BURBANK POLICE DEPARTMENT

General Order: 2011 - 01 Rescinds: N/A
Effective Date: 01 November 2011
Review Date: 01 November 2013

Subject: Automated License Plate Recognition Systems (ALPR)

I – Purpose

To establish policy and procedures for the use and oversight of the department's Automated License Plate Reader (ALPR) technology.

II – Policy

It is the policy of the Burbank Police Department to utilize ALPR technology only for official and legitimate law enforcement purposes, with the goal being to increase the efficiency and effectiveness of its public safety efforts in a manner that safeguards the legitimate privacy concerns of law abiding citizens. Sworn department personnel may use the ALPR system for official use only. Any matches received from the ALPR must be verified before enforcement action is taken. ALPR data that is not considered intelligence and investigative information shall be retained for a maximum of twenty-one (21) days.

III- Definitions

A. **Automated License Plate Reader (ALPR):** A device that uses cameras and computer technology to compare digital images of license plates to lists of known plates of interest.

B. **Hot List**: License plates associated with vehicles of interest from an associated database, including, but not limited to, NCIC, LEADS, ICLEAR, and locally generated BOLOs, etc.

C. **Scan File:** Data obtained by an ALPR of license plates within public view that were read by the device, including potential images of the plate and vehicle on which it was displayed, and information regarding the location of the police cruiser at the time of the ALPR read.

IV- Procedures

A. Overview:

1. By making officers better informed and alerting them to potentially dangerous situations, the department believes that ALPR technology will enhance both public and officer safety, while increasing an officer's efficiency and effectiveness at apprehending criminals and dangerous drivers, as well as, recovering missing or endangered persons and stolen vehicles.

2. The ALPR works by comparing hot list data with the scan file. The device will alert the operator of potential matches. The operator must take steps to validate the alert itself. Officers should be mindful that the ALPR may produce erroneous alerts due to damaged license plates,

misidentification of a plate state (i.e., same letter / number sequence on different states' plates), or the variety of license plate types (i.e., same letters / number sequence on various Illinois plates).

3. Upon receiving an alert, and prior to stopping any vehicle or taking other enforcement action, the officer shall query the appropriate source database, most often through Dispatch or MDT, in order to obtain more detailed information regarding the reason that the vehicle is of interest to law enforcement, and to confirm or dispel the match. Officers shall not take any police action that restricts the freedom of any individual based solely on an ALPR alert, unless validated.

B. Development of the Hot List:

1. A supervisor, designated as the ALPR Coordinator, will oversee the system. So as to use the most up to date information, the hot list will be acquired, developed and / or compiled as frequently as possible and available:

A. Authorized and designated personnel will download available NCIC, SOS extract downloads daily and transfer that hot list data to the ALPR server.

B. Officers using the ALPR during their shift may only enter additional vehicles of interest to the hot list for official and legitimate law enforcement purposes with Supervisor approval.

C. Entries made by officers using the ALPR in the field will automatically be purged at the end of that officer's shift. Any officer using the ALPR with appropriate hot list data that needs to be entered for longer than one shift should forward that information to the ALPR Coordinator, or designee. Manual hot list entries by a Supervisor or ALPR Coordinator will be purged after 21days unless exigent circumstances exist.

2. The hot list may be obtained or compiled from:

A. NCIC Stolen Vehicle files, as available;

B. NCIC Stolen plates and as available;

C. NCIC Wanted persons, as available;

D. NCIC Missing or Endangered person files, as available;

E. Illinois SOS records of Suspended and Stolen Registrations, as available; and

F. Official BOLOs or alerts, based on specific and articulable facts of a concern for safety, wrongdoing or a criminal investigation, or official law enforcement bulletin or teletype (e.g., vehicles associated with crime incidents, suicidal, homicidal, missing or wanted persons, AMBER ALERTS, stolen vehicles, or similar vehicles of interest).

C. Usage / Limitations / Security

1. Only sworn officers trained in its use may operate the ALPR. The Watch Commander will assign one or more officers on their watch to the cruiser with the ALPR, which shall be operated whenever available and operational.

2. To ensure proper operation of the ALPR, officers assigned to the ALPR vehicle shall do the following during each shift:

   A. LOGIN to the ALPR at the start of each shift; then click twice on the "BEGIN SHIFT" button to upload the most up to date hot list.

   B. Operate the ALPR cruiser during the shift, taking action on any hits, as appropriate and directed by this Policy. Scan file data will, on an ongoing basis, be automatically uploaded from the ALPR in the car to the ALPR server.

   C. At the end of each shift, click twice on the "END SHIFT" button to purge the laptop and upload any remaining scan files to the server. Ensure that enough time has passed to allow this function to occur before continuing.

   D. LOG OUT.

3. Department personnel are responsible for the security of the ALPR data and may only access, use, release and / or disseminate hot list and scan file data for official and legitimate law enforcement purposes:

   A. As with other similar data, the department will ensure that the storage, use and transmission of scan file and hot list data is as secure as reasonably possible. Access to both shall be restricted only to sworn law enforcement personnel and authorized IT personnel.

   B. To the maximum extent allowed by law, hot list data will be considered confidential information. Security of the hot list data will be the responsibility of the officer using the ALPR or accessing the data.

   C. To the maximum extent allowed by law, scan file data will be considered confidential information. Access to scan files will be secured and controlled by a login/password accessible system, capable of documenting who accessed the information by identity, date and time. Officers may only access data stored in the ALPR server based upon a reasonable belief that the scan file data may be related or useful as part of a specific official action or investigation.

   D. Nothing in this SOP should be interpreted to limit the use of the ALPR data for legitimate purposes by prosecutors or others legally permitted to receive such evidence under the law

4. All traffic stops must be constitutionally valid. To assist in this goal:

   A. Since the information contained in the ALPR hot list is not real time data, an ALPR vehicle alert alone does not justify stopping a vehicle or detaining its occupants.

B. Officers should not take any police action, other than following the vehicle of interest, until an appropriate query of the source database has confirmed an actionable enforcement option.

C. Officers are reminded that in certain cases, the driver or occupant of the vehicle may not be the person to whom the license plate is associated (e.g., an NCIC record for a wanted person or vehicle). In such instances, officers must either develop an independent reason to stop the vehicle (e.g., an unrelated traffic violation), or develop a reasonable belief that the operator or occupant may be the wanted person or suspended driver, *before* initiating a stop (e.g., by comparing the occupant's physical appearance to that of any physical description).

D. Nothing in this policy shall restrict or prohibit an officer from taking appropriate police action based on facts or reasons obtained independently from ALPR operation.

5. The ALPR should be considered to conduct license plate canvasses in the immediate wake of any homicide, shooting, robbery, kidnapping, AMBER ALERT and/or other major crime or incident. Registration plates or partial plates potentially associated with any such major crime or incident should be entered into the ALPR and compared against the scan file. Conversely, registration plate numbers may be used for exculpatory purposes (e.g., to corroborate a registrant's alibi).

6. The on-duty Watch Commander may approve a mutual aid request for use of the ALPR, as the situation and resources allow. Watch Commanders and Supervisors are encouraged to offer mutual aid for other surrounding communities when they become aware of a serious incident in which the ALPR may be useful (e.g., homicide, shooting, kidnapping, AMBER ALERT, robbery or other serious or violent felony during which suspect vehicle information is available).

7. Scan files will be retained for a period not to exceed twenty-one (21) days, unless there is a reasonable belief that scan file data will be intelligence and investigative information or become inculpatory or exculpatory evidence in a specific criminal or civil action. In such circumstances, the data will be printed or otherwise extracted for incorporation into the associated case / investigative file, and will be retained indefinitely pending final case disposition.

D. Program Oversight / Evaluation / Audit Review:

1. Damage or other malfunctions to the equipment will be reported to the Watch Commander, consistent with current department practice.

2. The ALPR Coordinator will be responsible for conducting, reviewing and retaining audits of the ALPR system usage, which should include, but not necessarily be limited to, the following:

   A. Records of ALPR operators and their ALPR usage, including vehicles of interest added to a hot list by individual officers.

   B. A listing of access to the department's server, to include access, additions and / or searches of the scan file, in order to verify security of that data and compliance with this policy.

NOTE: These guidelines are for internal use only and do not enlarge a police officer's civil or criminal liability in any way. These guidelines should not be considered as creating a higher standard of care for purposes of civil liability and may be used only to form the basis of a complaint for possible discipline of any officer violating its provisions.

By Order of:

Bruce W. Radowicz

Bruce W. Radowicz
Chief of Police

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE ILLINOIS STATE POLICE, LAW ENFORCEMENT AGENCIES DATA SYSTEM (LEADS)

AND

Criminal Justice Agency Name: Burbank Police Dept.
(Participating Agency)

GENERAL PROVISIONS

1. PURPOSE: The purpose of this Memorandum of Understanding (MOU) between the Illinois State Police (ISP) and the Participating Agency referred to as the "parties", is to memorialize the parties' understandings regarding the transmitting, receiving, and storage of information contained in LEADS, National Crime Information Center (NCIC) and Secretary of State (SOS).

2. BACKGROUND: The ISP maintains the LEADS system of records containing multiple files; Vehicle and License Plate files that contain information relating to stolen vehicles or license plates and vehicles in association with records entered in the Wanted and Missing Person files. Additionally, the SOS maintains the vehicle registration records and provides information relating to license plates that are suspended or revoked pursuant to violations of the law.

The Participating Agency instituted state-of-the-art license plate screening technology from mobile and fixed sites. Their vendors provide software and screening devices that have the capability of scanning license plates and searching a local database loaded into a patrol vehicle computer or other location controlled by the agency. *Data is provided to the Participating Agency and not the vendor.* Consequently, the Participating Agency has requested relatively current Computerized Hot File (CHF) information from the LEADS and NCIC, and SOS files in order to compare scanned numbers against stolen license plates, vehicles, wanted or missing persons, and suspended or revoked license plates.

3. AUTHORITY: The ISP enters into this MOU under the authority provided by the LEADS Administrative Code, Title 20, Part 1240.

4. SCOPE: This MOU applies to the ISPs' transmission of information from the LEADS and NCIC Vehicle and License Plate files. It also applies to the ISPs' transmission of vehicle information from the LEADS and NCIC Wanted and Missing Person files (if the license plate or VIN is part of the record).

A. The ISP will:

1. Provide the Participating Agency with extracts from the Vehicle, License Plate and vehicle information in the Wanted and Missing Person files;

(NOTE: Real-time "live" inquiries through LEADS/NCIC/SOS using the LPR system is not authorized)

2. Provide updated extract information on a mutually agreed to frequency;

LEADS twice a day, 7 days a week - 4:59 am and 6:00 pm
NCIC once a day, 7 days a week - 4:59 am
SOS once a day, Monday – Friday - 4:59am

3. Respond to specific inquiries from the Participating Agency; and
4. Provide the Participating Agency with the name and telephone number of a technical and an

4. Provide the Participating Agency with the name and telephone number of a technical and an administrative point of contact. **ISP LEADS Administration, Cindy Bowman, (217)782-0539, Fax (217)524-2498, Cindy_Bowman@isp.state.il.us.**

B. The Participating Agency will:

1. Use the LEADS/NCIC/SOS extracts for criminal justice purposes only;

2. Comply with all other LEADS and NCIC policies and procedures regarding security, access and dissemination;

3 Provide the name and address(es) of vendor(s) involved:

Name(s): _United Radio _____

Address: _9200 S. Oketo Bridgeview, IL_____

Vendor Representative Name(s) __Barry Wilk_____

4. The license plate reader (LPR) vendor representative(s) must have a state of residence and national fingerprint based background check conducted using the criminal justice agency=s NCIC ORI as a criminal justice applicant fingerprint check. ***Please provide written confirmation along with this signed MOU confirming fingerprint check conducted and on file at your agency.***

NOTE: *If fingerprints have been submitted previously by another criminal justice agency, the confirmation response from the state Repository/FBI can be shared with multiple criminal justice agencies and will not require each agency to submit fingerprints each time the vendor contracts with a new agency. However, each agency is responsible for maintaining the fingerprint confirmation response on file at their agency for auditing purposes and provide a copy to ISP by attaching to this MOU.*

5. Provide a criminal justice email address(s) for the LEADS data extract to be sent to daily:

radavis@burbankil.gov_____

sgaydos@burbankil.gov_____

6. Update its local database as ISP updates become available, ensuring that those numbers deleted from the LEADS/NCIC/SOS systems are also removed from all local databases;

7. Confirm extract CHF hits are still active in LEADS/NCIC at the earliest reasonable opportunity, in accordance with current LEADS hit confirmation policy and procedures;

8. Ensure the LEAD/NCIC/SOS data is not copied or stored;

9. Provide the ISP with the name and contact information of a technical and administrative point of contacts at the Participating Agency (must be under the management control of the criminal justice agency Chief Administrator) 3 R-050211 (122006)

Technical Contact Name: __Captain Joseph Ford_____
Address: _5650 W. 75th Pl Burbank, IL_____ Phone: (708) 924-7300_____
Fax: (708)728-0483_____
Email: __jford@burbankil.gov_____
Administrative Contact Name (*please print*): __Chief Bruce Radowicz
Address: 5650 W. 75th Place_____ Phone: (708) 924-7300_____
Fax: (708) 278-0483_____
Email: ___bradowicz@burbankil.gov_____

10. Provide written notification to ISP when the LEADS/NCIC/SOS extracts are no longer needed for the LPR system; and
11. Provide written notification to ISP, if a new LPR vendor is contracted and the current vendor is discontinued.

5. FUNDING: There are no reimbursable expenses associated with this level of support. Each party will fund its own activities unless otherwise agreed in writing. Expenditures will be subject to budgetary processes and availability of funds pursuant to applicable laws and regulations. The parties expressly acknowledge that this in no way implies that the State will appropriate funds for such expenditures.

6. DISCLOSURE AND USE OF INFORMATION: The exchange of information will be limited to extracts from the Vehicle and License Plate files, vehicle information in the Wanted and Missing Person files, and SOS vehicle registration suspended/revoked file.

7. SETTLEMENT OF DISPUTES: Disagreements between the parties arising under or relating to this MOU will be resolved only by consultation between the parties and will not be referred to any other person or entity for settlement.

8. SECURITY: It is the intent of the parties that the transfer of information described under this MOU will be conducted at the unclassified level. No classified information will be provided or generated under this MOU.

9. AMENDMENT, TERMINATION, ENTRY INTO FORCE, AND DURATION:

A. All activities of the parties under this MOU will be carried out in accordance to the above-described provisions.

B. This MOU may be amended or terminated by the mutual written consent of the parties= authorized representatives.

C. Either party may terminate this MOU upon 30 days written notification to the other party. Such notice will be the subject of immediate consultation by the parties to decide upon the appropriate course of action. In the event of such termination, the following rules apply:

1. The parties will continue participation, financial or otherwise, up to the effective date of 4 R-050211 (122006)

termination.
2. Each party will pay the costs it incurs as a result of termination.
3. All project information, copies thereof, and rights therein received under the provisions of this MOU prior to the termination will be destroyed within six months of the termination of this MOU.

10. This MOU, which consists of ten sections, will enter into effect upon signature of both parties, will be reviewed annually to determine whether amendments are needed, and will remain in effect until terminated. This MOU is not intended, and should not be construed, to create any right or benefit, substantive or procedural, enforceable at law or otherwise by any third party against the parties, their parent agencies, the State of Illinois, or the officers, employees, agents, or other associated personnel thereof.

The foregoing represents the understandings reached between the ISP and the Participating Agency.

FOR THE ILLINOIS STATE POLICE

Hiram Grau
Signature – Director Hiram Grau

7/18/11
Date

FOR THE PARTICIPATING (CRIMINAL JUSTICE) AGENCY

Signature (Must be Criminal Justice Administrator)

7/6/11
Date

Please print name: Bruce W. Radawiec

Title: Chief of Police

Criminal Justice Agency *NCIC ORI:* IL 0168C00

FFY 2009
Justice Assistance Stimulus Grant
Cook County Funding
Application

Burbank Police Department

Captain Thomas E. Gename
Administrative Services

5650 W. 75th Place
Burbank, Illinois 60459

TX: 708-924-7300
FAX: 708-728-0483

FEIN: 36-2698031

Grant Amount Requested:

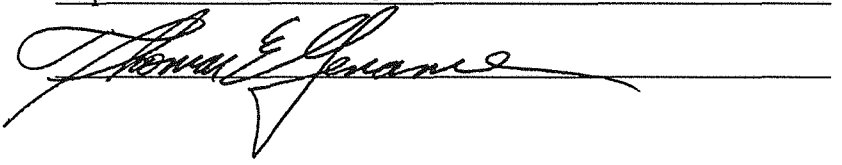
Federal Fiscal Year 2009: $69,505.00

Authorized Signature: _____
Name: Harry J. Klein
Title: Mayor
Date: March 12, 2010

Authorized Signature: _____
Name: Bruce W. Radowicz
Title: Chief of Police
Date: March 12, 2010

Request for Federal Fiscal Year 2009
Justice Assistance Stimulus Grant/Cook County Funding

Name of Organization:	Burbank Police Department
Address:	5650 W. 75th Place
	Burbank, Illinois 60459
Telephone:	708-924-7300
Fax:	708-728-0483
FEIN:	36-2698031
Date Submitted:	March 12, 2010
Title of Project:	Justice Assistance Stimulus Grant FFY 2009
Project Description:	Equipment and Technology Improvements and Upgrades
Amount Requested:	$69,505.00
Submitted By:	Thomas E. Gename
	Captain Administrative Services



Burbank Police Department

Justice Assistance Stimulus Grant
FFY 2009

The Burbank Police Department was established in 1982 and currently has a staff of 53 trained officers providing law enforcement services. The Burbank Police Department in its continuing effort to make the City of Burbank a safer place for its citizens and visitors alike is proposing to use the funds received from the FFY 2009 Justice Assistance Stimulus Grant (J.A.G.) to upgrade and expand the technology it uses in order to enhance the detection, enforcement and investigative abilities of its officers.

The Department's proposal to use the funds provided by the FFY 2009 Justice Assistance Stimulus Grant to expand and upgrade its equipment beyond current budgetary resources would successfully use the funds in accordance to the grant guidelines of reducing crime and improving public safety. In addition, the funds would assist the Department in its continuing mission to provide quality solutions to complex problems that impact the daily lives of every person that lives and travels within the City's boarders.

A. Goal Statement (Crime Control):

To reduce criminal activity and strengthen the investigative abilities of the Burbank Police Department by purchasing and making use of modern technologies and equipment.

B. Statement of Problem:

The recent and continuing economic downturn has created a need to tighten the budget of the Burbank Police Department not only for the upcoming fiscal year but also for future budgets. During the past several years the Department has undertaken a program to strengthen and reinforce the technology and equipment available to effectively provide law enforcement services to its citizens. To reduce expenses and to alleviate personnel cuts the Department has eliminated all major equipment purchases and put a halt to the technology improvements that were implemented in previous fiscal years. The inability to continue technology improvements and upgrade equipment will create a gap that will be difficult to overcome in the future.

C. Targeted Area:

The intended goal of this program is to upgrade and expand the technology for the improvement of public safety and to reduce crime by enforcing the laws of the United States, the State of Illinois and the City of Burbank throughout the jurisdiction of the Burbank Police Department.

The City of Burbank covers approximately 4.5 square miles. The City's eastern border (Cicero Avenue) is shared with the City of Chicago, the western border (Harlem Avenue) with the Village of Bridgeview, the northern border (75th Street) with the City of Bedford Park; and the southern border (87th Street) with the Village of Oak Lawn.

The 2006-2008 American Community Survey 3-Year Estimate for the U.S. Census Bureau estimates the population of Burbank at 27,567 with a racial breakdown as follows: 84.4% white; 15.1% Hispanic; 2.7% Asian; 1.0% African

American, 0.2% American Indian, 0.0% Native Hawaiian; and 9.9% Other Races. In the 2006-2008 survey, there were approximately 4,862 city residents between 10 and 19 years of age. The current school enrollment for the public and private schools in the City of Burbank is estimated at 6, 307. Fourteen (14) schools are available for the youth of the city to attend, 9 elementary (8 public, 1 private); 3 high schools (1 public, 2 private); 2 special education schools (1 public, 1 private). The 2006-2008 American Community Survey 3-Year Estimate for the U.S. Census Bureau listed the median family income as $63,268.00 and a per capita income of $21,106.00.

D. Targeted Group:

This program and the equipment purchased is intended to target and serve the citizens of the City of Burbank and enhance the law enforcement services provided to them. The primary individuals targeted will be the residents and business owners of the City of Burbank. The outcome from purchasing the additional equipment should be a positive effect on all groups and individuals and a decrease in criminal activity within the City of Burbank.

E. Types of Services:

The Department, with the equipment purchased from the J.A.G. funds, will be able to enhance the enforcement and investigative abilities and services of its officers. The equipment will help detect, investigate and assist in the prosecution of crime related activities. In addition expanding and upgrading the technology used by the Department will help identify unusual behavior; prevent criminal incidents before they occur and assist in the investigation of incidents after they occur.

The Department is proposing to use grant funds to purchase the following equipment not only to enhance the enforcement and investigative abilities of its officers but also to fulfill its public safety mission.

- *Mobile Digital Video Recording Equipment* - The purchase of this equipment will not only allow the Department to upgrade current cameras to a digital format but will also allow for cameras to be installed in vehicles that currently do not have them. The benefits of the cameras are numerous and include but are not limited to improving officer safety and training; resolving complaints; gathering and preserving the chain of evidence and improving public opinion and officer accountability.
- *Automatic License Plate Recognition System (ALPR)* - The purchase of this system and related equipment (server) will allow officers to do their job more effectively and efficiently and aid in the recovery of stolen vehicles and in the surveillance and apprehension of suspects involved in drug trafficking, identity theft and other criminal activities.
- *Dell Mini Tower Computers* – Grant funds will be used to purchase and update computers operated by law enforcement officers. Current computers do not have the capabilities necessary to operate the records management or surveillance camera programs that were recently updated. In addition the computers will continue to enhance a camera program that was implemented with previous JAG funds.
- *Traffic Speed Radar System* – The Department's current speed detection radars have either reached the end of or are nearing the end of their dependable service life. The purchase of updated traffic radar devices will enhance traffic safety for the motoring public traveling through the City of Burbank.

F. Implementation Schedule:

J.A.G.	IMPLEMENTATION	SCHEDULE
	September 2010	
Purchase		Equipment
	October 2010	
Install		Equipment
	November 2010	
Install		Equipment
	December 2010	
Install		Equipment

Note: The implementation schedule may be adjusted as needs dictate and if approval is given.

G. Performance Measure:

Ensuring that a program is working is dependent upon many factors that can be measured from data gathered from a variety of sources. The Department will monitor the use of the equipment purchased and use its records management system to compare the activity generated before and after the purchase of the equipment.

H. Funding Source:

Funding for this project is dependent on the monies available through the grant as indicated in the submitted budget. Any unexpected expenses in support of this project and not indicated will come from the Burbank Police Department budget, if available.

I. Technical Assistance:

No technical assistance will be required from the Judicial Advisory Council at this time.

BURBANK POLICE DEPARTMENT
J.A.G.
BUDGET REQUEST
FFY 2009 (Stimulus)

BUDGET CATEGORY	AMOUNT
A. Personnel	$0.00
B. Fringe	$0.00
C. Travel	$0.00
D. Equipment	$69,384.30
E. Supplies	$120.70
F. Other	$0.00
Total Project Costs	$69,505.00
JAG funds requested	$69,505.00
Non JAG funds committed	$0.00

Note: Three (3) bids will be received for purchases over $500.00.

Burbank Police Department
J.A.G.
Budget Worksheet
FFY 2009 (Stimulus)

A. Personnel
(Staff Salaries)

Position Classification	Annual Salary	% of Time Spent on this Project	Salary Utilized on this Project	LLEBG Portion for this Project	Matching Portion for this Project
Total Salaries					$0.00

B. Fringe Benefits			Cost
	Fringe Benefits not requested in grant proposal	**$0.00**	**$0.00**

C. Travel		Cost
	Expenses associated with sending officers to training classes for gang and/or drug topics	
Total Travel		**$0.00**

D. Equipment

Item	Computation	Cost
Motorola Automatic License Plate Recognition System (ALPR)	1 @ $26,108.30	**$26,108.30**
Dell Optiplex 760 Server for ALPR System	1 @ $4,455.00	**$4,455.00**
Installation of ALPR System	1 @ $1,264.00	**$1,264.00**
AMR Digital Corporation Mobile Digital Video Recording (MDVR) Equipment	6 @ $4,200.00	**$25,200.00**
AMR Digital Corporation MDVR Equipment - 2 year warranty	6 @ 375.00	**$2,250.00**
Installation of AMR Digital Corporation MDVR Equipment	6 @ $225.00	**$1,350.00**
Dell Vostro Mini Tower Computer	2 @ $924.00	**$1,848.00**
Kustom Signal Inc. Talon II Radar System	3 @ $2,303.00	**$6,909.00**
Total Equipment		**$69,384.30**

E. Supplies	Item	Computation	Cost
	Office Supplies - binders, copy paper, postage, dividers, ink cartridges, pens etc.		
Total Supplies			**$120.70**

F. Other Costs	Function	Computation	Cost
	Miscellaneous cost to sponsor events.		$0.00
Other Costs Total			**$0.00**

Total Project Costs: **$69,505.00**

NOTE: Equipment costs as of March 12, 2010 however when purchased three (3) bids will be received for purchases over $500.00 unless system is proprietary or specific to Law Enforcment then a sole source letter will be provided.

ENHANCE OFFICER SAFETY. IMPROVE INTELLIGENCE CAPABILITIES.

AUTOMATIC LICENSE PLATE RECOGNITION

A police cruiser rolls down the road, the officers inside heading back to headquarters at the end of their shift. It's nearly 3 AM, traffic is light, and what few cars they pass are traveling at the speed limit: 65 mph. A blue car zips by them in the opposite direction, no faster than the others… Yet a few minutes later, the officers pull the car over. The driver owes thousands of dollars for parking violations. How was he caught by tired officers, on a dark road, the cars passing each other at 130 mph? He wasn't.

Protecting the public is a challenge in the best of times. These days, with limited budgets and ever-present security concerns, the task grows more difficult every day. What if there was a way to increase patrol effectiveness and boost intelligence gathering capabilities, without increasing headcount? What if you could find more stolen vehicles, track felons and drug dealers, and recover revenue from deadbeat violators, all while freeing personnel from a time-consuming, tedious task? That's the promise – and reality – of Automatic License Plate Recognition (ALPR) from Motorola and PIPS Technology, a Federal Signal company.

A MOTOROLA/PIPS TECHNOLOGY ALPR SYSTEM DELIVERS SEVERAL KEY CAPABILITIES

- In moving traffic, it can automatically photograph a vehicle and zero in on its license plate. The photographed license plate can then be read in real time. This process is silent and fully automatic, requiring no interaction from the officer in the car.
- In response to a match, the system can raise an alert, showing a photo of the vehicle and license plate, and displaying why it's of interest. Or, it can silently record the time and location of the match, for later review.
- At the command center, plate identification data can be mined and analyzed for patterns, giving investigators a powerful intelligence-gathering and crime-fighting tool.

ALPR ON THE STREET

In a single shift, an officer can manually check 50 to 100 license plates. During the same shift, an ALPR system can check 5,000 plates or more. Not surprisingly, police are the most enthusiastic adopters of ALPR technology, and the technology has been put to many uses by law enforcement:

Long Beach police used two ALPR-equipped vehicles to search for parking scofflaws. In 30 days, they located and impounded more than 300 vehicles – collecting over $200,000.

Combating auto theft. When police in Long Beach, California installed four ALPR systems, in six months they identified 929 lost or stolen license plates, recovered 275 stolen vehicles, and made 50 arrests. Without ALPR, a stolen vehicle has to be found by chance, or the thief has to do something that arouses an officer's suspicion. With ALPR, the stolen vehicle only has to pass a police cruiser; if the plate number is in the database, the system will let the officer know. The system will also inform the officer if the driver is known to be armed and dangerous, so the officer can choose to pursue discreetly rather than pull the suspect over immediately. Considering how often stolen cars are involved in other serious crimes, ALPR can be an invaluable tool.

Collecting revenue from ticket scofflaws. Long Beach police used two ALPR-equipped vehicles to search for parking scofflaws. In 30 days, they located and impounded more than 300 vehicles – collecting over $200,000 in delinquent fines and impound fees[1].

A study done for the City of Seattle showed that parking ticket collection rates across municipalities vary from 71% to 87%, with 80% being the median[2] – that's a million dollars or more of uncollected revenue in each city. Searching for parking ticket violators isn't the most productive use of an officer's time, so locating serial violators has been left to chance: the officer would have to find the car as part of a routine plate check or another traffic stop.

With an ALPR system, the police vehicle only has to pass the violator – whether parked or in traffic – and ALPR will alert the officer. A quick drive through a large parking lot will often locate several serial violators whose cars can be towed or clamped until the fines are paid. The end result is fewer scofflaws getting away with nonpayment of fines.

Monitoring known felons and other persons of interest. Besides alerting the officer when he passes a vehicle of interest, an ALPR system equipped with GPS can quietly note the time and location the vehicle was passed. This data is then loaded into Back Office System Software (BOSS®) and then mined and cross referenced to keep tabs on known drug dealers, terrorist suspects, organized crime figures or crime patterns.

Reducing claims of profiling. The ALPR system reads and checks all license plates, regardless of the car or driver. By eliminating the officer from the process of checking license plates, the system reduces the risk of profiling claims.

[1] Beery, Craig. "Busted... At the Speed of Light." **Law Officer**, Vol. 4, Issue 1. January 1, 2008.
[2] Howe, Robin and Susan Cohen, **Parking Fine Collection Internal Controls Review (Job Design Conclusions),** City of Seattle, September 21, 2005. Appendix 3, p. 11.

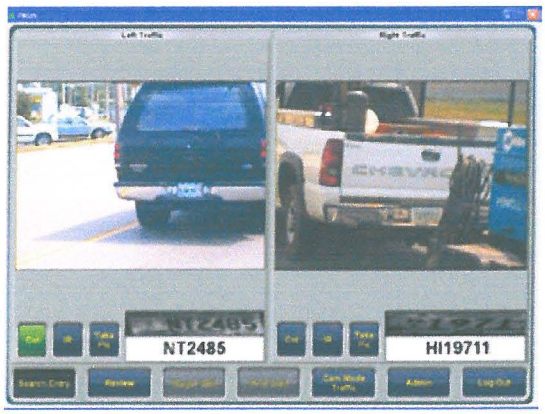
A LEADING-EDGE ALPR SOLUTION

An ALPR system must be able to locate license plates in a variety of environments, photograph the plates at highway speeds and despite weather conditions, convert the photo into a license number, and make a decision as to whether to alert the officer, record the encounter, or disregard the information – in seconds. This requires top-grade photographic and processing hardware.

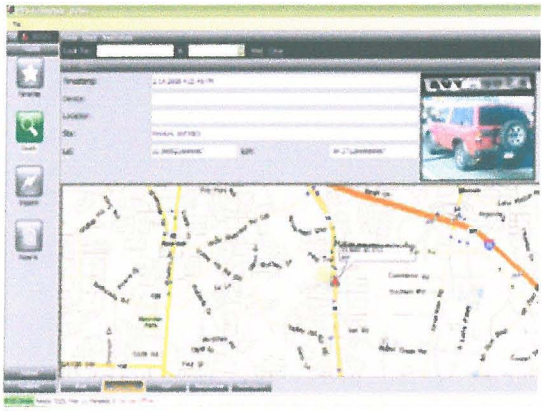
Motorola and PIPS Technology have worked together to create a leading-edge ALPR solution with unparalleled power, intelligence, and flexibility.

Slate™ Cameras. It is a mistake to think that cameras suited for video surveillance can also be used for ALPR. An ALPR camera needs to have the shutter speed and sensitivity to permit use in low light and poor visibility, while at the same time be able to react to ever-changing light conditions as the police vehicle is moving. The camera needs to capture video in full color as well as infrared, virtually simultaneously. Because it rides on the outside of a police vehicle, the camera needs to be protected from the elements, a vehicle's vibration and shock. Slate cameras will not only handle the optics and capture, but also provide some data processing, ensuring a higher-quality capture and lessening the load on the Workstation in the vehicle. Their low profile also allows Slate cameras to blend in discreetly and not interfere with the light bar.

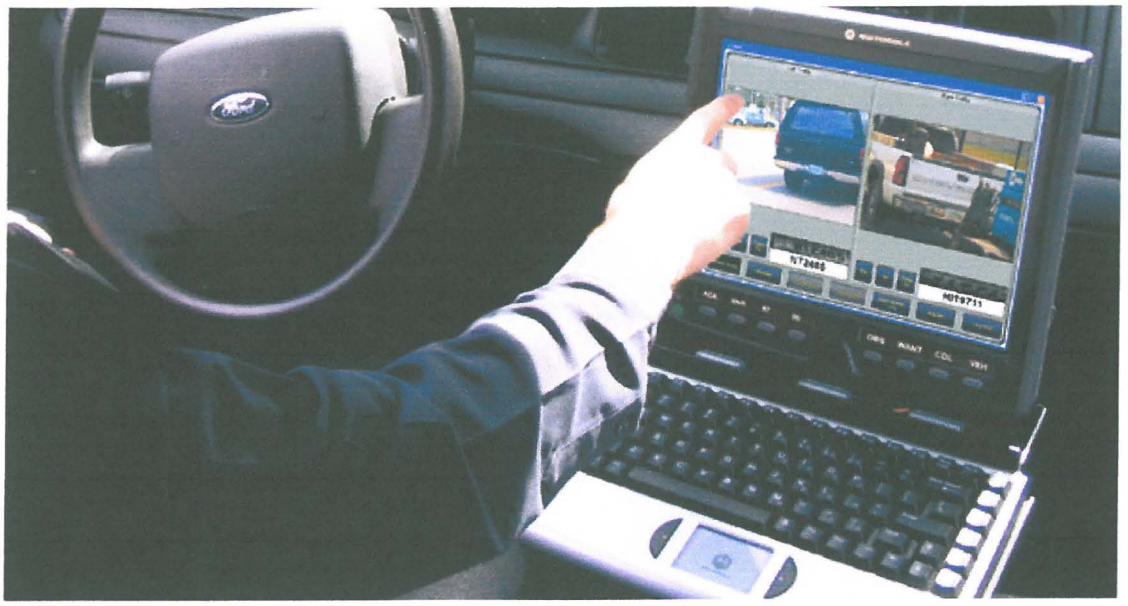
PAGIS® In-Vehicle Software. The best cameras in the world will be of no use if the information they capture is not properly recorded, analyzed and acted on. ALPR software needs to convert license plate photographs into alphanumeric license plate numbers, accurately and instantaneously. Accuracy is key: missed hits – or worse yet, false positives – will cause officers to ignore alarms. Finally, a system's user interface should be designed with a busy officer in mind – PAGIS software is unobtrusive during routine patrol, only sounding an alarm when action is needed. Customizable color codes reinforce alarm descriptions: a different color can be used for a parking scofflaw vs. a stolen vehicle or carjacker, making it easy to make the correct decision in seconds.



Back Office System Server (BOSS®) Software. ALPR systems can generate vast amounts of data: database hits, GPS coordinates, time of day, photographs, plate numbers, and more. Back at headquarters, BOSS turns this data into useful intelligence. BOSS is designed to enable law enforcement agencies to organize and archive data collected from multiple mobile and fixed site ALPR deployments. Users can query the data using multiple search parameters including time, date, full or partial plate, location and user. BOSS can also map all locations related to a single plate to track vehicle movements. The BOSS web interface allows data to be easily shared across multiple locations and agencies.



SOLUTION BRIEF
AUTOMATIC LICENSE PLATE RECOGNITION



MW810 Mobile Workstation. A powerful, flexible mobile workstation is one of the distinguishing characteristics of Motorola's ALPR solution. The Motorola MW810 Mobile Workstation is designed for mission-critical vehicles and optimized for ALPR. The MW810 natively supports[6] up to four digital Slate cameras, eliminating the need for a dedicated ALPR processor – which saves on trunk space, hardware, wiring, and labor cost. The MW810 Mobile Workstation is fully ruggedized against heat, cold, water, dust, shock, and vibration – hazards encountered every day by computers on the road – so it will keep working in the harshest of conditions. The standard touch screen makes it easy to interact with PAGIS software without using the mouse pad.

The MW810 is a complete mobile workstation, combining outstanding ALPR support with best-of-breed MDT attributes. By installing it in your vehicle, you do more than provide the best possible in-vehicle support for your ALPR system: you also invest in a powerful, flexible, scalable, and expandable computing platform that can be customized to fit all of your mobile computing needs.

Built without the space and battery-life compromises inherent in laptop design, the MW810 not only has a powerful processor and plenty of RAM – it also supports a wide variety of configurations, including the addition of a second monitor, mounting the CPU in the trunk to save space, GPS and Dead-Reckoning GPS, Smart Card support, and displays that remain clear and bright even under intense sunlight.

The MW810 also offers many communications options – including broadband cellular, WiFi, and Bluetooth® – with optional software that makes transitions between networks smooth and transparent. This not only allows more frequent ALPR database updates, but turns your MW810 Mobile Workstation into a mobile data communications center, able to transmit and receive anything from a text bulletin to streaming video. After all, when it comes to wireless connectivity, you expect nothing less from Motorola.

MW810 AND ALPR

- Lower hardware, wiring, labor costs
- Top-quality integrated MDT+ALPR solution
- Dedicated preprocessor for optimal MDT performance
- Smaller footprint

[6] Optional configuration

For more information, contact your Motorola representative or visit **www.motorola.com/ALPR**

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. **motorolasolutions.com**

MOTOROLA

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ALPR

Automatic License Plate Recognition solution

An ALPR system from Motorola and PIPS Technology (a Federal Signal Company) acts as a silent partner in the vehicle, constantly scanning license plates of passed vehicles. When a vehicle of interest is passed, the system can alert the officer and record the time and GPS coordinates when the encounter happened.

The system can check several thousand plates in a single shift—far more than the 50-100 typically checked using manual processes. This greatly increases the odds that vehicles of interest will be spotted and found. Police and other agencies have found many uses for an ALPR system:

- Combating auto theft and related crimes
- Collecting revenue from ticket scofflaws
- Intelligence gathering and crime-pattern analysis
- Monitoring felons and other persons of interest
- Reducing claims of profiling
- Perimeter security around sensitive areas like airports and schools

Motorola, the leader in public-safety communications and mobile computing, and PIPS Technology, the leader in license-plate recognition systems, bring you a unique ALPR solution with the following features:

- High-accuracy ALPR hardware and software
- Operation without a separate ALPR processor box in the trunk
- Support for conducting surveillance under varied lighting conditions, from a bright, sunny afternoon to a dark, rainy night
- Ability to capture license plates even when two vehicles pass each other at highway speeds (up to 130 mph differential speed)
- Low-profile cameras that do not interfere with the light bar

An ALPR system from Motorola and PIPS consists of the following components:

- Up to four low-profile, digital Slate™ cameras
- PIPS PAGIS® software
- Motorola MW810 Mobile Workstation
- Motorola MW810 ALPR Expansion Board
- PIPS BOSS® software

DATA SHEET

Automatic License Plate Recognition (ALPR) solution

SLATE™ CAMERAS

The rugged, low-profile Slate digital camera from PIPS supports both color and infrared image capture. Designed to fit under the light bar, it will not block the light bar from any angle. Slate cameras offer the following patented technologies:

- **TripleFlash®:** Varies the flash, shutter and gain settings of the camera to capture three plate images. Only the image determined to produce the highest quality read is sent on for processing, ensuring optimum performance regardless of light or weather conditions.
- **PlateFinder:** Sophisticated firmware continually searches the camera's field of view for the presence of a license plate.

Dimensions (W x D x H)	7.16 in. x 3.54 in. x 1.65 in. (182 mm x 90 mm x 42 mm)
Weight	Less than 3.31 lbs (1.5 kg)
Mechanics	Extruded metal casting with piston sealed lens
Optics	Clear IR-transmissive front window Integral band-pass filter (IR camera) Integral IR-cut filter (color camera) Available lenses (mm): 25, 12, 8, 7, 6, 4.9, 4, and 2.9
Focal Lengths	Short: 8 mm IR / 6 mm color overview Long: 25 mm IR / 12 mm color overview
Illumination	High-power IR pulsed illuminator. TripleFlash illumination (patented). Flash table can include a position for the color overview camera with LEDs turned off The illuminator flash table runs locally and autonomously on power-up and can be set via an interactive PC graphical utility or via a simple command-line text interface. Effective viewing range: up to 50 feet (15 meters)
IR Wavelengths	810 nm or 950 nm, depending on jurisdiction
Monochrome	IR camera Hi-sensitivity IR CCD 752 x 582 (CCIR) or 768 x 494 (EIA) ¼-inch format
Color Camera	Exview-HADTM Color CCD 752x582 (PAL) or 768 x 494 (NTSC) ¼-inch format Separate day / night settings (for high-speed applications) with changeover from built-in photo sensor
Video Input	Separate 75 ohm standard video output for infrared monochrome and for color Both cameras can be multiplexed to one output controlled by the flash table
Synchronization	External video sync input; otherwise crystal-controlled internal sync (both cameras locked together)
Control	No external controller required; graphical or command-line interface control of video-field table; flash (8 settings); gain (8 settings); shutter (4 settings); camera selection (2 settings) under RS 232 control; table depth, up to 8 manual/auto-table (On/Off), plus engineering-only access to camera DSP internal settings, e.g. horizontal and vertical aperture correction, Gamma, etc.
Communications	RS232 & RS485, Rx, Tx, Gnd, 19.2kB, 8 bits, no-parity, 1 stop-bit Flash-table index encoded in top left-hand corner of image
Cable	MW810 ALPR Splitter Cable (required; sold separately) connects the ALPR expansion board with up to four SLATE Digital ALPR cameras via camera cables. Splitter cable is designed to the same ruggedness specifications as the MW810 Mobile Workstation. (See page 3.)
Connectors	Metal IP67-sealed connectors
Connections	75 ohm standard video (infrared monochrome and color); power supply (+ve/–ve); RS 232/RS485 communications; camera and overall screens; external sync, flash gnd and flash pulse
Mounting	Three-axis finger mounting bracket
Operating Temperature	–4°F to +140°F (–20°C to +60°C)
Regulatory Compliance	US Safety: UL-60950-1 US Radiation Emission: FCC Part 15, Class B Compliant with EPP, RoHS, and WEEE

DATA SHEET

Automatic License Plate Recognition (ALPR) solution

PAGIS® SOFTWARE

PAGIS (Police ALPR Graphical Interface System) is a patrol-car based license plate recognition software improving officer safety and effectiveness:

- Capture and decode a license plate, identification plates of interest, and alert users in less than two seconds
- PIPS Technology's proprietary, high-accuracy ALPR software with optical character recognition (OCR)
- OCR optimized for the customer's state or jurisdiction
- Vehicle color image capture for evidentiary purposes
- Support for wireless database synchronization
- Easy interface designed by public safety for public safety

MOTOROLA MW810 MOBILE WORKSTATION

The fully rugged Motorola MW810 Mobile Workstation provides reliable, cost-effective wireless connectivity and computing power for mission-critical applications.

Its three-piece design allows flexible installation options, including choice and location of CPU, display, and backlit keyboards. This fixed-mount, high-performance computing platform is optimized for harsh environments and seamless mobility at highway speeds.

The MW810 Mobile Workstation offers a range of integrated radios and GPS options to help the mobile user stay connected to one or more networks. The heated removable hard drive features 3-dimensional shock absorbers ready for high vibration environments.

The MW810 supports a variety of optional I/O expansion boards, including the new ALPR Expansion Board which provides native support for up to four digital ALPR cameras, dual display capability, plus extra USB and Ethernet ports.

MW810 also delivers outstanding ergonomics. Our backlit keyboard is easily removed from mounts, offering the convenience of laptop typing. A built-in pointer eliminates the need for a separate mouse.

MW810 displays are full of user-friendly features as well. All of them come with resistive tempered glass touchscreens and have user-programmable function buttons with available custom labeling.

The optional Smart Card Reader available in 12.1" displays helps protect sensitive data with an additional layer of authentication.

An emergency button can work with dispatch and monitoring applications to allow users to call for help without keyboard or radio.

System Component	CPU	12.1" Displays	8.4" Display	Keyboard*
Physical Size (H x W x D)	2.8" x 7.4" x 9.4" 7.2 x 18.9 x 24.0 cm	10.6" x 11.5" x 1.9" 27.0 x 29.2 x 4.9 cm	7.1" x 9.1" x 1.7" 18.1 cm x 23.0 cm x 4.36 cm	1.26" x 12.6" x 8.0" 3.2 x 32.0 x 20.3 cm
Weight	8.8 lbs. (4 kg)	Std. Brightness 6.1 lbs. (2.75 kg); High Brightness 6.6 lbs. (3 kg)	3.3 lbs.(1.5 kg)	2.2 lbs. (1.0 kg)

**USB Backlit 85-Key Full Travel Keyboards (multiple language options)*

NOTE: For information about the MW810 Mobile Workstation, see the MW810 specification sheet at motorola.com/mw810.

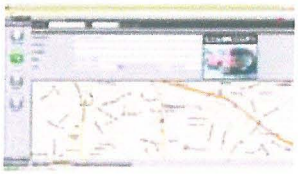
DATA SHEET

Automatic License Plate Recognition (ALPR) solution

MOTOROLA ALPR EXPANSION BOARD FOR MW810 MOBILE WORKSTATION

The MW810 ALPR Expansion board is an add-on board that can be installed in an MW810 Mobile Workstation. The board has an interface that allows it to connect to up to four Slate™ digital cameras, eliminating the need for a separate ALPR processor. The board also has a built-in proprietary interface with intelligence that helps pre-process data from Slate cameras, reducing the load on the MW810's main processor.

Ports	One high-density MDR-compatible port (with suitable pin configuration) that supports connectivity with up to four (4) PIPS Slate™ ALPR digital cameras. One USB 2.0 port One 1 Gigabit Ethernet LAN port One 10/100 Mbps Ethernet LAN port One DVI 36 pin, MDR compatible port for secondary display
Installation Options	The MW810 ALPR Expansion board can be ordered as part of a new MW810 Mobile Workstation. It can also be purchased separately and retrofitted at the depot to an MW810 Mobile Workstation that is already installed in the vehicle.
Cables	MW810 ALPR Splitter Cable (required; sold separately) connects the ALPR expansion board with up to four Slate Digital ALPR cameras via camera cables. Splitter cable is designed to the same ruggedness specifications as the MW810 Mobile Workstation. Please see motorola.com/mw810 for further details.
Environmental	The MW810 ALPR Expansion Board is designed to the same ruggedness standards as the MW810 Mobile Workstation and passes the same tests. Please see motorola.com/mw810 for further details.
Warranty	3 year commercial warranty standard



BACK OFFICE SYSTEM SERVER (BOSS®) SOFTWARE

The BOSS Back Office System Server provides administrative and data analysis functions for both mobile and fixed deployments of ALPR, and serves as a central repository where all data may reside and be used as a total population. BOSS was specifically designed to allow law enforcement to capitalize on the tremendous amount of data generated by PAGIS (for mobile applications) and Spike+™, the integrated camera/processor system for fixed applications.

BOSS includes Administration utilities for PAGIS and BOSS allowing customization of screens, setup of users, and specification of databases to compare against. Perhaps the most powerful application of BOSS is its data mining capability, which allows customers to locate and map hits based on a wide range of criteria including partial plates, street address, GPS coordinates, time and date.

MOTOROLA

Motorola, Inc.
1301 E. Algonquin Road
Schaumburg, Illinois 60196 U.S.A.
1-800-367-2346

www.motorola.com/ALPR

R3-14-2032C (1006)

MOTOROLA

Please do not make configuration changes to this quote. The only modification that is allowed are changes in quantity.
If one or more items are not needed, please REMOVE the item(s) from the order form completely.

Qty.	Model	Description	Unit List Price	Unit Discounted Price	Total Discounted Price
1	F5208	MW810 MOBILE WORKSTATION CPU	$2,995.00	$ 2,396.00	$ 2,396.00
1	VA00497	AUTOMATIC LICENSE PLATE RECOGNITION (ALPR)	$995.00	$ 796.00	$ 796.00
1	VA00579	INTEL COR 2DUO T9400,2.53GHZ,6MB,1066MHZ	$500.00	$ 400.00	$ 400.00
1	VA00036	WIN 7 PRO LIC,W/IMAGE XP PRO,SP3	$250.00	$ 200.00	$ 200.00
1	VA00068	HARD DISK,250GB W/IMAGE XP PRO,SP3	$ -	$ -	$ -
1	VA00511	4GB,DDR3, 1066MHZ,DUAL SLOT	$295.00	$ 236.00	$ 236.00
1	V145	LASSEN IQ GPS RECEIVER	$450.00	$ 360.00	$ 360.00
1	VA00672	WLAN,802.11 A/G/N,INTEL5300,3CONN.NO ANT.	$265.00	$ 212.00	$ 212.00
1	VA00043	12.1" XGA 400NIT,H.B.TOUCH SCREEN	$1,695.00	$ 1,356.00	$ 1,356.00
1	VA00017	ADD: BLUETOOTH COMMUNICATION	$70.00	$ 56.00	$ 56.00
1	V648	5.0M(16.4FT) MW810 DISP-CPU CBL,RGB	$95.00	$ 76.00	$ 76.00
1	VA00045	KEYBOARD, BACKLIT, US, MW810	$255.00	$ 204.00	$ 204.00
1					
1	FKN8577	CABLE_SPLITER_ALPR_50PIN	$195.00	$ 156.00	$ 156.00
1	FAG5024	WLAN DIVERSITY ANTENNA KIT	$130.00	$ 104.00	$ 104.00
1	FKN8533	AUX CABLE W/CONNECT BLOCK, MW810	$50.00	$ 40.00	$ 40.00
1	DSGJ71600069	STANDARD VEHICLE MOUNT FOR MW800 W/TRUNNION/CPU MOUNTING BRKT	$455.00	$ 364.00	$ 364.00
1	DSGJ71600117	LEG KIT FOR CHEVROLET CAPRICE (1990-95), FORD CROWN VIC (1991-2008)	$69.00	$ 55.20	$ 55.20
1	DSGJ71600085	29 INCH LONG WIDE TOP PLATE	$84.00	$ 67.20	$ 67.20
1	DSGJMCSCUPHOLD2	STEEL CUPHOLDER	$62.00	$ 49.60	$ 49.60
1					
1	TT2174	SLATE STD FOUR CAM ALPR PKG 810NM	$15,800.00	$ 12,640.00	$ 12,640.00
1	TT05380AA	ARJENT	$ -	$ -	$ -
1					
1	TT2200	BOSS V3 L1	$995.00	$ 796.00	$ 796.00
1	DDN9779	BOSS MAP	$795.00	$ 636.00	$ 636.00
1	TT2294	ALPR SERVER - HP ML350 TOWER W SQL NON-RETURNABLE	$13,000.00	$ 10,400.00	$ 10,400.00
1	TT05492AA	HP LE1901W 19 INCH WIDE LCD MONITOR	$250.00	$ 200.00	$ 200.00
1			$-		
1	T6878	DP-2 ON-SITE RESOURCE	$1.00	$ 0.80	$ 0.80
2999	X431AA	MANDATORY OPTION FOR DP-2 ON-SITE RESOURCE	$1.00	$ 0.80	$ 2,399.20
1				$ -	$ -
1		Mobile Installation		$ -	$ 800.00
1				$ -	$ -
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BRIDGEVIEW IL 60455

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ATTN: ACCOUNTS PAYABLE
5850 W. 75TH PLACE
BURBANK IL 60459

Ship To: 708-924-7300
BURBANK POLICE DEPARTMENT
ATTN: CAPT. JOE FORD
5650 W. 75TH STREET
BURBANK IL 60459

Invoice/Dt	Order#/Dt	Customer#	Customer P.O.	Terms	SalesPerson
21078400	210784	4190	VERBAL JOE	NET 10	COURIER
09/19/11	03/11/11				487

QUANTITY	U/M	ITEM/DESCRIPTION	DISC	UNIT PRICE	AMOUNT
		ORDERED BY CAPT. JOE FORD PHONE NUMBER 708-924-7316 TICKET 264955,264956,264957			
1	EA	F5208 LOC 001 MW810 MOBILE WORKSTATION CPU Serial Numbers: 736SMJ0022		2495.83	2,495.83
1	EA	VA00497 LOC 001 ALPR EXPANSION BOARD		829.170	829.17
1	EA	FKN8577 LOC 001 MW810 APLR CAMERA SPLITTER CABLE		0.000	.00
1	EA	VA00579 LOC 001 INTEL CORE2 DUO T9400 2.53GHZ 6MB, 106 6MH		416.670	416.67
1	EA	VA00036 LOC 001 WIN 7 PRO LIC, W/ IMAGE XP PRO SP3		208.330	208.33
1	EA	VA00068 LOC 001 HARD DISK DR. 250GB		0.000	.00
1	EA	VA00511 LOC 001 4GB, DDR2, 1066MHZ, DUAL SLOT		245.830	245.83
1	EA	V145 LOC 001 LASSEN IQ GPS RECEIVER		375.000	375.00

(Continued on Page 2)

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QUANTITY	U/M	ITEM/DESCRIPTION	DISC	UNIT PRICE	AMOUNT
		(Page 2)			
1	EA	VA00672 LOC 001 WLAN, 802.11 A/G/N, INTEL5300, 3 CONN. NO ANT.		220.830	220.83
1	EA	FAG5024 LOC 001 WLAN DIVERSITY ANTENNA KIT		108.330	108.33
1	EA	VA00043 LOC 001 12.1" XGA 400 NIT. HB TOUCHSCREEN		1412.500	1,412.50
1	EA	VA00017 LOC 001 BLUETOOTH COMMUNICATIONS, INC		58.330	58.33
1	EA	V648 LOC 001 5.0M (16.4') MW810 DESP-CPU RGB		79.170	79.17
1	EA	VA00045AB LOC 001 KEYBOARD, BACKLIT, US, MW810		212.500	212.50
1	EA	FKN8533 LOC 001 AUX CABLE W/ CONN. BLOCK, MW810		41.670	41.67
1	EA	DSGJ71600069 LOC 001 GAMB/JOHNSON PEDESTAL MOUNT		665.830	665.83
1	EA	DSGJ71600117 LOC 001 LET KIT - CROWN VIC		57.500	57.50

(Continued on Page 3)

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21078400	210784	4190	VERBAL JOE	NET 10	COURIER
09/19/11	03/11/11				487

QUANTITY	U/M	ITEM/DESCRIPTION	DISC UNIT PRICE	AMOUNT
		(Page 3)		
1	EA	DSGJ71600085 LOC 001 TOP PLATE	70.000	70.00
1	EA	DSGJMCSCUPHOLD2 LOC 001 DUAL CUPHOLDER	51.670	51.67
1	EA	TT2174 LOC 001 SLATE STD FOUR CAMERAL ALPR PKG 810NM	13166.670	13,166.67
1	EA	TT05387AA LOC 001 HRDWRE KIT FOR LIGHTBAR MTG.	0.000	.00
1	Hrs	C-LBR/FLAT APLR INSTALLATION INTO VEHICLE	1183.330	1,183.33
1	EA	TT2200 LOC 001 BOSS V3 1-BACK END SOFTWARE 1-USER	829.170	829.17
1	EA	DDN9779 LOC 001 BOSS MAPPING APP	662.500	662.50
1	EA	DSML110G6X34404 LOC 001 HP ML 110G8 TOWER W/ XEON	2083.330	2,083.33
1	EA	TT2154 LOC 001 MICROSOFT SDQL SERVER 2005 MEDIA	62.500	62.50

(Continued on Page 4)

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09/19/11	03/11/11				487

QUANTITY	U/M	ITEM/DESCRIPTION	DISC	UNIT PRICE	AMOUNT
		(Page 4)			
4	EA	TT05260 LOC 001 MS SQL SERVER 2005 CLENT LIC - MIN 4		255.210	1,020.84
1	EA	TT05259 LOC 001 MS SQL SERVER 2005 SERVER LICENSE		1112.500	1,112.50
2	EA	T6878 LOC 001 MOTOROLA FIELD SERVICE 2-DAYS		1.000	2.00
1	EA	X431AA LOC 001 MOTOROLA SERVICE ADDER		3498.000	3,498.00
		Subtotal			31,170.00
		Sales Tax			.00
		Tax #: E9998-1157-06			
		Total Due On 09/29/11			31,170.00

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Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		8/31/2011 8:12:49 AM		41.756133333333333	-87.762693333333333	Login attempt
		8/31/2011 8:12:49 AM		41.756133333333333	-87.762693333333333	Login
		8/31/2011 8:48:06 AM		41.756176666666667	-87.762541666666667	Hit on [redacted] from VEHEXTRT_ZIP
		8/31/2011 11:02:56 AM		41.75563	-87.739898333333333	Hit on [redacted] from SOSDATA
		8/31/2011 11:04:04 AM		41.757915	-87.741595	Hit on [redacted] from SOSDATA
		8/31/2011 11:47:17 AM		41.756138333333333	-87.762678333333333	Login attempt
		8/31/2011 11:47:17 AM		41.756138333333333	-87.762678333333333	Login
		8/31/2011 11:53:50 AM		41.751111666666667	-87.760901666666667	Hit on [redacted] from SOSDATA
		8/31/2011 12:46:12 PM		41.751108333333333	-87.760883333333333	Hit on [redacted] from SOSDATA
		9/1/2011 6:11:30 AM		41.756296666666667	-87.762916666666667	Login attempt
		9/1/2011 6:11:30 AM		41.756296666666667	-87.762916666666667	Login
		9/1/2011 6:15:30 AM		41.756303333333333	-87.762871666666667	Deleting Hot List 'ISPLITHTXT'

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Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		9/1/2011 6:15:31 AM		41.75630333 33333	-87.76287166 66667	Importing Hot List 'ISPLITHTXT'
		9/1/2011 6:35:25 AM		41.75107833 33333	-87.760905	Hit on [redacted] from SOSDATA
		9/1/2011 7:40:54 AM		41.748445	-87.783085	Hit on [redacted] from SOSDATA
		9/1/2011 7:45:48 AM		41.75175666 66667	-87.77066166 66667	Hit on [redacted] from ISPLITHTXT
		9/1/2011 8:24:27 AM		41.74847	-87.79973333 33333	Login attempt
		9/1/2011 8:24:27 AM		41.74847	-87.79973333 33333	Login
		9/1/2011 9:16:05 AM		41.75632666 66667	-87.762785	Login attempt
		9/1/2011 9:16:05 AM		41.75632666 66667	-87.762785	Login
		9/1/2011 9:29:57 AM		41.75492833 33333	-87.76096333 33333	Hit on [redacted] from VEHEXTRT_ZIP
		9/1/2011 9:30:27 AM		41.75252833 33333	-87.76093166 66667	Hit on [redacted] from VEHEXTRT_ZIP
		9/1/2011 9:30:45 AM		41.75122	-87.76088166 66667	Hit on [redacted] from SOSDATA
		9/1/2011 10:17:25 AM		41.75218833 33333	-87.77183333 33333	Hit on [redacted] from SOSDATA
		9/1/2011 10:17:39 AM		41.75208	-87.771835	Hit on [redacted] from SOSDATA
		9/1/2011 10:19:48 AM		41.75210333 33333	-87.77184666 66667	Hit on [redacted] from SOSDATA

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Group	Login	Timestamp	Location	Lat	Lon	Information
		9/1/2011 12:35:23 PM		41.73879	-87.7835333333333	Hit on [redacted] from ISPLITHTXT
		9/1/2011 2:31:21 PM		41.75634	-87.762815	Logout
		9/2/2011 6:37:39 AM		41.7562633333333	-87.7629616666667	Login attempt
		9/2/2011 6:37:39 AM		41.7562633333333	-87.7629616666667	Login
		9/2/2011 8:03:26 AM		41.7510483333333	-87.7742166666667	Hit on [redacted] from SOSDATA
		9/2/2011 8:06:00 AM		41.75231	-87.7721083333333	Hit on [redacted] from SOSDATA
		9/2/2011 8:34:21 AM		0	0	Login attempt
		9/2/2011 8:34:21 AM		0	0	Login
		9/2/2011 2:01:09 PM		41.756285	-87.762935	Logout
		3/30/2012 2:10:43 PM		41.75631	-87.762875	Login attempt
		3/30/2012 2:10:43 PM		41.75631	-87.762875	Login failed, invalid password!
		3/30/2012 2:10:53 PM		41.7563083333333	-87.762875	Login attempt
		3/30/2012 2:10:53 PM		41.7563083333333	-87.762875	Login
		3/30/2012 5:01:54 PM		41.7561583333333	-87.7629	Logout
		3/30/2012 5:27:37 PM		41.7561816666667	-87.7629416666667	Login attempt

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Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		3/30/2012 5:27:37 PM		41.756181666666667	-87.762941666666667	Login
		3/30/2012 5:28:15 PM		41.756161666666667	-87.762936666666667	Deleting Hot List 'ISPLITHTXT'
		3/30/2012 5:28:15 PM		41.756161666666667	-87.762936666666667	Importing Hot List 'ISPLITHTXT'
		3/30/2012 8:28:29 PM		41.756155	-87.762865	Logout
		3/30/2012 8:43:32 PM		41.75632	-87.76287	Login attempt
		3/30/2012 8:43:32 PM		41.75632	-87.76287	Login
		3/30/2012 9:40:35 PM		41.748791666666667	-87.761061666666667	Hit on [redacted] from VEHEXTRT_ZIP
		3/30/2012 9:50:57 PM		41.756156666666667	-87.762885	Logout
		4/3/2012 6:25:52 AM		41.756675	-87.762983333333333	Login attempt
		4/3/2012 6:25:52 AM		41.756675	-87.762983333333333	Login
		4/3/2012 6:25:59 AM		41.75667	-87.762978333333333	Deleting Hot List 'VEHEXTRT_ZIP'
		4/3/2012 6:26:02 AM		41.756671666666667	-87.762978333333333	Importing Hot List 'VEHEXTRT_ZIP'
		4/3/2012 6:26:38 AM		41.756651666666667	-87.76296	Deleting Hot List 'ISPLITHTXT'
		4/3/2012 6:26:40 AM		41.756651666666667	-87.76296	Importing Hot List 'ISPLITHTXT'

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/3/2012 6:26:49 AM		41.7566116666667	-87.7629483333333	Deleting Hot List 'SOSLEADS'
		4/3/2012 6:26:51 AM		41.756595	-87.7629433333333	Importing Hot List 'SOSLEADS'
		4/3/2012 6:27:10 AM		41.75657	-87.7629383333333	Hit on [redacted] from ISPLITHTXT
		4/3/2012 6:27:18 AM		41.7565633333333	-87.762935	Hit on [redacted] from ISPLITHTXT
		4/3/2012 6:27:18 AM		41.7565633333333	-87.762935	Hit on [redacted] from VEHEXTRT_ZIP
		4/3/2012 6:27:35 AM		41.7565533333333	-87.7629316666667	Hit on [redacted] from SOSLEADS
		4/3/2012 6:27:35 AM		41.7565533333333	-87.7629316666667	Hit on [redacted] from ISPLITHTXT
		4/3/2012 6:27:39 AM		41.7565516666667	-87.76293	Hit on [redacted] from SOSLEADS
		4/3/2012 6:27:39 AM		41.7565516666667	-87.76293	Hit on [redacted] from ISPLITHTXT
		4/3/2012 6:27:47 AM		41.75655	-87.76293	Hit on [redacted] from VEHEXTRT_ZIP
		4/3/2012 6:27:53 AM		41.7565483333333	-87.76293	Hit on [redacted] from ISPLITHTXT
		4/3/2012 6:37:21 AM		41.7562616666667	-87.7623566666667	Logout
		4/3/2012 8:27:02 AM		41.7561483333333	-87.7628483333333	Login attempt
		4/3/2012 8:27:02 AM		41.7561483333333	-87.7628483333333	Login

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/3/2012 8:31:11 AM		41.75614	-87.762875	Logout
		4/3/2012 8:39:57 AM		41.7563183333333	-87.7628666666667	Login attempt
		4/3/2012 8:39:57 AM		41.7563183333333	-87.7628666666667	Login
		4/3/2012 10:11:53 AM		41.7560716666667	-87.7628666666667	Logout
		4/3/2012 11:05:41 AM		41.74199	-87.740615	Login attempt
		4/3/2012 11:05:41 AM		41.74199	-87.740615	Login
		4/3/2012 1:55:37 PM		41.75628	-87.7623666666667	Hit on [redacted] from SOSLEADS
		4/3/2012 1:55:37 PM		41.75628	-87.7623666666667	Hit on [redacted] from ISPLITHTXT
		4/3/2012 1:57:42 PM		41.75614	-87.7628666666667	Logout
		4/4/2012 6:23:09 AM		41.7561583333333	-87.762885	Login attempt
		4/4/2012 6:23:09 AM		41.7561583333333	-87.762885	Login
		4/4/2012 6:23:11 AM		41.7561583333333	-87.762885	Deleting Hot List 'VEHEXTRT_ZIP'
		4/4/2012 6:23:16 AM		41.7561583333333	-87.762885	Importing Hot List 'VEHEXTRT_ZIP'
		4/4/2012 6:23:56 AM		41.75616	-87.762885	Deleting Hot List 'ISPLITHTXT'
		4/4/2012 6:23:58 AM		41.75616	-87.762885	Importing Hot List 'ISPLITHTXT'

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/4/2012 6:24:06 AM		41.75616	-87.762885	Deleting Hot List 'SOSLEADS'
		4/4/2012 6:24:08 AM		41.75616	-87.762885	Importing Hot List 'SOSLEADS'
		4/4/2012 1:47:08 PM		41.7487216666667	-87.764465	Hit on [redacted] from VEHEXTRT_ZIP
		4/4/2012 1:58:07 PM		41.7561116666667	-87.762855	Logout
		4/5/2012 6:09:20 AM		41.7562866666667	-87.76297	Login attempt
		4/5/2012 6:09:20 AM		41.7562866666667	-87.76297	Login
		4/5/2012 8:44:19 AM		41.748485	-87.7790233333333	Hit on [redacted] from VEHEXTRT_ZIP
		4/5/2012 8:49:07 AM		41.7558516666667	-87.7630933333333	Logout
		4/5/2012 8:55:52 AM		41.756205	-87.7628083333333	Login attempt
		4/5/2012 8:55:52 AM		41.756205	-87.7628083333333	Login
		4/5/2012 8:59:23 AM		41.7545233333333	-87.7609716666667	Hit on [redacted] from SOSLEADS
		4/5/2012 8:59:23 AM		41.7545233333333	-87.7609716666667	Hit on [redacted] from ISPLITHTXT
		4/5/2012 10:13:59 AM		41.7557716666667	-87.76116	Logout
		4/5/2012 11:46:50 AM		41.7486866666667	-87.7686616666667	Login attempt

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/5/2012 11:46:50 AM		41.7486866666667	-87.7686616666667	Login
		4/5/2012 12:34:06 PM		41.7355516666667	-87.7773433333333	Hit on [redacted] from SOSLEADS
		4/5/2012 12:34:06 PM		41.7355516666667	-87.7773433333333	Hit on [redacted] from ISPLITHTXT
		4/5/2012 12:44:21 PM		41.7369366666667	-87.7967333333333	Hit on [redacted] from SOSLEADS
		4/5/2012 12:44:21 PM		41.7369366666667	-87.7967333333333	Hit on [redacted] from ISPLITHTXT
		4/5/2012 1:05:04 PM		41.7561716666667	-87.76288	Logout
		4/5/2012 1:10:10 PM		41.75647	-87.7629366666667	Login attempt
		4/5/2012 1:10:10 PM		41.75647	-87.7629366666667	Login
		4/5/2012 1:52:42 PM		41.756115	-87.7628716666667	Hit on [redacted] from SOSLEADS
		4/5/2012 1:52:42 PM		41.756115	-87.7628716666667	Hit on [redacted] from ISPLITHTXT
		4/5/2012 1:52:58 PM		41.7561166666667	-87.7628733333333	Logout
		4/6/2012 6:33:48 AM		41.7562233333333	-87.76293	Login attempt
		4/6/2012 6:33:48 AM		41.7562233333333	-87.76293	Login

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/6/2012 7:39:31 AM		41.7567233333	-87.8000316666 7	Logout
		4/6/2012 7:52:00 AM		41.7567583333	-87.8003366666 7	Login attempt
		4/6/2012 7:52:00 AM		41.7567583333	-87.8003366666 7	Login
		4/6/2012 8:38:04 AM		41.7488316666 7	-87.79482	Hit on [redacted] from SOSLEADS
		4/6/2012 8:38:04 AM		41.7488316666 7	-87.79482	Hit on [redacted] from ISPLITHTXT
		4/6/2012 11:35:04 AM		41.755445	-87.7627866666 7	Logout
		4/6/2012 12:07:07 PM		41.7517483333	-87.7608866666 7	Login attempt
		4/6/2012 12:07:07 PM		41.7517483333	-87.7608866666 7	Login
		4/6/2012 1:58:34 PM		41.7561916666 7	-87.762875	Logout
		4/7/2012 6:22:44 AM		41.756315	-87.76287	Login attempt
		4/7/2012 6:22:44 AM		41.756315	-87.76287	Login
		4/7/2012 6:38:34 AM		41.7562433333	-87.7624	Hit on [redacted] from SOSLEADS
		4/7/2012 6:38:34 AM		41.7562433333	-87.7624	Hit on [redacted] from ISPLITHTXT
		4/7/2012 9:29:11 AM		41.7561416666 7	-87.7629033333	Logout

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/7/2012 9:48:34 AM		41.7562066666667	-87.7629416666667	Login attempt
		4/7/2012 9:48:34 AM		41.7562066666667	-87.7629416666667	Login
		4/7/2012 10:59:30 AM		41.75615	-87.7629116666667	Logout
		4/7/2012 11:29:06 AM		41.7559783333333	-87.7628683333333	Login attempt
		4/7/2012 11:29:06 AM		41.7559783333333	-87.7628683333333	Login
		4/7/2012 11:59:40 AM		41.7466816666667	-87.7802116666667	Hit on [redacted] from VEHEXTRT_ZIP
		4/7/2012 12:00:13 PM		41.7466733333333	-87.7801966666667	Login attempt
		4/7/2012 12:00:13 PM		41.7466733333333	-87.7801966666667	Login
		4/7/2012 1:02:18 PM		41.7475833333333	-87.773315	Hit on [redacted] from SOSLEADS
		4/7/2012 1:02:18 PM		41.7475833333333	-87.773315	Hit on [redacted] from ISPLITHTXT
		4/7/2012 1:10:48 PM		41.756155	-87.7628566666667	Logout
		4/7/2012 1:21:28 PM		41.7563966666667	-87.762825	Login attempt
		4/7/2012 1:21:28 PM		41.7563966666667	-87.762825	Login
		4/7/2012 1:50:23 PM		41.7475316666667	-87.77332	Hit on [redacted] from SOSLEADS

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/7/2012 1:50:23 PM		41.74753166 66667	-87.77332	Hit on [redacted] from ISPLITHTXT
		4/7/2012 1:59:52 PM		41.75608333 33333	-87.76286833 33333	Logout
		4/10/2012 6:16:29 AM		41.75625	-87.76291833 33333	Login attempt
		4/10/2012 6:16:29 AM		41.75625	-87.76291833 33333	Login
		4/10/2012 6:16:36 AM		41.75626	-87.76292833 33333	Deleting Hot List 'VEHEXTRT_ZIP'
		4/10/2012 6:16:44 AM		41.75625666 66667	-87.76293166 66667	Importing Hot List 'VEHEXTRT_ZIP'
		4/10/2012 6:17:28 AM		41.756255	-87.76292166 66667	Deleting Hot List 'ISPLITHTXT'
		4/10/2012 6:17:31 AM		41.75625833 33333	-87.76292166 66667	Importing Hot List 'ISPLITHTXT'
		4/10/2012 6:17:38 AM		41.75621333 33333	-87.76290333 33333	Deleting Hot List 'SOSLEADS'
		4/10/2012 6:17:43 AM		41.75621166 66667	-87.76290333 33333	Importing Hot List 'SOSLEADS'
		4/10/2012 6:47:29 AM		41.74914666 66667	-87.75712666 66667	Hit on [redacted] from SOSLEADS
		4/10/2012 6:47:29 AM		41.74914666 66667	-87.75712666 66667	Hit on [redacted] from ISPLITHTXT
		4/10/2012 10:11:28 AM		41.74958833 33333	-87.76685	Hit on [redacted] from VEHEXTRT_ZIP

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/10/2012 10:56:32 AM		41.7560883333	-87.7628516666667	Logout
		4/10/2012 1:57:11 PM		41.7563883333	-87.7628316666667	Login attempt
		4/10/2012 1:57:11 PM		41.7563883333	-87.7628316666667	Login
		4/10/2012 1:57:12 PM		41.7563883333	-87.7628316666667	Deleting Hot List 'VEHEXTRT_ZIP'
		4/10/2012 1:57:16 PM		41.7563983333	-87.76283	Importing Hot List 'VEHEXTRT_ZIP'
		4/10/2012 1:57:53 PM		41.75659	-87.762895	Deleting Hot List 'ISPLITHTXT'
		4/10/2012 1:57:54 PM		41.7565883333	-87.762895	Importing Hot List 'ISPLITHTXT'
		4/10/2012 1:58:32 PM		41.7565266666667	-87.7628983333333	Hit on [redacted] from ISPLITHTXT
		4/10/2012 1:58:32 PM		41.7565266666667	-87.7628983333333	Hit on [redacted] from SOSLEADS
		4/10/2012 1:58:54 PM		41.75656	-87.7629083333333	Logout
		4/14/2012 7:15:39 AM		41.75607	-87.7629033333333	Login attempt
		4/14/2012 7:15:39 AM		41.75607	-87.7629033333333	Login
		4/14/2012 7:15:39 AM		41.75607	-87.7629033333333	Deleting Hot List 'SOSLEADS'

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/14/2012 7:15:42 AM		41.75607	-87.76290333333333	Importing Hot List 'SOSLEADS'
		4/14/2012 7:33:24 AM		41.749075	-87.7688216666666667	Logout
		4/14/2012 12:15:40 PM		41.7564283333333333	-87.7628583333333333	Login attempt
		4/14/2012 12:15:40 PM		41.7564283333333333	-87.7628583333333333	Login
		4/14/2012 12:43:30 PM		41.7556366666666667	-87.7426333333333333	Logout
		4/14/2012 12:54:06 PM		41.7556433333333333	-87.74262	Login attempt
		4/14/2012 12:54:06 PM		41.7556433333333333	-87.74262	Login
		4/14/2012 1:52:44 PM		41.756095	-87.7628416666666667	Logout
	mbadali					
		9/1/2011 2:34:29 PM		41.7563283333333333	-87.7627583333333333	Login attempt
		9/1/2011 2:34:29 PM		41.7563283333333333	-87.7627583333333333	Login
		9/1/2011 2:50:31 PM		41.7522383333333333	-87.77183	Hit on [redacted] from SOSDATA
		9/1/2011 2:54:20 PM		41.7504866666666667	-87.772945	Login attempt
		9/1/2011 2:54:20 PM		41.7504866666666667	-87.772945	Login

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Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		9/1/2011 3:01:02 PM		41.7506116666667	-87.77299	Hit on [redacted] from SOSDATA
		9/1/2011 3:01:43 PM		41.7520966666667	-87.7706333333333	Hit on [redacted] from ISPLITHTXT
		9/1/2011 5:24:46 PM		41.7558533333333	-87.7631	Deleting Hot List 'SOSDATA'
		9/1/2011 5:24:48 PM		41.7558533333333	-87.7631	Importing Hot List 'SOSDATA'
		9/1/2011 5:26:13 PM		41.7558533333333	-87.7631	Deleting Hot List 'VEHEXTRT_ZIP'
		9/1/2011 5:26:20 PM		41.7558533333333	-87.7631	Importing Hot List 'VEHEXTRT_ZIP'
		9/1/2011 5:27:38 PM		41.7558533333333	-87.7631	Deleting Hot List 'ISPLITHTXT'
		9/1/2011 5:27:39 PM		41.7558533333333	-87.7631	Importing Hot List 'ISPLITHTXT'
		9/1/2011 10:21:04 PM		41.75606	-87.7629383333333	Login attempt
		9/1/2011 10:21:04 PM		41.75606	-87.7629383333333	Login
		9/1/2011 10:21:31 PM		41.75606	-87.7629383333333	Logout
		9/2/2011 3:49:42 PM		41.7568433333333	-87.7628933333333	Login attempt
		9/2/2011 3:49:42 PM		41.7568433333333	-87.7628933333333	Login
		9/2/2011 5:22:22 PM		41.7561583333333	-87.76263	Deleting Hot List 'ISPLITHTXT'
		9/2/2011 5:22:23 PM		41.7561583333333	-87.76263	Importing Hot List 'ISPLITHTXT'

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Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		9/2/2011 6:04:57 PM		41.751765	-87.7609383333333	Login attempt
		9/2/2011 6:04:57 PM		41.751765	-87.7609383333333	Login
		9/2/2011 6:11:24 PM		41.7343766666667	-87.7621966666667	Login attempt
		9/2/2011 6:11:24 PM		41.7343766666667	-87.7621966666667	Login
		9/2/2011 10:06:53 PM		41.7562616666667	-87.7628866666667	Login attempt
		9/2/2011 10:06:53 PM		41.7562616666667	-87.7628866666667	Login
		9/2/2011 10:07:51 PM		41.756235	-87.7628933333333	Logout
		9/4/2011 2:17:32 PM		41.7560966666667	-87.7629266666667	Login attempt
		9/4/2011 2:17:32 PM		41.7560966666667	-87.7629266666667	Login
		9/4/2011 2:17:58 PM		41.7560966666667	-87.7629266666667	Deleting Hot List 'ISPLITHTXT'
		9/4/2011 2:17:59 PM		41.7560966666667	-87.7629266666667	Importing Hot List 'ISPLITHTXT'
		9/4/2011 4:20:45 PM		41.7562	-87.7626466666667	Deleting Hot List 'SOSDATA'

BOSS3

7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		9/4/2011 4:20:46 PM		41.7561983333333	-87.7626466666667	Importing Hot List 'SOSDATA'
		9/4/2011 4:21:10 PM		41.756195	-87.7626483333333	Deleting Hot List 'VEHEXTRT_ZIP'
		9/4/2011 4:21:14 PM		41.756195	-87.7626483333333	Importing Hot List 'VEHEXTRT_ZIP'
		9/4/2011 7:07:33 PM		41.755185	-87.7609966666667	Login attempt
		9/4/2011 7:07:33 PM		41.755185	-87.7609966666667	Login
		9/4/2011 9:24:53 PM		41.75628	-87.7629666666667	Login attempt
		9/4/2011 9:24:54 PM		41.75628	-87.7629666666667	Login
		9/4/2011 9:44:30 PM		41.75462	-87.7598633333333	Login attempt
		9/4/2011 9:44:30 PM		41.75462	-87.7598633333333	Login
		9/4/2011 10:01:54 PM		0	0	Login attempt
		9/4/2011 10:01:54 PM		0	0	Login
		9/4/2011 10:05:04 PM		41.756265	-87.7628483333333	Logout
		4/14/2012 2:10:49 PM		41.7562033333333	-87.7628883333333	Login attempt

BOSS3

7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		4/14/2012 2:10:49 PM		41.756203333333	-87.762888333333	Login
		4/14/2012 2:10:50 PM		41.756203333333	-87.762888333333	Deleting Hot List 'SOSLEADS'
		4/14/2012 2:10:51 PM		41.756203333333	-87.762888333333	Importing Hot List 'SOSLEADS'
		4/14/2012 3:14:02 PM		41.755821666667	-87.744896666667	Hit on [redacted] from SOSLEADS
		4/14/2012 3:14:02 PM		41.755821666667	-87.744896666667	Hit on [redacted] from ISPLITHTXT
		4/14/2012 3:21:34 PM		41.755858333333	-87.763061666667	Deleting Hot List 'VEHEXTRT_ZIP'
		4/14/2012 3:21:38 PM		41.755858333333	-87.763061666667	Importing Hot List 'VEHEXTRT_ZIP'
		4/14/2012 3:22:19 PM		41.755858333333	-87.763061666667	Deleting Hot List 'ISPLITHTXT'
		4/14/2012 3:22:21 PM		41.755858333333	-87.763061666667	Importing Hot List 'ISPLITHTXT'
		4/14/2012 8:32:26 PM		41.749451666667	-87.74239	Hit on [redacted] from VEHEXTRT_ZIP
		4/14/2012 8:46:30 PM		41.754178333333	-87.744378333333	Hit on [redacted] from ISPLITHTXT
		4/14/2012 8:46:30 PM		41.754178333333	-87.744378333333	Hit on [redacted] from VEHEXTRT_ZIP

BOSS3

7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		4/14/2012 8:46:30 PM		41.7541783333333	-87.7443783333333	Hit on [redacted] from SOSLEADS
		4/14/2012 9:59:52 PM		41.7562883333333	-87.7628916666667	Deleting Hot List 'SOSLEADS'
		4/14/2012 9:59:53 PM		41.7562883333333	-87.7628916666667	Importing Hot List 'SOSLEADS'
		4/15/2012 1:10:03 AM		41.7562833333333	-87.7628683333333	Deleting Hot List 'ISPLITHTXT'
		4/15/2012 1:10:03 AM		41.7562833333333	-87.7628683333333	Importing Hot List 'ISPLITHTXT'
		4/15/2012 5:58:50 AM		41.7561216666667	-87.7629083333333	Deleting Hot List 'SOSLEADS'
		4/15/2012 5:58:50 AM		41.7561216666667	-87.7629083333333	Importing Hot List 'SOSLEADS'
		4/15/2012 5:58:54 AM		41.7561216666667	-87.7629083333333	Logout
	jgolden					
		9/5/2011 7:58:19 AM		41.7561216666667	-87.7629233333333	Login attempt
		9/5/2011 7:58:19 AM		41.7561216666667	-87.7629233333333	Login
		9/5/2011 8:01:25 AM		41.75626	-87.7629566666667	Manually searched for [redacted]
		9/5/2011 8:01:25 AM		41.75626	-87.7629566666667	Hit on [redacted] from VEHEXTRT_ZIP

BOSS3

7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		9/5/2011 8:03:29 AM		41.75613	-87.762935	Manually searched for [redacted]
		9/5/2011 8:09:01 AM		41.7559283333333	-87.7628466666667	Logout
	irodriguez					
		9/5/2011 10:35:26 AM		41.7563833333333	-87.7628383333333	Login attempt
		9/5/2011 10:35:26 AM		41.7563833333333	-87.7628383333333	Login
		9/5/2011 10:35:46 AM		41.756385	-87.7628416666667	Deleting Hot List 'ISPLITHTXT'
		9/5/2011 10:35:48 AM		41.756385	-87.7628416666667	Importing Hot List 'ISPLITHTXT'
		9/5/2011 10:38:23 AM		41.756245	-87.7628916666667	Manually searched for [redacted]
		9/5/2011 10:38:23 AM		41.756245	-87.7628916666667	Hit on [redacted] from VEHEXTRT_ZIP
		9/5/2011 10:42:11 AM		41.7562533333333	-87.76285	Manually searched for [redacted]
		9/5/2011 10:44:17 AM		41.7562716666667	-87.7628383333333	Logout
	ahernandez					
		9/5/2011 1:42:36 PM		41.7567516666667	-87.762825	Login attempt
		9/5/2011 1:42:36 PM		41.7567516666667	-87.762825	Login

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PAGIS®

POLICE ALPR GRAPHICAL INTERFACE SYSTEM

SOFTWARE MANUAL

Version 2.5 US

Contents

FIGURES

Notices

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Version

This manual documents version **2.5 US** of PAGIS software and was last updated on November 11, 2007.

Chapter 1. Introduction

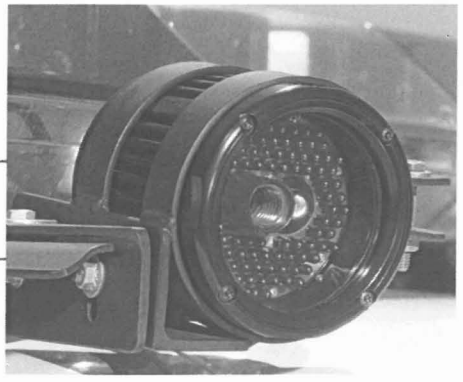
PAGIS® (Police ALPR Graphical Interface System) provides in-car Automatic License Plate Recognition (ALPR) to assist law enforcement officers with identifying vehicles. The PAGIS ALPR solution uses a dual channel, color, and infrared (IR) camera to read plates and a software program installed on a mobile computer. The PAGIS software reads the infrared plate image provided by the camera and searches its databases to check if the plate is listed.

This software has been developed in collaboration with the police to ensure that it meets the needs of the agency, while also taking the needs of the officer in the car into consideration.

Figure 1. Police vehicle

Color and Infrared Camera in One Unit

A PIPS P362 dual-lens camera (shown to the right) uses visible light to take color overview pictures and uses infrared (IR) illumination to take infrared pictures and of license plates.



Warning: The PAGIS software and P362 camera are not intended to be used in hazardous environments.

IR illumination offers the best capture performance of reflective license plates for the following reasons:

- License plates are highly reflective to IR.

- Cameras utilizing IR are not affected by nor dependent upon, visible light. This eliminates the effects of headlight or sunlight glar, and makes the system available for use 24/7.
- It penetrates rain and fog better than visible light.

A maximum number of four dual-lens cameras can be added to the system provided it will support the additional hardware.

Available Enhancements

Additional information about other PIPS applications, cameras, and solutions is available from PIPS Technology and on the Web site: http://www.pipstechnology.com.

BOSS, PAGIS, and Spike+ Working Together

The schematic below shows how the BOSS and PAGIS applications work together with the Spike+ fixed camera to create a comprehensive solution.

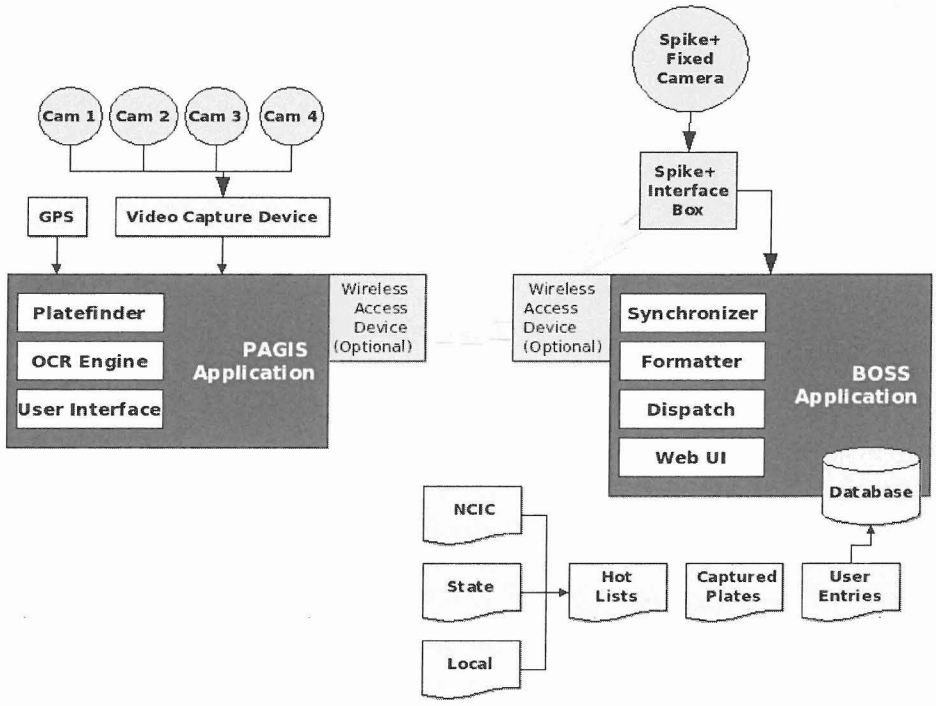


Figure 2. BOSS, PAGIS, and the Spike+ Camera Schematic

Using This Manual

This software manual is divided into five sections: quick start guide, installation, PAGIS setup for administrators, begin- and end-shift procedures, and screen reference.

- *Quick Start Guide* provides a brief overview of how PAGIS works.
- *Installation* explains how to install and update PAGIS and available options.
- *PAGIS Setup for Administrators* describes the initial steps required to prepare the new installation for use in the field.
- *Start- and End-Shift Procedures* details how to log on, synchronize files, monitor the camera, search for matches, and annotate the database.
- *The Screen Reference* explains every screen function within PAGIS.

An explanation of the PAGIS INI file and a glossary are included as appendices.

Technical Support

Problems, suggestions, or questions? Please contact PIPS Technology.

Contact Information

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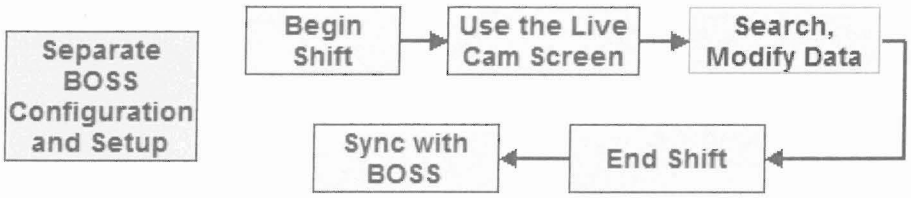
Chapter 2. Quick Start Guide

The later chapters in this manual serve as reference guides for configuring and using PAGIS. This chapter provides a type of "cheat sheet" for the most commonly used procedures and screens.

The flowchart below describes the basic steps performed when using PAGIS. Required steps are shown in green lettering. The step "Search, Modify Data" is optional.



Tip: Print this section and keep it with the system running PAGIS as a handy reference.

Configuration and Setup

Configuration and setup for users and databases is accomplished via the Back Office System software (BOSS) from PIPS. Please refer to the BOSS User Manual for additional information.

Beginning the Shift

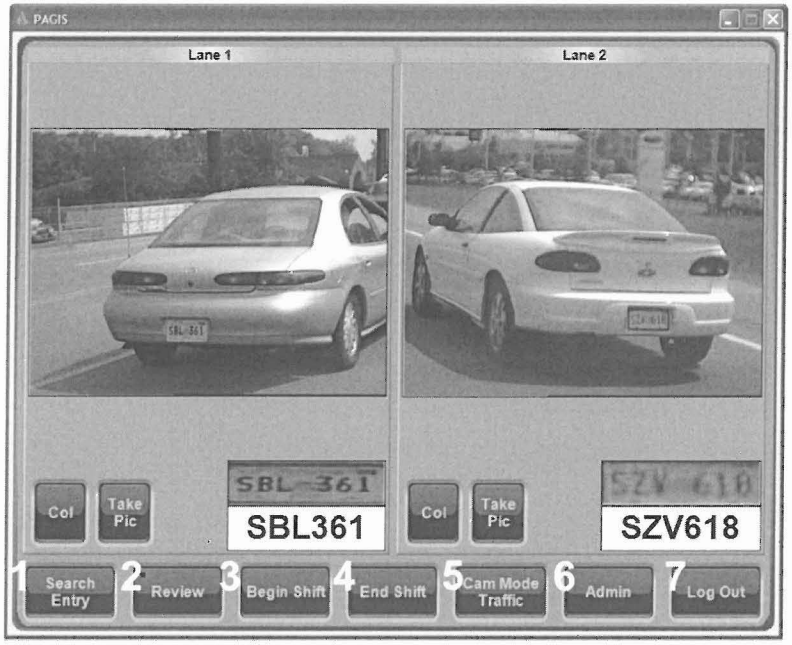
1. Insert the USB memory stick or ensure a valid wireless network connection exists.
2. Verify that the dongle is securely attached.
3. Start PAGIS and enter the badge number and password.
4. Enter the Location (not required if using GPS).
5. Press **LOGIN** to start PAGIS.
6. Press Begin Shift twice to synchronize the databases.

Note: The USB memory stick reference in Step 1 contains encrypted "hotlists" as configured in BOSS and synchronized to the memory stick using the BOSS Client Tools' "Synchronize" function. See the Boss User Manual for additional details.

Using the Live Camera Screen

The Live Camera screen first appears after you log in to PAGIS. The main functions are numbered and marked on the screen.

1. Search Entry – Search prior reads, manually check a plate, or make a manual entry into the database.
2. Review – View summary statistics, review reads and hits, view pictures, intelligence, and reports.
3. Begin Shift -- Press twice to begin the shift and synchronize data into PAGIS directly from the memory stick and from BOSS using a wireless configuration.
4. End Shift – Press twice to end the shift and synchronize data into PAGIS directly from the memory stick and from BOSS using a wireless configuration.
5. Cam Mode – Toggles the modes for systems using two or more cameras
6. Admin – Access the ADMIN menu (Admin users only).
7. Log Out – Log off system



Searching and Modifying Data

Press Search Entry from the Live screen to display the search screen.

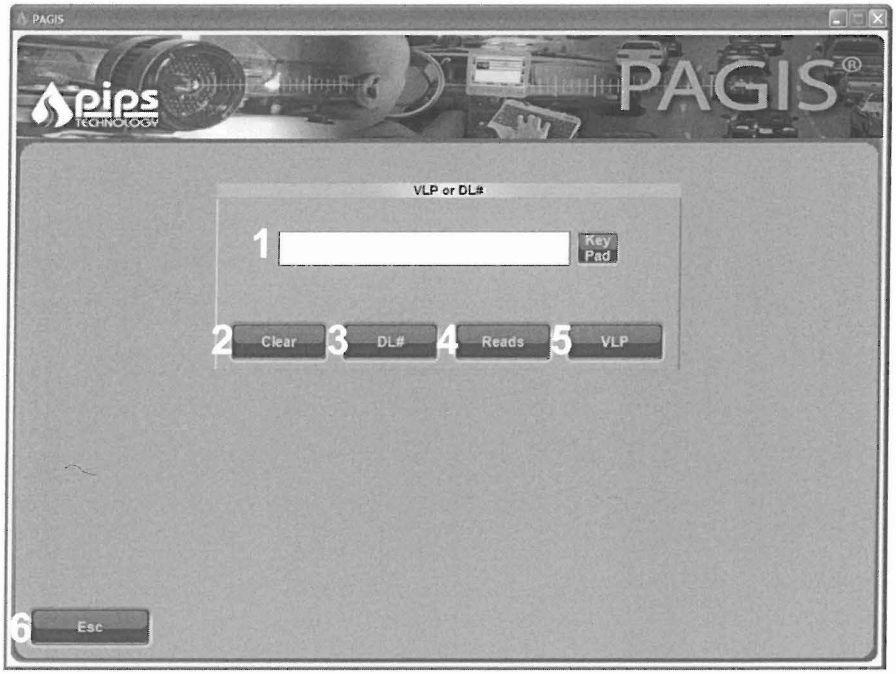
1. Search Box – Enter text or numbers for search. The Key Pad button activates an on-screen keypad.
2. Clear – Clears Search Box.

3 DL# – Search driver's license number database.

4 Reads – Search read results.

5 VLP – Search vehicle license plate databases.

6 ESC – Returns to prior screen.



Ending the Shift

1 Press the End Shift button twice.

2 Press **Log Out** to log off system. (Wireless users are complete at this point)

3 Remove the USB memory stick from Mobile Data Terminal.

4 Follow your administrator's guidelines for synchronizing the memory stick data into BOSS.

Chapter 3. Installation

This chapter describes system requirements, options and considerations, and installation procedures. The PAGIS setup program installs the PAGIS application, Microsoft .NET, DirectX 9, and Sentinel Protection Installer. The .NET (network framework), DirectX (graphics control), and Sentinel Protection (security) packages are supporting software that allow PAGIS to run smoothly.

Client/Server and Stand Alone Modes

PAGIS can be installed in either client/server mode or stand alone mode. In stand alone mode, PAGIS is installed directly on the machine with the video inputs and all OCR/GUI is performed on this machine. In client/server mode, VP Relay runs on the machine with video inputs so that OCR is performed separately from the GUI. PAGIS Server is then installed on a separate ALPR Processor such as the PIPS SupeRex. Data is sent between the two machines using a network connection.

When customers are integrating PIPS equipment with an existing mobile data terminal (MDT), Client/server mode will likely be used. When no existing MDT is present or PIPS is supplying the MDT, stand alone mode will be appropriate.

System Requirements

PAGIS software requires the following minimum system requirements:

- Pentium 4 2.0 GHz or faster processor with at least 1GB of RAM
- At least a 40 GB hard drive
- Microsoft Windows 2000 or XP operating system
- SVGA display with a minimum resolution of 800x600 pixels
- Supported video frame grabber cards:
    - Euresys Picolo Pro for two P362 cameras (overview + ALPR)
    - Euresys Tetra for four P362 cameras (overview + ALPR)
    - ImperX, Model VCE-PRO for one P362 camera; two for dual-lane coverage (PC card slots)
    - Motorola Grabber Card with Conexant chipset
    - Assortment of capture devices that use DirectX drivers

    Compatibility with other devices should be confirmed with PIPS Technology technical personnel.

- 1 USB or parallel (printer) port for the hardware dongle (only needed for the initial execution of the software)

- Keyboard and mouse or touch screen
- NMEA-compliant GPS unit (optional)

Installation Procedures

These procedures describe how to install PAGIS.

Notes on User Accounts

To install PAGIS on a computer running Microsoft Windows, you must be logged on with an account that has administrative privileges.

If you are installing PAGIS for limited user accounts, the user who will be operating PAGIS needs to have read and write privileges for the PAGIS installation directory. Otherwise, PAGIS will not be able to record data.

Language Selection

Language and region settings can be chosen during installation. The language setting can also be modified from the Admin screen.

Demonstration Data

During installation, you will be asked whether you wish to install demonstration data. This data is useful for the initial configuration and testing of the software. The data can be deleted prior to deploying PAGIS.

Upgrade Procedure for PAGIS

If you are upgrading to a newer version of PAGIS, the older program files should be removed first (see uninstalling procedure on page 15). Upgrading PAGIS follows the same basic procedures outlined below, except that the secondary packages do not need to be installed.

Settings are not preserved during the upgrade procedure. You will be prompted for new settings during installation.

Installation

The following steps explain how to install PAGIS and required applications. Please close all other applications before continuing.

1. Insert the PAGIS Setup CD into the CD drive. Insert the PAGIS installation CD. The installation process should start automatically. If it does not start, run "setup.exe" from the installation media.
2. Click **Next** on the Welcome screen.
3. After reading the License Agreement, accept the terms by clicking the radio button next to "I accept the terms of the license agreement" and click **Next** to continue.

4 Select the type of installation that best suits your use case. After you have selected an installation type, click **Next**.

> You should only choose VP Relay if you are performing a client-server install of PAGIS and want to install the software on the processor with the cameras attached to it.

5 Select the region where PAGIS will be used and click **Next**.

6 Choose whether to install demonstration data (recommended) and press **Next**.

7 If you chose VP Relay as your installation type in step 4, skip to step 9.

8 *Only applies to PAGIS installations* – Choose which type of PAGIS installation to use. If you are installing as part of two processor setup, choose the "Server" option. If you have a single computer with both the cameras and monitors attached, choose the "Stand Alone" option. Click **Next** and continue to step 10.

9 *Only applies to VP Relay installations* – Set the IP Address of the other machine. In most cases this is the IP Address of your existing MDT (Motorola, Panasonic, etc.). Click **Next**.

10 Review the installation options that you have selected and ensure that they are correct. Click **Next**.

> You may be prompted to install Microsoft .NET and/or Sentinel Protection Installer. Step-by-step instructions for installing Microsoft .NET are on page 14. Step-by-step instructions for installing the Sentinel Protection Installer 7.0.0. are included on page .

11 Click **Finish** to complete the installation and close the setup application.

Additional Installation Procedures

Microsoft .NET 1.1 Installation

1 Press the Yes button on the dialog box to install Microsoft .NET 1.1.

2 Click the Agree radio button on the License Agreement screen to accept the license agreement and press **Install** to copy the software to your computer.

DirectX Setup

1 Next, the DirectX Setup will start. Read the license agreement and click next to the statement "I accept the agreement" to highlight the radio button. Click **Next** to continue.

2 Click **Next** on the DirectX 9.0 Runtime Install screen to continue.

3 After the files are copied, press **Finish** on the Installation Complete screen.

Uninstalling PAGIS

It is important to understand that uninstalling an earlier version will delete all data files, if you do not want to lose your collected data, you should perform an "End Shift" synchronization before proceeding.

1. From the Start Menu, open the Control Panel.
2. From the Control Panel, click on *Add or Remove Programs.*
3. In the Add or Remove Programs list, locate PAGIS or PAGIS2 in the "Currently installed programs" list and click on the **Change/Remove** or **Remove** button.

   If you find PAGIS or PAGIS2 listed more than once, repeat the steps to "Uninstall Earlier Versions" for every item in the list.

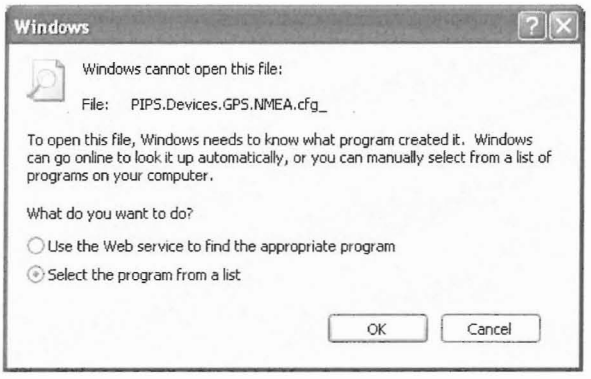
4. Choose the "Remove" option and click **Next**. When asked to completely remove the selected application and all of its features, choose "Yes."
5. After the uninstall has completed, click **Finish**.

   If during step 3 there were more than one PAGIS or PAGIS2 item listed, repeat steps 1 through 7 until all instances have been deleted.

VP Relay Post-Install Configuration Settings

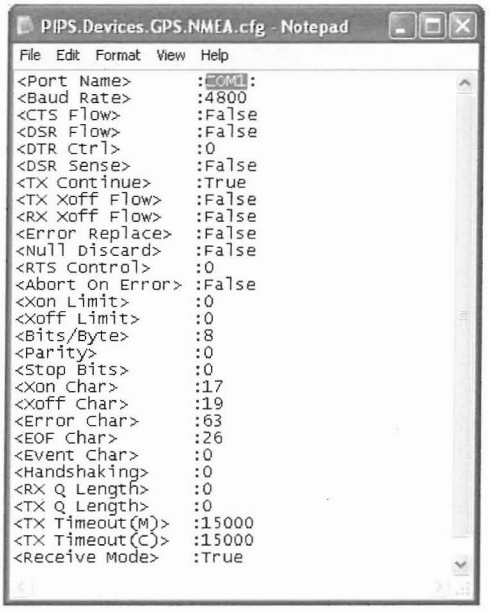
The following procedure will walk you through the post-installation configuration settings for using PAGIS in VP Relay mode.

1. Open a file browser to `C:\Program Files\PIPS Technology, Inc\PAGIS2\Serial`.
2. Double-click the file `PIPS.Devices.GPS.NMEA.cfg`. If notepad opens immediately and the first line says `<Port Name>` skip to step 5.
3. On the "Windows cannot open this file" dialog box, choose the "Select the program from a list" option and click OK.



4 On the Open With dialog box, select Notepad from the Programs list and click OK.

5 In Notepad, change the COM port on the first line to match the COM port used by the GPS receiver. The line should read `<Port Name>:COM{X}:` where `{X}` is replaced by the port number for the GPS receiver.



6 Click the X in the top right hand corner of Notepad.

7 When prompted "Do you want to save the changes?", click **Yes**.

8 Restart the computer.

Firewall Settings for Client-Server Installations

For client-server installations, the appropriate settings need to be added to Windows Firewall to allow the two processors to communicate. If your systems are maintained by a network administrator, you should contact them before making changes to the firewall.

1. Open a command prompt by going Start -> Run and typing `cmd` and clicking **OK**.
2. From the command prompt, run the following 10 commands. When the commands are successful, the word `OK` will appear.

```
netsh firewall delete allowedprogram "C:\Program Files\PIPS Technology, Inc\PAGIS2\VPRelay.exe"
netsh firewall delete allowedprogram "D:\PAGIS\VPRelay.exe"
netsh firewall delete allowedprogram "C:\Program Files\PIPS Technology, Inc\PAGIS2\PAGIS.exe"
netsh firewall delete allowedprogram "D:\PAGIS\PAGIS.exe"
netsh firewall add portopening TCP 9000 PIPS_ViewFinder
netsh firewall add portopening TCP 10000 PIPS_Images
netsh firewall add portopening UDP 10010 PIPS_Ping
netsh firewall add portopening TCP 32023 PIPS_Config
netsh firewall add portopening TCP 32024 PIPS_GPS
netsh firewall add portopening TCP 32025 PIPS_GPS2
```

3. Restart the computer.

Wireless Synchronization with BOSS

PAGIS is now capable of automatic wireless synchronization with BOSS. A flag has been added into the database structure on the vehicle to determine if an event has already been synchronized. This prevents duplicate data transfers and allows for Wireless synchronization to occur hand in hand with the memory stick transfers of the past.

The **Begin Shift** and **End Shift** buttons are still available when the system is configured for wireless transfers. The system needs a mechanism for "zeroing" out local databases. Users will still be required to hit "End Shift" even in a wireless setup. This button is not actually signaling for any data transfer, it simply removes data from the system that has already been synced. Similarly, you still must press **Begin Shift** twice to zero out local hot lists. To configure the BOSS server, open the file "C:\Program Files\PIPS Technology, Inc\PAGIS2\PAGIS.exe.config" and you will notice these two lines.

```
<add key="BackOffice" value="PIPS.PAGIS.Db.BOSS" />
<add key="BackOffice.EndPoint" value="192.168.0.134:8090" />
```

Set the "`BackOffice.EndPoint`" value to the IP address of the server and port that the synchronizer service is using on the server.

Chapter 4. PAGIS Setup for Administrators

IMPORTANT: While this functionality exists within PAGIS, BOSS is typically used to perform these functions across multiple PAGIS deployments. Please refer to the BOSS Manual for additional information on configuring PAGIS.

Overview

After PAGIS has been installed, the next step is to configure PAGIS to be ready for shift work. This chapter discusses adding users, choosing the sync folder, activating and deactivating databases, configuring cameras, choosing sound options, and connecting an external GPS unit.

These procedures require administrative privileges for PAGIS.

Dongles

PAGIS requires a hardware dongle to be launched for the first time. A dongle is a security device used to verify that a user has a licensed copy of a software package. This dongle is attached to an available printer or USB port.

The dongle used by PAGIS is detected by Sentinel Protection software, which was loaded on your computer during the installation process.

Before you start PAGIS, make sure the dongle is securely attached to the port.

Initial Login and Default User

PAGIS provides an administrative user that is available immediately after the software is installed. Log on to PAGIS using the default account by entering 3333 without a password and pressing the Log On button.

Using this account, you can configure PAGIS and add users.

Running PAGIS for the First Time

Before you start PAGIS, verify that the dongle has been plugged into the computer. If the dongle is not present, the program will not start.

Your initial PAGIS installation includes a default administration account which can be used for initial configuration. When the program starts, you will enter "3333" in the Badge No. (user name) field and leave the password field empty.

Once user names and passwords established, the default user account will be disabled. Make sure when user accounts are created that at least one account has administrative privileges.

Adding PAGIS Users

This section does not apply to BOSS users.

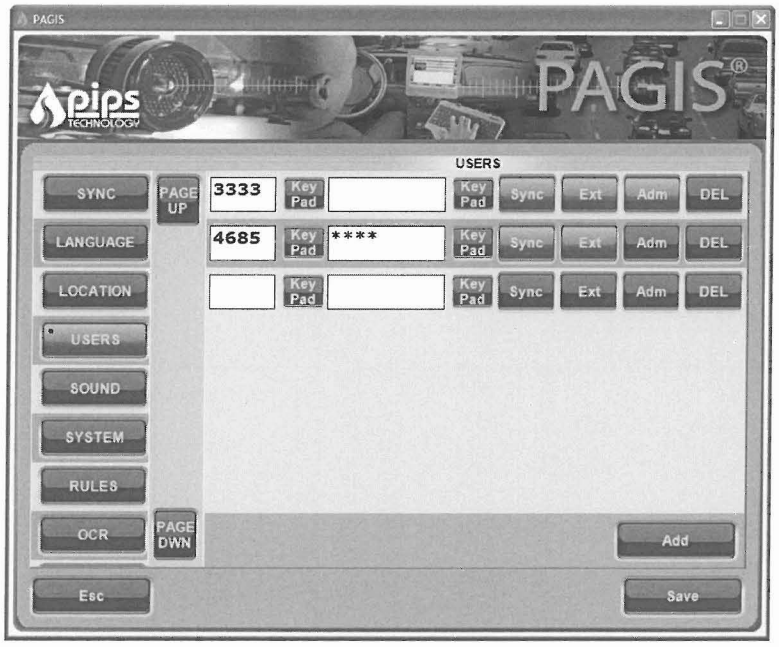
One of the first steps is to add user accounts to PAGIS. New accounts can be added using the Options screen. You will be prompted to choose the user's access privileges by clicking on the buttons underneath the new badge number and password.

Users can also be removed by pressing the Delete button twice.

Once you enter a new user, the default user (3333) will be deactivated.

To add a user:

1. From the Live screen, click **Admin** to display the main menu.
2. Press **Admin** to display the Admin screen.
3. Press **Users**.
4. Enter a new badge number and password.



5. Choose the new user's privileges by clicking Sync, External, or ADMIN.
6. Press **Save** to add the user.

Choosing the Synchronization Folder

PAGIS stores information in a database, which can be synchronized with other databases (a central one, for example). These files are stored in a sync folder, which can reside on a USB memory stick/key, network drive, or local directory. This setting can be changed by pressing the Sync button on the Options screen (available to administrative users).

The synchronization folder contains two subfolders: Beginshift and Endshift. The Beginshift folder contains data to be imported into PAGIS; the Endshift folder holds data exported at the end of a shift.

The synchronization path can be located on a USB key/memory stick, a mapped network drive, or the local hard drive. By default, the sync folder is set to the local drive. Network drives can be used or local drives--any UNC path name. For instance, `C:\` would be a local disk but `\\Server\folder` would be a folder on the network.

The PAGIS database is stored as a text file with comma-separated values. This helps minimize the file size. Depending upon the number of entries in the database, the database may be several megabytes. If you choose to use a USB key for the synchronization folder, make sure the key has adequate space (at least 128 MB).

> If you choose a mapped network drive, you must have access to the network to successfully sync at the beginning and end of a shift.

The Sync screen provides a step-by-step interface for updating or modifying the synchronization settings. Three types of synchronization methods can be used with PAGIS: Disk and BOSS. When Disk is specified, PAGIS will synchronize with a local folder. Using BOSS, PAGIS will sync with a BOSS server.

Synchronization Path on a Local Disk

To establish the synchronization folder for a local disk:

1. From the Main Menu, click or tap **Admin**.
2. Tap or click **Sync** to display the Sync screen.
3. Choose Disk as the Sync Type and click **Next**.
4. Using either the key pad or the keyboard, enter the folder's location.
5. Choose whether to delete beginshift data on sync and to copy endshift data on sync by checking or unchecking the boxes.
6. Press **Save** to preserve the changes.
7. Press **Esc** to return to the Admin screen.

Synchronization Path on a Network Drive

To use a network sync folder, the location must be mapped to a drive letter. The instructions below provide basic directions for mapping a network location to a drive. Please contact your system administrator for assistance.

1. Open a file browser to display the available network locations.
2. Browse to the folder you wish to use.
3. Right-click on the folder and choose "Map Network Drive" from the contextual menu.

   If the "Map Network Drive" option is not available, try selecting a folder higher up in the directory structure.

4. Choose "P" as the drive letter (for PAGIS drive).
5. Return to PAGIS.
6. On the Synchronization Path screen, enter the folder location as explained above.

Synchronizing with BOSS

PAGIS can be set to synchronize with a local or remote BOSS server.

1. From the Main Menu, click or tap **Admin**.
2. Tap or click **Sync** to display the Sync screen.
3. Choose BOSS as the Sync Type and click **Next**.
4. Enter the IP address and port of the BOSS server.
5. Press **Save** to preserve the changes.

Activating and Deactivating Databases

Available databases as defined within BOSS can be viewed and activated from the Database screen accessed from the main menu (requires administrator privileges). The number in the second column indicates the database's priority. Lower numbers have a higher priority.

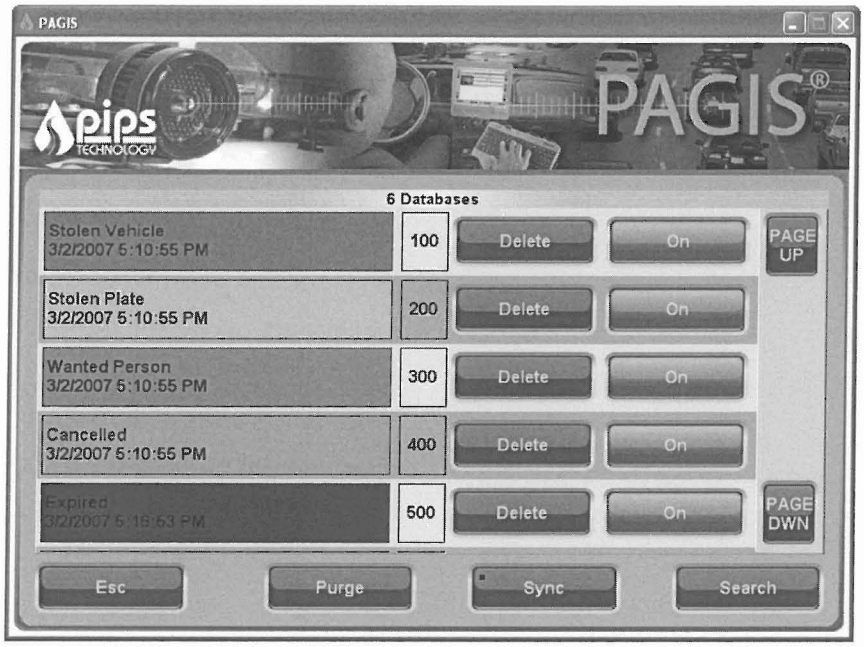


Figure 4. Databases screen

Databases can be toggled active or inactive by pressing **On/Off**. Active databases are highlighted in blue. As an example, once a database has been deactivated, pressing **Delete** will remove it from the system. Only a user with administrative privileges can delete databases.

1. Click **Database** from the main menu.
2. Locate the database to activate or disable by using **Next** and **Prev** to page through the list of installed databases.
3. To activate or disable a database, click **ON** or **OFF** next to the desired database name.

Optimizing Databases Synchronization

Synchronizing larger, unsorted databases can take a long time. When data has been presorted alphabetically by plate, PAGIS loads the information faster. A database with six million entries took approximately two hours when it was random, unsorted data. After the same file had been sorted, it took less than three minutes to load. Once databases have been loaded into PAGIS, the query response time is near real time.

Configuring System Connection Strings

You can change the computer and GPS connection strings on the System screen. Any changes made to these settings are activated after restarting PAGIS.

> The Connection String refers most commonly to the COM port, although it may also refer to the IP address or serial port in the format IP_Address:TCP_Port.

To review or change assigned COM ports:

1. Click **Admin** from the main menu and click or tap **System**.
2. Verify that the appropriate camera type is chosen. If necessary, choose the camera type by clicking the radio button next to the camera type.
3. Verify the computer connection string is correct.
4. Press **Save** to preserve the changes or **Esc** to return to the previous screen and cancel any modifications.
5. Restart PAGIS to activate the changes.

External GPS Unit

> Connection String refers to the COM port, although the connection string may also be the IP address or serial port in the format IP_Address:TCP_Port.

PAGIS will work with any NMEA-compliant GPS unit. Enter the GPS connection string (2 is the default) and click **Save**. PAGIS will need to be restarted for the changes to take effect.

Camera Configuration

Adding cameras involves two steps: identifying the camera and adding a configuration. The first step uses the Camera screen; the latter step uses the Config screen. Both of these screens are explained in this section.

> Cameras must be configured first. Otherwise, no options will be available in the drop-down boxes for Display and Hidden on the Configs screen.

Camera Screen

The Camera screen (available from the Admin area) provides a wizard-type interface that walks you through adding new cameras. Cameras listed on the Cameras screen are active within PAGIS. To add a camera, press **Add New.** To edit an existing camera, press **Edit** and review the settings. To remove a camera, press **Del.**

Default configurations for supported cameras are also provided (viewable by pressing **Load Defaults**). Loading a default lets you have a base configuration which can then be modified. The defaults can also be used for testing purposes. Choosing a default also loads associated configuration files, which appear in the Config screen.

Figure 5. Cameras Screen showing cameras loaded with the AVI default option

When adding a new camera, the second screen in the process is the Camera Settings screen. On this screen, you will enter a lane name (right traffic, left parking, etc.), device connection string (available depending upon the camera type chosen in the previous screen), the capture device, and any available features (tilt, NTSC, closed loop).

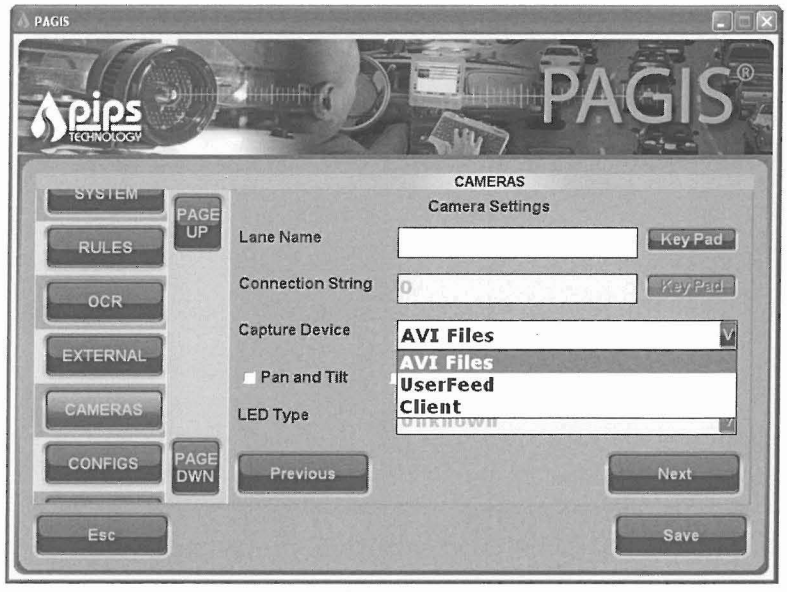


Figure 6. Camera Settings showing Capture Devices drop-down

The Capture Device drop-down box lists the available device types. The options listed will vary depending upon your installed hardware. At least three options will be listed in the drop-down box, although other capture devices installed on the system may also appear

such as image capture cards (Imprex, Piccolo, etc). The ones used by PAGIS are defined below.

- *Client.* Selecting this option tells PAGIS to communicate with the installed capture device directly. More than one device may be listed.
- *User Feed.* This setting is used to feed bitmap images manually into the OCR engine.
- *AVI Files.* Using this option lets you choose to have pre-recorded video saved as AVI files fed into PAGIS and the OCR engine. It is used primarily for training purposes.

Adding a New Camera

To add a new camera from the Cameras screen:

1. Click **Add New** to begin the process.
2. You will be prompted to choose a camera type: P362, Sony, Digital Eye Witness, CCTV, or IR. Choose the type of camera and click **Next**.
3. On the Camera Settings screen, enter the desired lane name, connection string, capture device, and LED type. Check any of the boxes that apply to your camera. Press **Next** to continue.

   The camera configuration will be listed under the Lane Name on the Cameras screen.

4. Choose the appropriate options on the Color Camera Settings.
5. Check OCR Enabled to have this camera perform optical character recognition. Press **Next** to continue.
6. Select any desired IR options and press **Save** to preserve the camera settings.
7. The new camera configuration will be listed under the Cameras and will be available when using the Configs screen.

Configs Screen

The Configs screen (available from the Admin area) lets you set up multiple configurations for parking or traffic monitoring, for example. Each configuration can have customized settings for cameras and lanes. The configurations are accessed in the PAGIS main application screen by using the **Cam Mode** button.

If you have loaded a default camera setup, the Configs screen will be populated with the matching configurations.

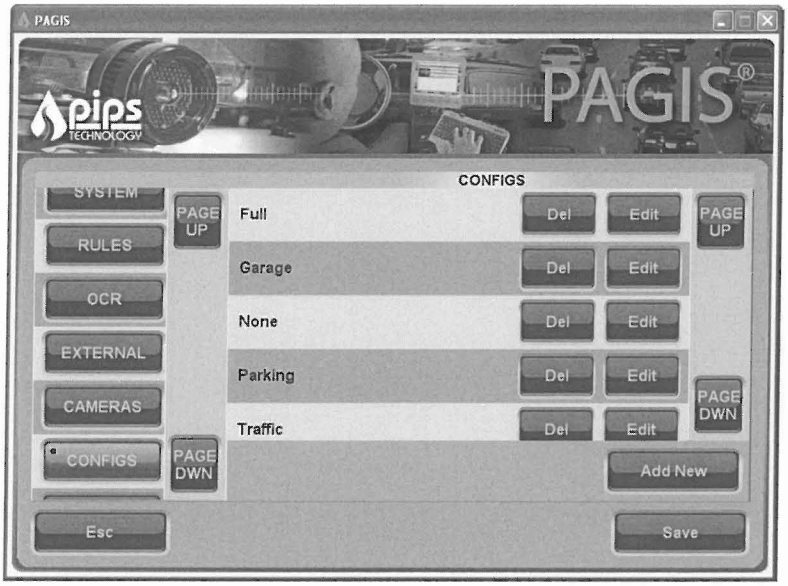


Figure 7. Configs screen showing the defaults from the AVI option.

A new configuration can be added by pressing **Add New** on the Configs screen. Using this second Configs screen, you can choose cameras to use and a region to associate with the configuration. Up to four cameras can be activated, each with color overview and infrared lenses, for a total of eight channels of video capture. While only two cameras may be displayed simultaneously on screen, all four cameras are in operation and checking plates against the databases of interest. Upon one of the "hidden" cameras receiving a database hit, a normal alert would take place giving the officer audible and visual confirmation of the hit.

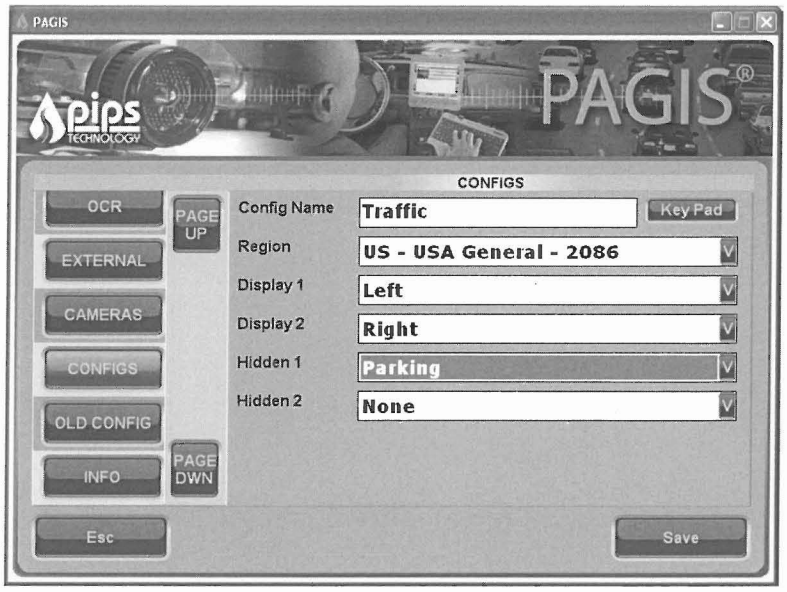


Figure 8. Configs Screen

To add a configuration:

1. Press **Add New** on the Configs screen.
2. Enter a Config Name in the text box.
3. Choose a Region from the drop-down box.
4. Choose options from the drop-down boxes for Display 1, Display 2, Hidden 1, and Hidden 2. The options available in these drop-down boxes are the cameras which were configured on the Camera screen.
5. Press **Save** to preserve the settings.

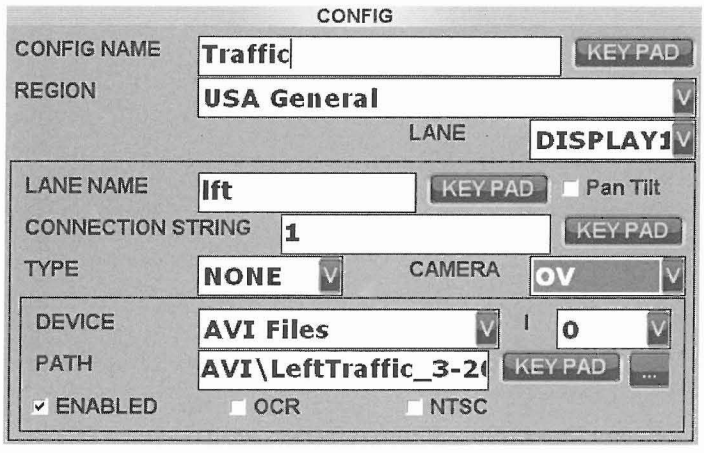
Old Configs Screen

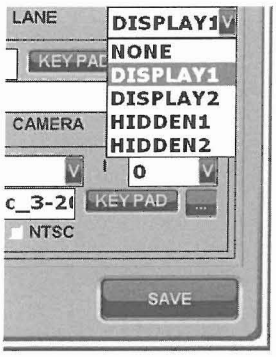
The Old Configs screen provides all-in-one access to the camera and configuration settings. This screen was the default Configs screen in prior versions of PAGIS. For users familiar with the PAGIS camera options, it is a useful tool to quickly set up cameras.

1. Enter a name for the configuration. This name should be meaningful, like "Traffic" or "Parking."
2. In the "Region" drop-down box, select the region that best applies to the area where PAGIS will be used.

Steps 3 through 14 should be repeated for each camera that will be a part of the configuration. For a traffic configuration you might repeat the steps twice, once for the front left camera and again for the front right camera.

3. Next, in the "Lane" drop down box, select the lane to configure. Display 1 refers to the camera that will be displayed on the left hand side of the live screen. Display 2 refers to the camera that will be displayed on the right hand side of the live screen. Hidden 1 and 2 refer to cameras that are performing OCR, but are not visible to the user (hits and reads will still be generated by the camera).





4 In the "Lane Name" box, give this lane a meaningful name. This is the name that will be displayed to the user when a hit occurs. In a traffic configuration, you might use "Left" or "Right".

5 In the "Type" drop down box, select the type of camera that will be attached to the lane. P362 is the PIPS camera, Sony is the zoom capable black box camera, and DEW is the Kustom Signal Digital Eye Witness.

6 In the "Connection String" box, you can either give the com port to serially control the camera, or the *IP:Port* to control the camera over TCP/IP.

Steps 7 through 14 should be repeated for each lens that will be a part of the lane. If you are using a P362, there are two lenses, if you are using a Sony or DEW camera, there is only an overview lens.

7 In the "Camera" drop down box select the lens type you wish to configure. Choose OV for the color overview lens, and IR for an infra-red lens.

8 In the "Device" drop down box, select the capture device from which PAGIS will acquire the video.

9 In the "I" drop down box, select the appropriate input number for the device you are using. The appropriate input number varies from capture card to capture card.

10 If "Client" or "AVI Files" are chosen for the device type, enter a path in the "Path" text box.

11 Check the "Enabled" box to activate the camera.

12 If optical character recognition (OCR) will be performed with this camera, check the "OCR" box.

Tip: Check the OCR box only for the IR lens of a P362, on the OV lens for a Sony, and not at all for a DEW. For certain states that do not have retro-reflective plates, the optical character recognition (OCR) may be performed from the image captured by the color lens of the camera. When OCR is performed on a color image, the processing requirements increase and the accuracy will be somewhat diminished relative to OCR from the infrared image.

13 If the camera supplies video in the NTSC signal format, check the "NTSC" box.

Camera Preview

After the camera has been configured, the next is to verify the camera input and proper rotation on the Cam Setup screen. This screen provides a preview of camera output for the front and rear camera output. From the main menu, click **Cam Setup** to display the Cam Setup screen shown below. On this screen, click a camera button to view specific camera output.

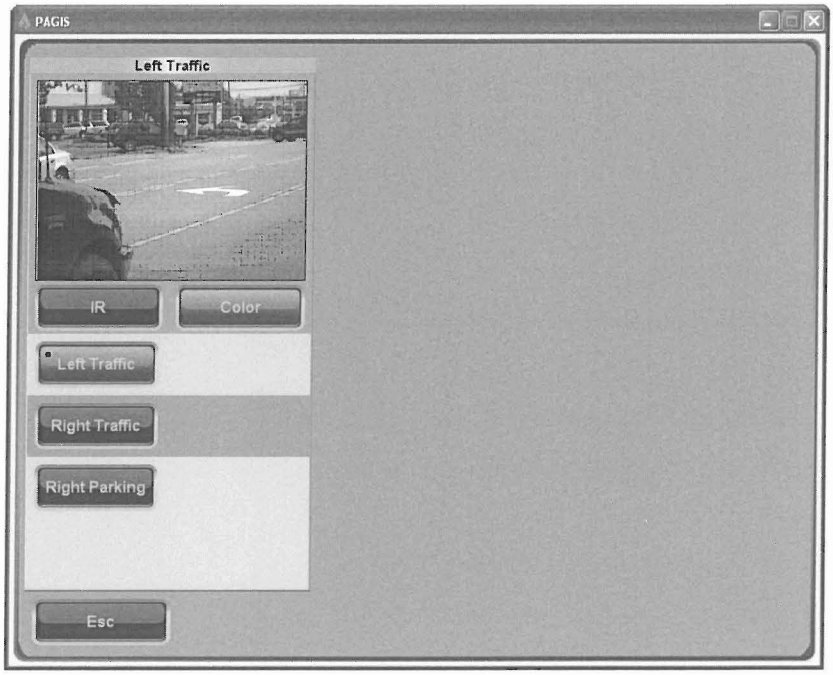


Figure 9. Cam Setup screen

Choosing Sounds (Optional)

If desired, you can modify the sounds PAGIS uses. These options are changed from the Options screen, accessible by pressing **Options** on the main menu.

Sound Options

PAGIS can play a sound to notify when an event is triggered. Sound files (.wav file format) are stored in the sounds folder within the PAGIS directory. Sounds are active when the green Enabled button is visible and are muted when the Enable button is gray.

> **Tip**: Custom sound files (.wav file format) may be uploaded into the sound folder of the PAGIS directory. This may be useful to instruct the officer to a specific protocol based on the nature of the hit.

To disable or enable sounds:

1. From the main menu, click **Admin**.
2. Press **Sound**.

3. To turn the sounds off, press the green Enabled button at the bottom of the screen. The button text will appear the same gray as the background.
4. To activate sounds, press **ON**. The button will turn green.

To change a sound associated with a specific event:

1. Choose an event using **Page up** or **Page Down** .
2. Select a new sound by pressing the ellipses (**...**) button to browse to and select a new sound file. You can preview the sound by pressing the Play button.
3. Press **Save** to apply the changes.

Chapter 5. Start- and End-Shift Procedures

PAGIS is optimized to run on portable computers with the Microsoft Windows XP or 2000 operating systems, with or without a touch screen. The larger buttons make actions easy to complete on a touch screen. A software-based keyboard can also be opened on for data-entry on some screens.

This chapter describes the basic steps used when starting and ending a shift.

Warning: The PAGIS software and P362 camera are not intended to be used in hazardous environments.

Log On and Synchronize

At the beginning of each shift or when new data is available, you should synchronize the databases so updates are available within the application.

Network or USB Key sync folders: Verify that you have access to the USB key or network drive before starting PAGIS.

The following procedure describes how to synchronize remote and local files.

1. If PAGIS is not already running, start PAGIS by double-clicking on the PAGIS icon.
2. Once the application has started, enter your badge number, password, and location.

3. Press **Log On** to access PAGIS.

   If you enter the incorrect username/password three times, PAGIS will automatically close.

4. Press **Begin Shift** twice.

Capture Mode

The system is now in capture mode and does not require any further action by the officer to begin capturing plates. PAGIS will display the camera's output on the screen displayed immediately after logging on to the system. Using this screen, you can toggle between camera modes as established by the System Administrator by pressing **Cam Mode** at the bottom center of the screen.

PAGIS plays an alert sound – a 'ding' by default – each time a license plate is read.

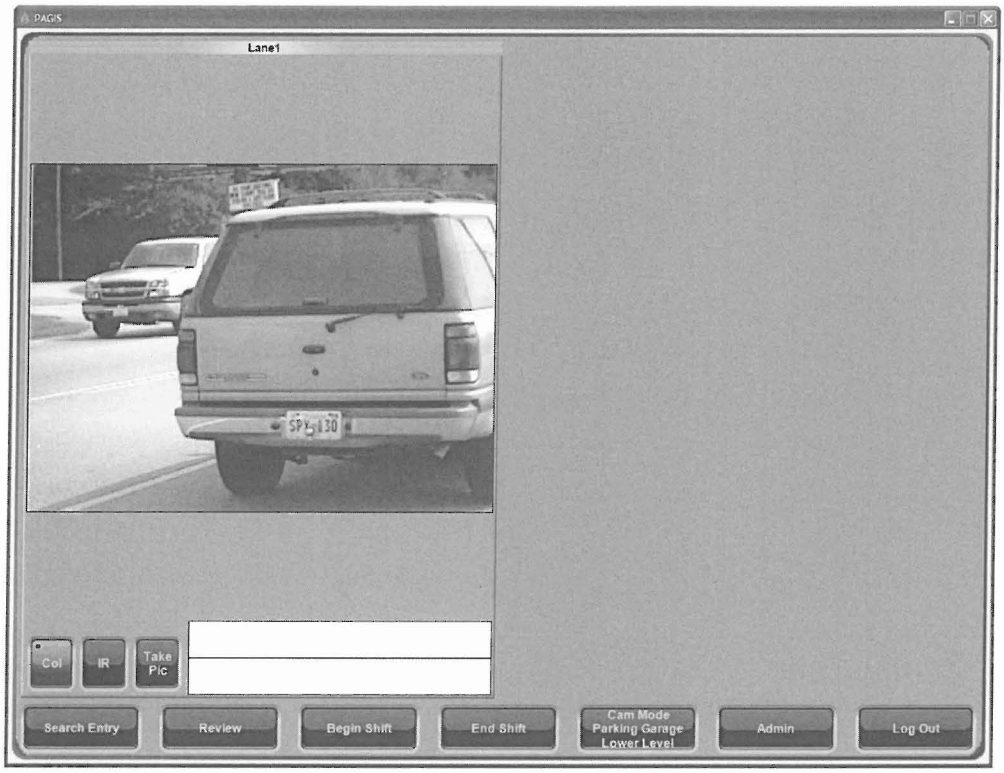


Figure 10. Main screen Cam Traffic mode

Pressing the Review button displays a new screen that lists all reads and hits made during the shift. These hits can also be searched by pressing **Search Entry**.

Taking a Picture

You can take a picture from the live feed by pressing **Take Pic**. After taking the picture, enter notes in the text box and press the Save button to preserve the text and picture in the database. This picture may be of a vehicle, a person, or a scene.

Positive Database Identifications

When a license or license plate matches a database entry, PAGIS sounds an alarm and displays a separate window with a color picture of the vehicle, IR image of the license plate, time and date stamp, GPS coordinates (if equipped), as well as any information in the "hotlist."

Dispositions

Disposition buttons allow system administrators to require PAGIS users to report on the disposition of hits (Arrest Made, Vehicle Recovered, Surveillance Established, etc). In prior versions of PAGIS, a user may have hit "Escape" with no reporting on what actually happened with the hit. Upon a "hit" in PAGIS, the officer will be prompted to report on the disposition of the hit as defined by the system administrator. These dispositions are reported into BOSS and allow for easy reporting on results generated by PAGIS.

Searching for Matches and Adding Entries to the Database

You can search for a DL# from the Review and Live View screens.

You can only search for information that is present in the database.

Searching

To search for a license plate or a driver's license number, press the **Search** button and enter the string to search for in the text box. Press the **Reads**, **DL#**, or **VLP** buttons to search the database for matches. If no match is found, you may be prompted to add a report.

Wild card searches can also be performed using the * and _ characters. The asterisk (*) designates an unknown number of characters while the underscore (_) indicates a single character. When the search illustrated below is performed, the matches will contain a 3 in the middle of the string, but not at the end or beginning.

Adding a Report

When no VRM matches are found, you will have the option to add the searched words to the database. In the example below, a license plate number is being added to the database. This license plate can be flagged with additional information.

To add information to search results:

1. Press **Amber Alert, Felony, Stolen, or Miscellaneous** (if applicable) to insert an identifying message and date-time stamp.
2. Press the Key Pad button to display the on-screen keyboard to add any additional information.
3. Press **Save** to preserve the information.

Ending the Shift

At the end of a shift, saved data should be exported to the database so it can be added to the central database. No data is lost if you close PAGIS without using synchronizing or using the End Shift command.

To export the current data and end the shift, press the End Shift button twice.

Chapter 6. Screen Reference

This chapter explains the PAGIS screens and the available options. Screens are grouped according to functions. When a button is grayed out, the option is not available or no information has been accrued to activate it. Some screens will be different depending upon the installations chosen.

PAGIS Log On Screen

PAGIS allows for multiple users with individual access privileges. An on-screen keyboard can be brought up by touching the Key Pad button immediately to the right of any text box that accepts input.

Screen Components

Badge No. – Badge or identification number for the officer or user. To login using the default account, enter 3333 with no password and press the Login button.

Password – Password of the officer or user attempting to logon.

Location – Location where PAGIS will be used. The location can be drawn from an attached GPS unit or can be manually entered. This information is "attached" to every event that occurs within PAGIS. This location can be changed after logging in to PAGIS.

Login – Logs the user in to PAGIS.

Exit – Quits PAGIS.

PAGIS Main Menu

The PAGIS main menu provides a central location for accessing PAGIS's options.

Screen Components

Current User's Name – The name of the current user (Oliver Officer) is displayed in the top center of the screen.

Review – Opens the Review screen to display all data collected by during the current shift.

Location – Opens the Location screen where the current site designation can be changed. If Microsoft MapPoint is installed, a map will be shown. You can choose a new location by zooming in to a specific town. This map can tie in with GPS unit data, if available.

Cam Setup – Opens the Cam Setup screen which provides a preview of camera footage and has a link to the Configurations screen via the Config button.

Database – An area where the user can review active databases or hot lists, turn lists on or off, search through the lists, and delete currently active lists.

Admin – Area for general PAGIS setup including but not limited to sound event mapping, camera and GPS com ports, user management, and camera configurations.

Live – Displays the main capture screen where live video can be viewed.

Targets – Opens a review area for criminals that have been loaded into PAGIS's "Targets" list. Requires administrative privileges.

Logout – Logs the current user out and ends the shift.

Database

Databases can be toggled on/off and deleted from this screen. The Databases screen is opened by pressing the Databases button from the main menu.

Screen Components

On/Off – Toggles a database.

Delete – Removes a database. This option is only available when a database is deactivated.

Sync – Causes PAGIS to check the synchronization folder for new data and add it to the current database. Old data is also removed from the vehicle.

Search – Opens the search screen.

Previous – Displays the previous page of database.

Next – Displays the next page of databases.

Esc – Takes the user to the previous screen.

Search

The Search screen lets you search the database for a license plate or driver's license. The same search screen is accessible from the Database and Live View screens.

Screen Components

Text box – Enter the information to search for here.

Key Pad – Press this button to display the on-screen keyboard.

DL# -- Searches the driver's license numbers for the number entered in the text box.

VLP – Searches the license plates for the entered text.

Clear – Clears the context of the text box.

Reads – Displays matches from license plate that have been read during the current session.

Esc – The Esc button returns to the previous screen.

Searches – Report

Following a search or manual entry request, if the plate queried does not match any active databases, this screen allows for the plate to be added to the database.

Felony – Flags the current entry as a felon.

Amber Alert – Flags the new entry with an amber alert.

Stolen – Marks the current plate as a stolen vehicle.

Miscellaneous – Flags the current entry as a miscellaneous offense.

Esc - The Esc button returns to the previous screen.

Save – Updates the database with changes.

Live View

The Live View screen displays a still image of the vehicle, the license plate with OCR text and the Camera Mode and Lane Name.

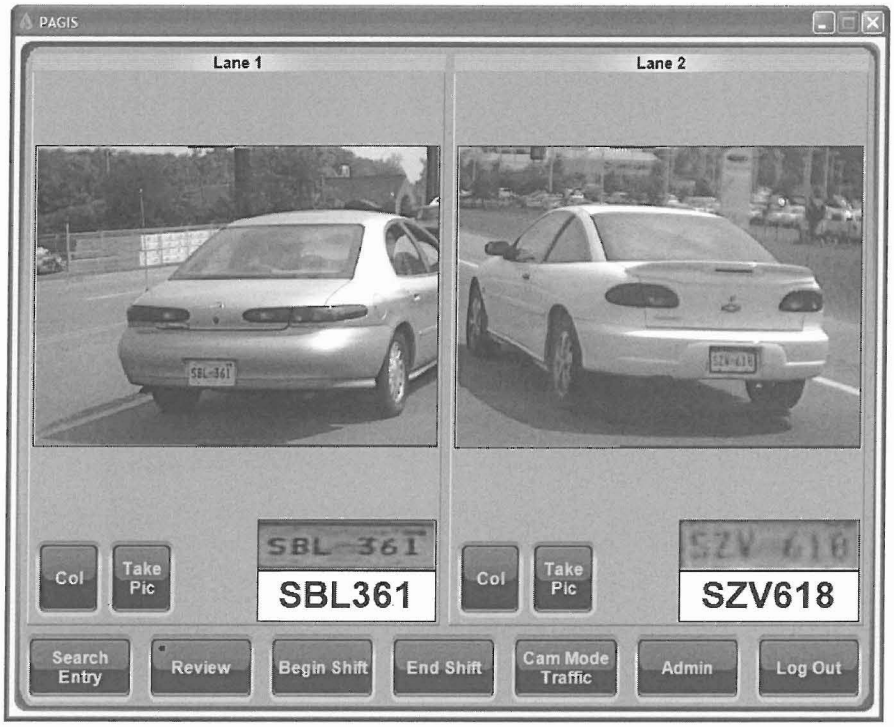


Figure 11. Live View

Col – Displays live feed from the color camera.

IR – Displays live feed from the infrared camera.

Take Pic – Captures a still image from the associated camera's current view.

Search Entry – Displays the Search screen.

Review – Opens the Review screen where all database matches during a shift can be examined. Review screens are explained in the next section.

Begin Shift – Begin a new shift by pressing this button twice.

End Shift – End the current shift by pressing this button twice.

Cam Mode – Toggles the display between the camera setups.

Admin – Displays the main menu. This option is only available if the current user has administrative privileges.

Logout – Logs the current user out of the system.

Note: Col and IR buttons are not normally used by a patrolling officer. These buttons are primarily for configuration and testing.

PAGIS Review Data Area

The data review area displays information collected by PAGIS throughout the shift. All options listed will not be available for every installation.

A grayed-out button indicates a function that is not available.

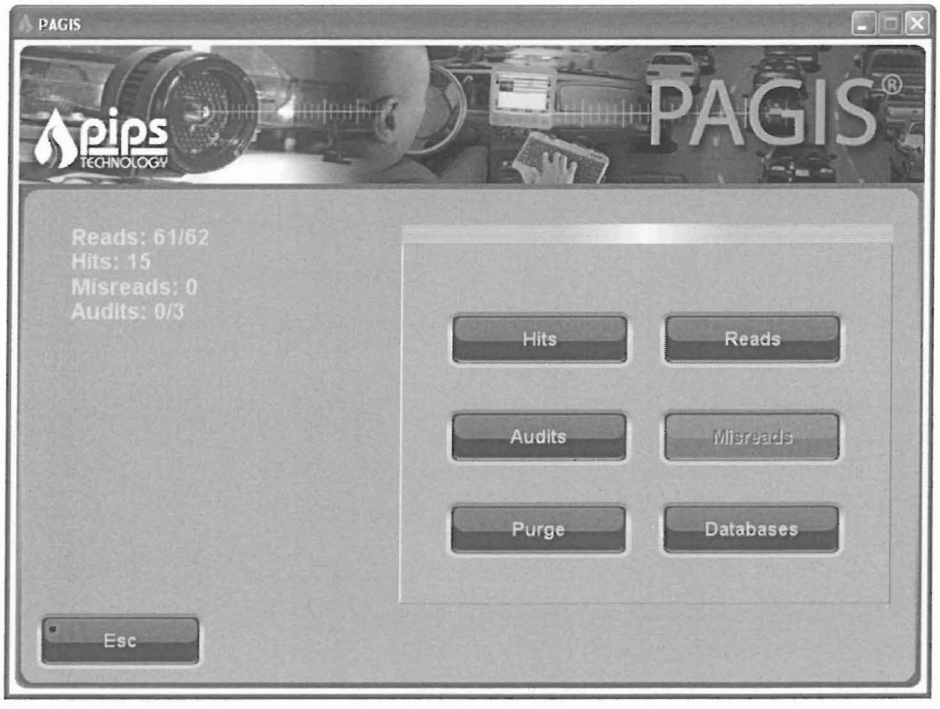


Figure 12. Review Data Screen

Area Counts – Displays information concerning the number of entries in each area available for review.

Hits – Review all plates that were read and located in a currently used database or hot list. This information will include the same data displayed for all matches, plus information extracted from the hot lists containing the plate.

Reads – Review all plate detections that have occurred since the last end of shift synchronization. This will include the location, a timestamp, a patch image of the plate, the text representation after OCR on the patch, and an overview image for each read.

Audits -- Displays a list of failed and successful logins.

Misreads –Review reads, hits, or detections that have been flagged by the officer as misread. Misread means that the OCR engine gave the wrong interpretation of the image. For instance an 8 was read instead of a B.

Purge – Resets the counters to zero.

Databases – Displays the Database screen.

Esc – The Esc button returns to the previous screen.

Reads

This is the general image review area. You are directed to this section upon selecting Reads from the Review dialog, or when Reads or Misreads from the Review Menu or when a read is flagged as misread from the Live Screen or Hit Screen.

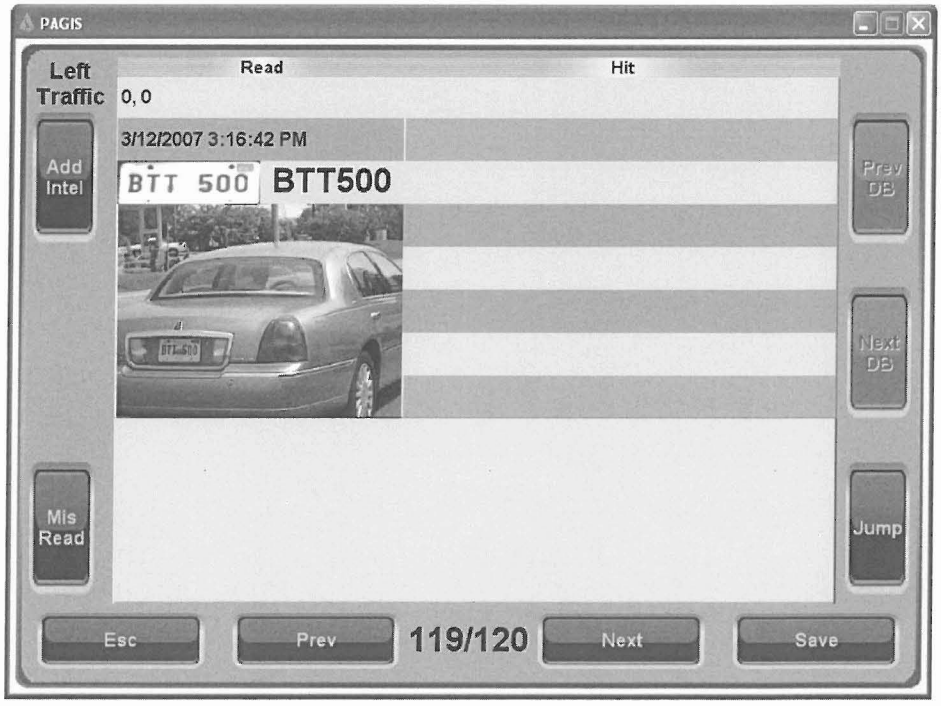


Figure 13. Reads Screen

Lane Name – Displays the lane or camera configuration associated with the read in the upper left corner of the screen.

Timestamp – Displays a timestamp representing when the images and vehicle were seen across the top of the screen.

Location – Current location of the officer at the time of the read. The location can be manually entered or automatically updated using GPS coordinates, if GPS has been enabled.

Patch Image – Shows a small image of just the license plate.

OCR Text – Displays the character string that the OCR engine matched to the current plate patch. This field is editable in case the plate was misread. If it was misread, the text can be corrected by using the Mis Read button. This will reprocess the data with the updated information. Misread plates are compared against all active databases.

Overview Image – Displays an overview image of the entire vehicle, displayed in color when available.

Add Intel –Add information to a particular VLP. For instance, you might add information about the arrest or violation.

Mis Read – Pressing the misread button twice will flag that hit as misread, the second press simply confirms it was a misread. The user is not expected to correct the read at that time.

Disposition – Pressing this button lets the officer classify a hit as Stolen, Parked, Occupied, etc. The terms used for Disposition are set using BOSS.

Previous DB– Moves to the previous database.

Next DB – Moves to the next database.

Jump -- Used to enter data and jump to a specific record within the current search.

Esc – Returns to the previous window.

Previous – Moves to the previous record.

Current/Total – Numbers in the center bottom that shows the current record number and the total number of records.

Next – Moves to the next record.

Save – Preserves any changes.

Hits Review

This screen is accessed when reviewing Hits from the Review screen, reviewing hits from the Live Capture screen, or whenever a hit is made this form is automatically detected with the latest hit. This screen is similar to the Read screen shown on page 38.

Camera Location – Displays the name of the camera from which the hit originated. In this case, the Left camera, in the upper left corner of the screen. If GPS is chosen and no GPS unit is currently active, the location is displayed as 0,0 for longitude and latitude.

> Throughout PAGIS, if GPS is enabled and mapping software is installed, click on GPS coordinates to be taken directly to the Locations screen for a map view.

Timestamp – Displays a timestamp directly above the picture of when the images and vehicle were seen.

Patch Image – A small image of just the license plate, displayed directly below the timestamp.

OCR Text – The character string that the OCR engine matched to the current plate patch. If it was misread, the user can correct the read by clicking, or tapping, on the text. This will take the user to the image review area (2.4) where the plate can then be corrected or flagged as a misread.

Overview Image – An overview image of the vehicle, displayed in color when available.

Database Information – This includes the text on the right side of the screen and the large text box at the bottom. The information displayed here is extracted from the databases that the VLP is found in. The information is 100% user definable. Typically, a database will contain the VLP, vehicle color, make and model, an action to take with the vehicle, a reason for the action, and general information about the offending vehicle.

Current/Total – Small box in the top right corner that displays the current record number and the total number of records. This box will blink if the VLP was found in more than one database.

Previous DB – Moves to the previous database that contains the VLP.

Next DB – Moves to the next database that contains VLP.

Add Intel –Add information to a particular VLP. For instance, you might add information about the arrest or violation.

Misread – Pressing the misread button twice will flag that hit as misread, the second press simply confirms it was a misread. The user is not expected to correct the read at that time.

Previous DB– Moves to the previous database.

Next DB – Moves to the next database.

Jump -- Used to enter data and jump to a specific record within the current search.

Esc – Returns to the previous window.

Previous – Moves to the previous record.

Current/Total – Numbers in the center bottom that shows the current record number and the total number of records.

Next – Moves to the next record.

Save – Preserves any changes.

Location

(This is an optional component within PAGIS; typically performed via BOSS.) The Location screen lets you enter the current location or coordinates from an attached GPS unit. If Microsoft MapPoint is installed, you will have the option to use a map to pinpoint locations.

Using the MapPoint integration, you can search for and get directions to any street address or GPS location. All hit information including mapped data is now sent to BOSS for data analysis purposes.

Text Box – Used to enter an address of a desired location.

Route – Identifies a route to the defined location.

Track – Displays the current location of the patrol vehicle.

Clear – Clear any data on the map.

Zoom In – Increase magnification on the map.

Zoom Out – Decrease magnification on the map.

Find – Enter an address in the text box and click Find to display it on the map.

Save – Press the Save button to save the map information.

ESC – Closes this screen and returns to the one last viewed.

Targets

The Targets screen displays information about suspects matched with license plates.

Prev – Displays the previous entry.

Next – Displays the next entry.

Add Intel – Add information to the record for the current record.

Text Box and Find – Search the records by entering text and pressing the Find button.

Esc – Returns the user to the live capture screen.

Cam Setup

The Cam Setup screen lets you preview camera images. Camera, lane, and configuration settings are established in the Admin screens.

IR – Displays the infrared images from the selected camera.

Col – Displays the color input from the selected camera.

> The screen components may differ depending on your active configuration.

Left – Displays the feed from the front camera. No camera adjustments are available from within PAGIS for the front camera.

Right IR – Shows a preview of the feed from the infrared camera.

Esc – Return to the previously viewed screen.

PAGIS Admin

The Admin screen controls PAGIS' variables, including language, sounds, users, GPS unit, cameras, sync folder, external, configurations, and system settings. The available screens listed on the left side can be scrolled through using the Page Up and Page Down buttons.

Sync – Sets or modifies the synchronization folder.

Language—Change the default language used by PAGIS. The initial setting is chosen during installation.

Location –Location where the unit is being deployed. This can be manually entered at the logon screen or a default can be configured by an administrator on the Admin page. (Note: This is not the same as the GPS location, and does not overwrite GPS coordinates).

Users – Add or delete PAGIS users and perform limited account maintenance.

Sound – Displays the Sound options, where sounds can be toggled on or off and individual alert sounds assigned to specific events.

System – Assigns COM ports to cameras and external GPS unit.

Rules – Customizes the OCR to help account for letter pairs that are often misread.

OCR – Change the regional OCR engine used by PAGIS.

Cameras – Add camera configurations using a step-by-step interface.

Config – Add, edit, and delete external sources used in PAGIS, like cameras and AVI files.

Old Configs – Access the old Configs screen with all camera settings and configurations available in one location.

External – Connect to external databases.

Info – Displays the version number and contact information for PAGIS.

Page Up – Display the previous set of options.

Page Down – Displays the next set of options.

Esc – Returns to the main menu.

Sync

The Sync screen lets you change the synchronization method used by PAGIS to import and export data at the beginning and end of a shift. Three options are available: Disk and BOSS.

For procedures describing how to establish synchronization settings, please refer to page 20.

Rules

Rules provide a way to check for a commonly misread character and the read character as both options for a database match. For instance, 8's and B's are some times mistaken. If the OCR engine reported a plate as ABC123, you might check both ABC123 and A8C123 against all databases to find a match. While you are less likely to miss a hit, the process can also produce more false hits. Verify the plate read and the database match are the same.

To add a new rule, click Add, enter a single character instance (the letter O, for example), and enter a list of similar characters (O0Q in this example). With this rule defined, anytime the system reads and O, it will run it as O, 0, and Q. The system will not do the same when it reads a Q. Another rule would have to be entered to accomplish that. The rule will be saved by clicking **Save**.

Users

The Users screen lets you add users, set their privileges, and delete users from PAGIS. A feature is active for a user when the button is green. For example, user 4685 can access sync and external settings but nod administrative settings (like modifying users).

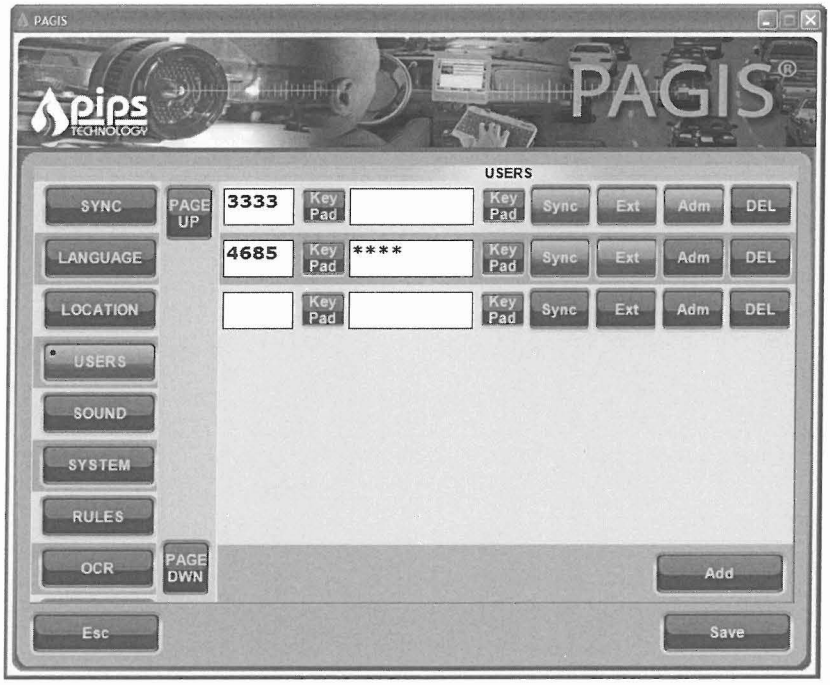


Figure 14. Users screen

Badge Number – Add a new badge number or delete an existing user. Selected privileges will be associated with the entered badge number. Any users added from this screen are only valid for 30 days.

Password – Enter a password to associate with the ID number in the second text field.

Privileges – Privileges are chosen by clicking on one of the buttons defined below. After a privilege is activated, the button changes to green.

- Sync – Allows the user to synchronize files.
- Ext – Allows the user to access external databases.
- Admin – Allows the user to configure PAGIS, add and remove users, and change the options.

Del – Remove a user from the list. The user is deleted the second time the Del button is pressed.

Add – Add a new user with the options selected.

Save – Adds the new user to the database.

Esc – Returns to the Options screen without saving changes.

Sound

The Sound screen associates available sound files with specific alerts and actions. You can also toggle sounds off and on by pressing **On**. A green button indicates that a sound is active; a gray button indicates that the sound is disabled. The sounds can be scrolled through by pressing **Page Up** and **Page Down**.

Figure 15. Sounds screen

System

> Connection String refers most commonly to the COM port, although may also be the IP address or serial port

Connection strings for the computer and GPS units are set on this screen. The camera type can be selected by clicking in the radio button next to the P362 or Sony camera type. Ports can be changed by click in the text box and clicking the text using the keyboard or the key pad. Pressing the Save button preserves any changes.

PAGIS must be exited and restarted for any changes to take effect.

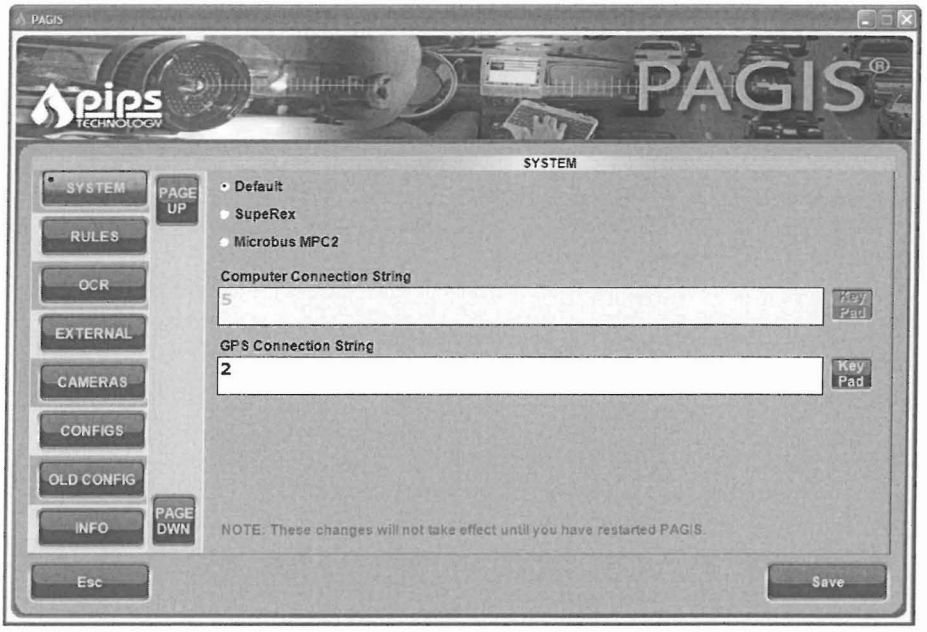


Figure 16. Device Connection Strings screen

Cameras

The Cameras screen lets you configure specific cameras for use with PAGIS. These camera configurations are associated with lane names, which are referenced in the Configs screen. PAGIS currently supports P362, Sony, Digital Eye Witness, CCTV, and IR cameras.

Procedures for adding Cameras are explained on page 23.

Config

The Config screen lets you configure PAGIS AVI to assign the various cameras to various configurations or application modes such as traffic parking, etc.

Procedures for using the Config screen are explained on page 25.

Del – Removes the current file from PAGIS.

Edit – Modifies settings for the selected configuration, including file location, file association with front or rear cameras, etc.

Add New – Adds a new configuration to PAGIS.

Save – Preserves changes to the configurations.

Esc – Returns to the Main Menu.

Old Configs

The Old Config screen lists any pre-existing PAGIS configurations from a prior installation. When PAGIS is upgraded, the old configurations from the prior version appear in the Old Configs screen. These configurations can still be used. The Old Config screen format is the same as prior versions with all information for a configuration available on one screen.

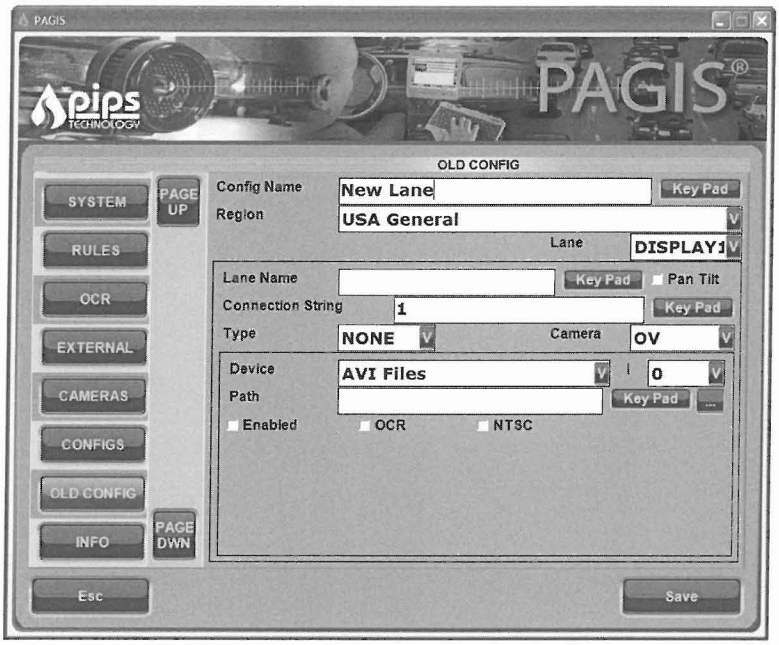


Figure 17. Old Config screen

The procedure for using this screen is available on page 27.

OCR

The OCR screen is used to enable enable inverse plate reads, square plates, disable duplicate plate reads (if multiple cameras pick up the same plate), show diagnostics, and disable read correction. Each check box toggles the options: if a check mark appears, the option is active. If the box is empty, the option is disabled.

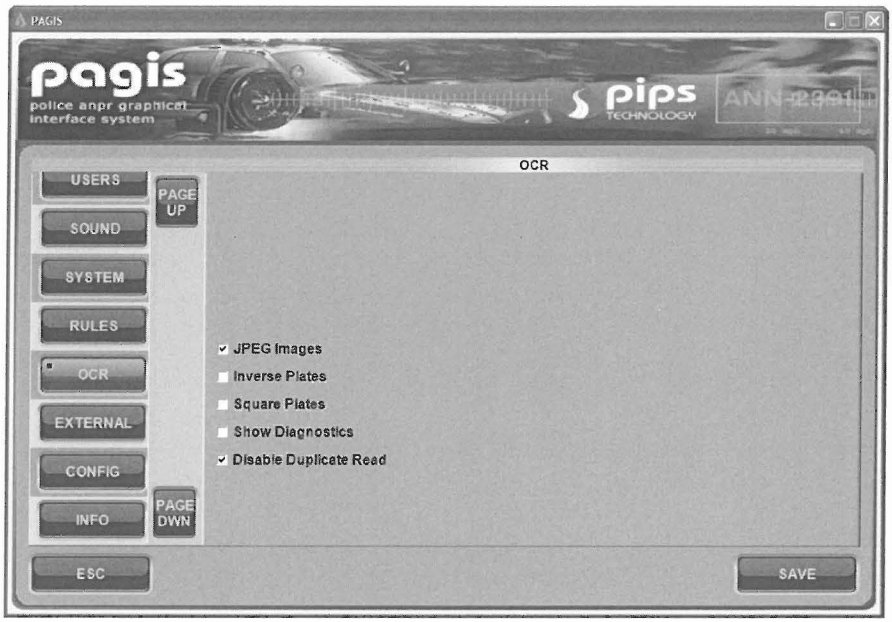


Figure 18. OCR Screen

These options are explained in the table below.

Option	*Action*
JPEG Images	Use compressed jpeg images instead of full resolution bitmaps. On by default. When this feature is activated, it minimizes storage requirements for collected data.
Inverse Plates	This feature can be useful for plates with a dark background and light lettering. Off by default. This option in creases the processing load and therefore should remain disabled until it is needed due to the region.
Square Plates	Adjusts the read area for square plates instead of rectangular plates. This option is off by default.
Show Diagnostics	Shows a diagnostic screen if an error occurs. Off by default.
Disable Duplicate Read	Turns off duplicate reads. On by default. If the same plate is read by more than one camera within a short time frame, the duplicate is ignored. This minimizes storage requirements for the collected data and improves system metrics related to the number of reads.

Info

The Info screen displays the contact information for PIPS Technology and the version number of the current installation. This information may be helpful when calling Customer Support.

Appendix 1. PAGIS Database File

The only file format that PAGIS supports for importing data into the vehicles for the purpose of matching against the capture license plate is a CSV (Comma Separated Value) file. This format is a standard ASCII text file that is platform independent and understood by many of the common spreadsheets such as Microsoft Excel as well as by any text editor such as Notepad. PAGIS will support CSV files with any number of columns, called fields, as long as the first field is the VLP (Vehicle License Plate).

Example CSV 1

```
ABC123, Red, Ford, Explorer, 1996, WANTED
XYZ456, Blue, Audi, A4, 2001, MURDER
```

Example CSV 2

```
45ABC234, Vehicle wanted in associated with a kidnapping on 12/5/2005
995BD233, Vehicle reported stolen from Liz's Lounge at 6am on 12/1/2005
```

Example CSV 3

```
UIO223
ABC123
```

PAGIS calls files in pairs: a database has a matching CSV (comma separated value) file. Without that file, the database will not load. If, for instance, the file that the police agency is trying to import into PAGIS is called `stolen.csv` (again, recall that CSV files are the only format supported by PAGIS) then the corresponding INI file would be called `stolen.ini`. PAGIS will only load a configuration file for a database if it has the same name as the database with the INI extension.

Additional Development and Support

Additional development by PIPS Technology, Inc. will be required in order to support that data format. Contact Inside Sales at the address below for further information.

Contact Information

Customer Support

Phone: 1-865-392-5590
Email: support@pipstechnology.com

Email: info@pipstechnology.com
Web: www.pipstechnology.com

Tel: 1-865-392-5540
Fax: 1-865-392-5599

PIPS Technology Inc.
804 Innovation Drive
Knoxville, TN 37932
USA

Interpreting the Sample File

Lines that appear in brackets [] are called *Headings*. The lines that appear after Heading A and before Heading B are called values under the heading A. Values will always contain an equal sign (=). If a line starts with a semicolon it is considered to be a comment and is not read by the system. There can be any number of comments in the INI file.

The *[Settings]* Heading

Under the Settings heading there are the values NumFiles, DbName, DbColor, Priority, Covert, Alarm, and NumFields.

The *NumFiles* value tells the system how many database files the system should split the specified hot / black list into. Generally a value of 1 is acceptable, but for larger hot lists (200,000 +), a number of 2 – 5 may be desirable.

The *DbName* value tells PAGIS what the displayed name of the hot/black list should be.

The *DbColor* value tells PAGIS what color the hot/black list should be displayed to the user in. This is merely an aesthetic setting and not a functional setting. The right hand side of the equal sign is the HEX value representing the ARGB values for the color. If you do not know what this means, you should simply leave this line out of the file.

The *Priority* value designates the priority of this hot/black list in relation to other hot/black lists in the system. The highest priority database is 1 and the lowest is 999.

The *Covert* value determines whether standard PAGIS users are alerted when a hit is made from the database. Covert database can be used for hot lists that are included for information gathering purposes rather than eliciting officer intervention. The system can also be configured to notify via email or SMS message when a hit is made from a covert hot list.

The *Alarm* value tells the system whether a Low, Medium, or High audible alarm should be played when a hit is made from the hot list. Values for Alarm are LOW, MED, HIGH.

The *NumFields* values tells the system how many fields (or columns) are in the CSV file. If this value is less than the actual number of fields in a file, then additional fields are placed in the general information area. This value also determines the number of headings of the format [Field x] will be present in the file. For instance if NumFields=2 then there will be two additional headings, [Field 0] and [Field 1].

The [Field X] Heading

Under the Field heading, there are two configurable values Name and PAGIS:

- The *Name* value tells the system what the name of this field is. If no name is specified then there is no name given to the field.
- The *PAGIS* value tells the system how to display the field in the GUI (Graphical User Interface, the Windows Application). If no value is defined then the field is placed as general information. Values 1 – 5 represent special fields for PAGIS that translate to the information being displayed in a box of its own when a hit is recorded. A value of 6 represents an ID number to cross reference the vehicle from this hot list with a person from the wanted list. A value of 7 is identical to leaving the value undefined.

Sample CSV .INI File

```
[Settings]
NumFiles=1
DbName=Stolen Vehicles
DbColor=ffffff00
Priority=5
Covert=False
Alarm=MED
NumFields=8

;PAGIS Values
;0 is VRM / VLP (Not User Definable, always Field 0)
;1 is Special Field 1
;2 is Special Field 2
;3 is Special Field 3
;4 is Special Field 4
;5 is Special Field 5
;6 is ID Number (PNC ID, Drivers License, Social Security Number, etc)
;7 is General Info (Default for all undefined fields)

[Field 0]
Name=VRM

[Field 1]
Name=Color
PAGIS=3

[Field 2]
Name=Make
PAGIS=1

[Field 3]
Name=Model
PAGIS=2

[Field 4]
Name=Action
PAGIS=4

[Field 5]
Name=Warning
PAGIS=5
```

```
[Field 6]
Name=PNCID
PAGIS=6

[Field 7]
Name=Intelligence
PAGIS=7
```

Appendix 2. Glossary

Term	Definition
ALPR/ANPR	Automatic License Plate Recognition. Also known as ANPR, Automatic Number Plate Recognition.
Dongle	A dongle is a security device used to verify that a user has a licensed copy of a software package. This dongle is attached to an available printer or USB port.
FPGA	Field Programmable Gate Array. The chip on the PIPS nodes whose principal task is to run the plate finder software.
GPRS	General Packet Radio Service.
GPS	Global Positioning System
IR	Infra-red.
License plate	Also called a tag or number plate.
MDT	Mobile Data Terminal
OCR	Optical Character Recognition.
OS	Operating System.
PAGIS	Police ALPR Graphical Interface System
PNC	Police National Computer (UK)
VLP	Vehicle License Plate
VRM	Vehicle Registration Mark

Index

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BOSS®: BACK OFFICE SYSTEM SOFTWARE
Version 3.0.2

Software User's Manual

Part# AV000000000202

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Service
Service of this equipment by replacement of parts, on site repair or routine maintenance inspections is available. Please contact PIPS Technology for a quotation.

Design Changes
PIPS Technology reserves the right to change the design of any product from time to time without notice and with no obligation to make corresponding changes in products previously manufactured.

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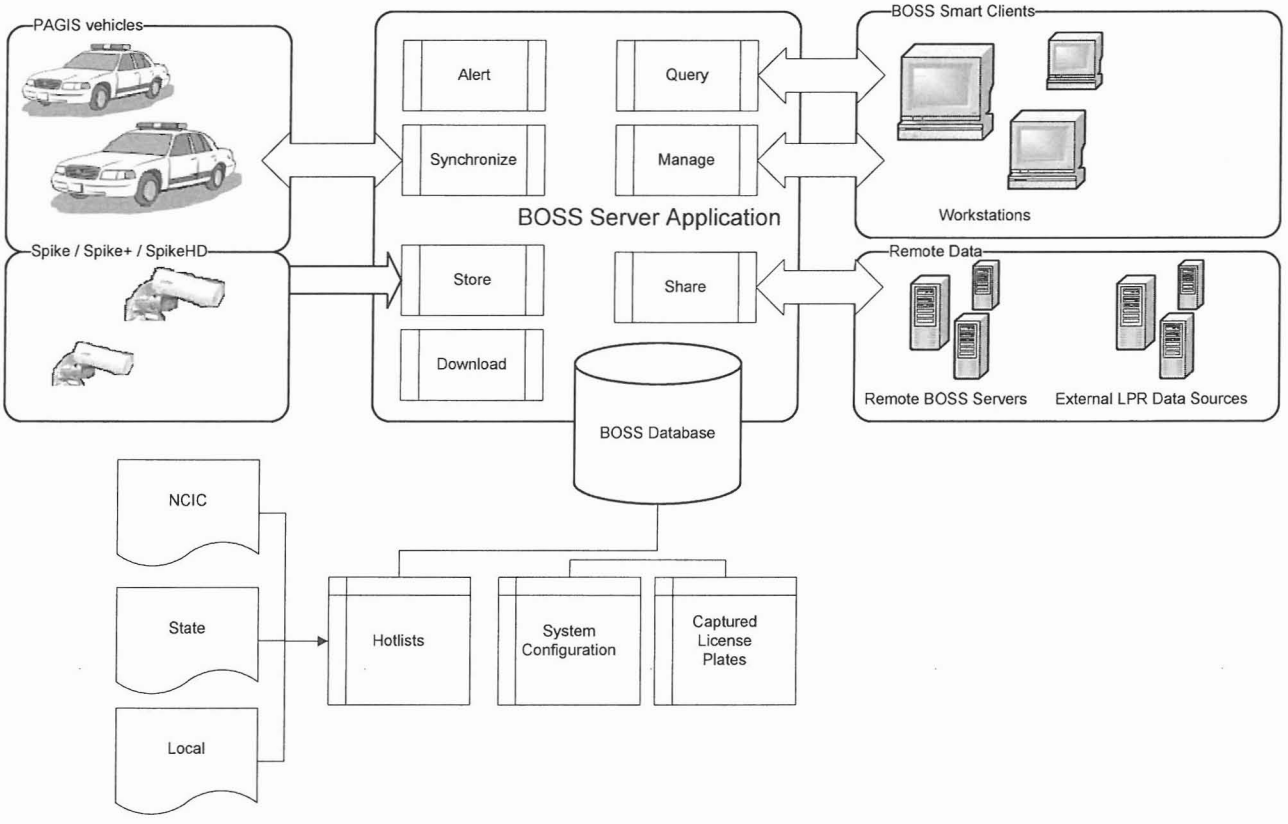
Version
This manual documents version 3.0.2 of the PIPS BOSS software and was last updated on July 31, 2009.

CONTENTS

1. INTRODUCTION

This document serves as a reference manual for version 3 of the Back Office System Software or "BOSS" software and will discuss the various features and functionality of the application. BOSS is a management and administration tool for PIPS ALPR systems. The BOSS 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 PAGIS deployments, provides a central repository for data collected by mobile PAGIS deployments and fixed camera installations such as the Spike+, 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 schematic below shows how the BOSS works together with the PAGIS application and Spike/ Spike+/ SpikeHD cameras to create a comprehensive solution.



The New Design of BOSS version 3.0

BOSS version 3 introduces a new and improved user interface design. This new design increases user accessibility with a user-friendly look and feel. Large, easy-to-identify icons provide more intuitive navigation with the most important or frequently-used elements always appearing first. The user interface will seem very recognizable and comfortable, particularly for users already familiar with common Windows office software and/or PIPS PAGIS software. In addition, users will have to enter a minimum amount of information to add a data object, with the ability to include more details via "Advanced" options if needed.

Technical Support

Problems, suggestions, or questions? Please contact PIPS Technology. Software updates may be available on the Support section of the PIPS Technology website; http://pipstechnology.com (requires a login and password).

Contact Information

Customer Support
Phone: 1-865-392-5590
Email: support@pipstechnology.com

Email: info@pipstechnology.com
Web: www.pipstechnology.com

Tel: 1-865-392-5540
Fax: 1-865-392-5599

PIPS Technology Inc.
804 Innovation Drive
Knoxville, TN 37932
USA

2. MINIMUM SYSTEM REQUIREMENTS

The minimum recommended system requirements for installing and running the BOSS 3.0 Smart Client are:

- Pentium compatible PC at 1.0GHz
- Windows XP SP2 or later, Windows Vista or Windows 7.
- 512MB of RAM
- 32-bit SVGA display at 800 x 600 pixels
- 250 MB of hard drive space if the smart client is installed locally
- 10MB of hard drive space if installing via web
- Keyboard and mouse

3. INSTALLING THE BOSS 3.0 SMART CLIENT

The BOSS 3.0 Smart Client is a software application ("the BOSS application") used to access the BOSS server. The Smart Client application is typically run from a workstation in a local area network (LAN). For instructions for installing and deploying the Smart Client, please refer to the *BOSS 3.0 Installation and Configuration Guide.*

4. LOGGING IN

4.1. BOSS ADMINISTRATOR LOGIN

When a new BOSS system is installed, the default user "**admin**" is created, with password of "**admin1**". The installer or designated BOSS admin can login with this account to create additional users and otherwise configure the system. It is important that the admin password should be changed right away in order to protect system security. Also remember that it is very important that this password is kept confidential in order to protect the security of your BOSS system.

Please refer to the *BOSS 3.0 Installation and Configuration Guide* from more information about BOSS 3.0 installation.

4.2. USER LOGINS

The BOSS application will require the user to login with user name and password only if there is no BOSS user matching the current Active Directory user login. In other words, if the user name currently logged into Windows matches a user name 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 into Windows that is not an exact match to that user name in the BOSS system, or is not logged into the same Windows Domain, a login screen will appear. The user will then have to enter a correct BOSS user name and password in order to enter the application.

Note: In order for BOSS to automatically login the user, the Active Directory user must be in the same Windows domain as the BOSS server.

4.3. LOGIN DIALOG

- Enter your username in the login field
- Enter correct password in the Password field. (Note: passwords are case sensitive).
- Click OK to complete the login process.

4.3.1. STORING USERNAME AND PASSWORD

Select the *Remember my password* option to save the password 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 into the same computer and will not apply to the same user logging into a different computer. Select the Remember my password option to save the password to the computer local 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 current computer.

The Remember my password 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 the "Remember my password" option is not used unless the Windows workstation can be secured against unauthorized access.

4.3.2. BOSS CLIENT CONNECTION SETTINGS

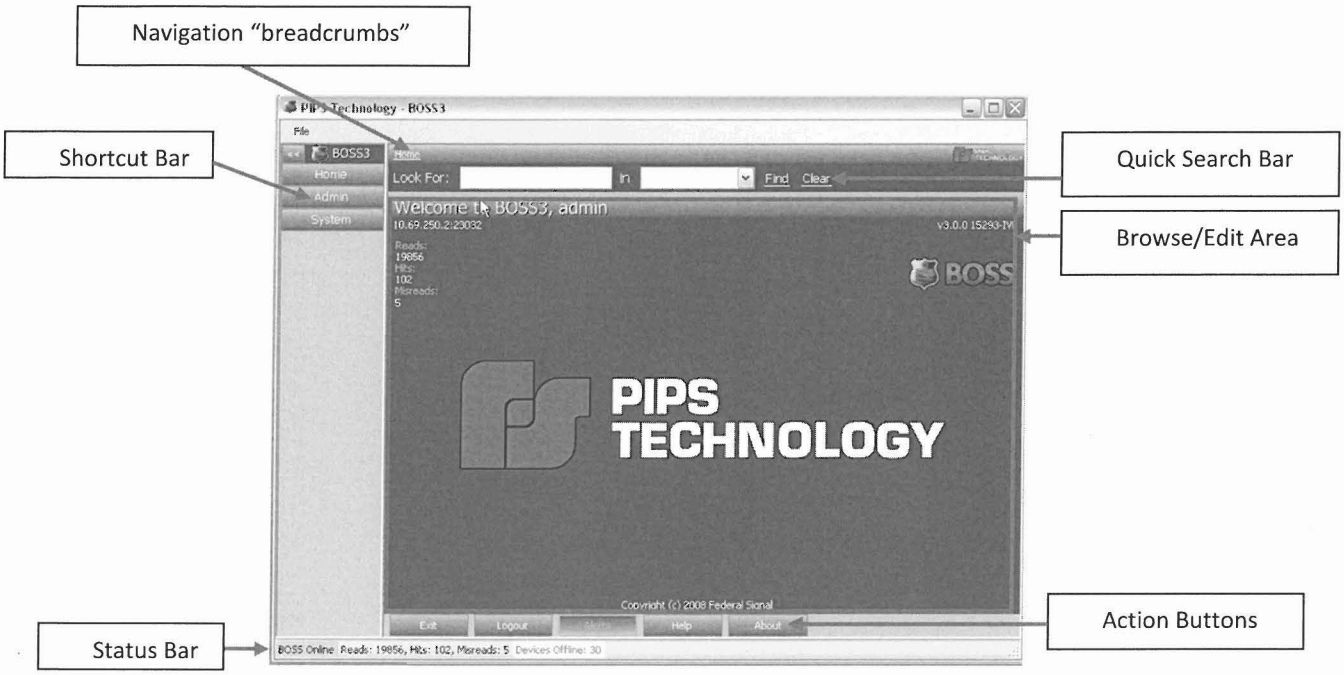
Click the *BOSS Server* button on the Login screen to view/change the client connection settings (Server/Port).

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.

5. APPLICATION LAYOUT

5.1. COMPONENTS OF THE BOSS APPLICATION SCREEN



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 panel that on the left of the screen. The shortcut bar contains icon buttons for the various operations available. The Shortcut icons are divided into 3 categories: Home, Admin, and System. Each time the application is first 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 shortcut bar can be collapsed entirely (in order 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 This is the widest portion of the application window and where data is displayed for viewing or editing. The actual data is displayed here depends upon the shortcut icon that is selected from the shortcut bar.

Quick Search Bar This resides directly above the Browse/Edit Area and allows for simple, immediate queries of BOSS data. Using the quick search simply involves typing in text for which to query, selecting the type of data to search in the type dropdown. (Advanced queries are also available in various areas of the application.)

Action Buttons – These are the buttons directly below the browse/edit area. These buttons will differ per shortcut icon that is selected. The actual buttons that appear will vary depending upon the logged in user's privileges.

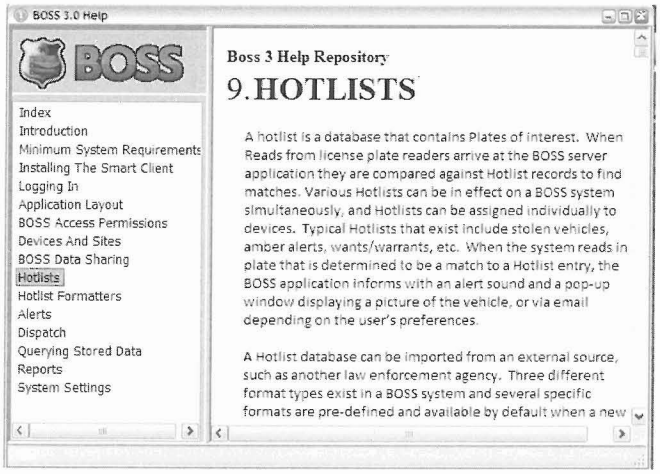
Status Bar – This is the area along the very bottom of the application window that displays state information and statistics. The following information is shown:

- **BOSS system state** (Online or Offline): An Online status indicates that the client is currently communicating with the BOSS server application and the server is running. An "Online" status is highlighted with a green background; a status of "Offline" is highlighted with a red background.
- **Reads:** The total number of Reads currently contained in the BOSS system
- **Hits:** The total number of Hits records currently contained in the BOSS system
- **MisReads:** The total number of Misreads currently contained in the BOSS system
- **Devices Offline:** The number of camera devices that are currently marked as offline.

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. Additional options may be available in this menu in future versions of the software.

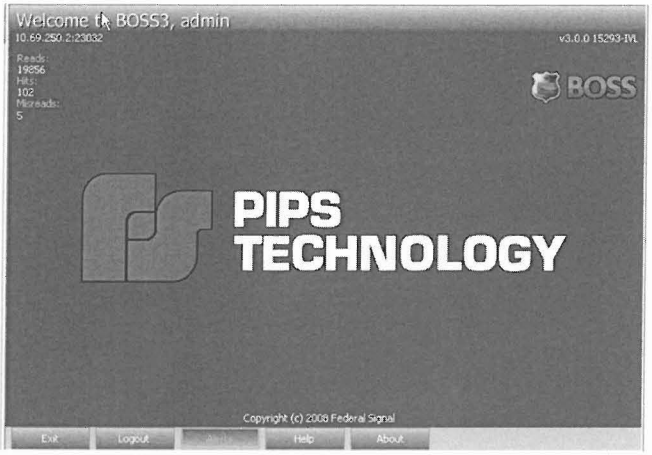
5.2. ONLINE HELP

BOSS provides online help documentation accessible from the client application. To access help, press the **F1** button. A help documentation browser will be presented.



5.3. THE BOSS HOME SCREEN

The BOSS home screen is displayed upon login. The top banner displays the login name of the current BOSS user, the BOSS server address and current system statistics. Statistics may take a few moments to update after login.



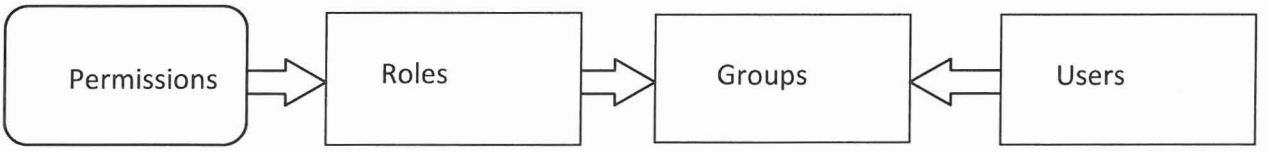
Exit	Exit the BOSS application.
Logout	Log out from the current session to the login screen.
Alerts	Toggle dispatch alerts on (orange highlight) and off. This button will not be displayed if the user is not authorized to access the dispatch screen, or if the user has not chosen to receive dispatch alerts in Preferences.
Help	Activates the online help system.
About	Displays application information.

5.4. 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 icon. When the application is minimized, real-time alerts will still be displayed.

6. BOSS ACCESS PERMISSIONS - USERS/GROUPS/ROLES

Access permissions to various functions (such as reports or dispatch alerts) in BOSS are administered through users, groups and roles. Each individual that will use the BOSS software must log in to BOSS 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 that 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

6.1. PERMISSION LEVELS

The following table lists the permission 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 not permitted.
Full Access	Complete permissions to the function. View/Add/Change/Delete permitted.

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

6.2. PERMISSIONS

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

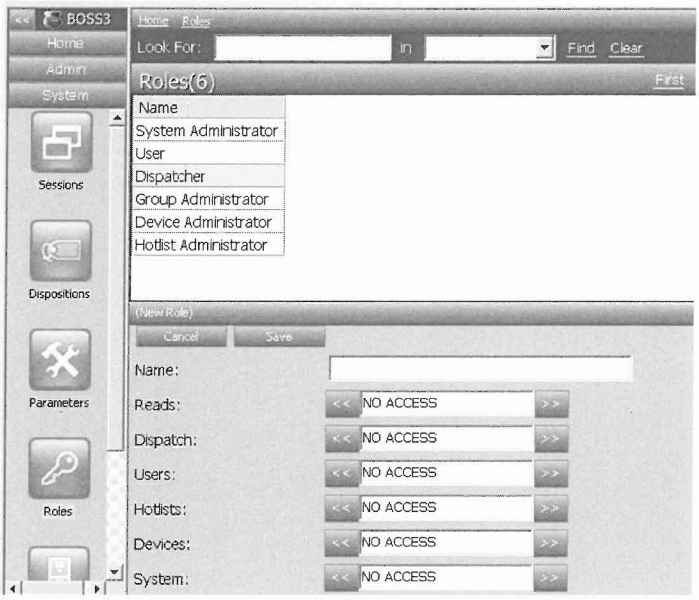
Permission	Explanation
Reads	Plate read information
Dispatch	Real-time monitoring and hit alerts
Users	Groups and user accounts
Hotlists	Hotlists (plates of interest)
Devices	Sites and LPR camera devices
System	System configuration options

6.3. ROLES

Roles are access permission profiles. BOSS3 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. The following tables show the permission levels and components used in defining roles.

The screen for editing Roles in BOSS looks as follows:



The following roles are installed by default in a BOSS3 system:

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

6.3.1. Creating a New Role

- Select the *System* category on the shortcut bar.
- Click the *Roles* shortcut. A listing of all existing Roles will display in the browse/edit area.
- Click the *New* button. The new role entry screen will appear.
- Enter a *Name* for role. (minimum 3 characters)
- Select a permission level for each of listed components by using the << and >> buttons to scroll through the options. Components are set to No Access by default. Click the << button to the left to increase the security level. Click the *Save* button to complete creation of the new Role.

6.3.2. Deleting a Role

- Select the *System* category on the shortcut bar.
- Click the *Roles* shortcut. (A listing of all existing Roles will display in the browse/edit area).
- Click the desired Role in the list. An entry screen appears in the bottom of the browse/edit area for the selected Role.
- Click the *Delete* button. A dialog will appear requiring confirmation for the delete.
- Click the Yes button to complete the delete operation. The Role entry screen will close and the deleted Role will no longer appear in the Roles list.

6.4. 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.

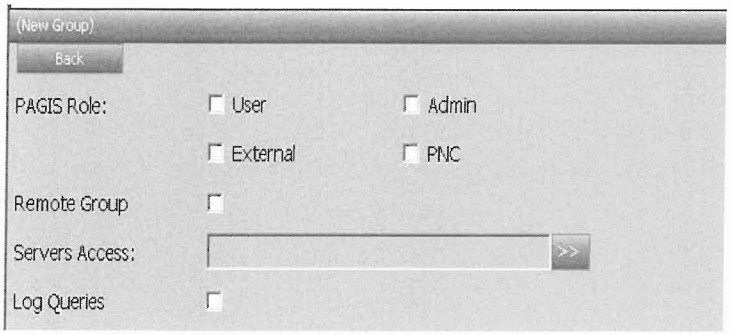
Using Groups is optional. A default group named "BOSS" automatically exists within a BOSS system, and user accounts will by default belong to the "BOSS" group. The BOSS group cannot be deleted.

The screen for editing Groups in BOSS looks as follows:

6.4.1. CREATING A NEW GROUP

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the *Groups* button at the bottom of the Browse/Edit area. . (A listing of all existing Users will display in the browse/edit area).
- Click the *New* button.
- Enter a *Group Name.* (Group name must be at least 3 characters long.)
- Enter a *Group Description*. (optional).
- Select a parent Group. Each group is required to have a parent group. Only the default BOSS group has no parent. Click the >> button next to *Belongs To* in order to access a list of all existing groups. Click the desired group and click the << button to select. The name of the selected group will display in the *Belongs To* field.

- Assign a *Role* to the group. Click the >> button to select from existing roles. Click the desired role in the list and click the << button to make the selection. The name of the selected role will appear in the field.
- Click the *Advanced...* button to access additional, optional settings for the new group.



PAGIS Roles (User/Admin/External/PNC) –
Check desired PAGIS roles to grant the new group the associated permissions in PAGIS. Please refer to PAGIS documentation for more information.

Remote Group Select this option to designate the group as remote. Logins from remote sites have to be in a group that is flagged as remote.

When a BOSS administrator wants to give access to another BOSS system for remote queries ("data sharing"), 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 of that login.

Server Access This option allows for defining which, if any, remote systems will be accessible by this group. Click the >> button to access a list of remote systems. (See section 6.4.2.)

Note: If no remote sites have been defined, no options are available for this field. Click each desired site and click the << button to complete the selection process. If one remote system is selected the name of that system will appear in the Server Access field. If more than one system was selected, "(MULTIPLE)" will appear in the field.

Log Queries This option, when selected, will result in all queries made by all users of the group to be logged. 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.*

- When advanced User settings are configured as desired, click the *Back* button to return to the main New Group Entry screen.
- Click the *Save* button to complete creating the new Group.

6.4.2. Parent Groups

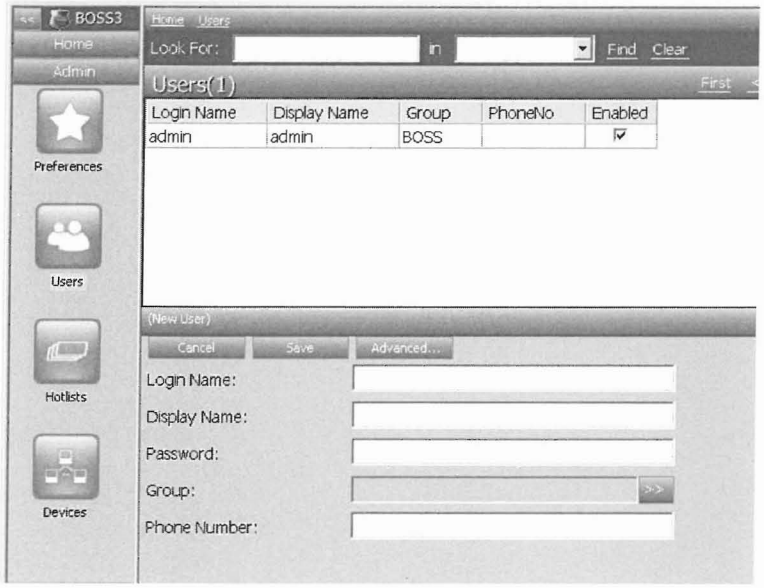
When creating a new group, selecting a Parent Group is required (the *Belongs To* field). BOSS uses a parent-child group structure as an organizational mechanism. This allows the BOSS administrator to arrange groups into collections based on location, job role, or any other applicable criteria. When selecting groups throughout the application, a Parent Group can be selected in order to easily select the entire collection of groups under that parent. This can be especially helpful in large installations that utilize a large number of groups.

6.4.3. Deleting a Group

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut.
- Click the Groups button at the bottom of the Browse/Edit area. (A listing of all existing Users will display in the browse/edit area).
- Click to select the desired group from the listing.
- Click the *Delete* button.
- Click *OK* to the confirmation dialog to complete the operation.

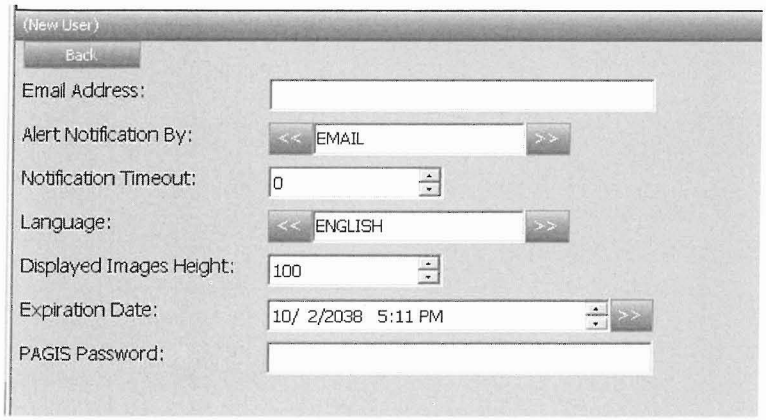
Warning: *Any users currently assigned to the deleted group will be assigned to the default "BOSS" group. It is recommended to empty the group (by assigning all its users to different groups) prior to deleting.*

6.5. USERS



6.5.1. CREATING A NEW USER

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the *New* button at the bottom of the Browse/Edit area. The new user entry screen appears.
- Enter a *Login Name* for the new user. This is the name the user will use when logging into the BOSS application. The Login name must be at least 3 characters.
- Enter a *Display Name* for the new user. (optional)
- Enter a *Password* for the new user. Password must be at least 3 characters.
- Select a *Group* for the user. Click the >> button to access a list of all groups. Click on the desired group and click the << button to complete the selection.
- Enter a contact *Phone Number* for the user (optional). This field is simply for informational purposes, in a scenario where the BOSS administrator may need to contact the user.
- Click the *Advanced...* button to access additional, optional settings for the new user.



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 or a semicolon.

Alert Notification By

A user can be configured to receive BOSS alerts through the application (Dispatch), Email, or both mediums. Click the << or >> buttons to cycle through the options, stopping at the desired selection.

Notification Timeout

The cutoff time from the time of 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 12:00pm, notification is not sent to the user after 12:20pm. 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 size in pixels of the images (Reads and Hits) that will display for the user in the Dispatch and Reads sections.

Expiration Date Date for the User account to automatically be disabled. Simply leave this field at its default value (30 years from current date) if no expiration is desired.

PAGIS Password The PAGIS password for the user. Note: The user must be in a Group that has been granted PAGIS permissions in order for the user to user to login to PAGIS.

- When advanced User settings are configured as desired, click the *Back* button to return to the main New User Entry screen.
- Click the *Save* button to complete creating the new User.

6.5.2. Deleting a User

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut. (A listing of all existing Users will display in the browse/edit area).
- Click the desired user in the listing.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation.

6.5.3. Importing Users From Active Directory

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

- Select the *Admin* category on the shortcut bar.
- Click the *Users* shortcut.
- Click on the *Import* button.

- Select the BOSS Group that will receive the imported logins. Click on the ">>" button to display available groups and "<<" to commit the selection.
- Enter the default password for the imported logins in the *Password* field.
- Browse for the desired users – OR – type in the desired login name (full or partial) in the *Find* field and press *Filter* button.
- Click on the box in front of the desired login names to check mark logins to be imported to BOSS.
- Click on *Save* to import the logins from Active Directory.

Access permissions Example

The previous sections have discussed how BOSS user security is designed, utilizing roles, groups and user accounts. Now that creating each of these has been covered, let's look at an actual working example:

A BOSS administrator creates a role and names the role "Temporary Workers" defining 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 admin selects the new role he just created "Temporary Workers". This assigns the permissions defined above to the new group.

Next, the admin creates a user account, "Jsmith" for a temporary worker. While creating the new user, he is required to select a group for the user. He assigns the user to the "Temps" group he 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 you can see, this security design allows reusability of security roles as a BOSS administrator can define a set of permissions in a role, and that role can be assigned to multiple groups.

7. DEVICES AND SITES

7.1. DEVICES

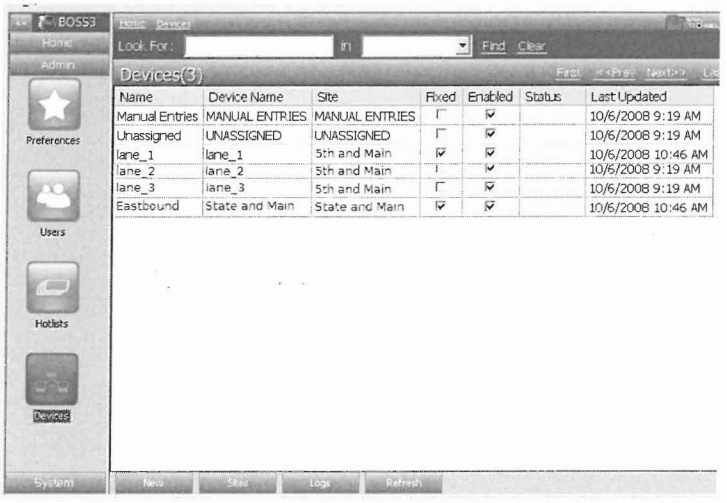
A BOSS device is any source that can input Reads into the system. Normally, a device is a camera – either fixed or mobile (mounted in a vehicle). Another source for Reads is manual entry, in which a BOSS user types the information for a Read into the BOSS application.

7.2. DEFAULT DEVICES

A new BOSS3 site automatically contains two default devices:

- MANUAL ENTRIES
- UNASSIGNED

A BOSS administrator create additional devices applicable to his/her organization.



7.2.1. DEFINING A DEVICE

Note: Devices will be defined automatically when a PIPS device connects to BOSS the first time. Normally, there is no need to define devices in advance.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of existing devices will appear in the browse/edit area.
- Click the *New* button.
- Enter a *Name* for the new device. (Name must be at least 3 characters long.) Note that the name cannot be changed once the device has been created.
- Enter a *Description* for the new device. (Description must be at least 3 characters long.)
- Select mobile or fixed in the *Type* field. By default, Fixed is selected. To change the current selection, click the left or right arrow.
- Select a *Site*. Click the >> 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 << button. Note: There are two default sites created automatically when a new BOSS system is installed. Additional sites can be created by an authorized BOSS user. See the following section for information regarding sites.
- Select *Owners*. Owners mean groups that can access this device. For PAGIS units, it means that user logins are sent only to devices where the group is an owner of the device. Click the right arrow 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 left pointing arrow.
- If one group is selected, the group name is displayed in the Owners field. If more than one group is selected, "(MULTIPLE)" is displayed in the field.
- Select *Latitude* and *Longitude* values for the geographical location of 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 PAGIS units) will automatically send the latitude and longitude of the device to BOSS.
- 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. If the Retain Reads setting must be longer or equal than the Retain images setting

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

SpikeStore The PIPS P372 and P382 allow captured images to be stored in a on-board flash memory 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.

- When Advanced Options have been set as desired, click *Back* to return to the New Device screen.
- Click the *Save* button to complete creation of the new device. The new device will now appear in the devices list above.

7.2.2. Editing a Device

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of all devices appears in the Browse/Edit area.
- Click the desired device to select. Details for the selected device appear in the Browse/Edit area.
- Click the *Edit* button.
- The Device edit screen appears in the bottom of the screen.
- Modify fields as desired and click the *Save* button.

7.2.3. Enabling and Disabling a device

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. A listing of all devices appears in the Browse/Edit area.
- Click the desired device to select. Details for the selected device appear in the Browse/Edit area.
- Click the *Edit* button.
- The Device edit screen appears in the bottom of the screen.
- Click the *Disable/Enable* button. The change will take effect the next time BOSS is restarted.

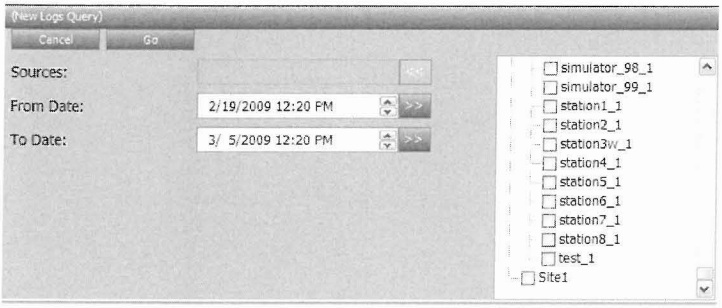
7.2.4. Deleting a Device

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.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. (A listing of all existing Devices will display in the browse/edit area).
- Click the desired device in the listing.
- Click the *Edit* button.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation.

7.2.5. VIEWING DEVICE LOGS

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut.
- Click the *Logs* button at the bottom of the screen.



Sources Select the sources from which to view log entries.

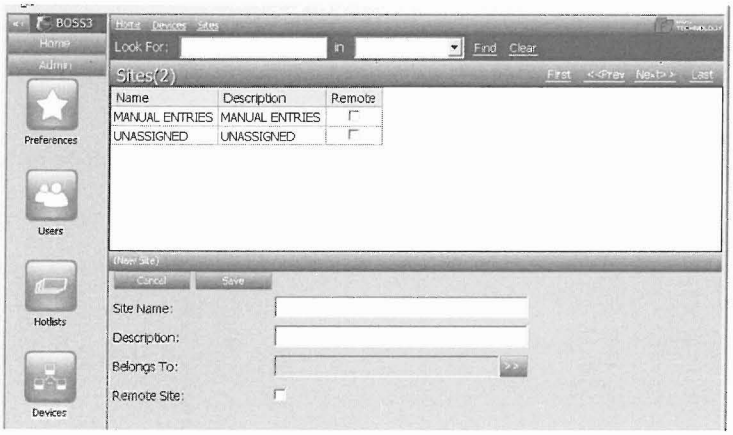
From Date Select the start date for the display.

To Date Select the end date for the display.

- Click *Go* to view the log entries.

7.3. SITES

A site is an optional mechanism for organizing devices. This allows a BOSS admin 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 significant in large installations where there are many devices. Each device created must be assigned to a site.



7.3.1. Default Sites

A new BOSS3 site automatically contains two default sites:

- MANUAL ENTRIES
- UNASSIGNED

Normally, a BOSS administrator will want to create additional sites applicable to her organization.

7.3.2. Creating a Site

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut.
- Click the *Sites* button at the bottom of the screen. A listing of existing sites will appear in the browse/edit area.
- Click the *New* button at the bottom of the screen.
- Enter a *N*ame for the new site. (Name must be at least 3 characters long.) Note that the name cannot be changed once the site is created.
- Enter a *Description* for the site. (Description must be at least 3 characters long.)
- Select the parent site for the site. BOSS allows organizing sites into tree-like hierarchies. Click the right-pointing arrow next to the *Belongs To* field and select one site from the list. Click the << button to complete the selection. The site name will appear in the *Belongs To* field.
- Check the *Remote* option to designate as a remote site. (Remote sites are explained in the next section.)

7.3.3. 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, devices assigned to it should be moved to another site.

- Select the *Admin* category on the shortcut bar.
- Click the *Devices* shortcut. (A listing of all existing Devices will display in the browse/edit area).
- Click the *Sites* button at the bottom of the screen. A listing of existing sites will appear in the browse/edit area.
- Click the desired site in the listing.
- Click the *Edit* button.
- Click the *Delete* button at the bottom of the Browse/Edit area.
- Click *Yes* to confirm the operation

8. 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 retained on the local BOSS server.

In order to configure BOSS for data sharing, the following configuration needs to be done:

8.1. CONFIGURING BOSS TO ALLOW REMOTE BOSS QUERIES

- Create A BOSS user for remote access. This user account is a "proxy" that all requests from client BOSS server will use. 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 the Groups section of this document for information about flagging a group as remote.)
- Give the username and password for this "proxy" user to the BOSS administrator at the remote BOSS system.

Tip: *It is best to create a dedicated user account for remote sites, one that will not be used for an actual user to login and access the application.*

8.2. CONFIGURING A BOSS TO ACCESS A REMOTE BOSS SERVER

- Obtain username and password from BOSS administrator at the remote site.
- Create a site for the Remote BOSS server and select the Remote option. The remote site IP address and BOSS service port (23032 by default), and the login name and password of the remote user login must be entered.
- 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 5.5.1).
- The Remote BOSS server can be queried by selecting the desired servers in the "Reads Query" screen.

Note: BOSS3 does not support data sharing with BOSS 2.5.x servers, only between BOSS 3.0 servers.

9. HOTLISTS

A hotlist is a database that contains 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 in effect on a BOSS system simultaneously, and Hotlists can be assigned individually to devices. Typical Hotlists that exist include stolen vehicles, amber alerts, wants/warrants, etc. When the system reads in a plate that is determined to be a match to a Hotlist entry, the BOSS application informs with an alert sound and a pop-up window displaying a picture of the vehicle, or via email depending on the user's preferences.

A Hotlist database can be imported from an external source, such as another law enforcement agency. Three different format types exist in a BOSS system and several specific formats are pre-defined and available by default when a new BOSS system is loaded.

9.1. CREATING A NEW HOTLIST

There are 3 general areas to complete when creating a new hotlist:

- **Configure Basic Settings**
- **Define a Source**
  - **Provide Credentials for Source (when necessary)**
- **Define Advanced Settings (optional)**

The following sections describe the detailed steps for creating a new hotlist.

9.1.1. CONFIGURING BASIC HOTLIST SETTINGS

- Select the *Admin* Category on the Shortcut bar.
- Click the *Hotlists* button. Currently existing Hotlists appear in the browse/edit area.
- Click the *New* Button at the bottom of the browse/edit area. The New Hotlist entry form appears.

- Enter a *Name* for the Hotlist. (You cannot use a Hotlist name that already exists. The name must be at least 3 characters and be alphanumeric.) Note: Hotlist names of hotlists that are shared between BOSS servers cannot contain spaces.
- Enter a *Description* for the Hotlist (optional).
- Select a *Priority* for the Hotlist. (When there are multiple hits/alerts, the priority determines which alert will occur first. Lower number means greater priority.)
- Select a *Sound* for alerts resulting from this Hotlist. (optional) Click the Load button to select a Microsoft Wave Sound File Format[1] (*.wav) file. To test the selected sound, click the *Play* button. Optionally, one of the three default sounds may be selected (Low, Medium or High Alert).
- 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 in PAGIS.
- Click *Text* button to select a color for the text.
- Click the *Bgnd* (Backround) button to select a color for the background. Note: Currently selected text and background color is displayed in the sample box, showing ABC123.
- Select devices for Deployment. Click the >> button to the right of the Deployment field to select devices to which to apply this Hotlist. The list appears. Click the checkbox next to a device in order to select it. When desired devices are checked, click the << button to make the selection. One or more devices can be selected. If one device is selected, the Deployment field will show the name of that device. If multiple devices are selected, "(MULTIPLE)" will display in the deployment field.

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

[1] http://en.wikipedia.org/wiki/WAV

- Select groups for *Notification*. Click the >> 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 << button to make the selection.

In order to receive alerts for hits on the hotlist, the user must be in the Notification list of the hotlist. Also see more information about Covert hotlists later on in this section.

9.1.2. Defining a Hotlist Data Source

- In the Hotlist edit screen, click the *Source* button:

Type (Network or Local) -A local source means that the file is physically on the BOSS server Windows file system. A network source means that the hotlist source resides outside of 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).

Source For a local source, click the >> button to the right of the location field. A file dialog will display in which you can navigate to a path and select a file. For a network source, Click the >> button to select one of the default Locations (if applicable) OR type in the location for the source.

- **HTTP** - The location format must be "http://server:port/path". There are a few predefined HTTP locations (CA DOJ) included in BOSS that can be accessed with the >> button.
- **FTP** - The location format must be "ftp://server:port/path".
- **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 means the way a hotlist database file is parsed out into discrete fields. Click the >> button next to the Formatter field. A list of available formatters appears. Click on the desired formatter and click the << 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 *Creating Formatters* section for more instructions on creating a new formatter. If a new Formatter is necessary, you can simply select any formatter at this point so that you are able to save your new Hotlist. After the new formatter is created, edit the hotlist, selecting the new formatter.

Starting Daily Hours:minutes between 00:00 and 24:00 can be selected to specify the time of day that the Hotlist should begin updating every day.

Repeat Every This setting allows you to specify the time interval in hours (1-24) between updates in hours

-OR-

Poll for Changes You will notice that when you select this option the Starting Daily and Repeat Every are disabled. When the *Poll for changes* option is selected, BOSS will check for updates to the hotlist approximately every 30 seconds.

> 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 may incur significant network traffic. Use with caution.

9.1.3. ZIP Compressed Hotlist Files

BOSS will automatically recognize and extract a hotlist data file contained in a ZIP archive file[2], such as Windows Explorer compressed (zipped) folder. There can be only one file in the ZIP archive.

[2] http://en.wikipedia.org/wiki/ZIP_(file_format)

9.1.4. 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 credential settings, in the Hotlist Source screen, click the *Credentials* button.

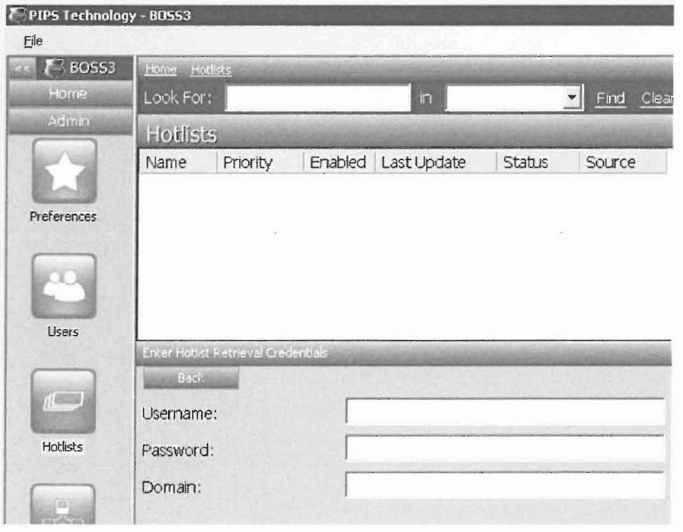
The credentials depend on the source type as follows:

Network -HTTP If the HTTP (website) source defined requires login information, it should be entered in the credential section. This will include username and password. Domain field may be necessary as well. Consult the administrator of the HTTP source for required login information.

Network- FTP Unless the FTP server allows anonymous connections, username and password must be entered for the FTP source.

Network -Remote BOSS system
A login name and password valid on the remote BOSS system must be entered. (as in remote sites configuration). Consult the administrator of the remote BOSS system for username/password.

- Click the *Credentials* button. The credential input screen appears.
- Enter Username, Password and Domain information applicable to the source you are specifying.
- Click the *Back* button to return to the Source entry form.
- Click the *Back* button again to return to the New Hotlist entry screen.



9.1.5. 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 on the New Hotlist entry screen.

Covert A covert hotlist is one that contains sensitive information that should be available to only 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 PAGIS vehicles, unless the logged in user is a PAGIS 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 reversely 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.

An example of a whitelist use might be a secure parking lot in which 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 for a device simultaneously.

Wildcard This option, when selected, allows wildcard characters in LPN entries in the Hotlist. **Note:** This feature is not yet functional, but will be operational in a future version 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 after the first 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 active again. This reduces network traffic and makes hotlist updates more efficient. The Delete Inactive value determines how long inactive entries are kept in the BOSS hotlist database.

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 or a semicolon.

Remote Alerts To (This setting is only applicable if there are remote sites defined.) Select 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.

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. (Default expires value is 30 years from current date.)

9.2. ENABLING AND DISABLING A HOTLIST

- Select the *Admin* category on the shortcut bar.
- Click the *Hotlists* shortcut. A listing of all hotlists appears in the Browse/Edit area.
- Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
- Click the *Edit* button.
- The Hotlist edit screen appears in the bottom of the screen.
- Click the *Disable* or *Enable* button

9.3. VIEWING AND EDITING HOTLIST ENTRIES

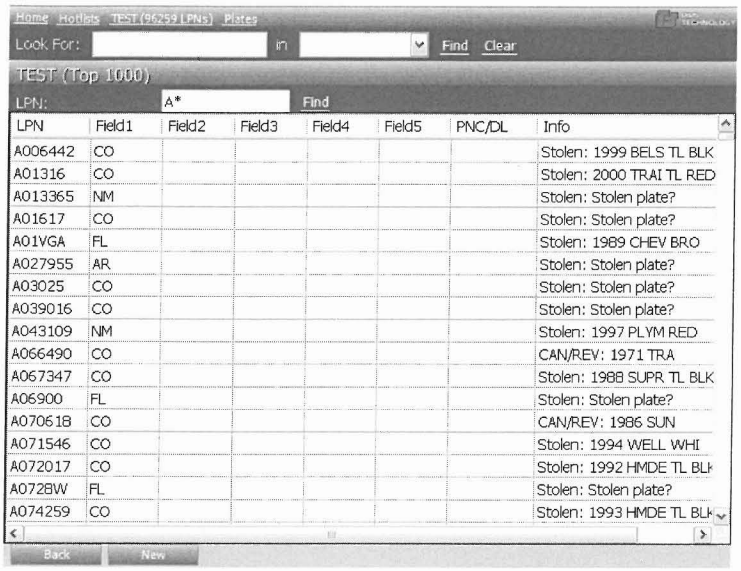
BOSS allows viewing, adding, editing and deleting hotlist entries.

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

9.3.1. QUERYING HOTLIST ENTRIES

- Select the *Admin* category on the shortcut bar.
- Click the *Hotlists* shortcut. A listing of all hotlists appears in the Browse/Edit area.
- Click the desired hotlist to select. Details for the selected hotlist appear in the Browse/Edit area.
- Click the *Plates* button.

- The *Hotlist Plates* screen will be displayed.



- Type in the plate text to find (or partial plate text) in the LPN field.
- Click on the *Find* link.

License plates that match the criteria will be displayed. Note that only the first 1000 matching license plates will be shown.

9.3.2. EDITING A HOTLIST ENTRY

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Edit the field values as desired.
- Click *Save* to save changes.

9.3.3. Adding a Hotlist Entry Manually

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

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

9.3.4. Deleting a Hotlist Entry

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Click the *Delete* button.
- Click *Yes* to confirm the deletion.

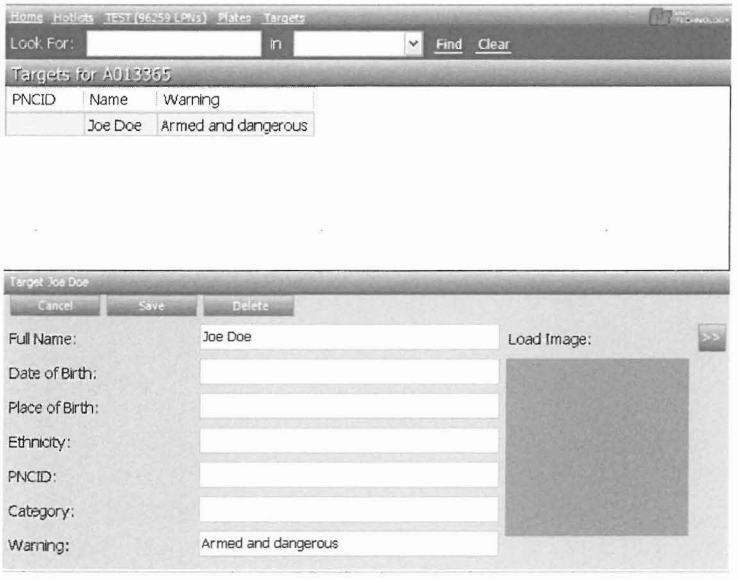
9.4. Targets

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

- Retrieve hotlist plates as instructed in section 9.3.1.
- Click on the row showing the desired plate.
- The plate edit form will be displayed at the bottom of the screen.
- Click the *Targets* button.

9.4.1. CREATING A NEW TARGET

- Activate the Targets screen as described in section 8.4.
- Click the *New* button.
- The Target Edit form will be displayed.
- Fill in the fields with appropriate values.
- Click the *Save* button.



The fields supported are:

Full Name	The first and last name of the target.
Date of Birth	The date of birth of the target.
Ethnicity	The ethnicity (race or national origin) of the target.
PNCID	The UK Police National Computer ID of the target. **This field is linked to the PNCID field in the hotlist information in the PAGIS application.**
Category	The category of the target (such as Felon, Suspect etc.)
Warning	The warning information to display to the officer.

A "mugshot" image of the target can also be associated with the target record. Upload an image by clicking on the ">>" button and browsing to the image file (.JPG, .GIF or .BMP).

9.4.2. Deleting a Target

- Activate the Targets screen as described in section 8.4.
- Click the row containing the target to be deleted.
- The Target Edit form will be displayed.
- Click the *Delete* button.
- Click *Yes* to confirm deletion.

10. HOTLIST FORMATTERS

Hotlist Formatters define the structure of source data that is imported into BOSS Hotlists. BOSS3 includes several default formatters when the software is installed. There are three types of formatters:

- CSV- 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 all the same length. No separator characters are used to determine where a 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 – NCIC (United States National Crime Information Center) database is a computerized index of criminal justice information (i.e.- criminal record history information, fugitives, stolen properties, missing persons), that is available to law enforcement agencies and is operational 24 hours a day, 365 days a year. Several NCIC import sources/formats exist within BOSS.

10.1. CREATING A NEW FORMATTER FOR HOTLISTS

BOSS 3 contains several default formatters for Hotlists. Normally, when creating a new Hotlist, you will find that one of these default formatters is what you need. However, BOSS does allow 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. PIPS provides BOSS training that details creating and modifying hotlist formatters in practice. For more information, please contact PIPS Technical Support.

11. ALERTS

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

A real-time alert for a hit will pop up on the screen when the BOSS application is running regardless of which screen the user has active at the time. If there's a sound associated with the hit, it 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" button on the BOSS home screen.

The settings for real-time alerts can be modified through the Dispatch screen.

12. DISPATCH

The purpose of the Dispatch screen is to be a tool for first responder dispatchers for viewing hits, and for monitoring and correcting license plate reads that come into the BOSS system. The information on the Dispatch screen is near "real-time". Plate reads and hits are shown immediately as they arrive into the BOSS application from license plate reader cameras.

12.1. ACCESSING DISPATCH

- Click on the *Home* category on the shortcut bar.
- Click the *Dispatch* shortcut icon.

12.1.1. DISPATCH SETTINGS

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

- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Dispatch* shortcut.
- Click the *Settings* button in the bottom of the browse/edit area.

Monitored Devices Camera sources can be selected or deselected to control which ones will supply Reads (and resulting Hits) to the dispatch screen. This allows individual dispatchers to focus on particular camera inputs.

In large BOSS deployments it may not be practical for a single dispatcher to monitor all sources simultaneously. This setting allows the dispatcher to select/deselect any combination of sources (one, multiple or all) for monitoring. 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.

Show Reads *	When selected, all Reads (from devices selected in Monitored Devices field) display in the dispatch screen. By default, this option is not selected.
Show Hits*	When selected, Hits will display in the top section of the dispatch screen as they occur. When the option is deselected, rows are not displayed in the Hits section. However, popup alerts wills still display for Hits, regardless of this setting.
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.
Save As Default	When checked, the 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 Notifications in section 8.1.1).

**If the Alert Toggle button(see 4.1) is set to the off position, Hits and Reads will not display in the Dispatch screen.*

- Change Dispatch settings as desired and click the *Save* button to put the changes into effect.

The dispatch screen is divided into two sections, with Hits shown in the top section and Reads shown in the bottom

12.1.2. DISPATCH HITS

The Dispatch screen displays rows for Hits. (The Show Hits option must be selected in dispatch settings in order for Hits to display.) Each new Hit produces a new row.

The columns displayed are:

Device	The device that originated the read.
LPN	The license plate value (characters) read in by a camera or manually entered by a user.
Misread	Check indicates that this record was marked as a misread.
TimeStamp	Date and time that the read occurred.
Syntax	The state or region of the plate, if available.
Misread	Check indicates that the hit resulted from a read that was marked as a misread.
Manual	Check indicates that the hit resulted from a manual entry (put in by a BOSS user.)
Patch	Small image of the license plate.
Overview	Color overview picture of the vehicle.

Hotlist	The name of the hotlist from which the hit occurred
Field1 ... Field*	Fields originating from the hotlist. The content and meaning of these fields vary depending on the composition of the hotlist.
PNC/DL	Primarily used for United Kingdom deployments for storing the UK Police National Computer reference number. It is commonly used for Driver's license number in US installations.
Info	Commonly contains free form additional text associated with the hit record. In situations where the hotlist source contains additional fields, the additional information is all stored in this field.
Priority	Priority assigned to the Hotlist. (Lower number means greater priority)
Annotation	Notes associated with the Read. Annotations are entered by BOSS users.

** The content in Custom fields (Field1-Field5) will differ per hotlist.*

12.1.3. DISPATCH READS

The bottom section of the dispatch screen displays rows for Reads. (The Show Reads option must be selected in dispatch settings in order for Reads to display.) Each Read produces a new row.

The columns displayed are:

Device	The device from which the read originated.
LPN	The license plate value (characters) read in by a camera or manually entered by a user
Timestamp	The date and time that the read occurred.
Patch	Small image of the license plate.
Overview	Color overview image of the vehicle.
Misread	Check indicates that this record was marked as a misread.
Hit	Check indicates this Read resulted in a Hit.
Manual	Check indicates this Read was input manually by a BOSS user (rather than originating from a camera device).
Annotation	Notes associated with the Read. Annotations are entered by BOSS users.

12.2. MANUAL ENTRIES

There may be times that a camera does not read a plate or for some other reason, a Read needs to be entered manually by a dispatcher. Manual Read entries can be added by an authorized user via the Dispatch section.

12.2.1. ADDING A MANUAL ENTRY

- From the Dispatch Screen, click the *Add* button. The Manual entry screen appears in the lower half of the browse/edit area.
- Enter the plate characters in the *LPN* field.
- Select one or more Dispositions for the manual Read. Click the >> button to the right of the field. Select the desired disposition(s) and click the << button to complete the selection.
- Click the *Save* button to finish saving the manual entry. The manual entry may not appear in the Dispatch screen, if "Manual Entries" device is not being monitored.

12.2.2. CORRECTING READS

There may be situations in which it is necessary for a dispatcher to manually adjust a Read. An example scenario would be a Read that missed a character due to an obstruction between the camera and the plate. A Read can be edited from the Dispatch screen of the BOSS application.

- 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.
- Enter the plate characters in the *LPN* field.
- Select one or more Dispositions for the manual Read. Click the >> button to the right of the field. Select the desired disposition(s) and click the << button to complete the selection.
- Click the *Save* button to finish saving the corrected entry.

13. QUERYING STORED DATA

The BOSS3 application allows for accessing data via a Quick Search function (for simple searches), the Reads section (for advanced queries of all Reads records) and the Reports section (for various data).
This section will cover these areas of the application that allow searching or querying BOSS data.

13.1. WILDCARDS

Wildcards are special characters that represent any/all potential character and can be used in searches and queries. Wildcards can make finding a match easier, as they can define a portion of the match criteria to be ambiguous. Wildcards used in BOSS3 are the percent sign (%), the asterisk (*) and underscore (_). The percent sign and the asterisk match multiple characters. The underscore matches only a single character. To match multiple letters, use square brackets ([and]).

Wildcard Examples:

Wildcard use	Represents
a%	Any values that start with the letter "a"
a	Any values containing "a"
%	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".

13.2. QUICK SEARCH BAR

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

13.2.1. USING THE QUICK SEARCH BAR

- Type in the value to search in the *Look For:* field. This value can include wildcard values. Multiple values can be entered separated by a comma (e.g. ABC123, XYZ234), however, wildcard values cannot be used when searching for multiple values.
- Select a data type to search in the dropdown list. (Options include: Reads, Hotlists, Users, Groups, Group Users, Devices and Sites.)
- Click the *Find* link to initiate the search.
- Search results are displayed in the browse/edit area of the screen.

13.3. QUERY RESULT NAVIGATION LINKS

The links at the top right of the screen allow for moving through the data results. These controls can be very useful for larger result sets, providing an easier way to move through records without using the scroll button.

First	Moves to the very beginning of the data results (first record).
<<Prev	Moves one record back.
Next>>	Moves one record forward
Last	Moves the very end o the data results (last record).
New Search	Use to clear the results page and return to the query parameters screen.

To clear results from a Quick Find, click the *Clear* link to the right of the search entry fields.

13.4. QUICK SEARCH FIELDS

When performing a query using the quick search feature, keep in mind that the search is performed on one significant field of the data type; the search is run against the significant field, not all fields. For example, when performing a quick search on Users, the text entered is compared against the user name field of all user records, but not against the display names. The following is a list of the fields used in Quick Search:

Data Type	Field used for Search
Reads	LPN
Users	Login Name
Groups	Group Name
Site	Site Name
Hotlists	Hotlist Name
Group Users	Group Name
Devices	Device Name

13.5. ADVANCED READS QUERIES

Reads can be viewed real-time using the Dispatch screen. For information regarding viewing Reads real time, see the Dispatch section of this manual.

13.5.1. QUERYING READS

Reads screen allows for searching and viewing past Read records. Reads can be searched via a quick search where the LPN/Plate number is queried. The Reads section allows for more advanced Read queries, in which data can be filtered based on additional fields such as date ranges, location, radius, near address, etc.

13.5.2. ADVANCED READS QUERY

To perform an advanced reads query:

- Select the *Home* Category on the Shortcut bar (if not already selected.)
- Click the *Reads* shortcut icon.
- Enter desired query criteria. All fields do not have to be filled in. Leaving a query field blank simply defines no filtering on that field.
- Click the *Go* button to run the query.

-OR-

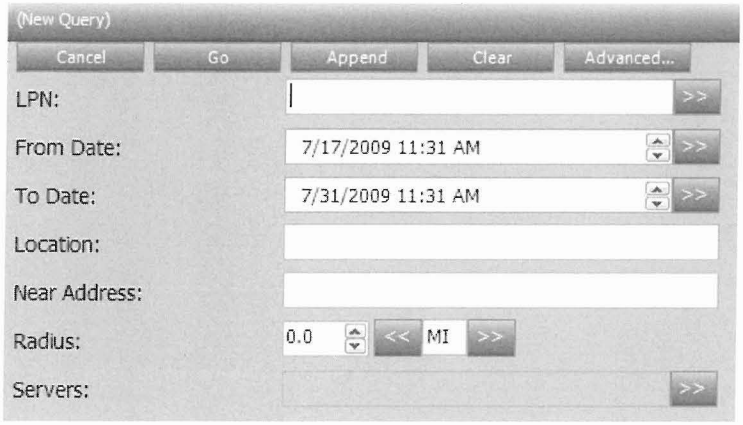
- Click the *Append* button to add the query results to a previous query.

-OR-

- Click the *More* button to retrieve more reads using the same query.

Note: Depending on factors such as the size of the BOSS database, the speed of the server and 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 cursor hourglass indicates that the query is in progress.

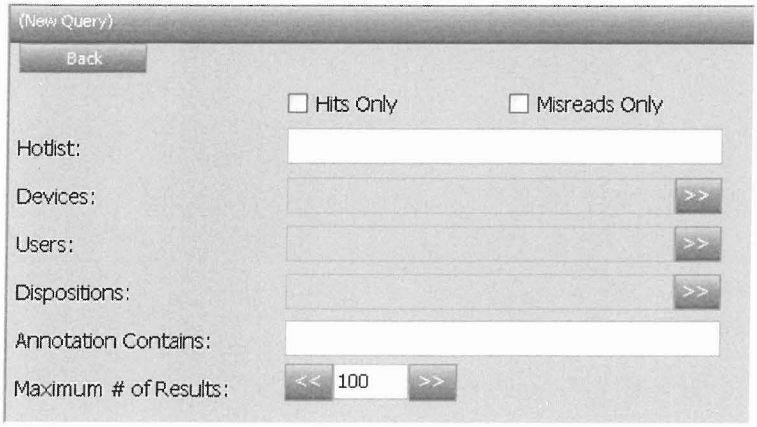
13.5.3. ENTERING ADVANCED READS QUERY CRITERIA



The query criteria fields are:

LPN	Full or partial (using wild cards) license plate number. See section 13.5.4 for additional information.
From Date	The start date and time for reads to be retrieved. Click on the ">>" button to display a calendar for quick selection, or type in the date as desired.
To Date	The end date and time for reads to be retrieved. Click on the ">>" button to display a calendar for quick selection, or type in the date as desired.
Location	The location as entered in the PAGIS application (see *PAGIS 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 are required.
Radius	When 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 on the ">>" button to display a calendar a list of authorized BOSS servers.

There is a set of additional criteria that can be used. Click *Advanced* to display the additional options.



Hits Only When checked only hits are queried.

Misreads Only When checked only reads that are marked as misreads are queried.

Devices A query can be narrowed down to reads originating from particular devices. Click on the ">>" button to display a list of devices, and select the desired devices.

Users A query can be narrowed down to reads originated by particular users. Click on the ">>" button to display a list of users and select the desired users, or type in the user's login name.

Dispositions A query can be narrowed down to reads with particular dispositions. Click on the ">>" button to display a list of dispositions and select the desired dispositions.

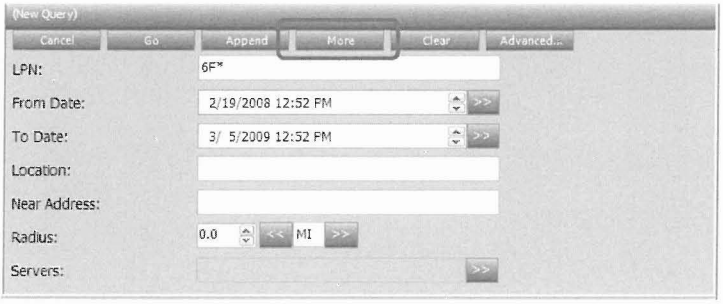
Annotation Contains

If text is entered in this field, only reads that where the annotation contains the text are queried.

Maximum # of Results

The maximum number of reads that are displayed. The default is 100.

Note: If there are more reads that can be retrieved, additional reads can be retrieved by clicking on the *More* button.

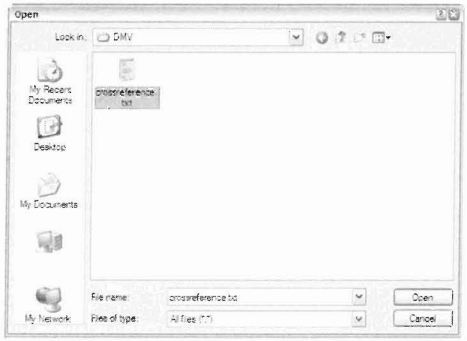


13.6. CROSS-REFERENCING EXTERNAL DATA

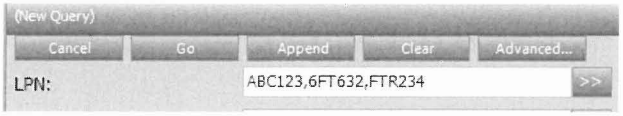
BOSS allows cross-referencing external data, such as DMV information. To query BOSS based on external information, take the following steps:

- Create a comma-delimited text file containing the license plate numbers to be cross-referenced. **The license plate number must be in the first field.**
- Open the Advanced Reads Query panel.
- Click on the >> arrows next to the LPN field.

- From the "Open" dialog, select the comma-delimited file containing the plate numbers.



- 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:

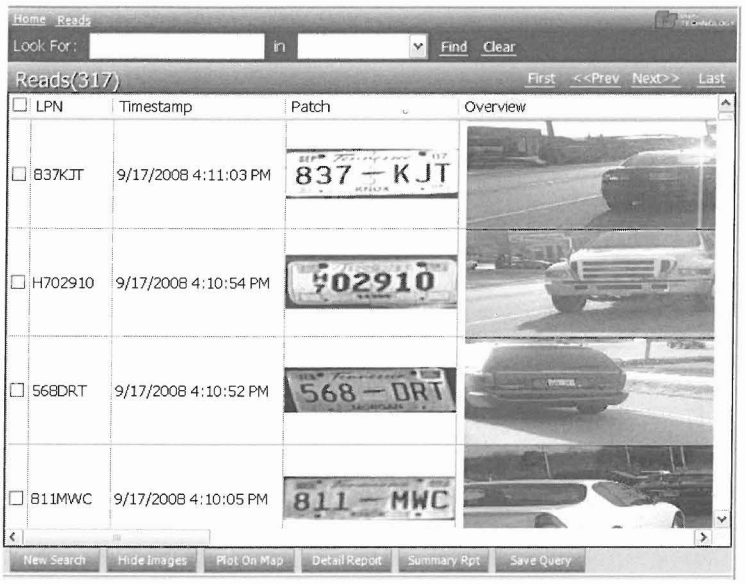


- Enter other query criteria as needed and click "Go" to run the query.

13.7. WORKING WITH QUERIED READS

13.7.1. VIEWING QUERY RESULTS

The results of both Quick Search 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	The grayscale picture of the license plate.
Overview	The color overview picture of the vehicle.
Device	The device that originated the read.
Site	The site that originated the read.
Hit	Indicator whether the read is a hit.
Misread	Indicator whether the read was marked as a misread by a user.
Manual	Indicator whether the read was entered manually.
Login	The login name of the user logged into the device that originated the read.
Latitude	The latitude coordinate of the device at the time the read was 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.

13.7.2. QUERY RESULTS ACTIONS

There are several button options available at the bottom of the Reads Query results screen.

New Search Initiates a new search.

Hide Images Use to remove the image columns (patch and overview) from the view. This will provide more room for text fields. Notice that when the Hide Images button is clicked, the button caption changes to "Show Images". The button can be clicked again to redisplay images again.

Plot on Map Click to show any selected Read records shown on map on the screen. One or multiple records can be selected for plotting on map. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

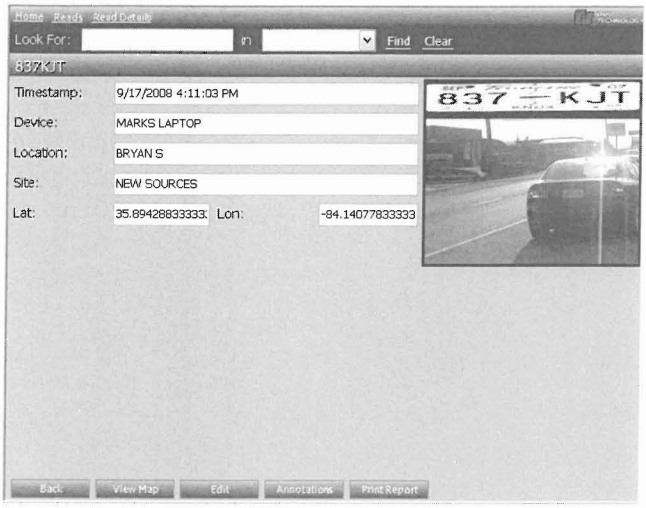
Detail Report Click to generate a detailed report of selected reads. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

Summary Report Click to get a summary report of selected reads. To select one or more records, click the checkbox on the far left of the record so that the box is checked. To select all of the results records at once, click and check the checkbox in the headings column.

Save Query Click to save the query criteria as a Favorite for future use. See Favorites for more information.

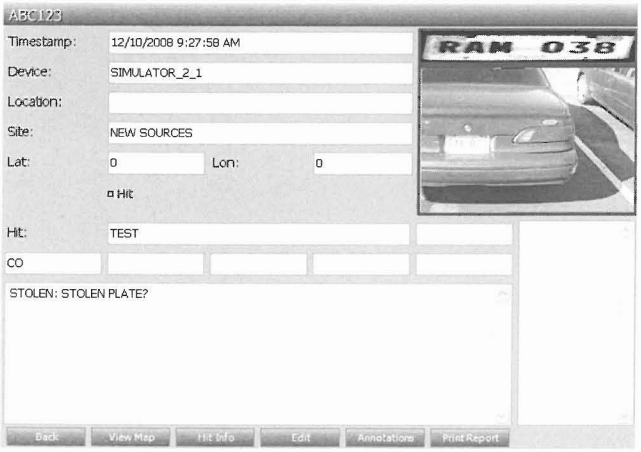
13.7.3. VIEWING READ DETAILS

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

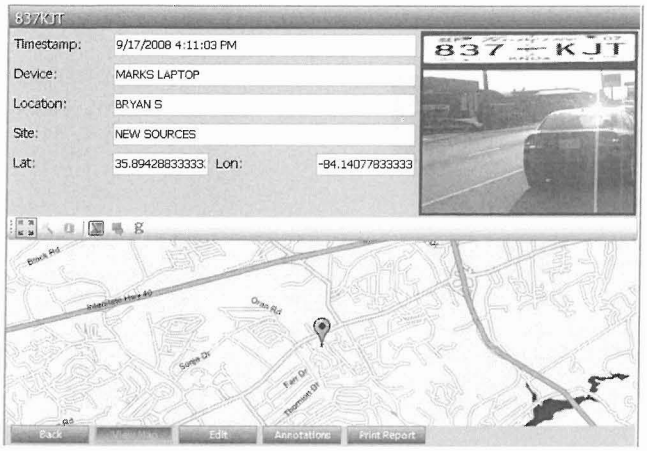


Read Details screen displays the plate read in the title, timestamp, originating device, site and geographical coordinates. The plate patch and vehicle color overview image are shown on the right.

The vehicle color overview picture can be enlarged by clicking on the picture. Use mouse scroll wheel or cursor up and down keys to enlarge or shrink the image. Left click on the enlarged image to dismiss from the screen. **Right click on the image to copy the image to Windows Clipboard.**



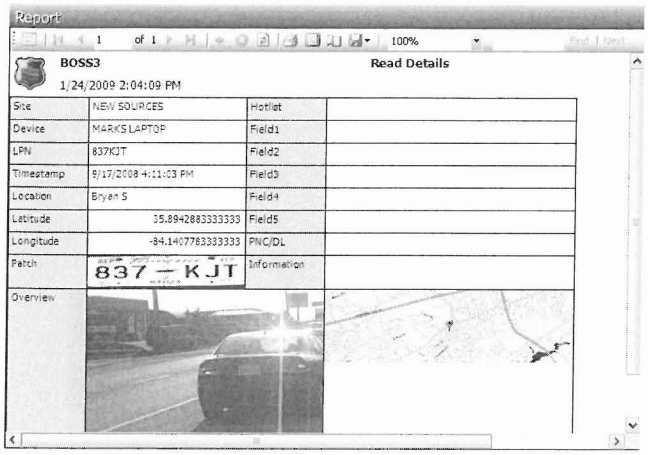
If the read is a hit, details of the hit can be displayed by clicking on the "Hit Info" button at the bottom of the screen.



The map displaying the location where the read occurred can be displayed by clicking on the "View Map" button.

Use the "Edit" button to correct the plate text and/or assign a disposition to the read. Click on "Save" to save the changes. To associate annotations (notes) with the read, click on the "Annotations" button.

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



A summary report can be printed by clicking on the "Print Report" button.

13.8. FAVORITES

Favorites are saved Read Query criteria. Query criteria can be saved as favorites and reused over and over again. This allows the user to quickly perform frequently needed queries without the need to define the parameters each time. Favorites are specific to each user.

13.8.1. CREATING A NEW FAVORITE

- Select the *Home* on the Shortcut bar to access its shortcut icons.
- Click on the *Read* shortcut icon.
- Enter desired query parameters in the browse/edit area (e.g. data range, location, radius, servers, etc.)
- Click the *Go* button to run the query.
- When the query results window appears, click the *Save Query* button.
- A dialog box will appear prompting for a name. Enter a descriptive name for the new Favorite.
- Select the *Use Relative Date Range* option if desired.
- Click *OK* to complete.

The query definition is now saved as a Favorite and can be accessed at any time.

Use Relative Date Range Option

Rather than using the specific dates that were entered when defining the query settings, date range will be calculated based on the current date at the time the query is run.

Relative Date Range Example: *Consider a Query is saved as a Favorite and originally defined on 8/9/2008 to search Reads between 8/02/2008 and 8/8/2008 (the prior week). If the Relative Date Range option is selected, the query is saved to always run against the prior week rather than those actual dates. If the Favorite is invoked on 12/3/2008, it will return results from 11/26/2008 thru 12/2/2008.*

13.8.2. ACTIVATING A FAVORITE

- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Favorites* shortcut.
- A listing of all favorites is displayed in the browse/edit area.
- Click the desired Favorite. (The selected favorite will be highlighted in yellow)
- Click the *Go* button in the bottom area of the browse/edit area.
- The query results will appear in the browse/edit area.

Note: *Depending on factors such as the size of the BOSS database, the speed of the server and 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 cursor hourglass indicates that the query is in progress.*

13.8.3. DELETING A FAVORITE

- Select the *Home* category in the shortcut bar (if not already selected).
- Click the *Favorites* shortcut.
- A listing of all favorites is displayed in the browse/edit area.
- Click the desired Favorite. (The selected favorite will be highlighted in yellow)
- Click the *Delete* button in the bottom area of the browse/edit area.
- Press *Yes* to confirm deletion.

14. REPORTS

Several reports are included, automatically, with a new BOSS 3 installation. These reports are available for use as soon as a BOSS administrator assigns Role permissions to the reports.

14.1. ASSIGNING PERMISSIONS TO ACCESS REPORTS

- Select the *System* category on the shortcut bar.
- Click the *Reports Mgmt* shortcut.
- The Browse/Edit area will display a list of available reports.
- Select a report by double clicking the name in the list. (The selected report will be highlighted in yellow)
- Report permissions for the report display in the bottom of the browse/edit area. Each BOSS Role is listed along with a checkbox. Click a Role in the list to select. Click a second time to change an unchecked box to checked.
- After selecting the desired permissions for the report, click the *Save* button.

14.2. RUNNING A SYSTEM REPORT

- Select the *Home* category on the shortcut bar.
- Click the *Reports* shortcut.
- The Browse/Edit area will display a list of available reports. (Reports to which the user does not have permissions are not displayed.)

- Click the desired report. (The selected report is highlighted in yellow.) Parameters for the report appear in the bottom of the browse/edit area.
- Select Date Range: All reports call for a *From Date* and *To Date* to define the time range for the report data. By default, the values in these fields define a report for the most recent 2 weeks. You can change these dates by typing different information into these fields, using the up/down arrow keys to the right of the field or by clicking the >> button to the right of the field and selecting a date on the calendar and then clicking the << button.
- Some reports also allow for filtering report results by user(s). For example, the pictures report, which reports pictures taken in PAGIS, allows for defining one of more users to report on.
- Once desired parameters are selected for the report, click the Go button. The report screen immediately displays, indicating that the server is generating the report until results are displayed.

14.3. VIEWING AND PRINTING REPORTS

The Report screen displays the date and time the report was generated and the title of the report in the heading area. When you place your mouse above a shortcut on the Report shortcut bar, a label appears indicating what the shortcut button does. Note that some of the buttons on the shortcut bar are not relevant to BOSS reports and are therefore disabled.

The Report Results Shortcut bar

First Page	Return to first page of report
Previous Page	Go to the previous page of report
Page input box	Type in a particular page number to bring up on screen
Next Page	Go to next page of report
Last Page	Go to last page of report
Stop Rendering	This button can be used to cancel the report processing. This can be helpful if a large report was initiated, but is no longer desired.
Refresh	Refresh the report using the most current BOSS data.
Print	Print the report
Print Layout toggle	Toggles between available print layouts.

Page Setup Allows for standard page setup such as page orientation, paper size,etc.

Save As – Excel/Adobe PDF
Allows for saving the current results to a Microsoft Excel (.xls) or Adobe Portable Document Format (.pdf).

Width Zoom Setting Dropdown allows selecting a zoom view for the report results on the screen.

15. SYSTEM SETTINGS

15.1. SYSTEM PARAMETERS

System Parameters allow for configuration parameters for a BOSS system. System parameters only need to be configured during initial system configuration and normally do not need to be modified again after that.

15.1.1. EDITING SYSTEM PARAMETERS

- Select *System* from the left shortcut bar.
- Click on the Parameters button in the shortcut bar.
- Click on the desired parameter in the right browse/edit window. The bottom pane of the browse/edit window will display the entry field for the selected parameter.
- Modify the parameter value as desired and click the *Save* button.

15.1.2. LIST OF BOSS SYSTEM PARAMETERS

Last SQL Script This field is used to track updates to the SQL Server Database schema. It can be incremented at each SQL schema update.

Proxy_uri/proxy_username /proxy_password/proxy_domain
These settings are only necessary if there is a proxy server involved that requires authentication for connection. Enter a valid Uniform Resource Identifier (URI), username, password, and domain in the associated fields to allow communication through the proxy server. Consult the network administrator for proxy authentication information

smtp_SenderName In order for the BOSS server to send alerts to email addresses, the SMTP settings must be configured correctly. The SMTP sender field should contain the username that will appear in the from field on an email generated by the BOSS system.

smtp_UserName/smtp_password
The SMTP username and password fields should contain a valid SMTP user and associated password for sending alerts through the SMTP (email) server. These fields must be populated properly in order for the BOSS system to send any alerts to email addresses. Normally a BOSS administrator coordinates with his SMTP administrator to create a special SMTP user that will be used exclusively for BOSS alerts.

smtp_SSL If Secure Sockets Layer (SSL) is used on your SMTP server, the value of this field should be set to 1. Otherwise, it should be set to 0.

smtp_Server The name or IP address of the SMTP server should be entered here. The name or address used here must be one by which the SMTP server can be reached from the BOSS server. This field must be populated correctly in order for the BOSS system to send any alerts to email addresses.

smtp_SubjectTemplate /smtp_AlertTemplate-

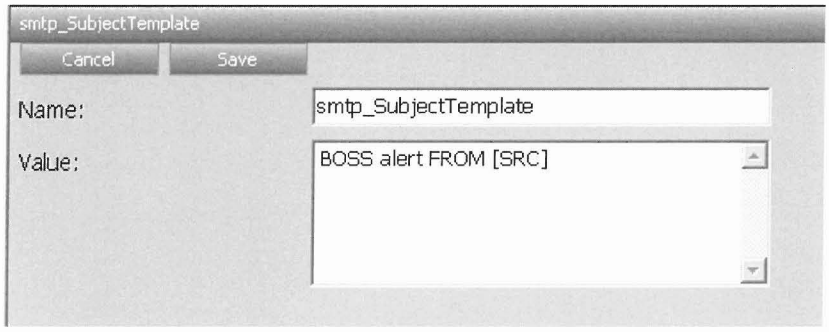
These fields allow a BOSS administrator to customize the verbiage in an alert email subject line and message body using any combination of static text and field variables from the Hit that generated the alert. Each field (from the Hit) is enclosed in brackets.

smtp_SubjectTemplate

Sets the subject line of alert emails generated by BOSS while the **smtp_AlertTemplate** affects the text in the body of the alert email.

For Example:
The following entry in the smtp_SubjectTemplate field incorporates both static text and a BOSS field variable as well: BOSS alert from [SRC].

The static text "BOSS alert FROM" will always be constant in each SMTP alert. However, the value of [SRC] will vary depending upon from which source device the HIT originated. If the Hit originated from a source device named "Camera2", for instance, the complete subject would read: "BOSS alert from Camera2".



The following tokens can be used in the templates and for each individual alert they will be replaced with the actual value from the Hit record:

Token	Description
[LPN]	license plate
[STE]	site
[SRC]	device
[LOC]	location
[LAT]	latitude
[LON]	longitude
[HOT]	hotlist name
[FD1]	field1
[FD2]	field2
[FD3]	field3
[FD4]	field4
[FD5]	field5
[PNC]	PNCID/DL
[INF]	information
^	new line

15.1.3. BRANDING

BOSS allows the BOSS Administrator to upload a logo image and a welcome message that is displayed to BOSS users on the Home screen. To define these,

- Select *System* from the left shortcut bar.
- Click on the Parameters button in the shortcut bar.
- Click on "Branding"

The following screen will be displayed.

Browse Select an image file (JPEG, GIF, BMP) to be displayed on the home screen. The largest recommended image size is 120 by 380 pixels.

Default Remove the custom logos and texts.

Welcome Message A custom welcome message can be typed in here.

- Click OK to save changes or Cancel to discard changes.

15.2. SESSIONS

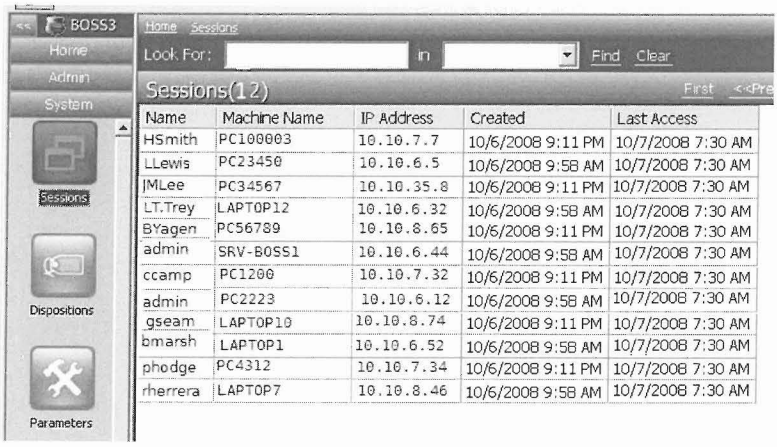
The Sessions screen allows for viewing the current BOSS user logins. Each login on each computer utilizes a concurrent license of the software. Since BOSS is licensed per concurrent active session, a BOSS administrator may find it necessary to have a session disconnected in order to release a session license. A BOSS admin can force a session disconnect in the Sessions screen.

Note: BOSS allows a single 'admin' login to access BOSS even if the number of concurrent sessions has been exhausted. Please see section 4.1 (BOSS Administrator Login) for more information about the 'admin' login.

15.2.1. VIEWING AND DISCONNECTING SESSIONS

- Select the *System* category on the shortcut bar.
- Click the *Sessions* shortcut. A listing of current login sessions appears in the Browse/Edit area.
- The heading in the Browse/Edit area indicates the total number of current sessions.
- Click on a session to see details in the bottom half in the Browse/Edit area.
- To disconnect, click the *Disconnect* button that appears in the detail area and click OK.

Note: You cannot disconnect your own session in this manner. To disconnect your own session simply logoff from the BOSS application.



15.2.2. WORKSTATION POWER MANAGEMENT AND SESSIONS

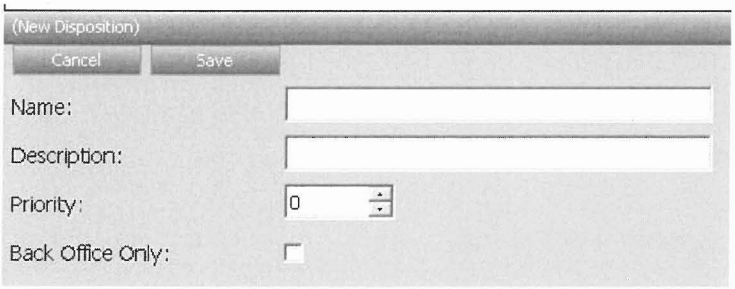
Using Windows Power Management to hibernate or suspend a workstation running the BOSS 3.0 Smart Client will cause the session in BOSS to be terminated after five minutes. When the workstation is resumed from hibernation or suspended state, the user will have to log in to BOSS again.

15.3. DISPOSITIONS

Dispositions are pre-defined classifications that can be assigned to Hits. Example dispositions might include (Arrest Made, vehicle recovered, surveillance established, etc.) A BOSS administrator is able to define any number of dispositions for her system. Users can then use those dispositions to specify the action taken or the status of the Hit. A new BOSS3 system will have a default disposition of "No Action".

15.3.1. DEFINING A NEW DISPOSITION

- Select the *System* category on the shortcut bar.
- Click the *Dispositions* shortcut. A listing of all current Dispositions appears in the top of the browse/edit area.
- Click the *New* Button in the bottom of the browse/edit area.
- Enter a *Name* for the disposition.
- Enter a *Description* for the new disposition.
- Specify a *Priority* for the disposition. (A lower number means greater priority.)
- Select the *Back Office Only* option if the disposition should not be available only in the *Correct Reads* screen in BOSS, and not exposed in PAGIS.



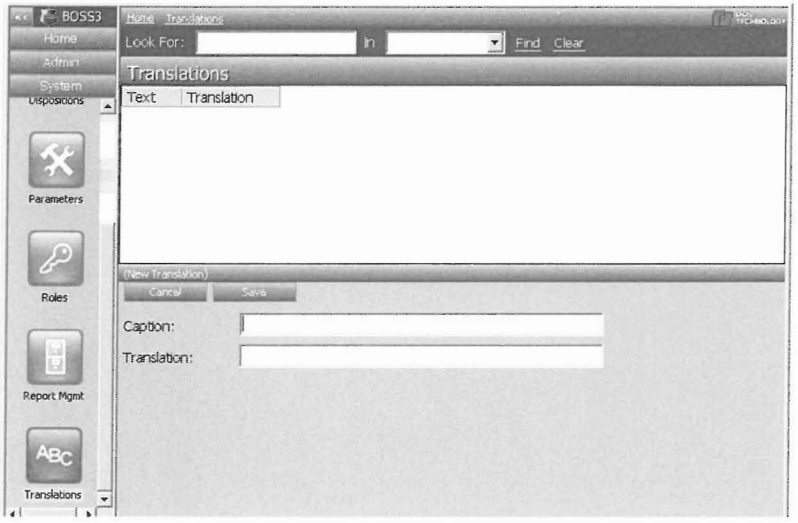
15.3.2. DELETING A DISPOSITION

- Select the *System* category in the shortcut bar (if not already selected).
- Click the *Dispositions* shortcut.
- A listing of all dispositions is displayed in the browse/edit area.
- Click the desired Disposition. (The selected disposition will be highlighted in yellow)
- Click the *Delete* button in the bottom area of the browse/edit area.
- Press *Yes* to confirm deletion.

15.4. TRANSLATIONS

Across various organizations and agencies, terminology related to BOSS can differ significantly. For this reason, a new function has been added in BOSS version 3 that gives customers flexibility in naming conventions used in the application. The Translations function provides for changing wording on BOSS screens allowing a customer to tailor screen labeling to correspond to their own vernacular. Text items in the translations editor correspond to labels on BOSS screens. Authorized users can change these text items as necessary.

Note: This feature is not intended as a replacement for language specific versions of BOSS. For international versions of BOSS, please contact PIPS Technology.



15.4.1. ENTERING A NEW TRANSLATION

- Select the *System* category on the shortcut bar.
- Click the *Translations* shortcut. A listing of all current translations appears in the top of the browse/edit area. The new translations entry screen appears in the bottom area.
- Enter an existing label from the BOSS application in the *Caption* field, using exact case and spelling that normally appears on the screen.
- Enter the desired replacement text in the *Translation* field.
- Click the *Save* button to complete the operation.

Note: The user must logout and log back in for translation to take effect in current session.

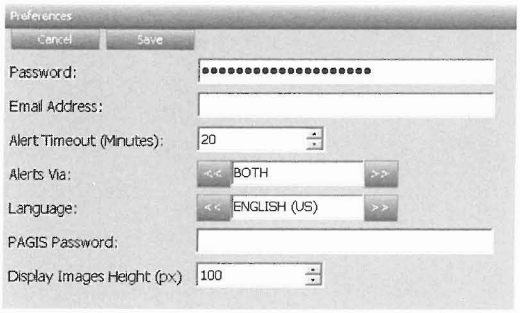
For example: A customer preferring to see a label of "Plate" where the software normally uses the term "LPN" would use the translations software to create the replacement for their installation. The translation entry caption field would contain, "LPN", while the Translation field would contain the replacement term, "Plate".

15.5. PREFERENCES

The preferences section allows for changing settings for the currently logged in BOSS user, such as passwords and email address as well as other options pertaining to the user.

15.5.1. CHANGING USER PREFERENCES

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



Password Login password for 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 or a semicolon.

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

Alert Via A user can elect to receive BOSS alerts through the application (Dispatch), email, or both mediums.

Language Language preference for the user. Default value is English.

PAGIS Password The PAGIS password for the user. ***Note:*** *The user must be in a Group that has been granted PAGIS permissions in order for the user login to PAGIS.*

Display Images Height (px)
This setting defines the size of the images (Reads and Hits) that will display for the user in the Dispatch and Reads Query sections. APPENDIX A – Third Party Components Licensing Terms

16. GLOSSARY

ALPR	Automatic License Plate Recognition
Read	A license plate detection event that results in the plate text optical recognition and pictures being taken.
Hotlist	A list or database of license plates of interest, e.g. the NCIC database.
Hit	A match on a plate read against a hotlist.
Misread	A read that was marked as a misread by a user.
Disposition	The classification of a hit; e.g. a recovered stolen vehicle.
Mobile Unit	An ALPR system installed in a (patrol) vehicle; PAGIS.
Fixed Camera	An ALPR camera permanently mounted above a roadway; Spike/Spike+/SpikeHD.
Device	A source of ALPR data; PAGIS or Spike.
Site	A group of related devices.
User	An authorized BOSS user (with a login name).
Group	A group of BOSS users that belong together administratively.
Permission	A set of related functionality in BOSS.
Role	The authorization to access functionality in BOSS.
Deployment	The distribution or making available of a hotlist to a device.
Notification	Propagation or delivery of an alert resulting from a hit.

17. KNOWN ISSUES / TROUBLESHOOTING TIPS

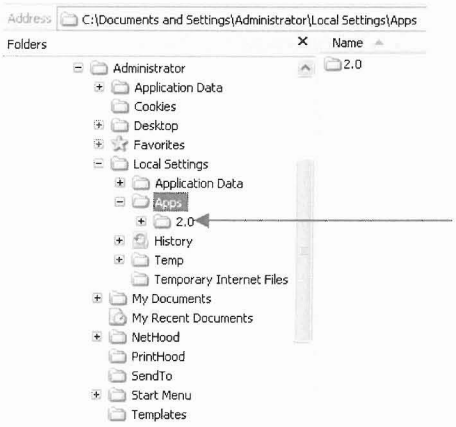
Cingular / AT&T Connection Manager or PCS Connection Manager

There is a known issue with ByteMobile Optimization Client (Bmwebcfg.exe) often installed by Cingular / AT&T Connection Manager software used with cellular modems. This software may cause BOSS service to crash, prevent web installation of the Smart Client, or prevent the Smart Client from connecting to BOSS server. ByteMobile has addressed this issue in ByteMobile Optimization Client v2.3. If you upgrade to this version, you may resolve the issue. Otherwise, please uninstall the software. For more information please see article online: http://support.microsoft.com/kb/910435

BOSS Smart Client Fails To Install With Web Deployment

If the BOSS Smart Client application fails to install when deployed through a web browser, the deployment can be reset on the workstation as follows:

Locate folder *Documents and Settings\username\Local Settings\Apps* where *username* is the login name of the logged in Windows user. Delete the folder and try to launch the Smart Client again.



Smart Clients Cannot Connect to BOSS or Response Times Are Slow, Antivirus Installed On Server

Antivirus and network filtering utilities, such as Symantec Endpoint Protection can prevent the BOSS server or the Smart Client from communicating with each other, and can degrade database access speed. If you are experiencing such problems, please disable the antivirus and/or network filtering utilities temporarily. If the problem disappears when anti-virus is disabled, please contact the utility vendor for a workaround.

Login Fails, Net.Tcp Port Sharing Service Stops Abruptly On A Dell computer

On Dell machines the Wave Systems EMBASSY Trust Suite is known to cause the .Net TCP Port Sharing service to crash. If this is the problem, try installing the .NET hotfix from http://support.microsoft.com/kb/923028. If this does not resolve this issue, uninstall the Wave Systems EMBASSY Trust Suite software.

APPENDIX A. THIRD PARTY LICENSED COMPONENTS

This product makes use of unmodified binaries of SharpMap v0.9 RC1 library published under GNU Lesser General Public License (LGPL) version 2.1. (See Appendix B).

SharpMap is copyright Copyright © 2006 Morten Nielsen

The SharpMap source code can also be downloaded from
http://www.codeplex.com/Wiki/View.aspx?ProjectName=SharpMap
Per LGPL Section 3(b) PIPS Technology offers you for a charge no more than the cost of physically performing source distribution, a complete machine-readable copy of the corresponding SharpMap source code. To obtain the source code distribution, please contact PIPS Technology technical support.
--
This product makes use of unmodified binaries of MiniHttpd library published Create Commons Attribution License v2.5

The license text can be found online at URL
http://creativecommons.org/licenses/by/2.5/legalcode

The MiniHttpd is Copyright 2005 © 2005 Rei Miyasaka

--
This product makes use of unmodified binaries of SharpZipLib library released under the GPL with the following exception:
Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License cover the whole combination.
As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

PIPS Technology chooses to distribute SharpZipLib binary library under the exception above, but notes that the source code of the library can be downloaded free of charge from
http://www.icsharpcode.net/OpenSource/SharpZipLib/

--
SharpZipLib is copyright © 2001-2005 Mike Krueger

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APPENDIX B. GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Preamble

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This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of theFree Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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BOSS3

7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		9/5/2011 1:44:07 PM		41.75659666 66667	-87.76288666 66667	Manually searched for [redacted]
		9/5/2011 1:44:36 PM		41.75637	-87.76297666 66667	Manually searched for [redacted]
		9/5/2011 1:44:36 PM		41.75637	-87.76297666 66667	Hit on [redacted] from VEHEXTRT_ZIP
		9/5/2011 1:46:42 PM		41.756265	-87.76286333 33333	Logout
	eperez					
		9/5/2011 4:33:41 PM		41.75623666 66667	-87.76287666 66667	Login attempt
		9/5/2011 4:33:41 PM		41.75623666 66667	-87.76287666 66667	Login failed, invalid password!
	arusso					
		4/4/2012 2:14:20 PM		41.75621333 33333	-87.76286	Login attempt
		4/4/2012 2:14:20 PM		41.75621333 33333	-87.76286	Login
		4/4/2012 2:14:21 PM		41.75621333 33333	-87.76286	Deleting Hot List 'SOSLEADS'
		4/4/2012 2:14:23 PM		41.75622333 33333	-87.76286	Importing Hot List 'SOSLEADS'
		4/4/2012 2:32:57 PM		41.75045666 66667	-87.77129833 33333	Hit on XXXXX from SOSLEADS
		4/4/2012 2:32:57 PM		41.75045666 66667	-87.77129833 33333	Hit on XXXXX from ISPLITHTXT

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7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		4/4/2012 2:32:57 PM		41.750456666666667	-87.771298333333333	Hit on XXXXX from VEHEXTRT_ZIP
		4/4/2012 2:59:02 PM		41.7482	-87.795451666666667	Hit on [redacted] from VEHEXTRT_ZIP
		4/4/2012 5:13:29 PM		41.75604	-87.762898333333333	Deleting Hot List 'VEHEXTRT_ZIP'
		4/4/2012 5:13:33 PM		41.75604	-87.762898333333333	Importing Hot List 'VEHEXTRT_ZIP'
		4/4/2012 5:14:19 PM		41.75608	-87.76296	Deleting Hot List 'ISPLITHTXT'
		4/4/2012 5:14:19 PM		41.75608	-87.76296	Importing Hot List 'ISPLITHTXT'
		4/4/2012 5:23:43 PM		41.748591666666667	-87.775255	Hit on [redacted] from ISPLITHTXT
		4/4/2012 5:23:43 PM		41.748591666666667	-87.775255	Hit on [redacted] from SOSLEADS
		4/4/2012 9:54:26 PM		41.756163333333333	-87.762896666666667	Logout
		4/6/2012 2:06:33 PM		41.756183333333333	-87.762853333333333	Login attempt
		4/6/2012 2:06:33 PM		41.756183333333333	-87.762853333333333	Login
		4/6/2012 2:06:36 PM		41.756183333333333	-87.762853333333333	Importing Hot List 'SOSLEADS'
		4/6/2012 2:31:58 PM		41.75168	-87.760925	Hit on [redacted] from SOSLEADS
		4/6/2012 2:31:58 PM		41.75168	-87.760925	Hit on [redacted] from ISPLITHTXT

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7/31/2012 9:54:33 AM

Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/6/2012 2:51:57 PM		41.7560866666667	-87.7628133333333	Login attempt
		4/6/2012 2:51:57 PM		41.7560866666667	-87.7628133333333	Login
		4/6/2012 2:54:04 PM		41.7561533333333	-87.7627866666667	Hit on [redacted] from SOSLEADS
		4/6/2012 2:54:04 PM		41.7561533333333	-87.7627866666667	Hit on [redacted] from ISPLITHTXT
		4/6/2012 4:15:02 PM		41.7562833333333	-87.7630016666667	Deleting Hot List 'VEHEXTRT_ZIP'
		4/6/2012 4:15:05 PM		41.7562833333333	-87.7630016666667	Importing Hot List 'VEHEXTRT_ZIP'
		4/6/2012 4:15:51 PM		41.7562866666667	-87.7630883333333	Deleting Hot List 'ISPLITHTXT'
		4/6/2012 4:15:52 PM		41.7562866666667	-87.7631066666667	Importing Hot List 'ISPLITHTXT'
		4/6/2012 4:54:32 PM		41.749195	-87.7666783333333	Hit on [redacted] from ISPLITHTXT
		4/6/2012 4:54:32 PM		41.749195	-87.7666783333333	Hit on [redacted] from SOSLEADS
		4/6/2012 7:12:28 PM		41.7545116666667	-87.74949	Hit on [redacted] from VEHEXTRT_ZIP
		4/6/2012 7:24:28 PM		41.74821	-87.7584983333333	Hit on [redacted] from VEHEXTRT_ZIP

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Audits

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Group	Login	Timestamp	Location	Lat	Lon	Information
		4/6/2012 8:30:38 PM		41.741715	-87.7490516666667	Hit on [redacted] from VEHEXTRT_ZIP
		4/6/2012 9:33:09 PM		41.74681	-87.7608166666667	Hit on [redacted] from ISPLITHTXT
		4/6/2012 9:33:09 PM		41.74681	-87.7608166666667	Hit on [redacted] from SOSLEADS
		4/6/2012 9:57:56 PM		41.7564316666667	-87.7629	Hit on [redacted] from VEHEXTRT_ZIP
		4/6/2012 9:57:57 PM		41.7564316666667	-87.7629	Hit on [redacted] from VEHEXTRT_ZIP
		4/7/2012 2:07:07 PM		41.7562133333333	-87.762955	Login attempt
		4/7/2012 2:07:07 PM		41.7562133333333	-87.762955	Login
		4/7/2012 2:19:28 PM		41.746075	-87.76035	Hit on [redacted] from VEHEXTRT_ZIP
		4/7/2012 3:31:48 PM		41.756105	-87.7628633333333	Deleting Hot List 'VEHEXTRT_ZIP'
		4/7/2012 3:31:51 PM		41.756105	-87.7628633333333	Importing Hot List 'VEHEXTRT_ZIP'
		4/7/2012 3:32:32 PM		41.7561033333333	-87.76286	Deleting Hot List 'ISPLITHTXT'
		4/7/2012 3:32:33 PM		41.7561083333333	-87.7628616666667	Importing Hot List 'ISPLITHTXT'
		4/7/2012 4:42:59 PM		41.741695	-87.7502833333333	Hit on [redacted] from VEHEXTRT_ZIP
		4/7/2012 4:49:30 PM		41.7401183333333	-87.7420133333333	Hit on [redacted] from ISPLITHTXT

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7/31/2012 9:54:33 AM

Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		4/7/2012 4:49:30 PM		41.7401183333333	-87.7420133333333	Hit on [redacted] from SOSLEADS
		4/7/2012 7:02:51 PM		41.7540666666667	-87.7436966666667	Hit on [redacted] from ISPLITHTXT
		4/7/2012 7:02:51 PM		41.7540666666667	-87.7436966666667	Hit on [redacted] from SOSLEADS
		4/7/2012 7:28:51 PM		41.75225	-87.7435033333333	Hit on [redacted] from ISPLITHTXT
		4/7/2012 7:28:51 PM		41.75225	-87.7435033333333	Hit on [redacted] from VEHEXTRT_ZIP
		4/7/2012 7:28:51 PM		41.75225	-87.7435033333333	Hit on [redacted] from SOSLEADS
		4/7/2012 7:29:44 PM		41.754075	-87.743665	Hit on [redacted] from ISPLITHTXT
		4/7/2012 7:29:44 PM		41.754075	-87.743665	Hit on [redacted] from SOSLEADS
		4/7/2012 9:59:33 PM		41.7562766666667	-87.76286	Deleting Hot List 'SOSLEADS'
		4/7/2012 9:59:33 PM		41.7562766666667	-87.76286	Importing Hot List 'SOSLEADS'
		4/8/2012 3:37:44 AM		41.756285	-87.76288	Deleting Hot List 'ISPLITHTXT'
		4/8/2012 3:37:45 AM		41.756285	-87.76288	Importing Hot List 'ISPLITHTXT'
		4/8/2012 5:29:49 AM		41.7563483333333	-87.7628866666667	Logout
	dcolander					
		4/9/2012 6:59:41 AM		41.756295	-87.762865	Login attempt

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Audits

jford

Group	Login	Timestamp	Location	Lat	Lon	Information
		4/9/2012 6:59:41 AM		41.756295	-87.762865	Login
		4/9/2012 6:59:46 AM		41.756285	-87.7628583333333	Deleting Hot List 'SOSLEADS'
		4/9/2012 6:59:46 AM		41.756285	-87.7628583333333	Importing Hot List 'SOSLEADS'
		4/9/2012 9:23:33 AM		41.7559533333333	-87.7470233333333	Hit on [redacted] from SOSLEADS
		4/9/2012 10:31:46 AM		41.7549516666667	-87.760905	Hit on [redacted] from SOSLEADS
		4/9/2012 2:55:45 PM		41.7561716666667	-87.762865	Logout

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
2011					
	Aug				
		23	186	1	0
		24	17	0	12
		25	179	0	0
		26	459	0	2
		29	1763	0	7
		30	4023	0	19
		31	3251	0	18
2011	Aug	Total:	9878	1	58
	Sep				
		1	2185	0	13
		2	2165	0	3
		3	1560	0	8
		4	2434	0	5
		5	4159	0	36
		6	4959	0	29
		7	4598	0	27
		8	2645	0	13
		9	1983	0	3
		10	2417	0	1
		11	488	0	0

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		12	2457	0	7
		13	1002	0	3
		14	2920	0	9
		15	2739	0	3
		16	1360	0	1
		17	1760	0	6
		18	681	0	1
		19	1768	0	9
		20	1816	0	6
		21	1694	0	7
		22	820	0	2
		23	1249	0	3
		24	1969	0	4
		25	929	0	5
		28	1700	0	6
		29	1170	0	1
		30	2586	0	5
2011	Sep	Total:	58213	0	216
	Oct				
		1	3712	0	29
		2	3908	0	7
		3	2875	0	14

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		4	2607	0	8
		5	2328	0	4
		6	3116	0	6
		7	3964	0	15
		8	514	0	1
		9	1664	0	1
		10	2565	0	4
		11	1942	0	7
		12	2374	0	5
		13	2934	0	6
		14	3488	0	7
		15	2234	0	4
		16	1482	0	2
		17	2859	0	12
		18	3704	0	13
		19	2452	0	12
		20	3048	0	8
		21	4506	0	25
		22	3071	0	10
		23	2333	0	10
		24	288	0	0
		25	2325	0	7

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		26	1663	0	4
		27	1731	0	12
		28	2229	0	5
		29	3787	0	9
		30	3166	0	6
		31	3413	0	20
2011	Oct	Total:	82282	0	273
	Nov				
		1	2369	0	8
		2	3200	0	26
		3	3741	0	18
		4	3764	0	18
		5	4177	0	21
		6	3588	0	11
		7	2917	0	13
		8	1792	0	10
		9	1589	0	12
		10	4833	0	21
		11	2774	0	17
		12	1467	2	4
		13	3134	0	5
		14	2336	0	5

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		15	4289	0	10
		16	3141	0	10
		17	3507	0	10
		18	1529	0	2
		19	3386	0	11
		20	512	0	1
		21	926	0	2
		22	2858	0	7
		23	3882	0	12
		24	1608	0	3
		25	2791	0	14
		26	870	0	0
		27	345	0	0
		28	2074	0	5
		29	931	0	2
		30	1386	0	6
2011	Nov	Total:	75716	2	284
	Dec				
		1	3845	0	12
		2	186	0	0
		3	793	0	1
		4	1792	0	5

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		5	1106	0	6
		6	1448	0	3
		7	3332	0	8
		8	5254	0	15
		9	2322	0	10
		10	2641	0	10
		11	2777	0	12
		12	3270	0	6
		13	2929	0	2
		14	2799	0	6
		15	1719	0	6
		16	3840	0	12
		17	2685	0	5
		18	1290	0	5
		19	2440	0	8
		20	2247	0	7
		21	1155	0	1
		22	163	0	1
		23	705	0	2
		24	936	0	5
		25	1928	0	8
		26	2210	0	4

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		27	1105	0	2
		28	1096	0	1
		29	2044	0	8
		30	785	0	2
		31	2437	0	7
2011	Dec	Total:	63279	0	180
2011		Total:	**289368**	**3**	**1011**

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
2012					
	Jan				
		1	4562	0	13
		2	2980	0	9
		3	2519	0	4
		4	1297	0	4
		5	2712	0	6
		6	2575	0	7
		7	3408	0	5
		8	1258	0	3
		9	2266	0	6
		10	3133	0	8
		11	2023	0	4
		12	669	0	7
		14	1164	0	8
		15	1074	0	4
		16	1801	0	4
		17	1570	0	6
		18	2729	0	9
		20	278	0	1
		21	509	0	2
		22	1023	0	4

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		23	1471	0	7
		24	1609	0	4
		25	1397	0	1
		27	877	0	0
		28	524	0	2
		29	2626	0	8
		30	2100	0	8
		31	2790	0	6
2012	Jan	Total:	52944	0	150
	Feb				
		1	2300	0	10
		2	1378	0	8
		3	3378	0	12
		4	885	0	5
		6	1581	0	7
		7	2332	0	14
		8	847	0	4
		10	1176	0	2
		11	1004	0	5
		12	1248	0	10
		13	2725	0	10
		14	1608	0	4

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		15	2212	0	8
		16	2301	0	5
		17	2661	0	4
		18	829	0	0
		19	3489	0	18
		21	413	0	4
		22	1128	0	4
		23	1340	0	6
		24	1304	0	6
		25	8	0	0
		26	1265	0	3
		27	1697	0	9
		28	3255	0	9
		29	622	0	0
2012	Feb	Total:	42986	0	167
	Mar				
		1	3346	0	15
		2	3231	0	8
		3	4735	0	16
		4	1217	0	2
		5	1406	0	2
		6	872	0	3

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		7	5235	0	12
		8	1572	0	2
		9	2782	0	4
		10	2931	0	8
		11	1377	0	1
		12	1227	0	3
		13	1855	0	2
		14	1865	0	9
		15	3160	0	11
		16	2720	0	16
		17	2627	0	2
		18	4654	0	16
		19	1468	0	0
		20	2016	0	11
		21	4773	0	7
		22	2730	0	5
		23	2321	0	3
		24	1625	0	4
		25	4596	0	5
		26	2114	0	6
		29	1120	0	0
		30	2878	0	3

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		31	4182	0	5
2012	Mar	Total:	76635	0	181
	Apr				
		1	1307	0	7
		2	3093	0	9
		3	2243	0	6
		4	4729	0	8
		5	3621	0	14
		6	5493	0	11
		7	6098	0	20
		8	3361	0	5
		9	2095	0	7
		10	761	0	3
		13	295	0	0
		14	3612	0	6
		15	2380	0	7
		16	1212	0	4
		17	1943	0	7
		18	1787	0	6
		19	2587	0	3
		20	2913	0	5
		21	3875	0	19

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		22	2411	0	3
		23	405	0	0
		24	3817	0	15
		25	1094	0	1
		26	1748	0	10
		27	1031	0	5
		28	1550	0	8
		29	1423	0	9
		30	680	0	1
2012	Apr	Total:	67564	0	199
	May				
		1	1213	0	2
		2	687	0	5
		3	3170	0	5
		4	2705	0	6
		5	2622	0	4
		6	2661	0	12
		7	1218	0	0
		8	314	0	2
		9	1719	0	4
		10	572	0	0
		11	1500	0	3

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		12	714	0	4
		13	1940	0	7
		14	3722	0	8
		15	3090	0	17
		16	3075	0	11
		17	2704	0	52
		18	867	0	0
		19	995	0	2
		20	1695	0	3
		21	1774	0	3
		22	2226	0	18
		23	1524	0	7
		24	3097	0	13
		25	1991	0	10
		26	1737	0	6
		27	205	0	0
		28	1138	0	2
		29	6542	0	10
		30	2962	0	10
		31	1374	0	4
2012	May	Total:	61753	0	230
	Jun				
		1	5280	0	20

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		2	938	0	5
		3	963	0	15
		4	29	0	0
		6	2230	0	1
		9	1418	0	0
		10	1973	0	1
		11	985	0	3
		12	1782	0	3
		13	3624	0	12
		14	527	0	1
		15	327	0	4
		16	1303	0	4
		18	193	0	0
		19	3750	0	2
		20	256	0	1
		21	2902	0	7
		22	1610	0	5
		23	1317	0	0
		24	3310	0	12
		25	2879	0	10
		26	845	0	4
		27	3229	0	14

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		28	4175	0	5
		29	2558	0	2
		30	3815	0	9
2012	Jun	Total:	52218	0	140
	Jul				
		2	401	0	0
		3	1336	0	9
		4	2104	0	9
		5	4526	0	23
		6	2003	0	8
		7	2095	0	12
		8	1914	0	7
		9	471	0	1
		10	1493	0	12
		11	2323	0	5
		12	3961	0	5
		13	2553	0	13
		15	1882	0	1
		16	1670	0	0
		17	2880	0	2
		18	3321	0	3
		19	3513	0	7

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Read Statistics

jford

Year	Month	Day	Reads	Misreads	Hits
		20	2639	0	7
		21	1577	0	2
		22	3209	0	14
		23	2500	0	15
		24	605	0	3
		26	1146	0	9
		27	3347	0	5
		28	3644	0	7
		29	2297	0	7
		30	3222	0	6
		31	828	0	1
2012	Jul	Total:	63460	0	193
2012		Total:	**417560**	**0**	**1260**