000 (12 s) may cause the operation to prematurely time out and report an error.
Sync Mode	**NOTE: revision 160 and up**. Indicates if the HAR is in SYNCHRONIZED mode or UNSYNCHRONIZED mode. This mode can only be set by executing the HAR_SETPLAYLISTMODE Script Keyword.
Transmitter Measured Power	**NOTE: revision 160 and up**. The current measured forward power of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W Transmitter module. **NOTE:** The transmitter measured power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Modulation Level	**NOTE: revision 160 and up**. The measured modulation level of the 30W transmitter module. Valid values are 20 to 100, which represents a percentage. This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Reflected Power	**NOTE: revision 160 and up**. The current measured reflected power of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Power	The current power level of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter power is changed by issuing a command to the HAR that uses the HAR_SETTRANSMITTERLEVEL Script Keyword. *This parameter setting corresponds to handset command *66#*

Transmitter State	Specifies the current state of the HAR's transmitter. Valid values are: • **ON** - HAR transmitter is turned ON • **OFF** - HAR transmitter is turned OFF **NOTE:** The transmitter state is changed by issuing a command to the HAR that uses the HAR_SETTRANSMITTER Script Keyword *This parameter setting corresponds to handset command *63#*
Transmitter VSWR	**NOTE: revision 160 and up**. The measured Voltage Standing Wave Ratio of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Version Number	**NOTE: revision 160 and up**. The revision number of the HAR firmware. **NOTE:** The revision number is retrieved by issuing a command to the HAR that uses the HAR_GETREVISIONNUMBER Script Keyword. *This parameter setting corresponds to handset command *300#*

AP55 HAR Type Specifications

AP55 Devices are operated similarly to Analog HAR Devices in that they are controlled using analog DTMF tones sent over a phone line from the Platinum Server system. The table below shows all the Properties that appear in the Properties List Window when an AP55 Device is selected. The table is divided into two sections: **Device Parameters**, and **Status Parameters**. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Phone Number	The phone number used to connect to the HAR. Your Platinum Server must be equipped with an Intel Dialogic or other suitable dial-up device in order for the Platinum server to be able to operate this device.
Connection Timeout	The time (in milliseconds) that must run out use before the AP55 is considered to no longer be responding, or not connected.
Delay Between DTMF Tones	The delay between DTMF tones (in milliseconds) used when communicating with the HAR.
Duration of DTMF Tones	The duration of DTMF tones (in milliseconds) used when communicating with the HAR.
Open Loop Command End Delay	The delay (in milliseconds) between all standard commands sent to the HAR when operating in Open Loop mode (i.e., **Use Closed Loop Mode**=NO). When sending multiple commands to the HAR in a back-to-back fashion, this parameter indicates the minimum amount of time between commands.
Long Open Loop Command End Delay	The delay (in milliseconds) between all long delay commands sent to the HAR when operating in Open Loop mode (i.e., Use Closed Loop Mode=NO). Long delay commands are commands that take longer to process, such as **Optimize**, **Reset**, and **Erase All Messages**. When sending multiple commands to the HAR in a back-to-back fashion, this parameter indicates the minimum amount of time between commands.
Erase All Wait Time	The duration (in milliseconds) used when waiting for the **ERASE ALL** command to complete before assuming it is safe to issue the next command.
Erase All Command	The HAR command issued during the **ERASE ALL** HAR operation. Some older firmware HARs require a 3 digit erase command (999), whereas most newer firmware models require a 5 digit command (99999). This setting is used by the HAR_ERASEALL Script Keyword.

Access Code	The security code to use when accessing the AP55 device. This code can also be set using the HAR_SetSecurityCode Script Keyword.
Redial Attempts	The number of times we will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 3000 (3 seconds).
Status Parameters	
Access Code	Indicates the DTMF access code that must be dialed when logging onto the AP55. **NOTE:** The value of the Access Code is changed by issuing the HAR_SETSECURITYCODE Script Keyword to the AP55.
Active Playlist	A comma separated list of message numbers which makeup the active playlist on the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Active Playlist Name	The name of the active playlist which is currently being broadcast by the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Active Playlist Slot	The playlist slot number (1001 to 1020) which is currently being broadcast by the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Broadcast List	The broadcast list (similar to a playlist) which is currently being broadcast by the HAR. Setting the broadcast list will override any active playlist. **NOTE:** The broadcast list is changed by issuing a command to the HAR that uses the HAR_SETBROADCASTLIST Script Keyword. *This parameter setting corresponds to handset command *5#*
Message Spacing	The number of seconds to insert between messages in a playlist. Valid values are numbers from 0 to 990, in 10 second increments.This setting is typically used along with the **Play AUX Fill** setting described above. **NOTE:** The message spacing is changed by issuing a command to the HAR that uses the HAR_SETMESSAGESPACING Script

	Keyword *This parameter setting corresponds to handset command *4#*
Music Input	Indicates whether the AP55 has been set to play audio from the music input as a background. Valid values are: • **ON** - AP55 will mix broadcast with audio from music input • **OFF** - AP55 will not mix broadcast with audio from music input **NOTE:** The value of Music Input is changed by issuing the HAR_SETMUSICINPUT Script Keyword to the AP55.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the HAR. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum username who issued the last operation that was executed on the HAR. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the HAR.
Recording Quality	The Recording Quality setting of an AP55 relates to the quality in terms of recording time left. To maximize quality, and still use the same amount of memory, the recording size must be reduced. Valid entries for Recording Quality are as follows: • **1** - Sets the Record time to its maximum, 859 seconds. Also establishes the worst recording quality. • **1004** - Sets the Record time to 75% of setting **1**, or 644 seconds, and the recording quality is 25% better than the first setting. • **2** - Sets the Record time to 56% of setting **1**, or 481 seconds. This is the default option. • **1011** - Sets the record time to 31% of the maximum, or 266 seconds. This option yields the best recording quality, but the shortest message length. **NOTE:** The Recording Quality is changed by issuing a command to the HAR that uses the HAR_SETRECORDINGSPEED Script Keyword. *This parameter setting corresponds to handset command *8#*
Redial	The number of times the Platinum Server will redial the HAR

Attempts	before reporting a connection error.
Redial Delay	The number of milliseconds to delay between redial attempts.
Transmitter State	Specifies the current state of the HAR's transmitter. Valid values are: • **ON** - HAR transmitter is turned ON • **OFF** - HAR transmitter is turned OFF **NOTE:** The transmitter state is changed by issuing a command to the HAR that uses the HAR_SETTRANSMITTER Script Keyword *This parameter setting corresponds to handset command *63#*

AXIS Camera Device Specifications

The AXIS camera device is used by Platinum to capture triggered events and display the images associated with the event to the Platinum users. Platinum can also send out notifications to users based on the event, such as eMail or text messages. It is important to realize that Platinum relies on the Axis camera to be setup properly before it can be used effectively. In particular, an FTP server and a web server must be setup to work with both Platinum and the AXIS camera for everything to work properly. See the relevant section below on the procedure for setting up the AXIS camera. The easiest implementation is to install the FTP and web servers on the same computer which is hosting the Platinum Server, but they can be on different machines. The Platinum Server requires read/write file/directory access to both the FTP server and the web server.

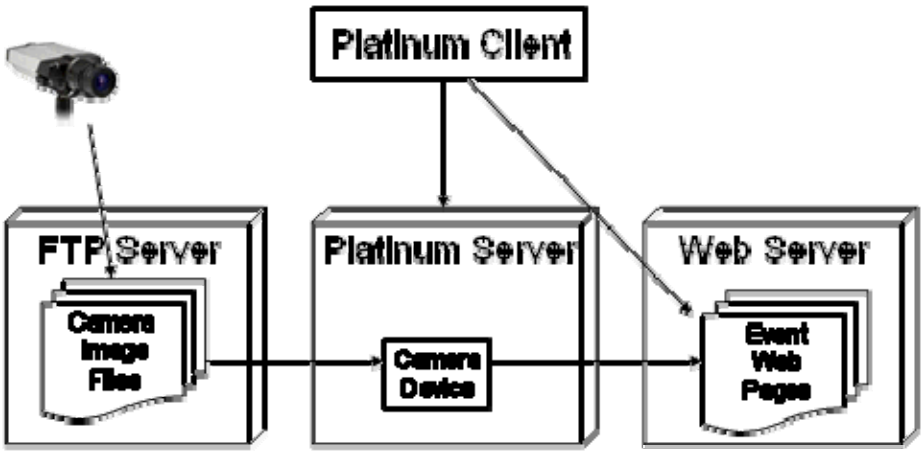
The table below shows all the Properties that appear in the Properties List Window when an AXIS camera device is selected. The table is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (a trigger event for example). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Image Directory	The directory path to the FTP server where the AXIS camera will place image files generated by a triggered event.
Web Directory	The directory path to the web server where Platinum will generate HTML pages for users to view the event images.
Index Template File	The template file used to build the event index web page. This file is essentially a web page which includes a marker string that Platinum will use to build the actual triggered event web page. The marker string is **%%EVENTLIST%%** and must exist in the HTML file or an error will result at runtime.
Web Page Tempate File	Every camera event will cause the Event Index File (web page) to get updated, and will also generate a Event Web Page that shows all the images captured for the event. This file is used to build the event web page. This template file must include a marker string to indicate where the images are to be placed. The marker string is **%%IMAGELIST%%** and a runtime error will result if it is not found in the template file.
Index Page URL	This entry indicates the URL to the event index page on the web server. The event index page is always named **events.html** and will be generated by the Platinum Server. This URL will be used by the Platinum GUI to launch a browser for viewing events.
Polling Frequency	The delay (in milliseconds) that Platinum waits between checks for events. Platinum detects new events by polling the FTP directory for new image files.
Link Template	The HTML line inserted into the event index web page for each event. This is used to format the event properly in HTML, and defaults to the value of **%s \x0d\x0a**. Note that 3 occurrances of **%s** must appear in this entry or a runtime error will be generated.

Image Template	The HTML line inserted into the event web page for each image associated with the event. This is used to format the images properly in HTML, and defaults to the value of **<tr><td><img src=\"/images/%s\"></td></tr>\x0d\x0a**. Note that one occurrance of **%s** must appear in this entry or a runtime error will be generated.
Status Parameters	
Last Event Time	Indicates the date and time when the last event was triggered.

AXIS 223M Camera Setup

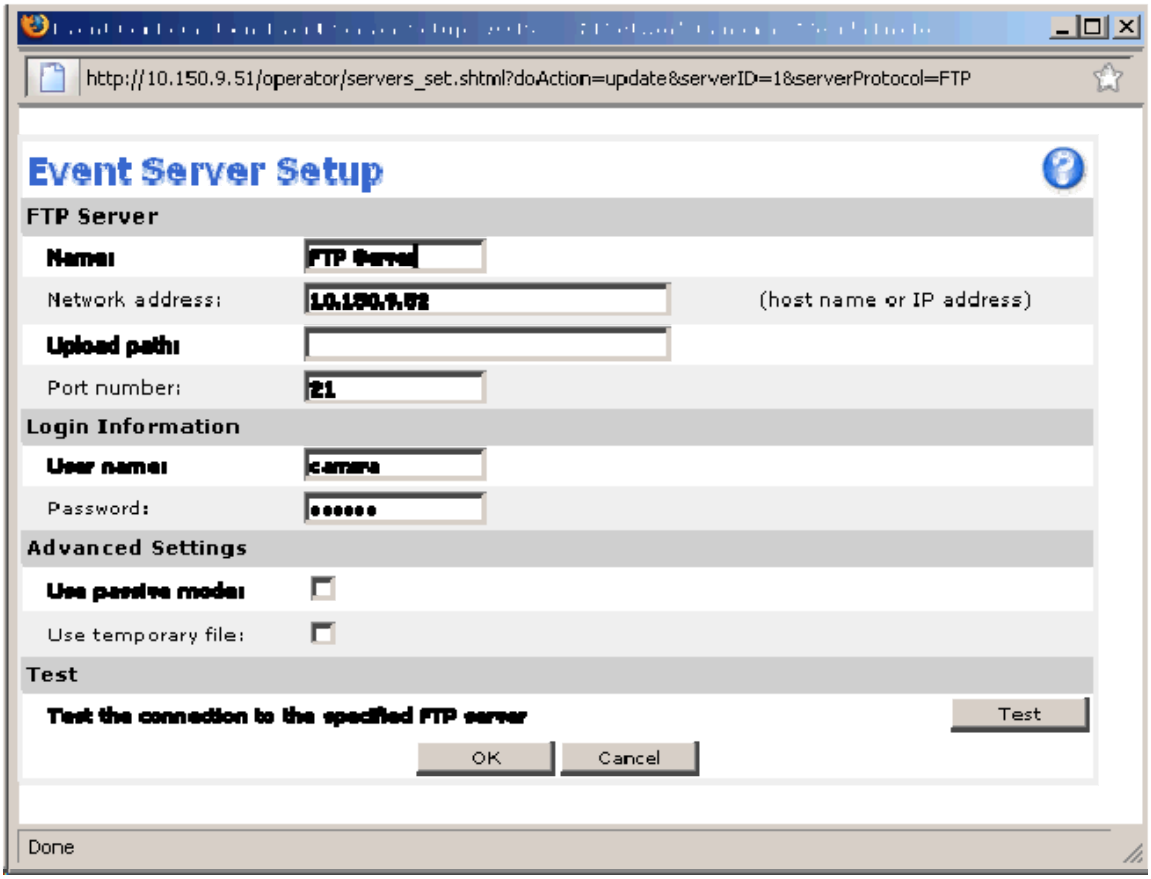
The use of the AXIS camera with Platinum requires a very specific setup which can be demonstrated using the following diagram:



The general flow is that the camera will send event images to the FTP server, which the Platinum Server will then use to build web pages for each event triggered. These web pages are then made visible through the Platinum Client (GUI) application.

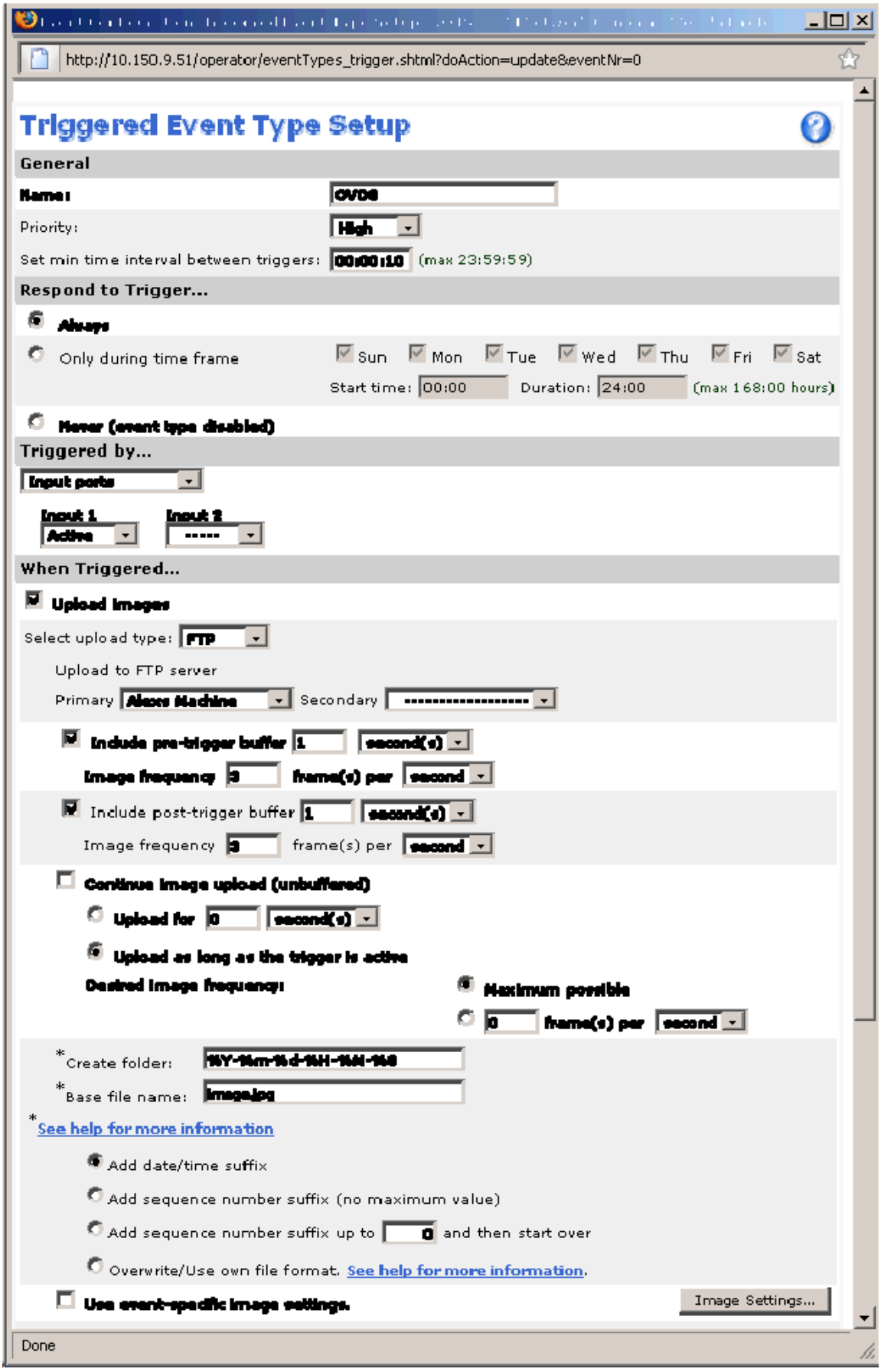
The camera must be configured to trigger on events, and also must be configured to use FTP to send the event images to a FTP server. To configure the camera, the camera will need to be connected to your network and setup with the proper IP settings. Please refer to the camera documentation to configure the camera with the proper IP settings and with a username and password for access.

When the camera can be accessed on your network, open a web browser and enter the IP of the camera in the address bar. After logging into the camera, you should see the "Settings" menu on top of the page. Click on Settings and then select Event Configuration, and then Event Servers. You will then need to press the "Add FTP" button. The following window should appear:



You should enter the proper information here to allow the camera to connect to your FTP server. Press the "Test" button when you are finished and make sure the connection can be established successfully. Click the OK button to close the window.

Next, under Event Configuration, select Event Types. Click the "Add Triggered" button to bring up the Triggered Event Setup form:



Several important fields must be propertly setup here. First, the "interval between triggers" will need a value that prevents the camera from triggering too often. Usually, a value of 1 minute will suffice.

Control By Web (WebControl) Device Type Specifications

An Control By Web Device is a digital I/O unit that is operated with TCP packets over an Ethernet network. The device is used to digitally control relay closures and read various voltage/temperature inputs. The CBW Device can be installed between a beacon power source and the flashing LED head. When a command is issued to the Device, the relay can be opened or closed, and the beacons are turned off or on. The following are the Device Type Parameters for CBW beacon controllers that appear in the Properties List Window. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon).

Device Parameters	
IP	The host name or IP address assigned to the CBW device. The device has a built web interface that allows an IP Address, Subnet Mask, and Gateway to be set. In order for the device to communicate properly, the IP Address specified in the Platinum System must be the same IP Address the device has been setup to use.
Port	The port on which this device is listening for commands. Default is port 80.
Password Required	Set to YES or NO to indicate if password authentication has been enabled for this device. If set to YES, the Platinum Server will authenticate with the password supplied for all operational commands to the device.
Password	The password to use for authentication, if any. Note that the password field includes the username and password, with a colon character in between (ie, none:webrelay).
TCP Timeout	The timeout used, in milliseconds, when waiting for data to be received from the device.
Number of Inputs	The number of voltage sensor inputs which the device supports.
Number of Outputs	The number of relays that the device supports.
Number of Temp Inputs	The number of temperature sensors that the device supports.
Retrieval Frequency	Indicates how often the Platinum Server will poll this device to retrieve it's state. A value of zero means automatic polling is disabled.
Status Parameters	
Last Connect Time	The date/time stamp which reflects the last time that a connection was made form the Platinum system to the device.

Last Operation	The last operation that was executed on the device. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the device. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the device.

DC-8 Beacon Type Specifications

DC-8 beacons are operated by sending an on or off code to the DC-8 device through a telephone call. During the execution of the DC-8 beacon script command SETBEACON(), the Platinum Server will dial the phone number of the DC-8 and send the proper on or off code for the relay specified, which turns the beacon on or off accordingly. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (such as turning the beacon on or off). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Beacon Phone Number	The phone number to dial to reach the DC-8 device which controls this beacon. This number must contain any prefix codes necessary to reach an outside phone line. Example: 1,9,8001234567
Beacon Relay Number	The DC-8 relay number which the beacon is attached to. This can be a number from 1 to 8, but is typically 1.
Security Code	The DC-8 security access code. The default value is two asterisk characters, **.
Closed Loop Mode	The DC-8 is capable of responding to commands with confirmation tones. Setting Closed Loop Mode to YES, indicates that Platinum will wait to hear the confirmation tones before reporting the operation as successful. Setting this parameter to NO will indicate that Platinum will not wait to hear the confirmation tone and will immediately report the operation as successful.
ON Tone Frequency	Specifies the frequency (in Hz) of the tone emitted by the DC-8 to indicate that the beacon relay is on. The default is 1650 Hz.
ON Tone Duration	Specifies the time (in milliseconds) for the ON tone to be present before Platinum recognizes it as valid.
OFF Tone Frequency	Specifies the frequency (in Hz) of the tone emitted by the DC-8 to indicate that the beacon relay is off. The default is 700 Hz.
OFF Tone Duration	Specifies the time (in milliseconds) for the OFF tone to be present before Platinum recognizes it as valid.
Connect Timeout	The amount of time to wait (in milliseconds) before timing out during the calling attempt.
Wait After Connect	The amount of time to wait (in milliseconds) after a connection is established and before the first DC-8 command is sent.

Delay Between Commands	Specifies the time (in milliseconds) between commands to the DC-8 device. Default is 2 seconds (2000 ms).
Redial Attempts	The number of times we will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 3 seconds(3000 ms).
Status Parameters	
Beacon State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The **Beacon State** is updated by issuing a command to the beacon via SETBEACON script keyword. The actual state of the beacon can not be guaranteed if there is no feedback loop from the controller to confirm the beacon state.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the HAR. This corresponds to the operation names created by the client interface for the Node where the device is controlled. **NOTE:** The Last Operation is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum user who issued the last operation that was executed on the beacon. **NOTE:** The **Last Operation By** is changed by issuing a command to the beacon.

DC900 Beacon Type Specifications

DC900 beacons are operated by sending an on or off code to the DC900 device through a telephone call. During the execution of the DC900 beacon script command SETBEACON(), the Platinum Server will dial the phone number of the DC900 and send the proper on or off code for the relay specified, which turns the beacon on or off accordingly. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (such as turning the beacon on or off). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Beacon Phone Number	The phone number to dial to reach the DC900 device which controls this beacon. This number must contain any prefix codes necessary to reach an outside phone line. Example: 1,9,8001234567
Beacon Relay Number	The DC900 relay number which the beacon is attached to. This can be a number between 1 and 2, but is typically 2.
Security Code	The DC900 security access code. The default value is 123.
Closed Loop Mode	The DC900 is capable of responding to security access code with confirmation tones. Setting Closed Loop Mode to YES, indicates that Platinum will wait to hear the confirmation tones before reporting the operation as successful. Setting this parameter to NO will indicate that Platinum will not wait to hear the confirmation tone and will immediately report the operation as successful.
Connect Timeout	The amount of time to wait (in milliseconds) before timing out during the calling attempt. Default is 20 seconds (20000 ms).
Wait After Connect	The amount of time to wait (in milliseconds) after a connection is established and before the first DC900 command is sent. Default is 5 seconds (5000 ms).
Delay Between Commands	Specifies the time (in milliseconds) between commands to the DC900 device. Default is 5 seconds (5000 ms).
Redial Attempts	The number of times Platinum will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 5 seconds (5000 ms).
Status Parameters	

Beacon State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The **Beacon State** is updated by issuing a command to the beacon via SETBEACON script keyword. The actual state of the beacon can not be guaranteed because DC900 has no feedback loop from the controller to confirm the beacon state.
Last Connection Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the HAR. This corresponds to the operation names created by the client interface for the Node where the device is controlled. **NOTE:** The Last Operation is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum user who issued the last operation that was executed on the beacon. **NOTE:** The **Last Operation By** is changed by issuing a command to the beacon.

Digital HAR with Digital DCC Type Specifications

Digital HAR systems are operated via an Ethernet TCP/IP connection. Information is sent digitally through TCP/IP packets to control the HAR. Digital HAR systems always operate in **Closed Loop Mode**. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
DCC IP	The host name or IP address assigned to the DCC/HAR. Your DCC must be configured to use this IP and your Platinum server must be able to access this IP in order for the Platinum Server to be able to operate this device.
DCC Port	The port which this DCC is listening on. The default DCC port is 200.
DCC Username	The DCC username, required for FTP operations. The default username is **DCC**. The username assigned to the DCC must match the name specified in this field for FTP operations to be successful.
DCC Password	The DCC password, required for FTP operations. The default password is **1947**.
DCC Connection Timeout	The timeout period to use (in milliseconds) when waiting for the Platinum Server to make a connection to the DCC. **NOTE**: This setting is not currently acted upon by the server. Connections may take longer to timeout than the value you specify here.
DCC Receive Timeout	The timeout period to use, in milliseconds, when waiting for the Platinum Server to receive data from the DCC.
Erase All Wait Time	The timeout period to use (in milliseconds) when waiting for the ERASE ALL operation to finish. This is used by the HAR_ERASEALLMSGS script keyword. Setting a value under 12000 (12 s) may cause the operation to prematurely time out and report an error.
Parallel Mode	Once data gets to the DCC there are two ways of transferring data from the DCC to the DR1500. Parallel Mode specifies a digital transfer, and Serial Mode specifies an analog transfer. This parameter specifies which transfer mode to use between the DCC and the DR1500. Valid values are: • **YES** - Use the parallel transfer mode

	• **NO** - Use the serial transfer mode **NOTE:** Using the parallel mode is much faster than the serial mode, but requires special cabling between the DCC and the DR1500. All revision D and E DCC Devices are equipped with Parallel cabling.
DCC FTP Port	The DCC FTP port, required for FTP operations. The default is port **21**.
Transfer Wait Time	The timeout period to use (in milliseconds) when waiting for the DCC to transfer a digitally downloaded file to the DR1500.
DCC Store As Name	The filename to use for transferring digital downloads to the DCC. This value can be any name, even an empty name (which is the default slash "/"). It is rarely necessary to change this parameter.
Erase All Command	The HAR command issued during the HAR_ERASEALLMSGS operation. Some older firmware HARs require a 3 digit erase command (999), whereas most newer firmware models require a 5 digit command (99999). This setting is used by the HAR_ERASEALLMSGS Script Keyword.
Reset Wait Time	This setting determines the amount of time (in milliseconds) the Platinum Server will wait after resetting the system in **Open Loop Mode** (i.e. **Use Closed Loop** = **NO**). A reset corresponds to the use of the HAR_PERFORMSYSTEMRESET Script Keyword. This setting defaults to 5000 (5 seconds).
Status Parameters	
Access Code	The access code assigned to the HAR which is required for telephone handset operation. This setting is not used for HARs controlled by a DCC unit, but can be applicable if the HAR is also connected to a telephone line. **NOTE:** The access code is changed by issuing a command to the HAR that uses the HAR_SETSECURITYCODE Script Keyword. *This parameter setting corresponds to handset command *71#*
AC Fault Flag	The AC power source fault flag. Valid values are 0 (AC Power FAULT) and 1 (AC Power OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The AC power fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
AC Flag	The AC power flag. Valid values are 0 (AC Power is OFF) and 1 (AC Power is ON). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The AC power fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
AC Power Alert	The threshold setting which will cause an AC power source alert alarm to be tripped. Valid settings are 0 and 1. Please consult the

Threshold	DR1500 Operations Manual for more information about this setting. **NOTE:** The AC power alert threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Active Playlist	The playlist (1001 to 1025) which is currently being broadcast by the HAR. **NOTE:** The active playlist is changed by issuing a command to the HAR that uses the HAR_ACTIVATEPLAYLIST Script Keyword. *This parameter setting corresponds to handset command *45#*
Attenuator Level	The attenuation level at which the HAR transmitter is set. Valid values are 1 to 4. Each numeric value corresponds to a percentage of attenuation. For example, if the number 3 is the desired level, the transmitter will be attenuated to 75 percent of full power. This command requires that a TCM (Transmitter Control Module) be installed with the HAR system. **NOTE:** The attenuator level is changed by issuing a command to the HAR that uses the HAR_SETATTENUATORLEVEL Script Keyword. *This parameter setting corresponds to handset command *65#*
Broadcast List	The broadcast list (similar to a playlist) which is currently being broadcast by the HAR. Setting the broadcast list will override any active playlist. **NOTE:** The broadcast list is changed by issuing a command to the HAR that uses the HAR_SETBROADCASTLIST Script Keyword. *This parameter setting corresponds to handset command *5#*
Broadcast Monitor Alert Percentage	The broadcast monitor alert threshold setting determines if a broadcast monitor fault will be generated by checking if the actual broadcast level falls below this threshold. Valid settings are between 0 and 127. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Broadcast Monitor Alert Percentage threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Broadcast Monitor Flag	The broadcast monitor alert flag. Valid values are 0 (Broadcast Monitor Alert FAULT) and 1 (Broadcast Monitor Alert Flag is OK).

	Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Broadcast monitor flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Broadcast Monitor Percent	The broadcast monitor percent of full scale. Valid values are 0 to 127. Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Broadcast Monitor Percent is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Build Number	The build number of the HAR firmware. **NOTE:** The build number is retrieved by issuing a command to the HAR that uses the HAR_GETBUILDNUMBER Script Keyword. *This parameter setting corresponds to handset command *301#*
DCC user	The Username specified for one of 5 DCC users. It is recommended that the DCC user settings be left empty and not be used due to the difficulty in setting them up correctly. For more information on these settings, please consult the DCC Operations Manual. *This parameter setting corresponds to handset command *405#*
DCC Version	The revision number of the DCC firmware. **NOTE:** This value is retrieved by issuing a command to the HAR that uses the DCC_GETFIRMWAREVERSION Script Keyword. *This parameter setting corresponds to handset command *405#*
DC Fault Flag	The DC power flag. Valid values are 0 (DC Voltage Alert Flag FAULT) and 1 (DC Voltage Alert Flag is OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The DC fault flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
DC Voltage	The DC voltage level at the HAR. Valid values are from 0 to 32750 millivolts (i.e., a value of 12350 would be equal to 12.35 volts). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The DC voltage is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script

	Keyword. *This parameter setting corresponds to handset command *103#*
DC Volt Alert Threshold	The threshold setting which will cause a DC voltage alarm to be tripped. Valid settings are between 0 and 32767 mV. Please consult the DR1500 Operations Manual for more information about this setting . **NOTE:** The DC voltage alert threshold is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
DTMF Delay for Beacons	The delay between DTMF tones broadcast over the transmitter for RC200 beacon control. Values are in 100 millisecond units, and can be between 0 and 900 (zero to .9 seconds) **NOTE:** The DTMF Delay for Beacons is changed by issuing a command to the HAR that uses the HAR_SETDTMFDELAY Script Keyword. *This parameter setting corresponds to handset command *210#*
DTMF Delay for RSP Mode	The delay between DTMF tones issued over the handset or telephone line (in response mode). Values are in 100 millisecond units, and can be between 0 and 900 (zero to .9 seconds) **NOTE:** The DTMF Delay for RSP is changed by issuing a command to the HAR that uses the HAR_SETDTMFDELAY Script Keyword. *This parameter setting corresponds to handset command *210#*
EPROM Checksum	The EPROM checksum number of the HAR firmware. **NOTE:** The EPROM checksum number is retrieved by issuing a command to the HAR that uses the HAR_GETEPROMCHECKSUM Script Keyword. *This parameter setting corresponds to handset command *302#*
Hangup Timeout	The amount of time the HAR will wait before hanging up the telephone line if no commands are being received. This setting is not used for HARs controlled by a DCC unit, but can be applicable if the HAR is also connected to a telephone line. **NOTE:** The hangup timeout is changed by issuing a command to the HAR that uses the HAR_SETHANGUPTIME Script Keyword. *This parameter setting corresponds to handset command *77#*
HAR ID	The ID stored in the non-volatile memory of the HAR firmware. This ID is not the same as the HAR ID stored in the Platinum Database, it is a completely independent setting. It can have a

	value between 0 and 65535. **NOTE:** The HAR ID is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. It can be set using the HAR_CONFIGURESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
HAR Mode	The HAR Mode Flag. Valid values are: • **1** - OFF • **2** - Playlist • **3** - Alert • **4** - Live • **5** - Auxiliary • **0, 6-99** - Other Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword *This parameter setting corresponds to handset command *106#*
HAR Mode Alert	The HAR Mode Alert Flag. Valid values are 0 (HAR Mode Alert Flag FAULT) and 1 (HAR Mode Alert Flag OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode Alert Flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
HAR Mode False Alert Mask	The HAR mode "alert if false" bit mask settings. Valid settings are between 0 and 255. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode False Alert Mask is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
HAR Mode True Alert Mask	The HAR mode "alert if true" bit mask settings. Valid settings are between 0 and 255. Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode True Alert Mask is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current

	value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
HAR Submode	The HAR Submode Flag. Valid values are: • **0** - Individual message, non-synchronized • **1** - Playlist, non-synchronized • **2** - Individual message, synchronized • **3** - Playlist, synchronized • **10** - Broadcast auxiliary input • **15** - Broadcast silent • **80** - Alert Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The HAR Mode flag is retrieved by issuing a command to the HAR that uses the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *106#*
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the HAR. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the HAR. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the HAR.
Master Alert Flag	The Master Alert Flag. Valid values are 0 (Master Alert FAULT) and 1 (Master Alert is OK). Please consult the DR1500 Operations Manual for more information about this parameter. **NOTE:** The Master Alert Fault Flag is retrieved by issuing a command to the HAR that uses the HAR_CONTROLMASTERALERTFLAG Script Keyword. *This parameter setting corresponds to handset command *104#*
Message Spacing	The number of seconds to insert between messages in a playlist. Valid values are numbers from 0 to 990, in 10 second increments.This setting is typically used along with the **Play AUX**

	Fill setting described above. **NOTE:** The message spacing is changed by issuing a command to the HAR that uses the HAR_SETMESSAGESPACING Script Keyword *This parameter setting corresponds to handset command *4#*
Outdated Message Alert	The Outdated Message Alert Flag. Valid values are 0 (Outdated Message Alert FAULT) or 1 (Outdated Message Alert OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Outdated Message Alert Flag can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Outdated Message Time	The Outdated Message Time Flag. Valid values are 0 (Outdated Message Time FAULT) or 1 (Outdated Message Time OK). Please consult the DR1500 Operations Manual for more information about this setting. **NOTE:** The Outdated Message Flag can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *103#*
Play AUX Fill	Specifies whether or not the HAR will broadcast input from the AUX1 input source between messages in a playlist. Valid settings are: • **0** - Silence • **1** - AUX1 input will be played between messages in a playlist **NOTE:** The AUX fill mode is changed by issuing a command to the HAR that uses the HAR_SETAUXFILLBTWNMSGS Script Keyword. *This parameter setting corresponds to handset command *9#*
Record Time Available	The number of seconds of record time that the HAR has left in memory. This represents the largest continuous message that can be recorded on the HAR without erasing other messages, or optimizing the available memory. **NOTE:** The Record Time Available is retrieved by issuing a command to the HAR that uses the HAR_GETAVAILABLETIME Script Keyword. *This parameter setting corresponds to handset command *60#*
Report Repeat Count	The Report Repeat Count (over the telephone) setting determines the number of times the HAR will repeat the report that it dictates over the phone line when an alarm is generated. Allowed values are 1 to 9. Please consult the DR1500 Operations Manual for more information about this setting.

	NOTE: The Report Repeat Count is set by issuing a command to the HAR that uses the HAR_CONFIGURESYSTEMSTATUS Script Keyword. It's current value can be retrieved using the HAR_RETRIEVESYSTEMSTATUS Script Keyword. *This parameter setting corresponds to handset command *102#*
Reset Wait Time	The timeout period to wait (in milliseconds) for the HAR to perform the system reset command. This setting is used by the HAR_PERFORMSYSTEMRESET Script Keyword. Setting a value under 12000 (12 s) may cause the operation to prematurely time out and report an error.
Sync Mode	The synchronization mode by which the HAR has been set to operate. Valid values are: • **SYNCHRONIZED** - HAR transmits playlist using synchronization, so that other HARs broadcasting this same playlist are synchronized. • **NONSYNCHRONIZED** - HAR transmits playlist without synchronization. All HARs operate independently. HARs set to operate in **SYNCHRONIZED** mode must be equipped with a properly configured GPS unit in order to obtain the required synchronization timing information. **NOTE:** The synchronization mode is changed by issuing a command to the HAR that uses the HAR_SETPLAYLISTMODE Script Keyword.
Transmitter Measured Power	The current measured forward power of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W Transmitter module. **NOTE:** The transmitter measured power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Modulation Level	The measured modulation level of the 30W transmitter module. Valid values are 20 to 100, which represents a percentage. This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Reflected Power	The current measured reflected power of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the

	HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Transmitter Power	The current power level of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter power is changed by issuing a command to the HAR that uses the HAR_SETTRANSMITTERLEVEL Script Keyword. *This parameter setting corresponds to handset command *66#*
Transmitter State	Specifies the current state of the HAR's transmitter. Valid values are: • **ON** - HAR transmitter is turned ON • **OFF** - HAR transmitter is turned OFF **NOTE:** The transmitter state is changed by issuing a command to the HAR that uses the HAR_SETTRANSMITTER Script Keyword *This parameter setting corresponds to handset command *63#*
Transmitter VSWR	The measured Voltage Standing Wave Ratio of the 30W transmitter module. Valid values are 0 to 300, in 10 unit intervals (each unit represents 1/10th of a watt). This setting only applies to HAR units equipped with the 30W power transmitter module. **NOTE:** The transmitter reflected power is retrieved by issuing a command to the HAR that uses the HAR_REPORTTRANSSTATUS Script Keyword. *This parameter setting corresponds to handset command *67#*
Version Number	The revision number of the HAR firmware. **NOTE:** The revision number is retrieved by issuing a command to the HAR that uses the HAR_GETREVISIONNUMBER Script Keyword. *This parameter setting corresponds to handset command *300#*

Group Pager Beacon Type Specifications

Group pager beacons are operated by sending an on or off code through a paging service telephone number. This type of device differs from a normal pager controlled beacon in that a single phone number can control from 1 to 8 beacons with one phone call. When an operation occurs on one or more group pager beacons, the Platinum server will first determine how many beacons are to be affected and then dial the number of the pager service and send the proper on or off code so that each beacon will end up being in the appropriate state (ON or OFF). The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (turning the beacon on or off). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Pager Svc Phone Number	The phone number to dial to reach the pager service which will control this beacon. This number must contain any prefix codes necessary to reach an outside phone line. Example: 9,1,8001234567
Group Member ID	The beacon number (or offset) within the dialing sequence for this member of the group. This should be a number from 1 to 8.
Group DTMF start code	The DTMF tone(s) dialed at the start of the phone call to the pager service (if any). This code should be consistent across the pager group.
Group DTMF end code	The DTMF tone(s) dialed after the group member ID digits are dialed (if any). This code should be consistent across the pager group.
Connect Timeout	Specifies the time (in milliseconds) for this device to wait after dialing the pager service phone number for a connection to be made. If this time elapses and the connection has not been successfully established, the beacon state will show a device error. This time will vary depending upon the pager service which controls the beacon.
Wait After Connect	Specifies the time (in milliseconds) for this device to wait after a connection is made before dialing the DTMF dialing template. This allows for a delay as the pager service prompts the caller with instructions.
Wait Before Hangup	Specifies the time (in milliseconds) for this device to wait after all dialing is complete to hang up the line. If a hangup occurs too quickly, some services may not activate the beacon properly.
Redial Attempts	The number of times we will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 3000 (3 seconds).
Status Parameters	

Beacon State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The **Beacon State** is updated by issuing a command to the beacon that uses the SETBEACON script keyword. The actual state of the beacon can not be guaranteed if there is no feedback loop from the pager service to confirm the beacon state.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the beacon. This corresponds to the operation names created by the client interface for the Node where the device is controlled. **NOTE:** The Last Operation is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum user who issued the last operation that was executed on the beacon. **NOTE:** The **Last Operation By** is changed by issuing a command to the beacon.

iBoot Beacon Controller Type Specifications

An iBoot Device is a digital remote power unit that is operated with TCP packets over an Ethernet network. The device is used to digitally control flashing beacons. The iBoot Device is installed between the beacon power source and the flashing LED head. When a command is issued to the Device, the power curcuit is either opened or closed, and the beacons are turned on or off. The following are the Device Type Parameters for iBoot Beacon Controllers that appear in the Properties List Window. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon).

Device Parameters	
Escape Character	The Escape Character is used in the Command sequence of the iBoot Device. The default value is 27.
iBoot IP	The host name or IP address assigned to the iBoot Device. The iBoot has a built web interface that allows an IP Address, Subnet Mask, and Gateway to be set. In order for the iBoot Device to communicate properly, the IP Address specified in the Platinum System must be the same IP Address the iBoot itself has programmed.
iBoot Port	The port on which this iBoot is listening for commands.
iBoot Password	The password used to operate iBoot Devices. The Password is used in the Command Template.
TCP Timeout	The timeout period to use (in milliseconds) when waiting for a connection to the iBoot Device to be made.
Termination Character	The Termination Character is the character that designates the end of a command sent to an iBoot Device.
Status Parameters	
Last Connect Time	The date/time stamp which reflects the last time that a connection was made form the Platinum system to the iBoot device.
Last Operation	The last operation that was executed on the iBoot device. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the iBoot device.

NOTE: The **Last Operation By** parameter is changed by issuing a command to the HAR.

Metretek Beacon Type Specification

Metretek beacons are controlled by a separate InvisiConnect server. The Platinum Server connects to the InvisiConnect server, but the InvisiConnect server controls the Beacons directly. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. A Status Parameter can be changed only by changing the Device state.(uploading a new playlist, turning on a beacon)

Device Parameters	
Unit Number	The Metretek unit number.
Server IP	The server which the InvisiConnect software is running on.
Server Port	The port which the InvisiConnect software is listening on.
Server Password	The InvisiConnect server password, for connecting to the InvisiConnect service.
Server Tracing	Determines whether or not server level tracing occurs for the commands issued to the Metretek device. See the Metretek documentation for more details. Valid values are ON or OFF.
SMS Reconnect Wait Time	Specifies the time (in milliseconds) that the Platinum server will wait after sending an SMS request to the beacon to to see if it actually reconnected. The default is 40000 (40 seconds). If the beacon does not reconnect within this time frame, the device will display a communications error icon.
Minutes Between SMS Sends	Specifies the time (in minutes) that the Platinum server will wait between SMS requests to the beacon to connect itself. The default is 10. Because SMS messages sent on behalf of the Platinum Server get billed to the customer, this setting should be changed with care.
Closed Loop Mode	Determines if the Platinum Server will issue a GetDeviceStatus call to the Metretek server after each operation to confirm if the operation completed successfully. Valid values are ON or OFF. Setting this value to ON will increase the time required to complete an operation.
Status Parameters	
Unit State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The **Unit State** is updated by issuing a command to the beacon that uses the SETBEACON or GETBEACONSTATE Script Keyword.
Invisi API Revision Number	Specifies the InvisiConnect DLL revision number. **NOTE:** The **Invisi API Revision Number** is automatically

	updated by the Platinum Server when the device is loaded.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last SMS Sent At	Represents the Date/Time at which the last SMS message was sent to the Metretek beacon device. **NOTE:** The **Last SMS Sent At** is updated by the Platinum Server whenever an SMS message gets sent.
Last Operation	The last operation that was executed on the HAR. This corresponds to the operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the HAR. **NOTE:** The **Last Operation By** is changed by issuing a command to the HAR.

NTCIP Digital VMS Type Specifications

Virtual Message Sign systems (VMS) which are operated via an Ethernet TCP/IP connection utilizing the NTCIP protocol. Information is sent digitally through TCP/IP packets to control the VMS. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new message, activating a new message, etc). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
VMS IP	The host name or IP address assigned to the VMS. Your Platinum Server must be able to access this IP in order for the Platinum Server to be able to operate this device.
Port Number	The port which this VMS is listening on. The default VMS port is 1212.
Username	The VMS username, required for operations. The default username is empty.
Password	The VMS password, required for operations. The default password is empty.
Receive Timeout	The timeout period to use (in milliseconds) when waiting for data to be received from the VMS device. If no data is received within this timeout interval, the operation will be terminated and a TIMEOUT will be reported.
Send Timeout	The timeout period to use, in milliseconds, when waiting for data to be successfully sent to the VMS.
NTCIP Logging	If set to YES, this creates special log file containing the raw NTCIP data sent to or received from the VMSdevice.
Number of Rows	The number of lines, or rows, of text that the device supports. The default is 3.
Number of Columns	The number of characters per line, or columns, that the device supports. The default is 8.
PPMP Device Address	The PPMP address of the device, which is typically 1 unless other NTCIP devices are using this IP.
Community String	The NTCIP Community string to be used during Get and Set requests.
Delay Between Requests	A delay in milliseconds that can be used to avoid out of order requests on problematic connunication links.
Keep Connection Open	When set to YES, will cause the driver to hold open the TCP connection. This can increase the speed of the communication. Be careful however, as this could also lock the sign controller from accepting connections of other systems.

Status Parameters	
Last Operation	The last operation that was executed on the VMS. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the VMS. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the VMS. **NOTE:** The **Last Operation By** parameter is changed by executing an operation on the VMS.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Active Message Number	This parameter holds the currently active message number of the VMS, which is the message that is currently being displayed.
Power Source	This field identifies the source of power being used by the VMS device. Possible values are: • unknown • Other • Power shut down • A/C Line • Generator • Solar • Battery
Voltage	The voltage of the power being supplied to the VMS, in hundredths of a volt.
Last Activation Error	The numeric error code for the last activation error that occurred on the VMS device. Consult VMS documentation to identify the conditions that may exist on a particular VMS.
Active Message Text	Indicates the currently displayed message text, including control characters, being displayed by the VMS device.
Make	The manufacturer of this VMS unit stored in the device firmware.
Model	The model of this VMS unit stored in the device firmware.
Version Info	The firmware version number for this VMS unit.
Add'l Info	Additional firmware version information for this VMS unit.
Last Activated Message Runtime Priority	The activate priority of the last activated message. Used for debugging when messages don't activate as expected.
Last Activated Message Number	The type and slot of the last activated message in the form "type.slot". The type can be 'C' for changeable, 'P' for permanent, or 'B' for blank.
Last Activated	The formatted text of the last activated message. Most useful

Message Text as a GUI tooltip.

Pager Controlled Beacon Type Specifications

Pager beacons are operated by sending an on or off code through a paging service telephone number. The Platinum Server will dial the number of the pager service and send the proper on or off code, and the pager service transmits the codes through to the pagers, which turn the beacons on or off accordingly. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (turning the beacon on or off). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
Pager Service Phone Number	The phone number to dial to reach the pager service which will control this beacon. This number must contain any prefix codes necessary to reach an outside phone line. Example: 1,9,8001234567
DTMF Dialing Template	The DTMF template to use in dialing the command to turn the beacon ON or OFF. The template string can contain any prefix and postfix digits, but must contain the %c code insertion specifier. The template string can contain any of the following: • Digits from **0** to **9** to dial, including **#**, ***** and the comma character • **%C** - marks the insertion point for the ON or OFF code • **%Pxxxxx** - indicates that dialing should pause for xxxxx milliseconds. For example, if the ON code was 1111 and the beacon was requested to be turned on, the template string of **#123%c456%p01000#** would cause the following digits to be dialed: **#1231111456 {pause for 1 second} #**
DTMF for ON	The DTMF tones required to turn the beacon ON.
DTMF for OFF	The DTMF tones required to turn the beacon OFF.
Connect Timeout	Specifies the time (in milliseconds) for this device to wait after dialing the pager service phone number for a connection to be made. If this time elapses and the connection has not been successfully established, the beacon state will show a device error. This time will vary depending upon the pager service which controls the beacon .
Wait After	Specifies the time (in milliseconds) for this device to wait after a

Connect	connection is made before dialing the DTMF dialing template. This allows for a delay as the pager service prompts the caller with instructions.
DTMF Delay	The delay to use (in milliseconds) between DTMF tones sent to the pager service.
DTMF Duration	The DTMF tone duration (in milliseconds) for tones sent to the pager service.
Wait Before Hangup	Specifies the time (in milliseconds) for this device to wait after all dialing is complete to hang up the line. If a hangup occurs too quickly, some services may not activate the beacon properly.
Redial Attempts	The number of times we will retry a dialing attempt before giving up. Default is 3.
Redial Delay	The number of milliseconds to wait between redialing attempts. Default is 3000 (3 seconds).
Status Parameters	
Beacon State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The **Beacon State** is updated by issuing a command to the beacon that uses the SETBEACON script keyword. The actual state of the beacon can not be guaranteed if there is no feedback loop from the pager service to confirm the beacon state.
Last Connect Time	This parameter reflects the date/time stamp at which the last successful connection to the device was made. The value of this parameter will change regardless of whether or not any operation is performed on the Device.
Last Operation	The last operation that was executed on the HAR. This corresponds to the operation names created by the client interface for the Node where the device is controlled. **NOTE:** The Last Operation is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum user who issued the last operation that was executed on the beacon. **NOTE:** The **Last Operation By** is changed by issuing a command to the beacon.

RC200 Beacon Type Specifications

RC200 Beacons are controlled by sending DTMF tones over the broadcast from a HAR. The RC200 Device receives a tone and interprets it as either an on code or an off code. Each RC200 Device needs a HAR device to be transmitting within signal range to operate correctly. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon). Both Device and Status Parameters are displayed in the Properties List Window.

Device Parameters	
HAR Device	The HAR unit which will broadcast the DTMF tones to control this beacon. This corresponds to a HAR device which you should have already created within the Platinum server.
DTMF for ON	The DTMF tones to broadcast to turn the RC200 beacon ON. The DTMF tone sequence can be individually programmed for each beacon. This parameter takes values '0'-'9', 'A'-'D', '*', '#' and ','. The ',' character acts as a delay between adjacent DTMF tones similar to its usage in the phone number dialing sequence.
DTMF for OFF	The DTMF tones to broadcast to turn the RC200 beacon OFF. The DTMF tone sequence can be individually programmed for each beacon. This parameter takes values '0'-'9', 'A'-'D', '*', '#' and ','. The ',' character acts as a delay between adjacent DTMF tones similar to its usage in the phone number dialing sequence.
Timeout	Specifies the time (in milliseconds) for this device to wait after issuing a command to the controlling HAR to perform the DTMF broadcast. If this time elapses and the HAR has not responded, the beacon state will show a device error. This time will vary depending upon if you use a digital or analog HAR device.
Script	The script that should be executed by the beacon's controlling HAR when a ON or OFF operation is requested. This corresponds to a script that contains the proper keywords to perform a DTMF broadcast by the controlling HAR. An example of such a script (for a digital HAR) would be: HAR_CONNECT HAR_BROADCASTDTMFTONES (4,"%s") HAR_DISCONNECT **NOTE:** the **%s** in the script keyword HAR_BROADCASTDTMFTONES above is required in order for the beacon to know where to insert the DTMF ON/OFF code.

Status Parameters	
Beacon State	Specifies whether the beacon is ON or OFF. Valid values are: • **ON** - The beacon is ON. • **OFF** - The beacon is OFF. • **UNKNOWN** - The beacon state is not known. **NOTE:** The Unit State is updated by issuing a command to the beacon that uses the SETBEACON script keyword. The actual state of the beacon can not be guaranteed because there is no feedback loop from the beacon to confirm the beacon state.
Last Operation	The last operation that was executed on the HAR. This corresponds to the operation names created by the client interface for the Node where the device is controlled. NOTE: The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum username who issued the last operation that was executed on the beacon. **NOTE:** The Last Operation By is changed by issuing a command to the beacon.

SSI Sensor (RWIS)

SSI Sensor Specifications

The Platinum Client system supports several different classifications of SSI Sensors. These sensors measure meteorological, traffic, and road surface conditions and can create a general concensus of an overall highway condition. The Platinum Client system does not distinguish between the individual models of SSI Sensor equipment, but communicates with each as if it were a single device. Depending on the type of sensor, only the category of data measured my the sensor will be updated in the Properties List Window display. The three types of SSI Sensors are: Atmospheric, Surface Condition, and Traffic. The following table lists all possible Device Type parameters for all the SSI Sensors supported by the Platinum system. The table is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the Device state (uploading a new playlist, turning on a beacon). Both Device and Status Parameters are displayed in the Properties List Window. Furthermore, the **Status Parameters** section is divided into sections that display each parameter according to the Sensor type.

Device Parameters	
IP Address	The ip or hostname of the LX-RPU.
Port Number	The TCP port number to use to connect to the device.
Receive Timeout	The amount of time to wait for receiving data (in MS).
Send Timeout	The amount of time to wait for sends to complete (in MS).
Polling Interval	The device polling interval in seconds.
Status Parameters	
Last Connection Time	The date/time when the last successful connection to the beacon was made.
Last Operation	The last operation that was executed on the device. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful, the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Platinum Username who issued the last operation that was executed on the device. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the HAR.
Number of	The number of pavement sensors at this station.

Pavement Sensors	
Pavement Sensor Location	The location of the pavement sensor.
Pavement Type	The type of pavement on the roadway. Possible values are {other, unknown, asphalt, openGradedAsphalt, concrete, steelBridge, concreteBridge, asphaltOverlayBridge, timberBridge.}
Pavement Elevation	The elevation of the street surface in meters with respect to the Reference Height.
Pavement Exposure	The very rough percentage of the solar energy which will directly hit the sensor. A value of 100 indicates a fully visible sky.
Pavement Sensor Type	The type of pavement sensor. Possible values are {other, contactPassive, contactActive, infrared, radar, vibrating, microwave}
Pavement Surface Status	The status of the pavement surface. Possible values are {other, error, dry, traceMoisture, wet,\n chemicallyWet, iceWarning, iceWatch, snowWarning, snowWatch, absorption, dew, frost, absorptionAtDewpoint}
Pavement Surface Temperature	The current pavement surface temperature in degrees Celsius.
Pavement Temperature	The current pavement temperature 2-10 cm below the pavement surface in degrees Celsius.
Pavement Surface Water Depth	The current depth of water on the surface of the roadway measured in millimeters.
Pavement Surface Salinity	The pavement salinity in parts per one thousand.
Pavement Surface Conductivity	Indicates the conductance of the ice/liquid mixture on the pavement as detected by the sensor, in mhos, which is the inverse of ohms.
Pavement Surface Freeze Point	The temperature in degrees Celsius at which the existing solution on the roadway will freeze.
Pavement Surface Black Ice Signal	A value indicating if Black Ice is detected by the sensor. Possible values are {other, noIce, blackIce, detectorError}.
Pavement Sensor Error	The error type of the pavement sensor. Possible values are {other, none, noResponse, cutCable, shortCircuit, dirtyLens}.
Visibility	Surface visibility measured in meters.
Visibility Situation	The travel environment in terms of visibility. Possible values are {other, unknown, clear, fogNotPatchy, patchyFog, blowingSnow, smoke, seaSpray, vehicleSpray, blowingDustOrSand, sunGlare, swarmsOfInsects}.
Solar Radiation	The direct solar radiation integrated over the 24 hours preceding the observation in Joules per square meter.
Total Sun	The total amount of sunshine in minutes over the 24 hour period preceding the observation.
Average Wind Direction	A two minute average of the direction from which the wind is blowing measured clockwise in degrees from true North and measured at a height as indicated by Wind Sensor Height.

Average Wind Speed	A two minute average of the wind speed in meters per second measured at a height as indicated by Wind Sensor Height.
Maximum Wind Gust Direction	The direction of the maximum wind gust recorded during the 10 minutes preceding the observation at a height as indicated by Wind Sensor Height and measured in degrees clockwise from true North.
Maximum Wind Gust Speed	The maximum wind gust recorded during the 10 minutes preceding the observation at\n a height as indicated by Wind Sensor Height and measured in meters per second.
Number of Air Temperature Sensors	The number of air temperature sensors at this station
Air Temperature	The dry-bulb air temperature in degrees Celsius. The temperature is an instantaneous reading at the height specified by Temperature Sensor Height.
Wet-Bulb Air Temperature	The wet-bulb air temperature in degrees Celsius. The temperature is an instantaneous reading at\n the height specified by the Temperature Sensor Height.
Dew-Point Air Temperature	The dewpoint air temperature in degrees Celsius. The temperature is an instantaneous reading at the height specified by the Temperature Sensor Height.
Maximum Air Temperature	The maximum air temperature in degrees Celsius recorded during the 24 hours preceding the observation at the height specified by the Temperature Sensor Height.
Minimum Air Temperature	The minimum air temperature in degrees Celsius recorded during the 24 hours preceding the observation at the height specified by the Temperature Sensor Height.
Relative Humidity	The relative humidity in percent.
Water Depth	Indicates the depth of the water from a user defined point in centimeters.
Adjacent Snow Depth	The depth of snow in centimeters on representative areas other than the highway pavement, avoiding drifts and plowed areas.
Roadway Snow Depth	The current depth of unpacked snow in centimeters on the driving surface.
Roadway Snow Pack Depth	The current depth of packed snow in centimeters on the roadway surface.
Precipitation Indicator	Indicates whether or not moisture is detected by the sensor.
Rainfall or Water Equivalent of Snow Rate	The rainfall, or water equivalent of snow, rate in tenths of grams per square meter per second (for rain, this is approximately to 0.36 mm/hr).
Snowfall Accumulation Rate	The snowfall accumulation rate in 10^-7 meters per second (this is equivalent to 0.36 mm/hr).
Precipitation Situation	Describes weather situation in terms of precipitation.
Ice Deposit (Thickness)	Indicates the thickness of the ice in millimeters
Precipitation Start Time	The time at which the most recent precipitation event began, measured in seconds since 00:00:00 January 1, 1970 UTC.
Precipitation End	The time at which the most recently completed precipitation

Time	event ended, measured in seconds since 00:00:00 January 1, 1970 UTC.
Total Precipitation Past One Hour	The total water equivalent precipitation over the hour preceding the observation in tenths of kilograms per square meter (for rain, this is approximately tenths of millimeters).
Total Precipitation Past Three Hours	The total water equivalent precipitation over the three hours preceding the observation in tenths of kilograms per square meter (for rain, this is approximately tenths of millimeters)
Total Precipitation Past Six Hours	The total water equivalent precipitation over the six hours preceding the observation in tenths of kilograms per square meter (for rain, this is approximately tenths of millimeters)
Total Precipitation Past Twelve Hours	The total water equivalent precipitation over the twelve hours preceding the observation in tenths of kilograms per square meter (for rain, this is approximately tenths of millimeters)
Total Precipitation Past Twenty-Four Hours	The total water equivalent precipitation over the twenty-four hours preceding the observation in tenths of kilograms per square meter (for rain, this is approximately tenths of millimeters)

Wind Direction Chart

Degrees	
0 - 22	N
23 - 68	NE
69 - 112	E
113 - 157	SE
158 - 202	S
203 - 247	SW
248 - 292	W
293 - 337	NW
338 - 360	N

Wavetronix Device Type Specifications

A Wavetronix RTMS (or MVDS) is a radar based detector which scans the roadway for passing vehicles. The device is able to identify various aspects including the time, speed, length, direction, and lane of travel. Communication Control uses the vehicle data for several statistical calculations like average, min and max.

The device works in 2 modes:

- EVENTS - Once a vehicle has been detected, the Wavetronix sends a presence message to Communication Control which contains the event data.
- POLLING - On a set interval, the application will go out an request the "sequential" data records.

The following are the Device Type Parameters for Wavetronix RTMS devices that appear in the Properties List Window. The table below is divided into two sections: **Device Parameters**, and **Status Parameters**. A Device Parameter is a setting that can be changed by Modifying a Device. Status Parameters can be changed only by changing the device state.

Device Parameters	
IP	The DNS name or IP of the device
Port	The TCP port number to use to connect to the device
Destination ID	Device destination ID
Destination Sub ID	Device destination subnet ID
Receive Timeout	The amount of time to wait for receiving data (in MS)
Send Timeout	The amount of time to wait for sends to complete (in MS)
Operation Mode	Device mode of operation
Polling interval	Device polling interval in seconds (0 - not to poll)
Statistics Time Window	Statistical data gathering time interval in seconds
Status Parameters	
Last Connect Time	The date/time stamp which reflects the last time that a connection was made form the Communication Control system to the device.
Last Operation	The last operation that was executed on the device. This corresponds to the Operation names created by the client interface for the Node where the device is controlled. **NOTE:** The **Last Operation** is changed by issuing a command to the beacon. If successful, the operation name in the command document is set for this parameter. If not successful,

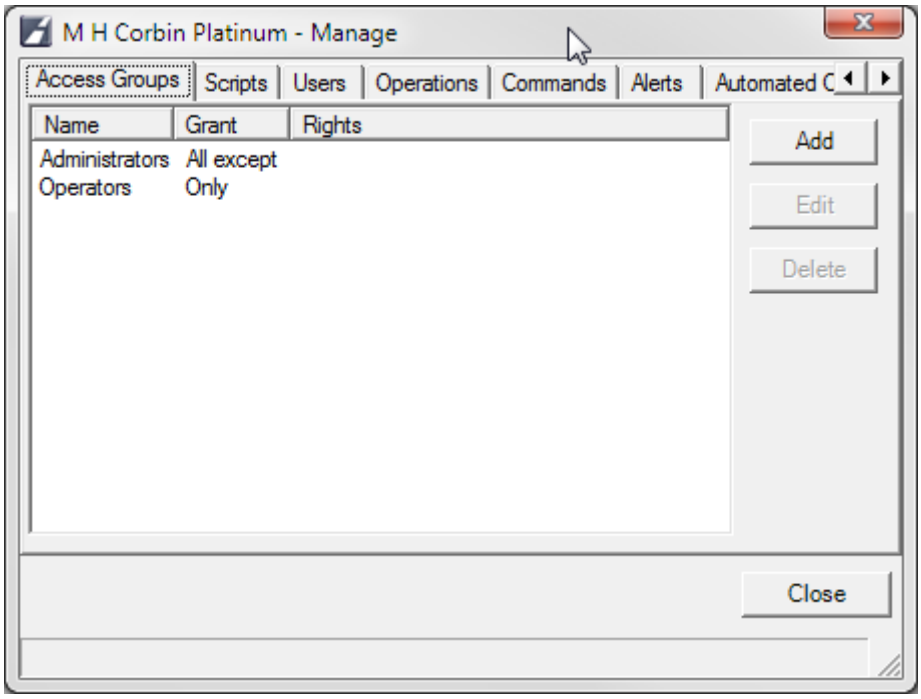
	the word "FAILED" is pre-pended to the attempted **Last Operation** entry in the Properties List Window.
Last Operation By	The Communication Control Username who issued the last operation that was executed on the device. **NOTE:** The **Last Operation By** parameter is changed by issuing a command to the device.
Location	Sensor location
Sensor Description	Sensor description
Serial Number	Serial number
Units	Measurement units
Data Interval	Data interval in seconds (buffer type)
Event Data Push	Event data push configuration
Interval Data Push	Interval data push configuration
Presence Data Push	Presence data push configuration
Global Push Mode	Global push mode
Descriptions of Approaches	The list of descriptions for configured approaches
Directions of Approaches	The list of directions for configured approaches
Lanes of Approaches	The list of lanes for configured approaches
Length Bins	The upper boundaries of the length bins
Speed Bins	The upper boundaries of the speed bins
Descriptions of Lanes	The list of descriptions for active lanes
Directions of Lanes	The list of directions for active lanes
Lane Event Time Stamps	The list of lane event time stamps
Lane Event Speeds	The list of lane event speeds
Lane Event Lengths	The list of lane event lengths
Last Lane Event Lane ID	The latest lane event lane ID
Last Lane Event Time Stamp	The latest lane event time stamp
Last Lane Event Speed	The latest lane event speed
Last Lane Event Length	The latest lane event length
Lane Presence Time Stamps	The List of lane presence time stamps
Last Lane Presence Lane ID	The latest lane presence lane ID

Last Lane Presence Time Stamp	The latest lane presence time stamp
Statistics Time Window	Statistical data gathering time interval in seconds
Minimum Period Speed	The minimum speed for the period
Average Period Speed	The average speed for the period
Maximum Period Speed	The maximum speed for the period
Number of Period Events	The number of events for the period
Polling Interval	Device polling interval in seconds (0 - not to poll)
Lane Minimum Period Speed	The minimum lane speed for the period
Lane Average Period Speed	The average lane speed for the period
Lane Maximum Period Speed	The maximum lane speed for the period
Number of Lane Period Events	The number of lane events for the period

Managing application objects

Manage Form

This menu selection allows the operator to control user configurable features of the Platinum System. To get access to this form, first you must Connect to the server. Once connected, right click on the Node name and select the **Manage** option. You will be presented with the Manage Form. Depening on the user access rights some of the tabs may no be visible. This would happen if the user does not have permissions to modify the specific object (e.g. Access Groups). In such case you should contact your system administrator.



Manage Form allows you to create, modify and remove:

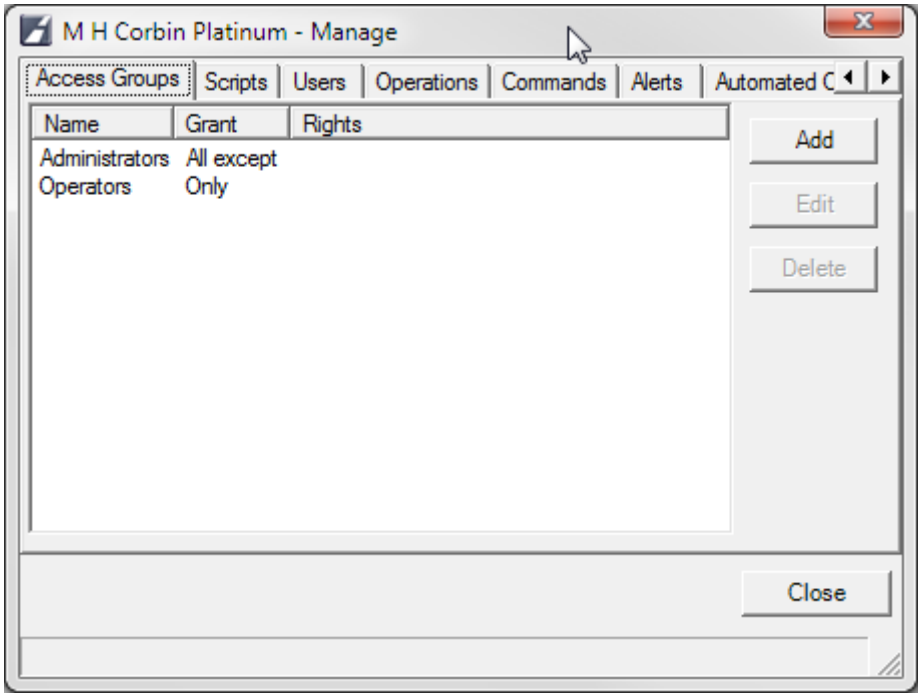
- Access Groups
- Users
- Scripts
- Operations
- Commands
- Alerts
- Automated Operations

Managing Access Groups

This menu selection allows the operator to control Platinum Access Groups. An access group is a collection of rights and permissions to perform certain tasks in the Platinum product and to which user accounts may be added. Every user account must be a member of an Access Group. The rights and permissions available to each user account will be determined by its Access Group membership(s). An example of an access group is the Administrators group. This access group has all rights and privileges allowing users within this group to perform any actions allowed by the Platinum product.

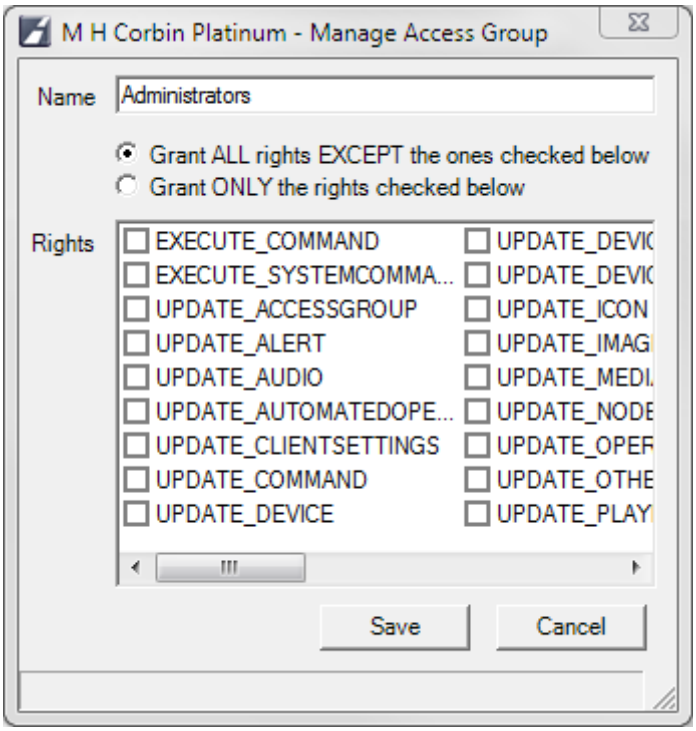
Each Platinum user can be assigned to an access group and will inherit those rights.

To manage Access Groups, first you must Connect to the server. Once connected, right click on the Node name and select the **Manage** option. You will be presented with the Manage Dialog. Click on the Access Groups tab to see the list of existing groups.



From this dialog, you can **Edit** or **Delete** Access groups. To modify an existing group, highlight the desired group and click **Edit** or **Delete**. To create a new Access Group, click **Add** and the following dialog will appear. This same dialog appears whether you are creating a new Access Group, or editing an existing one.

If you are editing an existing group, then the name will be shown in the Name field, and some of the permissions will be checked.



To establish a new Access Group, enter the name that will describe the whole group in the Name field. Underneath the name field, there are two radio buttons that describe how the permissions will be assigned to the group. You can either choose to grant all permissions **EXCEPT** the ones checked, or choose to grant **ONLY** those permissions checked. Once you have chosen all the desired permissions for the group, click **Save**.

Rights

The following table shows all the available rights and their meanings:

EXECUTE_COMMAND	Allows a user to execute commands on devices (e.g., Playlist, Turn On, Get Status, etc).
EXECUTE_SYSTEMCOMMAND	This right allows users to execute a system command. System commands are listed on the "Node" -> "System Commands" menu.
UPDATE_ACCESSGROUP	This right allows users to add/edit/delete access groups.
UPDATE_ALERT	This right allows users to add/edit/delete alerts. Users who do not have this right can not update the alerts, but may view existing alert entries.

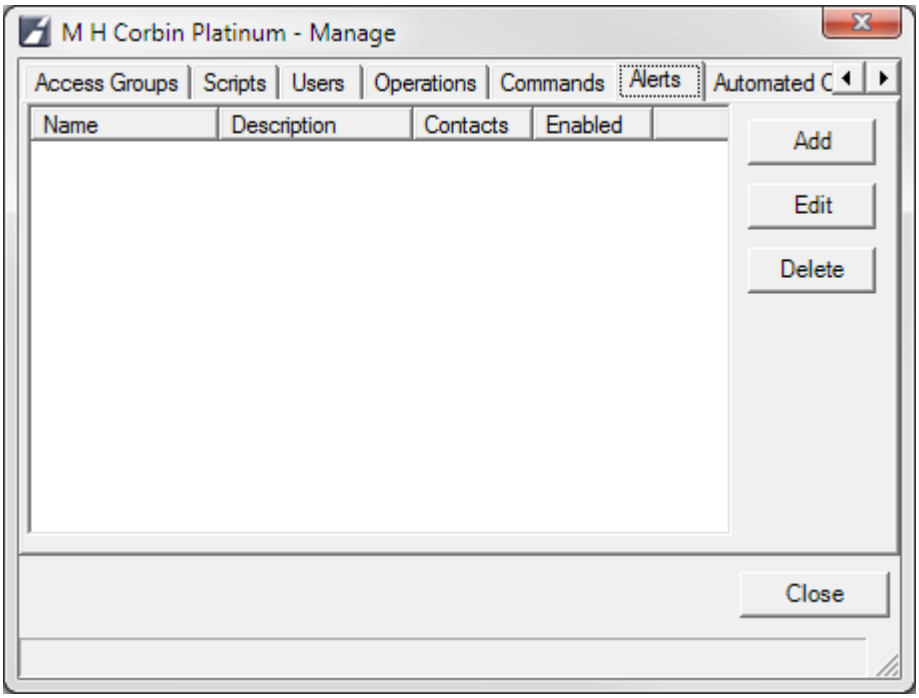
UPDATE_AUDIO	This right allows users to add/edit/delete audio items in the media library. Users who do not have this right can not update the media library, but may listen to and view existing media.
UPDATE_AUTOMATEDOPERATIONS	This right allows creation and modification of special scripts for use with the Intellizone (Automated Operations) add-on to Platinum. The Intellizone add-on is sold seperately and without it, no interface for such modifications will be present, and the setting for this right have no impact on any users.
UPDATE_CLIENTSETTINGS	This right allows users to modify settings that are local for the Platinum Client GUI, such as cache size, log file size, font sizes, and icon animation speed, and other settings found on the Application(Local) tab under File\Settings.
UPDATE_COMMAND	This right allows users to add/edit/delete command documents. Command documents are required for executing operations on devices. Users who do not have this right can not update devices or device groups.
UPDATE_DEVICE	This right allows users to be able to update device data, such as phone number, IP, access codes, or synchronization settings. This right also allows users to add or delete devices from the system.
UPDATE_DEVICEGROUP	This right allows users to add, edit, or delete a device group.
UPDATE_DEVICEMAP	This right allows users to be able to place devices onto a map, to remove a device from a map, or to move a device from one position to another on a map.
UPDATE_ICON	This right is not currently used, but will have functionality in a future release.
UPDATE_IMAGE	This right allows users to add/delete map files.
UPDATE_MEDIAGROUP	This right allows users to add/delete media groups.
UPDATE_NODE	This right allows it's users to be able to update the node information, such as the node name or description.
UPDATE_OPERATION	This right allows users to add/edit/delete operation names and mappings.
UPDATE_OTHERUSERINFO	This right allows access to the Users tab of the Management Console, which allows administrators to add/edit/delete users accounts.

UPDATE_PLAYLIST	This right allows users to add/edit/delete a playlist in the media library. Users who do not have this right are still able to view existing playlist.
UPDATE_SCHEDULE	This right allows users to be able to schedule an operation to a device or to a device group. This right also allows users to modify, add, or delete scheduled operations from the calendar.
UPDATE_SCRIPT	This right allows users to add/edit/delete scripts.
UPDATE_TTS	This right allows users to add/edit/delete TTS media entries.
UPDATE_USERINFO	This right allows users to update their own user information stored in the database, such as description, password, and also clientsettings, such as the window positioning, font selections, colors, and other information that is found on the Node(Roaming) tab under File\Settings.
UPDATE_VMSTEXT	This right allows users to post text to Variable Message Signs.

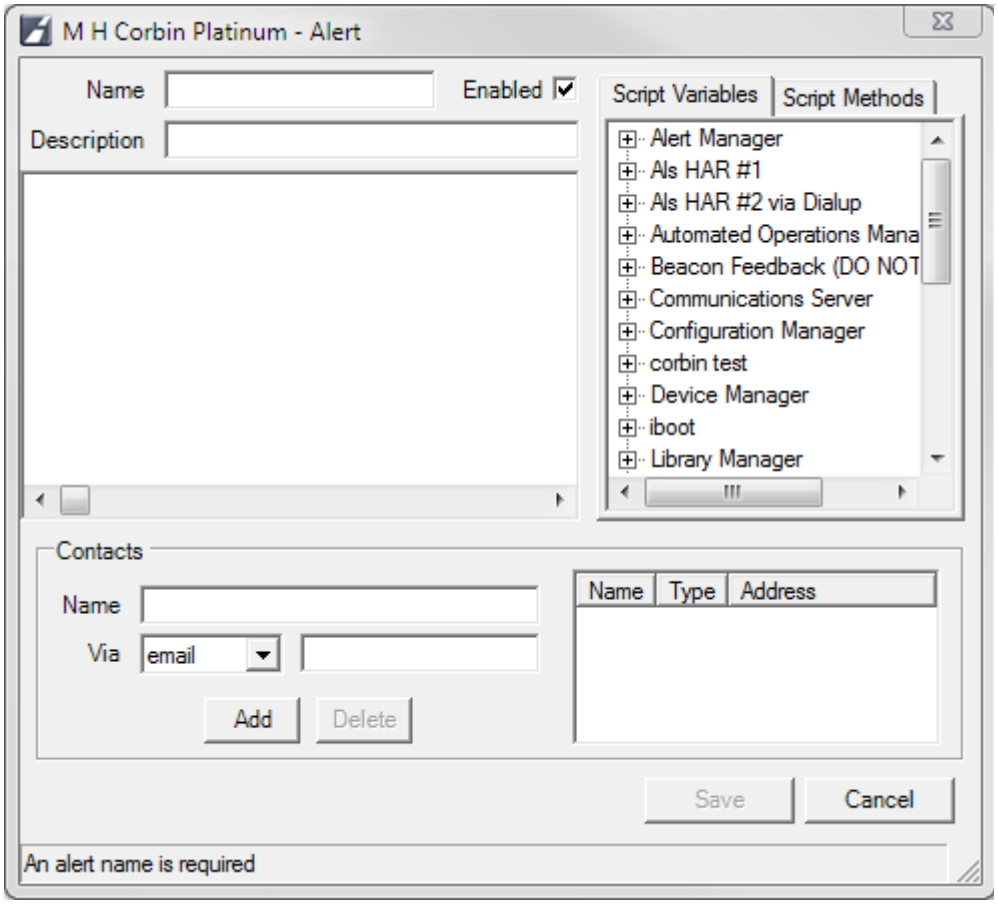
Managing Alerts

This menu selection allows the user to manage Platinum Server alerts. Alerts are monitored by the Platinum Server and will be triggered if the rules for the alert occur. The Platinum server uses a configuration file setting to determine how often the system is checked to see if an Alert has been triggered. The default interval is 10 seconds. See the Platinum Server Administration Guide for more information about configuration file settings.

To manage alerts, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option. You will be presented with the Manage dialog. To see the list of existing Alerts, click on the Alert tab.



Use the dialog shown above to select the alert that you wish to modify, to create a new alert or edit an existing one. To modify an existing Alert, select that Alert in the list, and click **Edit** or **Delete**. If you are editing an existing Alert a dialog like the one below will appear. Make the necessary changes and click **Save**. To create a new Alert, click **Add** and the following dialog will appear. Enter the desired Alert name and description.



Each alert is a combination of a set of rules along with a set of contacts who will be notified if those rules are satisfied. To set up the rules the Alert will test, select either Script Parameters or Functions from the list at the right and Double Click the desired rule to add it to the Alert. You can also Drag Script Variables or Functions into the Rules list. Rules can be generated using a simple C like language which allows for IF/THEN/ELSE comparisons and variable assignment. The Platinum rule language is described in detail in the Rules Language Reference document. Rules can include comparisons to not only system metrics (such as disk space or memory usage), but also to device parameters. Each device has a list of parameters for which rules can be generated, such as the voltage level of a HAR. A complete set of device parameters can be found at the bottom of the Adding a Device help section.

The definition for each dialog entry is as follows:

Name	The name for this alert
Description	The description for this alert.
Enabled	Indicates if the alert is enabled. Disabled alerts are not checked by the server.

Contacts	Establishes a contact for the alert. More than one contact can be created for a single Alert and the same contact can be added to multiple Alerts. The contacts are listed in the listbox in the lower right portion of the dialog. Selecting an individual row will populate the elements on the right side of this listbox. Contacts currently only work through eMail, but in the future direct phone calls may also be supported.
Add	The Add button will add the contact to the list of contacts. **NOTE**: You can not edit a contact in the list. Instead, you must first delete the existing contact and add it back with the changes you wish to make.
Script Variables	This tree control list all the devices and system variables available to the user for generating the rules. This tree control serves as a helpful lookup tool. Each item in this list has one or more elements which can be automatically inserted into the rule. For more information on Script Variables, please refer to the Rules Language Reference document.
Script Methods	This tree control list all the system methods available to the user for generating the rules. Methods are like built in functions which are run during the rule evaluation. Currently, only three of these methods are available: • GETPREVIOUS - returns the previous value of the script variable passed to it. ie, GETPREVIOUS(LOGICALDISK.FREE_MEGABYTES_C) will return amount of hard disk space left on C the last time the rule was evaluated. Subtracting this from LOGICALDISK.FREE_MEGABYTES_C would return the amount of disk space used since the last time the rule was evaluated. • GETCURRENTTIME - returns the current system time. • SETALERTMESSAGE - sets the alert message text that will be sent to the contact when this alert has been triggered. This tree control serves as a helpful lookup tool. Each method in this list can be automatically inserted into the rule. For more information on Script Methods, please refer to the Rules Language Reference document.

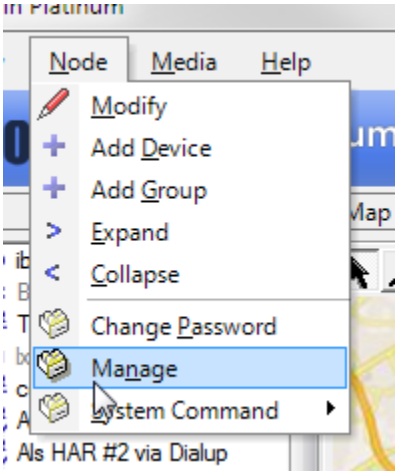
Managing automated operations

Managing Automated Operations (IntelliZone)

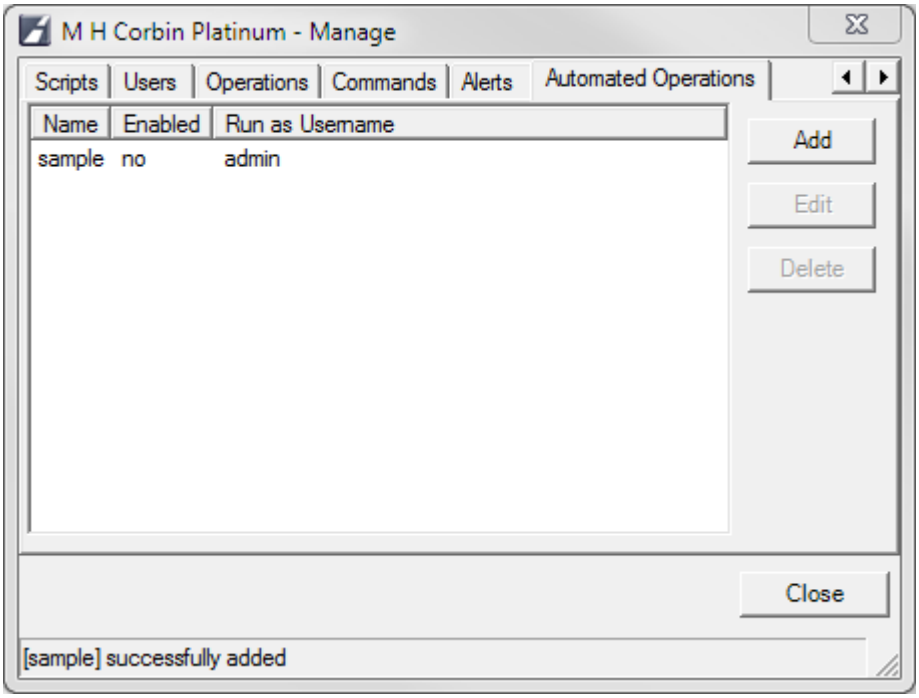
Automated Operations, also called "IntelliZone", is a feature of Platinum which allows users to write custom code that can automatically perform actions on Platinum devices. Only users who have the "UPDATE_AUTOMATEDOPERATIONS" user right will be able to access the Automated Operations tab.

NOTE: The AO Manager is not part of the base Platinum installation, but requires purchasing a add-in module that supplies the custom code scripting engine.

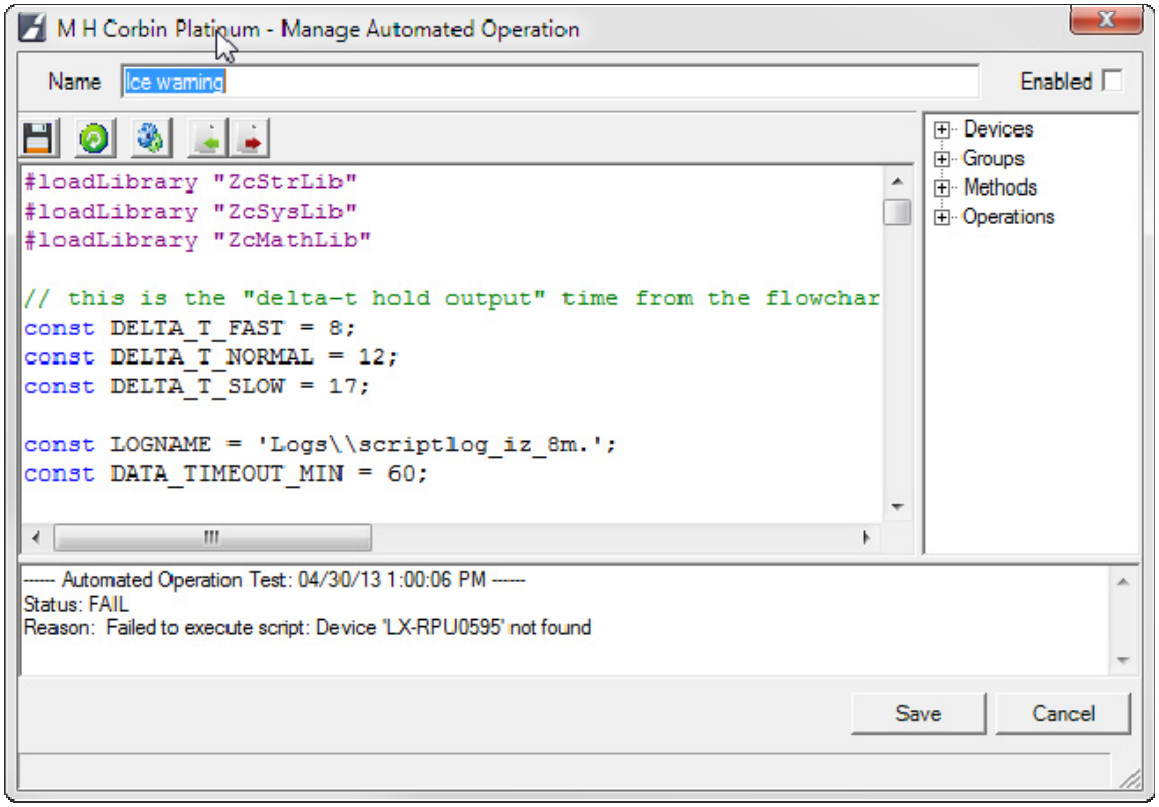
To manage scripts, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option:



You will be presented with the Manage dialog. Clicking on the **Automated Operations Tab** shows a list of the automated operations. To edit an existing AO, highlight the desired entry and click **Edit** or **Delete**. To create a new AO, click **Add**.



After clicking **Add** a simple text editing window will appear. Type a **Name** for the new AO script in the Name field and add custom scripting to perform the desired action. When editing is completed, click **Save**.



Script Library Window Definitions	
Devices	This tree element can be expanded to show all currently defined devices within the system. Each device can be expanded to show all properties of the device. Any device property can then be double clicked and the proper name required to access that property will be placed in the editor window at the current cursor location.
Groups	This control shows all device groups defined in the system. Double clicking on a group from this control will insert the proper group name in the editor window at the current cursor location.
Methods	This control shows a list of function calls, or methods, that can be invoked from your script. These methods are in addition to the CSL scripting language methods defined. Double clicking on a method from this control will insert the proper method call in the editor window at the current cursor location.
Operations	This control shows all the operations defined in the system. Double clicking on a operation from this control will insert the proper operation name in the editor window at the current cursor location.

Automated Operations Scripting Language (CSL)

Platinum's AO manager utilizes a powerful C like scripting language called CSL. CSL is licensed under the GNU General Public License version 2 as published by the Free Software Foundation and is copyrighted by Informatik-Buero Koch (IBK) - Landquart - Switzerland © 1998-2001.

The full reference for CSL can be found at http://csl.sourceforge.net/csldoc/lang1.htm. This reference includes a language description of CSL and a full function reference, along with examples.

Method Reference

The following section describes the AO Manager methods which were added to the CSL language, for use in Platinum:

- aoSetOperationParam
- aoClearAllParams
- aoExecute
- aoInvoke
- aoLoadParam
- aoLoadValue
- aoStoreValue
- aoTTSMessage
- aoVMSMessage
- aoSendEMail
- aoSetSNMPTrapInfo
- aoSendSNMPTrap

void aoSetOperationParam (var ParameterName, var ParameterValue)	
ParameterName	A string variable indicating the command parameter name which you wish to override
ParameterValue	A string variable indicating the command parameter value which you wish to use

	for this override.
Description	This method allows your script to override the command parameter values used when executing operations from your script (using the aoExecute method).
Example	aoAddParam ("UNITONOFFSTATE", "ON"); aoExecute ("BeaconGroup", "TurnOnOff", 3, 300);
Notes	The above example sets the UNITONOFFSTATE (a command parameter) to the value of "ON", which will cause the beacons in the device group named "BeaconGroup" to be turned on when the "TurnOnOff" operation is executed.
Returns	Nothing.

void aoClearAllParams ()	
Description	This method clears all command parameter values used when executing operations from your script (using the aoExecute method). This will effectively cause the scripts to use default values for parameters that were not specified.
Example	aoClearAllParams (); aoExecute ("BeaconGroup", "TurnOn", 3, 300);
Notes	None.
Returns	Nothing.

void aoExecute (var DeviceOrGroupName, var OpName, var Priority, var Duration)	
DeviceOrGroupName	A string variable indicating the device or device group name which the operation is to be executed on.
OpName	A string variable indicating the Operation name which is to be executed. This must be a valid operation name as defined in the Scripts Library Window control which shows all defined operations.
Priority	The priority setting at which this operation is to execute. Values can be from 1 to 5.
Duration	The number of seconds that this operation should be active.
Description	This method executes an operation on a device or device group.
Example	aoExecute ("HARGroup", "TurnOff", 3, 300); // Turns off all hars in HarGroup
Notes	The above example will execute the "TurnOff" operation against the "HARGroup" group of HARs at a priority level of 3 and for a duration of 300 seconds (5 minutes).
Returns	Nothing.

var aoInvoke (var DLLName, var FunctionName, var Parameter)	
DLLName	A string variable containing a full path to a DLL which contains the function to be executed.
FunctionName	A string variable indicating the function name within the DLL which is to be executed.
Parameter	A string variable which will be passed to the function in the DLL. Only a single string variable can be passed through the aoInvoke method.
Description	This method calls an externally supplied DLL function and returns the result to your

	CSL script.
Example	var result = aoInvoke ("mylib.dll", "GetSensorData");
Notes	Within your DLL, you should declare your function as: extern "C" bool PASCAL GetSensorData (const char *parameter, char *returnBuffer, unsigned long buf_size); If your function fails, you should place the NULL terminated error message string in the returnBuffer location and return false. If successful, you should place your return value (if any) as a NULL terminated character string into returnBuffer, and return true. The aoInvoke method will return this string to your script as the return value (result).
Returns	Returns a string value that was passed back by the DLL function.

var aoLoadParam (var ParameterName)	
ParameterName	The name of the device parameter whose value is to be loaded.
Description	This method loads the current value of a device parameter.

Example	var voltage = aoLoadParam ("HAR #1.DCVOLTAGE");
	var OnOff = aoLoadParam ("HAR #1.TRANSMITTERSTATE");
	if ((voltage < 110) && // if voltage is less than 11 volts
	(OnOff == "ON")) // if HAR is transmitting
	{
	aoExecute ("HAR #1", "TurnOff", 3, 10); // Turn HAR off
	}

Notes	Parameter names can be automatically inserted in your CSL script by double clicking on the device parameter name in the "Script Library" window.
Returns	A variable indicating the parameter value.

var aoLoadValue (var ParameterName)	
ParameterName	The name of the script parameter whose value is to be loaded.
Description	This method is used to load a previously stored script parameter value back into memory. Retrieving a script parameter which wasn't previously stored (with a call to aoStoreValue) will return an empty string (or zero).

Example	var LastTimesValue = aoLoadValue ("LastTimesValue");
	var ThisTimesValue = aoLoadParam ("RWIS.SFCOND");
	if (LastTimesValue != ThisTimesValue)
	{
	aoExecute ("HARs", "Playlist", 3, 300);
	aoStoreValue ("LastTimesValue", ThisTimesValue);
	}

Notes	CSL scripts get run on a periodic basis. It is often useful to remember data from a previous run, so the aoLoadValue and aoStoreValue methods can be used to store data from one run and to reload it in the next run.
Returns	A variable indicating the stored parameter value.

void aoStoreValue (var ParameterName, var ParameterValue)	
ParameterName	The name of the script parameter whose value is to be stored.
ParameterValue	The value of the script parameter to store.
Description	This method is used to save a script parameter value into memory.

Example	var LastTimesValue = aoLoadValue ("LastTimesValue");
	var ThisTimesValue = aoLoadParam ("RWIS.SFCOND");
	if (LastTimesValue != ThisTimesValue)
	{
	  aoExecute ("HARs", "Playlist", 3, 300);
	  aoStoreValue ("LastTimesValue", ThisTimesValue);
	}

Notes	CSL scripts get run on a periodic basis. It is often useful to remember data from a previous run, so the aoLoadValue and aoStoreValue methods can be used to store data from one run and to reload it in the next run.
Returns	Nothing.

void aoTTSMessage (var Name, var Slot, var Message, var Voice)	
Name	The name to give the newly generated TTS message in the message library.
Slot	The slot assignment to use for the newly generated TTS message in the message library.
Message	The textual content which is to be processed into WAV media via the Text-To-Speech engine
Voice	The voice to use in rendering the Text-To-Speech message.
Description	This method is used generate a media library recording using the Text-To-Speech (TTS) engine within the Platinum server.

Example	var SensorData = strUpper (aoLoadParam ("RWIS.SFCOND"));
	if (SensorData == "SNOW/ICE WATCH" ||
	  SensorData == "SNOW/ICE WARNING" ||
	  SensorData == "ICE WATCH" ||
	  SensorData == "FROST" ||
	  SensorData == "WET BELOW FREEZING" ||
	  SensorData == "ICE WARNING"))
	{
	  aoTTSMessage ("IcyRoads", 1, "Watch for icy roads", "Samantha");
	}

Notes	Messages can be built dynamically by adding strings and numeric data together to form sentences, and then processing those sentences into TTS media recordings.
Returns	Nothing.

void aoVMSMessage (var Name, var Slot, var Message)	
Name	The name to give the newly generated VMS media in the media library.
Slot	The slot assignment to use for the newly generated VMS media in the media library.
Message	The VMS sign text (in raw form) to store in the media library.
Description	This method is used generate a media library record that contains a VMS sign message within the Platinum Server.
Example	var SensorData = strUpper (aoLoadParam ("RWIS.SFCOND"));

	if (SensorData == "SNOW/ICE WATCH" ||
	SensorData == "SNOW/ICE WARNING" ||
	SensorData == "ICE WATCH" ||
	SensorData == "FROST" ||
	SensorData == "WET BELOW FREEZING" ||
	SensorData == "ICE WARNING"))
	{
	aoVMSMessage ("Icy Roads", 1, "[jl3]Watch[nl][jl3]For[nl][jl3]Ice");
	}

Notes	Messages built using this method should contain the raw VMS formatting characters in order for the VMS to display the message properly.
Returns	Nothing.

void aoSendEMail (var Address, var Subject, var Message)	
Address	The email address of the recipient.
Subject	The subject line for the email.
Message	The message body of the email.
Description	This method is used to send an email from within the AO manager scripting engine.

Example	var HarVolts = aoLoadParam ("HAR #1.DCVOLTAGE");
	var Message = "The HAR voltage is " + aoLoadParam ("HAR #1.DCVOLTAGE");
	var HaveSent = aoLoadValue ("HaveSent");
	
	if (HarVolts < 110) // if voltage is less than 11 volts
	{
	if (HaveSent == 0))
	{
	aoSendEMail ("admin@mysite.com", "Voltage Low", Message);
	aoStoreValue ("HaveSent", 1);
	}
	}
	else if (HaveSent == 1)
	aoStoreValue ("HaveSent", 0); // Reset our flag

Notes	The user should be careful to avoid situations which will send too many emails (spamming).
Returns	Nothing.

void aoSetSNMPTrapInfo (var TapInfoOID, var TrapInfoValue)	
TrapInfoOID	The OID of the trap info object.
TrapInfoValue	The trap info object value.
Description	This method is used to set a number of trap info values before sending SNMP trap. The life span of the items set is limited to the current AO script execution.

Example	aoSetSNMPTrapInfo("1.2.3.4.5.6.1", "Communications down");
	aoSetSNMPTrapInfo("1.2.3.4.5.6.2", "Critical system failure");
	aoSendSNMPTrap("192.168.50.255", 162, "1.3.6.1.4.1.424242.1.1", 6, 111);

Notes	This function works with conjunction with aoSendSNMPTrap.
Returns	Nothing.

void aoSendSNMPTrap (var DestinationIP, var DestinationPort, var SenderOID, var GenericTapCode, var SpecificTrapCode)	
DestinationIP	The IP address or host name of trap destination machine. This address also can be a broadcast address.
DestinationPort	The port number of trap destination machine. Usually this is port 162 for SNMP traps.
SenderOID	This OID identifies the managed object that genrated the trap. The OID value is typically allocated within the Enterprises subree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining "what kind of box" is being managed.
GenericTapCode	This parameter can have one of the following values: • coldStart (0) • warmStart (1) • linkDown (2) • linkUp (3) • authenticationFailure (4) • egpNeighborLoss (5) • enterpriseSpecific (6) For vendor specific traps this value should be set to enterpriseSpecific (6) and SpecificTrapCode should be set to a specific code value.
SpecificTrapCode	This parameter specifies specific trap code. If GenericTrapCode parameter is set to any value but enterpriseSpecific (6) this parameter should be set to 0. Otherwise this parameter can take any integer value.
Description	This method is used to send SNMP trap.

Example	aoSetSNMPTrapInfo("1.2.3.4.5.6.1", "Communications down");
	aoSetSNMPTrapInfo("1.2.3.4.5.6.2", "Critical system failure");
	aoSendSNMPTrap("192.168.50.255", 162, "1.3.6.1.4.1.424242.1.1", 6, 111);

Notes	The user should be careful to avoid situations which will send too many traps either on every AO execution cycle or using broadcast addresses or both. The timestamp of the trap message will be set to current time of the machine. The agent address of the trap message will be set to the first IP address of the machine that is reported by the OS when resolving host name.
Returns	Nothing.

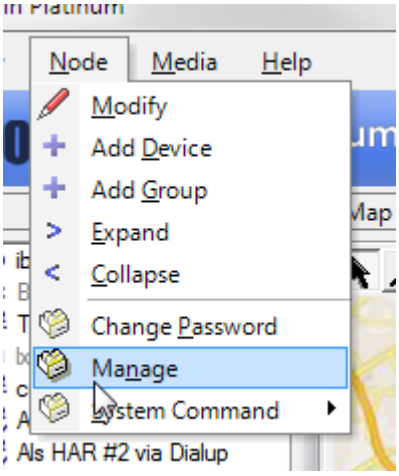
Managing Commands

NOTE: Managing Commands is an advanced feature, intended for high level users. It requires detailed understanding of operation execution, and the Platinum XML document structure.

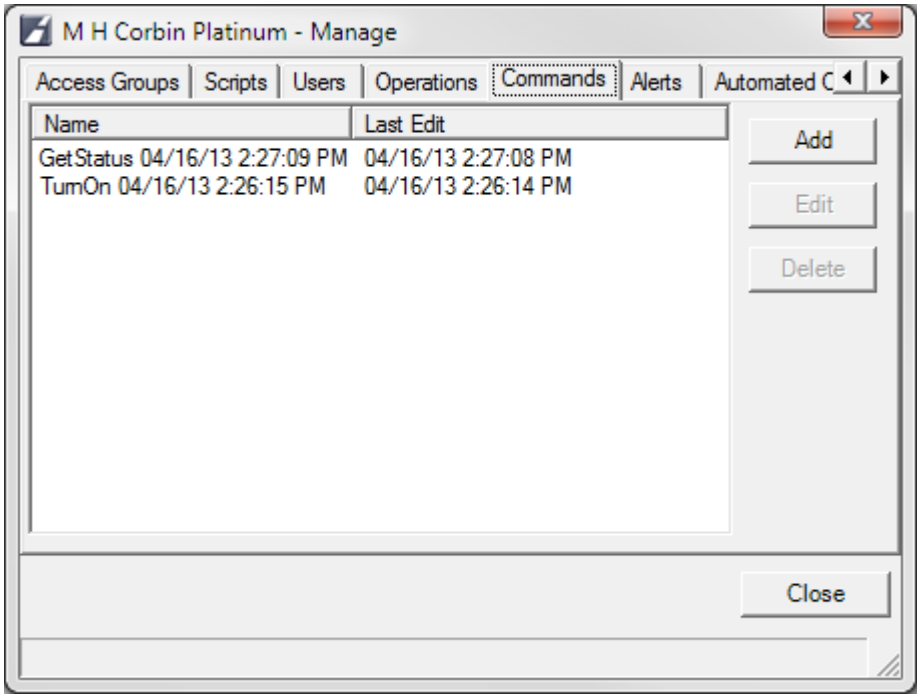
Commands are XML documents which contain a list of devices and scripts for those devices to execute. For this reason, commands are also refer to as *Command Documents*.

Command documents are built automatically when you execute an operation on a device. This is done by the Platinum Client and the resulting command document is stored in the Platinum Database. The Platinum Client automatically names the command document based on the operation name and the date/time that the operation was executed. The Manage Commands user permission allows users to retrieve these command documents and examine or update them if desired.

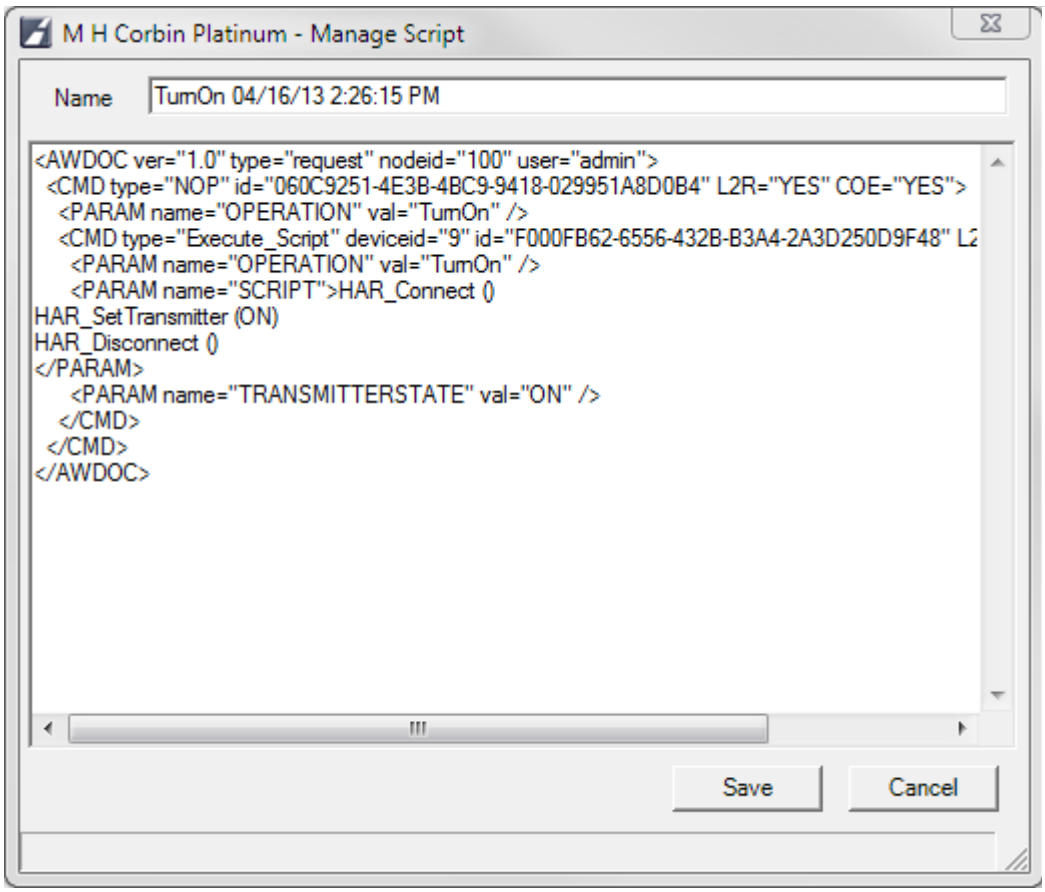
To manage commands, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option:



Clicking the **Commands Tab** brings the Command List into view. To add a new command, click the **Add** button. An empty editor will appear. Enter the desired name and Script Keywords and click **Save**. To delete a command, highlight the desired command and click **Delete**.

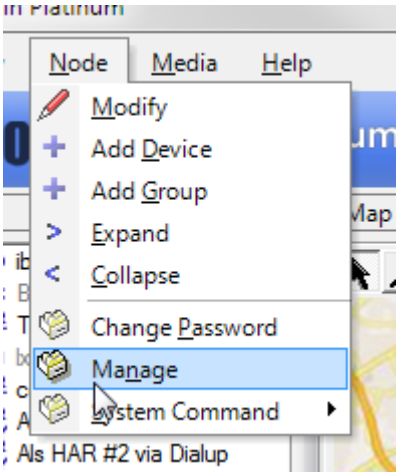


To edit an existing command, highlight the command and click **Edit**. An editor window like the one shown below will appear. Make the desired changes to the command and click **Save**.

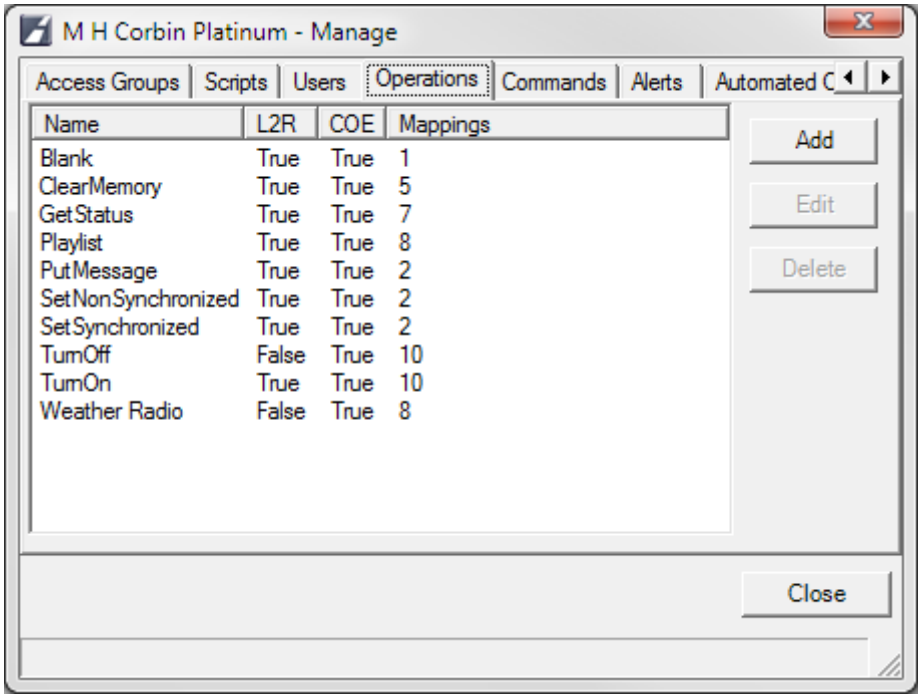

M H Corbin Platinum - Manage Script
Name
TurnOn 04/16/13 2:26:15 PM
<AWDOC ver="1.0" type="request" nodeid="100" user="admin">
<CMD type="NOP" id="060C9251-4E3B-4BC9-9418-029951A8D0B4" L2R="YES" COE="YES">
<PARAM name="OPERATION" val="TurnOn" />
<CMD type="Execute_Script" deviceid="9" id="F000FB62-6556-432B-B3A4-2A3D250D9F48" L2
<PARAM name="OPERATION" val="TurnOn" />
<PARAM name="SCRIPT">HAR_Connect ()
HAR_SetTransmitter (ON)
HAR_Disconnect ()
</PARAM>
<PARAM name="TRANSMITTERSTATE" val="ON" />
</CMD>
</CMD>
</AWDOC>
Save
Cancel

Managing Operations

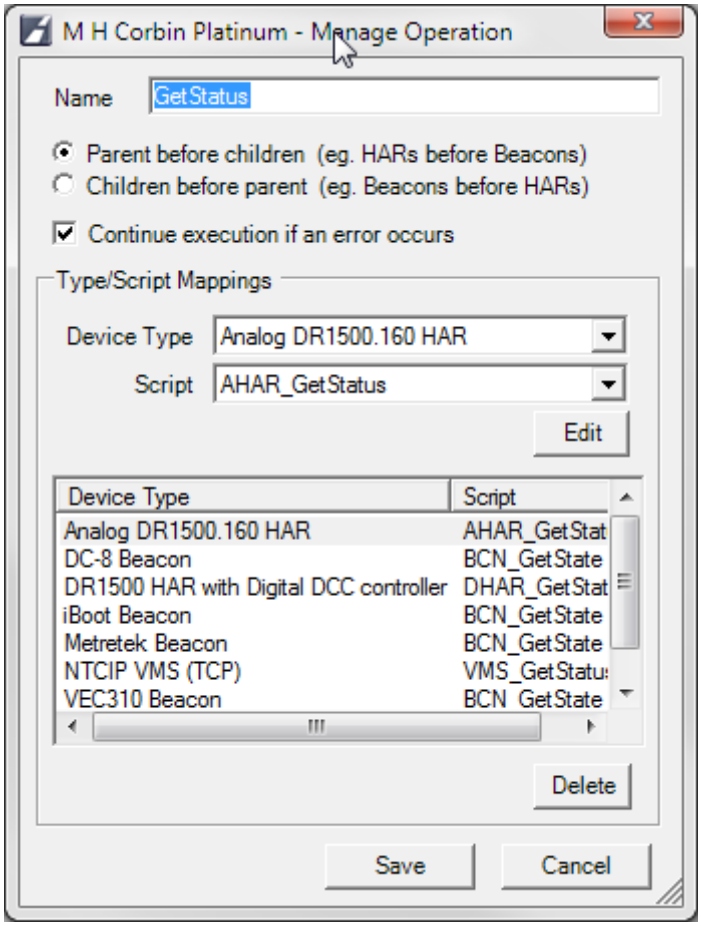
To Manage Operations, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option.



An operation maps devices to actions that can be performed by devices. Clicking the **Operations Tab** allows the Administrator to build these mappings. The Adminstrator can edit existing Operations or create new ones. To edit and existing Operation, highlight the Operation and click **Edit** or **Delete**.



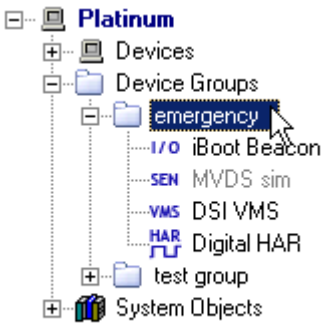
To create a new Operation, Click **Add**, and the Operations Dialog shown below will appear. Enter a **Name** for the Operation. Set the desired options for execution order and continuity, then choose a **Device Type** and a **Script** for that type to map to the **Operation**. Clicking **Add** will add the selected Device and Script to the Operation. You can add multiple Device Types/Script mappings to one Operation, provided that all Devices added have a Script that corresponds to their type. If no Script exists for a certain Device Type, nothing will execute on the Device when the operation is activated. To remove a Device Type and Script from the Operation, highlight the desired entry and click**Delete**. After the Operation settings, devices and scripts have been selected, click Save. For each device type mapped to the operation, the operation will now appear as a selection on the context menu (right-click a device to see its context menu) for that device type.



An explanation of each option follows below:

Parent before children

Within a device group, a hierarchy can be established which allows some devices to be "parents" of other devices. For example, the following group shows that there are two beacons which are children of a digital HAR within the I440 group:



By checking the Parent before children option, this operation will first performed on the parent device. After the operation has been completed on the parent, the operation will then be performed on

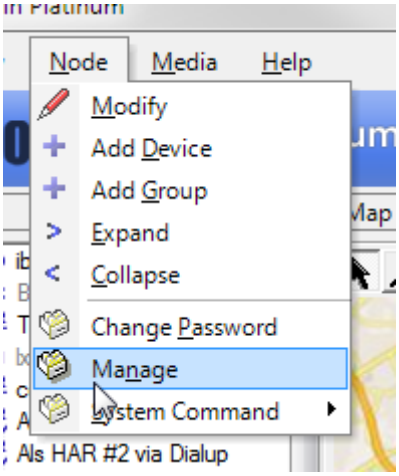
	the children. For this example, the Digital HAR script will be executed first, and then the two beacon scripts (RC200 and Metretek) will be executed. This would most typically be done for an event like an accident or emergency broadcast where you want the HAR to be broadcasting before the beacons are activated. **NOTE:** This option has no effect if the operation is executed on a single device, or if it is executed on a group of devices which do not have a hierarchy established.
Children before parent	This option performs the exact opposite ordering of the **Parent before children** option. If checked, the children device(s) will be activated first, and then the parent device. In the example dialog above, the RC200 beacon and the Metretek beacon scripts would first be executed, and when both of these are completed, the Digital HAR script would be executed. This would most typically be done after an emergency event where you want the beacons to first be deactivated and then the Digital HAR to be set back to it's original broadcast. **NOTE:** This option has no effect if the operation is executed on a single device, or if it is executed on a group of devices which do not have a hierarchy established.
Continue execution if an error occurs	This option allows the operation to continue if one of the dependency devices in a group fails its script execution. For example, if the RC200 beacon operation failed to complete successfully, the operation would continue to execute on the Digital HAR after the failure. **NOTE:** This option has no effect if the operation is executed on a single device, or if it is executed on a group of devices which do not have a hierarchy established.

Managing Scripts

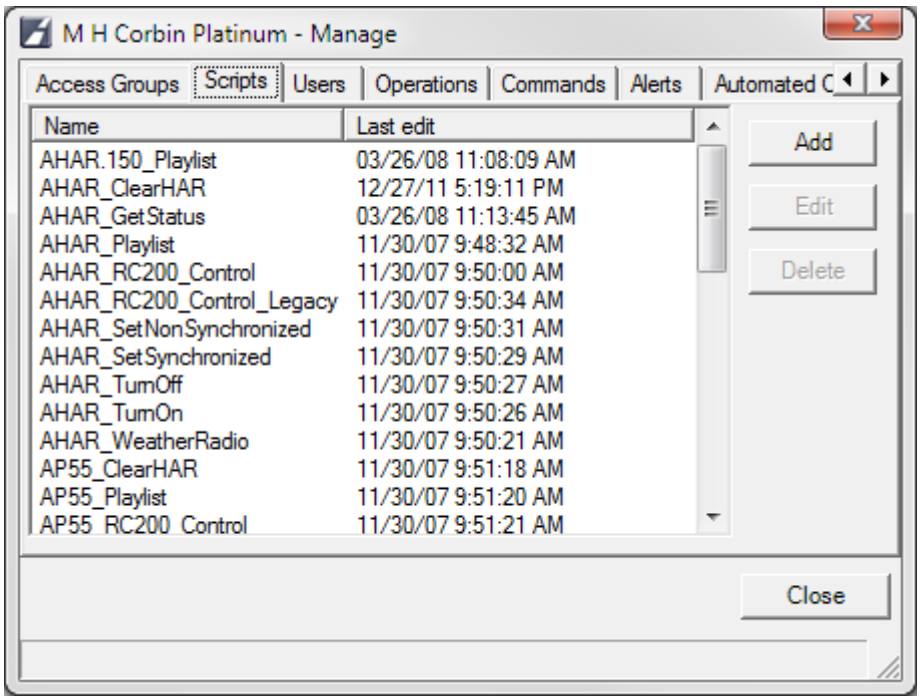
Scripts are a set of device primitives that can be constructed to perform a task for a specific type of device. Scripts are very much like a programming language, but are much simpler. Platinum allows users to create and manage scripts so that users can customize the way a device operation takes place. Your installation of the Platinum Client will come with a few pre-installed scripts that represent several standard tasks. You may edit these scripts as well as create your own.

Each device supports it's own set of script keywords. These script keywords are described in detail in the **Script Command Reference** guide, but you can click here for an abbreviated Script Reference.

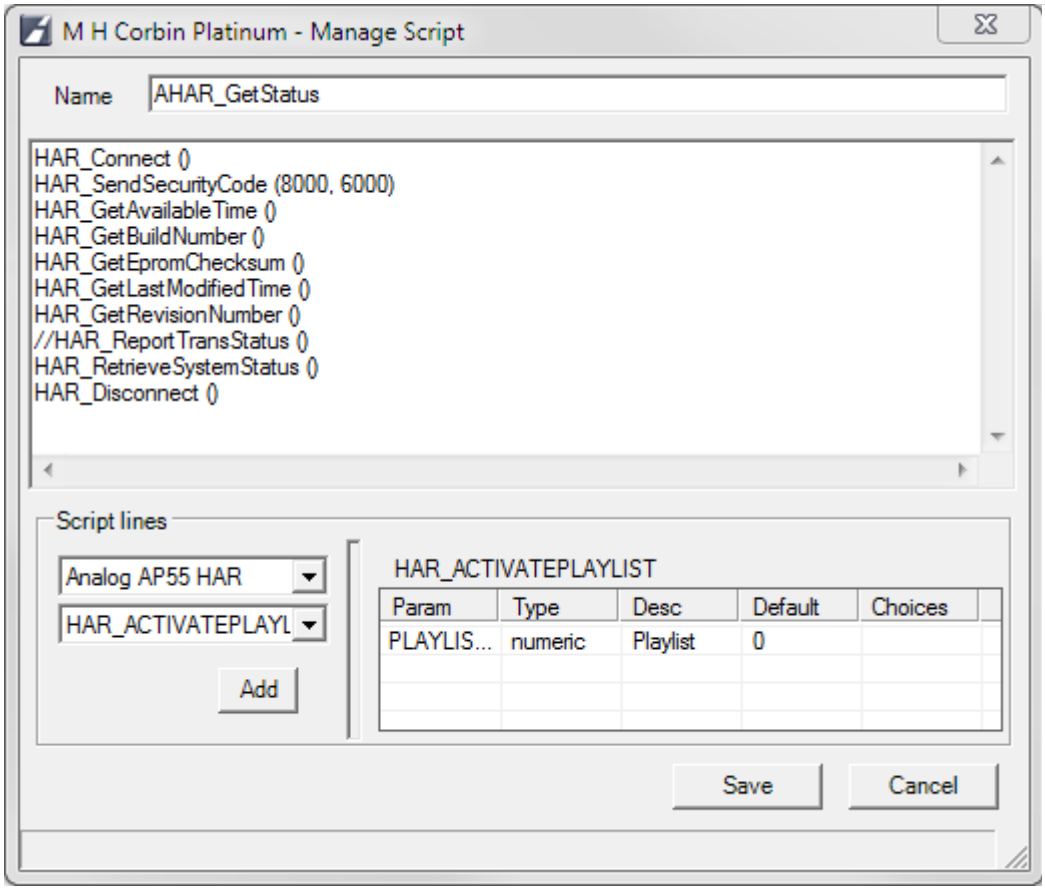
To manage scripts, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option:



You will be presented with the Manage dialog. Clicking on the **Scripts Tab** shows a list of scripts. To edit an existing Script, highlight the desired Script and click **Edit** or **Delete**. To create a new Script, click **Add**.



AFter clicking **Add** a simple text editing window will appear. Type a **Name** for the new Script in the Name field and add Script Keywords to perform the desired action. When editing is completed, click **Save**.



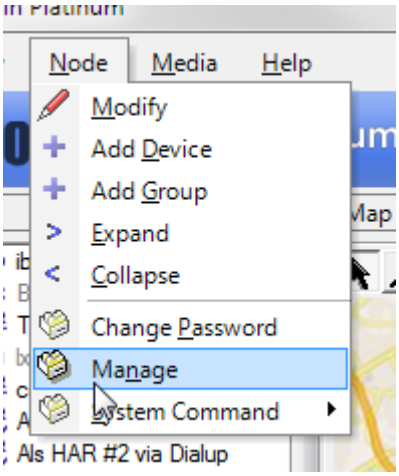
****NOTE**** Presently, no syntax checking is performed on the contents of the script in this dialog box. It is important that users make sure that spelling and parameter information is correct before changes are made. If errors are present, a script runtime error will be generated when the script is sent to the device to be executed and the device operation will not be performed correctly.

Managing Users

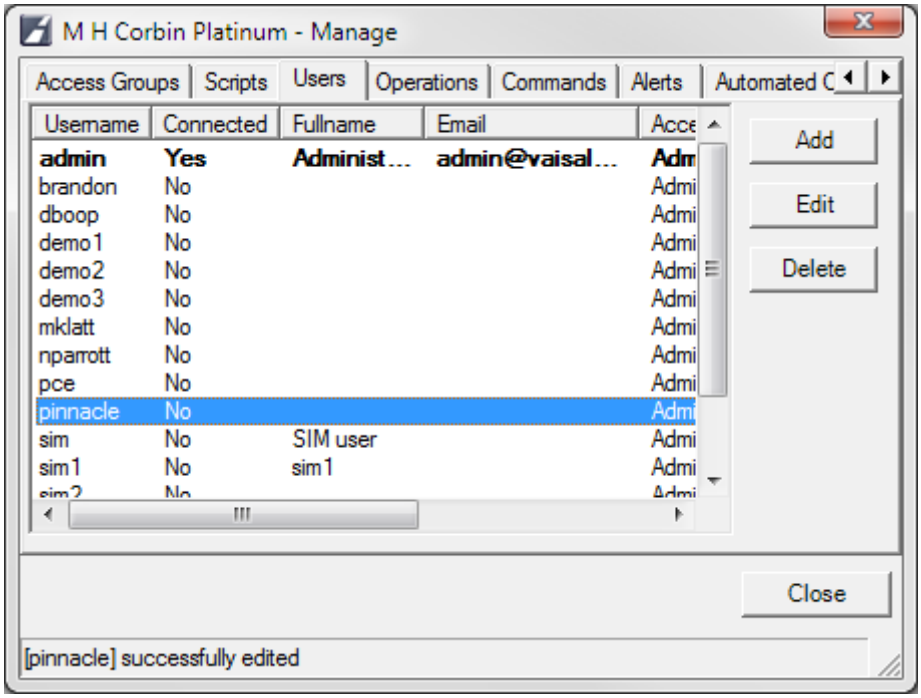
Platinum users are stored in the Platinum Server database. This menu selection allows the user to add/edit or delete other Platinum users, as well as to change those user's rights.

NOTE: Platinum users must have the proper permissions to be able to view or alter other user information.

To manage users, you must first Connect to the server. Once you are connected, right click on the Node name and select the **Manage** option:

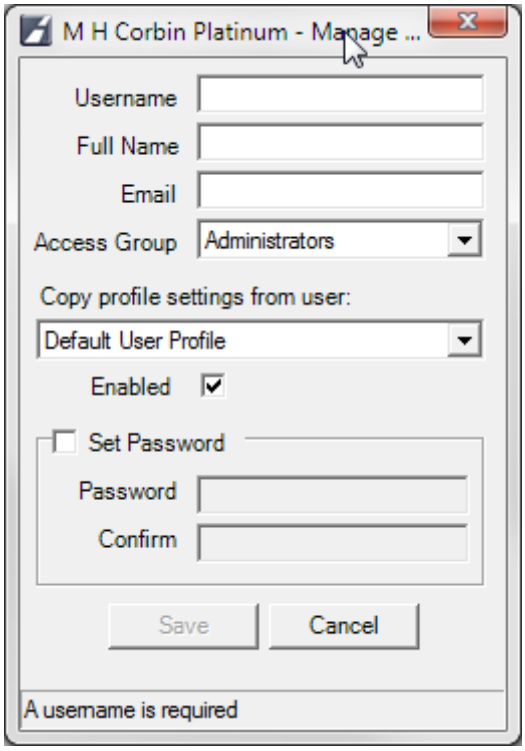


You will be presented with the Manage dialog. To view the user list, click the **User** tab.



All existing users in the Platinum database are listed, along with details for that user. For each user, the username, full name, email address, access group, and an enabled/disabled flag are shown.

To create a new user, click **Add** and the following dialog will appear. Enter the Username, Full Name, and Email Address. The Access Group dropdown menu shows all existing access groups for the Platinum Server. Select the desired Access group, and make sure that the Enabled box is checked. Create a password, and retype it to confirm, then click **Save**. The dialog will disappear and the User you just created should appear in the User list. To change an existing user's information, select the existing account and click **Edit**. The same dialog as below will appear, populated with the existing user's settings, except the "Set Password" checkbox will not be checked and the password will appear to not be set. This is by design, so that subsequent updates (to Full Name, email, etc.) do not require that the password be reset.



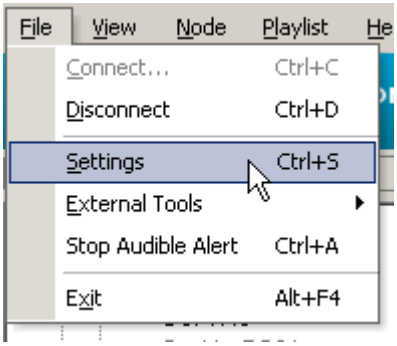
The definition for each entry is as follows:

Username	The login name for this user (used when the user connects to the Platinum Server), ie JDoe
Full Name	The full name for this user (ie, John Doe)
EMail	The user's email address.
Access Group	The user's access group. Access groups define the permissions that the user has within the system for viewing or performing system activities.
Enabled	Indicates if the user is enabled (for login or other system activities). Disabled users are not able to perform any activities within the system.
Set Password	Check this box if you would like to create or modify the user's password when you either create or save the user information.
Password	Enter the user's password here. The password will be represented with asterisk characters.
Confirm	Re-enter the user's password here. It must match the value you entered in the **Password** field above before you can update the user record.

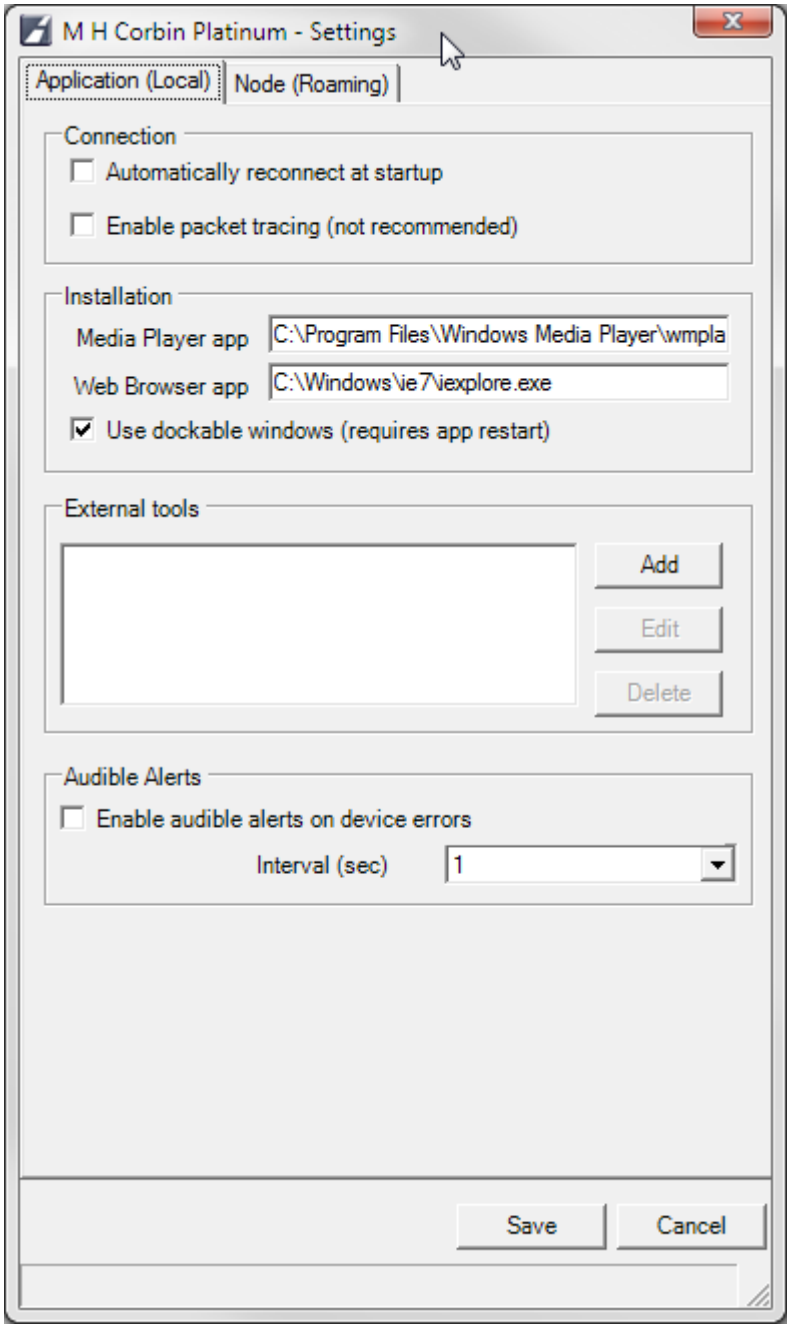
Platinum Settings

Platinum Client Settings

To access the Platinum Client settings, click on the File Menu and select the **Settings** option.



The following dialog will appear and allow an Administrator to customize the operation of the Platinum Client.



There are two categories of Settings that can be customized: **Application** and **Node**. The settings for each category are explained in detail below.

Application Settings

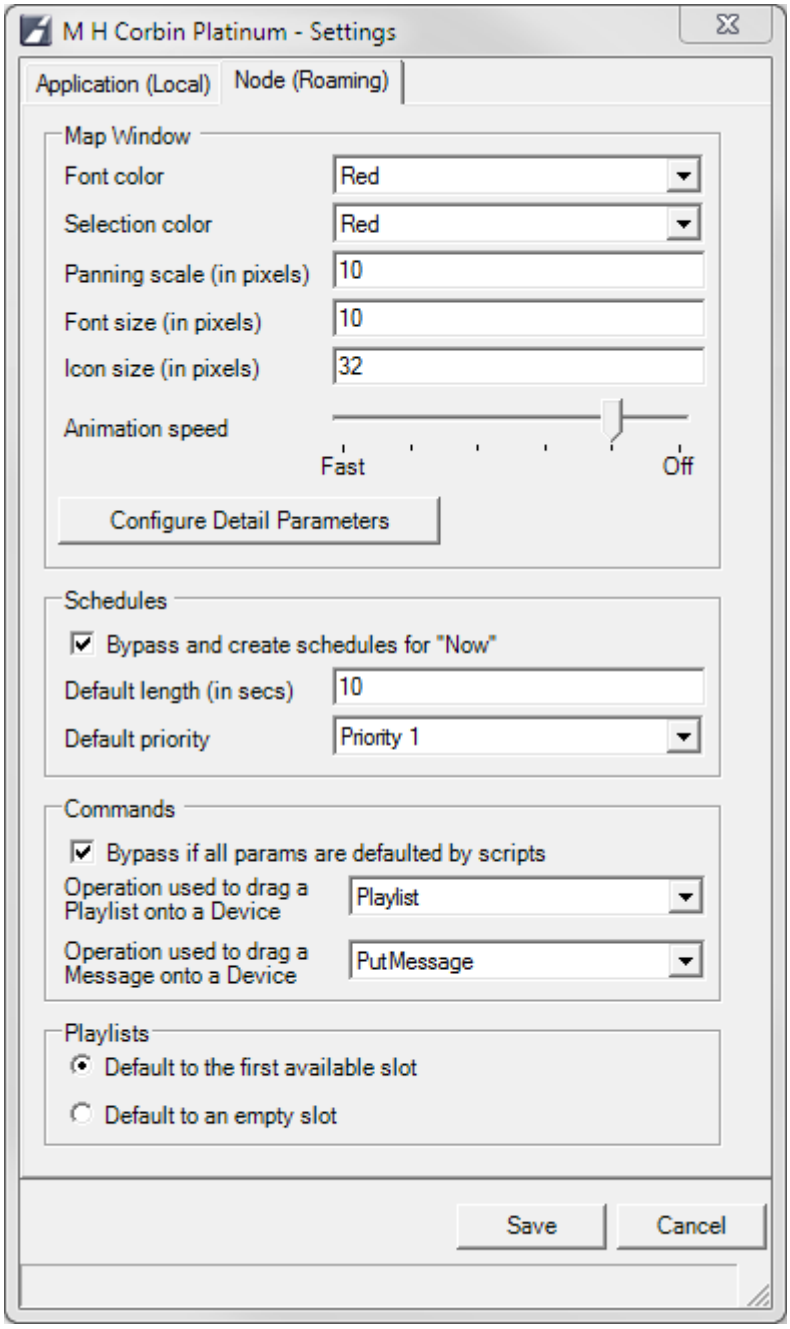
The Application Settings pane is the default pane for the Settings dialog. This pane allows an Administrator to customize options relating to the operation of the Platinum Client Application, its cache, Icons, and Media playback tools. These settings are labeled Local because they have to do with the Client component.

Each item in the pane is described in the following table:

Connection Settings	
Automatically Reconnect at Startup	This option, when checked, tells the Platinum Client to automatically try to reconnect to the most recent Platinum Server when the Application starts.
Enable Packet Tracing	The Packet Tracing option is NOT RECOMMENDED for everyday use, but if necessary, checking this option causes the Platinum Client to create a separate log file that traces all communications between itself and the Platinum Server. This option should only be used to troubleshoot a faulty connection between the Server and Client, as the file created by this option can become VERY large.
Installation Settings	
Media Player App	This setting shows the location of the preferred Media Player that the Platinum Client will use to play Media previewed or recorded in the Media Library Window. By default, the Media Player is Windows Media Player, and the default directory shown is the path to the Windows Media Player executable.
Web Browser App	This setting shows the location of the preferred Web Browser application that the Platinum Client will use to view reports.
Use Dockable Windows	This setting enables the use of floating and dockable windows, and is on by default. Unchecking this option will cause the windows to be permanently docked in their default locations.
Log Settings	
Max File Size	This setting allows the Administrator to choose how large the Platinum Client Log files become before being archived in the installation folder. The default size is 100KB. This setting can be used to adjust how fast the log files are archived, because the bigger the file size, the longer it will take for that size to be reached, hence archived log files will not rotate as quickly.
Max Number of Files	This setting determines the maximum number of archived log files to be stored locally by the Platinum Client. After this maximum number of files has been reached, the oldest archived file will be deleted to make room for the current archive.
Level	This setting determines the logging level desired for data written to the GUI log file.
External Tools	This section can be used to add external tools to the GUI's file menu so that users can more easily launch commonly used applications from the Platinum GUI.

Node Settings

Clicking on the Node tab shows the settings for the current Node in the Node Tree Window. These settings are considered roaming because they are not stored locally by the Platinum Client. The following table describes Node settings.



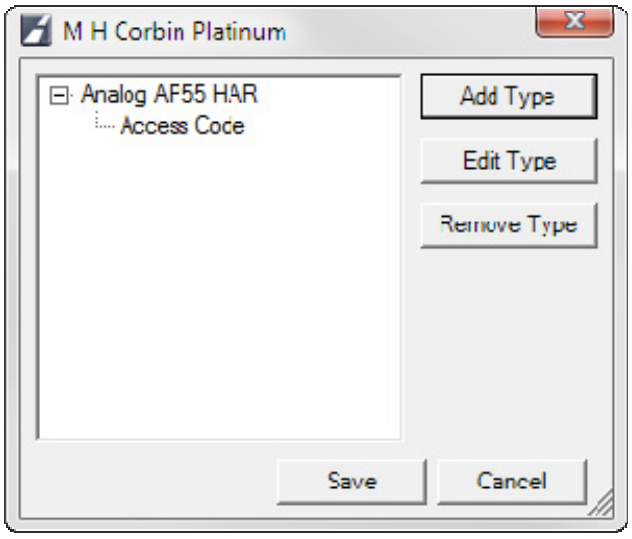
Map Settings	
Font Color	This option allows the Administrator to select what color the text that corresponds with the Device Icons on the Map View Window will be. This option can be useful depending on the colors in the map that will be used. In order for the text to appear clearly, the text color should be a color that stands out from every color on the map being used. The default text color is **Red**.
Selection Color	This option allows the Administrator to identify what color will indicate the selection of a Device Icon in the Map View Window. When an Icon is selected, a colored circle appears

	behind the Icon. This setting changes the color of the selection circle. This option can be useful depending on the colors in the map that will be used. In order for the circle to stand out, the color should be a color that is different from every color on the map being used. The default text color is **Red**.
Panning Scale	This field determines the scale the Platinum Client will use when panning the map Up, Down, Left, or Right. When the map is fully zoomed out, the Pan buttons will not move the map. When zoomed into a portion of the map, the Panning Scale setting will move the map the desired number of pixels (map relative, not screen relative) in the desired direction. The default Map Panning Scale setting is **10** pixels. For more information on the Pan Buttons, see the Map View Window Help Section.
Font Size	This option allows the Administrator to select the font size for the text of the Device Icon descriptions. The default Map Window Font size is **10** pixels.
Icon Size	This option allows the Administrator to select the icon size for the Device Icon on the Map window. The default icon Window Font size is **32** pixels.
Animation Speed	This option allows the Administrator to select the speed at which the map icons animate.
Configure Detail Parameters	This option allows an Administrator to configure which Device Parameters are displayed in the popup window created when you hover your mouse over the device icon in the Map Window. For more information on configuring detail parameter display, see the bottom of this page.
Schedule Settings	
Bypass and create schedues for NOW	This option will force all new schedules to be executed NOW using the default schedule priority and durations. The schedule window will not be presented to the user.
Default Schedule Length	This option sets the default length of time to run when creating new schedules.
Default Schedule Priority	This option sets the default priority used when creating new schedule entries.
Command Creation	
Bypass Command Creation Form	When an Operation is scheduled, by default the Platinum Client will prompt the user to create a Command, at execution time. This option enables the Operator to skip the Command Creation process if all the parameters in the Script being used are default parameters. This saves an Operator time when executing standard Operations on Devices multiple times.
Operation used to drag a playlist on a device	This dropdown allows you to set the operation name that will be executed when you drag a playlist onto a device. You must set this to an existing operation (such as the "Playlist" operation) in order to be able to successfully drag playlist onto a device and have that device begin playing the new playlist.
Operation used to drag a message on a device	This dropdown allows you to set the operation name that will be executed when you drag a message onto a device. You must set this to an existing operation (such as the "DownloadMessage" operation) in order to be able to

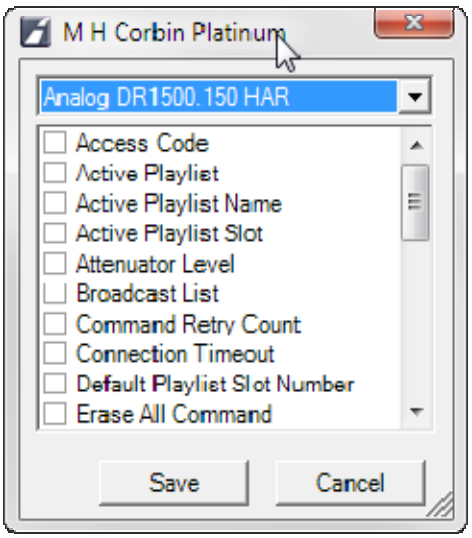
	successfully drag messages onto a device and have that device download the new message.
Playlists	
Default to the first available slot	When creating a new playlist, the default slot number selected in the form will be the first available playlist slot.
Default to an empty slot	When creating a new playlist, the default slot number selected will be empty.

Configuring Detail Parameters

This option is used to change the Device Icon display on the Map Window. By default, the Device Name is displayed underneath the Icon image, but more parameters can be added. This feature allows an Operator to verify any of several different Device status variables at a glance. These parameters, also visible from the Properties Window are updated each time the Device changes status. To configure the parameters to display, click the **Configure Detail Parameters** button from the **Node Settings** tab shown above. The following dialog will appear.



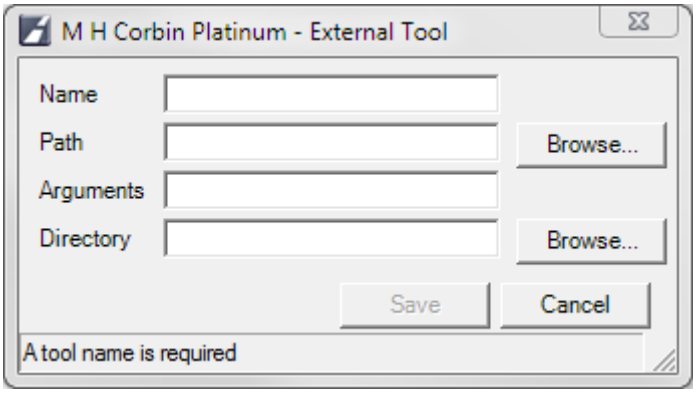
The above example shows that two of the three Device Types have parameters configured. To add another type, click **Add Type** and the following dialog will appear. To edit the parameters for an existing type, select the desired type from the tree control at the left and click **Edit Type**. The dialog shown below will appear, populated with the parameter settings previously chosen. To remove a type, click **Remove**.



Each entry listed above corresponds to a property listed in the Properties Window for a particular Device of that type. To add parameters for certain type, select the desired Device Type from the drop down menu at the top of the dialog. The parameters list will populate with all the parameters that apply to that Device type. Check the boxes next to all the parameters you wish to be displayed along with the device icon, and click **Save**.

Configuring External tools

The external tools list contains user defined applications that can be launched from the Platinum main menu. By clicking the Add or Edit buttons, the following form is presented:

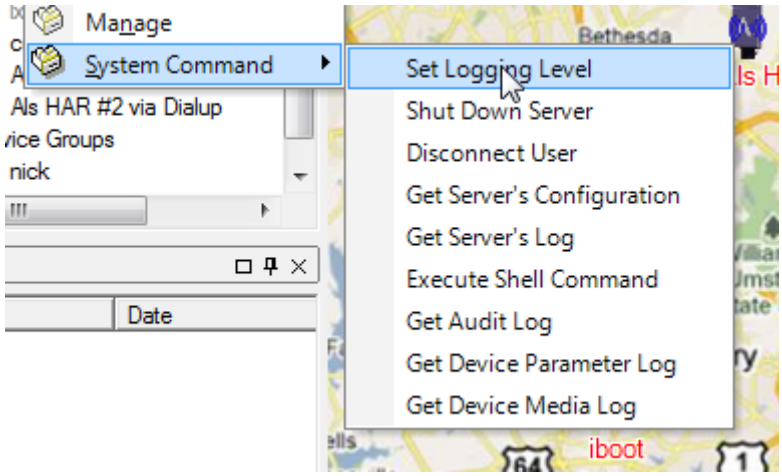


By adding the name and path to your own executables, you can then launch them from the Platinum main menu:

System Commands

System Commands

System command are a special group of commands that are available by **Right Clicking** on the **Top Node** in the Node Tree Window and selecting the **System Commands** menu option. The following options will appear:

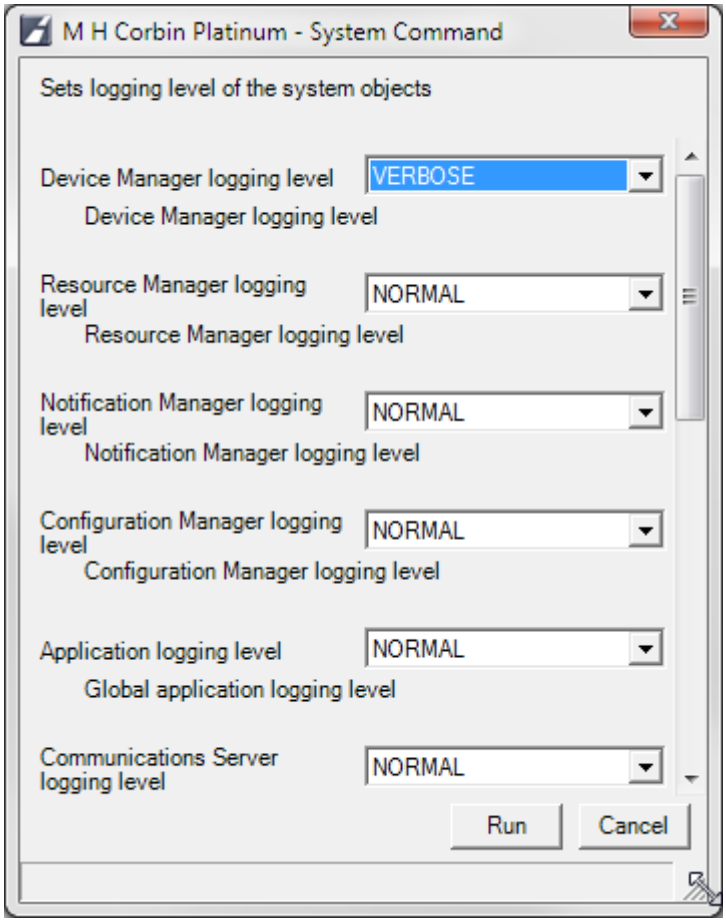


The following commands are explained in detail below. Click a link to learn more about that menu option.

- Logging Levels
- Get Server's Time
- Shut Down Server
- Disconnect User
- Get Server's Configuration
- Get Server's Log
- Execute Shell Command

Set Logging Level

When the Set Logging Level option is selected, the following dialog is displayed, populated with the current Log Level settings. Each entry corresponds to a **System Device** from the **Device List** in the Node Tree Window.



Through the individual Logging Level settings, an Administrator can control how much logging information is generated by any specific **System Device**. For each System Device, the Administrator has four levels to choose from: **OFF, NORMAL, VERBOSE,** and **FUNCTIONCALLS.** Starting from Off, each option indicates that more log entries are generated. The **FUNCTIONCALLS** option will generate the most detailed log entries. To set the Logging Level for a particular **System Device**, use the drop down menu to the right of the desired Device and set the desired level. When all desired levels are set, click **Run** to save.

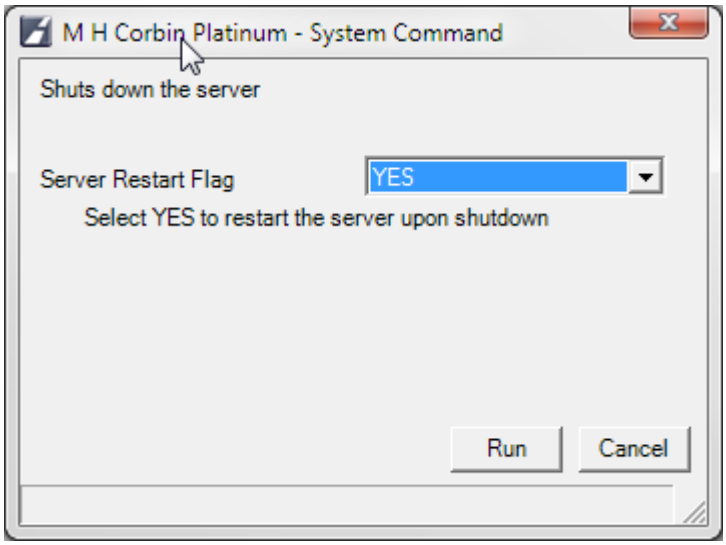
Get Server's Time

When the Get Server's Time option is selected, the Status Bar will refresh and show the new relationship between the Client and Server Time stamps.

Shut Down Server

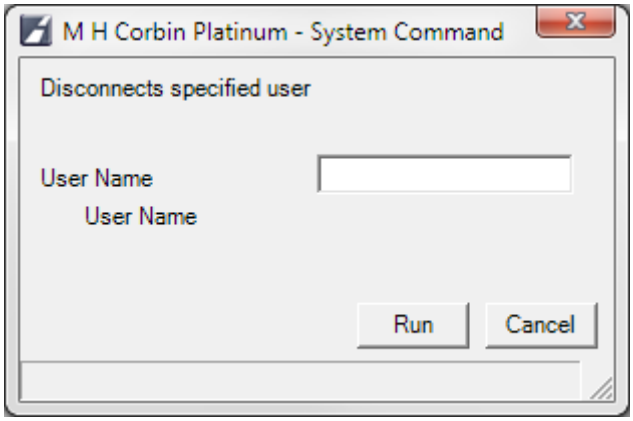
When the **Shut Down Server** option is selected, the following dialog will appear. From the dialog, the Administrator has the option of Restarting the Platinum Server remotely after the Shut Down process has occurred. After the Shut Down operation

has completed, the Platinum Client will lose connection as expected. If the Restart operation has been chosen, the Platinum Client will NOT automatically re-establish the connection, so the Administrator will have to Connect to the Platinum server again.



Disconnect User

When the **Disconnect User** menu option is selected, the following dialog appears. From this dialog, the Administrator has the option to disconnect any individual user connected to the Platinum Server. To disconnect the user, select the Username from the drop down list at the right and click **Run**.

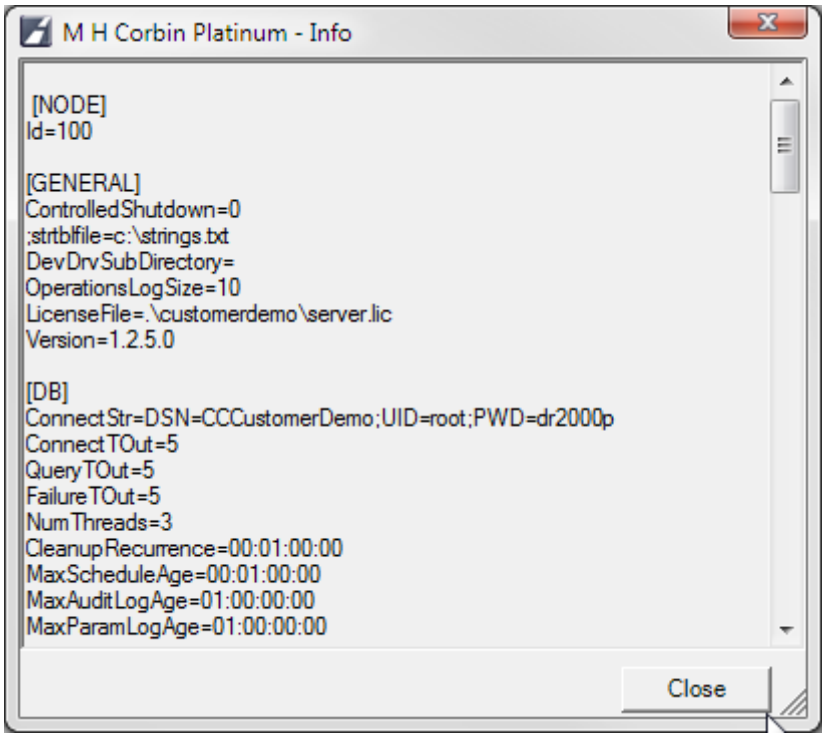


Get Server's Configuration

Selecting the **Get Server's Configuration** option shows a dialog containing the Server Configuration file contents. An example of this dialog is below. The settings shown in the dialog are not user-editable from the Platinum Client, but in the event

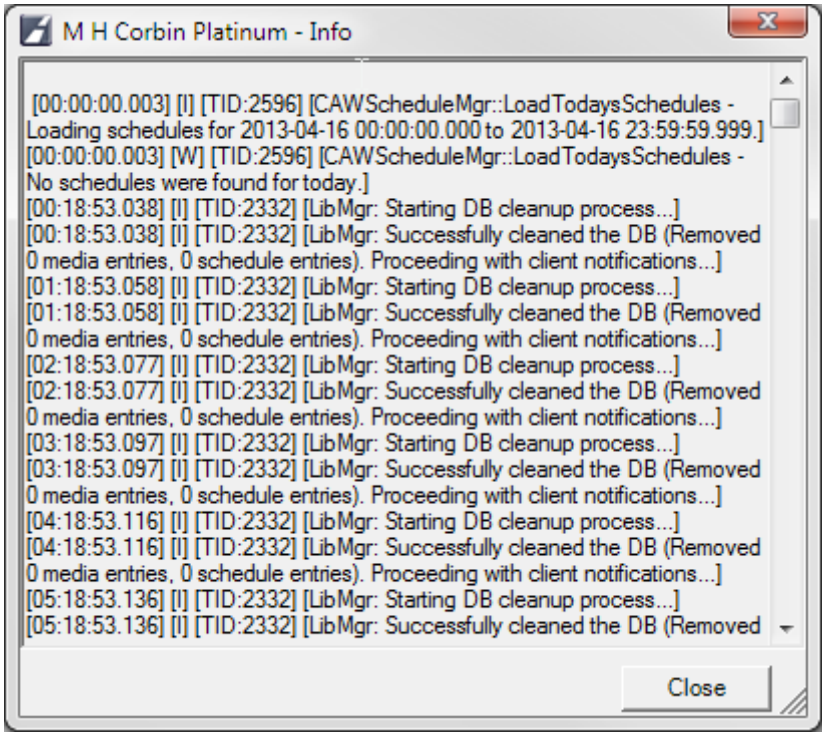
that some settings are wrong, this System Command gives an Administrator an easy way to examine the configuration for errors without changing anything. If you must change the file and need to where the Server Configuration File is located, refer to the Configuration Manager in the Node Tree Window and look at the entry called "Server Configuration File" in the Properties List Window. The path that is shown is the path to the Server Configuration file.

NOTE: The path is the path on the machine on which the Platinum Server component is installed, not the Platinum Client machine.



Get Server's Log

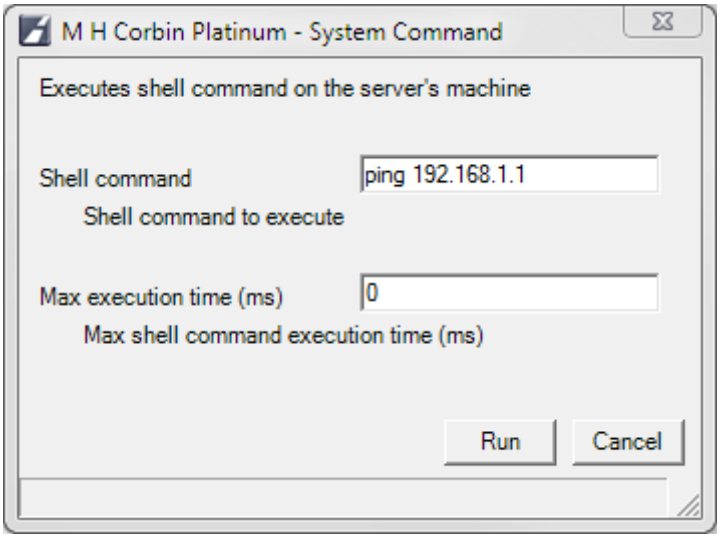
Selecting the **Get Servers Log** command displays a viewer that shows the current Server Log. This log is not editable, but is useful for determining the current status of the Platinum system. In the example below, you can see that different System Objects add their own entries to the main Server Log. The level of detail for the Log entries of the Library Manager, or the Routing Manager for example, can be changed by the Set Log Levels command above.



Execute Shell Command

The **Execute Shell Command** is a very powerful feature. It lets an Administrator sitting at any Client use the Platinum Server to execute system commands on the server. Anything that can be run at a command prompt can be executed from this menu option, and the output from the **Server** is redirected to a file that is returned to the **Client**.

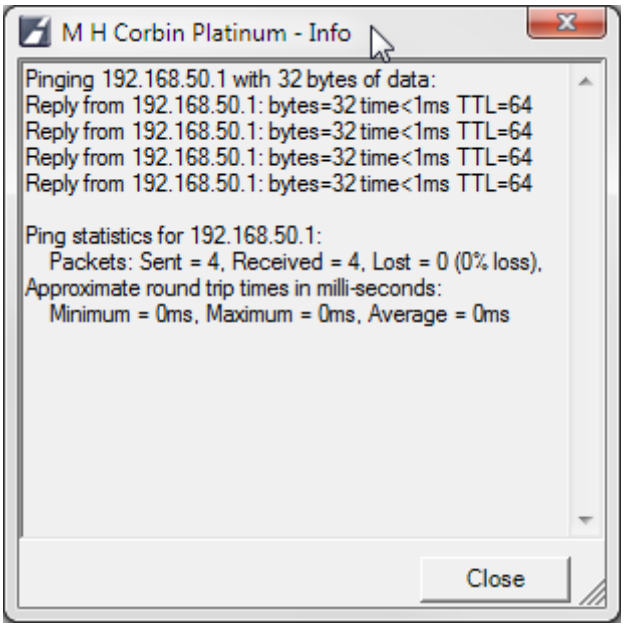
When the Execute Shell Command menu option is selected, the following dialog appears:



In the top field, enter the Shell command you wish to execute. For example, the ping command shown above can be used to test connectivity from the server to another machine:

After you have entered the desired command, enter the Maximum Execution time (in milliseconds) for the server to wait. This value can range from 0 to 99999 (0 to 99.999 seconds). **NOTE:** *An execution time of 0 will prevent the shell command from executing!*

After both parameters are set, click **Run** to execute the command. After the Maximum Execution Time has elapsed, the results of the command will display in a non-editable viewer window. Below are examples of the Execute Shell Command dialog and the results returned.



To execute DOS commands, you should precede the DOS command with

CMD.EXE (which invokes the command interpreter). Also, CMD.EXE should be used with the "/C" parameter, which specifies that it should execute the specified command string and then terminate.

For example, to obtain a directory of the **C:\Program Files** drive, enter the following string in the "Shell Command" box:

cmd /C dir "c:\program files*.*"

Platinum Client Release Notes

Release notes are provided with the application install as a Microsoft Word Document. If installed with the default path, they can be found at

C:\Program Files\Highway Information Systems\Platinum Client\Release Notes.doc

Client Operation

Operator's Guide

This section is devoted to assisting the Operators of the system. For Administrative tasks, see the Administration section.

A Platinum Client Operator needs to be very familiar with the different views of the Platinum Client. Each Window contains valuable information concerning the HAR system, the Platinum Server, or Platinum Client environment. For detailed information on each Platinum Client component, click a link below.

- Application Main Window
- Map View Window
- Node Tree Window
- Properties List Window
- Device-Media List Window
- Schedule Window
- Media Library Window
- Log View Window
- Chat View Window
- Status Bar Window

Knowledge of what each Window displays is important, but without knowing how to complete certain tasks, the Operator would not be able to use the information displayed in each WIndow to control the HAR system. Below are several common tasks that an Operator will encounter regularly when interacting with the Plainum Client system. Each topic explains in detail how to accomplish fundamental functions of the Platinum software system. For assistance with a task, choose a link below:

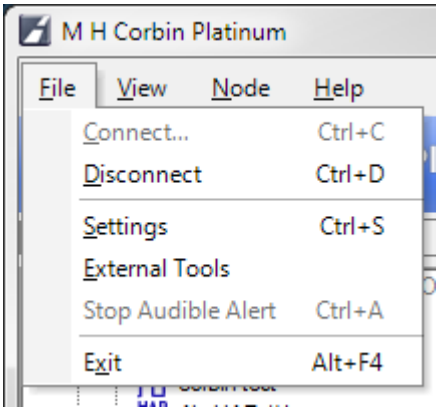
- Connecting to the Platinum Server
  - Connecting to your Platinum Server system is the first step in HAR operation. Click the link above to learn how
- Working with the Media Library
  - Once you have connected, you'll need to create audio messages to broadcast over the HAR system. Click the above link to learn how the use the Media Library.
- How Scheduling Works
  - Once you have created your audio messages, you will want to customize a schedule so that your audio will broadcast as you see fit.

Reference Guides

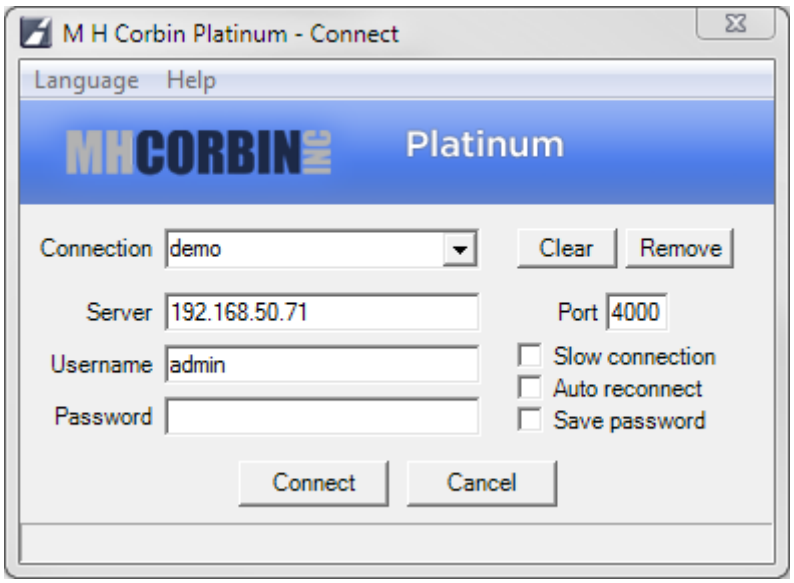
- Script Keyword Quick Reference
  - Now that your schedule is created, you may want to adjust how the Platinum Server executes commands on your HAR system. Advanced users can use this Script Quick Reference Guide to customize commands and operations.
- Keyboard Shortcut Reference
  - This list of shortcuts can save Operators time and effort when an emergency occurs.
- Alert Manager Rules Language Reference
  - This describes the way to build a rule for triggering an email alert, including examples.

Connecting to the Platinum Server

When the system is first executed, you will be prompted to connect to a server by the Connection Dialog Box. If the system is already running, but disconnected, connect to the server by clicking File and selecting the **Connect** menu option:



You will be presented with the connection dialog:



The definition for each entry is as follows:

Connection	The name associated with this server connection. If you connect to more than one Platinum Server, this name can be used to

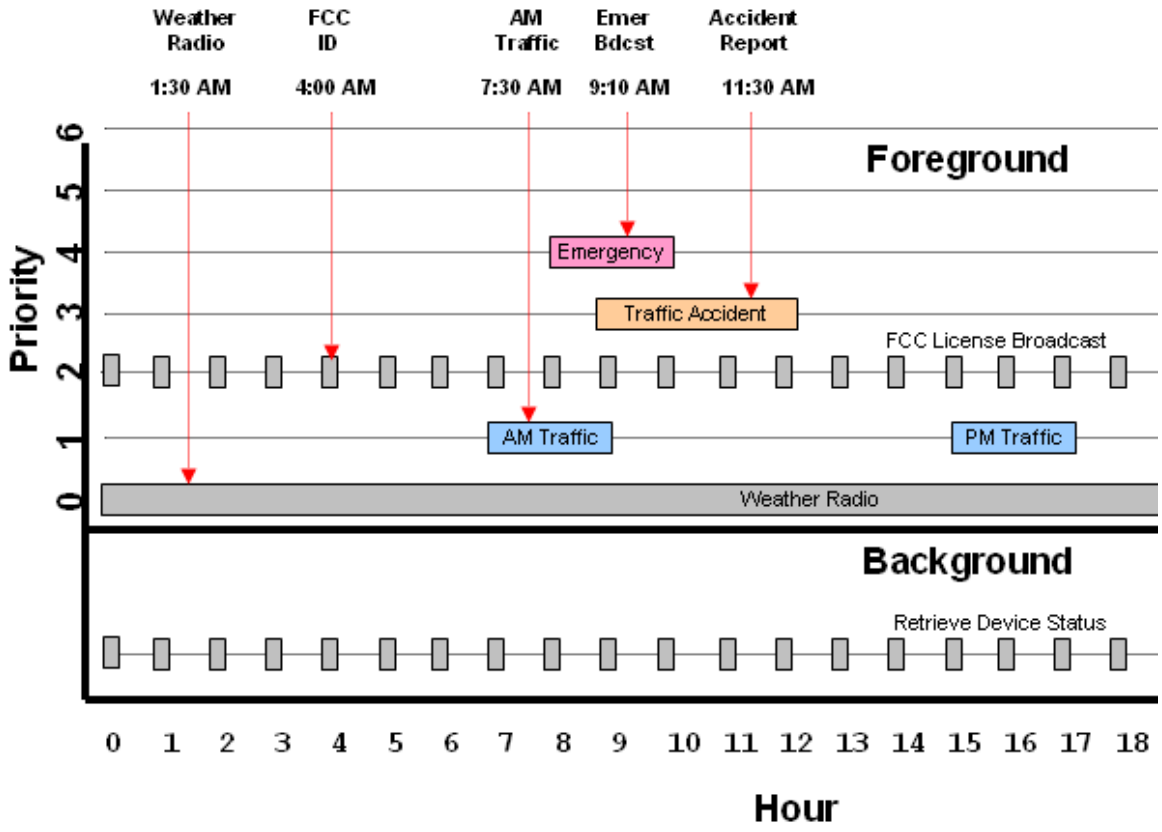
	quickly retrieve all the connection information for this server.
Server	The IP Address associated with this server connection.
Username	The Platinum Username to use for the specified connection. Your username must have been previously created in the Platinum database by a Platinum Administrator.
Password	The Platinum password assigned to the username you select. Your username and password must have been previously created in the Platinum database by a Platinum Administrator.
Port	The port number to use in conjunction with the **Server host** of the Platinum Server.
Slow Connection	Check this box if your connection uses a dial up or otherwise slow transfer rate. This option will limit the information requested from the server to minimize download time.
Auto Reconnect	Check this box if you wish for the Platinum Client to automatically reconnect to the Platinum Server upon startup.
Save Password	Check this box if you wish for the Platinum Client to automatically save your password in the local configuration file.
Clear	Click this button to clear the form values.
Remove	Click this button to remove the connection information from the local configuration file.

How Scheduling Works

The Platinum scheduling engine operates using two modes: Foreground schedules and Background schedules. Foreground schedules have the ability to return a device to a previous state after they expire. Background schedules do not. Background schedules are executed separately from foreground schedules and therefore can execute at the same time as a foreground schedule. Background schedules are meant to provide a mechanism to periodically communicate with a device in order to retrieve data and are best suited to operations that do not change the state of the device.

The following diagram depicts a scenario that demonstrates how scheduling works. In this example, 6 schedules have been setup:

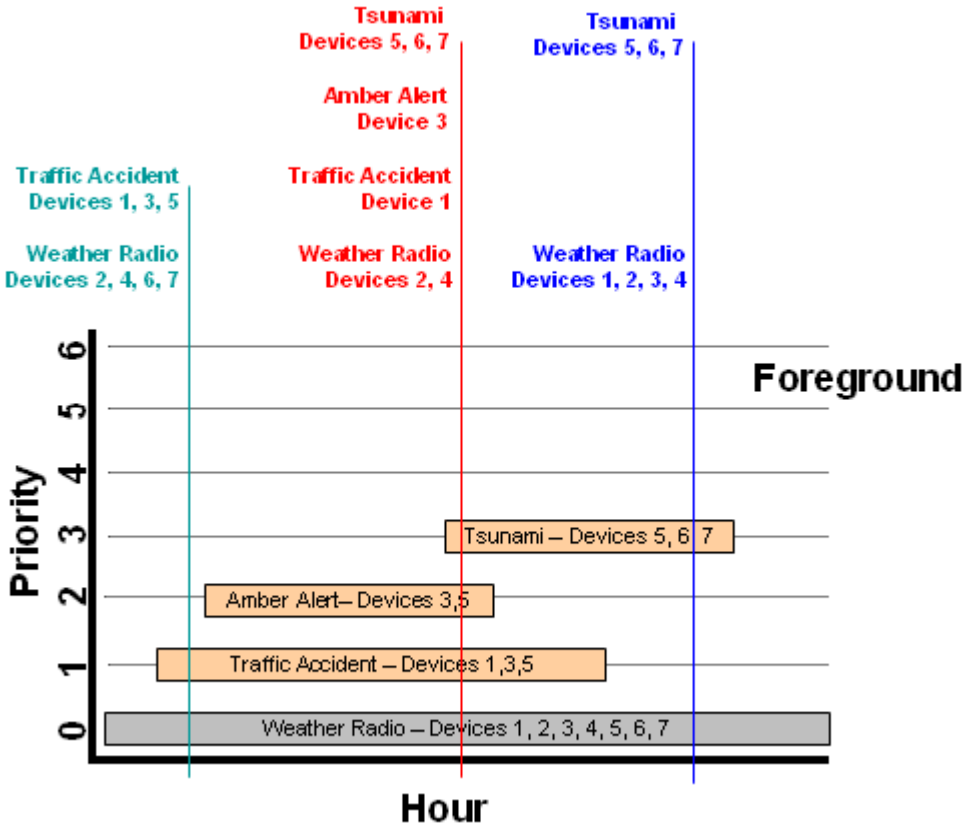
- A background "retrieve device status" schedule
- A low priority "broadcast weather radio" schedule
- A higher priority Traffic" schedule for morning and evening commutes.
- A higher priority "FCC License Broadcast" schedule
- A higher priority "Traffic Accident" schedule
- A higher priority "Emergency" schedule



In this example, you can always determine what the HAR will be broadcasting by drawing a vertical line through the timeframe in which you are interested in knowing about. You can see that at 1:30AM, the HAR will be running the schedule for broadcasting the weather radio. However, at 4:00AM, a higher priority schedule will be executed which places the HAR into the mode of broadcasting the FCC ID (this is scheduled to happen at the top of every hour for 1 minute). Again, at 7:30AM, the AM traffic broadcast will be active, and so on...

As of the release of the Platinum Server v1.1.11.0, the scheduling engine is able to distinguish schedules on a per-device basis. This means that the scheduler will now be aware of the devices that each command document contains. This awareness allows the server to issue commands to a subset of the devices within the original schedule, and not all the devices in the original schedule as it did previously.

To better visualize how a per-device schedule behaves, consider the following example of a system which includes 7 devices which can be HARs, Beacons, and other supported devices. In this system, operations have been setup for **Weather Radio**, a **Traffic Accident,** an **Amber Alert**, and a **Tsunami** Alert. These operations may happen at completely different times, or they may overlap. Lets consider a day whereby all four of these operations occur and also overlap. To understand what a device should be doing at a given time, you would draw a line down the schedule window. The first intersection of that line with a command document that contains that device will indicate what that device should be doing. In the following diagram, we consider three instances in time - the first shown in **green**, the second shown in **red**, and the third shown in **blue.** For each timeline you will see which operations are active and which devices are performing those operations:



Whenever a transition from one schedule (Tsunami) is made to another schedule (Weather Radio), only the common devices from the two schedules will be affected - in this example device 5, 6, 7 and not all the devices - 1, 2, 3, 4, 5, 6, 7

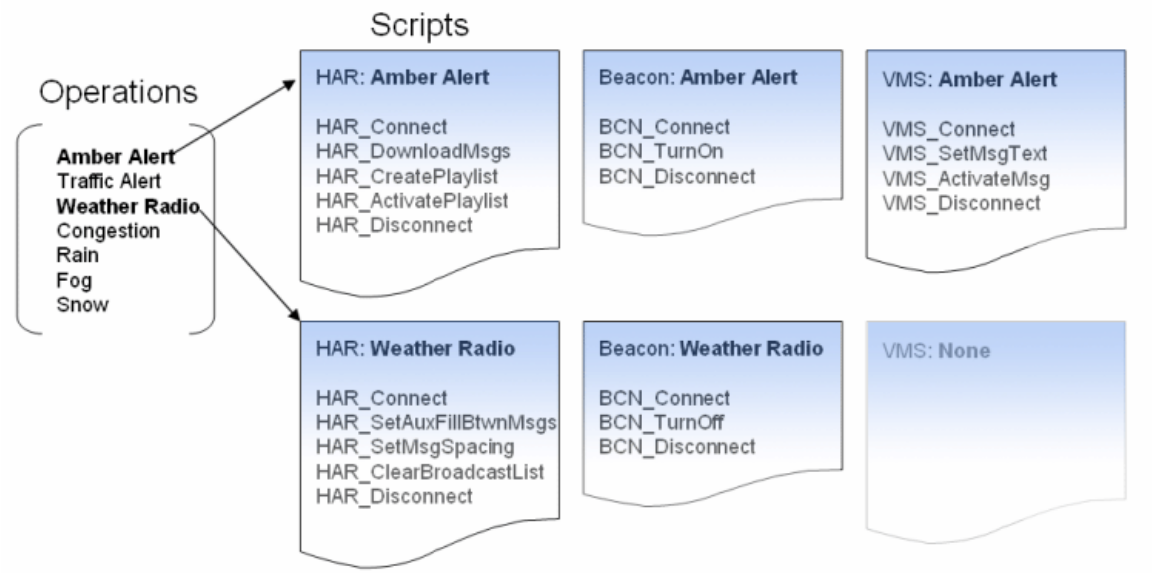
Using the Scheduling Priorities and the Foreground/Background Schedule Model is a great way to make sure that your HAR system is always broadcasting the most important information. The Priority setting are great for emergency situations where you need to have a special message broadcasting for a short period time, then want to automatically switch back to the earlier braodcast. You will want to make sure, however, that you monitor the start and end times of appointments carefully to ensure that no broadcast gets cut short by another of higher priority. For information on how to set the Priority for an appointment, refer to the Schedule Window Help Section

How Operations Work

How Operations Work

As shown in the Operations Management section, Operations are a collection of scripts which are associated with one or more device types. Operations allow the user to perform many different actions on many different device types during a single event.

A classic Operation example is and "Amber Alert". In this event, all stations should be broadcasting and message and all Beacons should be turned on. By creating a script to broadcast a message, creating a script to turn on a beacon, and assigning the Operation, the user can create a single event "Amber Alert " in the application. This event is used to manage all devices in a group.



You can see that one of the Operations - defined as "Amber Alert" - has been mapped to three device types: HARs, Beacons, and VMSs (Variable Message Sign). For each of these devices, the Operation maps a script for that device to execute. When an Operation is scheduled for a device, the Platinum Client will execute the commands in the script to which the Operation is mapped. See the help topic, Managing Scripts, for more information on Platinum's custom scripting capability.

The flow of configuring and executing an operation is as follows:

1. Create the Scripts
2. Create the Operation
3. Initiate the Operation on a Device or Group
4. Specify parameters
5. Schedule

Create the Scripts

A script must be created for each device type that is to be included in this operation. A script may be used by more than one device type if possible. This applies mainly to beacons which use very simple scripting.

See Managing Scripts for more details.

Create the Operation

Each script that is to be executed must associated with a device type. This tells the application which script to use when a device (or group of devices) is chosen for an Operation. If a script-device type mapping is specified in the operation, but no device of that type is included in the execution of the operation, that mapping is ignored. Similarly, operations that contain mappings for any of the devices in a group are shown for that group.

See Managing Operations for more details.

Initiate the Operation

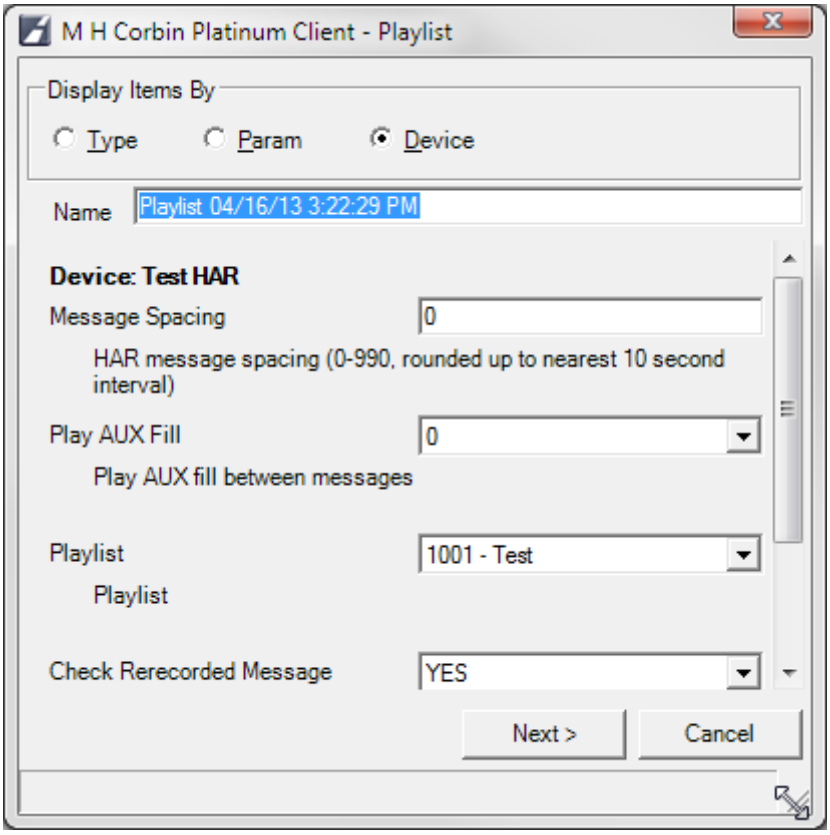
Operations can be initiated using a variety of methods:

- **Right click on a device and select an operation** - All Operations assocated with this type of device are displayed
- **Right click on a group and select an operation** - All Operations that have an association with atleast one type of device in the group are displayed
- **Drag a playlist onto a device or group** - The Operation configured in the settings for dragging playlists is used. The playlist contained in the drag is defaulted in the parameters of HAR_DOWNLOADPLAYLISTTOHAR.
- **Drag a message onto a device or group** - The Operation configured in the settings for dragging messages is used. The message contained in the drag is defaulted in the parameters of HAR_DOWNLOADMESSAGESTOHAR.
- **Re-record a message that has been previously downloaded** - This is similar to the dragging of a message in that the message is defaulted in the parameters, however the device or group must still be selected through a wizard.

Specifying Operation parameters

Parameters are required to tailor the Operation to event at hand. Think of the script as a recipe. It has defaults that work most of the time, but at other times, certain parameters such as the

playlist, may need to be changed.



Internally to Platinum, the override parameters specified by the user and the script file, are assembled into what's called a Command Document. You will see these listed in the Management Form. These are only for editting by advanced users and should be transparent to average users.

Schedule

Once the Operation has been initiated and the parameters have been specified, it must be scheduled.

See How Scheduling Works for more detail.

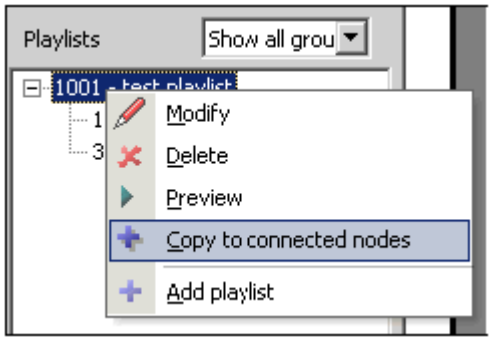
Text-To-Speech Engine

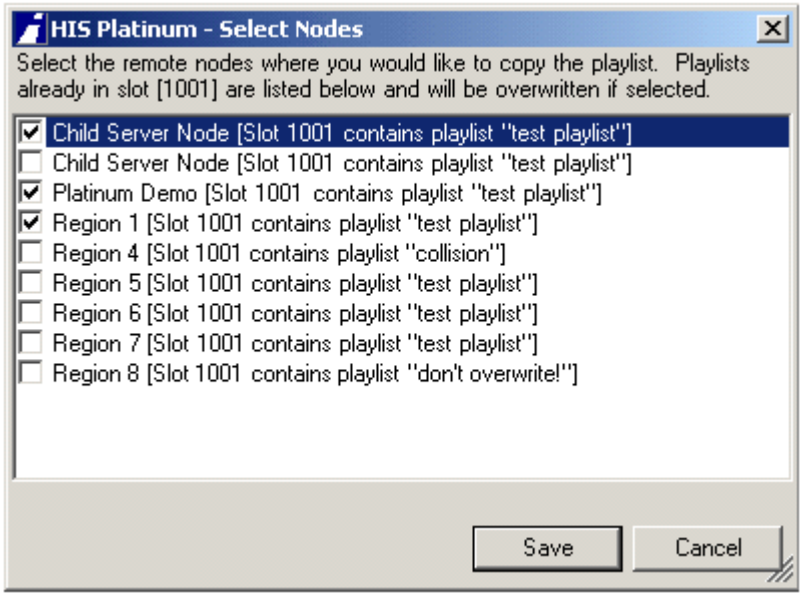
text to speech

Multi-Node Media Copy

When the Platinum Client is connected to a server which has connections to other servers established, several new menu options become available. These new options allow users to perform actions across multiple servers more easily.

The first new option, **Copy to connected nodes**, appears when the user right clicks on a playlist in the media library on the master node, as shown below. Selecting this option brings up the **Select Nodes** dialog:

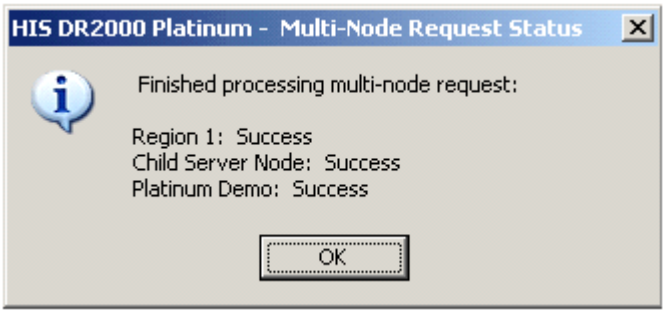




The **Select Nodes** dialog allows the client to pick which nodes are to receive the playlist. This dialog shows a list of all the currently connected remote nodes and also shows the playlist name and slot number which will be over-written by this

copy operation, if any.

After choosing which nodes are to receive the playlist, the Platinum server will start a background task which copies the playlist and the media the playlist contains between the servers. When the background copy is complete, a popup message will be displayed indicating the result of the copy operation:



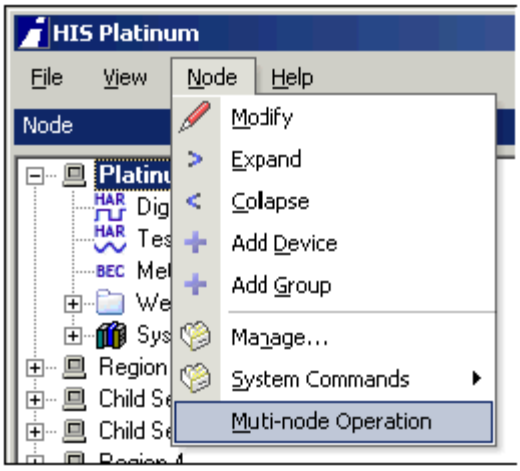
Multi-Node Operations

In order to execute an operation on more than one server, it is necessary to create two elements across all servers. These elements must be named identically on each remote server:

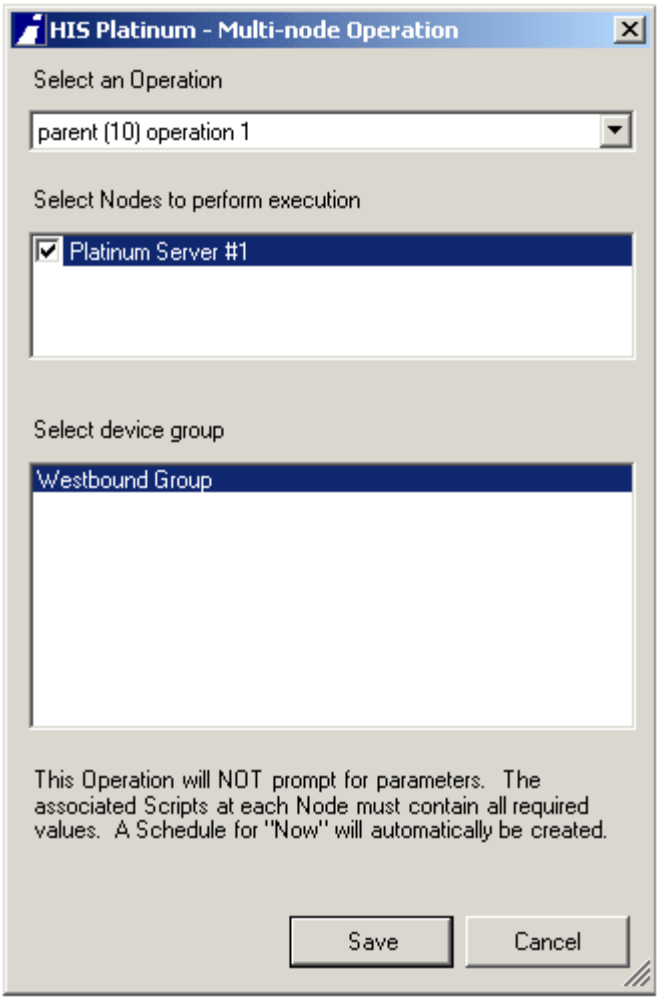
- First, one or more group(s) of devices must be created on each Platinum Server. These device groups should include all the devices which are to participate in multi-node operations. These device groups should have the same name on each server.
- Next, each server which participates in multi-node operations should define a set of identically named operations.

It will be helpful here to explain why these two conditions must exist. The way in which a multi-node operation is performed is that the master Platinum Server will construct a command which is sent to each of the remote nodes which have been selected by the user. The command specifies which operation to execute and which device group this operation is to execute on. The remote nodes therefore must have that same operation and device group defined in order to know what to perform. If the group or operation does not exist at the remote node, no activity will take place at that node and the command will be ignored.

To perform an action on multiple nodes, the user should select the **Multi-Node Operation** option under the **Node menu**:



When this menu item is selected, the following dialog appears:



This dialog has some unique features each control is affected by the selection in the other controls in the dialog box. The first control shows a list of all the operations on all the Platinum servers. As you change the operation name in this control, the contents of the **"Select Nodes to perform execution**" window also changes, reflecting only the nodes which have this operation name defined.

As items in the **Select Nodes to perform execution** window are checked, the **Select device group** window will then be updated to show all the common device group names that exist across all the nodes that have been selected.

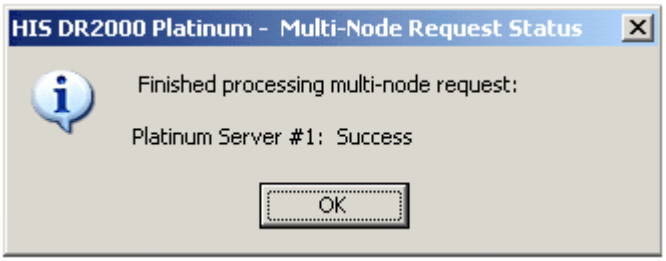
If you do not see an operation or group that you expect in the list provided, the most likely cause is that that specific operation or group has not yet been setup on one of the remote nodes, or it is not named identically.

Once all three windows have their selections set, the **Save** button will become enabled to allow the user to execute the operation selected on the device group selected on the node(s) selected.

It should be noted that the user does not need to specify the details of exactly which devices or which scripts to run these are specified by each node independently when they create their device groups and operation mappings. This implementation also allows each remote server to customize their system so that

only specific devices will be allowed to participate in multi-node operations based on the devices that have been placed in the multi-node device group(s).

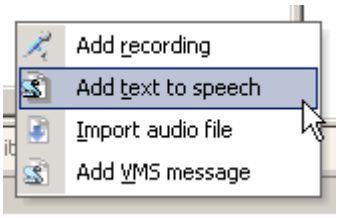
After the multi-node operation has been executed by each remote server, a popup dialog will be displayed indicating the outcome of the operation at each remote node:



Working with the media library

Working with the Media Library

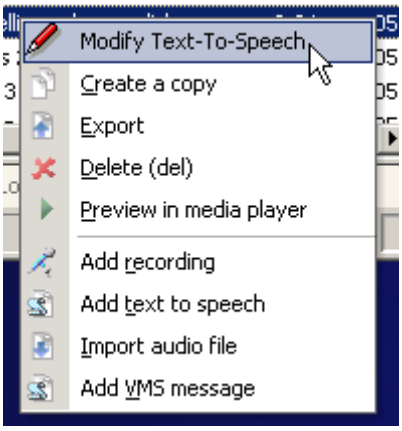
Users can access the recording features of the Platinum Client by right clicking within the Media Library window. The following menu will appear. From this menu an Operator can create new messages in the Platinum system.



Users have three ways to create new recordings:

- Add Recording - This option allows users to record using the microphone attached to their computer.
- Add Text To Speech - This option (if installed) will allow users to create a recording based on a text document
- Import Audio File - This option allows users to import a WAV file from the local or networked computer.

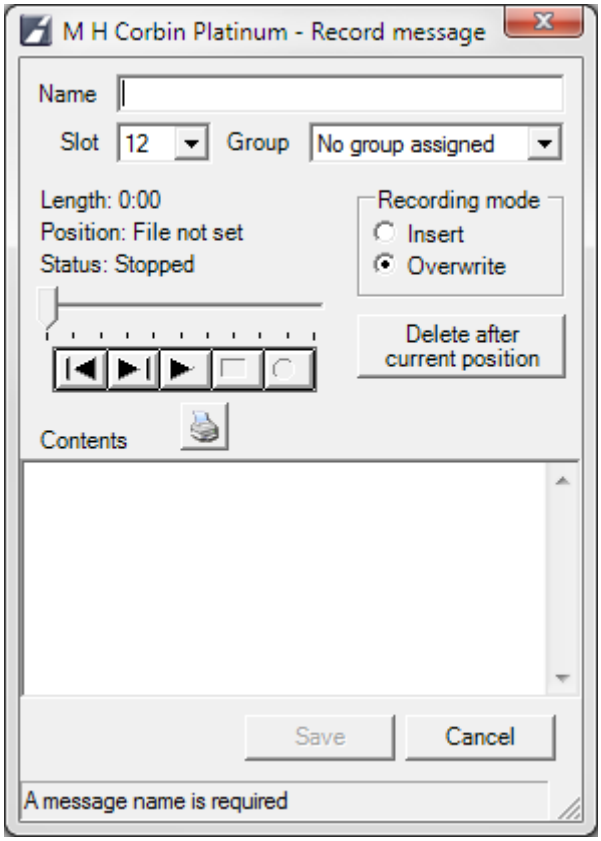
Once messages have been created, the Operator can manipulate the existing messages by **Right Clicking** the desired message and selecting from the available menu options on one of the following dialogs. If the message was recorded from the microphone or imported into the system using the Import function, the dialog on the **Left** will appear. If the message was created with the Text to speech converter, the dialog on the **Right** will appear.



Selecting the Modify menu option on either menu has the same function as the **Add Recording** or **Add Text to Speech** options above, except that an existing message will already have editable components established. For existing messages, follow the steps under the **Add Recording** or **Add Text to Speech** sections below to change existing message components. Selecting the **Delete** option will remove the message and all its components from the Media Library. Media that is part of a playlist cannot be deleted. Selecting the **Preview in Media Player** option will download the message to the Client machine, then play it in the Media player designated in the Platinum Client Settings. As evident from above, the last three menu options are the same for all media in the Media Library. Each of these menu options is explained in detail below.

Add Recording

Selecting the **Add Recording** option will bring up the following dialog:



Using this dialog, users can record from the microphone and store their recordings to the media library. Each recording can have a name, a slot number assignment, a group assignment, and a descriptive comment. An explanation of each message parameter is at the bottom of this page.

To record a new message type the message name in the Name field. Select a slot number from the slot number dropdown menu* and select the group to which the message will belong in the group dropdown menu. A group designation is optional,

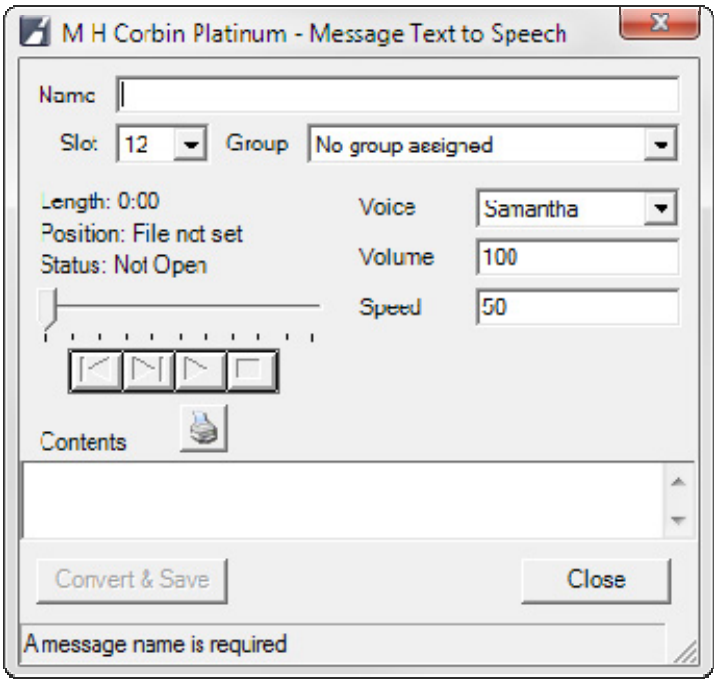
but is useful for organizing messages in the Library. Make sure that the Slider Bar is at the far left, and click the Record Button. When recording, you will notice that the Slider Bar position moves from left to right, indicating the elapsed recording time. If you are editing an existing message, and wish to record over a portion of that message, set the Slider Bar to the desired position, make sure that Overwrite is checked and click the Record Button. If you are editing an existing message, and wish to insert a new recording into the middle of that message, set the Slider Bar to the desired position, make sure that Insert is checked and click the Record Button. To stop recording, click the Stop Button. After the message is recorded, check the quality of the recording by clicking the Play Button. The message will play from the current Slider Bar position. Move the Slider Bar to play from a different point in the message.

Once the message is recorded, you may choose to include some text comments with the message. These comments can include anything about the message, the textual content of the message, or even creation information such as dates, times and users. Once all comments have been made, click **Save** to add the media to the Media Library.

* The slot number dropdown menu shows only slot numbers that are unused.

Add Text To Speech

Selecting the **Add Text To Speech** menu will bring up the following dialog:



Using this dialog, users can create automated recordings using text sources and store them in the Media Library. Like a recording from the microphone, each Text To Speech recording can have a name, a slot number assignment, and a group assignment, but there are a few extra parameters involved with creating text-to-

speech messages. The **Voice**, **Volume**, and **Speed** parameters are described at the bottom of this page. **NOTE: VOLUME** settings may be over-ridden by settings in the Platinum Server configuration file. Please see the Platinum Server Administration guide for more details, or if the volume settings you make seem to have no effect.

To create a new Text To Speech message, type the message name in the Name field. Select a slot number from the slot number dropdown menu* and select the group to which the message will belong in the group dropdown menu. Then type the text you wish the Platinum Server to convert into audio in the Contents Box. Make sure to proofread your text carefully, because the Text To Speech engine does not perform any spelling or grammar checking before conversion. The engine will convert any text it is sent, and if words are misspelled, they will convert into mispronounced words. When you are satisfied with the text to be converted, click **Convert & Save**.

The TTS engine used by Platinum supports advanced features that can be enabled using special escape characters. The escape character is the ASCII keyboard code 27 or Hex 1B (ESC, which is the character). This character can be generated and placed into your text at the cursor position by pressing CTRL+e. The following table list these features and their escape sequence:

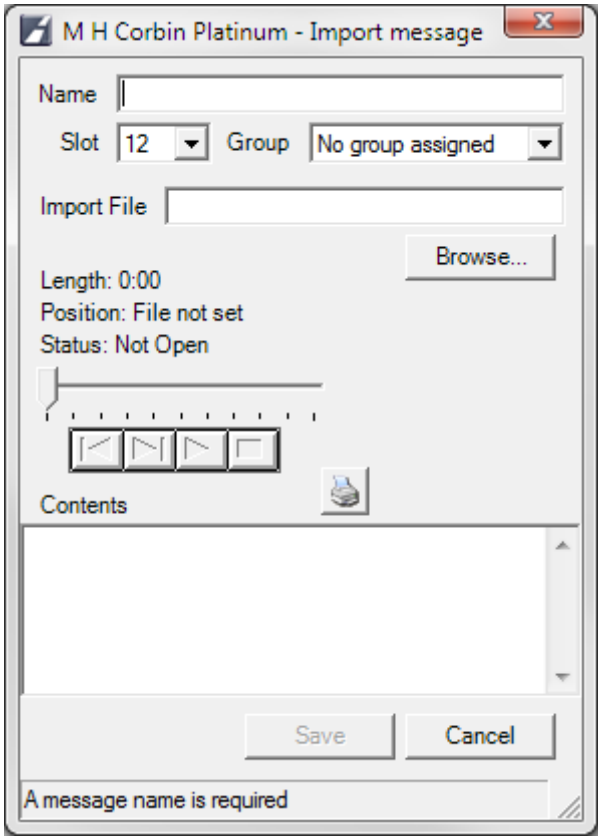
<ESC>\vol=x	Sets or changes the volume. x can be 0 (mute) to 100 (loud).	ex: "This is \vol=100\ LOUD."
<ESC>\rate=x	Sets or changes the voice speed. x can be 0 (slowest) to 100 (fastest).	ex: "This is \rate=10\ slow."
<ESC>\pause=x	Pauses for x milli-seconds.	ex: "What do you think \pause=1000\is this OK?"
<ESC>\voice=x	Selects voice to use (replace x with a voice name)	ex: "\voice=TOM\Hello Samantha\voice=SAMANTHA\Hi Tom"

NOTE: If you are converting a message in any language, the text you type in the contents box **MUST BE IN THAT LANGUAGE**. The Text To Speech engine does not translate. For example, if the voice you choose is a voice in Spanish, and you type English words and attempt to Convert, the resulting audio will contain English words pronounced in Spanish.

* The slot number dropdown menu shows only slot numbers that are unused.

Import Audio File

Selecting the **Import Audio File** menu will bring up the following dialog:



Using this dialog, users can add recordings from other sources to the Media Library. Each recording can have a name, a slot number assignment, a group assignment, and a descriptive comment.

To import an audio file, type the message name in the Name field. Select a slot number from the slot number dropdown menu* and select the group to which the message will belong in the group dropdown menu. Either type in the full path to the file you wish to import, or click **Browse** to find the file. Enter any text comments that will apply to the message and click **Save**.

To see a list of the supported media types that can be imported, click here. Importing files of other types will result in errors.

* The slot number dropdown menu shows only slot numbers that are unused.

Message Parameters

Name	The name given to the message.
Slot Number	The Slot number assignment is required if you plan to send this recording to a HAR.The Slot number assigned becomes the Message number once the message has been downloaded to a Device. Hence, there are 998 distinct Slot numbers available for assignment. You can leave this field blank, but until you assign the slot number, the recording **cannot** be a part of a playlist and

	cannot be downloaded to a HAR.
Group	The Group assignment is optional, but is useful for Operators to easily find messages by restricting the list to those of a certain group name.
Length	The total length of the message in seconds.
Position	The point in the message (in seconds) represented by the position of the Slider Bar.
Contents	The Contents edit box allows users to type in any text they wish to associate with the audio message. This text can be anything from the actual information the message will contain as well as logging information regarding which operator performed the recording.
Recording Toolbar	The Recording Toolbar is used to start recording, stop recording, or to playback the recorded message:  **Record Button** - Start recording at the current cursor postion  **Stop Button** - Stop recording  **Play Button** - Play the recording starting at the current slider bar position  **Rewind Button** - Rewind recording to the beginning  **Fast Forward Button** - Fast forward recording to the end The playback controls can be used for newly recorded messages as well as existing messages. To listen to an existing message, **Right Click** the message in the Media Library and select the **Preview in Media Player** option.
Slider Bar	The Slider Bar represents the entire duration of the recording. It can be dragged to any point for inserting new media within an existing recording. The **Length** and **Position** fields indicate the length of the recording (in seconds) and the current position of the slider within the recording (in seconds).
Record Mode	The Record Mode radio buttons allow you to select whether or not to **Insert** new material within the existing recording at the current slider position, or to **Overwrite** material starting at the current slider position. This feature allows users to edit recordings by adding new media at the beginning, end, or anywhere in between.
Text to Speech Parameters	
Voice	The Voice dropdown menu allows you to select which voice to use for the conversion. Many different voices can be available, including voices for different languages dialects, and accents. The voices available will depend on which voice packs have been purchased and installed on the Platinum Server.
Volume	The Volume edit box allows users to select the playback volume for the conversion. Values can be from 0 to 100. The volume setting may have very little affect on the actual playback volume, and is a voice language dependent setting.
Speed	The Speed edit box allows users to modify the value for the playback speed of the voice. The speed setting may have very little affect on the actual playback speed, and is a voice language dependent setting.

Keyboard Shortcut Reference

Keyboard shortcuts are keys, or combinations of keys that will automatically display the desired View, Task, or Menu. The top section of the following table describes shortcuts generally used within any Microsoft Windows Application. The bottom section of the table outlines shortcuts specific to the Platinum Client. These shortcut may be specific to certain Views or Dialogs within the Main Window.

NOTE: When the File, View, Node, or Help menus are expanded, it is also possible to navigate through the submenu options using the **Arrow Keys**. The **Up Arrow** Key will move to the Previous Menu Option. The **Down Arrow** Key will move to the Next Menu Option. The **Right Arrow** Key will expand any submenu, and the **Left Arrow** Key will collapse any submenu.

General Windows Shortcuts	
Alt + F4	Close Platinum Client
Ctrl + C	Copy Selected Text
Ctrl + P	Paste Selected Text
Ctrl + X	Cut Selected Text
Esc	Close Window
Enter	Accept/Save Window
Shift + Tab	Previous Form Item
Tab	Next Form Item
Platinum Client Shortcuts	
Alt + F	Expand File Menu • C - Show Connect Dialog • D - Show Disconnect Dialog • S - Show Settings Dialog • X - Exit Platinum Client **NOTE:** The above keys are only valid if the File Menu is expanded.
Alt + V	Expand View Menu • R - Return to Default Docking • M - Show/Hide Map Window • N - Show/Hide Node Tree Window • P - Show/Hide Properties Window • D - Show/Hide Device-Media Window • S - Show/Hide Schedule Window • L - Show/Hide Library Window • G - Show/Hide Log Window

	• C - Show/Hide Chat Window **NOTE:** The above keys are only valid if the View Menu is expanded.
Alt + N	Expand Node menu • M - Modify Node • E - Expand Node • C - Collapse Node • D - Create A New Device • G - Create A New Device Group • N - Manage Node • S - Execute System Command **NOTE:** The above keys are only valid if the Node Menu is expanded.
Alt + H	Expand Help Menu • C - Show Help Contents • N - Start New Log File • A - Show About Window **NOTE:** The above keys are only valid if the Help Menu is expanded.
Ctrl + C	Connect
Ctrl + D	Disconnect
Ctrl + E	Create A Device in the Active Node
Ctrl + G	Create A Device Group in the Active Node
Ctrl + M	Expand Media Group Filter
Ctrl + N	Manage Active Node
Ctrl + S	Show Settings Dialog
F1	Show Help Contents
F3	Start New Logfile

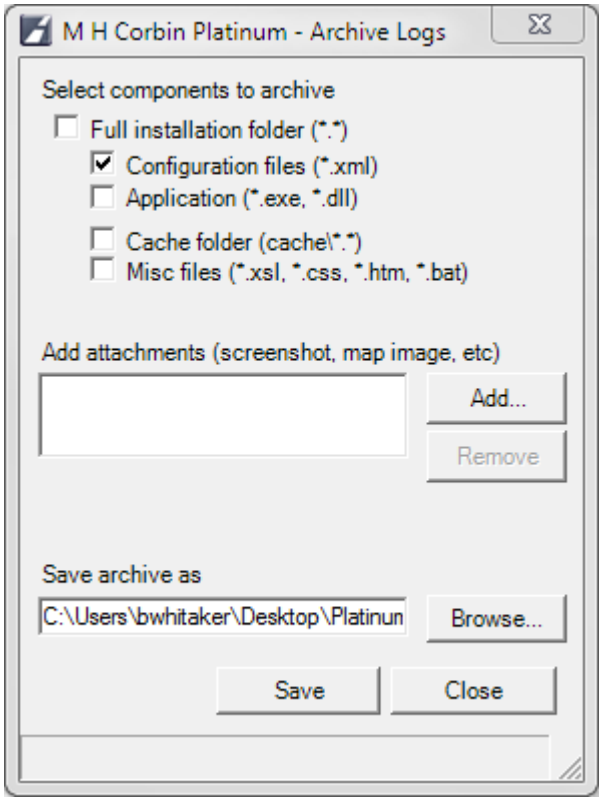
Windows and Forms

About Form

This form displays Platinum Client application version, build number and .Net framework installed on the client machine version number. To get access to this form select Help -> About from the main application menu.

Archive Logs Form

This form allows Platinum Client users to package certain Platinum Client and any user specific files into a single package that would be sent to Platinum development team for further troubleshooting. This form can be invoked through the main application menu selecting Help -> Archive menu item. This form can be accessed from the Platinum Client without connection to the server.

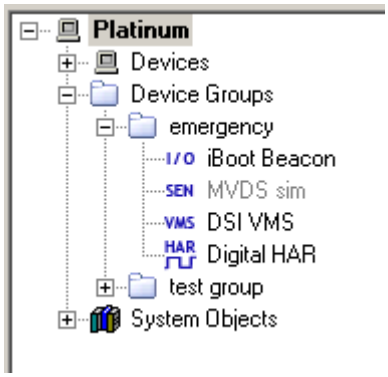


- The "Full installation folder" option allows users to package the entire Platinum Client application directory. If that is not desirable leaving it unchecked allows selecting specific components (see picture above).
- "Add attachments" section of the form allows users to add any additional files that would help troubleshoot the problem. Such additional files could be screen shots, audio files, etc. Use "Add" and "Remove" buttons to add or remove attachments.
- "Save archive as" allows users to specify the name and location of the package file. Use the "Browse" button to change the default location and the package file name.

Node Tree Window

Node Tree Window

The Node Tree Window displays a list of all the Nodes, Devices, Device Groups, and System Objects established in the Platinum Server database, displayed in a tree control. A Node is defined as a single instance of the Platinum Server. Systems can be configured to support more than one Node, and Nodes can be nested. The Platinum Server can also be set to operate in a parent/child configuration with one Node being the Top Level Node in the system. The Node shown at the top of the Node Tree in the Platinum Client will always default to the highest level active Node to which the user account belongs. An example of the Node Tree is shown below.



The tree control method of displaying the Node List enables an Administrator or Operator to see the Node to which a particular Device belongs, as well as the relationships that may exists between Devices on a Node. In the example above, there are three Nodes, the **Top Level** Node and two **Child** Nodes. Each Node has its own list of Devices and Device Groups and the list is organized in the following manner. The list always shows all Devices listed separately at the top, directly under the Node entry. There are three Device Types currently supported by the Platinum software system. These three types are divided further into specific categories of systems as follows:

- HAR Device
    - Digital HAR
    - Analog HAR
    - AP55
    -
- Beacon Device
    - Metretek Beacon
    - RC200 Beacon
    - Pager Beacon

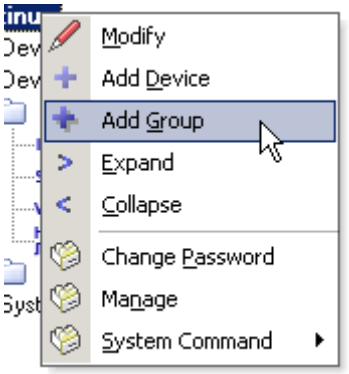
- Variable Message Sign Device (VMS)

After the devices are listed, any Device Groups are shown. A Device Group will contain Devices listed individually above it, but not all Devices have to be divided into Groups. For example, notice the Device named "Digital HAR 1" in the image above. That device appears in the top of the Device List as a stand alone device, but it also appears under the Group called **Westbound Group**. The Digital HAR can be operated by itself, as well as by extension when using the Group.

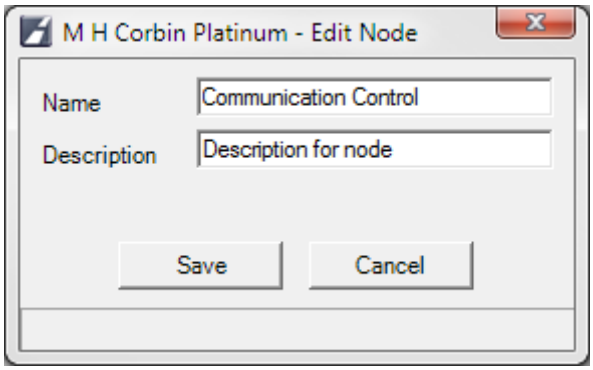
After all the Device Groups are listed, the System Objects for the Node are displayed. System Objects are software components of the Platinum system that monitor software, hardware, administration, and connection activity. Systems object are explained in more detail at the bottom of this page.

Working with Groups

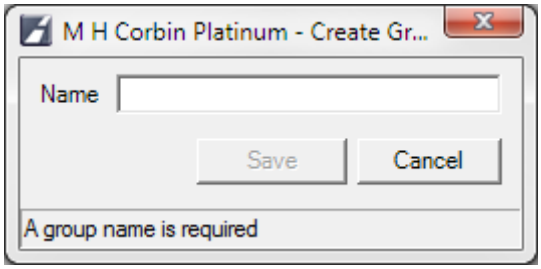
Adding Devices is the first step towards using the Platinum Server system. Your Platinum Server system should be configured for all Devices upon installation, but for more information on adding Devices to the Platinum Server system, see the Adding/Editing a Device Help Section.



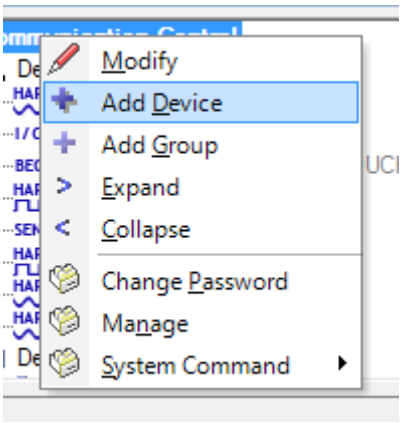
The first thing about the Node that can be modified is the name of the Node itself. **Right Clicking** the Node name shows the menu above. The **Modify** option will display the following dialog. In this dialog, the Node name can be edited, and a Node description can be provided.



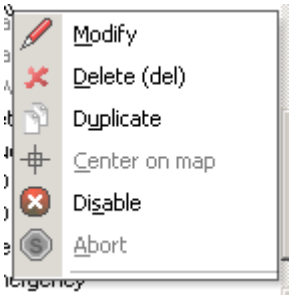
Once Devices have been added to the system by an Administrator, they will appear in the Device List and can be added to Groups. In the example above, the Device Groups are marked by a folder icon. ( ) A Group can contain multiple Device Types, and Devices can be nested to create a parent/child relationship. Using Device Groups enables Operators to manipulate many devices with a single Operation. To create a new Device Group, **Right Click** the Node to which the Group will belong and select the **Add Group** Menu option. Once the New Group option has been selected, the following dialog will appear. Enter the Group Name and click **Save**. The Group name should now appear under the Node.



After the Group has been created, simply Click and Drag a Device from that Node's Device List into the Group folder in the Node Tree. Alternatively, devices can be added to the group by right clicking on the group, and selecting the "Add or Remove devices from group" option.

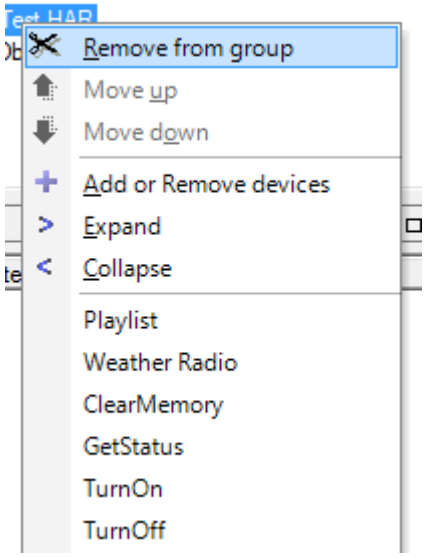


When the Device has been added to the Group, the Folder Icon wil have a plus (+) sign to its left, and you will be able to **Expand** the entry to show the added Device. To **Expand** a Group or to perform Operations on a Group, **Right Click** the Group and the following menu will appear. From the menu, clicking **Expand** will expand all Groups and associated Devices within the Group. Clicking **Collapse** will do the opposite. If you want to change the Group name, the **Modify** option will bring up the Create Group dialog above, populated with the current Group name. Click the **Delete** option to remove the Group from the Node List. The RetrieveStatus entry represents a list of Operations that apply to all the Devices in the Group. If there are multiple Operations and multiple Devices in the Group, there could be many Operations listed in place of the RetrieveStatus from the example below.



The Platinum Client also has the ability to have Devices be associated with other Devices. The example below shows a Metretek Beacon as the Parent to an AP55 Device. How this Operation will occur depends on the order selected in the Managing Operations Menu. This option is selected when the Operation is constructed that would pertain to both Devices. In the case of the example below, the Metretek Beacon is the Parent Device, and its Child is the AP55. This relationship is useful when determining the order of Device Operation execution.

Once the Devices are in the Groups, the order in which they are displayed is the order in which Operations on that Group will execute. For example, in the **Westbound Group** from above, when an Operation is applied to the Group, the first Device to get updated will be the Digital HAR, then either the Metretek or the APP55 depending on the parent/children settings. To change the Operation order of Devices in a group, **Right Click** on the desired Device, and the following menu will appear:



If there are defined Operations for the Device Type selected, the Operation names will be listed in the last section of the menu. In the example above, the entry **RetreiveStatus** is an Operation that executes on the Digital HAR Device Type. Using these Operations, the Operator can control the Device from the Node Tree

list. For more information on Device Operations, see the Managing Operations Help Section. An explanation of each menu option is below:

Remove From Group	This menu option will remove the Device from its Group. It will no longer appear under the Group heading, but will not be deleted from the Device List.
Move Up	This menu option can be used to change the Operation order of Grouped Devices. Use this option to move the selected Device **UP** in Operation order, or higher on the Device List.
Move Down	This menu option can be used to change the Operation order of Grouped Devices. Use this option to move the selected Device **DOWN** in Operation order, or lower on the Device List.
Add or Remove Devices	This menu option can be used to show a form which allows the user to add or remove devices from the group using check boxes.
Expand	Expands the device group to show all child devices
Collapse	Collapses the device group so that only the top level group name is shown.

System Objects

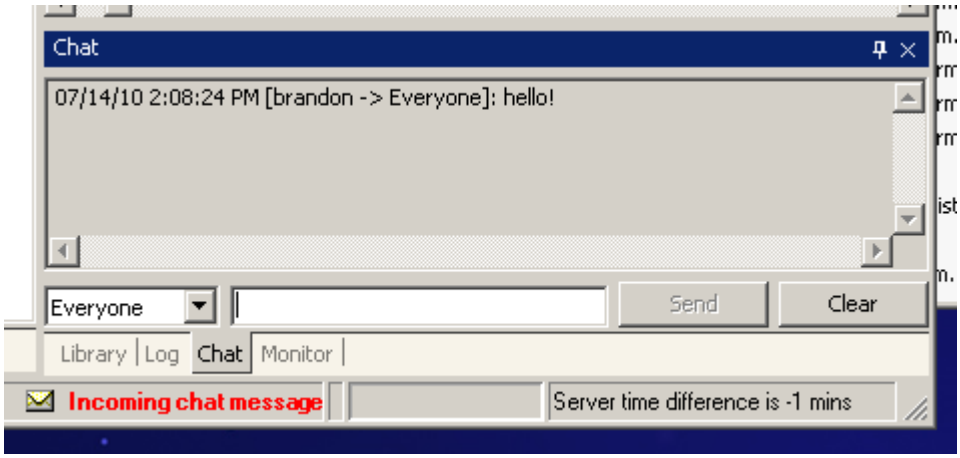
The last component of the Node Tree list is the System Objects section. In the example at the top of the page, the System Objects group is expanded to show all its components. Each System Object represents a piece of the Platinum Server management suite. The System Object list lets an Administrator view the activity of each routine, to determine the status of the Client/Server system as a whole. The Properties List Window will display most of the information monitored by each of the System Objects. To refresh the display, simply **Right Click** on the selected System Object and select **Refresh**. Each System Object also has its own Logging function and the **Logging Level** is displayed for each one. To change the Logging Level for any of the System Objects, Select the **Set Logging Level** option from the System Commands Menu. Each System Object is explained in more detail below.

Alert Manager	The Alert Manager is responsible for keeping track of system Alerts. To view the Alert Manager properties, click on the Alert Manager and the properties will appear in the Properties List Window. An Administrator can see how many Alerts are programmed, how many times the Alerts have triggered and other useful Alert information.
Communications Server	The Communications Server is responsible for communication between the Platinum system and Devices, as well as communication between users of the Platinum system. It can be a useful tool for an Administrator because when the Communications Server entry is expanded, an Administrator can see all users that are connected to the server at a glance.
Configuration Manager	Click on the Configuration Manager to display the target location of the Platinum configuration file and to see the Platinum version number.
Device Manager	The Device Manager processes commands being sent back and forth from Devices of all types. The Properties of this

	Manager are counts of command requests, failures, attempts, etc.
Library Manager	The Library Manager processes any request or query sent to, or received from the Platinum source database. The properties of this Manager show the Data Source name for Microsoft ODBC, as well as counts for thread activity, and request totals.
Logging Manager	The Logging Manager processes the status of all commands, communications, and database requests. It also is responsible for the logging levels of each **System Object**. Logging Levels are maintained by this Manager as well.
Notification Manager	The Notification Manager monitors and broadcasts requests from one **System Object** to another. When a command is executed, the command notification is processed by the Notification Manager and all responses are recorded.
Resource Manager	The Resource Manager is an important Object for Administrators to monitor. This Manager handles all communication resources, from TCP socket connections to analog phone line inputs. The properties of the Resource Manager show how many of each type of Resource the Platinum Server has available. When there are several types of communication resources available, the Tree entry can be expanded, and the properties of each Resource type can be viewed.
Routing Manager	The Routing Manager makes certain that any request from Devices or other **System Objects** reaches its intended recipient with the correct information. The properties list for this Manager shows the total number of requests issued as well as a breakdown of requests per specific Device command.
Schedule Manager	The Schedule Manager maintains the Schedule and enables the appointment recurrence feature of the Platinum software system.
Text-to-Speech Manager	The Text-to-Speech Manager maintains the connection and installation of the Nuance RealSpeak engine and the voice packages that are installed on the Platinum Server. When the Tree entry is expanded, the properties of each installed voice package are shown individually.
User Account Manager	The User Accounts Manager tracks authentication requests and rights access group membership for all users. Each time a user listed under the **Communications Server** attempts to perform an operation which is restricted by permission settings, the User Accounts Manager assesses the access rights of the user and allows or disallows the execution of the operation accordingly. The properties of this Manager contain the total number of requests, attempts, successes, and failures as well as the number of cache reloads.

Chat View Window

Since the Platinum system can support multiple Locations, Administrators and Operators, the Chat feature is a convenient tool for keeping all the Operating personnel working together. The Chat window appears as a Tab and can be Docked along with all the other Panes.



The Chat window allows users to communicate with one another while using the application. When sending a message, two types of recipients can be chosen: "Everyone" or another currently connected user. Sending a message to "Everyone" will broadcast to all the connected users in the system, while selecting a username will send the message only to that user. When an Operator receives a new chat message, an indicator message appears in the Status Bar.

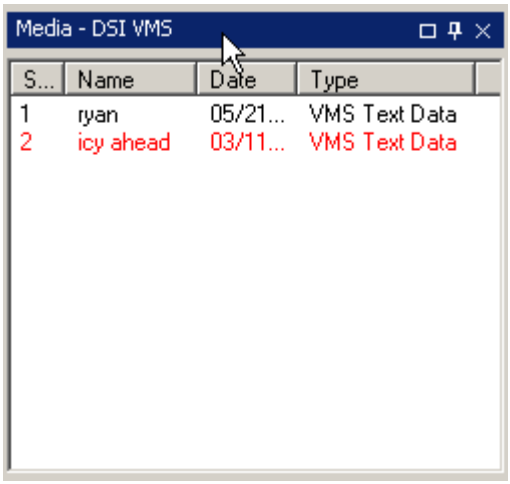
To send a Chat message, click on the Chat Tab to show the Chat Window. Select either **Everyone** or a specific user from the Dropdown menu at the bottom left of the Chat window. Type your message in the field to the right of the Users menu and click **Send**.

NOTES:

- If you send a message to Everyone, the message will appear twice, because you will be sending a message to yourself. All messages that you receive will appear in the gray area above the chat text field.
- **Multi-Server environments:** You can only respond to chat messages from people logged into the same server as you are logged into. If you are logged into server A, and server A is connected to server B, you can send a chat message to users on server B but those users will not be able to respond to you.

Device-Media List Window

The Device-Media Window lists the media that is currently present on the selected device. Whenever a Device is updated with a Playlist or inividual audio message, The Device-Media Window is updated to reflect the changes. Messages and Playlists are normally shown in black. Media listed in red has been modified in the Platinum Media Library, but has not yet been updated on the device. Red type alerts operators that media on the HAR is not current. When messages and playlists on the HAR are updated, the updated media will again appear in black type in the Device-Media window. An example of the Device-Media List is shown below:

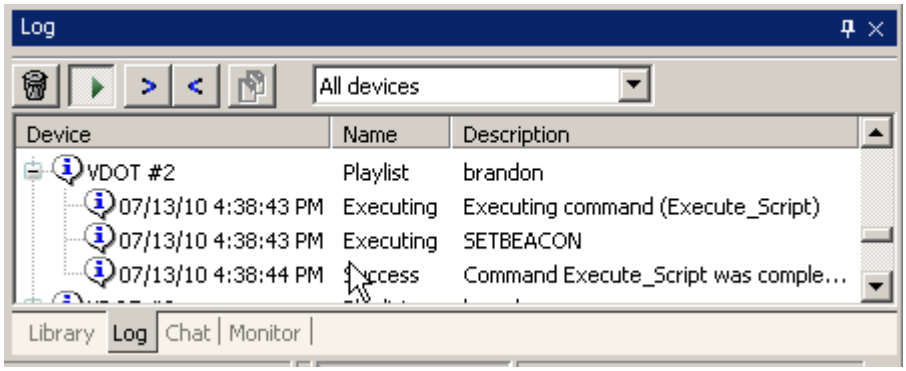


The columns in the Device-Media Window are explained below:

Slot	The Library slot number assigned to the message or playlist. Messages are in slots 1-999. Playlists are in slots 1001-1025. The playlist and messages that are currently active on the HAR will appear in **bold** type.
Name	The name of the media as it appears in the Media Library.
Date	The date and time that the media type was sent to a Device.
Type	**Playlist** indicates a playlist. **Text-To-Speech** indicates a message made using the Text-to-Speech engine. **Recording** indicates a message created from a microphone recording or an imported .wav file.

Log View Window

The Log View displays messages from both the Platinum Client and Platinum Server applications. The messages provide detailed information about failures in the applications or configured devices. If the Log View Window is not visible, select the Log Window option under the View Menu, then drag the Pane into the desired position. Below is an example of the Log window. You will see entries marked with Client/Server notation, a time stamp, and an entry code, then the text of the log entry. The log entry text will be invaluable in case of a hardware or software failure, and should be examined as part of the first troubleshooting steps in solving problems.



The Log entry codes are defined as follows:

[C]	This code shows the Operator that the Log entry came from the Platinum Client component.
[S]	This code designates that the Log entry came from the Platinum Server component
[I]	This code tells the user that the Log entry is purely Informative. This type of code usually corresponds with an action that the Server or Client has successfully performed, such as Connecting to the server, or downloading the Media Library.
[W]	This code corresponds to a Warning Log entry. This type of entry could corespond to such things as outdated playlists, or old messages. The Platinum Client keeps track of how long a Device has had the same playlist broadcasting, and can send a warning to update the playlist.
[E]	This code is the Error code. Log entries that have this code describe hardware, software, or connection errors. For example, if you try to Connect to a Platinum Server and are unable to connect for any reason, the Log entry for the failure to connect will contain an Error code.

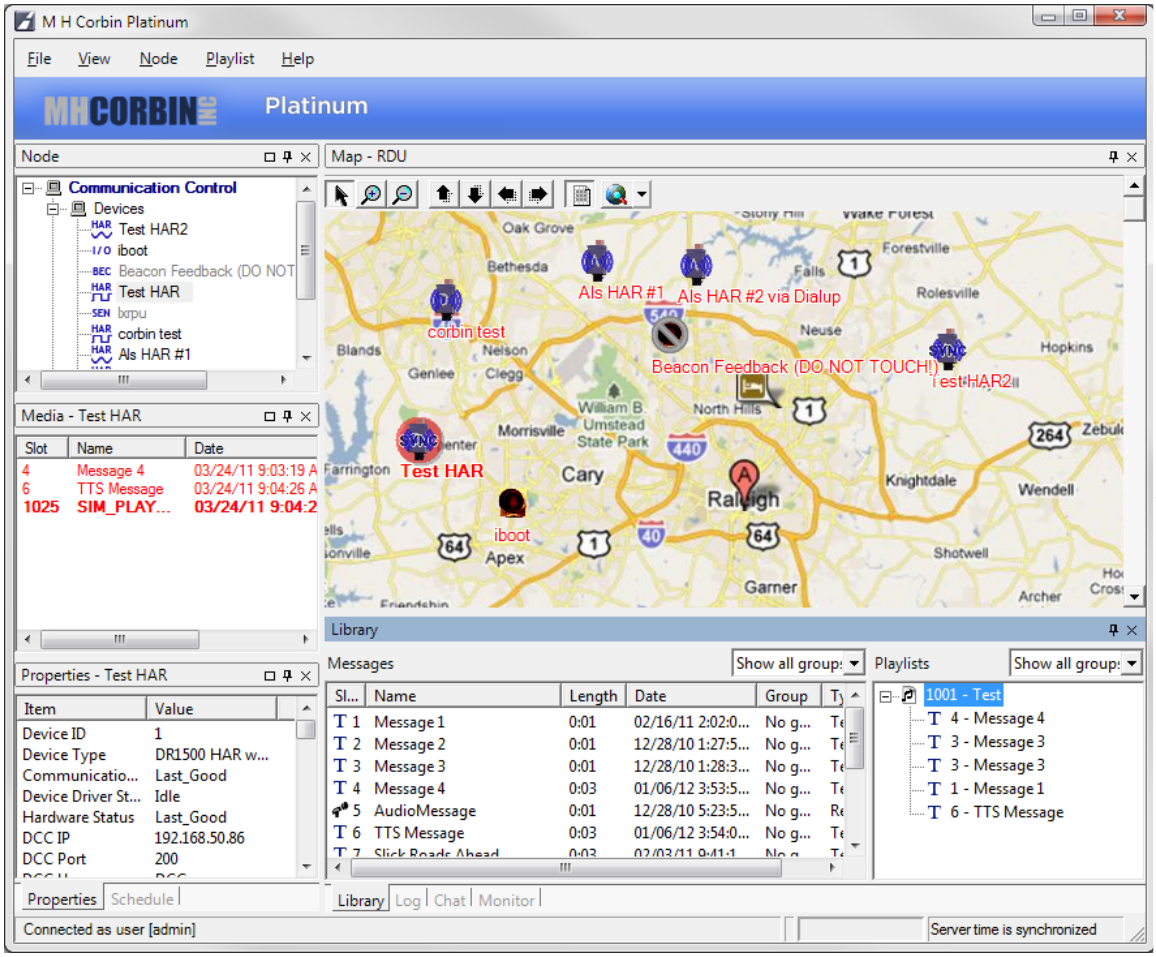
There are also two buttons just below the title bar of the Log View Window. They are:

Clear Log		Click this button to clear the Log Window of all Log entries.
Auto Scroll		When this button is pressed, the Log window will automatically scroll to the last entry.

Main View

Main View Window

The Platinum Client application is made up of several different views by which status indications are displayed and actions are taken.



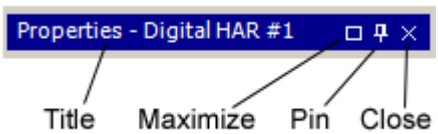
Each of these views, or **Windows**, can be moved, resized or Docked to any side of the Main Window. Each of the following **Panes** show different information about the Platinum Client, the Media Library, or HAR systems:

Node Tree	The Node Tree is a tree control of all the Devices in a system. In a multi-node system, the top Node in the Node Tree is the top level Node that the Platinum Client system can operate. In multi-node systems, it is possible to set up Nodes in a Parent/Child configuration where each child node cannot operate the other Child Node Devices, but that the Parent Node can Operate all Devices of Child

	Nodes. For more information on Nodes and the Node Tree, refer to the Node Tree Window Help Section.
Map Window	The Map Window shows the selected Map and Device Icons for the selected Node. For more information on the Map Window, refer to the Map Window Help Section.
Properties Window	The Properties Window is a table of information about the currently selected Device. When a Device is selected in the Map Window the Properties List fills with information. The Platinum Client can be set to poll Devices at regular intervals to refresh the Properties List. For more information on the Properties List, refer to the Properties List Window Help Section.
Media Window	The Media Window displays the Media currently playing on the selected Device. When a Device is selected in the Map Window the Device-Media List is populated. For more information on the Device-Media List, refer to the Device-Media List Help Section.
Schedule Window	The Schedule Window displays all appointments for the Time Range Specified. For more information concerning Time Ranges, Appointments, and the Schedule Window, refer to the Schedule Window Help Section.
Library Window	The Library contains all recorded, imported, or Text To Speech messages. These messages can be organized into Playlists to make downloading more efficient. For more information on the Media Library Window, refer to the Media Library Window or the Working With The Media Library Help Sections.
Log Window	The Log Window displays the Platinum Client Log file. For more information concerning the Log View Window, refer to the Log View Window Help Section.
Chat Window	The Chat Window displays server messages from other users logged into the Platinum Server system. Users can notify one another via the Chat function about changes to the HAR system, or the Platinum Client Software. Adminstrators can also send Chat messages to all users at once. For more information regarding the Chat Window, refer to the Chat Window Help Secction.
Status Bar	The Status Bar is the only window that cannot be docked. The Status bar gives the Operator information regarding the completeing of tasks within the Platinum Client environment. For more information regarding the Status Bar Window, refer to the Status Bar Window Help Section.

Docking

Each of the views explained above (except the Status Bar) may be rearranged, docked, hidden, or shown based on the user's preference. Window docking is manipulated through the title bar of each window. To change the docking of a view panel, click the title bar of the panel (the blue part of the image shown below) and drag the **Pane** to the desired location. The **Return to Default Docking** menu item under the View menu of the Main Window will return the application to a default state.



File	The title indicates the type of application window and the name of the active view.
Maximize	Click this button to fill the window zone with the current view. This becomes a "Restore" button when maximized.

Pin	The Pin button shrinks the window to a tab docked on the edge of the application window. Once pinned, a window can be seen by mousing over it, or returned to a docked state when clicked on. This is useful for less-used application windows.
Close	The Close button removes this window from the application window. Closed windows can be reopened by selecting the desired window from the View menu of the Main Window.

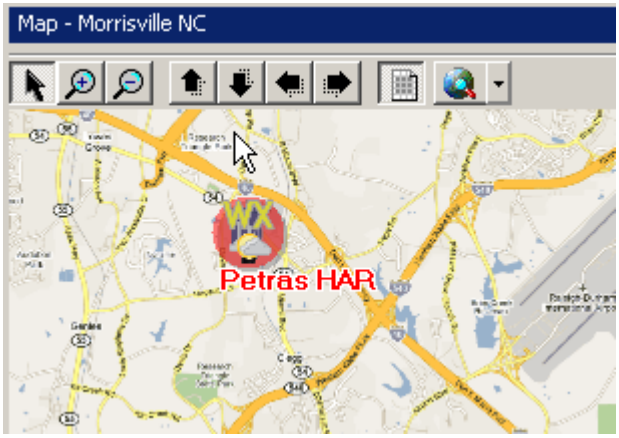
Menus

The Platinum Client Menu bar can be found directly above the Node Tree Window. The Menu bar contains the following options:

File	The File Menu allows the user to Connect or Disconnect a Platinum Server. The File menu also allows users to customize settings such as the path to a Media Player for previewing items in the Media Library.
View	The View menu allows the user to Show or Hide any window, or return all windows to their default docking locations.
Help	The Help Menu gives users context sensitive guidance with certain tasks in the Platinum Client.
Object	This is a context sensitive menu that allows the user to manipulate the various objects in the user interface. This provides the same functionality as right-clicking an object and specifically provides keyboard shortcuts.

Map View Window

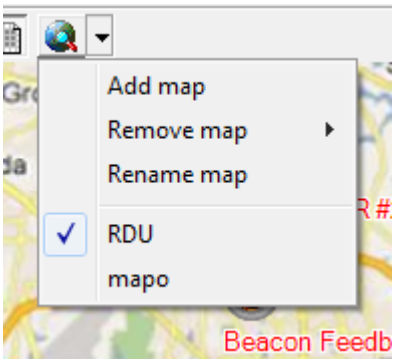
Map View Window



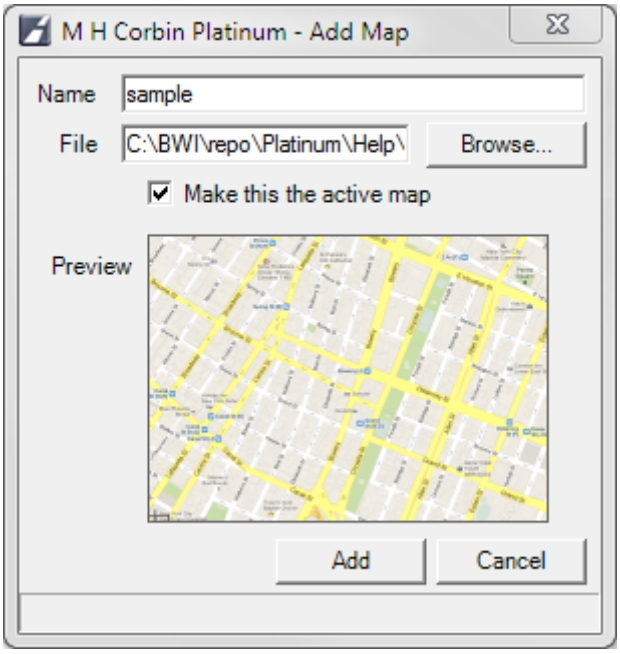
The Map Window allows Operators to geographically organize devices according to one or more user specified map files. The Map Window uses a combination of map files, Device Icons, and Status symbols to graphically display the activity and status of any Device in the Platinum system. Once a map is loaded onto the Platinum Server, Devices can be placed onto the map by dragging them from the Node Tree into the desired location. A device may be placed on more than one map within the application and the position of each device on each map is relative to **that map only**. The same device can be positioned in two different places on two different maps.

Manipulating Maps

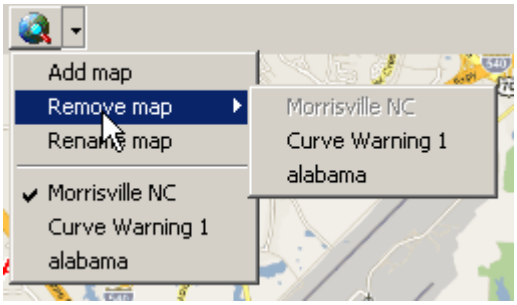
Clicking the **Change Map** button on the Map Navigation Toolbar shows a drop down menu from which the Operator can select a different map, add a new map, or remove a map. The menu contains a list of all maps that have been uploaded to the Platinum Server. Changing maps is useful if the area covered by the HAR systems is too vast for one map. To change the current Map, select any map from the menu and the map shown will change.



To upload a new map to the Platinum Server, select the **Add Map** option. The dialog shown below will appear. Type the desired map name in the **Name** field, and click **Browse** to search for the map. You can make the new map the current map by checking the checkbox for that option. The preview pane shows a thumbnail view of the new map to make sure that the correct map is chosen. Once the map has been located, the **Add** button will be enabled. Click **Add** and the Platinum Client will upload the new map to the Server.



To Remove a map from the Platinum Server, select the **Remove Map** option and a similar menu will appear.



All the maps on the Server are listed, but the current map, the "Entire State" map in the example above, is disabled because the current map cannot be removed while being viewed. To remove the current map, first switch to another map, then remove the desired map. To Remove a map, select the desired map from the menu above and it will be deleted from the Platinum Server.

NOTE: Device positions do not translate to new maps, so when you upload a new map to your Platinum Server, you will have to position Devices individually on the new map for them to show.

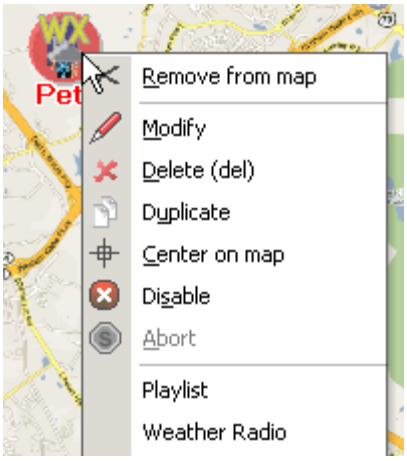
Map Navigation Toolbar

The Map Navigation Toolbar, which is located just above the map image, allows the Operator to move around in the map to visually isolate or include different HAR systems based on their map positions or to view parts of a map that cannot be shown on the Operator's screen because of the map size. Below is an explanation of the function of each button on the Map Navigation Toolbar.

Select Arrow		The Selection Arrow is used to select a Device on the map for executing Operations.
Zoom In		The Zoom In button is used to narrow the view to a certain point. When the button is pressed, the cursor becomes a crosshair, and the Operator can click on the map to Zoom In to that point. Zooming in is particularly helpful when placing Devices on the map. Zooming in allows the Administrator to place the Device Icon in the exact location of the existing HAR hardware.
Zoom Out		The Zoom Out button is used to zoom the map out to have a wider view. When the button is pressed, the map will zoom out. The Operator cannot choose a point to Zoom Out to, so the user must click the Zoom Out button until the map view is wide enough.
Pan Up		The Pan Up button is best used when Zoomed In on a portion of the map. Use this button to move the viewed portion of the map up. If the map is too big to be fully displayed, even when Zoomed Out all the way, the Pan Up button allows the Operator to pan to invisible parts of the map.
Pan Down		This is the same as the Pan Up button, except the viewable portion of the map is moved down.
Pan Left		This is the same as the Pan Up button, except the viewable portion of the map is moved left.
Pan Right		This is the same as the Pan Up button, except the viewable portion of the map is moved right.
Hide		Press this button to hide the map.
Change Map		Click this button to change the current map, upload a new map to the Platinum Server, or remove a map from the Platinum Server.

Device Icons

The Map Window also shows icons for each Device on the map. When the Devices are connected, disconnected, or updating the Map Window shows status symbols on the Device icons so that an Operator can quickly identify the state of that Device. Once an item has been placed on the map, it can be controlled from there by Right Clicking the icon. The following menu will appear. If there are defined Operations for the Device Type selected, the Operation names will be listed underneath the **Disable** option. In the example below, the entry **RetreiveStatus** is an Operation that executes on the Digital HAR Device Type. Using these Operations, the Operator can control the Device from the Map. For more information on Device Operations, see the Managing Operations Help Section.



An explanation of each menu option is below.

Remove From Map	This menu option will remove the Device from the current Map. It will no longer appear under the current Map, but the Device's position on other Maps in the Platinum system will be unaffected.
Center On Map	Use this option to center the map view on the selected Device.
Modify	See the Adding/Editing a Device Help Section.
Delete	This menu option will entirely delete the selected Device. The Device will be removed **completely** from the Platinum system.
Disable	This menu option will render the selected Device disabled.

By default, the Device name is shown underneath the Device Icon, but it is possible to display other information about the Device. Under the Settings menu, you can configure which Device parameters to display. In the example at the top of this page, some parameters are shown. The IP Address, Record Time Available, Transmitter State, and Firmware Version Number are shown. For more information on configuring the display of detailed Device parameters, refer to the Detail Parameters Help section.

The following table shows all the status symbols for Devices:

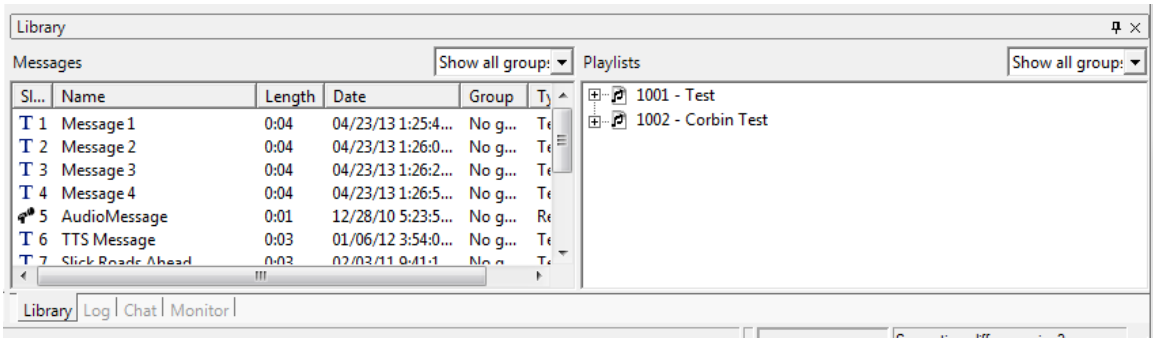
Device Icons	
	Platinum supports several different devices types. Some of the device types share an icon for simplicity.

Digital Highway Advisory Radio		DR1500 with Digital Platinumler
Analog Highway Advisory Radio		DR1500 AP55
Beacon		Pager Beacon Metretek Beacon RC200 Beacon
Sensor		SSI Sensor
Switch		IBoot
Variable Message Sign		NTCPIP Serial NTCPIP TCP
Device Status Overlays		
		Overlays are used to indicate the status of the device. These are in the logical order that they occur, but depending on the device type, some may not be be applicable.
Disabled		Gray Stop - The device is disabled within the application and will be ignored.
Idle		Blank - The device is idle. There is no active/pending communication or broadcast.

Pending		White Hourglass - The device is waiting for a communication resource in order to connect.
Connecting		Green Phone - The Platinum Client is attempting to connect to the Device.
Communication Error		Orange Bolt - The application has attempted to communicate with the device, but failed.
Busy		Green Arrows - The application is currently communicating with the device.
Hardware Error		Red X - The device has experienced a general hardware error. Communication was possible, but the update failed.
Script Error		Red S - The device has experienced an error relating to the script code. Communication was possible, but the update failed due to incorrect script syntax.
Transmitting		Blue Waves - the device is transmitting a playlist.
Transmitting Synchronized		Blue Waves (SYNC) - the device is transmitting a playlist in synchronized mode.
AUX Mode		Yellow WX - the device is transmitting in Auxillary mode. This is typically weather radio.
Unknown		Yellow Question Mark - The application has not yet attempted communication with the device.

Media Library Window

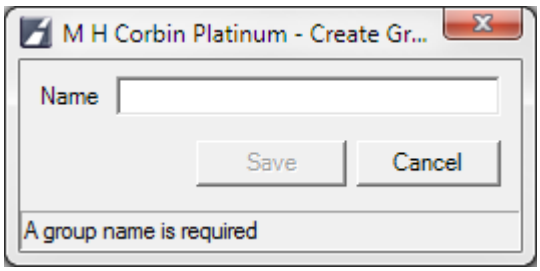
Media Library Window



The Media Library is used to manage audio messages that can be either recorded, imported, or converted into the Platinum Server system. Messages in the message library can be organized into message groups and into Playlists.

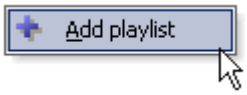
Messages

There are several ways to view individual messages in the Media Library Window. Operators can categorize by Slot numbers, assigning message Groups, and by creating playlists. To sort the message list by any of the items, (Date, Length, etc.) click the desired column header. The Name and Group columns will sort alphabetically from A-Z or from Z-A. The Slot number, Length, and Date columns will sort in either ascending or descending order. To sort the message library by Group name, choose the desired Group name from the dropdown box above the message list. Only the messages in the selected Group will be shown in the Media Library window. To create a new Group, choose the **Add Group** option from the Group dropdown menu and the following dialog will appear. Enter the group name and click **Save**. The Group name should now appear in the Group dropdown menu. Creating, modifying and deleting individual messages is covered in the Working With the Media Library section.

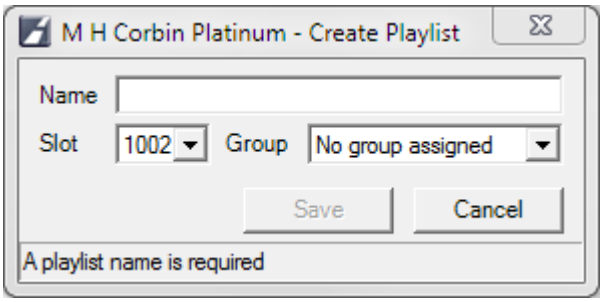


Playlists

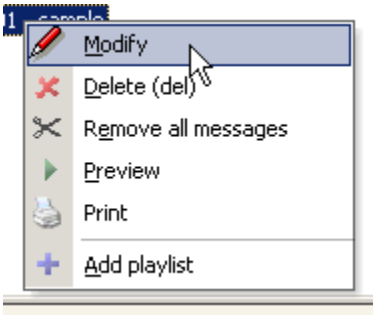
A playlist is a way to group messages in preparation for downloading to a HAR. Each playlist entry contains a playlist number and a title. The playlist number is similar to the Slot number of a message in that the playlist number will be the same number when the playlist is downloaded onto HAR equipment. Playlists Slot numbers range from 1001-1025, giving the Operator 25 distinct playlists. Like the Slot number of individual messages, this field can be left blank, but until a Slot number has been assigned, a Playlist cannot be downloaded to a HAR. To create a new playlist, **Right Click** in the empty space of the playlist window, and the following option will appear:



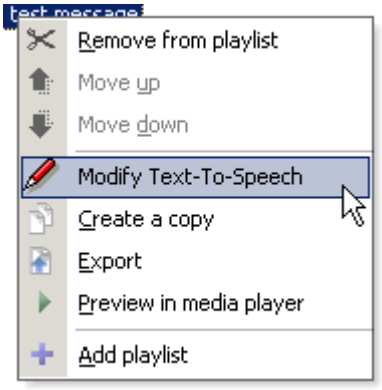
Clicking the **New Playlist** option will show the following dialog. Enter the desired playlist **Name** and choose a **Slot Number** from the dropdown list, then click **Save**. The new playlist should now appear in the playlist window.



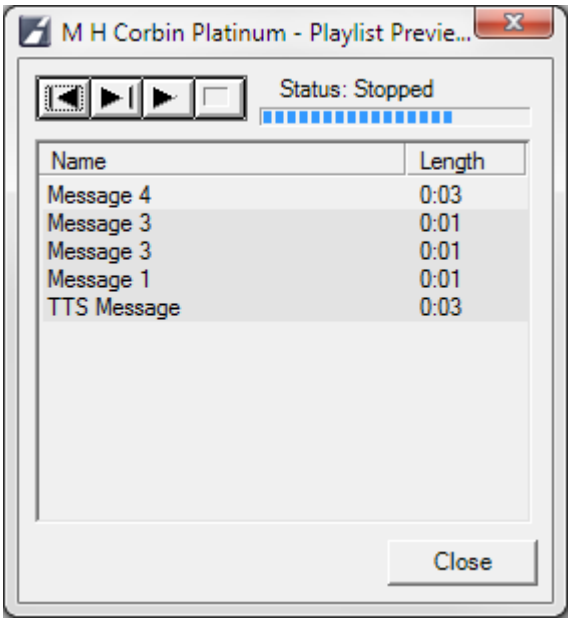
To change the name of an existing playlist, **Right Click** the desired playlist and select the **Modify** option from the following menu. The dialog box from above will appear, populated with the existing Slot number and Playlist name. Make the necessary changes and click **Save**. To delete an existing playlist, select the **Delete** option from the menu below.



Once a playlist has been created, simply drag messages from the Message Library into the Playlist. From there, the order of individual messages within an established Playlist can be arranged by **Right Clicking** on a message. Refer to the following example. A message in a Playlist can be **Removed**, **Moved Up**, or **Moved Down**. In the example below, the message cannot be moved up, because it is already the first message in the Playlist, so the menu option is disabled.



The Media Library also allows for an entire Playlist to be sampled before downloading. To Preview a Playlist, **Right Click** on the desired Playlist and select the **Preview** option. The following dialog will appear.



This window contains a list of all the messages in the Playlist, as well as a playback control bar similar to the one used when Recording a Message. In this case, the **Play** and **Stop** buttons function the same as with the Recording controls, but the **Rewind** and **Fast Forward** buttons differ slightly. Clicking **Play** begins the playback of the entire Playlist, starting from the highlighted message. Clicking **Stop** pauses the playback. The **Rewind** and **Fast Forward** buttons move forward or backward **between** the messages in the Playlist, not forward or backward in the audio of the selected message. When either the **Rewind** or **Fast Forward** buttons are pressed, playback begins automatically at the beginning of the selected message and will continue until the end of the Playlist. When you are satisfied with the Playlist, click **Close** to exit the Preview.

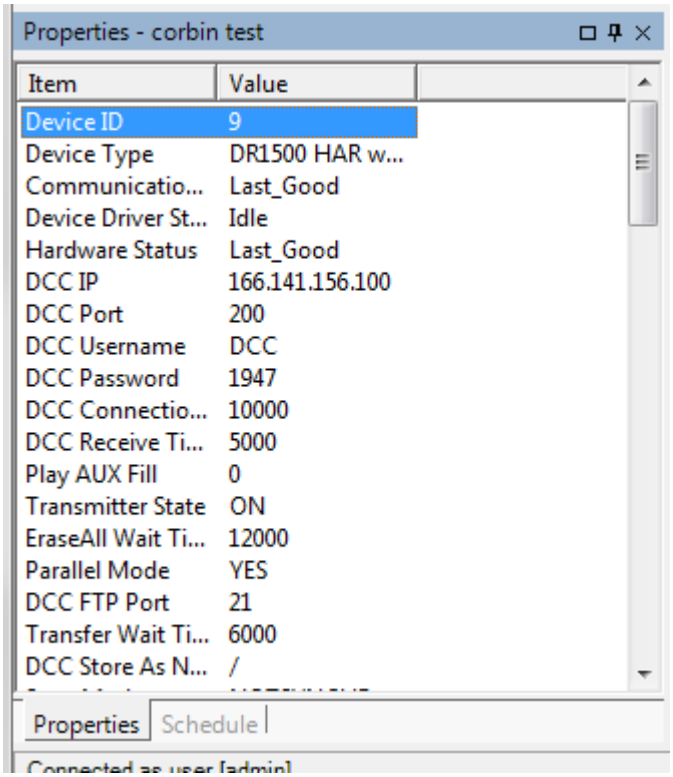
An explanation of items in the Media Library follows below:

Slot Number	Slot numbers are numbers that represent the spaces into which media will be downloaded onto HAR devices. The slot number can be assigned to individual

	messages or Playlists. When that message or Playlist is downloaded onto a HAR Device, it will be downloaded into the assigned Slot. For example, message number 3 from the example at the top of the page, named "Weather Precautions", will be put into slot number 3 when it is sent to a HAR station. The HAR Devices can hold up to 1,000 unique messages, and 25 unique Playlists, that combine to a total of **80 minutes** of audio, depending on the HAR equipment storage capacity.
Name	The name you would like to associate with this device.
Length	The length of the recorded message in minutes and seconds. This value is important for keeping track of how much audio a HAR site has downloaded upon it.
Date	The date on which the message was created or modified. The date is MM/DD/YY format and the time displays hours, minutes, and seconds.
Group	The group is a user-definable category used to catalog similar messages. There are an infinite number of ways to group messages, so it is up to the Operator to decide how to organize the Message Library.

Properties List Window

The Properties List Window shows the values for the parameters of the currently selected Device. Depending on the Device Type selected, the entries in the Properties List will be different. In general, the parameters shown are the parameters necessary for each Device as noted in the Device Type Specfications, but there are a few server adjusted items that are Device independent. For example, the status items are the first items to be displayed. Communication Status, Device Status, and Hardware Status are all server determined variables. The Properties List is sorted by **Item** and **Value**. An example Properties List is shown below:



To view the Propeties for a Device, select a Device either by clicking on its entry in the Node Tree Window, or by clicking on the Device Icon in the Map Window. If you wish to change the parameters for a particular Device, refer to the Modify Device help section. When a Device is selected, the Properties window will populate with the Items and their corresponding Values.

There are a few entries common to all Device Types. These entries are the first three entries shown in the example above, Comm Status, Device Status, and HW

Status. None of the following Properties are user-editable.

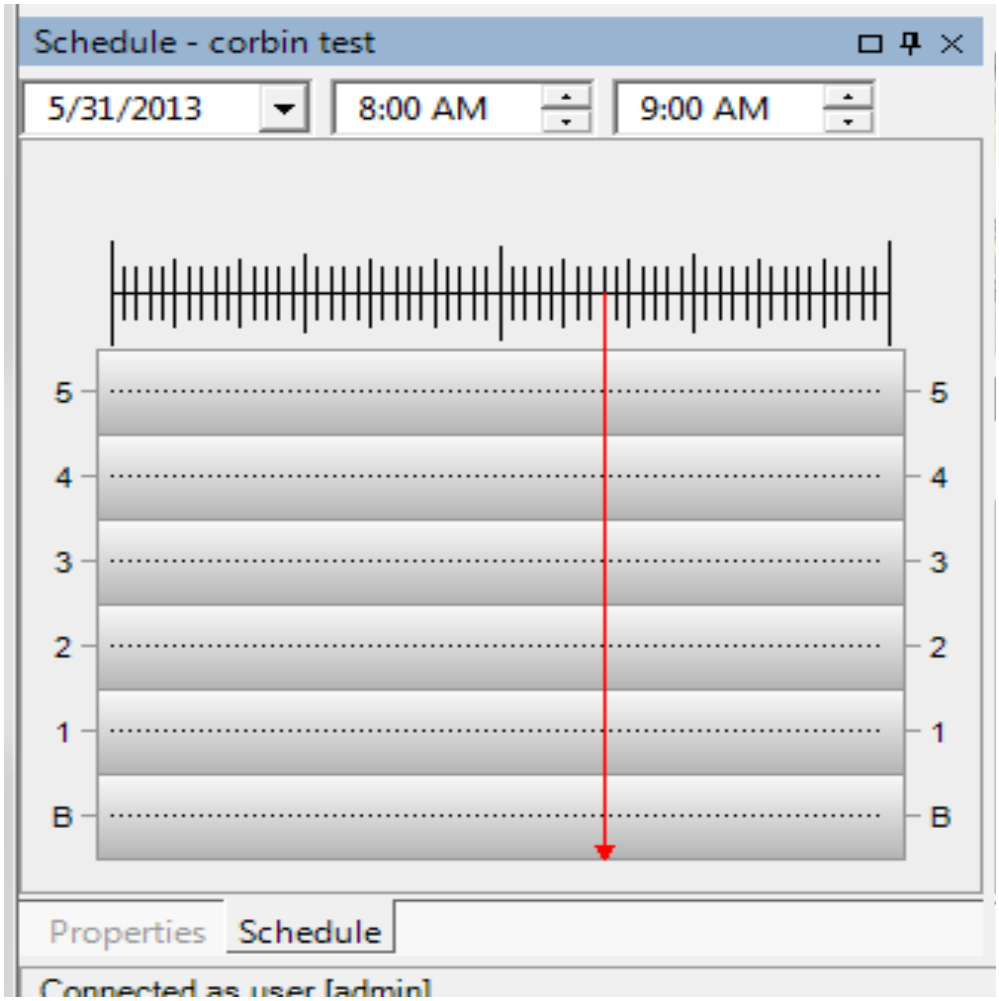
- **Comm Status** - refers to Communication status between the Platinum Server and the HAR.
- **Device Status** - refers to the status of the software device object. Usually, this entry will be updated in the event of a script error.
- **HW Status** - refers to the status of the Device itself. This entry will be updated if communication was possible and an error still occurred

There will be a few more entries shown in the Properties List Window other than the Device Parameters for each Device Type. These entries all begin with "Type DLL" and are populated each time the Device Type is highlighted. This type information comes from the type .dll file containing the type specifications and are not user-editable.

Schedule Window

Schedule Window

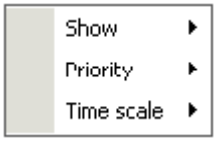
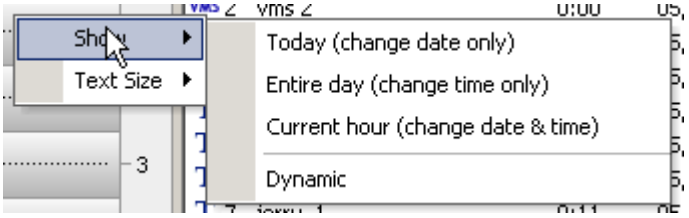
'Appointment' is the term the Platinum Client uses to describe a scheduled operation. When the Schedule tab has been selected, all existing appointments of the currently selected Node, Device, or Device Group for the configured time frame will be visible. If there are no visible appointments, use the Date and Time controls to expand the time span shown or make sure you have appropriate Node, Device or Device Group selected. Appointments are used to specify when an operation is to be executed on a device or device group. Appointments also specify the duration of the operation and how often it recurs (if at all). For more details on how Appointments work, please see the How Scheduling Works help topic.



The example above shows an appointment scheduled to start at 2:00AM and run

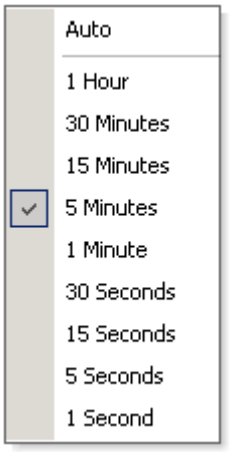
until 3:00AM.

Features of the schedule window include:

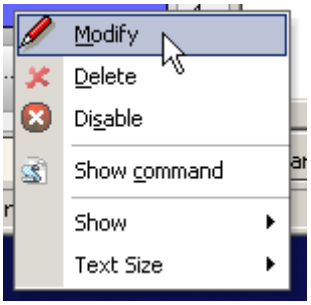
Date and Time Ranges	At the top of the window are date and time ranges. The schedule window shows up to an entire day, but can be reduced through narrowing the start and end times. The example above shows November 30th from 1:30AM to 3:30AM. There are several shortcuts when right clicking the window. If you **Right Click** anywhere in the Schedule Window, the following menu will appear.  If you select the **Show** menu option, the following submenu will appear.  You can choose to display the Calendar by Today, the Entire Day, or the Current Hour. If you choose Today, the Calendar will show the schedule for the Current Date. If you select the Entire Day option, the Calendar will display the Entire Day of the date given, divided into hour segments by default. If you select the Current Hour option, the Calendar will display the Current Hour divided into Minute segments by default. **NOTE:** If you use the mouse to select a range in the Schedule Window, you can then **Right Click** and set the Calendar to **Zoom** on that range. Using the **Zoom** feature on a highlighted range divides the range into whatever size segments the **Time Scale** option shows.
Priority	On the horizontal axis of the schedule are the priorities. There are six priority levels, of which five are **foreground** and one is **background**. Within the foreground priority levels, FIVE is the highest and ONE is the lowest. This means that device operations scheduled at priority level FIVE will pre-empt any currently executing priority level ONE device operation and so forth. Once the priority level FIVE device operation is complete, the device will return to the priority level ONE device operation. The "background" priority level is used for device operations that don't effect the primary function of the device. These are usually discreet events for checking device status. Since the "background" schedule doesn't use pre-empting, it should not be used for operations that change the device state (such as changing the HAR broadcast). Selecting the **Priority** option from the menu above will show the following submenu, which allows the Operator to select a Priority to view.
Time	The timescale is the vertical axis of the schedule window. Adjusting the

Scale time scale allows the user to see different granularities within the show time period. Setting the time too granular can make the window difficult to scroll, while setting the time not granular enough doesn't show enough details. An automatic time scale is provided to assist the user wil this task. The example above shows a time scale of 15 minutes.

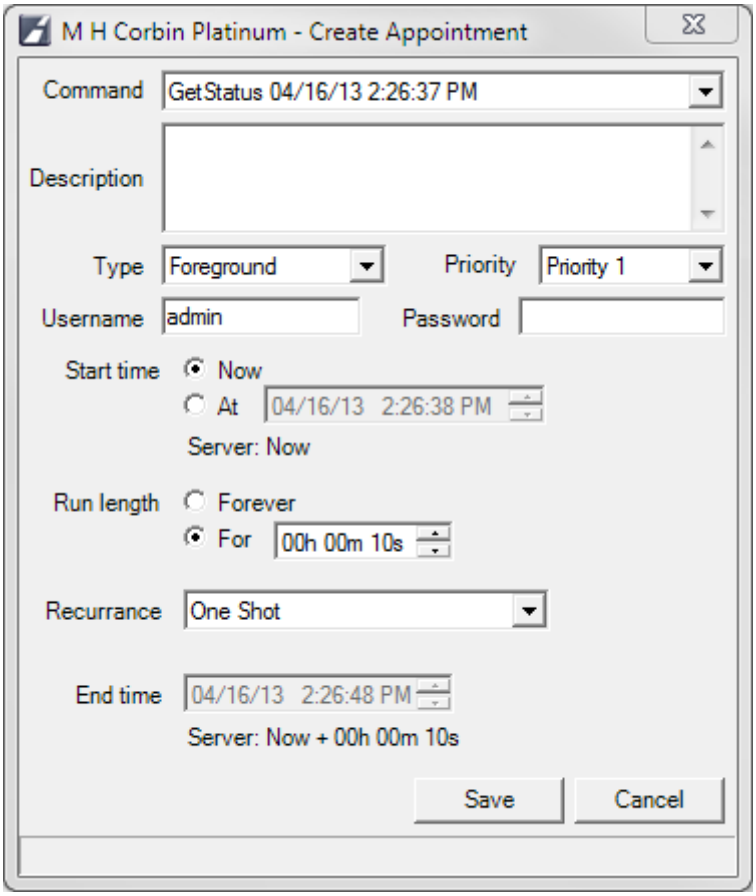
If you select the **Time Scale** option from the above menu, the following submenu appears. After making a Time Scale selection, the current viewing range is segmented into the scale you choose and redisplayed. You can divide the range displayed into Hours, Minutes, Every Fifteen Minutes, and other divisions.



To edit an existing entry, **Right Click** on the entry and the following menu will appear:



Edit the appointment by selecting **Modify** or remove the appointment by selecting **Delete**. If you select Modify, the Create Appointment dialog box will appear, populated with the information from the selected existing appointment:



Appointment Options:

Command	This drop down menu shows all of the Commands that have been created. Select the Command that you wish to execute for the appointment you are creating. For the example above, the Command is one called **Switch to Weather Radio.** That command contains the Device type scripts to execute. For more information on creating Commands, see the Managing Commands Help Section.
Description	The contents of this field will be display underneath the Command name in the Schedule Window.
Type	This menu allows the operator to select whether the appointment is a **Foreground** or **Background** appointment.
Priority	This option is only valid for **Foreground** appointments. The Operator can choose Priorities 1-5, where 1 is the lowest and 5 is the highest. For more information on scheduling different priorities, see the How Scheduling Works Help Section.
Username and Password	The Username and Password shown will be the Username and Password of the user creating the appointment. If the user creating the appointment does not have permission to execute the appointment, an administrator's username and password can be entered, and the appointment will be executed under the administrator's login information.
Start Time	The start time of the appointment. You can set this time to **Now** or

	specify a time in the future. **NOTE:** Setting an appointment to a time in the past is not allowed. Also, the start time of the appointment is the time that the Platinum Server will begin sending instructions to the Device, not the time that the Device change state. For example, if you require that a message be broadcasting on a HAR system exactly at 9AM, schedule the appointment slightly before 9AM to allow for transmission time.
Run Length	The run length of the appointment. This value can be set to **Forever** or a specified time. If you have selected a time range in the Schedule Window, this value will be the length of time for the range you selected.
Recurrence	This value allows the Operator to set an appointment to automatically repeat. Recurrence can be set for the following time periods: • Every Minute • Every Quarter Hour • Every Half Hour • Every Hour • Every Day • Every Week
End Time	The end time of the appointment.

Status Bar

The status bar is located on the bottom right of the Platinum Client Main Window and contains three elements (from left to right):

- Application status - Notifies the user of the current operation
- New message indicator - A new chat message is waiting to be viewed
- Time synchronization - a time difference between the system clocks of the Client and Server machines

On the bottom left side, the Status Bar displays the text "Connected as user [username]" once the user has connected to a Platinum Server. Use the Status Bar for information regarding the progress of downloading maps, media, and Node Information from the Platinum Server.

Frequently asked questions

Frequently Asked Questions

Administration & Configuration

---

1. What Operating System versions have been tested with M. H. Corbin Platinum?
Platinum Server - Windows Server 2003 R2 and Windows XP SP2
Platinum Client - Windows XP SP2 and Windows 2000 SP4

2. What required components must be installed?
Platinum Server:
- ODBC driver for SQL database access (MySQL or Microsoft SQL Server)
Platinum Client:
- .Net Framework 1.1 Service Pack 1

3. What optional features may be installed?
Platinum Server:
- SMTP email server for alert notifications
- Dialogic telephony board for analog device connections
- Text to speech engine
- IIS web server for installation and upgrades

- Platinum Automations Manager (IntelliZone)

4. Is the application affected by Operating System patches? How should this be administered?
The short answer is no, the application is unaffected by the patches. The long answer is that OS patches should be tested before they are installed. It is possible that OS behavior could change due to a patch and cause new application behavior. M. H. Corbin will keep customers updated if an issue is found with a particular patch, but patch management is ultimately up to the customer.
The same applies for SQL database patches.

5. Are patches released for the M. H. Corbin Platinum product?
Yes, both the Platinum Server and Client will be patched and upgraded in the future. Currently, the server requires some manual interaction by overwriting files and executing database scripts. The Platinum Client is distributed as an installer package. All upgrades include release notes and support from M. H. Corbin.

6. Is Platinum compatible with Virus Scanner software like McAfee or Norton?
Yes, however the appropriate inbound/outbound connection rules will need to be configured in the software firewall.

7. Does the Server Application require a user to be logged in?
No, the M. H. Corbin Platinum Server can be installed as a System Service. This service configuration allows a "Run As" user account to be specified for access control.

8. What are the bandwidth requirements between the client and server applications?
The application has been verified to work at low dialup speeds (~56Kbps) but it all depends on the amount of media being recorded and the scheduling frequency.

9. Are any special SQL Database features used by the application?
The Platinum Server connects to the SQL database using ODBC driver (Open Database Connectivity). ODBC drivers are accessed by a DSN (Data Source Name) which is created using tools in the Windows Control Panel. While Platinum makes use of database features such as Auto Increments and Transactions, no Stored Procedures or Triggers are used.

10. What is the difference between Analog and Digital connections to field devices?
Analog connections simulate telephone handset input by using a modem to dial a phone or pager based device. Once connected, the device and server communicate through a series of DTMF tones. Messages are recorded on the device by playing the recording over the phone line.
Digital connections are Internet Protocol (TCP) based and can can occur at a much higher speed and reliability, with lower cost. Since both the connection time and transfer times are reduced dramatically, device status queries can be performed much more frequently.

11. What ports are used by a DR1500 with DCC?
200 - used to issue commands and query status
21 - FTP connections
20 - FTP data for message downloads

12. What services are created by the Platinum Server application?
"Platinum Server" - the main application
"Platinum Pilot" - a service that is used for restarting the main application
If the application and database reside on the same machine, it is a good idea to put a service dependency on the database service for the Platinum Server service. This will ensure that the database has loaded before the application starts. Otherwise, database connection errors will occur.

13. What language was the application written in?
Platinum Server - C/C++
Platinum Client - C# .NET 1.1.4332

14. Does the Platinum Server application have any RAID requirements?
No.

15. What is the maximum length of a recorded message in Platinum?
The exact answer will depend on your recording settings. The DR1500 utilizes a WAV format of 11.025KHz/8-bit/mono, however the GUI will allow you to record in a higher density format (the Platinum GUI uses the default windows media recording properties). The recordings are stored in the Platinum database in the same format in which they were recorded, but when they are sent to a digital DR1500 the format is adjusted to 11.025/8-bit/mono. The maximum message size allowed within the communications between the Platinum Server and the Platinum GUI is 32MB, and there is also a maximum SQL statement size imposed by the ODBC/database layer which can limit the overall maximum recording size.

Formula to calculate size for a recorded message:
size = (message duration in seconds) * (sample rate) * (bits per sample / 8) * (number of channels) * 2 + 2048

Formula to calculate size for a text-to-speech message:
size = (message duration in seconds) * 11025 * 1 * 1 * 2 + (count of text characters that makeup the message + 2048)
A good rough formula for the size of text-to-speech is 48600 bytes/second

This calculated size must be less than the lesser of 32MB or the Max SQL statement size as set in the ODBC/Database layer. These formulas are not exact because along with the recording data the message title, description, group, size, and other info is also being stored and these additional fields require some space that is not accurately accounted for in this formula.

Examples:

If a recorded message is created at 11.025khz/8-bit/mono, the max duration that can be achieved within the 32MB communications limit is:
(32MB - 2048)/(11025 * 2) = 1521seconds or around **25 minutes and 21 seconds**.

If a Text-To-Speech message is created at 11.025khz/16-bit/mono, the max duration that can be achieved within the 32MB communications limit is:
32MB/48600 = 690 seconds or around **11 minutes, 30 seconds**.

16. What file formats does Platinum support for importing recordings?
Platinum currently supports PCM encoded (WAV) files which have the following

characteristics:

Audio Sample Sizes	Channels	Audio Sample Rates
8 or 16 bit	1 or 2	8, 11, 22, and 44 khz

It's important to understand that when media recordings are sent to a HAR, the HAR can only accept 8-bit, single channel, 11khz audio. Therefore, any media which is not already in this format will be re-sampled (up or down) so that it matches the HAR format. This can cause **a difference in quality** between what is in the Platinum media library and what is actually being broadcast by the HAR. Therefore, it is highly recommended that recordings imported into Platinum use the default HAR values (8-bit, 1 channel, 11khz) to maintain a consistent playback quality for both the Platinum user interface and the HAR broadcast.

Troubleshooting

Troubleshooting Guide

---

1. If a HAR is replaced or swapped out, will Platinum automatically detect this?
No. Platinum can not easily tell that a field device has been replaced or updated. If you update a field device, the first thing you should do after the hardware update is to execute the *Clear HAR Memory* script on the updated device.

If the Clear HAR memory script is not run, Platinum can incorrectly assume that messages and playlists are already present on the new HAR and will not upload them. This can cause obsolete messages to be played, or possibly no messages to be played at all when you would otherwise expect them to be playing.

2. Why do I sometimes see dialogic playback errors when updating dial-up devices?
If the Platinum Server computer has a remote desktop console open (via Microsoft's Remote Desktop), the dialogic media playback drivers are replaced by Remote Desktop so that media playback can be sent to the remote desktop user's computer. Unfortunately, this driver replacement also prevents the Platinum Server from properly playing back audio over the phone lines, and continues to do so for as long as the remote desktop session is open. Using other remote desktop utilities can prevent this (Dameware, VNC, PC Anywhere, etc). In any event, try to avoid using Microsoft's Remote Desktop access while dial-up devices are being updated.

3. After performing a weather radio operation on a HAR, sometimes we actually end up hearing a playlist on the broadcast?
The first step in explaining this problem is to understand how the Weather Radio operation works. When setting a HAR to broadcast the weather radio, the Weather Radio script must perform the following 3 steps:

1. Set the HAR to use Aux Fill between messages in a playlist: HAR_SetAuxFillBtwnMsgs (1).
2. Set the HAR to have a message spacing value greater than zero:

HAR_SetMessageSpacing (10)

3. Set the HAR to broadcast an **empty** playlist: HAR_ClearPlaylist (**xxxx**) and HAR_ActivatePlaylist (**xxxx**)

The problem arises from the last step, whereby the **xxxx** is actually replaced with a numeric playlist slot number (from 1001 to 1025). The Platinum GUI will allow you to select a un-used slot number for the ClearPlaylist line, but wants you to select from a pre-existing playlist when doing the ActivatePlaylist command. Usually, slot 1020 (the default for our script) does not have an existing playlist defined for it, thus causing the operation to activate some actual playlist, since that is all the user can choose from.

A better solution for this problem is being worked on, but in the mean time the easiest solution is create a playlist called "Weather Radio" and assign it to slot 1020. Then, add at least one message to this playlist. The message can be any message from your library - it will not actually get downloaded or played, but must be present in the playlist to allow the ActivatePlaylist command to be successful. After making these adjustments, the default "Weather Radio" operation should work correctly.

Rules Language

Rules Language Reference

The Rules Language (RL) allows Platinum users to write custom rule sets to be evaluated by the Alert Manager. Specifically, this enables an Administrator to define an alert situation based on a combination of system status variables, device status variables, and time restraints. A rule set can contain either a single expression or one or more statements.

When the outcome of a rule set changes from false (the default state for all alerts) to true, the alert is fired. The alert will remain in the fired state until the outcome of the rule set changes back to false, at which point the alert is reset. After being reset, the alert will be fired again the next time the rule set evaluates to true.

The simplest form of a rule set is a single expression. For example consider the rule set of `5 > 3`. This rule will always evaluate to true, and therefore will always cause the alert to be triggered upon the first evaluation. It will then not fire again until the server is restarted.

It is important to understand that an alert only fires when an expression evaluates to true, or when the special rule set command "SETALERTMESSAGE" is called. If neither of these conditions exist, the alert will never be fired. An example of an alert that will never be fired is:

```
1. IF (HAR_DEVICE_1.CURRENTLYACTIVEPLAYLIST <> 1001)
   {
   }
```

The reason it will never fire is because there is no expression that results in true (note however that there is an IF statement that can evaluate to true, but no expression exist within the IF block). To properly cause this rule to evaluate to true, the SETALERTMESSAGE statement should be used:

```
1. IF (HAR_DEVICE_1.CURRENTLYACTIVEPLAYLIST <> 1001)
   {
   SETALERTMESSAGE ("HAR 1 is no longer on playlist
   1001!");
   }
```

If an expression within a rule set evaluates to a logical truth, the alert is considered triggered and an email will be sent to the alert contacts. If the SETALERTMESSAGE() function has not been called to create a specific notification message, then the alert manager will generate a default alert message to send to the recipient list. The format of the default alert message is as follows:

```
Subject: {NodeName}: alert '{Alert Name}' has
```

```
fired!
Body: [{date/time}] {NodeName}: alert '{Alert
Name}' has fired!

Example:

Raleigh Central Server: alert 'HAR has had a
communications failure' has fired!
[2007-05-01 10:00:00.344] Raleigh Central Server:
alert 'HAR has had a communications failure' has
fired!
```

NOTE: The Rules Language is **case sensitive**.

Identifiers

Constants

The Platinum Rules Language supports **string** and **numeric** constants.

String Constants start with the opening ‘ “ ‘ character and end with the closing ‘ “ ‘ character. When using ‘ “ ’ character within the string it is necessary to use escape sequence that is defined as 2 back-to-back ‘ “ ‘ characters. Here are some examples to illustrate string constants:

```
"This is a #1 string constant" ”This is ""also"" a string
                        constant"
```

The second string example gets interpreted as *‘This is “also” a string constant’* by the RL compiler.

Numeric Constants can be defined using optional sign characters {‘+’, ‘-‘} followed by any sequence of digits and can include the dot (‘.’) character for floating point numeric constants. The RL engine supports scientific notation for the numeric constants. Internally all numeric constants are stored as double precision floating point numbers.

Variables

A RL variable is a name associated with a memory location that can be assigned a value. The RL does not enforce strict type checking so there is no need for the variable forward declaration. Any variable can be assigned either a numeric or string value. As a matter of fact, the same variable can be assigned a numeric value and then later in the program can be reassigned a string value or vice versa. There are 3 requirements for the variables in RL:

- **Variables** have to be initialized before being referenced. This means that variable has to appear on the LHS (Left Hand Side) of the assignment

statement before it can appear on the RHS (Right Hand Side) of any statement. Here is an example of this:

1. `SomeVar = 5;`
   `SomeOtherVar = SomeVar * 20;`
   `SomeVar = NotInitVar / SomeOtherVar; <= Error: NotInitVar is not initialized`

- **Operators** {^, *, /, -} cannot be applied on variables that contain strings. Operator + for strings is allowed and performs string concatenation. Thus using variables that contain values of different types (strings and numbers) is allowed only in the statements with the operator "+" which assumes string concatenations and automatically converts numeric values to their string representations. Here is an example:
  1. `StrMsg = "Test " + "message ";`
     `StrMsg = StrMsg + "continues here at line " + 2;`
     <= Number to string conversion here, value of **StrMsg** will be "Test message continues here at line 2"

  Equality operators, explained in more detail below, do not perform automatic number to string conversion and thus cannot be used with the values of different types.

- **Variable** names (as well as built-in function names) must start with the letter or a‘_’ character and then can contain arbitrary number of alphanumeric characters, ‘.’ or ‘_’.

Operators

The RL supports following set of operators {^, *, /, +, -, <=, >=, ==, <>, <, >, =, ()}. The following table describes the function of each Operator.

Parentheses	()	Groups variables, constants or expressions or designates a function call. For function calls, parameters should be contained within parentheses.
Exponent	^	Denotes exponential multiplication. Valid only for numeric constants. Product is numeric.
Multiply	*	Multiply numeric constants, variables, or expressions. Product is numeric.
Divide	/	Divide numeric constants, variable, or expressions. Quotient is numeric.
Add	+	Add numeric variables, constants or expressions. Sum is numeric.
Subtract	-	Subtract variables, constants or expressions. Difference is numeric.
Less Than or Equal To	<=	Comparison operation for constants, variables, or expressions that returns either **TRUE** or **FALSE**.
Greater Than or Equal To	>=	Comparison operation for constants, variables, or expressions that returns either **TRUE** or **FALSE**.
Equal To	==	Comparison operation for constants, variables, or expressions that returns either **TRUE** or **FALSE**.
Not Equal To	<>	Comparison operation for constants, variables, or

		expressions that returns either **TRUE** or **FALSE**.
Less Than	<	Comparison operation for constants, variables, or expressions that returns either **TRUE** or **FALSE**.
Greater Than	>	Comparison operation for constants, variables, or expressions that returns either **TRUE** or **FALSE**.
AND	AND	Evaluates both sides of the expression containing the operator. If both are satisfied, the result of the combination is **TRUE**. Otherwise, the result of the combination is **FALSE**.
OR	OR	Evaluates both sides of the expression containing the operator. If either side or both are satisfied, the result is **TRUE**. If both sides are not satisified, the result is **FALSE**.
Assignment	=	Establishes an instance of a variable or data type or changes an existing variable or data type to a different value. The assignment operator does **not** assess equality. For equality, use "==".

Operator precedence in the RL is defined in the following table:

1.

Highest
()
*, /
+, -
<=, >=, ==, <>, <, >
AND, OR
=
Lowest

NOTE: Even though strict type checking is not performed by the RL the only operators that can be safely used on the identifiers of any type are ‘+’ and ‘=’. All other operators work only on the identifiers of the same type.

Expressions and Statements

An **Expression** is a syntactically and semantically correct sequence of identifiers, operators and/or function calls that can be evaluated to a final single value. Both of the following statements are valid expressions:

```
  1 + 5 * (3 * VarCurrentTime)
“String1” <= "Some other string"
```

The RL currently implements only 3 types of statements:

- **If/Else**: if <expression> {<statements>} else {<statements>}.'{' and '}' indicate a block of inner statements. 'Else' part of the statement is optional. For example:
    1.

```
if (HAR_HIS.DEVICE_HWSTATUS <>
GETPREVIOUS("HAR_HIS.DEVICE_HWSTATUS"))
{
SETALERTMESSAGE("New device HW status is " +
HAR_HIS.DEVICE_HWSTATUS + ". ");
}
if (SomeVar > SomeOtherVar)
{
GreaterCounter = GreaterCounter + 1;
}
else
{
LessCounter = LessCounter + 1;
}
```

- **Assignment**: <*variable*> = <*expression*>;
    1. Assignment statements have to be followed by the ';' character.

```
PrevStatus =
GETPREVIOUS("HAR_HIS.DEVICE_HWSTATUS");
LessCounter = LessCounter + 1;
```

- **Function Call**: <identifier>(<parameter list>);
    1. The function parameter list is optional but if parameters are present they must be separated by a comma. Any RL expressions can be passed as parameters to the function.

       NOTE: Function Calls can be used as both expressions and statements. When used as statements they must be followed by a semicolon. For example:

```
GETPREVIOUS("HAR_HIS.DEVICE_HWSTATUS");
SETALERTMESSAGE("New device HW status is " +
HAR_HI S.DEVICE_HWSTATUS + ". ");
```

Built-in Variables and Functions

The Rules Language itself does not define any built-in functions. However, the Alert Manager defines some custom variables and functions that are supported for use in the RL. Below is the list of variables and functions that can be used in the Alert Manager.

Variables

The Alert Manager defines a number of built in variables (also known as alert

items) to use when customizing Alert messages and criteria. Those variables are grouped into the logical groups* such as the following:

- System Object Status Items
- Device Parameters
- Logical Disk Items
- Processor Items
- Memory Items

Since the list of those variables and their groups depends upon Platinum system configuration (e.g. devices, system objects) as well as machine configuration (number of logical drives and processors) the complete list of those variables cannot be provided here. When referring to the Alert Manager's predefined variables it is necessary to use *groupid.variableid* format. For example, the following are all valid Alert Items.

1. `LOGICALDISK.LOCAL_DISK_C`
2. `LOGICALDISK. FREE_MEGABYTES_TOTAL`
3. `HAR_HIS.DEVICE_HWSTATUS`
4. `MEMORY. AVAILABLE_MBYTES`

The type of Alert Manager variables can be deduced from their values. In fact this is the logic that is used by the Alert Manager when providing those values to the RL engine. Values matching a numeric identifier pattern (see above) will be assumed to be numeric values. Values that do not match a numeric identifier pattern will be assumed to be of a String type.

**The complete list of Alert Items can be found under the Manage Alerts dialog.*

Functions

The Alert Manager also has three functions that can be used in combination with variables to create custom Alert criteria. They are listed and explained below.

- **GETPREVIOUS(string <variable>)** - Returns the previous value of an Alert Item.The parameter this function requires is the name of an Alert Item in String form. When you add an Alert Item into the edit window of the Create Alert dialog there will not be quotes around the Item name. For the GETPREVIOUS function, you must enclose the Item name in quotes See the above section on Function Calls for an example of the GETPREVIOUS function..
- **GETCURRENTTIME()** - Returns string representation of current system time. This function does not take any parameters.
- **SETALERTMESSAGE(string Message)** - Tells Alert Manager to send this message out to the recipients associated with the particular alert that contains this script regardless of the final script evaluation result. See the above section on Function Calls for an example of the SETALERTMESSAGE function.

Examples:

The following are examples of Alert Manager rules sets:

Low disk space

The first example shows how to set an alert for a low disk free space situation, using a system variable.

1.

```
LOGICALDISK.FREE_MEGABYTES_C < 3145728
```

This is one of the simplest alert examples. This alert will cause a generic message to be sent out when the free space on drive C falls below 3MB.

Alerting when a device has a failure

The first example shows how to set an alert for a device communications failure, hardware failure, or script failure.

1.

```
IF (HAR_DEVICE_1.DEVICE_COMMSTATUS == 105)
{
SETALERTMESSAGE("HAR 1 has experienced a
communications error");
}
IF (HAR_DEVICE_1.DEVICE_HWSTATUS == 204)
{
SETALERTMESSAGE("HAR 1 has experienced a hardware
error")
}
IF (HAR_DEVICE_1.DEVICE_STATUS == 5)
{
SETALERTMESSAGE("HAR 1 has experienced a scripting
error")
}
```

This example will send out a user defined message indicating that an error has occurred for the specified HAR device. This example makes special use of the device status indicators. The device status variables must be compared using the numeric equivalents of their string values (the string values are typically viewed through the GUI). The variables and their numeric states are described in the table below:

Communications status values:

Last Unknown	101	No communications has been attempted with the device.
Last Good	102	Last communications attempt succeeded.
Connecting	103	Currently attempting to connect to the device.
Connected	104	Currently connected to the device.
Last Failed	105	Last communications attempt with device failed.

Device Script status values:

Last Unknown	1	No script execution has been attempted by the device.
Disabled	2	The device is disabled
Idle	3	The device is not presently executing any script.
Busy	4	The device is executing script lines.
Last Failed	5	The last script execution failed.
Pending	6	The device is waiting for a resource to use to connect to the device.

Hardware status values:

Last Unknown	201	No data has been retrieved from the device.
Last Good	202	The device last responded to commands successfully.
Working	203	Currently attempting to retrieve data from device.
Last Failed	204	Device failed to report back to a command.

Alerting when a HAR device has low battery voltage

The following example sends an alert indicating that the DC supply voltage to a HAR has dropped below a threshold, and also indicates what the current voltage level is:

1.

```
IF (HAR_DEVICE_1.DCPOWERSUPPLYVOLTAGE < 10000)
{
SETALERTMESSAGE("Voltage for HAR 1 is below 10V (" +
(HAR_DEVICE_1.DCPOWERSUPPLYVOLTAGE / 1000) + ")");
}
```

Alerting when a HAR device has it's transmitter turned off between 5PM and 7PM

The following example sends an alert if the transmitter state of a HAR is turned off between 5PM and 7PM :

1.

```
IF ((HAR_DEVICE_1.TRANSMITTERSTATE == "OFF") AND
(GETCURRENTTIME() > "17:00:00") AND (GETCURRENTTIME()
< "19:00:00"))
{
SETALERTMESSAGE("HAR 1's transmitter is OFF");
}
```

2.

Device Scripting

Script definition reference

Script Definition Reference

SCRIPT_BEGIN	
Script Parameters	NONE
Device Parameters	NONE
Description	Optional command to mark the beginning of a set of script commands.
Example	`SCRIPT_BEGIN` //Beginning of Script execution ... SCRIPT_END
Notes	NONE

SCRIPT_END	
Script Parameters	NONE
Device Parameters	NONE
Description	Optional command to mark the end of a set of script commands.
Example	SCRIPT_BEGIN ... `SCRIPT_END` //End of Script execution
Notes	NONE

SCRIPT_GOTO	
Script Parameters	**String** LabelName
Device Parameters	NONE
Description	Branches script execution to the label specified.

Example	SCRIPT_BEGIN
	`SCRIPT_GOTO SkipConnect`
	HAR_CONNECT() // Connect to the HAR
	SkipConnect:
	HAR_DISCONNECT()
	SCRIPT_END

Notes	LabelName must exist or a script error will be generated.

SCRIPT_ON_ERROR_GOTO	
Script Parameters	**String** ErrorLabelName
Device	NONE

Parameters	
Description	Branches script execution to the label specified if a script error occurs. This command stays effective til the next SCRIPT_ON_ERROR_GOTO is encountered.
Example	SCRIPT_BEGIN `SCRIPT_ON_ERROR_GOTO ErrorRoutine` HAR_CONNECT () HAR_GetRevisionNumber () ErrorRoutine: HAR_DISCONNECT () SCRIPT_END
Notes	ErrorLabelName must exist or a script error will be generated.

SCRIPT_PAUSE(int *PauseDurationInMS*)	
Script Parameters	**Integer** PauseDurationInMS
Device Parameters	NONE
Description	Pauses script execution for the number of milliseconds specified.
Example	SCRIPT_BEGIN HAR_CONNECT () `SCRIPT_PAUSE (3000)` HAR_DISCONNECT () SCRIPT_END
Notes	NONE

HAR_Connect()	
Script Parameters	NONE
Device Parameters	**Digital Connections** • DCC IP • DCC Port • DCC Connection Timeout • DCC Receive Timeout **Analog Connections** • Phone Number • DCC Connection Timeout • First DTMF Tone Timeout • DTMF Tone Timeout • Duration of DTMF Tones • Delay Between DTMF Tones
Description	Creates a connection to the DR1500 (or DCC). Will return an error if the connection could not be established.
Example	SCRIPT_BEGIN `HAR_Connect()` SCRIPT_END
Notes	This command must complete successfully before most other script commands can be attempted.

HAR_Disconnect()	
Script Parameters	NONE
Device Parameters	NONE
Description	Disconnects an existing connection to the DR1500 (or DCC). Will return an error if the connection did not exist.
Example	SCRIPT_BEGIN `HAR_Disconnect()` SCRIPT_END
Notes	NONE

HAR_SendSecurityCode (INT WaitBefore, INT WaitAfter)	
Script Parameters	**Integer WaitBefore** is the number of milliseconds to wait before sending the security code after the connection has been established. This is used to wait for the welcome message of the analog HAR to complete before sending any additional DTMF tones. **Integer WaitAfter** is the number of milliseconds to wait after the security code has been sent. This serves two purposes. First, DR1500 terminates the connection if an invalid security code has been sent, so this timeout value serves as a time for making sure that the security code was valid. Second, it is used to wait for the welcome message of the analog HAR to complete before sending DTMF tone commands.
Device Parameters	**Access Code**
Description	Sends the security code required by the analog HAR to allow the further processing of commands.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SendSecurityCode(4000, 5000)` HAR_Disconnect() SCRIPT_END
Notes	This command performs a NOP (no operation) on a Digital HAR.

HAR_GetRevisionNumber()	
Script Parameters	NONE
Device Parameters	**Version Number**
Description	Retrieves the version number information from the DR1500 and stores it into the device parameter **VersionNumber**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_GetVersionNumber()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *300#

HAR_GetBuildNumber()	
Script Parameters	NONE
Device Parameters	**Build Number**
Description	Retrieves the build number information from the DR1500 and stores it into the device parameter **BuildNumber**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_GetBuildNumber()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *301#

HAR_GetEpromChecksum()	
Script Parameters	NONE
Device Parameters	**Eprom Checksum**
Description	Retrieves the EPROM checksum number from the DR1500 and stores it into the device parameter **EpromChecksum**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_GetEpromChecksum()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *302#

HAR_GetAvailableTime()	
Script Parameters	NONE
Device Parameters	**Record Time Available**
Description	Retrieves the HARs recording time available (in seconds) from the DR1500 and stores it into the device parameter **Record Time Available**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_GetAvailableTime()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *60#

HAR_GetLastModifiedTime()	
Script Parameters	NONE
Device	**Last Modified Time**

Parameters	
Description	Retrieves the HAR's last modified time stamp value from the DR1500 and stores it into the device parameter **Last Modified Time**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_GetLastModifiedTime()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *101#

HAR_RetrieveSystemStatus()	
Script Parameters	NONE
Device Parameters	• **HAR ID** • **AC Fault Flag** • **AC Flag** • **DC Fault Flag** • **HAR Mode** • **HAR Sub Mode** • **DC Voltage** • **HAR Broadcast Monitor Flag** • **HAR Mode Alert** • **Outdated Msg Alert**
Description	Retrieves the HAR's system status values from the DR1500 and stores it into the device parameters shown above.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveSystemStatus()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *103#

HAR_EraseAllMsgs()	
Script Parameters	NONE
Device Parameters	• **Erase All Wait Time** • **Erase All Command**
Description	Erases all messages stored in the DR1500 (slots 1-999), or the AP55 (slots 1-250).
Example	SCRIPT_BEGIN HAR_Connect() `HAR_EraseAllMsgs()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Erase a Message *3# using "99999" as the message number to erase.

HAR_EraseMsg(int *SlotNumber*)	
Script Parameters	**SlotNumber** is the slot number of a single message to erase. (1-999)
Device Parameters	NONE
Description	Erases the specified message from the HARs memory.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_EraseMsg(1)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *3#.

HAR_EraseMsgRange(int *FirstSlot*, int *LastSlot*)	
Script Parameters	**SlotNumber** is the slot number of a single message to erase. (1-999)
Device Parameters	NONE
Description	**FirstSlot** is the start slot number of messages to erase (1-999) **LastSlot** is the end slot number of messages to erase (1-999) and must be greater than or equal to **StartSlot**.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_EraseMsgRange(1, 5)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *3#, but repeats the command multiple times.

HAR_MakeRoomForPlaylist(int *SlotNum*, bool *CheckReRecordFlag*)	
Script Parameters	**SlotNum** is the slot number of the playlist which is to be downloaded. **CheckReRecordFlag** whether the re-record flag should be evaluated.
Device Parameters	NONE
Description	This command will calculate the number of seconds required for the playlist specified, and compare this to what is available on the HAR. This calculation will only include messages that are not already on the HAR. If it is determined that the HAR can not accommodate the playlist specified, an optimize command will be sent to the HAR to compact memory, after which the test is made again. If the HAR still does not have enough memory to accommodate the playlist, this command will perform an erase ALL messages on the HAR to completely clear the HAR memory.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_MakeRoomForPlaylist(1001,YES)` HAR_DownloadPlaylistToHAR(1001,YES) HAR_Disconnect() SCRIPT_END
Notes	This command does not actually download the playlist. You should issue the

	HAR_DownloadPlaylistToHAR command to download to perform the download. This command will cause a script error on the AP55, or in open loop mode.

HAR_DownloadMessagesToHAR(string *MediaList*, bool *CheckFlag*)	
Script Parameters	**MediaList** is a string containing a list of the Media IDs and corresponding HAR slot numbers where the media should be loaded.i.e."001->001,003->003" **CheckFlg** is a Boolean indicating that the DR1500 ReRecorded flag should be checked to see if the media needs to be downloaded. i.e. YES or NO **Analog Connection Only:** This routine has 2 additional script parameters when used on an analog HAR device: int **WaitBefore** = Wait time in milliseconds before transmission of the audio message. int **WaitAfter** = Wait time after in milliseconds after transmission of the audio message.
Device Parameters	**Sync Mode** Digital Connection Only: • **Parallel Mode** • **DCC FTP Port** • **DCC Username** • **DCC Password** • **DCC Connection Timeout** • **Transfer Wait Time** • **DCC Store As Name**
Description	Records the specified messages to the locations specified on the HAR. The messages to be downloaded are specified in the **MediaList** parameter. The **MediaList** is made up of a set of comma separated elements, where each element has the form: MediaID->HARSlotID. The element specifies that a message in the specified slot will be recorded to the specified slot on the HAR. If the **PlaylistMode** is set to SYNCHRONIZED, then the downloaded media files and play list will automatically be converted to the proper format for synchronized playback. The download will only take place if the server determines that the media on the HAR is out of date when compared to the media stored at the server. Any media that has not changed will not be downloaded to the HAR. If the **CheckFlag** parameter is YES, then the server will double check any skipped downloads by requesting the Rerecorded flag for the given slot at the HAR. If the re-recorded flag indicates the message has been altered, the download will take place. Performing this check will add a small amount of extra time to the download process.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_DownloadMessagesToHAR("001->001, 003->003", YES)`

	HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *1#.

HAR_DownloadPlaylistToHAR(int *Playlist*, bool *CheckFlag*)	
Script Parameters	**Playlist** is the slot number of the Playlist to be downloaded. **CheckFlg** is a Boolean indicating that the DR1500 ReRecorded flag should be checked to see if the media needs to be downloaded. i.e. YES or NO **Analog Connection Only:** This routine has 2 additional script parameters when used on an analog HAR device: int **WaitBefore** = Wait time in milliseconds before transmission of the audio message. int **WaitAfter =** Wait time after in milliseconds after transmission of the audio message.
Device Parameters	**Playlist Mode** Digital Connection Only: • **Parallel Mode** • **DCC FTP Port** • **DCC Username** • **DCC Password** • **DCC Connection Timeout** • **Transfer Wait Time** • **DCC Store As Name**
Description	Downloads all messages in the specified Playlist to the HAR, as well as creating or updating the Playlist on the HAR. This command is very similar to the HAR_DownloadPlaylistToHAR command, except that it uses a logical Playlist to build the list of message files to download. If the **PlaylistMode** is set to SYNCHRONIZED, then the downloaded media files and play list will automatically be converted to the proper format for synchronized playback. The download will only take place if the server determines that the media on the HAR is out of date when compared to the media stored at the server. Any media that has not changed will not be downloaded to the HAR. If the **CheckFlag** parameter is YES, then the server will double check any skipped downloads by requesting the Rerecorded flag for the given slot at the HAR. If the re-recorded flag indicates the message has been altered, the download will take place. Performing this check will add a small amount of extra time to the download process.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_DownloadPlaylistToHAR(1001, YES)` HAR_Disconnect() SCRIPT_END

Notes	This command mirrors the handset command *1#.

HAR_CreatePlaylist(int *Playlist*, string *PlaylistItems*)	
Script Parameters	**Playlist** is the Playlist number to create (1001-1025). **PlaylistItems** is a string containing the Playlist message numbers, separated by commas, i.e. “1,2,3,4,”
Device Parameters	**Playlist Mode**
Description	**This method is for advanced users, and should be reserved for specific situations**. It is recommended that the HAR_DownloadPlaylistToHAR command be used for creating playlist. This routine formats and stores the Playlist specified by the device parameter **Playlist** into the same slot number in the HARs memory.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_CreatePlaylist(1002, "1,5,7,12,")` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *41#. If the Playlist is already present at the given slot on the HAR, no action is taken. **The comma after the last message slot number in the PlaylistItems list is required.**

HAR_ActivatePlaylist(int *Playlist*)	
Script Parameters	**Playlist** is the number of the Playlist to activate (1001-1025).
Device Parameters	**Active Playlist**
Description	Sets the specified Playlist as the active Playlist (for broadcasting).
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ActivatePlaylist(1002)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *45#.

HAR_SetBroadcastList(string *BroadcastList*)	
Script Parameters	**BroadcastList** is the list of message slot numbers to use in the broadcast list. i.e. “1,2,3,5,”.
Device Parameters	**Broadcast List**
Description	Sets the HAR to begin broadcasting the specified message slots in a continual rotation.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetBroadcastList(1,2,3,5,)` HAR_Disconnect()

	SCRIPT_END
Notes	This command mirrors the handset command *5#. If the Broadcast list on the HAR is already set to the message slots specified, no action is taken. The ending comma is required.

HAR_CancelBroadcast()	
Script Parameters	NONE
Device Parameters	**Broadcast List**
Description	Clears the HARs Broadcast List by setting it to contain no messages. This command will then direct the HAR to resume broadcasting of the last active playlist, if any.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_CancelBroadcast()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *5#, but specifying an empty list. If the Broadcast list on the HAR is already empty, no action is taken.

HAR_ClearPlaylist(int *Playlist*)	
Script Parameters	**Playlist** is the slot number of the play list to clear (1001-1025).
Device Parameters	NONE
Description	Clears the specified Playlist slot(s) on the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ClearPlaylist(1001)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *44#.

HAR_ClearPlaylistRange(int *StartRange*, int *EndRange*)	
Script Parameters	**StartRange** is the starting number of the Playlists to clear. **EndRange** is the ending number of the Playlists to clear.
Device Parameters	NONE
Description	Clears the specified Playlist slot(s) on the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ClearPlaylistRange(1001, 1005)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *44#, but is executed multiple times.

HAR_ClearAllPlaylist()	
Script Parameters	NONE
Device Parameters	NONE
Description	Clears all the Playlist slots on the DR1500 (1001 to 1025).
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ClearAllPlaylist()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *44#, but is executed multiple times.

HAR_SetPlaylistMode(string *Mode*)	
Script Parameters	**Mode** is either SYNCHRONIZED or NOTSYNCHRONIZED.
Device Parameters	**Playlist Mode**
Description	Sets the HAR to be synchronized or non-synchronized.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetPlaylistMode(NONSYNCHRONIZED)` HAR_Disconnect() SCRIPT_END
Notes	This command sets the HAR to transmit in the specified mode. When transitioning from one mode to another, this command will modify all existing Playlists to use the proper message numbers for the specified mode. **Analog Connections Only:** This command will not perform message trimming for any pre-existing messages on the HAR. However, for any messages recorded after this mode has been set, the newly recorded messages will be automatically trimmed if necessary.

HAR_RetrievePlaylist(int *PlaylistNumber*)	
Script Parameters	**PlaylistNumber** is the number of a single Playlist to retrieve from the HAR.
Device Parameters	NONE
Description	This command is used to retrieve the specified Playlist from the HAR. The playlist is stored in the device properties and is used to validate that the message numbers in the Platinum media library are identical to the ones being played by the HAR. If inconsistencies are detected, the device media window will reflect the conflicts detected.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrievePlaylist(1021)`

	HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the Playlist specified from the HAR and stores the Playlist in the device information table. This command mirrors the handset command *42#.

HAR_RetrievePlaylistRange(int *StartRange*, int *EndRange*)	
Script Parameters	**StartRange** is the starting Playlist number of a range of Playlists to retrieve. **EndRange** is the ending Playlist number of a range of Playlists to retrieve.
Device Parameters	NONE
Description	Retrieves the specified Playlist range from the HAR. See description for HAR_RetrievePlaylist for more information.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrievePlaylistRange(1001, 1020)` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the Playlist range specified from the HAR and stores that information in the device information table. This command mirrors the handset command *42#.

HAR_RetrieveAllPlaylists()	
Script Parameters	NONE
Device Parameters	NONE
Description	Retrieves all Playlists stored in the HARs memory. See description for HAR_RetrievePlaylist for more information.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveAllPlaylists()` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the Playlist range specified from the HAR and stores that information in the device information table. This command mirrors the handset command *42#, but is executed multiple times.

HAR_RetrieveBroadcastList()	
Script Parameters	NONE
Device Parameters	NONE
Description	This command retrieves the BroadcastList from the HAR and stores it in the device information parameter, **BroadcastList**.

Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveBroadcastList()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command *6#.

HAR_RetrieveMsgStatus(int *MessageNumber*)	
Script Parameters	**MessageNumber** is the number of the message for which the status will be retrieved. (1-999).
Device Parameters	NONE
Description	Retrieves the message status for the specified message slot from the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveMsgStatus(25)` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the message status of the specified message on the HAR. The message status is used by the Platinum system to determine if a message exists at the specified slot. This status is then used to indicate whether or not a new recording needs to be performed for this message at the HAR. However, the message is not automatically recorded – this will occur the next time the **HAR_DownloadMessagesToHAR**, or **HAR_DownloadPlaylistToHAR** command is issued. This command mirrors the handset command *258#.

HAR_RetrieveMsgRangeStatus(int *StartNum*, int *EndNum*)	
Script Parameters	**StartNum** is the starting message number of the message range for which to retrieve status (1-999). **EndNum** is the ending number of the message range for which to retrieve status. This value must be greater than **StartNum**.
Device Parameters	NONE
Description	Retrieves the message status for the specified message slot(s) from the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveMsgRangeStatus(1, 100)` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the message status of the specified message range on the HAR. The message status is used by the Platinum system to determine if a message exists at the specified slot. This status is then used to indicate whether or not a new recording needs to be performed for this message at the HAR. However, the message is not automatically recorded – this will occur the next time the **HAR_DownloadMessagesToHAR**, or **HAR_DownloadPlaylistToHAR** command is issued.

	This command mirrors the handset command *258#, but is executed multiple times.

HAR_RetrieveAllMsgStatus()	
Script Parameters	NONE
Device Parameters	NONE
Description	Retrieves the message status for all the message slots from the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_RetrieveAllMsgStatus()` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the message status of all the messages on the HAR. See the notes for **HAR_RetrieveMsgStatus** for more information. This command mirrors the handset command *258#. This command may take a long time to execute, especially for an analog connection.

HAR_ReportTransStatus()	
Script Parameters	NONE
Device Parameters	• **Current Transmitter Level** • **Transmitter Measured Forward Power** • **Transmitter Measured Reflected Power** • **Transmitter VSWR** • **Transmitter Modulation Level Percent**
Description	Retrieves the status for the 30W power transmitter (DRTX4) from the HAR.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ReportTransStatus()` HAR_Disconnect() SCRIPT_END
Notes	This command retrieves the DRTX4 status information and sets the device parameters with the returned values. This command mirrors the handset command *67#, and will return an error if the power transmitter firmware is not present on the HAR.

HAR_SetTransmitterLevel(int *NewLevel*)	
Script Parameters	**NewLevel** is the wattage (in 10 Watt increments) to which to set the power output of a DRTX4 30 Watt Transmitter.
Device Parameters	**Current Transmitter Level**
Description	Sets the 30W power transmitter level (DRTX4) on the HAR.
Example	SCRIPT_BEGIN HAR_Connect()

	HAR_SetTransmitterLevel(200) //Sets Transmitter to 20 Watts
	HAR_Disconnect()
	SCRIPT_END

Notes	This command sets the DRTX4 power level and updates the device parameter with the new value. This command mirrors the handset command *66#, and will return an error if the power transmitter firmware is not present on the HAR.;

HAR_SetSecurityCode(str *NewCode*)	
Script Parameters	NewCode is a 5 digit security access code to set.
Device Parameters	**Security code**
Description	Sets the HAR's security code to the specified value
Example	SCRIPT_BEGIN HAR_Connect() HAR_SendSecurityCode (6000,4000) *(req'd for analog only)* HAR_SetSecurityCode (12345) HAR_Disconnect() SCRIPT_END
Notes	This command sets the security code required to access the HAR. The factory default security code is "12345". This command mirrors the handset command Set Security Code *71#. This command will return an error if the proper firmware is not present on the HAR.

HAR_SetHangupTime(int *NewHangupTime*)	
Script Parameters	HangupTime is the number of minutes to wait.
Device Parameters	**HANGUPTIME**
Description	Sets the HAR's hangup time to the specified number of minutes
Example	SCRIPT_BEGIN HAR_Connect() HAR_SetHangupTime(3) HAR_Disconnect() SCRIPT_END
Notes	This command sets the security code required to access the HAR. The factory default security code is 12345. This command mirrors the handset command Set Security Code *71#. This command will return an error if the proper firmware is not present on the HAR.

HAR_ConfigureSystemStatus(int *ACAlrt*, int *DCVolt*, int *BMT*, int *MATBM*, int *MAFBM*, int *OMT*, int *RRN*)	
Script	• **ACAlrt** is the AC Power Alert Threshold indicator, and can be 0 or 1

Parameters	• **DCVolt** is the DC Voltage Alert Threshold (0 to 32767 mV) • **BMT** is the Broadcast Monitor Alert Threshold (0 to 127) • **MATBM** is the HAR Mode Alert (true) bit mask (0 to 255) • **MAFBM** is the HAR Mode Alert (false) bit mask (0 to 255) • **OMT** is the Outdated Message Threshold (0 to 480) • **RRN** is the Report Stat Repeat Number (1 to 9)
Device Parameters	• **ACFLAGALERTTHRESHOLD** • **DCVOLTAGEALERTTHRESHOLD** • **BROADCASTMONITORTHRESHOLD** • **MODEALERTTRUEBITMASK** • **MODEALERTFALSEBITMASK** • **OUTDATEDMESSAGETHRESHOLD** • **REPORTREPEATNUMBER**
Description	Sets the HAR's configuration settings to the specified values. The new settings are also set as device parameters.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ ConfigureSystemStatus(1,12767,1,0,0,2,7)` HAR_Disconnect() SCRIPT_END
Notes	This command configures the HAR for reporting system status. For more information, see the DR1500 Manual, section 17.2 This command mirrors the handset command Configure System Status *102#.

HAR_ControlMasterAlertFlag(int *MAF*)	
Script Parameters	**MAF** is the new Master Alert Flag setting - 1, 2, or 3
Device Parameters	**MASTERALERTFLAG**
Description	Depending on the parameter specified, this command will either (1) retrieve the flag's current value, or (2) clear the flag, or (3) set the flag. In any case, the flags new value after making this call will be stored to the MASTERALERTFLAG device parameter.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_ControlMasterAlertFlag(1)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Control Master Alert Flag *104#.

HAR_SetAuxFillBtwnMsgs(int*FillState*)	
Script Parameters	**FillState** is one of 0, 1, or 5
Device Parameters	**AUXFILLSTATE**
Description	Depending on the parameter specified, this command will either (0 or 5) set the

	HAR to broadcast silence between messages, or (1) broadcast the AUX channel between messages. In any case, the new value will be stored to the AUXFILLSTATE device parameter.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetAuxFillBtwnMsgs(0)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Set AUX fill between messages *9#.

HAR_PlayAux	
Script Parameters	none
Device Parameters	See description below
Description	Depending on the device type switches to Aux/Music input. For the DR1500 (digital and analog) devices it's implemented as: 1. HAR_SetMessageSpacing(10) 2. HAR_SetAuxFillBtwnMsgs(1) 3. HAR_ClearPlaylist(<Default playlist>) 4. HAR_ActivatePlaylist(<Default playlist>) For AP55 device it's implemented as: 1. HAR_SetMessageSpacing(10) 2. HAR_SetMusicInput(ON) 3. HAR_ClearPlaylist(<Default playlist>) 4. HAR_ActivatePlaylist(<Default playlist>)
Example	SCRIPT_BEGIN HAR_Connect() `HAR_PlayAux()` HAR_Disconnect() SCRIPT_END
Notes	This command is a shorthand version of actions necessary to switch to Aux/Music input.

HAR_SetTransmitter(bool*NewState*)	
Script Parameters	**NewState** is the new transmitter state, either ON or OFF
Device Parameters	**TRANSMITTERSTATE**
Description	Sets the HARs transmitter ON or OFF. The new value will be stored to the TRANSMITTERSTATE device parameter.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetTransmitter(ON)`

	HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Turn Transmitter On/Off *63#.

HAR_SetAttenuatorLevel(int*NewLevel*)	
Script Parameters	**NewLevel** is a value of 1, 2, 3 or 4
Device Parameters	**ATTENUATORLEVEL**
Description	Sets the HARs attenuator level to 1 through 4 as specified by the script parameter. The new value will be stored to the ATTENUATORLEVEL device parameter.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetAttenuatorLevel(4)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Set Attenuator Level *65#.

HAR_SetMessageSpacing(int*MsgSpacing*)	
Script Parameters	**MsgSpacing** is a value from 0 to 990.
Device Parameters	**MESSAGESPACINGINSECS**
Description	Sets the HARs message spacing to the value specified (rounded up to the nearest 10 second interval). The new value will be stored in the MESSAGESPACINGINSECS device parameter.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetMessageSpacing(0)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Set Message Spacing *4#.

HAR_PerformSystemReset(int *ResetValue*)	
Script Parameters	**ResetValue** is a number from 1 to 11
Device Parameters	• **WAITAFTERRESET** • **MESSAGESPACINGINSECS** • **AUXFILLSTATE** • **TRANSMITTERSTATE** • **ATTENUATORLEVEL** • **SECURITYCODE**
Description	Performs a system reset of the HAR. After this reset, the specified device parameters shown above will be reloaded with their default values. The Platinum Server will wait the specified number of seconds after the reset operation (WAITAFTERRESET) to continue processing the script commands.
Example	SCRIPT_BEGIN

	HAR_Connect() `HAR_PerformSystemReset(1)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Reset the System *127#.

HAR_OptimizeMsgSpace()	
Script Parameters	none
Device Parameters	**EraseAll wait time**
Description	Optimizes the storage memory on the HAR. This maximizes the free space available for recording new messages to the HAR. The Platinum Server will wait the specified number of seconds after the reset operation (EraseAll wait time) to continue processing the script commands.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_OptimizeMsgSpace()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Optimize Message Space *11#.

HAR_OverrideAnswerMode(int *TempMode*, int *Length*)	
Script Parameters	**TempMode** is a value that indicates the temporary HAR answering mode This can be one of: 2 - DR1500 answering mode is OFF (DCC will answer first). 3 - DR1500 answering mode is ON (HAR will answer first). **Length** is a value that indicates how long overriding should last in seconds. Value should be in the range of 0 - 240.
Device Parameters	**EraseAll wait time**
Description	Overrides DR1500's answering mode. Since both DR1500 and DCC have ability to answer the call, this command allows the user to control which device answers the call first. Note, that overriding lasts only specified period of time (maximum of 4 minutes). After that period of time DR1500 switches back to its default answer mode that is controlled by the DIP switch on its motherboard.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_OverrideAnswerMode(2,30)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Override Answer Mode *52#.

HAR_BroadcastDTMFTones(int DTMFSpacing, str *TonesToSend*)	
Script	**DTMFSpacing** is the delay between each tone in units of 100 mSec (0.1 sec)

Parameters	**TonesToSend** is a string of DTMF digits which is to be broadcast by the HAR. Allowed values are the digits 0-9, A, B, C, D, *, #, and spaces. Spaces will insert silence equal to the normal duration of a DTMF tone.
Device Parameters	none
Description	This script command causes the HAR to interrupt normal broadcasting and to broadcast the supplied string of DTMF tones. After the tones are broadcast, normal broadcast is resumed. This command is primarily used in support of the RC200 beacon device.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_BroadcastDTMFTones(2,*3*12)` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the handset command Broadcast a DTMF Playlist *53#.

HAR_SetMusicInput(str *OnOrOff*)	
Script Parameters	**OnOrOff** determines if the music input should be used. Values are ON or OFF.
Device Parameters	
Description	This command is only supported by the AP55 device. It turns on the mixed playback of music (from the music IN source) with the currently active playlist or broadcast list.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetMusicInput(ON)` HAR_Disconnect() SCRIPT_END
Notes	

HAR_SetDTMFDelay	
Script Parameters	
Device Parameters	
Description	
Example	
Notes	

HAR_SetRecordingSpeed(int *Speed*)	
Script Parameters	**Speed** sets the recording speed.
Device Parameters	
Description	This command is only supported by the AP55 device. Sets the recording speed for messages that are recorded by the AP55.
Example	SCRIPT_BEGIN HAR_Connect() `HAR_SetRecordingSpeed(50)`

	HAR_Disconnect() SCRIPT_END
Notes	

DCC_GetFirmwareVersion()	
Script Parameters	none
Device Parameters	**DCCFIRMWAREVERSION**
Description	Retrieves the DCC's firmware version from and stores it into the device parameter DCCFirmwareVersion.
Example	SCRIPT_BEGIN HAR_Connect() `DCC_GetFirmwareVersion()` HAR_Disconnect() SCRIPT_END
Notes	This command mirrors the serial command Report Software Revision and Date (420) ** Digital Only ** This command is only supported for digital connections.

GetBeaconState()	
Script Parameters	none
Device Parameters	**UNITONOFFSTATE**
Description	Retrieves the ON/OFF state of the beacon
Example	SCRIPT_BEGIN `GetBeaconState()` SCRIPT_END
Notes	

SetBeacon(bool *NewState*)	
Script Parameters	**NewState** is either ON or OFF.
Device Parameters	**UNITONOFFSTATE**
Description	Changes the ON/OFF state of the beacon
Example	SCRIPT_BEGIN `SetBeacon(ON)` SCRIPT_END
Notes	

VMS_Connect ()

Script Parameters	none
Device Parameters	**Digital NTCIP VMS Connections:** • VMS IP • Port Number • Username • Password
Description	Creates a connection to the VMS. Will return an error if the connection could not be established.
Example	SCRIPT_BEGIN `VMS_Connect ()` VMS_Disconnect () SCRIPT_END
Notes	

VMS_Disconnect ()	
Script Parameters	none
Device Parameters	none
Description	Disconnects an existing connection to the VMS. Will return an error if the connection did not exist.
Example	SCRIPT_BEGIN VMS_Connect () `VMS_Disconnect ()` SCRIPT_END
Notes	

VMS_RetrieveSystemStatus ()	
Script Parameters	none
Device Parameters	Issuing this command to the VMS will update the following device parameters: • **Active Message Number** • **Power Source** • **Voltage** • **Last Activation Error**
Description	Retrieves status from the VMS device.
Example	SCRIPT_BEGIN

	VMS_Connect () `VMS_RetrieveSystemStatus ()` VMS_Disconnect () SCRIPT_END
Notes	

VMS_MoveMessageToVMS (int *MediaName or ID*, int Slot Number)	
Script Parameters	**MediaName or MediaID** Specifies the media library item which should be moved, or downloaded, to the VMS. **Slot Number** is the slot number on the VMS to which the media is to be downloaded.
Device Parameters	none
Description	Downloads text to the VMS sign. The text, including all formatting characters, is stored on the specified slot on the VMS device. The slot must then be activated before it will be displayed on the device.
Example	SCRIPT_BEGIN VMS_Connect () `VMS_MoveMessageToVMS ("My Sign Message", 1)` VMS_ActivateMessage (1) VMS_Disconnect () SCRIPT_END
Notes	

VMS_RetrieveMessage (*int* Slot Number)	
Script Parameters	**Slot Number** is the slot number on the VMS to which is to be retrieved.
Device Parameters	none
Description	Retrieves the specified message from the VMS and stores it in the message library.
Example	SCRIPT_BEGIN VMS_Connect () `VMS_RetrieveMessage (1)` VMS_Disconnect () SCRIPT_END
Notes	**This function is currently not fully implemented**

VMS_ActivateMessage (*int* Slot Number)	
Script	**Slot Number** is the slot number for the message which is to be activated.

Parameters	
Device Parameters	**Active Message Number**
Description	Activates a message on the VMS display specified by the slot number..
Example	SCRIPT_BEGIN VMS_Connect () VMS_MoveMessageToVMS ("My Sign Message", 1) `VMS_ActivateMessage (1)` VMS_Disconnect () SCRIPT_END
Notes	

VMS_Blank ()	
Script Parameters	none
Device Parameters	**Active Message Number**
Description	Blanks the VMS sign (no text is displayed)
Example	SCRIPT_BEGIN VMS_Connect () `VMS_Blank ()` VMS_Disconnect () SCRIPT_END
Notes	

VMS_SetCommLossMessage (*int* Slot Number)	
Script Parameters	**Slot Number** is the slot to use for the communications lost message.
Device Parameters	none
Description	Sets the message specified in the slot number provided as the communications lost message to be displayed by the sign when it can not communicate.
Example	SCRIPT_BEGIN VMS_Connect () `VMS_SetCommLossMessage (1)` VMS_Disconnect () SCRIPT_END
Notes	**This function is currently not fully implemented**

VMS_IsMessageValid (*int* Slot Number)	
Script Parameters	**Slot Number** to validate at the VMS device.
Device Parameters	none
Description	Marks the message stored at the specified slot number as current or out-of-date based on whether or not the message is identical to the same message stored in the Platinum message library.
Example	SCRIPT_BEGIN VMS_Connect () `VMS_IsMessageValid (1)` VMS_Disconnect () SCRIPT_END
Notes	**This function is currently not implemented**

GetInputStates ()	
Script Parameters	none.
Device Parameters	**Input 1** to **Input 4** will be updated to show the state of the inputs.
Description	Retrieves the input values from the Control by Web device.
Example	SCRIPT_BEGIN `GetInputStates ()` SCRIPT_END
Notes	none.

SetRelay (*string* NewState1, ...)	
Script Parameters	**NewState1** to **NewState4** should contain the value "ON" or "OFF". The number of script parameters will depend on how many relays were configured for the device when it was created.
Device Parameters	**Relay1** to **Relay 4** will be set to the values specified.
Description	Sets the device relays to be ON (closed contact) or OFF (open contact) based on the script parameters specified.

Example	SCRIPT_BEGIN
	// Set the first relay open (no contact) and the other 3 to be closed (connected)
	`SetRelay (ON,OFF,OFF,OFF)`
	SCRIPT_END

Notes	none.

Script Keyword Reference

The following tables categorize the Script Keywords for all Device Types. The first table shows the keywords for all HAR Device Types and the last table shows the Keywords for Beacon Device Types. The Keywords are broken down by Device Type and Category. Under **Analog DR1500.160**, you will notice two modes, **Open Loop** and **Closed Loop**. These modes are communication modes for analog systems. In an **Open Loop** mode, the communication is faster, but the system does not wait for a response to every command. In **Closed Loop** mode, every command must be acknowledged before any more commands are sent. Information transfer is more reliable in **Closed Loop** mode, but communication speed will be sacrificed. For most analog systems, Open Loop is the best option. You will notice on the HAR Keyword table that some Analog Keywords are only valid in Closed Loop Mode. Also note that all Digital systems are only Closed Loop.

HAR Keywords by Category					
HAR Keyword	**AP55**	**Analog DR1500.150**	**Analog DR1500.160**		**Digital DR1500**
	Open Loop	**Open Loop**	**Open Loop**	**Closed Loop**	**Closed Loop**
Connecting					
HAR_Connect ()	✓	✓	✓	✓	✓
HAR_Disconnect ()	✓	✓	✓	✓	✓
HAR_SendSecurityCode (int *WaitBefore*, int *WaitAfter*)	✓	✓	✓	✓	
Messages and Playlists					
HAR_ActivatePlaylist (int *PlaylistSlotNum*)	✓	✓	✓	✓	✓
HAR_CancelBroadcast ()	✓	✓	✓	✓	✓
HAR_ClearAllPlaylist ()	✓	✓	✓	✓	✓
HAR_ClearPlaylist (int *PlaylistSlotNum*)	✓	✓	✓	✓	✓
HAR_ClearPlaylistRange (int *StartSlotNum*, int *EndSlotNum*)	✓	✓	✓	✓	✓
*HAR_CreatePlaylist (int *PlaylistSlotNum*, string *PlaylistItems*)	✓	✓	✓	✓	✓
*HAR_DownloadMessagesToHAR (string *MediaDownloadList*, bool *CheckReRecordFlag*)	✓	✓	✓	✓	✓
HAR_DownloadPlaylistToHAR (int *PlaylistSlotNum*, bool *CheckReRecordFlag*)	✓	✓	✓	✓	✓
HAR_EraseAllMsgs ()	✓	✓	✓	✓	✓

HAR_EraseMsg (int *MessageNumber*)	✓	✓	✓	✓	✓
HAR_EraseMsgRange (int *StartSlotNumber*, int *EndSlotNumber*)	✓	✓	✓	✓	✓
HAR_MakeRoomForPlaylist (int *PlaylistSlotNum*, bool *CheckReRecordFlag*)				✓	✓
HAR_RetrieveAllMsgStatus ()				✓	✓
HAR_RetrieveAllPlaylists ()				✓	✓
HAR_RetrieveBroadcastList ()				✓	✓
HAR_RetrieveMsgStatus (int *MsgSlotNumber*)				✓	✓
HAR_RetrieveMsgRangeStatus (int *StartMsgSlotNumber*, int *EndMsgSlotNumber*)				✓	✓
HAR_RetrievePlaylist (int *PlaylistSlotNumber*)				✓	✓
HAR_RetrievePlaylistRange (int *StartSlotNumber*, int *EndSlotNumber*)				✓	✓
HAR_SetAuxFillBtwnMsgs (int *AuxFillState*)		✓	✓	✓	✓
HAR_SetBroadcastList (string *BroadcastMessages*)	✓	✓	✓	✓	✓
HAR_SetMessageSpacing (int *NewMessageSpacing*)	✓	✓	✓	✓	✓
HAR_SetPlaylistMode (string *SynchronizedMode*)			✓	✓	✓
HAR_PlayAux()	✓	✓	✓	✓	✓
HAR Status					
DCC_GetFirmwareVersion ()					✓
HAR_GetAvailableTime ()				✓	✓
HAR_GetBuildNumber ()				✓	✓
HAR_GetEpromChecksum ()				✓	✓
HAR_GetLastModifiedTime ()				✓	✓
HAR_GetRevisionNumber ()				✓	✓
HAR_ReportTransStatus ()				✓	✓
HAR_RetrieveSystemStatus ()				✓	✓
HAR Miscellaneous					
HAR_BroadcastDTMFTones (int DTMFSpacing, string *DTMFTones*)			✓	✓	✓
HAR_OverrideAnswerMode (int *Flags*, int *SecsToOverride*)			✓	✓	✓
HAR_SetHangupTime (int *NewHangupTime*)		✓	✓	✓	✓
HAR_SetMusicInput (string	✓				

OnOrOff)					
HAR_SetRecordingSpeed (int *RecordingSpeed*)	✓				
HAR_SetTransmitter (string *OnOrOff*)	✓	✓	✓	✓	✓
HAR System					
HAR_ConfigureSystemStatus (int, int, int, int, int)			✓	✓	✓
HAR_ControlMasterAlertFlag (int *NewFlagValue*)			✓	✓	✓
HAR_OptimizeMsgSpace ()			✓	✓	✓
HAR_PerformSystemReset (int *ResetValue*)		✓	✓	✓	✓
HAR_SetAttenuatorLevel (int *NewAttenLevel*)		✓	✓	✓	✓
HAR_SetSecurityCode (string *SecurityCode*)	✓	✓	✓	✓	✓
**HAR_SetTransmitterLevel (int *NewTransLevel*)			✓	✓	✓

* denotes keywords reserved for advanced users only.
** This keyword requires that a 30 Watt Transmitter Module be installed in the HAR system and the DR1500 be installed with 30 Watt Transmitter firmware support.

Beacon Keywords				
Beacon Keyword	**Metretek Beacon**	**RC200 Beacon**	**Pager Beacon**	**iBoot Beacon**
GetBeaconState ()	✓			✓
SetBeacon (string *NewState*)	✓	✓	✓	✓

VMS Keywords	
VMS Keyword	**NTCIP VMS**
VMS_Connect ()	✓
VMS_Disconnect ()	✓
VMS_RetrieveSystemStatus ()	✓
VMS_MoveMessageToVMS ()	✓
VMS_RetrieveMessage ()	✓
VMS_ActivateMessage ()	✓
VMS_Blank ()	✓
VMS_SetCommLossMessage ()	✓
VMS_IsMessageValid ()	✓

Other Device Keywords	
Keyword	**Control By Web**
GetInputStates ()	✓

SetRelay (string *NewState*...)	✓

www.mhcorbin.com

Index