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1.0 Software Overview

The Signal-Tech Sign Control and Reporting Software is a control and management interface for the RedStorm Parking Guidance System and Signal-Tech Smart Signs. It offers comprehensive reporting based on RedStorm parking data.

1.1 System Requirements

• Computer: Server grade PC with power backup running Windows 7 or Windows Server 2008 or higher
• Minimum: 8GB RAM and 128GB of hard drive space
• Network: Ethernet and DHCP enabled

1.2 General Features

• Can control an unlimited number of signs or RedStorm Parking Guidance Systems
• When RedStorm Systems and Smart Space Available or VMS Rebel Signs are used together in the software, parking counts can be displayed in remote locations on the facility campus. Smart Signs and RedStorm Systems require network access.
• Runs as a Windows service
• Signs can be placed into logical groups for display and access purposes
• Notifications can be set up to send emails for communication failures or other exceptions
• Ethernet communication

1.3 Administrator Interface

• Shows status of all signs by sign group and what they are currently displaying
• Use to configure RedStorm Systems, Smart Signs, schedules, messages and Web Interface users
• Allows setup of unlimited email notifications
• Logs all Web user activities

1.4 Web User Interface

• Self-contained in the software
• Web Interface is viewed in a web browser (default http port 80, default https port 443)
• Shows status of signs (by sign group) and what they are currently displaying
• View live overview of RedStorm Systems as well as extensive reporting on occupancy, in/oats and hardware errors
• Change capacity and occupancy of RedStorm zones
• Permissions-based user access to sign groups or RedStorm Systems
• Allows users to manually override schedules or add scheduled overrides to the current schedule
• Optimized for viewing on mobile devices

1.5 RedStorm Parking Guidance System (PGS)

• Change capacity and occupancy of RedStorm zones
• View status of Space Available signs connected to the RS485 network
• Reporting with configurable graphs of systems, zones, and transition points
• View real-time parking stats
• Live XML feed

1.6 Scheduling

• Allows for scheduling a repeating weekly schedule
• Allows scheduled and manual overrides of schedules
• Works across multiple time zones
• Automatic count maintenance with scheduled count resets by zone, date and time
• Set conditional statements that change based on RedStorm capacity data

1.7 Static Message Smart Signs

• Signs that have static (fixed) messages where strategically placed LEDs form the characters of the messages
• Software changes messages or blanks the sign automatically, based on schedules or RedStorm capacity data

1.8 VMS Rebel Smart Signs

• VMS Rebel Programmable signs can be programmed to display any message
• Can display specific zone counts when used with a RedStorm System
• Software changes messages or blanks the sign automatically, based on schedules or RedStorm capacity data
• Provides an easy message editor with a live preview
• Supports date and time messages
• Supports scrolling text
2.0 Terminology and Organization

Conditional Message
A way to control messages displayed on the Smart Sign through the schedule based on RedStorm occupancy data using an either/or statement.

HTTP User
Users are only applicable to the HTTP Web Interface, and can be given permissions to view specific sign groups or RedStorm Systems.

Manual Override
Schedules can be overridden in real time through the Administrative Interface or Web Interface.

Message (S-VMS Rebel Programmable Signs ONLY)
A message can be either a single line or double line of text that is displayed on the sign. Multi-part messages can be created and will show in sequence for the selected amount of time. Messages will scroll automatically if too wide for the sign.

Organization
The organization of this software allows you to re-use message groups in schedules, and to use the same schedule on multiple signs.

RedStorm Parking Guidance System
A vehicle counting system for displaying available spaces on signs. Can be connected to the sign via RS485 serial port or accessed over TCP/IP.

- RedStorm SuperMaster Controller
  The device the Sign Control and Reporting Software communicates to for controlling RedStorm Systems

- RedStorm Zone
  Each zone in a RedStorm System maintains its own capacity, count and connections by transition points

- RedStorm Transition Point
  Each transition between zones or street level has a device for detecting vehicles moving in/out

- Signs
  This term appears on the Software screen to represent Space Available Signs connected to the RS485 network and controlled by the RedStorm SuperMaster Controller.

Resets
Scheduled count maintenance. Resets, as they are called in the software, can be used to schedule a reset of the zone count at a particular time of the day to a preselected count.

Schedule (Used with Smart Signs ONLY)
With Smart Signs installed in the software RedStorm can control them conditionally based on capacity data. Smart Signs are managed through a perpetual weekly schedule that loops until edited or manually overridden.

Scheduled Override
These are part of a schedule, and can be used to override the schedule for holidays or other occasions. Scheduled overrides may be added to a schedule in the Administrative Interface or Web Interface by authorized users.

Sign
Each Smart Sign connected to the software must be configured in the software. Signs are accessed over TCP/IP.

Sign Group
Signs can be placed into logical groups, to make Smart Sign organization easier. Web Interface viewing will also be easier.

Sign Type
The sign type is the product ID of the sign. Same sign types can share schedules.

Space Available Signs
Smart Space Available Signs are controlled by the RedStorm Sign Control and Reporting Software. Smart LED displays in these signs are TCP/IP equipped to communicate via Ethernet over the facility network. Smart Space Available Sign messages are managed by a schedule and can be set to either display RedStorm counts or have conditions in place and change to OPEN, CLSD or FULL based on RedStorm capacity data.

Static Message Smart Signs
S-TCL, S-PHX, S-PHXF, and S-TCIL series signs. Signs that can only display messages preset by the factory.

S-VMS Rebel Programmable Message Smart Signs
VMS Rebel Series signs. Variable message Smart Signs display programmed messages keyed in by the administrator or user. VMS message signs are only available in monochromatic displays.
Throughout this document the areas of the administrative software will be referred to as the following:

- **Menu Bar**
- **Tabs**
- **Tabs Toolbar**

*Figure 2-1. RedStorm Sign Control and Reporting Software Screen*
3.0 Setup

3.1 Software Setup
(This section MUST be completed by IT/Network Administrator)
- Download the software, by following the link in the software case
- Complete the software registration page and agree to the license agreement
- Run the Sign Control Software Setup.exe file
- Read and agree to the License Agreement
- Follow the steps to install the software

3.2 Configure the Sign Control & Reporting Software
- Select Settings in the Menu Bar
  - General Tab
    Use to change or set the Software Mode which is dependent upon the products the software will be controlling. View the Time Zone as well as the time and date. The time zone display uses the time zone settings from Windows®.
  - SMTP Tab
    Used to set the email address where error notifications are sent from.
  - HTTP Server Tab
    HTTP Server selection needs to be set to Enabled in order for the Web Interface and reporting to be active. You must provide users with a host name or IP address that is routed to the computer to allow access to the Web Interface. If a secure connection is required, select Enabled HTTPS and go to the HTTPS Tab to load the certificate. The time out selection is the amount of time someone can be inactive in the Web interface before they are logged out. Contact selection is the internal person that users of the Web Interface can contact with questions or problems. Logo selection is the company logo and will only appear on the Web Interface.
  - HTTP Users Tab
    Used to set password strength in the HTTP Web Interface.
  - HTTPS Tab
    Only required when HTTP Server mode is Enabled HTTPS. Upload a certificate file and enter the password. The file must be a PKCS#12/PFX file containing the certificate and private key.

3.3 User Setup
Setup user configuration for logging into the Web Interface. Users can be assigned different permission levels for each RedStorm System or Sign Group in the RedStorm Sign Control and Reporting Software. The following permission levels are available:

1. Sign Group Permissions
(Only available when Smart Signs are in the software)
- None – Does not have access to Web Interface
- View Only – Allows viewing sign status and viewing the assigned schedules only
- Manual Override – Allows viewing and also manually overriding sign messages
- Manual and Schedule Override – Full access to viewing and overriding signs

2. RedStorm System Permissions
- None – Does not have access to Web Interface
- View Only – View only access to RedStorm System status
- View and Reports – Allows viewing RedStorm System status as well as viewing reports
- Change Occupancy – Allows viewing of RedStorm System status and reports as well as making changes to the occupancy counts
- Change Occupancy and Capacity – Full access to changing zone capacity, updating occupancy counts and viewing system status and reports

3.3.1 Add, Edit, and Delete User
1. Select the User Tab
2. Select New User from the Tabs Toolbar
3. Enter the following fields for the User
   a. Name – The name of the User, this is exactly how it will appear in the log file.
   b. Login Username – Name used to log into the Web Interface.
   c. Login Password – Password used to log into the Web Interface. Automatically defaults to 'password'. The User will be prompted to change it immediately upon the first login attempt.
   d. Access – Sign groups and RedStorm Systems that this User will have access to and the permissions associated with each.

To Edit a User, select Edit User in the Tabs Toolbar. Adjust any selections as needed and Press OK.
To Delete a User, select the User to be deleted and use the Delete User selection in the Tabs Toolbar.
3.3 Notification Setup
Notifications can be sent to multiple emails; however each one must be set up independently.
1. Select the Notifications Tab
2. Select New Notification from the Tabs Toolbar.
3. Select the Notification Type from the drop down list
4. Enter the email address to receive the notification
5. Enter the specific variable to trigger the notification or leave it as the default; it can be adjusted at any time.

3.4 Notification Types
- **Sign Unresponsive** — by sign, minutes
  Example: Smart Sign not responding to software commands
  Trigger: Email sent when software goes 15 minutes without response from sign

- **Sign Manually Overridden** — by sign, within 1 minute
  Example: Occurs when the sign is overridden in the Web Interface
  Trigger: Email sent within 1 minute of the sign being overridden

- **RedStorm Unresponsive** — by system, minutes
  Example: RedStorm SuperMaster not responding to software commands
  Trigger: Email sent when software goes 15 minutes without response from RedStorm SuperMaster

- **RedStorm DZ Timeouts** — by system, minutes, and number of time outs
  Example: DZ Counter not responding to SuperMaster commands (RS485 Network)
  Trigger: Email sent if there are more that 100 timeouts in a 10 minute period

- **RedStorm Sensor Resets** — by system, minutes and number of resets
  Example: DZ Counter has tried to reset sensing device (sensor or detector)
  Trigger: Email sent if there are more than 60 resets per DZ in a 10 minute period

- **RedStorm Zones Full** — by system, minutes and percent occupied
  Example: If an individual Zone has an occupied count > 105% of its capacity
  Trigger: Email sent if the condition exists continuously for more than 15 minutes

- **RedStorm Zones Negative Counts** — by system, minutes and number occupied
  Example: If a individual Zone has an occupied count < -5% of its capacity
  Trigger: Email sent if the condition exists continuously for more than 15 minutes

- **RedStorm Capacity Manually Overridden**
  Example: Occurs when the RedStorm zone capacity is changed in the Web Interface
  Trigger: Email is sent within 1 minute of the capacity being changed

- **RedStorm Occupancy Manually Overridden**
  Example: Occurs when the RedStorm zone occupancy is changed in the Web Interface
  Trigger: Email is sent within 1 minute of the occupancy being changed
Assigning IP Addresses

4.0 Assigning IP Addresses

4.1 Assigning a Static IP Lease to RedStorm Systems (DHCP)
The RedStorm SuperMaster must be on your network or the Internet and be accessible from the computer running the RedStorm Sign Control & Reporting Software. The TCP/IP controller inside the RedStorm SuperMaster is configured for DHCP (Dynamic Host Control Protocol) and must be assigned a static IP lease. Since network topologies can vary greatly, the details of how the SuperMaster is assigned this IP address will be dependent upon your network and will generally fall to a network administrator.

Use the MAC address on the SuperMaster to assign a static IP lease on your network.

4.2 Assigning a Static IP Lease to Smart Signs (DHCP)
The Smart Sign must be on your network or the Internet and be accessible from the computer running the Sign Control Software. The TCP/IP controller inside the sign is configured for DHCP (Dynamic Host Control Protocol) and must be assigned a Static IP lease. Since network topologies can vary greatly, the details of how the sign is assigned this IP address will be dependent upon your network and will generally fall to a network administrator.

Using the Smart Sign Install Log, use the MAC address to assign a static IP lease to each sign.

Fill in the IP address in the appropriate space on the install log.

4.3 Manually Assigning a Static IP Lease to RedStorm Systems or Smart Signs (Non-DHCP)
We highly recommend using DHCP to assign each sign a static IP lease. However, if this is not possible, each RedStorm SuperMaster or Smart Sign can be configured with a static IP.

Each RedStorm SuperMaster and Smart Sign has a configurable Ethernet controller installed. The controller can be configured through a Web Interface or a Telnet connection.

To access the Web Interface of the Ethernet controller in the sign, you will need to connect the SuperMaster or Smart Sign to a temporary network that has DHCP enabled. Once the IP address of the sign has been established you can access the Web Interface.

To access the Ethernet controller Web Interface:
Use a browser to access the sign’s IP address – configured by the temporary DHCP network: e.g. http://192.168.1.50 (not compatible with Internet Explorer)

After any settings are changed in the Web Interface, you must click the “Apply Settings” button to have the changes applied and the controller will reboot.

To access the Telnet interface:
Use a Telnet client to access the sign using the IP address and port 9999

After making changes in the Telnet interface, you must choose the option to “Save and exit” to apply changes.

By default, the username and password for both the web and Telnet interfaces are blank, simply press Enter; a password and username are not needed.
5.0 Add, Edit and Delete a RedStorm System in the Software

The physical installation of a RedStorm System is covered in the Technical Manual supplied with the system.

5.1 Add a RedStorm System

1. Locate the factory supplied USB in the software case.
2. Insert into the PC that the software will be installed on.
3. Find the config file on the factory supplied USB.
4. Select the RedStorm Tab in the Software.
5. Select Add System from the Tabs Toolbar.
6. Enter the static IP lease assigned to the RedStorm SuperMaster Controller by the network administrator.

NOTE: It is important that the RedStorm SuperMaster static IP lease does not change, since this will cause the software to be unable to communicate to your system.

7. Select the TCP/IP radio button. (For Serial RS485 network connection, see the help file in the software).
8. Add the RedStorm configuration file to the software by selecting the XML file from the factory supplied USB.
9. Select OK.

5.2 Edit RedStorm System

This feature allows you to change the name of the RedStorm System to a specific more user friendly name, set which users can view it in the Web Interface and set the system time zone.

1. Select the RedStorm Tab.
2. Select Edit System from the Tabs Toolbar.
3. Enter a new System Name in the text box.

NOTE: Be as specific as possible to where that Zone is physically located. (Ex. Level 1 Handicap Area).

4. Edit the Capacity. The capacity is preset by the factory, but can be edited if the actual zone capacity has changed.
5. Edit the Occupied count. The occupied count is the number of cars present in the zone.

5.4 Edit Zone

This feature allows you to change a zone name to a descriptive and specific name; change the capacity of the zone; change the occupied space count and add, edit and delete Resets. Changing the zone name to something more specific will be helpful for diagnostics and reporting.

5.4.1 Edit Capacity and Count

1. Select the RedStorm Tab.
2. Select Edit Zone from the sub menu.
3. Enter a new Zone Name in the text box.

NOTE: Be as specific as possible to where that Zone is physically located. (Ex. Level 1 Handicap Area).
4. Edit the Capacity. The capacity is preset by the factory, but can be edited if the actual zone capacity has changed.
5. Edit the Occupied count. The occupied count is the number of cars present in the zone.

5.4.2 Create / Edit New Reset

1. Select New Reset to perform scheduled count maintenance. Resets are typically used when the garage or zone is empty or near empty. There is no limit to the number of resets in the schedule. Each day of the week can have one or multiple count resets.
2. Select the day, set the time for the reset and the occupied reset count.
3. Press OK.
4. Press OK.

5.5 Edit Transition Point

Transition points are the points where you enter/exit the garage from the street or leave one zone and enter another. Changing the name of the transition points from factory applied names to more descriptive and specific names will aid in easier troubleshooting and understanding of reports.

1. Select the RedStorm Tab.
2. Select the RedStorm System Tab to edit.
3. Select the Transition Point to edit in the lower left of your screen.
4. Select Edit Transition Point.
5. Enter the Transition Name in the text box.

NOTE: Be as specific as possible to where that DZ Counter is physically located. (Ex. South Side Ramp Level 1 to 2).
6. Press OK.
Using the RedStorm XML Feed

You can use the XML feed provided by the software to display parking counts in other applications.

Requirements:
- The Web Interface must be enabled.
- You must have at least one RedStorm System configured in the software.
  - The feed is not password protected and does not require a login.

Accessing the XML Feed:
The URL used to access the feed is:
http(s)://host/redstorm_status

The internal counts are only updated once per minute in the software, so there is no benefit to pulling the data more frequently than that.

5.6 Edit Space Available Sign Controlled locally by RedStorm SuperMaster Controller (Signs on RS485 network)

Space Available signs that are directly controlled by the SuperMaster instead of the software will appear in the RedStorm Tab. They will appear in the lower left corner. For Space Available signs with more than one 7-segment display, the displays will show in the software in descending order from the top of the sign to the bottom.

1. Select the Sign you want to edit.
2. Enter a new Sign Name in the text box.
3. Press OK.

5.7 Scheduled Count Maintenance

In addition to physically changing the counts to maintain the RedStorm System, count maintenance can be handled by scheduling resets in the software.

1. Select the RedStorm Tab.
2. Select the RedStorm System Tab to edit.
3. Select Edit Zone from the sub menu.
4. Select New Reset if you would like to utilize Scheduled Count Maintenance and reset counts to zero or a typical occupancy on a specific day(s) and time(s). There is no limit to the number of resets that can be scheduled. Each day of the week can have one or multiple count resets. These are best used when the garage or zone is typically near empty.
5. Select the day, set the time for the reset and the occupied reset count.
6. Press OK.
7.0 Smart Sign Setup for Static Message & Space Available Signs

Refer to the Smart Sign Install Log(s) for sign location and IP assigned during installation.

1. Select the Signs Tab.
2. Select Add Sign from the Tabs Toolbar.
3. Using the Smart Sign Install Log, enter the static IP lease, port, and address that was assigned to the sign. The port defaults to 10001 and the address to 1. (In more complex setups the port entered in the software may need to be different because of port forwarding or other network configurations).

NOTE: It is important that the static IP lease does not change, since this will cause the software to be unable to communicate to your sign.

4. Enter Sign Name.

NOTE: We recommend the sign name be specific to the physical location of the sign. This will help differentiate the same sign types in the software. Ex. ‘South Cashier Lane 1’ or ‘Level 2 Ramp Space Available’.

5. In the drop down next to Sign Group:

   Select New Sign Group from the drop-down menu or if your sign group already exists in the software you can make that selection.

   NOTE: The sign group is a way to logically organize your signs. It may be easiest to create groups by location. (Ex. Smith Street Garage).

6. Select Time Zone.

   The Time Zone defaults to ‘Same as Server’ but can be adjusted to fit any time zone the sign is in. If the server and sign are in the same time zone, keep the default.

7. In the drop down next to Schedule:

   Select Create New Sign Schedule or select an existing one from the drop down menu. If you are creating a New Sign Schedule refer to Section 8.0.

8. After setting the schedule, Press OK to complete the process of adding that sign.

9. Repeat the steps in Section 7.0 until all Static Signs have been added to the software.

10. Create the sign schedule.

    a. Refer to Section 8.0 when the message displayed is dependent on Day and Time.

    b. Refer to Section 9.0 when the message displayed is dependent on RedStorm PGS occupancy data.

NOTE: To edit or remove a sign, use the Edit Sign and Remove Sign selections from the Tabs Toolbar.
8.0 Creating a Static Message Smart Sign Schedule

1. Select the Schedules Tab.
2. Select New Schedule from the Tabs Toolbar, a drop down will appear with all of the sign types in the software.
3. From the drop down menu, choose the sign type to correspond with the New Schedule.
4. Assign a Schedule Name.
   **NOTE:** We recommend using the facility name + sign message such as, 'South St Cashier' 'X Arrow'.
   **NOTE:** Schedule names can only contain alphanumeric characters.
5. Double click anywhere in the schedule grid to get started.
6. Enter the following information:
   a. Message – Select the button labeled <Click to Set Messages>, choose the message(s) to be displayed from the pop up box.
   b. Select message(s) from each drop down to display during this time span and then Press OK.
   c. Day – Select single or multiple days for the message to appear.
   d. Enter Start and End Times for the message to be displayed.
   e. Press OK.
7. Using the on screen instructions, complete the rest of the schedule.
8. When the schedule is complete, Press OK.

**Tech Tip:**
- Double-click an empty area within the grid display to create a new schedule item.
- Double-click an existing schedule item to edit it.
- Right-click an existing schedule item to edit or delete.
- Drag edges of the daily schedule to change start and end times of the schedule items.

If there is a gap in the schedule, the sign(s) on that schedule will turn off until the sign schedule reaches an active part of the schedule.

If a power outage occurs, the signs will blank out until the power is restored. Once power is restored the sign(s) will resume the assigned schedule.

Weekly schedule repeats until the schedule is edited.

The weekly schedule can be temporarily interrupted by setting a Manual or Scheduled Override message.
9.0 Creating a Conditional Schedule based on RedStorm Parking Guidance System Count Data

If you have Smart Signs installed with a RedStorm System, the Smart Signs can be set to display a specific message based on parking occupancy data from the RedStorm System.

1. Select the Schedules Tab.
2. Select New Schedule from the Tabs Toolbar, a drop down will appear with all of the sign types in the software.
3. From the drop down menu, choose the sign type to correspond with the New Schedule.
4. Assign a Schedule Name.

**NOTE:** We recommend using the facility name + sign message such as, ‘South St Cashier’ ‘X Arrow’ or ‘Level 2 Ramp Space Available’.

**NOTE:** Schedule names can only contain alphanumeric characters.

5. Double click anywhere in the schedule grid to get started.
6. Enter the following information:
   a. **Message** – Select the button labeled <Click to Set Messages>.
   b. Select <Conditional> from the drop down.
      i. Select <Assign Zones, Conditions> Choose the Zone/Level count to be displayed. Displays are listed in ascending order from bottom to top.
      ii. Set the occupancy metric and message to be displayed.
      iii. Then select the message to be displayed prior to reaching this metric.
   iv. Examples:
      1. **Space Available Sign** - at 90% occupancy display FULL (Red); from 0-90% occupancy display <Count> (Green).
      2. **X|Down Arrow Sign** - at 95% occupancy display X (Red); from 0-95% occupancy display Down Arrow (Green)
   c. **Day** – Select single or multiple days for the message to appear.
   d. Enter Start and End Time.
   e. Press OK.

**NOTE:** Because conditional statement messages are based on either/or occupancy conditions they will appear as formulas in the schedule. (Ex. <Cnd:1:2>).

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**Tech Tip:**
- Double-click an empty area within the grid display to create a new schedule item.
- Double-click an existing schedule item to edit it.
- Right-click an existing schedule item to edit or delete.
- Drag edges of the daily schedule to change start and end times of the schedule items.

If there is a gap in the schedule, the sign(s) on that schedule will turn off until the sign schedule reaches an active part of the schedule.

If a power outage occurs, the signs will blank out until the power is restored. Once power is restored the sign(s) will resume the assigned schedule.

Weekly schedule repeats until the schedule is edited.

The weekly schedule can be temporarily interrupted by setting a Manual or Scheduled Override message.
Add, Edit and Delete Override Messages

10.0 Add, Edit and Delete a Scheduled Override Message

A scheduled override is used to interrupt a regular schedule to display something different during a specific period of time.

10.1 Add a New Override Message

1. To add a new override message you must be in an active schedule.
2. Select New Override located to the left under the schedule grid.
3. Enter the Description of the override in the text box. The Description is just an explanation of the reason for the override. An example may be “Labor Day Holiday”.
4. Select the Message button labeled <Blank>.
5. Select the message(s) that need to display on the sign during this override period, and then Press OK.

10.2 Edit or Delete Overrides

1. You can edit or delete overrides by highlighting the override and using the Edit Override and Delete Override buttons.
2. Use the Clear Past Overrides button to delete expired overrides. If the same overrides occur each year, you can keep expired overrides and just change the date to reflect the next year.
3. The next scheduled override will appear on the Schedules screen.

10.3 Conditional Scheduled Override

1. Select the Message button labeled <Blank>.
2. Select <Conditional> from the drop down.
3. Check the boxes next to the zone(s) whose occupancy data will conditionally control the sign message.
4. To set the occupancy metric and the message that will be displayed, you will pick both the message that will display when the condition has been met and the message that will display when the condition has not been met. It is based on a percentage of occupancy in selected zones.
5. Press OK.

NOTE: Because conditional statement messages are based on either/or occupancy conditions they will appear as formulas in the schedule. (Ex. <Cnd:1:2>).

11.0 Add and Delete a Manual Override Message

A manual override allows you to immediately interrupt a running schedule to display a different message on the sign. To schedule a future override of the schedule, see Section 10.0 (Add, Edit and Delete a Scheduled Override Message)

1. Select the Signs Tab.
2. Highlight the sign that needs to have an immediate Manual Override applied to it.
3. Select the Manual Override button located toward the bottom of screen on the right side of the sign image.
4. Select the message(s) that needs to display immediately.
5. Select the time that the override will expire. This time can be set for up to 24 hours from the current time, in 15 minute increments. The sign will resume its regular schedule when the override message expires.
6. Press OK.
7. The manual override will appear in the Status column in the Signs Tab.
8. You can remove the manual override at any time using the Remove Manual Override button at the bottom of the screen.
12.0 VMS Rebel Programmable Message Smart Sign Setup

1. Refer to the Smart Sign Install Log(s) for sign location and IP address entered during installation.
2. Select the Signs Tab.
3. Select Add Sign from the Tabs Toolbar.
4. Using the Smart Sign Install Log, enter the static IP lease, port, and address that was assigned to the sign. The port defaults to 10001 and the address to 1. (In more complex setups the port entered in the software may need to be different because of port forwarding or other network configurations).
5. Enter Sign Name.

**NOTE:** It is important that the static IP lease does NOT change, since this will cause the software to be unable to communicate to your sign.
6. Select <New Sign Group> from the drop-down menu or if your sign group already exists you can make that selection.

**NOTE:** The sign group is a way to logically organize your signs. It may be easiest to create groups by location. (Ex. Smith Street Garage).

7. Time Zone

   The Time Zone defaults to ‘Same as Server’ but can be adjusted to fit whatever time zone the sign is in. If the server and sign are in the same time zone, keep the default.

8. In the drop down next to Schedule:

   Create New Sign Schedule or select an existing one from the drop down menu. If you are creating a New Sign Schedule see Section 13.

9. After selecting the schedule, Press OK to complete the process of adding that sign.
10. Repeat Section 12 steps until all VMS Rebel Programmable signs have been added to the software.

**NOTE:** To edit or remove a sign, use the Edit Sign and Remove Sign selections from the Tabs Toolbar.

13.0 Creating a VMS Rebel Sign Schedule

1. Select the Schedules Tab.
2. Select New Schedule from the Tabs Toolbar.
3. From the drop down menu, select New VMS Rebel Schedule.
4. Assign a Schedule Name.

**NOTE:** We recommend using the facility name + sign message such as, ‘South St Cashier X’ ‘VMS Rebel 16x48’.

**NOTE:** Schedule names can only contain alphanumeric characters.
5. Double click anywhere in the schedule grid
6. Enter the following information
   a. Message - Click the drop down box next to the Message label and choose an existing Message or create a <New Message>.
      If you are adding a <New Message>, go to Section 14.0 for instructions
   b. Select message(s) from each drop down to display during this time span and then Press OK.
   c. Day - Select single or multiple days for the message to appear
   d. Enter Start and End Time for the message to be displayed.
   e. Press OK.

**Tech Tip:**

- Double-click an empty area within the grid display to create a new schedule item.
- Double-click an existing schedule item to edit it.
- Right-click an existing schedule item to edit or delete.
- Drag edges of the daily schedule to change start and end times of the schedule items.

If there is a gap in the schedule, the sign(s) on that schedule will turn off until the sign schedule reaches an active part of the schedule.

If a power outage occurs, the signs will blank out until the power is restored. Once power is restored the sign(s) will resume the assigned schedule.

Weekly schedule repeats until the schedule is edited.

A schedule can be created to control a single S-VMS Rebel sign or to be shared among many S-VMS Rebel signs.

The weekly schedule can be temporarily interrupted by setting a Manual or Scheduled Override message.
Add, Edit and Delete VMS Rebel Message

The VMS Rebel Messages Name is used to organize and schedule display messages for the VMS Rebel Sign.

1. Select the VMS Messages Tab.
2. Select New Message from the Tabs Toolbar.
3. Enter the Message Name.
   The Message Name is a unique description of the message parts.
4. Enter the message for the sign to display in the box labeled Text.
5. You can preview the message in a specific LED display size by setting the Preview Sign Type to the sign display size. This setting is located on the bottom left corner of the pop-up window.
6. While typing, the message will appear in the preview screen. The message will automatically scroll if the message is too long for the VMS Rebel Sign.
7. Check the box next to the words Small Text to change the height of the characters.
8. To add additional message parts select Add Message Part. Enter the message part in the next Text area. The message parts will run sequentially and display each message part for the number of seconds entered in the Display For selection.
9. To preview the parts of the message in sequence, press the Preview All button.
10. To display Date, Time or a symbol, select the Insert Date Time or Symbol button.
11. To display RedStorm Counts, select the Insert Date Time or Symbol button. Then select the Available Spaces button. Select Assign Zone (0) button to select the zone count to display.

NOTE: When using RedStorm counts, symbols, date or time it is important to enter the Message Name with as much detail as possible. When the Message Parts appear in the Text Field on the schedule, they appear as the same symbol space holder as every other symbol. For example, if Date and Time are the display selections, set the Message Name to Date and Time. Make sure they are in the same order as the message parts.
12. To edit or delete an existing message, highlight the message you want to change and select either Edit Message or Delete Message from the Tabs Toolbar.
15.0 **VMS Rebel Conditional Scheduling**

If you have a VMS Rebel installed with a RedStorm System, the VMS Rebel Signs can be set to display based on parking occupancy data from the RedStorm System.

1. Select the **Schedules** Tab.
2. Select **New Schedule** from the **Tabs Toolbar**, a drop down will appear with all of the sign types in the software.
3. From the drop down menu, select **New VMS Rebel Schedule**.
4. Assign a **Schedule Name**.
   
   **NOTE:** We recommend using the facility name + sign message such as, ‘South St Cashier’ ‘VMS Rebel 16x48’
   
   **NOTE:** Schedule names can only contain alphanumeric characters.
5. Double click anywhere in the schedule grid to get started.
6. Enter the following information:
   
   a. **Message** – Select the button labeled <Click to Set Messages>.
   b. Select <Conditional> from the drop down.
   c. Check the boxes next to the zone(s) whose occupancy data will conditionally control the sign message.
   d. To set the occupancy metric and the message that will be displayed, pick both the message that will display when the condition has been met and the message that will display when the condition has not been met. It is based on a percentage of occupancy in the selected zones.
   e. Press **OK**.

   **NOTE:** Because conditional statement messages are based on either/or occupancy conditions they will appear as formulas in the schedule. (Ex. <Cnd:1:2>).

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**Tech Tip:**
- Double-click an empty area within the grid display to create a new schedule item.
- Double-click an existing schedule item to edit it.
- Right-click an existing schedule item to edit or delete.
- Drag edges of the daily schedule to change start and end times of the schedule items.

If there is a **gap in the schedule**, the sign(s) on that schedule will turn off until the sign schedule reaches an active part of the schedule.

If a **power outage occurs**, the signs will blank out until the power is restored. Once power is restored the sign(s) will resume following the assigned schedule.

Weekly schedule repeats until the schedule is edited.

A schedule can be created to control a single S-VMS Rebel sign or to be shared among many S-VMS Rebel signs.

The weekly schedule can be temporarily interrupted by setting a **Manual or Scheduled Override** message.


The Web Interface is for authorized users only. The administrator of the software will assign the user the proper level of access. The network administrator will provide the web path, user name and default password to access the Web Interface.

The Web Interface categorizes information first by installed RedStorm Systems then by Sign Groups. The Web Interface allows users, depending on permissions assigned in the administrative interface, to view reports based on RedStorm parking data, change capacity and occupancy of parking zones, view status of Smart Signs, and override Smart Sign messages immediately or at a future time.

16.1 Reporting Capabilities

1. Selections
   a. Date Range (Day, week, month, custom)
   b. Display as a Line or Bar Graph
   c. Download to .CSV
   d. Print

2. System
   a. Occupied Spaces (Displayed as either a count or a percentage of capacity over time).
   b. Available Spaces
   c. Total Entrances (Total system-wide Ins).
   d. Total Exits (Total system-wide Outs).
   e. Turnover (Total facility Ins versus capacity over time).
   f. Exit Utilization (Comparative utilization of DZ Counter Out counts with street transition points).
   g. Entrance Utilization (Comparative utilization of DZ Counter In counts with street transition points).
   h. Avg. Length of Stay (Average hourly count over a period of time relative to Ins and Outs during the same time period).

3. Zones
   a. Occupied Spaces (Displayed as either a count or a percentage of capacity over time).
   b. Available Spaces
   c. Total Entrances
   d. Total Exits
   e. Exit Utilization
   f. Entrance Utilization

4. Transition Points
   a. Total Entrances
   b. Total Exits

5. Diagnostics / Maintenance
   a. Timeouts (number of times DZ Counter communication timeouts have occurred).
   b. Resets (number of times the DZ Counter has tried to reset the sensing device (sensor or detector)).

16.2 View Reports

1. Login to the Web Interface.
2. Select the Reports button.
3. Select the specific criteria needed to generate the report. Reports can be generated by Systems, Zones or Transition Points. The frequency can be by Day, Week, Month or a Custom date range. View the reports by Count or Percent and as a Line Graph or a Bar Graph.
4. To download the graph data, use the Download button.
5. To print the graph, use the Print button. To save the graph as a pdf, use a PDF writer.

16.3 Change Capacity and/or Occupancy

1. Locate the RedStorm System to be edited.
2. Select the Zone.
3. Enter the new Capacity or Occupancy.
4. Press Override.

16.4 Smart Sign Functions of the Web Interface

1. View sign status.
2. View schedule being displayed by the sign.
3. Manually override current message schedule (immediate).
4. Add a scheduled override to the current message schedule (future date).
5. Return to perpetual message schedule.

16.5 Manually Override a Static Smart Sign in the Web Interface

A manual override is an immediate message override to the perpetual schedule. This is used when unforeseen circumstances require the sign message to change immediately.

1. Log in to the Web Interface.
2. Find the Static Smart Sign you need to override
   (All Smart Signs are below the RedStorm System(s) and are
   organized by Sign Group).

3. Select the bar with the sign image in it.

4. Select the Manual Override button.

5. In the drop down menu next to the sign name and
   select the message to illuminate or change the sign
   to blank.

6. Set the expiration time. The time can be set for up to 24
   hours from the current time in 15 minute increments.

7. Press Override.

8. Use the Change Manual Override button to change
   the message you selected and use the Remove Manual
   Override button to revert the sign message back to the
   scheduled message.

16.6 Manually Override a VMS Rebel Smart Sign in the Web Interface

1. Log in to the Web Interface.

2. Find the VMS Rebel Smart Sign you need to override
   (All Smart Signs are below the RedStorm System(s) and are
   organized by Sign Group).

3. Select the bar with the sign image in it.

4. If a schedule is assigned to the VMS Rebel Sign:
   a. Select the Manual Override button.
   b. Type the message to be displayed on the sign.
   c. Set the expiration time. The time can be set for up to 24
      hours from the current time in 15 minute increments.
   d. Press Override.

5. If there is NO schedule assigned to the VMS Rebel Sign,
   all of the VMS Rebel Messages in the software will
   appear as selections in the manual override screen.
   a. Select either the Manual Override button or the
      predefined message created through the
      Administration Interface.
   b. Using an existing message:
      Select the button with administrator created
      existing message, there is no expiration time and
      this selection will display until manually changed to
      a different message.
   c. For a Manual Override:
      i. Select the Manual Override button.
      ii. Type the message to be displayed on the sign.

iii.Set the expiration time. The time can be set for
   up to 24 hours from the current time at 15
   minute increments.

iv. Press Override.

16.7 Adding a Scheduled Override For Static and
   VMS Rebel Smart Signs in the Web Interface

A scheduled override is a future override of the perpetual
schedule. Special events, weekends, and holidays are
examples of when to use a scheduled override.

1. Log in to the Web Interface.

2. Find the VMS Rebel or Static Message Smart Sign you
   need to override (All Smart Signs are below the RedStorm
   System(s) and are organized by Sign Group).

3. Select the bar with the sign image in it.

4. Scroll down to the bottom of the page, select Add
   New Override bar.

5. Type in the override name.
   (This name is not a sign message but a label for the override)

6. Select the Start and End Date of the override as well as
   the time for the override.

7. Select the message to display as the override. The
   message can also be blank or a conditional override
   based on RedStorm data.
   a. If the override is conditional:
      i. Select <Conditional> from the drop down.
      ii. Check the boxes next to the zone(s) whose
          occupancy data will conditionally control the
          sign message.
   iii. To set the occupancy metric and the message
       that will be displayed, pick both the message that
       will display when the condition has been met and
       the message that will display when the condition
       has not been met. It is based on a percentage of
       occupancy in the selected zones.
   iv. Press Save.

NOTE: Because conditional statement messages are
   based on either/or occupancy conditions they will appear
   as formulas in the schedule. (Ex. <Cnd:1:2>).

NOTE: New messages for the VMS Rebel must be created
   in the Administrator Interface. Refer to Section 13.0.