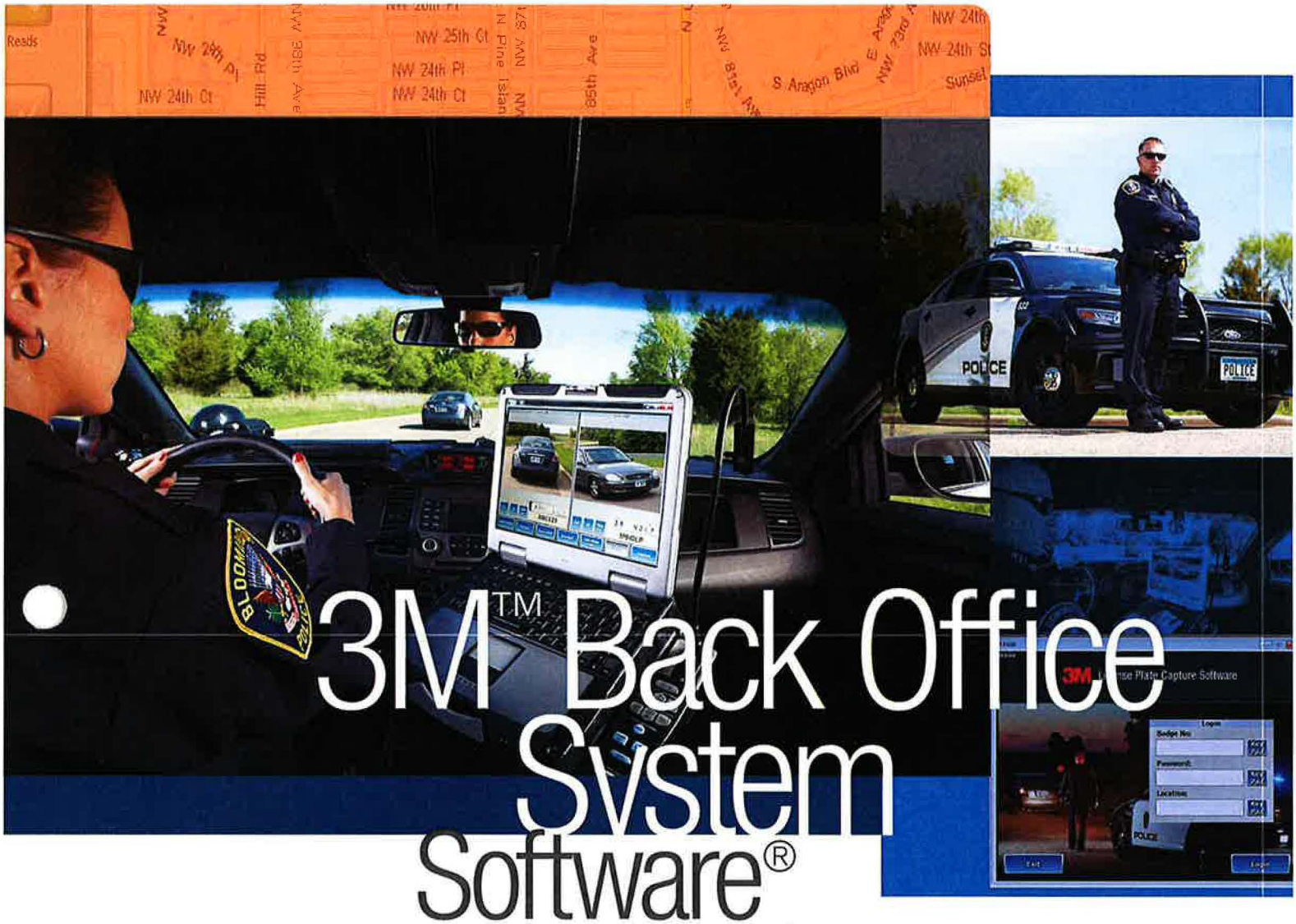
3M Traffic Safety and Security Division
User's Manual



3M™ Back Office System Software®

User's Manual

Version 3.2 or above

3M

Table of Contents

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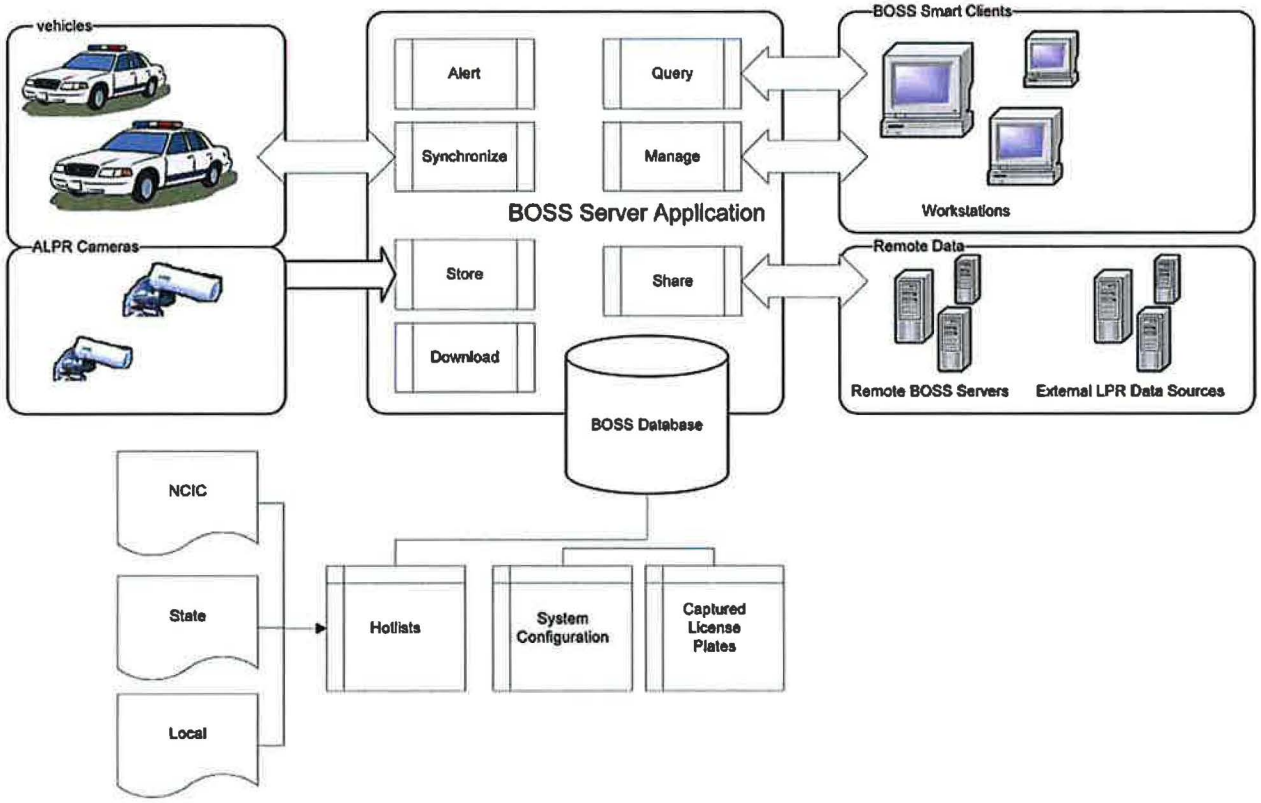
Version

The manual documents the 3.2 series version of the BOSS software. The document was last updated on March 27, 2014.

1 Introduction

This document serves as a user's manual for the 3M Back Office System Software (BOSS) version 3.2 or above and describes the various features and functionality of the application. BOSS is a management and administration tool for the 3M Automatic License Plate Recognition (ALPR; also known as ANPR, or Automatic License Number Recognition) systems. The BOSS server application provides an interface for user maintenance, data queries, import and export of data, and dispatch functions. BOSS lets an Administrator specify the databases used by both mobile and fixed camera installations. BOSS retrieves these databases on a regular schedule; manages the users of the 3M™ License Plate Capture Software (LPCS) systems and BOSS Smart Client workstations; provides a central repository for data collected by mobile LPCS deployments and fixed camera installation; provides reporting and data management tools; provides hit detection and dispatch functions for fixed camera installations; and allows for data mining and data sharing with other agencies.

The following schematic shows how the BOSS server application works together with Smart Client workstations, various data sources, LPCS, and the full line of ALPR cameras to create a comprehensive solution.



1.1 The Design of 3M Back Office System Software Version 3.2 and Above

The design of BOSS version 3.2 or above offers ease of accessibility with a user-friendly look and feel. Large, easy-to-identify icons provide intuitive navigation, and the frequently used elements are readily available. The user interface (UI) is very recognizable and comfortable, particularly for users already familiar with Windows-based applications, including Microsoft® Office software, or the 3M License Plate Capture Software. In addition, users can enter a minimum amount of information to add a data object, with the ability to include more details if needed.

1.2 Organization of This User's Manual

The *3M Back Office System Software, Version 3.2 or above, Software User's Manual* guides BOSS users and Administrators through the following topics:

- Logging In
- Application Layout
- Access Permissions: Users/Groups/Roles
- Devices and Sites
- Data Sharing
- Hotlists
- Hotlist Formatters
- Alerts
- Dispatch
- Querying Stored Data
- Reports
- Client Tools
- Archiving Data
- System Settings

The appendices provide system requirements for BOSS servers and Smart Client workstations and a guide to installation and configuration. Additional appendices cover troubleshooting and BOSS plug-ins. A glossary of commonly used terms and acronyms follows the appendices.

2 Logging In

2.1. 3M Back Office System Software Administrator Login

During each new installation of the 3M Back Office System Software, a default user of "admin" is created, with the password of "admin1." The installer or designated BOSS Administrator can log in with this account to create additional users and otherwise configure the system. It is important that the "admin" password be changed in order to protect the system's security. Likewise, it is equally as important to keep this and all passwords confidential in order to protect the security of the BOSS system. Section 17, Installation and Configuration, offers more information on setting up users and passwords.

2.2 User Logins

The 3M Back Office System Software will require a user to log in with a username and password only if there is no BOSS user matching the current Active Directory user login. In other words, if the username currently logged into Windows matches a username in the BOSS system, the user is automatically logged into the application when it is started, and no login screen will appear.

For example, if user "bsmith" is logged in using Windows Domain Authentication through Active Directory ("logged into Windows"), when the BOSS Smart Client is started, and a "bsmith" user exists within the BOSS system, no login screen will appear; the application will authenticate the user and load automatically. If a user logs onto Windows with a name that is not an exact match to a username in the BOSS system, or is not logged into the same Windows Domain, a login screen will appear. The user will then need to enter a correct BOSS user name and password in order to enter the application.

Note: In order for a user to be automatically logged into BOSS, the Active Directory user must be in the same Windows domain as the 3M Back Office System Software server.

2.3 Login Dialog

1. Enter your username in the Login field.
2. Enter the correct password in the Password field. **Note:** Passwords are case sensitive.
3. Click **OK** to complete the login process.

2.3.1 Storing Username and Password

Select the **Remember my password** option to save the password to the computer's local Windows registry and automatically fill in both Login and Password fields on subsequent logins.

Selecting this option only remembers the login information for the current Windows User on the local computer. It will not apply to a different Windows user logged in the same computer and will not apply to the same user logging in a different computer. This option need not be checked every time. Once checked, the option will stay that way until it is deselected during a login.

Note: The username and the password are stored in the Windows Registry. This can be a security risk. It is recommended that you not use the **Remember my password** option unless the Windows workstation can be secured against unauthorized access.

2.3.2 BOSS Client Connection Settings

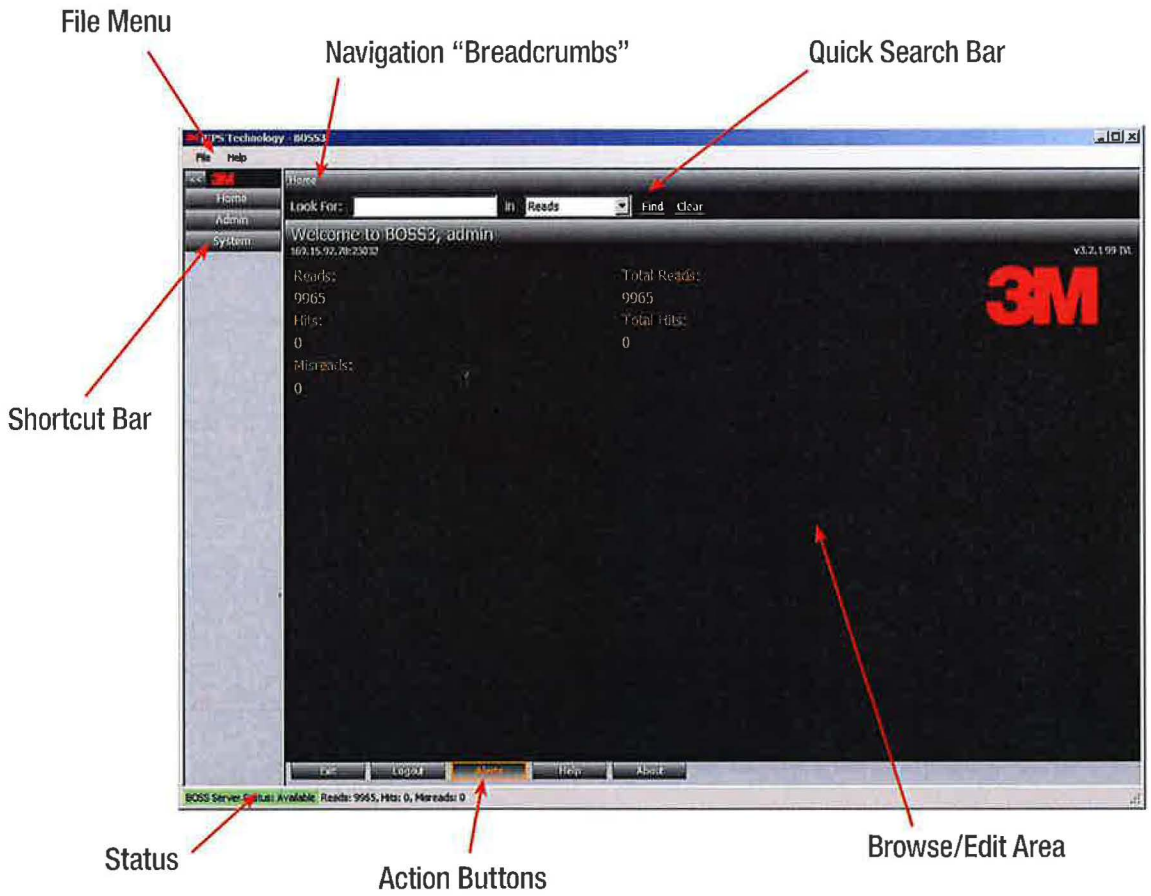
Click the **BOSS Server** button on the Login screen to view or change the client connection settings.

Server – IP address, computer name, or DNS address can be used in the Server field as long as the client can reach the server using the value entered.

Port – The default port used for connecting to the BOSS server is 23032. This should only be changed here if the BOSS server has been configured to use a non-default port.

3 Application Layout

3.1 Components of the BOSS Application Screen



File Menu – The File menu of the application resides in the very top left of the application window. The File menu is always visible and available regardless of the screen or shortcut selected. The **Exit** option is available through this menu.

Navigation – The navigation "breadcrumbs" appear at the top of the BOSS screen as different actions are selected. By clicking on the links it is possible to backtrack to a previous screen.

Shortcut Bar –The Shortcut bar (the panel on the left of the screen) contains icon buttons for the various operations available. The shortcut icons are divided into three categories: **Home**, **Admin**, and **System**. Each time the application is started, all of the categories are closed with no shortcuts displayed. Click on any of the three headings to access the shortcuts within that category. The actual categories and shortcuts that appear depend on the logged-in user's privileges.

The Shortcut bar can be collapsed entirely to provide a larger space for the Browse/Edit area by clicking the << button at the top left of the screen. To expand the Shortcut bar again, click the >> button.

Browse/Edit Area – The widest portion of the application window, the Browse/Edit area is where data is displayed for viewing or editing. The actual data displayed here depends upon the shortcut icon that is selected from the Shortcut bar.

Quick Search Bar – Directly above the Browse/Edit Area, the Quick Search bar allows for simple, immediate queries of BOSS data. Using the

Quick Search bar simply involves typing the text to query in the **Look For** field and selecting the type of data (reads, hits, etc.) to search in the drop-down box.

Action Buttons – These are the buttons directly below the Browse/Edit area. These buttons will differ depending on the shortcut icon selected. The actual buttons that appear will also vary depending upon the user's privileges.

Status Bar – This is the area along the very bottom of the application window that displays the following system information:

- **BOSS System State** (Available or Offline): "Available" status indicates that the client is currently communicating with the BOSS server application and the server is running. This status is highlighted with a green background. "Offline" status indicates that the client is currently not able to communicate with the BOSS server and is highlighted with a red background. In this event, the BOSS UI will continue to check for the BOSS server to become available again. After three attempts to reconnect, the user will be notified that the connection could not be re-established and will be provided further instructions on how to proceed.
- **Reads:** The total number of reads currently contained in the BOSS system.
- **Hits:** The total number of hits currently contained in the BOSS system.
- **Misreads:** The total number of misreads currently contained in the BOSS system.
- **Devices Offline:** The number of fixed camera devices that are currently identified as offline.

3.2 The BOSS Home Screen

The BOSS Home screen is displayed within the Browse/Edit area upon login. The top banner displays the username of the current BOSS user, the BOSS server address, and current system statistics. Statistics may take a few moments to update after login. The action buttons, described below, are displayed along the bottom of the screen. The actual buttons that display will vary depending upon the user's privileges.

Exit – Exit the BOSS application.

Logout – Log out from the current session to the Login screen.

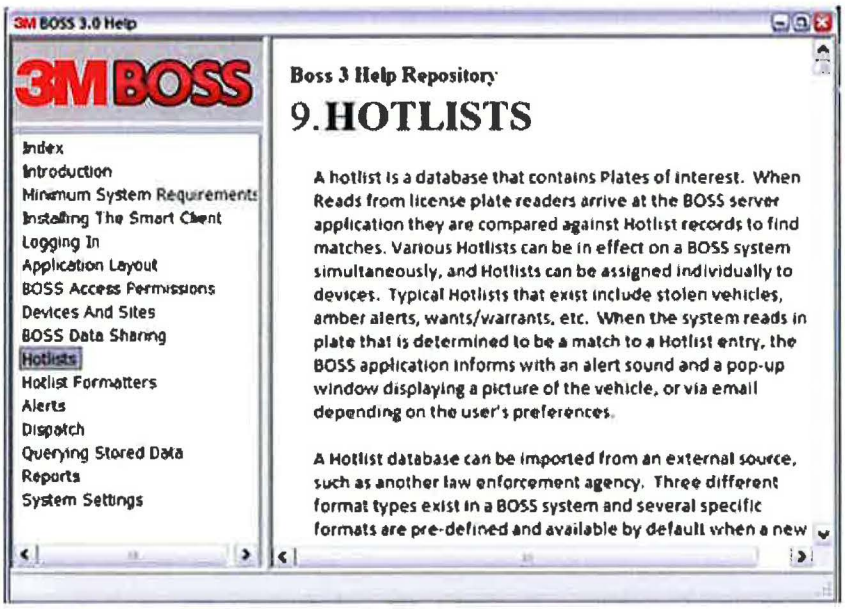
Alerts – Toggle dispatch alerts on (orange highlight) and off. This button will not be displayed if the user is not authorized to access the dispatch screen, or if the user has not chosen to receive dispatch alerts in Preferences *(Section 5.3)*.

Help – Activate the help system.

About – Display application information.

3.3 Help Documentation

BOSS provides a help document accessible in the client application. To access help, select **Help** in the File menu area or press the **F1** button. A help document will be displayed in a browser window and is indexed and searchable for ease of use.

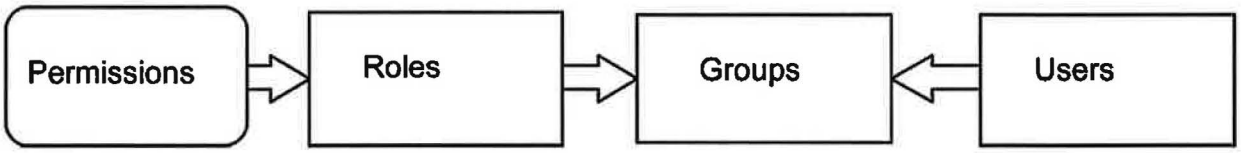


3.4 Minimizing the BOSS Application

The BOSS application can be minimized to the Windows System Tray using the Windows minimize button on the right upper corner of the BOSS application window. To restore the BOSS application, click on the **BOSS 3M** icon. When the application is minimized, real-time alerts will still be displayed.

4 BOSS Access Permissions: Users/Groups/Roles

Access permissions to various functions (such as reports or dispatches) in BOSS are administered through users, groups, and roles. Each individual who will use the BOSS software must log in via a user account. Each user account is assigned to a group. Every group is assigned a role (such as Administrator or Dispatcher), which determines the set of functionality to which the group's members will have access:



The security parameters defined in a role apply to a user via the group to which the user belongs.

4.1 Permission Levels

The following table lists the levels that apply to permissions:

LEVEL	EXPLANATION
No Access*	No permissions to the function
Read Only	View-only permissions to the function. Add/Change/Delete are not permitted.
Full Access	Complete permissions to the function. View/Add/Change/Delete are permitted.

**When a user's effective permissions to a function are No Access, the function is not visible to the user. For example, if a user has No Access privileges to the System function, the System category is not displayed.*

4.2 Permissions

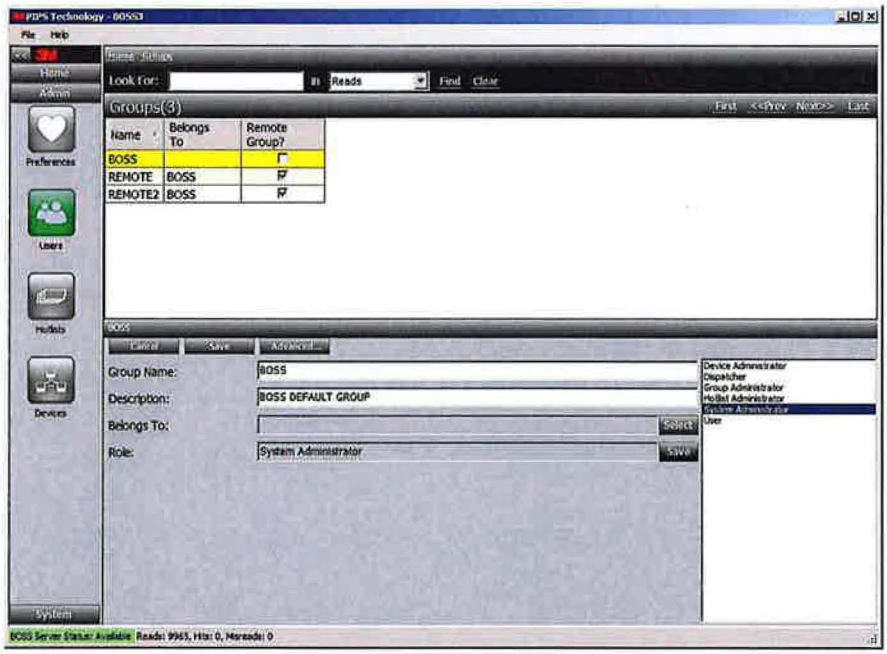
The following table lists the functions that are controlled by permissions levels:

PERMISSION	EXPLANATION
Reads	Plate read information
Dispatch	Real-time monitoring and hit alerts
Users	Groups and user accounts
Hotlists	Hotlists (plates of interest)
Devices	Sites and ALPR camera devices
System	System configuration options

See Section 15.4, Roles, for more information on setting permissions.

4.3 Roles

Roles are access permission profiles. BOSS comes with several predefined roles. A BOSS Administrator is able to add additional roles to the system. A BOSS Administrator is also able to alter and delete any roles. Roles define a **permission level for different functions** of the system. *See Section 15.4, Roles, for additional information.*

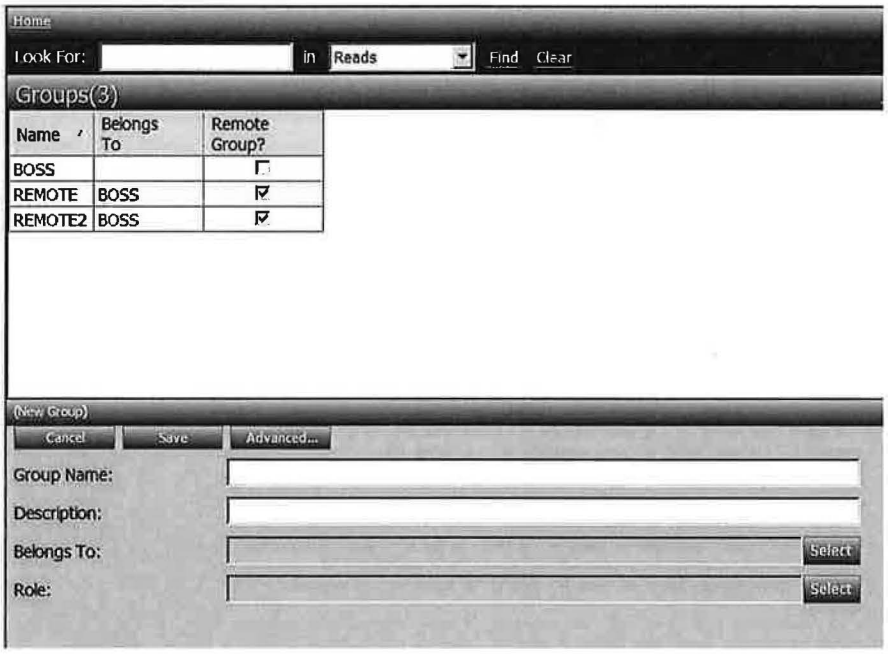


The following roles are installed by default in a BOSS system:

- System Administrator
- User
- Dispatcher
- Group Administrator
- Device Administrator
- Hotlist Administrator

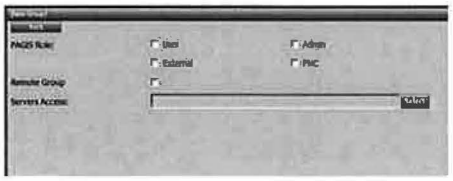
4.4 Groups

Groups are collections of users that have the same permissions. Groups provide an efficient way to organize users, for example by organizational units, and easily assign permissions to those users. Using groups is optional. A default group named "BOSS" automatically exists within a BOSS system, and user accounts will belong to the "BOSS" group by default. The BOSS group cannot be deleted.



4.4.1 Creating a New Group

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Users** shortcut. A list of all current users will display in the Browse/Edit area.
3. Click the **Groups** button at the bottom of the Browse/Edit area. A list of all current groups will display in the Browse/Edit area.
4. Click the **New** button. The New Group Entry screen will display.
5. In the Group Name text box enter a name for the group. (**Note:** The group name must have a minimum of three characters.)
6. In the Group **Description** text box enter a description of the group (optional).
7. Each group, except for the default BOSS group, is required to have a parent group. In the Belongs To field, click the **Select** button to view a list of all existing groups. Click on the desired group and click the **Save** button to select. The name of the selected group will display in the Belongs To field as the parent group.
8. Assign a role to the group. In the Role field, click the **Select** button to select from the existing roles. Click the desired role from the list and click the **Save** button to make the selection. The name of the selected role will appear in the field.
9. Click the **Advanced...** button to access additional, optional settings for the new group.



4.4.1 Creating a New Group *(continued)*

PAGIS Role (User/Admin/External/PNC) – Check desired PAGIS (now LPCS) roles to grant the new group for the associated permissions in LPCS. *Please refer to the 3M License Plate Capture Software User's Manual for more information.*

Remote Group – Select this option to designate the group as remote. When a BOSS Administrator wants to give access to another BOSS system for remote queries ("data sharing," *see Section 6*), a login must be created and assigned to a group that is flagged as a remote group. The remote BOSS Administrator will then create a remote site with credentials for that login.

Servers Access – This option allows for defining which, if any, sites will be accessible by this group. Click the **Select** button to access a list of sites.

Note: There are two sites defined by default: Manual Entries and Unassigned. If no additional sites have been defined, only the default values are available in this field. Click each desired site and click the **Save** button to complete the selection process. If one site is selected the name of that system will appear in the Server Access field. More than one site can be selected.

Log Queries – This option, when selected, will result in the logging of all queries made by all users of the group. This information is then available via the audits report. **WARNING:** ***This can potentially be a very large amount of data. Select this option with care.***

a. Configure these Advanced User settings as desired.

b. Click the **Back** button to return to the main New Group Entry screen

10. Click **Save** to complete creating the new group, or click **Cancel** to clear the new group.

4.4.2 Parent Groups

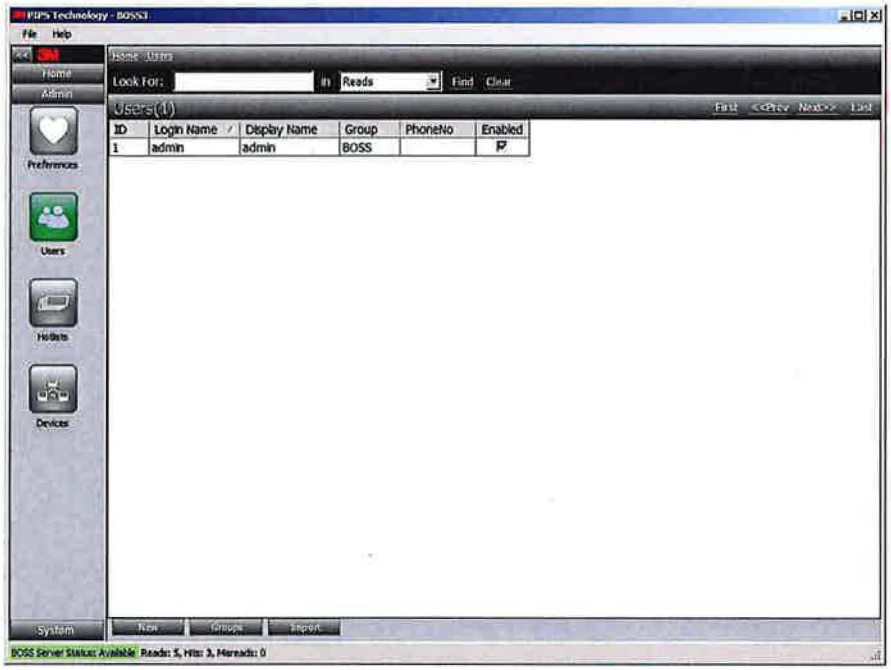
When creating a new group, you must select a parent group (the Belongs To field). BOSS uses a parent-child group structure as an organizational mechanism. This allows the BOSS Administrator to arrange groups into collections based on location, job role, or any other applicable criteria. In BOSS, the parent group can be selected in order to easily reach the entire collection of groups under that parent. This can be especially helpful in large installations with a large number of groups.

4.4.3 Deleting a Group

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Users** shortcut.
3. Click the **Groups** button at the bottom of the Browse/Edit area. A list of all existing groups will display in the Browse/Edit area.
4. Click to select the desired group from the list.
5. Click the **Delete** button.
6. Click **OK** in the confirmation dialog to complete the operation.

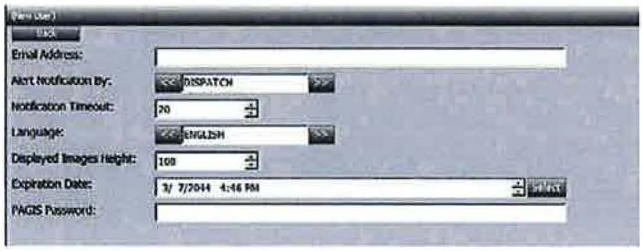
WARNING: Any users currently assigned to the deleted group will be assigned to the default "BOSS" group. You should empty the group by assigning all of its users to different groups prior to deleting it.

4.5 Users



4.5.1 Creating a New User

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Users** shortcut. A list of all existing users will display in the Browse/Edit area.
3. Click the **New** button at the bottom of the Browse/Edit area. The New User Entry screen appears.
4. Enter a **Login Name** for the new user. This is the name the user will enter when logging into the BOSS application. (The login name must be at least three characters.)
5. Enter a **Display Name** for the new user (optional).
6. Enter a **Password** for the new user. (The password must be at least three characters.)
7. Select a **Group** for the user. Click the **Select** button to access a list of all groups. Click on the desired group and click the **Save** button to complete the selection.
8. Enter a contact **Phone Number** for the user (optional). This field is for informational purposes only; in case the BOSS Administrator needs to contact the user.
9. Click the **Advanced...** button to access additional, optional settings for the new user. Configure these advanced user settings as desired.



4.5.1 Creating a New User *(continued)*

Email Address – Email address or addresses associated with the user. BOSS alerts for the user are sent to the email addresses specified here. Multiple addresses should be separated with a comma.

Alert Notification By – A user can be configured to receive BOSS alerts through the Dispatch application, email, or both. Click the << or >> buttons to cycle through the options, stopping at the desired selection.

Notification Timeout – The cutoff time from the time when a hit occurred after which an alert will no longer be sent to the user. For example, if the notification timeout is 20 minutes and a plate of interest is detected at 12:00 pm, notification is not sent to the user after 12:20 pm. This timeout prevents alerts being sent for events that are delayed in arrival to BOSS.

Language – The language preference for the user. The default value is English.

Displayed Images Height – This setting defines the vertical size in pixels of the images (reads and hits) that will display for the user on the Dispatch and Reads screens.

Expiration Date – Date for the user account to automatically be disabled. If no expiration is desired, simply leave this field at its default value (30 years from current date).

PAGIS Password – The user's LPCS password.

Note: The user must be in a group that has been granted LPCS permissions in order for the user to log in to 3M License Plate Capture Software.

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10. Click the **Back** button to return to the main New User Entry screen.
11. Click the **Save** button to complete creating the new user.

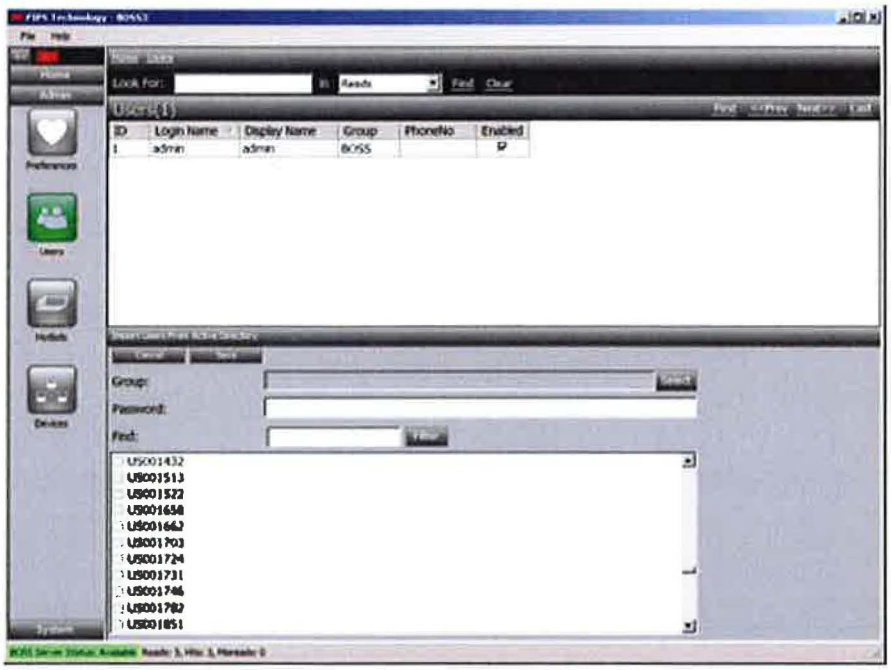
4.5.2 Deleting a User

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Users** shortcut. A list of all existing Users will display in the Browse/Edit area.
3. Click the desired user in the list.
4. Click the **Delete** button at the bottom of the Browse/Edit area.
5. Click **Yes** to confirm the operation.

4.5.3 Importing Users from Active Directory

BOSS allows user logins to be imported from Microsoft Active Directory (AD) service.

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Users** shortcut.
3. Click on the **Import** button.



4. Select the BOSS group that will receive the imported logins. Click the **Select** button to display available groups and **Save** to commit the selection.
5. Enter the default password for the imported logins in the Password field.
6. Browse for the desired users, ***or*** type in the desired login name (full or partial) in the Find field and press the **Filter** button.
7. Click on the checkbox in front of the desired usernames to select users to be imported to BOSS.
8. Click on **Save** to import the users from Active Directory.

Note: A Windows login cannot have any punctuation included or problems will occur with reads queries being performed.

4.6 Access Permissions Example

The previous sections have described how BOSS user security is designed, using roles, groups, and user accounts. This section presents a working example that integrates the information in this chapter.

A BOSS Administrator creates a role, names the role "Temporary Workers," and defines the new role to have very limited permissions, as follows:

Reads	Read Only
Dispatch	Read Only
Users	No Access
Hotlists	No Access
Devices	No Access
System	No Access

Then the Administrator creates a group called "Temps." When creating the group, a role is required. The Administrator selects the new role just created "Temporary Workers," which assigns the permissions, defined above, to the new group.

Next, the Administrator creates a user account, "Jsmith," for a temporary worker. While creating the new user, the Administrator is required to select a group for the user, and assigns the user to the "Temps" group just created.

The user "Jsmith" has now been created with the permissions shown above because he belongs to the group called "Temps" and that group was assigned the "Temporary Workers" role.

As this example shows, this security design allows reusability of security roles because a BOSS Administrator can define a set of permissions in a role, and that role can be assigned to multiple groups.

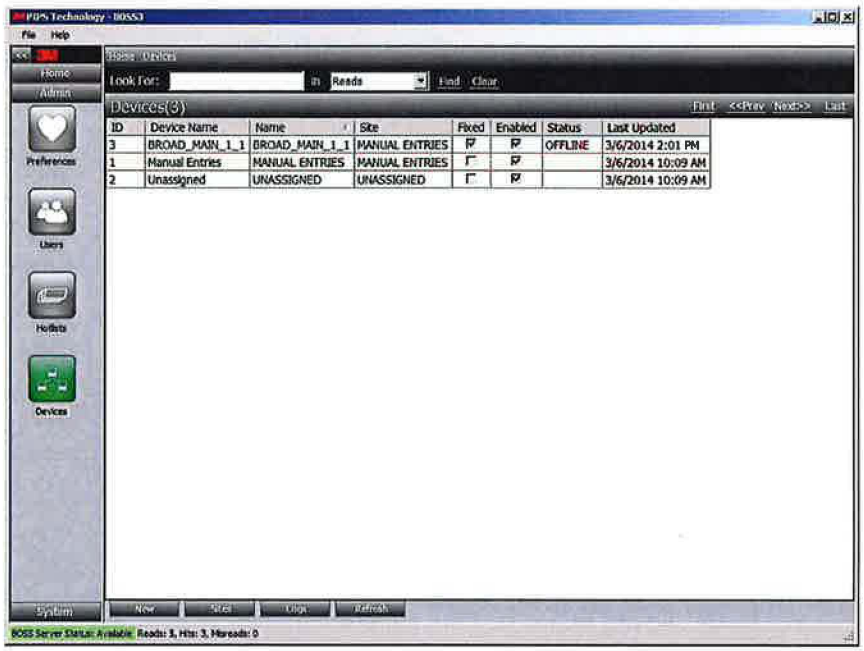
5 Devices and Sites

5.1 Devices

A BOSS device is any source that can input reads into the system. Typically, a device is a camera—either fixed or mobile (mounted on a vehicle). Another source for reads is manual entry, in which a BOSS user types the information for a read into the BOSS application.

5.1.1 Default Devices

A new BOSS site automatically contains two default devices, Manual Entries and Unassigned. A BOSS Administrator creates additional devices applicable to his/her organization.



To see the current devices in your system with information about their status:

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut.

The devices will be listed in rows with the following column headings:

Device Name – The name assigned to the device, used in the device selections and is the description of the device. The list will always include Manual Entries and Unassigned.

Name – The name that is given to the device.

Site – The group of devices to which this device belongs. Sites can be grouped by geographical location or other criteria. *See Section 5.2, Sites.*

Fixed – This box will be checked if the device is fixed camera, rather than a mobile camera.

Enabled – This box will be checked if the device is currently enabled (*see Section 5.1.4*).

Status – The Status field can display the following messages:

Device Added – If the device is newly added to the list, this message will display.

5.1.1 Default Devices *(continued)*

Offline – This device is a previously connected fixed camera that is not currently connected to BOSS.

Online Heartbeat – BOSS has detected a ping from a fixed camera.

Online Synced – The device's connection with BOSS has been established. This is shown for LPCS mobile devices only and may not change when the device is offline.

Updated – Information has been sent from BOSS to the device, and the device is up to date.

Received Logins – Updates to the device included logins that were successfully sent to the device.

Received Source – BOSS has found the hotlist source file that it needs in order to send the updated hotlist to the device. **Received Source** may not be displayed due to timing or events.

Received Hotlist – The hotlist scheduled to be successfully sent has been sent to the device.

Received Hotplates – BOSS is sending "pages" of hotplates for a large hotlist, and the last page was successfully received.

Received Targets – The update to the device included targets that were successfully sent.

5.1.2 Defining a Device

Note: Devices will be defined automatically when a 3M device, such as an ALPR camera, connects to BOSS the first time. Normally, there is no need to define devices in advance.

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1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut. A list of existing devices will appear in the Browse/Edit area.
3. Click the **New** button.
4. Enter a name for the new device. (The name must be at least three characters long.) Note that the name **CANNOT BE CHANGED** once the device has been created.
5. Enter a **Description** for the new device. (The description must be at least three characters long.)
6. Select **Mobile** or **Fixed** in the Type field. By default, **Fixed** is selected. To change the current selection, click the **left** or **right** arrow.
7. Select a **Site**. Click the **Select** button next to the Site field to display a list of all available sites. Click on the desired site in the list and click the **Save** button.

Note: In addition to the two default sites, Manual Entries and Unassigned, which are created automatically when a new BOSS system is installed, other sites can be created by an authorized BOSS user. *See Section 5.2, Sites, for more information.*

---

8. Select **Owners**. Owners are groups that can access this device. For LPCS units, user logins are sent only to devices where the group is an owner of the device. Click the **Select** button next to the Owners field to display a list of all BOSS groups. Select each desired group by clicking the checkbox. When the desired groups are selected, click the **Save** button. The group name(s) selected will be displayed in the Owners field.

9. Select **Latitude** and **Longitude** values for the geographical location of a device by typing in a value or using the up and down controls on each field to increase or decrease the value. Note that some devices, such as LPCS units with a GPS attached, will automatically send the latitude and longitude of the device to BOSS.

10. Click the **Advanced** button to display additional options for the device.

    No Reads Alert – Defines how long the device must remain with no reads coming in before the system shows the device as offline.

    Alert Email – The email address or addresses to which alerts associated with this device should be sent.

    Retain Reads – The length of time that reads from this device should be saved in the BOSS database. The **Retain Reads** setting must be longer or equal to the **Retain Images** setting.

    Retain Images – The length of time that pictures captured by this device should be saved in the BOSS database.

    Retain Hits – The length of time that hits captured by this device should be saved in the BOSS database.

    SpikeStore – The 3M High Resolution ANPR/ALPR Camera P382 and the 3M Compact ANPR/ALPR Camera P372 (formerly the Spike P382 and P372 cameras) allow captured images to be stored in an on-board USB flash drive to be retrieved on demand. Setting a device as a **SpikeStore** device causes BOSS to attempt to retrieve images from the storage device when the read is requested for viewing.

11. When Advanced Options have been set as desired, click **Back** to return to the New Device screen.

12. Click the **Save** button to complete creation of the new device. The new device will now appear in the devices list above.

5.1.3 Editing a Device

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut. A listing of all devices appears in the Browse/Edit area.
3. Click the desired device to select it. Details for the selected device appear in the Browse/Edit area.
4. Click the **Edit** button.
5. The Device Edit screen appears in the lower portion of the screen.
6. Modify fields as desired and click the **Save** button.

5.1.4 Enabling and Disabling a Device

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut. A listing of all devices appears in the Browse/Edit area.
3. Click the desired device to select it. Details for the selected device appear in the Browse/Edit area.
4. Click the **Edit** button.
5. The Device Edit screen appears in the lower half of the screen.
6. Click the **Disable/Enable** button. The change will immediately close the edit window and return to the Devices screen. It will also take effect immediately.

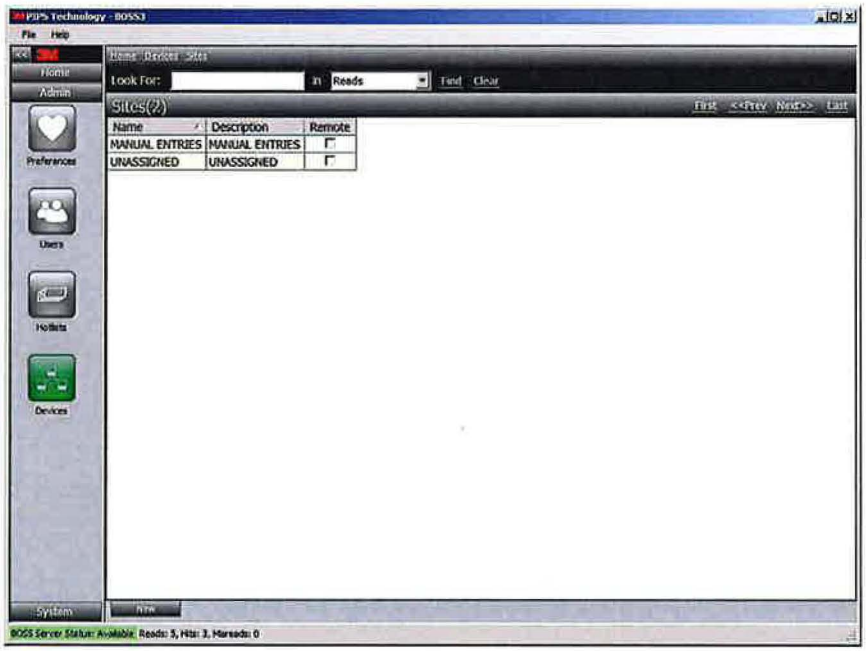
5.1.5 Deleting a Device

Note: It is strongly recommended that **devices are never deleted**. If a device is deleted, queries can no longer be performed using the device as a criterion. Instead of deleting a device, it should be disabled or given a new description.

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut. (A listing of all existing devices will display in the Browse/Edit area).
3. Click the desired device in the listing.
4. Click the **Edit** button.
5. Click the **Delete** button at the bottom of the Browse/Edit area.
6. Click **Yes** to confirm the operation.

5.2 Sites

A site is a mechanism for organizing devices. This allows a BOSS Administrator to arrange devices into groups according to convenience, such as geographical area or a facility. The ability to group or arrange devices can be quite useful in large installations where there are many devices. Each device created must be assigned to a site.



5.2.1 Default Sites

A new BOSS site automatically contains two default sites, Manual Entries and Unassigned. Normally, a BOSS Administrator will want to create additional sites applicable to an organization.

5.2.2 Creating a Site

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut.
3. Click the **Sites** button at the bottom of the screen. A list of existing sites will appear in the Browse/Edit area.
4. Click the **New** button at the bottom of the screen.
5. Enter a name for the new site. (The name must be at least three characters long.) Note that the name cannot be changed once the site is created.
6. Enter a description for the site. (The description must be at least three characters long.)
7. Select the parent site for the site. BOSS allows organizing sites into tree-like hierarchies. Click the **Select** button next to the Belongs To field, and select one site from the list. Click the **Save** button to complete the selection. The site name will appear in the Belongs to field.
8. Check the **Remote** option to designate the site as a remote site. (*Remote sites are explained in Section 6, BOSS Data Sharing.*)

5.2.3 Deleting a Site

Note: It is strongly recommended that sites **are never deleted**. If a site is deleted, queries can no longer be performed using the site as a criterion. Instead of deleting a site, it is recommended that devices assigned to it should be moved to another site.

---

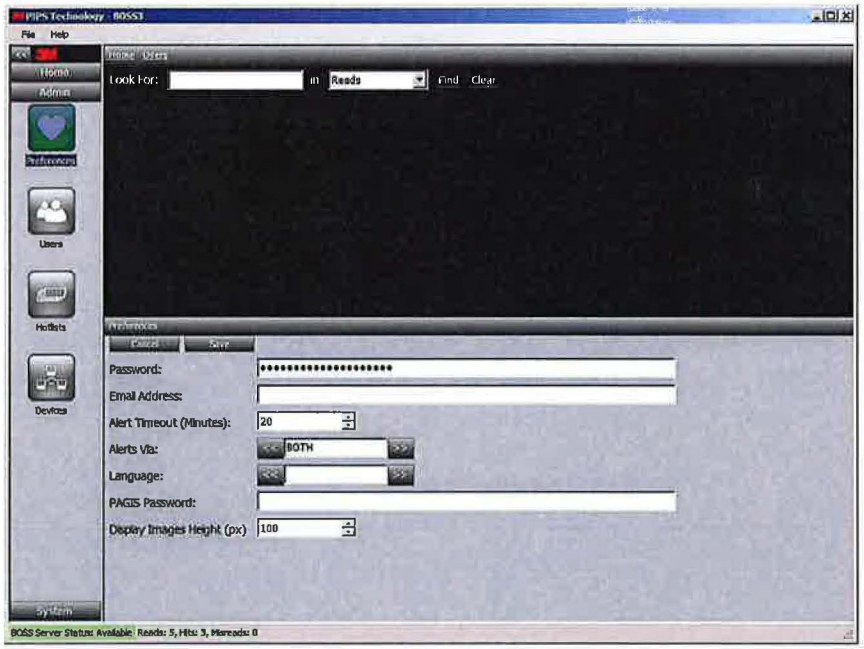
1. Select the **Admin** category on the Shortcut bar.
2. Click the **Devices** shortcut. A listing of all existing devices will display in the Browse/Edit area.
3. Click the **Sites** button at the bottom of the screen. A listing of existing sites will appear in the Browse/Edit area.
4. Click the desired site in the listing and click the **Edit** button.
5. Click the **Delete** button at the bottom of the Browse/Edit area. Click **Yes** to confirm the operation.

5.3 Preferences

The Preferences section allows for changing settings for the currently logged-on BOSS user, such as the password and email addresses.

5.3.1 Changing User Preferences

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Preferences** shortcut. The Preferences Entry screen appears at the bottom of the Browse/Edit area.
3. Modify the preferences settings as desired and click the **Save** button.



Password – Login password for the BOSS user. For security purposes, the existing password does not display on screen.

Email Address – Email address or addresses associated with the user. BOSS alerts for the user are sent to the email addresses specified here. Multiple addresses should be separated with a comma.

Alert Timeout (Minutes) –The cutoff time for older hits to alert the user.

Alerts Via – A user can elect to receive BOSS alerts through the Dispatch screen, emails, or both.

Language – Language preference for the user. The default value is English.

PAGIS Password (LPCS Password) – The 3M License Plate Capture Software password for the user.

Note: The user must be in a group that has been granted LPCS permissions in order for the user to log in to LPCS.

Display Images Height (px) – This setting defines the size in vertical pixels of the images (reads and hits) that will display for the user in the Dispatch and Reads Query sections.

6 BOSS Data Sharing

BOSS allows "linking" of multiple BOSS systems for data-sharing purposes. When a user issues a query from the Smart Client application that includes a remote site, the query is submitted to the local BOSS server, which in turn makes a query to the remote BOSS server(s). The combined results from all the sites are then returned to the Smart Client. ***Data from remote sites is not stored in the local BOSS server.***

The following configuration steps need to be taken to permit BOSS data sharing:

6.1 Configuring BOSS to Allow Remote BOSS Queries

1. Create a BOSS user for remote access. This user account is a "proxy" the local BOSS server will use for all requests from a remote site. This user account will have "Reads" privileges by default; no other privileges need to be given. The user must be assigned to a remote group. *(See Section 4.4, Groups, for information about flagging a group as remote.)*
2. Give the username and password for this "proxy" user to the BOSS Administrator at the remote BOSS system. The remote BOSS will need to be configured to access this BOSS system, described in the next section.

Tip: It is best to create a dedicated user account for remote sites—one that will not be used by an actual user to log in and access the application.

6.2 Configuring BOSS to Access a Remote BOSS Server

1. Obtain username and password from BOSS Administrator at the remote site.
2. Create a site for the remote BOSS server and select the **Remote** option.
3. Enter the remote site IP address and BOSS service port (23032 by default).
4. Add the username and password provided.
5. For each group that is allowed to query the remote BOSS server, assign the remote server to the user via the **Servers Access** option. *(See Section 4.4, Groups, for information on selecting Servers Access.)*
6. Log out of the application.
7. Log back on using the provided username and password. The Remote BOSS server can then be queried by selecting the desired servers in the Reads Query screen.

Note: BOSS version 3.2 and above only supports data sharing with servers running BOSS 3.0 and above.

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7 Hotlists

A hotlist is a database that contains license plates of interest. When reads from license plate readers arrive at the BOSS server application, they are compared against hotlist records to find matches. Various hotlists can be enabled on a BOSS system and used in this comparison. In addition, hotlists can be assigned individually to specific devices. Only reads from those devices will be compared against these hotlist records. Typical hotlists include stolen vehicles, amber alerts, wants and warrants, etc. When the system reads in a plate that is determined to be a match to a hotlist entry in a hotlist, the BOSS application informs the user either with an alert sound and a pop-up window displaying a picture of the vehicle, or via email, depending on the user's preferences *(see "Alerts via" in Section 5.3, Preferences)*.

A hotlist can be a database imported from an external source, such as another law enforcement agency. It can also be a list created by the local BOSS Administrator. For the BOSS server application to be able to understand how to import the hotlist records into the database, there are three different format types that exist in a BOSS system. In addition there are several specific formats that are pre-defined and available by default when a new BOSS system is installed *(see Section 8, Hotlist Formatters)*.

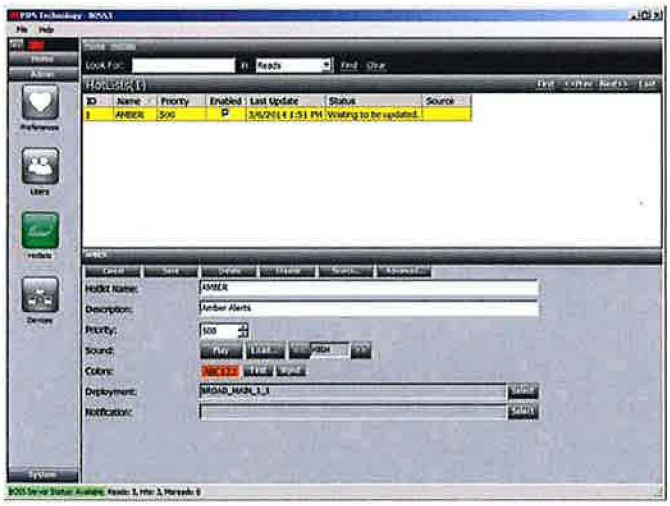
7.1 Creating a New Hotlist

There are three general areas to complete when creating a new hotlist:

- **Configure basic settings.**
- **Define a source and provide credentials for the source (when necessary).**
- **Define advanced settings (optional).**

7.1.1 Configuring Basic Hotlist Settings

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Hotlists** button. Currently existing Hotlists appear in the Browse/Edit area.
3. Click the **New** button at the bottom of the Browse/Edit area. The New Hotlist Entry form appears.



4. Enter a **Hotlist Name** for the hotlist. It must be at least three alphanumeric characters, and it cannot be an existing hotlist name.
5. Enter a **Description** for the hotlist (optional).

6. Select a **Priority** for the hotlist. When there are multiple hits/alerts, the priority determines which alert will occur first. (The lower the number, the higher the priority.)
7. Select a **Sound** for alerts resulting from this hotlist (optional). Click the **Load** button to select a wave sound file (*.wav). To test the selected sound, click the **Play** button. Optionally, one of the three default sounds may be selected, **Low**, **Medium**, or **High** alert.
8. Select **Colors** for the alert if desired (optional). The default is white text on a royal blue background. Custom color settings affect the entries in dispatch. The background color also applies to alerts given in LPCS.
9. Click the **Text** button to select a color for the text.
10. Click the **Bgnd** (Background) button to select a color for the background.

Note: Currently selected text and background colors are displayed in the sample box (showing "ABC123").

---

11. Select devices for **Deployment.** Click the **Select** button to select devices from the list of those currently available. Click the checkbox next to a device in order to select it. When desired devices are checked, click the **Save** button to make the selection. One or more devices can be selected, and they will be displayed in the Deployment field.

Note: Deployment means distributing the hotlist to a device or devices. Only the devices where a hotlist is deployed will produce hits from the hotlist.

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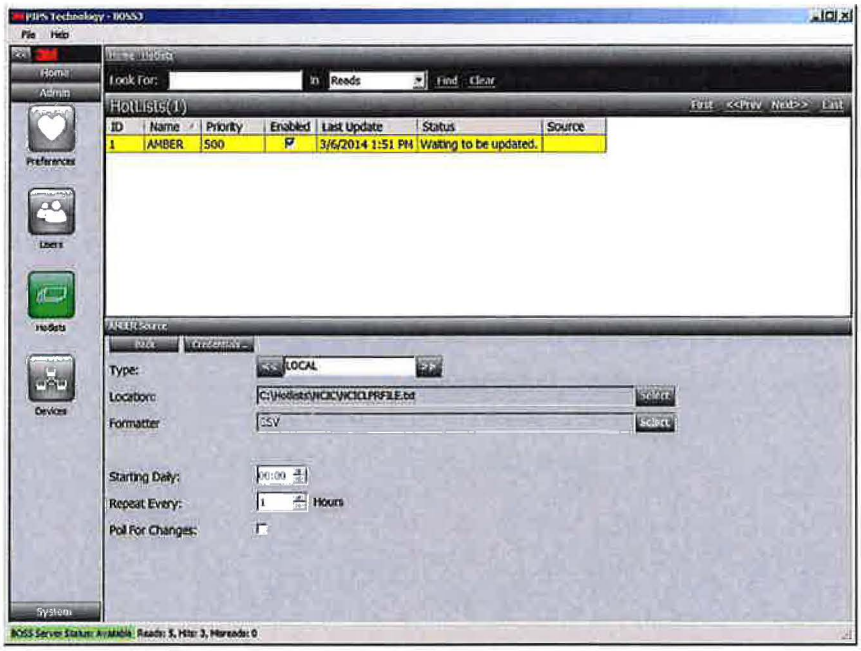
12. Select groups for Notification. Click the **Select** button to see a list of all BOSS groups. Click the checkbox next to a group to select the group. When you select a parent group, child groups are automatically selected. When desired groups are checked, click the **Save** button to make the selection.

Note: In order to receive alerts for hits on the hotlist, the user must be in the notification list of the hotlist. *For more information see Section 7.1.5, Defining Hotlist Advanced Options.*

7.1.2 Defining the Hotlist Data Source

1. On the New Hotlist Entry screen, click the **Source...** button to open the screen shown in the lower half of the following image:



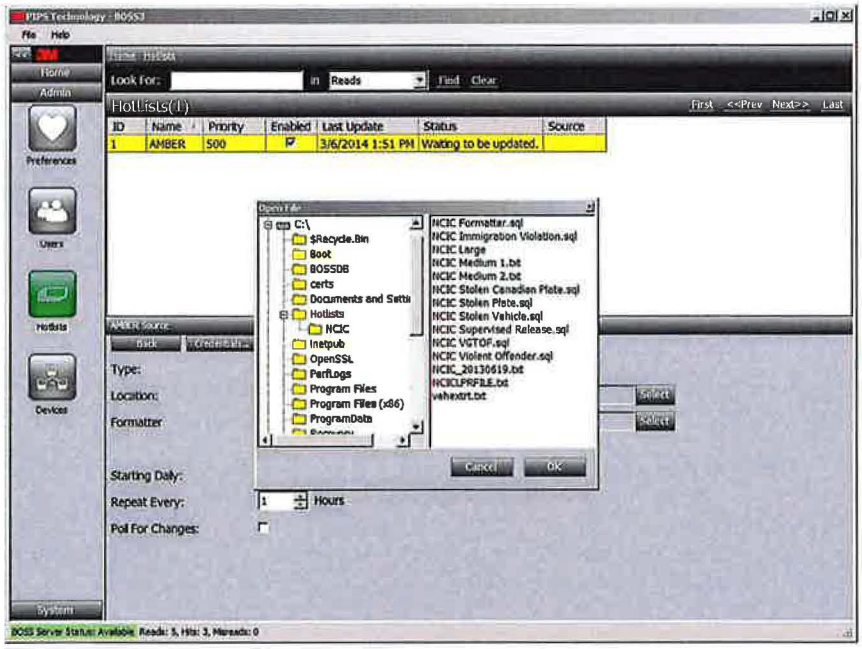
2. Choose the appropriate entries for each of the fields that describe the new hotlist:

   Type (**Network** or **Local**) – A local source means that the file is stored on the BOSS server's Windows file system. A network source means that the hotlist source resides outside the BOSS server.

Note: If a Local source is selected, the source file location (folder) must be accessible to the Windows process running the BOSS server application ("PIPS BOSS3" Windows service).

Location – Enter the location of the hotlist file. Click the **Select** button to the right of the location field.

For a local source, a file dialog will display, allowing you to navigate to a path and select a file.



For a network source, select one of the default locations displayed (if applicable), **or** type in the location of the source:

HTTP – The location format must be in Hypertext Transfer Protocol (HTTP) format: "http://server:port/path." There are a few predefined HTTP locations (such as CA DOJ) included in BOSS. These locations can be accessed with the **Select** button.

Remote BOSS System – The location format must be "boss://server:port/hotlist," where "hotlist" is the hotlist name on the remote system.

Note: The remote system hotlist name **MUST** be alphanumeric and **CANNOT** contain any spaces.

Formatter – Formatter defines the way a hotlist database file is parsed into discrete fields. Click the **Select** button next to the Formatter field. A list of available formatters appears. Click on the desired formatter and click the **Save** button to make the selection. The name of the selected formatter will appear in the field.

Note: Normally one of the several default formatters included with BOSS is sufficient. A new custom formatter can be created if necessary. *See Section 8.1, Creating a New Formatter for Hotlists, for more information.*

7.1.2 Defining the Hotlist Data Source *(continued)*

Starting Daily – Specify the time of day the hotlist should begin updating each day. The time is formatted as hours:minutes in the 24-hour clock, i.e., between 00:00 and 24:00 can be selected.

Repeat Every – Specify the time interval, in hours (1 – 24), between updates.

OR

Poll for Changes – If you choose this setting, BOSS will check for updates to the hotlist approximately every 30 seconds. When this option is selected, the **Starting Daily** and **Repeat Every** options are disabled.

Note: If **Poll for Changes** is selected, and the hotlist source resides on the network, BOSS will attempt to make a network connection every 30 seconds. This frequency may add significantly to network traffic. Use with caution.

7.1.3 ZIP Compressed Hotlist Files

BOSS will automatically recognize and extract a hotlist data file contained in a ZIP archive file, such as Windows Explorer compressed (zipped) folder.

Note: There can be only one file in the ZIP archive.

7.1.4 Defining Hotlist Source Credentials

Some sources will require credential settings (e.g., login information) in order to allow BOSS to access that data. To enter the Credentials Settings screen from the Hotlist Source screen, click the **Credentials** button.

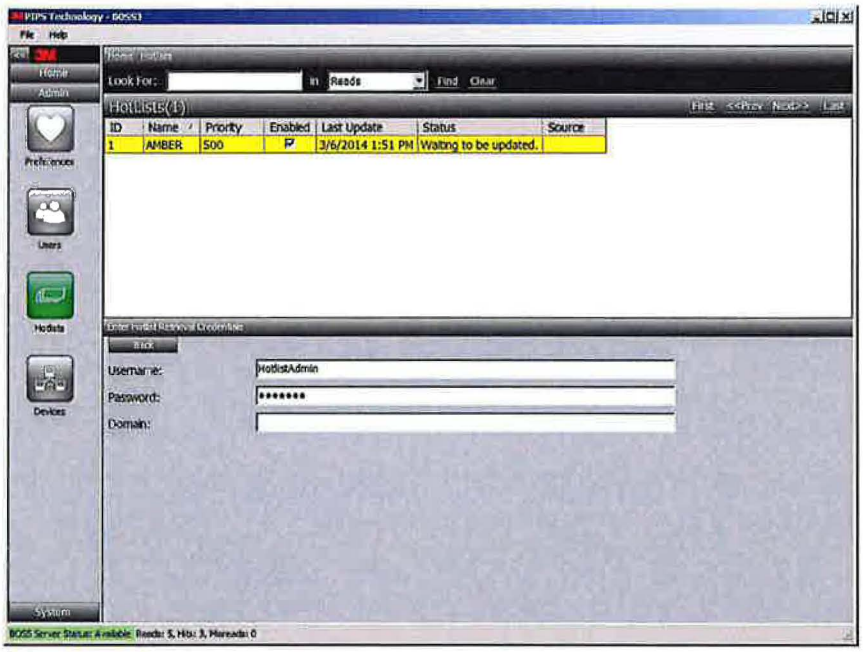
The credentials depend on the source type as follows:

Network-HTTP – If the HTTP (website) source defined requires login information, it should be entered in the Credentials Setting screen. This information will include username and password. The domain field may be necessary as well. Consult the Administrator of the HTTP source for required login information.

Network-Remote BOSS system – A username and password valid on the remote BOSS system must be entered (as in remote sites configuration, described in Section 6.0, BOSS Data Sharing). Consult the Administrator of the remote BOSS system for a username and password.

To set credentials for a source:

1. Click the **Credentials** button. The Credential Input screen appears.
2. Enter the username, password, and domain information applicable to the source you are specifying.
3. Click the **Back** button to return to the Source Entry form.
4. Click the **Back** button again to return to the New Hotlist Entry screen.



7.1.5 Defining Hotlist Advanced Options

Advanced Options are values that allow you to further define details of the new Hotlist. To access the Advanced Options, click the **Advanced...** button.

Covert – A covert hotlist is one that contains sensitive information that should only be available to certain user groups.

The effects of defining a hotlist as covert are as follows:

- **A hit on the covert hotlist will not be alerted to users in mobile LPCS vehicles, unless the logged-on user is a LPCS Administrator.**
- **A hit on the covert hotlist will not be alerted in the BOSS application, regardless of the user alert preferences. Hit alerts for covert** hotlists will be sent only via email.
- **When reads are queried, hit information on covert hotlists will be displayed only to users in the Notifications list for the hotlist. Other** users will see that the read is a hit, but no information will be shown.
- **Hit information for hits from covert hotlists will not be sent to remote BOSS servers.**

Whitelist – This option, when selected, defines the hotlist to be a whitelist, which works in reverse to a normal hotlist. A whitelist defines a list of plates that are **authorized** and not of concern. When a whitelist is active, license plates read that do ***not*** match an entry on the list will trigger a hit/alert.

7.1.5 Defining Hotlist Advanced Options *(continued)*

An example of whitelist use might be a secure parking lot where fixed camera devices are monitoring vehicles entering. Authorized plates will match entries in a whitelist hotlist. If a plate is read that does not match an entry in the whitelist, an alert occurs.

Whitelists and hotlists can be active simultaneously for a device.

Note: Whitelist support in LPCS requires a separate license. If you do not have the license and wish to use whitelists, please contact your 3M sales representative for further information.

Ext Trigger – This option, when selected, sets the External Trigger flag on a hotlist when it is passed to LPCS. It is only supported in LPCS version 2.6.6 or above and will have no effect on earlier versions of the software.

One Time – This option, when selected, specifies that the hotlist data should only be accessed from its defined source one time; no subsequent updating will occur after the initial import.

Alert Timeout – This setting allows you to define how current a hit (from this hotlist) must be in order to cause an alert. This primarily pertains to information coming in from mobile units, where there may be a large delay. Alert Timeout can be specified in minutes, hours, days, or months.

Delete Inactive – BOSS updates hotlists in an incremental manner, and instead of deleting hotlist entries that no longer exist, non-existent entries are marked as "inactive." If the entry subsequently becomes valid, the entry is marked as active again. The Delete Inactive value determines how long inactive entries are kept in the BOSS hotlist database.

Note: If LPCS mobile units are used, this value should be set to the longest time between begin shift downloads to LPCS.

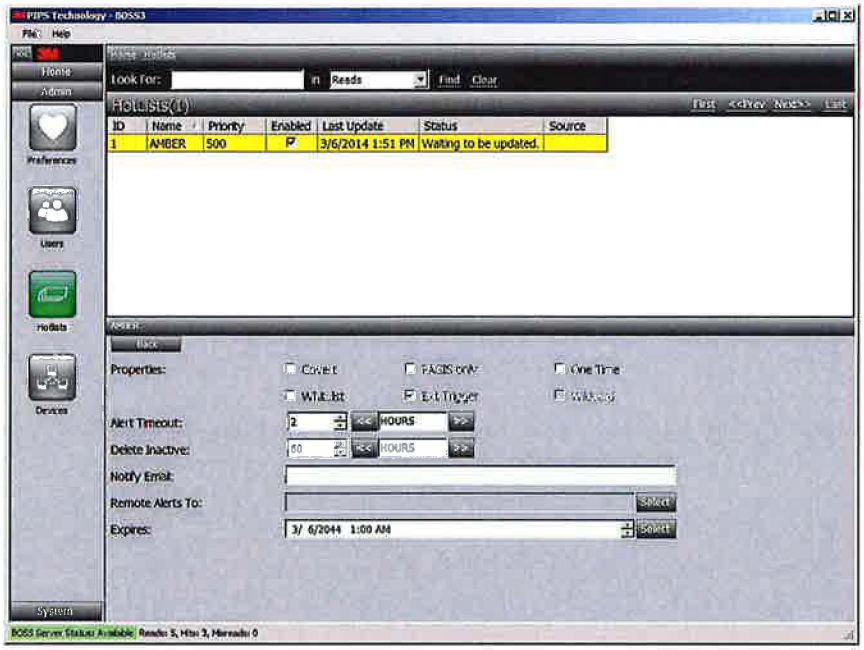
Notify Email – One or multiple email addresses may be defined to receive an alert when there is a hit. Multiple email addresses can be entered in the field, separated by a comma.

Remote Alerts To – Select the remote sites in which to send alerts. When a BOSS system sends an alert to a remote system, it is sent as a read; the remote BOSS system then determines whether to treat the read as a hit.

Note: This setting is only applicable if remote sites are defined.

Expires – Determines the date that the hotlist will stop importing data from its source. For a hotlist that is intended to be permanent, leave the expiration at the default value, 30 years from current date.

7.2 Enabling and Disabling a Hotlist



1. Select the **Admin** category on the Shortcut bar.
2. Click the **Hotlists** shortcut. A list of all hotlists appears in the Browse/Edit area.
3. Click the desired hotlist. Details for the selected hotlist appear in the Browse/Edit area.
4. Click the **Edit** button.
5. The Hotlist Edit screen appears in the lower half of the screen.
6. Click the **Disable** or **Enable** button.

7.3 Modifying Hotlist Entries

BOSS allows viewing, adding, editing, and deleting hotlist entries.

Note: If the hotlist is set to update automatically, any changes to that hotlist made from within the BOSS User Interface application will be lost at the next automatic update.

7.3.1 Querying Hotlist Entries

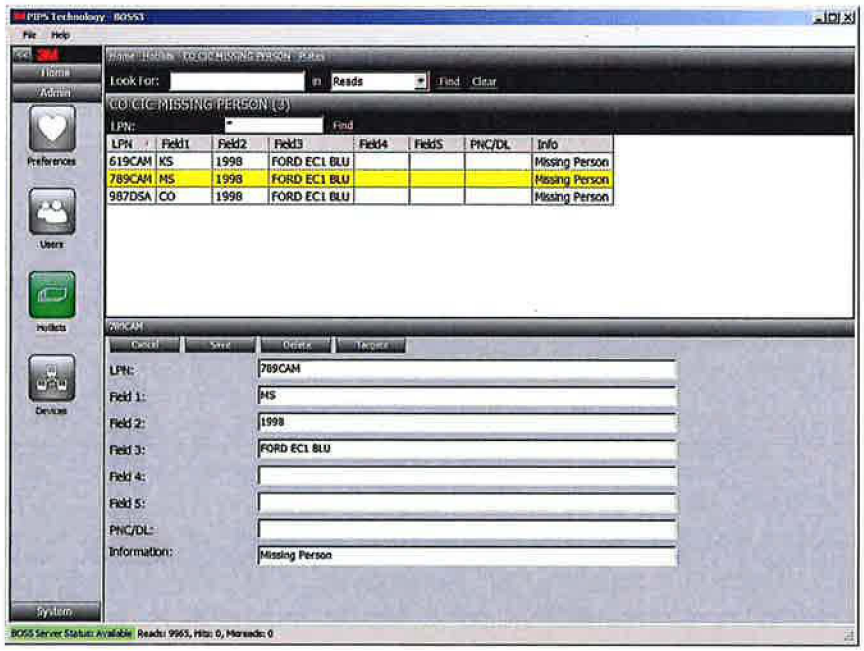
1. Select the **Admin** category on the Shortcut bar.
2. Click the **Hotlists** shortcut. A listing of all hotlists appears in the Browse/Edit area.
3. Click the desired hotlist. Details for the selected hotlist appear in the Browse/Edit area.
4. Click the **Plates** button.
5. The Hotlist Plates screen will be displayed.

6. Type in the full or partial plate text to search for in the LPN field. (Wildcard searches are supported. *See Section 11.1, Wildcards, for more information.)*
7. Click on **Find**. License plates that match the criteria will be displayed. Note that only the first 1,000 matching license plates will be shown.

7.3.2 Editing a Hotlist Entry

1. Retrieve hotlist plates as instructed in the previous section.
2. Click on the row showing the desired plate.
3. The Plate Edit form will be displayed at the bottom of the screen.
4. Edit the field values as desired.
5. Click **Save** to save changes.

Note: Manually edited hotlist entries will be lost the next time the hotlist is updated.



7.3.3 Adding a Hotlist Entry Manually

1. Select the **Admin** category on the Shortcut bar.
2. Click the **Hotlists** shortcut. A listing of all hotlists appears in the Browse/Edit area.
3. Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
4. Click the **Plates** button.
5. Click the **New** button. The Plate Edit form will be displayed at the bottom of the screen.
6. Enter the **LPN** (mandatory) and other fields (optional).
7. Click **Save** to save changes.

Note: Manually added hotlist entries will be lost the next time the hotlist is updated.

7.3.4 Deleting a Hotlist Entry

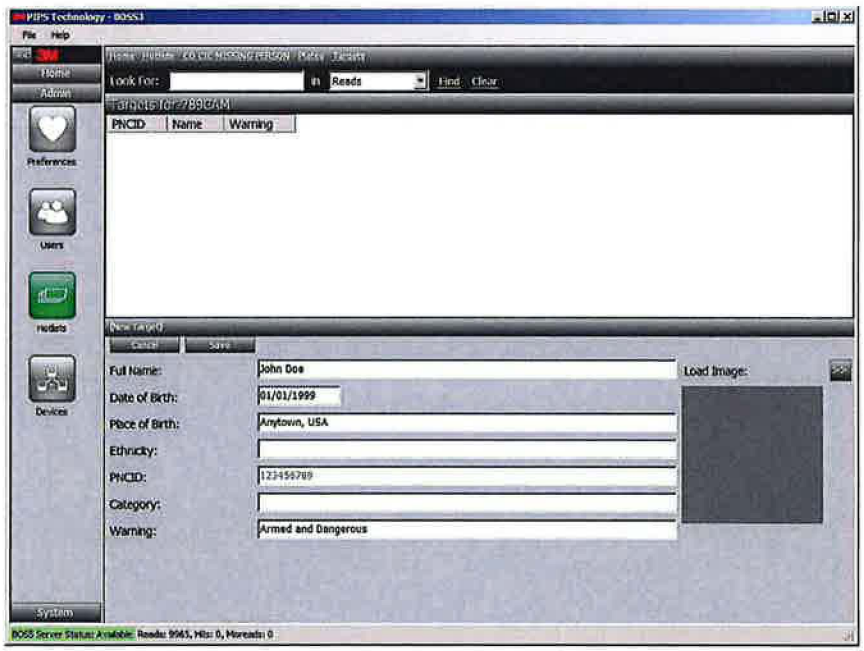
1. Retrieve hotlist plates as instructed in the Querying Hotlists Entries section.
2. Click on the row showing the desired plate. The Plate Edit form will be displayed at the bottom of the screen.
3. Click the **Delete** button.
4. Click **Yes** to confirm the deletion.

Note: Manually deleted hotlist entries may be re-added the next time the hotlist is updated.

7.4 Targets

Targets are individuals of interest associated with a license plate. Target information is downloaded to the LPCS mobile application from BOSS.

1. Retrieve hotlist plates as instructed in Section 7.3.1, Querying Hotlists Entries.
2. Click on the row showing the desired plate.
3. The Plate Edit form will be displayed at the bottom of the screen.
4. Click the **Targets** button. Information about the target will display.



7.4.1 Creating a New Target

1. Click the **New** button.
2. The Target Edit form will be displayed.
3. Fill in the fields, listed below, with appropriate values.

   Full Name – The first and last name of the target.

   Date of Birth – The date of birth of the target.

   Place of Birth – The location where the target was born.

   Ethnicity – The ethnicity (race or national origin) of the target.

   PNCID – This field can be used to enter any type of identification number that is available. In the UK this is the Police National Computer identification number of the target. This field is linked to the PNCID field in the hotlist information in the LPCS application. *See the sample INI configuration file in Section 5 of the 3M License Plate Capture Software User's Manual.*

   Category – The category of the target, such as Felon, Suspect, etc.

   Warning – The warning information to display to the officer.

   Load Image – An image of the target, such as a DMV photo or "mugshot," can also be associated with the Target record. Upload an image by clicking on the **Select** button and browsing to the image file. Supported formats include JPG, GIF, or BMP.
4. Click the **Save** button.

7.4.2 Deleting a Target

1. Access the Targets screen as described above.
2. Click the row containing the target to be deleted.
3. The Target Edit form will be displayed.
4. Click the **Delete** button.
5. Click **Yes** to confirm deletion.

8 Hotlist Formatters

Hotlist Formatters define the structure of source data that is imported into BOSS Hotlists. BOSS includes several default formatters when the software is installed. There are three types of formatters:

CSV (comma-separated values) – A flat text file containing one line for every record. Each field in the record is separated by a comma.

Fixed Length – A flat text file containing records that are all the same length. No separator characters are used to determine where each field ends and another begins, but rather, field and record lengths are known up front. In a fixed length file, padding spaces are used where necessary, to accomplish the correct field length.

NCIC (United States National Crime Information Center) – The NCIC database is a computerized index of criminal justice information (i.e., criminal record history information, fugitives, stolen properties, missing persons, etc.), that is available to law enforcement agencies 24 hours a day, 365 days a year. Several NCIC import sources/formats exist within BOSS.

8.1 Creating a New Formatter for Hotlists

Normally, when creating a new hotlist, you will find that one of the default formatters can be used. However, BOSS does give you the flexibility to create new hotlist formatters. Creating a new formatter or modifying an existing formatter should be approached with caution and is beyond the scope of this manual. 3M provides BOSS training that details creating and modifying hotlist formatters in practice. *For more information, please contact 3M Technical Support.*

9 Alerts

BOSS can provide real-time alerts on-screen, via the BOSS User Interface application, or through email. In order to receive alerts through the BOSS application, **the logged-on user must be in a group that is assigned the Dispatch permission**. Email alerts can be sent to any BOSS user or email recipient.

A real-time alert for a hit can pop up on the screen at any time when the BOSS application is running, regardless of which screen the user has active. A sound associated with the hit will be played. Alerts will be queued until the user acknowledges them by clicking **OK**. Real-time alerting in the BOSS application can be turned off by clicking on the **Alerts** toggle button on the BOSS Home screen. The settings for real-time alerts can be modified through the Dispatch screen, *(see Section 10, Dispatch)*.

10 Dispatch

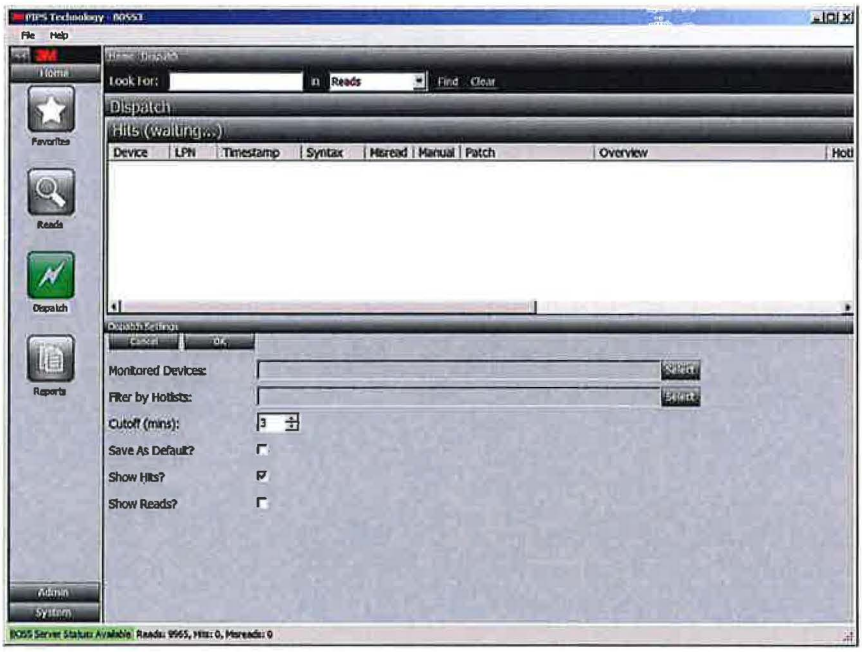
The Dispatch screen is a tool often used by first responder dispatchers. It enables them to easily view hits, monitor reads, and correct license plates as they enter the BOSS system. The information displayed is as near to real time as possible. For ease of viewing, there are three configurations that can be set:

- If only the hits are set to display, they will appear on the whole screen.
- Similarly, if only the reads are set to display, they will appear on the whole screen.
- If the dispatcher is monitoring both hits and reads, then the hits will be displayed on the top half of the screen and the reads will be displayed on the bottom half.

10.1 Dispatch Settings

Dispatch Settings allow you to choose the information shown on the Dispatch screen.

1. Select the **Home** category in the Shortcut bar.
2. Click the **Dispatch** shortcut.
3. Click the **Settings** button in the bottom of the Browse/Edit area.



4. The following settings are available on the Dispatch screen. Change these settings as desired:

   Monitored Devices – Camera sources can be selected or deselected from a pick list to control which ones will supply reads (and resulting hits) to the Dispatch screen. Individual dispatchers can focus on particular camera inputs by selecting/deselecting any combination of sources (one, multiple, or all) for monitoring.

   In large BOSS systems, it may not be practical for a single dispatcher to monitor all sources simultaneously. An organization may choose to assign individual dispatcher personnel to different sources or may select to focus on particular sources during certain time periods or events.

Filter by Hotlists – Hotlists may be selected to only show hits from designated hotlists. If there are no hotlists selected, hits from the monitored devices will be displayed.

Cutoff (mins) – The cutoff setting determines how current from the present time a hit or read must be in order to display on the dispatch screen This setting determines the number of minutes before data is discarded from the on-screen display. The maximum time is 10 minutes.

Save As Default – If checked, the current settings are saved and restored the next time the user logs in. Note that selected devices will always default to the devices where the user is configured to receive notifications in the Hotlist settings. *See additional information on notifications in Section 7.1.1, Configuring Basic Hotlist Settings.*

Show Hits? – If checked, hits will display in rows in the top section of the Dispatch screen as they occur. If this option is deselected, rows of hits are not displayed in this section of the Dispatch screen. However, pop-up alerts will still display for hits, regardless of this setting.

Note: If the **Alert Toggle** button is set to the **Off** position, hits and reads will not display in the Dispatch screen. *See Section 9, Alerts, for additional information.*

Show Reads? – If checked, all reads included in the devices selected in the Monitored Devices field display in the dispatch screen. By default, this option is not selected.

Note: Monitoring reads may slow down the BOSS server. It is recommended that reads are only monitored for diagnostics purposes.

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5. Click the **Save** button for the changes to take effect.

10.2 Dispatch Hits

For each row, the columns displayed are:

Device – The device where the read originated.

LPN – The license plate characters read in by a camera or manually entered by a user.

Timestamp – Date and time when the read occurred.

Syntax – The state or region of the plate, if available.

Misread – If checked, indicates that the hit resulted from a read that was marked as a misread.

Manual – If checked, indicates that the hit resulted from a manual entry (put in by a BOSS user).

Patch – A thumbnail image of the license plate.

Overview – Color overview picture of the vehicle.

Hotlist – The name of the hotlist from which the hit occurred.

Field1 ... Field5 – Fields originating from the hotlist. The content and meaning of these fields vary depending on the composition of the hotlist.

PNC/DL – This field can be used for a driver's license (DL) number in US installations, but primarily used in United Kingdom installations for storing the UK Police National Computer identification number.

10.2 Dispatch Hits *(continued)*

Info – Commonly contains additional text associated with the hit record. When the hotlist source contains additional fields, the information from those fields is all stored in this one field.

Priority – Priority assigned to the hotlist, with a lower number being given a higher priority.

Annotation – Notes associated with the read. Annotations are entered by BOSS users.

10.3 Dispatch Reads

For each row, the columns displayed are:

Device – The device where the read originated.

LPN – The license plate characters read in by a camera or manually entered by a user.

Syntax – The state or region of the plate, if available.

Timestamp – The date and time when the read occurred.

Patch – A thumbnail image of the license plate.

Overview – Color overview image of the vehicle.

Misread – If checked, indicates that this record was marked as a misread.

Hit – If checked, indicates this read resulted in a hit.

Manual – If checked, indicates this read was input manually by a BOSS user, rather than originating from a device.

Annotation – Notes associated with the read. Annotations are entered by BOSS users.

10.4 Manual Entries

There may be times when a read must be manually entered or when a camera does not correctly read a plate. For example, if there was an obstruction between the camera and the plate, then characters may be missed in the read. For this reasons, manual entries can be completed by an authorized user via the Dispatch screen.

10.4.1 Adding a Manual Read

1. From the Dispatch screen, click the **Add** button. The Manual Entry screen appears in the lower half of the Browse/Edit area.

Note: The **Add** button will only be present if the logged in user has the Edit Access permission to reads.

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2. Enter the plate characters in the LPN field.
3. Click the **Select** button to the right of the disposition field.
4. Select the desired disposition(s) and click the **Save** button to complete the selection.
5. Click the **Save** button to finish saving the manual entry. If the "Manual Entries" device is not being monitored, the manual entry will not appear in the Dispatch screen.

10.4.2 Correcting Reads

1. In the Dispatch screen, double-click on the read to be corrected. The Manual Entry screen appears in the lower half of the Browse/Edit area.
2. Enter the plate characters in the LPN field.
3. Click the **Select** button to the right of the disposition field.
4. Select the desired disposition(s) and click the **Save** button to complete the selection.
5. Click the **Save** button to finish saving the corrected entry.

11 Querying Stored Data

The Reads screen allows for searching and viewing past read records on a local server or on a remote server that has granted access. Reads can be quickly searched by entering a license plate number. This screen also allows for more advanced queries where data can be filtered based on additional fields such as date ranges, location, and radius. Additionally, the Reads screen allows you to perform multiple queries with the use of tabs.

For the queried results returned, there are no limits to the number returned from a local server. To limit the impact on outside systems, there is a limit of 1,000 records returned from a remote server. A maximum of 1000 records will be displayed per page.

Note: Depending on factors such as the size of the BOSS database, the speed of the server, the bandwidth of the connection between client and server, and the parameters of the query, there may be a delay before the results are displayed. A status bar will display that shows that the query progress.

11.1 Wildcards

Wildcards are special characters that represent any alphanumeric character and can be used in searches and queries. Wildcards can make finding a match easier because they can define a portion of the criteria to be ambiguous. Wildcards supported in BOSS are described in the following table.

WILDCARD USED	REPRESENTS
a%	Any values that start with the letter "a"
a	Any values containing "a"
% or *	Any/all values
a_	Any values that are exactly two characters long and start with "a"
_a*b	Any values that have "a" as the second letter and end with "b"
[abc]*	Any values that start with "a", "b" or "c"

11.2 Quick Search Bar

The Quick Search bar is always visible and available on the top of the BOSS screen regardless of the category or shortcut currently selected. This feature allows for quick, simple searches of various BOSS data.

1. Type the value to search for in the Look For field. This value can include wildcard characters. Multiple values can be entered separated by a comma (e.g., ABC123, XYZ234). However, wildcard values cannot be used when searching for multiple values.
2. In the "In" drop-down box select an area to search. The available options are **Reads**, **Hotlists**, **Users**, **Group Users**, **Groups**, **Devices**, and **Sites**. These areas are described below.
3. Click the **Find** link to initiate the search. The results will be displayed in the Browse/Edit area of the screen.

11.2.1 Quick Search Fields

When performing a query using the quick search feature, keep in mind that the search is performed in one significant area that can be selected. The search is then run against the significant field in that area, not all fields in that area. For example, when performing a quick

search in Users, the text entered is compared against the Username field of all user records. However, it is not compared to the display names for users. The following is a list of the fields used in the Quick Search:

SEARCH IN AREA	FIELD USED FOR SEARCH
Reads	LPN
Users	Username
Groups	Group Name
Site	Site Name
Hotlists	Hotlist Name
Group Users	Group Name
Devices	Device Name

11.3 Query Result Navigation Icons

Just above the query results are navigation icons that facilitate moving through the data results. These icons can be very useful for larger result sets, providing an easy way to move through records.

Move to the very beginning of the data results, i.e., the first record.

Move backward through the data results.

Move forward through the data results.

Move the very end of the data results, i.e., the last record.

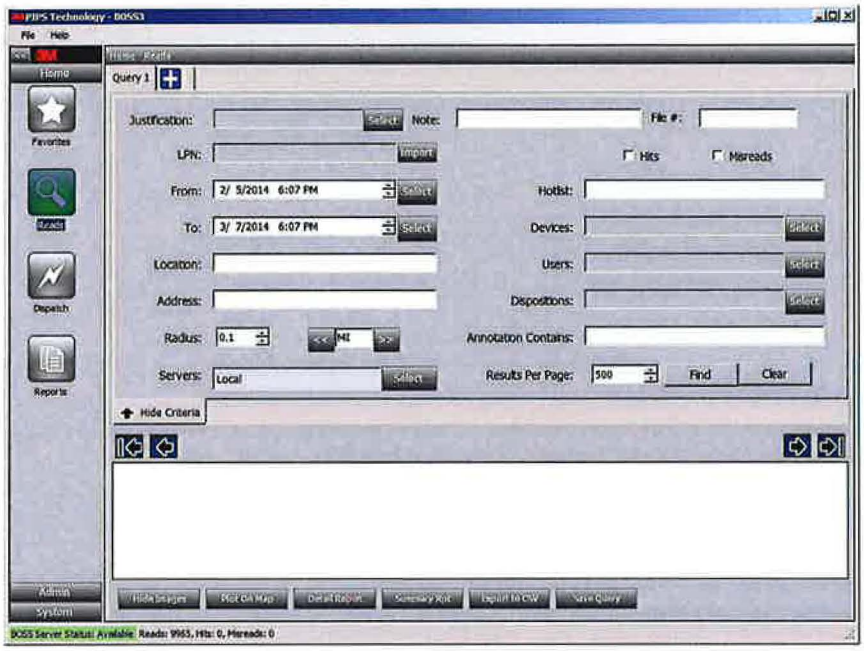
11.4 Advanced Reads Queries

The Reads screen allows for searching and viewing past read records. Reads can be quickly searched by entering a license plate number. The Reads screen also allows for more advanced read queries where data can be filtered based on additional fields such as date ranges, location, or radius. As indicated earlier, a maximum of 1000 records will be displayed.

11.4.1 Performing an Advanced Reads Query

1. Select the **Home** category on the Shortcut bar.
2. Click the **Reads** shortcut.
3. Enter desired query criteria *(see the following section, 11.4.2, Entering Advanced Reads Query Criteria)*. All fields do not have to be filled in. Leaving a query field blank simply means there will be no filtering on that field.
4. Click the **Find** button to run the query.

11.4.2 Entering Advanced Reads Query Criteria



The query criteria fields are:

LPN – Full or partial (using wildcards) license plate number.

From – The start date and time for reads to be retrieved. Either click the **Select** button to display a calendar for quick selection, or type in the date.

To – The end date and time for reads to be retrieved. Either click the **Select** button to display a calendar for quick selection, or type in the date.

Location – The location as entered in the LPCS application *(see the 3M License Plate Capture Software User's Manual for more information)*.

Near Address – An address to use as the center of a radius search. The address format depends on the mapping system used but typically street name, house number, city and state, or zip code can be entered.

Radius – When a Near Address filter is entered, the search radius from the center point **must be** entered here.

Servers – Information can be queried from one or more remote BOSS servers. Click the **Select** button to display a list of authorized BOSS servers.

Justifications – Select the justification that best describes the purpose for the query being performed. This field will only be displayed if Justifications have been enabled in the System Parameters. *See Sections 15.3.2, List of BOSS System Parameters, and 15.7, Justifications, for more information.*

Justification Note – Enter any additional information necessary to more accurately document the query being performed. This field will only be displayed if Justifications have been enabled in the System Parameters. *See Sections 15.3.2, List of BOSS System Parameters, and 15.7, Justifications, for more information.*

Hits Only – If checked, only hits are queried.

Misreads Only – If checked, only reads that are marked as misreads are queried.

Hotlist – A search on hits can be limited to a specific hotlist, which can be entered here.

Devices – A query can be narrowed to reads originating from a particular device. Click the **Select** button to display a list of devices, select one or more.

Users – A query can be narrowed to reads originating by a particular user. Click the **Select** button to display a list of users and select one or more.

Note: The username can also be typed in.

Dispositions – A query can be narrowed to reads with a particular disposition. Click the **Select** button to display a list of dispositions. Then select one or more dispositions.

Annotation Contains – If text is entered in this field, only reads that contain the text in the annotation field are queried.

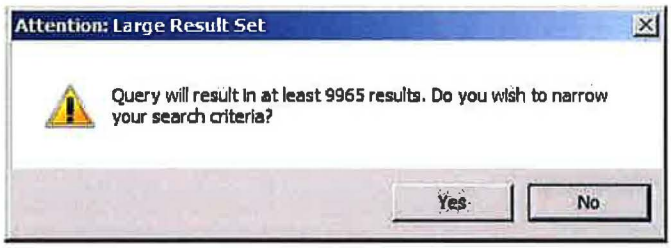
Results Per Page – The maximum number of reads that will be displayed. The default is 500, the maximum is 1,000.

Clear – If clicked, the fields on the current tab will be returned to their default values.

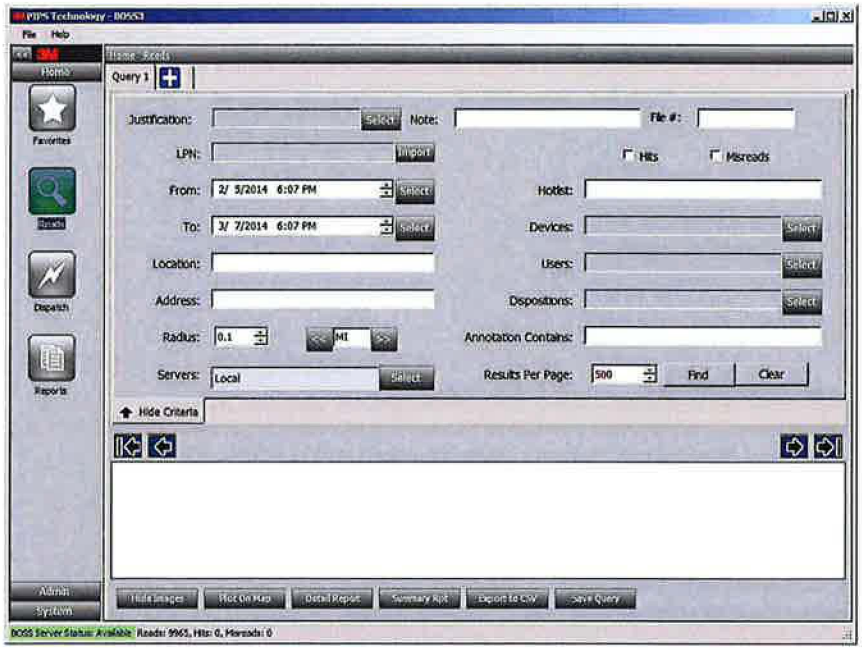
11.4.3 Managing Query Results

With the ability to obtain any number of results from a local server comes the option to narrow the potential results to be returned. If a large number of results will be returned based on the criteria entered, a message is displayed asking if the search criteria should be narrowed. If you select **Yes**, the search criteria is redisplayed offering the chance to make any necessary changes to reduce the results. If you select **No**, the query is performed based on the current criteria selections.

Note: A large number of results can take several minutes to be displayed.



11.5 Multiple Query Tabs



With Query tabs, users can perform multiple queries at a time. By clicking on the last tab, which contains the plus icon, you can access additional Reads Query screens. Enter the desired search criteria on each new screen to obtain additional information through the varying results. Each query can be given a descriptive name by right-clicking on the tab, and obsolete queries can be removed the same way.

11.6 Cross-Referencing External Data

BOSS allows cross-referencing external data, such as DMV information. To query BOSS based on external information, take the following steps:

1. Create a CSV text file containing the license plate numbers to be cross-referenced. **The license plate number must be in the first field.**
2. Open the Reads Query screen.
3. Click the **Import** button next to the LPN field.

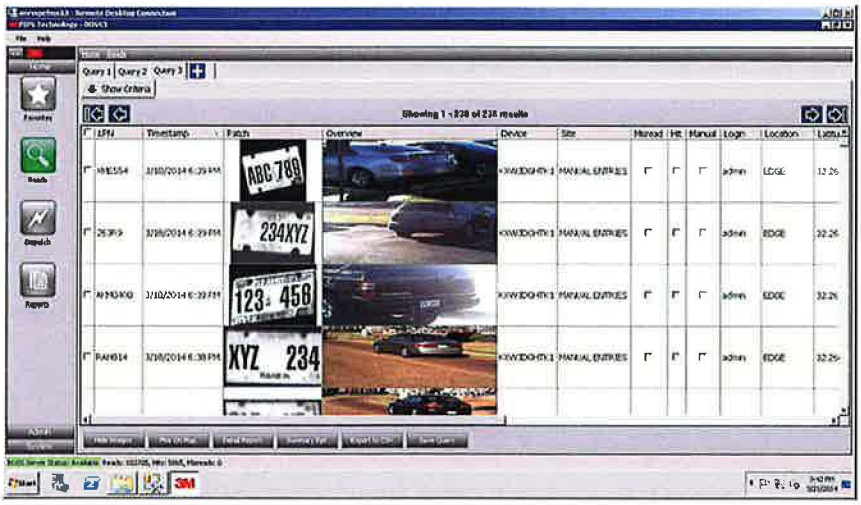
4. Click **Open** to import the plate numbers. A maximum of 50 plate numbers can be referenced at a time. Imported plate numbers will show up in the LPN field:

5. Enter other query criteria, as needed, and click **Find** to run the query.

11.7 Working with Queried Reads

11.7.1 Viewing Query Results

The results of both Quick Searches and Advanced Reads Queries are presented in the same manner.



The columns displayed are:

LPN – The plate text (characters) read in by a camera or manually entered by a user.

Timestamp – The date and time when the read occurred.

Patch – A thumbnail image of the license plate.

Overview – The color overview picture of the vehicle.

Device – The device where the read originated.

Site – The site where the read originated.

Misread – Indicates whether the read was marked as a misread by a user.

Hit – Indicates whether the read is a hit.

Manual – Indicates whether the read was entered manually.

Login – The username logged into the device at the time the read originated.

Location – The location entered in the LPCS system. *See the 3M License Plate Capture Software User's Manual for more information.*

Latitude – The latitude coordinate of the device at the time the read originated.

Longitude – The longitude coordinate of the device at the time the read was originated.

Hotlist – The name of the hotlist that produced the hit.

Field1 … Field5, PCNID, Information – Information from the hotlist that produced the hit.

Annotation – Annotations entered for the read.

Server – The name of the server that has provided this information. This can be a local or remote server.

11.7.2 Query Results Actions

There are several button options available at the bottom of the Reads Query Results screen that offers additional uses of the data results.

Hide Images/Show Images – Used to remove the image columns, patch and overview, from the view. This can be done to provide more room for text fields to be displayed. When clicked, the **Hide Images** button's caption changes to **Show Images.** When the button is clicked again, images will again be displayed.

Plot On Map – When clicked, any selected records will be plotted on a map. One or multiple records can be selected by clicking the checkbox in the first column of the record. To select all of the records, click the checkbox in the headings column.

Detail Report – Click to generate a detailed report of selected reads. To select one or more records, click the checkbox in the first column of the record. To select all of the records on the current page, click the checkbox in the headings column. Use the navigation buttons to move to additional pages to select additional records.

Summary Rpt – Click to get a summary report of selected reads. To select one or more records, click the checkbox in the first column of the record. To select all of the records on the current page, click the checkbox in the headings column. Use the navigation buttons to move to additional pages to select additional records. To include all results choose the **All Results** option in the Reads Summary Detail Report option box.

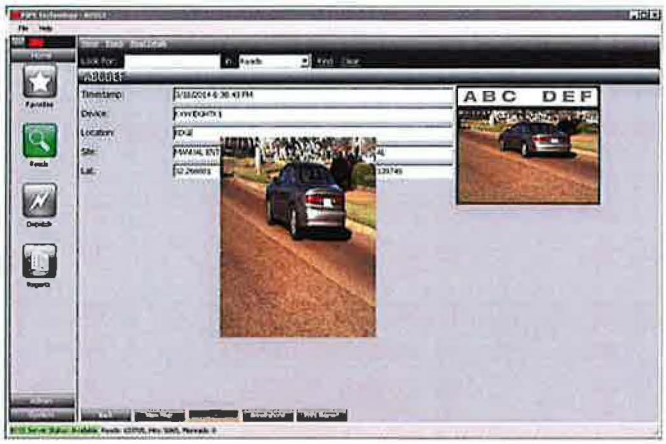
Export to CSV – Click to save the results to a file in a CSV format. Select to save the current page or all results provided. Use the navigation buttons to move to additional pages to select additional records.

Save Query – Click to save the query criteria as a favorite for future use. *See Section 11.8, Favorites, for more information.*

11.7.3 Viewing Read Details

Click a row in the query results to view the details of the record.

The Read Details screen displays the license plate text in the title. The timestamp, originating device, site, and geographical coordinates are displayed below. The plate patch and vehicle color overview images are on the right.

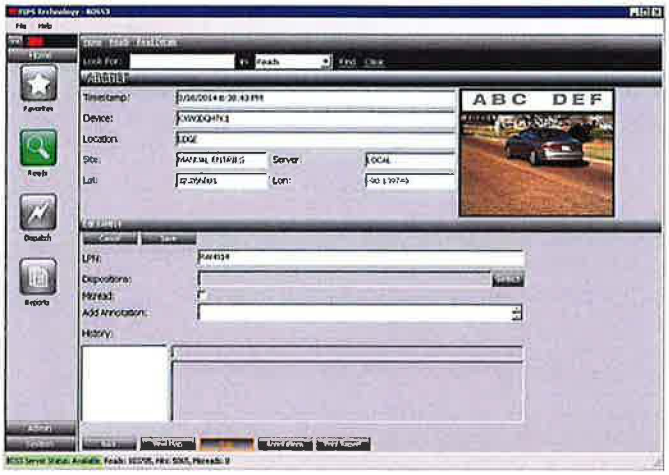


The vehicle color overview picture can be enlarged by clicking on the picture. Use a mouse scroll wheel or the cursor up and down keys to resize the image. Left-click on the enlarged image to close. Right-click on the image to copy the image to the Windows Clipboard.

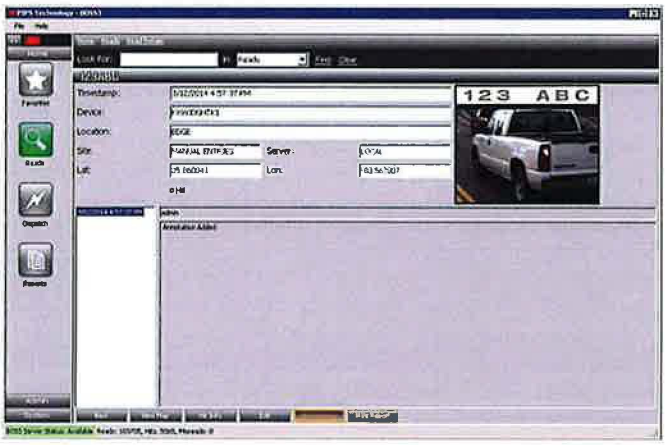
If the read is a hit, details of the hit can be displayed by clicking on the **Hit Info** button at the bottom of the screen.

A map plotting the location where the read occurred can be displayed by clicking on the **View Map** button.

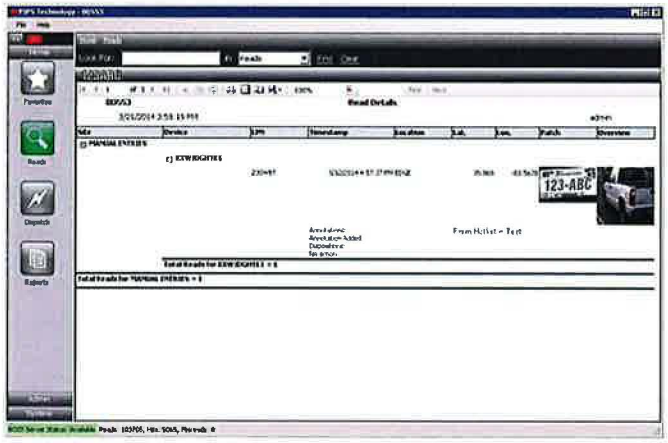
11.7.3 Viewing Read Details *(continued)*



Use the **Edit** button to correct the plate text and/or assign a disposition and annotation to the read. Click on **Save** to save the changes. The plate text can also be marked as misread if the read information is found to be incorrect.



Annotations associated with the read can be viewed by clicking on the **Annotations** button.



A report containing the read's details can be printed by clicking on the **Print Report** button.