

Handheld Ticket Writer the Software and the Hardware

Written by Kevin Gordon

Technological advances in the public safety area have resulted in handheld computers for ticket and parking enforcement that make our jobs simpler, quicker and more efficient. Simply stated, any type of citation (or receipt) previously issued by hand should be considered as a potential conversion to a handheld unit. Handwritten ticketing will quickly become a thing of the past.

The use in the public safety areas appears limitless. New uses are constantly being discovered. As recently as February 2007, handheld units were introduced in the UK for use on commuter trains. They are being used to combat ticket fraud and can check signatures and addresses of previous fare holders and known fare cheats.

Using handheld computers means easier-to-read documents, fewer mistakes and no repeat data entry. Many vendors can provide complete customized solutions for agencies including wireless, use of barcodes, data lookup, info sharing with agency databases.

Check out the following variety of suppliers and their technology. Some provide solutions just for parking concerns, while others are geared for traffic citations. Some vendors provide just hardware or software, while some provide complete solutions. The day of the aluminum ticket book holder and multiple copy citation booklet and the phrase, "Press hard. You are making five copies," is quickly coming to an end.

Advanced Public Safety

The Advanced Public Safety (APS) provides the PocketCitation Handheld Ticketing System. This is a complete system that permits the issuing of traffic citations by officers by a variety of PocketPC handheld devices. This complete electronic ticketing system provides a portable, cost-effective solution. The driver's license can be scanned resulting in the auto-populating of the information directly into the citation. This eliminates traffic citation data error, produces easy-to-read tickets and permits an officer to issue a citation with only six to eight "clicks."

The officer then selects additional information, such as vehicle and statute info, from drop-down menus. Multiple citations can be created quickly, usually in less than 10 seconds. The PocketCitation Handheld Ticketing System is compatible with any PocketPC handheld device. Citations can then be printed wirelessly by use of a thermal or laser-jet printer.

According to APS, "approximately 20% of all traffic citations are dismissed because of incorrect statutes numbers or other administrative data errors." PocketCitation ensures the information entered is 100% accurate by the "on-board intelligence system." This reduction in errors saves contact time and money.

The APS PocketQuery application lets agencies run mobile data queries by use of a handheld device instead of a mobile computer. Multiple queries can be run simultaneously, and it can provide access to local, state and federal databases. This permits easy data inquiries by many who would normally not have such access, such as motor officers and bike officers. With the use of a wireless WAN, any database available to a full mobile data system is available to the PocketQuery, state, federal and local databases, including NCIC.

The PocketCitation Handheld Ticketing System with the PocketQuery permits the auto populating of data from the mobile data files directly into the PocketCitation with just one click. APS also provides PocketParking, which allows agencies to electronically issue parking citations and meter violations. It includes an integrated vehicle chalking system. PocketForms enables APS to create electronic versions of any of the agencies reports, forms, tickets, or any other document on the handheld that can then be populated from a scanned driver's license, including field investigation reports and towing reports.

Additional related solutions include the APS PocketID, which lets agencies use an electronic fingerprint and complete a full automated fingerprint identification system (AFIS) check. APS QuickData application eliminates the need for manual data entry by transmitting the data from an APS form to a court system or records management system.

Cardinal Tracking

Cardinal Tracking is a software development company specializing in solutions for both the parking and public safety industries. Cardinal Tracking has provided both the public safety and parking markets with automated citation issuance systems since 1985. It was the first company in the United States to offer electronic parking citations issued by handheld touch-screen computer.

Cardinal provides a complete automated citation issuance system, MobileCite, which allows officers to efficiently and quickly issue any type of citation using a handheld Pocket PC. MobileCite allows the user to decide what order to enter the information to permit more of an agency personalization. The system administrator can define all drop-down menu choices used for a citation. A data field can be set as "required," which

doesn't let the officer issue the citation without it being filled in. Data fields can also be marked as "hidden" if not needed by the agency. Agencies can also add up to 25 custom fields for data as needed.

An integrated 2D Barcode Scanner or Mag-card reader allows the officer to scan in the offender's driver's license, auto-populating all associated data fields. MobileCite permits multiple violations on a single citation if desired, and warnings can be combined with violations. The officer can quickly finish the ticket by using check boxes and drop-down menus. When selecting the violation, the statute number as well as the fine can be automatically inserted. MobileCite also permits the scanning of the Vehicle Identification Number.

A user can provide officer notes in three ways. The officer can select his choice from a predefined list of common notes. Narrative notes can also be entered by use of the keyboard or letter recognition. Voice notes can also be recorded by talking into the handheld's microphone. These notes are saved as wav files and are later downloaded with the citation.

Many agencies are required to provide racial profiling data, and this normally results in a second data entry for that purpose. Those administrators will appreciate that racial profiling data capture is included with MobileCite. A diagramming tool allows the officer to complete a quick sketch that can be linked to the citation. It can also capture and store digital signatures of both officer and violator. MobileCite permits officers to view and edit citations as needed. A Bluetooth connection mobile thermal printer permits printing of the citations and the data can easily be downloaded with a wireless connection.

The MobileCite Base system is a database of all citations, including those already exported to the police records system or to the court files. For example, a court clerk can use a PC to retrieve a citation and print out all information. MobileCite can be interfaced with any existing police or court records. MobileCite uses its own communication software, which automatically checks to see if there is a new configuration file on the server or a new version of the software during data transfers. If it finds one, it automatically sends them to the handheld or laptop, allowing the system administrator to be assured that MobileCite units in the field always have the same version of the software and all updated config files.

Clancy Systems International

Clancy Systems International is one of the oldest names in parking enforcement and citation management, and it is a leader in the industry. Clancy's newest field unit is available in either a one- or two-piece design. As one piece, the keyboard is slipped into the top of the printer. By simply pulling the keyboard from the top of the printer, the unit is turned into two pieces. The complete unit, palm, keyboard, printer, batteries and ticket paper weighs less than 2 pounds. The citation generated is 7 inches high by 3 inches wide.

Clancy uses the Palm™ M500 / M515 handheld that comes with a great deal of functionality. The universal connector and the expansion card slot lets the user add storage capacity, content, wireless modems, GPS receivers, digital cameras and data backup solutions. A keyboard accessory makes the Palm useable for the issuance of parking tickets. The printer holds a pad of 100 flat form citations, and the batteries provide continuous service for at least 750 tickets on a single charge.

The charger is designed to hold both the palm and printer to permit simultaneous charges. These chargers can be stacked four high to save space and can be daisy-changed off one power outlet. The Clancy field unit features flat citation forms that do not curl up. Many data items are automatically generated such as date, time, citation number, officer name, and badge number, which results in very few keystrokes needed during the data entry process. The ticket can be completed in about 20 seconds. This savings of time and lack of data errors also shortens the time on contact for the officer, resulting in a reduction of confrontation risk.

Additional features include the chalk feature, which allows officers to electronically record chalk time, location and license number for comparison during patrol duties. The boot list lookup allows the user to identify repeat offenders, flagged license plate number and stolen vehicles. This instantly informs the officer of the issue so he can take appropriate action. Clancy Systems provides a wide range of traffic enforcement items including receipt application, Park-by-Phone, ticket management software, and scanning of handwritten tickets.

Complus Data Innovations

Complus Data Innovations (CDI) has a unique marketing philosophy. CDI provides all the needed equipment, training, communications, data processing, and support need to manage the entire parking ticket operation without any up front costs. The company purchases, installs, configures and maintains everything—all the hardware and software.

The CDI FastTrack™ Version 5.1 is listed as "the most comprehensive, tailored parking ticket management solution available. It's the leading online, real-time, fully integrated system that tracks parking violations over the entire lifecycle of a citation." FastTrack permits an agency to establish different user levels and privileges based on user IDs and passwords. A digital image of the original ticket is available using TicketView, as well as displaying all the citation history and correspondence online.

CDI handheld ticket writers are lightweight and rugged. They have printers attached. The use of drop-down menus limits the data entry requirements, reducing information errors. Handhelds have a memory capacity of thousands of tickets and can transfer information from the handheld to the FastTrack system, allowing the instant viewing of reports and information. At less than 2 pounds, the unit is easy to carry and use. Thermal paper tickets will not smudge, rip, or tear regardless of the weather.

A bar code scanner can expedite both inquiries and processing payments, and FastTrack assists in managing related correspondence, including permit and hearing processing, all tied to the vehicle license plate. In the area of noticing, CDI can provide U.S. Postal Service certification for first-class presorted mailings. This fully automated system requires no sorting or checking. These notices can be sent out whenever the agency wishes, as often as it likes with no work by its staff.

CDI's DMV search capabilities include all state DMV agencies, including the District of Columbia. The DMV search is not an add-on but part of the ongoing overall service. It has resulted in collection rates as high as 96%. Another interesting feature, the handhelds can be equipped with an imaging capability that lets officers scan a barcode on permits, meters, or even vehicle registration. This feature can also let the user capture and store an image such as the vehicle in question.

Duncan Solutions

Duncan Solutions' motto of "Parking and Enforcement from Start to Finish" is very descriptive of their methods. The company provides complete solutions for anyone in the parking and enforcement arena. Solutions are available for enforcement, including handheld citation issuance computers, enforcement software and management software. Areas available for citation management and debt collection include processing, collections, customer call center, permit management and appeals and correspondence management.

The AutoCITE X3 handheld citation issuance computer is a wireless, Windows-based handheld with a built-in printer, color camera and full color display. It is built to take abuse, and its wireless connectivity allows queries in a variety of data bases, including NCIC. It streamlines enforcement operations from issuance to collections.

The AutoCITE X3 does the following things: logs officer activity; issues and tracks warning; issues parking, traffic and municipal citations; handles code enforcement and fine escalation; automates time-limit markings; reports broken meters and damaged signs; prints OCR and 2-D bar code; and cross-references meter locations and parking permits.

The AutoCITE X3 has "patented meter enforcement integration capabilities." AutoISSUE software automatically stores all the ticket data to the handheld during shift. At the end of the shift, the data is transferred to the host computer. The AutoCITE X3 makes the process of issuing citations an easy task with considerable times savings. Presently used by more than 400 agencies around the world, according to Duncan Solutions, "More citations are issued with AutoCITE than any other handheld on the market."

AutoCITE X3 can communicate in real time with Duncan parking meters and enhances revenue by reducing citation issuance time, maximizing accuracy, improving collection and increasing revenues. Duncan Solutions also has a laptop version, AutoCITE Patrol Car version. This version has a touch screen system, a mag stripe reader and barcode scanner. It allows data collection for patrol reports including DUI and accident reports. Data on the AutoCITE is fully integrated with the patrol car version. A variety of finance options and partnership packages are available including purchase, lease, lease to own and revenue sharing.

EDC-AIMS

Electronic Data Collection Corporation (EDC) provides a complete permit issuance and parking ticket management system. This Automated Issuance Management System (AIMS) handles all facets of citation processing and covers citation issuance, owner identification, hearing scheduling, payment, appeal, billing, reporting, and financial auditing.

Private operators, hospitals, airports, municipalities and universities across North America presently use AIMS. It links customers, violators, vehicles, tickets, and permits to a single account to permit quick and efficient searching and tracking.

The AIMS Ticketer is a one-piece, handheld thermal printer that is lightweight (1.25 pounds) and can withstand a 4-foot drop onto concrete. It is water and dust resistant and operates in harsh weather conditions. The menu driven data selection is easy to use and permits unlimited user defined warning files. The Ticketer prints a full-size 3x8-inch thermal ticket and prints the issuer's signature on the citation. Both real-time wireless and batch upload is available. Data entry can be automatic or manual, and the system allows barcode reading and permits the attaching of multiple pictures with the ticket.

The AIMS ticket system covers citation management from issuance through billing. Benefits include automated user-defined billings, customer hearing scheduling both on screen and online, the ability to attach scanned document, online ticket payments, tracking of payment type / location and user-defined automated fine increases or discounts.

AIMS allows a complete permit management system from permit issue to data archiving including permit-vehicle-ticket link, permit inventory, multiple vehicle assignment, lot inventory, gate arm interface, hangtag printing and many additional features. The user can view tickets, permits, vehicle information and address information on one screen. The system allows the issuing of statements, account history printing and the sending of user-defined quick letters. More than one hundred variety of reports can be generated that reports on every aspect of the operation including permits, citations, issuers and finances.

ParkTrak

ParkTrak has been providing parking solutions to municipalities, airports, educational institutions and commercial parking operators since 1992. The company touts the "world's first enforcement handheld system with built-in digital imaging and license plate recognition (LPR)" resulting in a very fast and affordable license plate inventory system. At only 22 ounces, the ParkTrak system is lightweight and easy to handle. It is designed to work in adverse weather as well as low-light conditions.

The optional LPR lets you read the vehicle license plates by pointing and clicking. The handheld with imbedded LPR has the ability to append photographic notes and is wireless printing enabled. Options include credit card and Smart Card reader interface, Global Positioning System and interfaces for electronic pay by space and pay and display machines.

ParkTrak Photo Notes lets you print photos right onto the notices, which then become part of the record. The officer can take and automatically link up to four pictures per ticket, all date and time stamped. These jpeg images can be printed directly on the ticket if needed. Reports can easily be modified and personalized for the agency in a Microsoft environment.

If your present system includes issuing permits or hangtags regardless of frequency, (weekly, monthly, by term, etc.) such permits can be completely eliminated by use of the ParkTrak Pro with optional license plate recognition and bar-code redemption. Using the point and click, cars are registered by license plate number, eliminating problems with traditional permits such as counterfeiting, fraud, etc.

No longer a need for the manual chalk stick, Electronic Tire Caulking lets you "time-stamp" vehicles by point and click. It records the date, time, plate, and location and compares the duration of stay and distance moved, if any. The system automatically prompts the officer to issue a citation due to overtime status. A Bluetooth® wireless-enabled 2-inch mobile thermal receipt printer allows for easy and fast printing up to 30 feet away.

PhotoViolation

Photo Violation Technologies provides several opportunities for municipalities and other parking operators. The company's trademarked slogan states that they want to "Revolutionize the parking industry" by "perfecting how people park."

The handheld unit, PhotoViolationHHU, is built on the handheld products of Dolphin 9500. This unit incorporates embedded digital photography, Bluetooth communication and wireless two-way communication. The PhotoViolationHHU has a built-in wireless mobile phone that permits officers to receive verbal communication. This is extremely important for private operators without direct communication to emergency services and provides an ability to contact police, EMS, firefighters, and towing services without the need for a separate mobile.

The unit has a built-in digital camera to record the vehicle license plate as well as the violation for photographic evidence. The PhotoViolationHHU weighs less than 2 pounds and has more than eight hours of battery service available. It is available with multiple date entry keyboard or touch-screen options.

The PhotoViolationHHU is part of complete solution. Other components include the handheld unit, the PhotoViolationMeter (PVM), the ParkCardMeter (PCM), MeterLink software and the Internet. The PCM allows drivers to pay by phone, credit cards, or swiping prepaid parking cards. The PCM recognizes when a car parks and moves away, so the driver only pays for time actually used. It also photographs the car's license plate when a violation occurs.

The PVM uses a combination of photography, sensor and wireless technology. This meter can enforce itself as well as issue a photo violation automatically. It detects when a car arrives, fines vehicles that have not paid or overstayed, and even allows the driver to pay fines right at the meter.

The MeterLink software is Internet-based and allows staff to manage the components such as the PVM from a central location. MeterLink has three main parts, ServiceLink, PaymentLink and ViolationLink. ServiceLink is self-monitoring and reviews the operating status of the PVMs, including coin jams, full coin bags, and vandalism. PaymentLink lets you find out instantly what each individual PVM is earning and allows you to immediately process credit and debit cards over a secure online connection. ViolationLink manages all the violations generated by the PVMs or handhelds as they occur.

Radix

Radix Corp. has designed and manufactured easy-to-use handhelds and portable printers for use in ticketing environments since 1987. The company has a variety of handhelds available, including the FW500 and FW300. The FW900 model, an 11th generation handheld, was added last year to its rugged handheld computer line. As with many such units, Radix's handhelds are used by a variety of services including law enforcement, parking and ticket issuance, utility meter reading and route accounting, transportation, inspection and maintenance.

The FW900 Ultra-Rugged Handheld Mobile Computer can be used in the harshest and extreme environment. The unit's high rating against dust and rain is designed with the highest standards of "drop and shock" specification and can withstand multiple 5-foot drops onto concrete. It is rated from -4 to 140 deg F, is lightweight at only 25 ounces, and has a color, 3.5-inch touch screen. The LED backlighting permits ease of use in both indoor and outdoor applications.

Keeping the handheld charged is easy with field replaceable lithium ion battery packs, which can operate for a full shift and are recharged in three

hours. Both single- and multiple- cradle loaders-chargers are available. Radix also offers a wide range of peripherals for the FW900 handheld, including an integrated 3-inch thermal printer for printing tickets, receipts, bills and labels. The printer can be attached to the FW900 and used as a single unit or separated and used as two pieces.

An integrated imager, laser scanner is available that reads 1-D linear and 2-D stacked / matrix barcodes as well as postal codes. Like the unit, it also is waterproof and has a 5-foot drop rating permitting both picture taking and the reading of complex barcodes.

Schweers

Schweers Intec has been developing and manufacturing handheld mobile computers and market-specific software for parking enforcement since 1988. A global company, Schweers boasts more than 10,000 mobile computers in use in more than 700 cities and police departments in 15 countries across the globe.

The X600, one of the market's lightest products, is designed to reduce repetitive strain injuries by placing the heaviest items in the palm of the hand, causing it to seem even lighter. The X600 has a variety of options available, including GPS, Bluetooth, full color camera, barcode scanner and a Smart Card reader. All of these can be used without external connections or wires.

The Ticketman is based on the latest technology and is the latest generation of handheld computers. It is a smaller unit that includes the most essential features of the X600. The Ticketman weighs less than 500 grams and is the smallest and lightest handheld computer available with an integrated printer. It has a color touch screen, an infrared and integrated thermal printer and a backlit alphanumeric keypad. Using the color camera, photos can be attached to citations automatically.

Both the X600 and Ticketman are fully integrated with the Politess Office™ software. The data collected by officers with the handhelds is later transferred to a department central computer in a variety of available means, depending on the needs of the agency. The data is archived in Politess Office and is then available for back-end systems such as financial processing and reporting. Using mobile data communication, the units are capable of real-time communication to a variety of market available parking solutions. The goal of any handheld is to allow officers to collect more data with greater accuracy in a shorter time period. The use of the X600 and/or Ticketman automates the process, reducing data entry errors and simplifying the officer's task while increasing productivity. Schweers services both large and smaller agencies. While the Politess Office software was designed for the larger agency, a second solution, Politess Compact was developed to target cities with fewer than five officers. Politess Compact has a lower cost and is an easy-to-install solution with no need for expensive installation or customization.

Originally Printed in Law and Order Magazine, April 2007

T2 Systems

Since 1994, T2 Systems has provided parking software solutions to its customers. Handheld ticket writers are just a part of the parking services provided. T2 offers a variety of handhelds, depending on customer need. These include the Casio IT-3000, TDS Recon 200, Radix FW700 and 2 Technologies Jett Eye. All the handhelds work with both the T2 PowerPark and T2 Flex parking management software permitting the writing of warnings and citations, issue permits, take payments and more. T2 PowerPark helps manage parking efforts. This includes cash management, payments, citations, permits, appeals, license plate look up, towing, collections, and property maintenance.

T2 PowerLink allows the user to connect the PowerPark database to other systems by use of the Internet and handhelds. T2 Retrieval of Vehicle Registrations (RoVR) is a registered vehicle owner look up service that lets the user locate unpaid parking ticket violators.

T2 Flex is a unified parking management system that covers access control, revenue control, enforcement and permits. T2 Flex streamlines parking tasks and allows you to manage all parking data. With T2 Flex, all the data and software reside on secure servers, and users access the data via the Web. Customers use this system and add on from the suite of packs available, depending on the needs. For example, T2 Flex Permits and Enforcement integrates permit and enforcement functions with access and revenue control and a monitoring system.

Trimble

The Trimble Recon X-Series handheld computer delivers maximum performance in a lightweight, easy-to-carry rugged design. The Recon is being used in parking enforcement and traffic patrol, and its size makes it conducive to not only motorcycle patrol but investigator, too. The wireless printing and instant data uploads and downloads permits an efficient system for many areas of law enforcement. Fire departments are also using the Recon for fire reports as well as fire prevention activities such as fire safety inspections.

The Trimble Recon X-Series meets military standards for humidity, altitude, extreme temperatures, drops and vibrations. It weighs only 17 ounces and operates in a range from -22 to 140 deg F. It runs Microsoft Windows Mobile 5.0 software, which runs thousands of mobile applications including everyday application such as Word, Excel, PowerPoint, Calendar and Outlook. It is equipped with a touch screen and color daylight-visible display with front light.

The T-ticket Mobile Citation software permits wireless lookups in regional and national databases and auto-populates fields. Easy to use pull down lists are used to complete the ticket. After completing the citation, the information can be uploaded to the agency database.

The Recon uses Bluetooth and 802.11g wireless for connection to both local area networks and the Internet. It has 128 MB flash memory on the Recon 200X and 256 MB on the Recon 400X. CompactFlash slots allow you to add digital cameras, GPS, GPRS, and bar code scanners. The rounded edges of the Recon and its small size (6.5 by 3.75 by 1.75 inches), makes for a very comfortable fit in the hand.

Various modules add more versatility. The Recon can be operated for eight to 16 hours on two AA alkaline or lithium batteries with the AA PowerBoot Module. CompactFlash slots are protected from wind, rain and dust with a standard CF-Cap and the Extended CF-Cap provides room for larger CF cards such as GPS. The Midsize CF-Cap permits cards like GPRS and RFID while the Optical CF-Cap provides a small window in the cap, which allows for a bar code scanner or a CF card digital camera.

Kevin Gordon spent 25 years in law enforcement and retired as a chief of police. He is a national and regional officer of the International Police Association. He can be reached at Kevin@KGordon.com.

Originally Printed in Law and Order Magazine, April 2007