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SELF-PARKING SYSTEM DESCRIPTION



icsi “Cumulus”® Barcode Auto-Read Fee Computer

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Parking Access & Revenue Control System Operational Description

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Operational System Description

1. Overview

The Parking and Revenue Control System, PARCS, supplied, and manufactured by *icsi*, is based upon the barcode method of ticket encoding and reading. The equipment described may reside on a system network or operate completely independently in a “stand-alone” configuration, and shall report all information as it occurs to an *optional* centralized computer database.

The system described may include an initial supply of “stock” barcode tickets. These tickets, issued by the barcode ticket issuing machine, can have special graphics (supplied by you) based on your marketing/presentation guidelines.

The system’s *optional* access card module allows for the administration of standard monthly cards, limited use cards for temporary use, and single use cards for special events. The card module allows for the upgrade to enable the production of invoices to the monthly contract holders: either as an individual or as a batch of cards assigned to a specific group or company. This system module also provides for the ability to maintain a complete record of the uses within the system by repeat clients, and may provide a comprehensive monthly cardholder and/or “*Frequent Stayer*” program data.

The system will allow you to also accurately track and report monthly card holder and/or *Frequent Stayer* activity; either as individuals or as groups. Armed with this information, you can determine occupancy and user trends of your cardholder base, maximize space use within the parking facility, and adjust your monthly fees commensurate with exact demands.

Reports can be generated based upon the needs of the system’s administrator. Standard report templates can be programmed to satisfy routine reporting needs or special reports can be produced via a Crystal Reports or Microsoft Access report generators.



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2. SELF PARK System Operation

2.1 Transient (Visitor) Clients

The client will pull into the entry lane adjacent to the ticket dispenser. Once there, they will push a button and a ticket would be produced. The ticket shall be printed with the entry time, day, date, and lane location number. The barcode printer in the ticket machine will also encode the ticket with the same information in barcode. The ticket is then dispensed to a position convenient to the parking patron for removal from the machine. This entire process, from the time the patron pushes the button to request a ticket until the ticket is dispensed from the barcode ticket issuing machine is 1.5



seconds!

Immediately upon the parking client removing the ticket from the dispenser the gate will open, and the vehicle will proceed into the parking facility. If the client is not sure of the procedure or has any questions, they can contact the parking staff member in the Cashier's Booth. The Entry Lane is configured to require the presence of a vehicle (over the loops buried within the lane) in order to process a transaction in the lane. This includes not only the issuance of a ticket to a transient (daily) parking patron, but also the ability to use a proximity access card by a Monthly Cardholder if the lane is so equipped. Each ticket dispenser has a backlit LCD display that shows the current date and time, and is also capable of showing a generic message.





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2.2 Bar Code TD-6030 Dispensed Ticket:

The tickets for the self park system are 7-mil thick thermal coated roll type tickets readily available stock paper from your current ticket vendor. This ticket stock is to be printed in black ink white paper. The barcode sequential serial ticket number is imprinted on a ticket measuring 5.5” long by 2.375” wide. The ticket is imprinted at the time of issuance (*print-on-the-fly*) with date and time of entry, the lane location number, and a sequential ticket number in a standard 2 of 5 Interleaved barcode format. Therefore, all of the necessary data related to the parking patron’s entry is contained directly upon the ticket, just as in the case of mag-stripe technology, **at a small fraction of the cost** in terms of both capital equipment expenditure **and** recurring operational expense in the form of required ticket stock! This ticket stock is familiar to virtually all of the leading parking ticket vendors, such as Digital Printing, Canada Ticket, Accurate Tickets, Toledo Ticket, and Southland Printing. Because of the nature of the barcode scanners and the validation printer used by **icsi** system, the length of the ticket, and the number of parts each ticket may consist of is not limited by the system.





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2.3 “Frequent Stayer” Clients with Bar Code ID Card:

A barcode Entry Scanner is used to read and clock-in the customer’s ticket used to generate the fee due upon the customer leaving the facility, may also be used to record and track “Frequent Stayer” activity.

Each “Frequent Stayer” will have to be issued their own uniquely encoded twelve (12) digit barcode ID card. This traditionally credit card sized ID card may be issued to a client, and each time that client enters the facility the client will present the cashier/valet with their uniquely encoded barcode ID card. The cashier/valet will then use the barcode Entry Scanner to record the client’s use of the facility. A possible sample of this ID card is pictured to the right. This access card should be about 3.375" x 2.125" (8.57 X 5.40 cm).



This card stock is to be printed in black ink on either white, or a pastel colored paper. The pre-printed barcode sequential serial ticket number is a standard Code 39 barcode format familiar to virtually all of the leading parking ticket vendors, such as Digital Printing, Accurate Tickets, Toledo Ticket, and Southland Printing. These cards can be fully laminated after their creation on the site.



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3. Exit Transaction Operation



icsi “Cumulus”® Barcode Auto-Read Fee Computer

The exit solution proposed by **icsi** utilizes a 12.1” TFT resistive TouchScreen PC running on an Intel *Celeron*® 733Mhz CPU with 128Mb of RAM and a 40 Gigabyte hard disk drive, and supports 4 RS-232 comm ports, a parallel (LPT1) port, an Ethernet 10/100 Base-T network card, 2 USB ports, a PS/2 KB port, and a PS/2 mouse port. The printer/validator is an Epson Model TM-U950 serial dot-matrix impact slip (3 in 1 - journal, report/receipt, and ticket validation) printer. Also connected to the Fee Computer is the multi-purpose Metrologic “Voyager” barcode scanner, may be used to read both the revenue tickets **and** the “*Frequent Stayer*” cards!

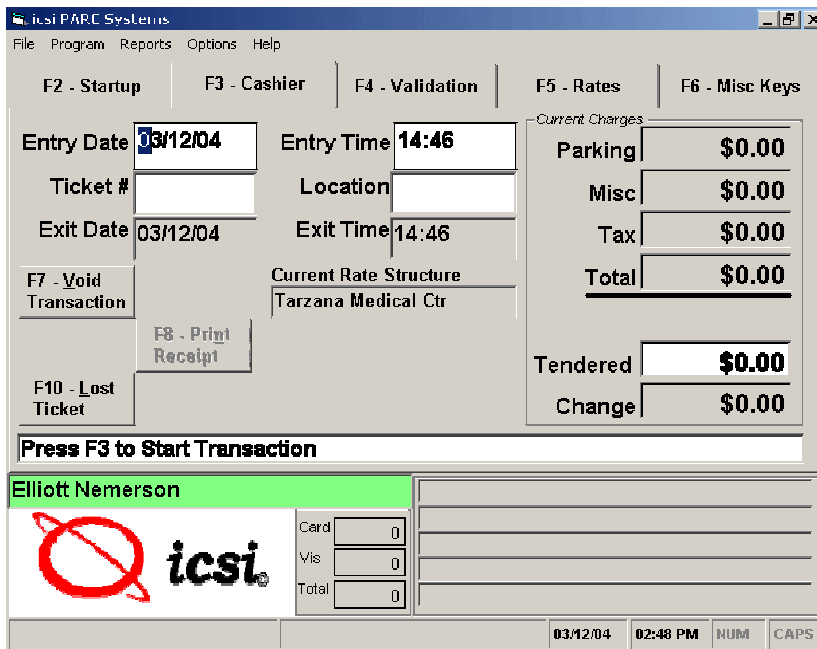


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3.1 Customer Exit Operation:

The exit solution proposed by **icsi** includes the operation of a manned exit “**Cumulus®**” Fee Computer cashier terminal. There are four major advantages to this type of exit. First, this provides the exiting client with a personal customer service interaction for all transactions involving a cashier. Second, this is the most common type of exit lane configuration, and the vast majority of clients will have used this type of Exit Cashiering in the past, and are accustomed to this type of operation. Third, if they are not certain of the exit process, the cashier interacting with the customer is right there to guide them through the entire process. Finally, this is by far the most cost-effective method, from a capital expenditure standpoint.

3.2 Transient (Visitor) Valet Customer Exit Operation:



The customer will proceed to the exit cashier location. Once there, they will hand their ticket to the Exit Cashier. The name of the Fee Structure being utilized to calculate the fee being charged is always displayed on the main *F3-Cashier* screen (*Current Rate Structure*). The cashier then presents the barcode ticket to the barcode scanner that is connected to the fee

computer cashier terminal. The barcode on the ticket is then read for the entry time, day, date, and Entry Lane location. The fee is then calculated based on the duration of stay and the prevailing rates.

From the *F3-Cashier* screen, the cashier may merely touch the *F-5 Rates* tab as depicted above, and that will bring up the *F5-Rates* screen. The cashier may then touch the appropriate Rate Key; or the system is programmable so that this option may not be exercised by the cashier. That will highlight the Rate Structure to be used to compute the next transaction. Then, touching the *F3-Cashier* tab will return the cashier to the primary cashiering screen, as shown above.



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Current Charges	
Parking	\$8.00
Misc	\$0.00
Tax	\$0.00
Total	\$8.00

Tendered	\$0.00
Change	\$0.00

While in the main *F3-Cashier* screen, the cashier will take the parking patron's Entry bar code ticket, and scan it into the Fee Computer by waving the barcode in front of the Metrologic "Voyager" scanner. This process will automatically begin the fee calculation process, and this is indicated to the cashier by turning a large part of the screen from gray color to blue. In addition, the proper presentation of the barcode ticket to the scanner will

cause the Date of Entry, Time of Entry, Ticket Number, and Entry Location boxes to be appropriately filled in. This will also cause the fee due to be calculated and displayed:

The fee is the simultaneously displayed to the cashier, and to the client via the *optional* remote patron fee display indicator facing the exiting patron. The cashier enters, via the numeric keypad, the amount tendered. The cash drawer will then open, and if there is any change due to the patron the amount of change is indicated simultaneously to both the cashier and the customer. A receipt is printed if requested. If a participating merchant has validated the ticket, the fee displayed may be automatically adjusted based upon the validation rules.

3.3 Validations:

The **icsi** fee computer software includes the capability to add any number of (barcode machine-readable optional) ticket validation stickers for use by the retail merchants and/or office building tenants. For your application, when a client enters the parking facility and takes a barcode ticket from the ticket dispenser, that ticket's entry data is encoded upon the barcode ticket, including the entry date, time, location of entry, and fee structure number to be used to compute the parking fee upon exit. When the parking customer presents this ticket to the Exit Cashier, this information on the ticket and a corresponding Validation amount (expressed in either a dollar amount or time value, or changing to a new Fee Structure number) adjusts the total fee to be charged. When this ticket is presented for payment, the appropriate validation amount will be invoked by the cashier for that particular transaction, and the patron will be charged accordingly.



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To accomplish this “validation” process, a transient client would present their ticket to the staff at the merchant’s establishment, and they would then assign the appropriate validation(s).

Validation				
<input checked="" type="checkbox"/> UNITED	<input type="checkbox"/> AIR CANADA	<input type="checkbox"/> Suite 307	<input type="checkbox"/> Suite 412	<input type="checkbox"/> Suite 600
<input type="checkbox"/> AMERICAN	<input type="checkbox"/> CANADIAN	<input type="checkbox"/> Suite 308	<input type="checkbox"/> Suite 414	<input type="checkbox"/> Suite 611
<input type="checkbox"/> DELTA	<input type="checkbox"/> Suite 209	<input type="checkbox"/> Suite 311	<input type="checkbox"/> Suite 501	<input type="checkbox"/> Suite 614
<input type="checkbox"/> SOUTHWEST	<input type="checkbox"/> Suite 211	<input type="checkbox"/> Suite 401	<input type="checkbox"/> Suite 503	<input type="checkbox"/> Suite 608
<input type="checkbox"/> MEXICANA	<input type="checkbox"/> Suite 300	<input type="checkbox"/> Suite 407	<input type="checkbox"/> Suite 504	<input type="checkbox"/> Suite 601
<input type="checkbox"/> JET BLUE	<input type="checkbox"/> Suite 301	<input type="checkbox"/> Suite 410	<input type="checkbox"/> Suite 507	Page 2

Elliott Nemerson

Card	0
Vis	0
Total	0

03/12/04 04:11 PM HUM CAPS

To offer incentives to patrons of local businesses, you can also produce parking coupons. You may also create validation coupons in advance, independent of the Entry ticket, for distribution by travel agents providing airline tickets to customers, as a sales and marketing tool. The coupon itself would have discount information encoded in a barcode format. These coupons are produced in advance, and the validation stock can

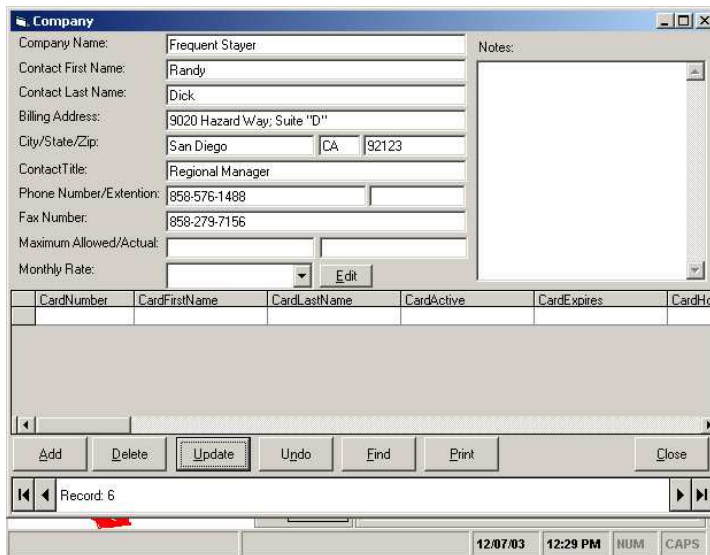
have special graphics based on your marketing/presentation guidelines. You can offer the discount as a function of time, as a function of money, or as a percentage off of the total amount computed. You may also collect the monies for the coupons when they are issued. The charge for the coupons can be adjusted based on the agreement with the particular business. In that the discount afforded is a function of fee calculation process, the revenue integrity remains sound while still providing a parking amenity to your clients.



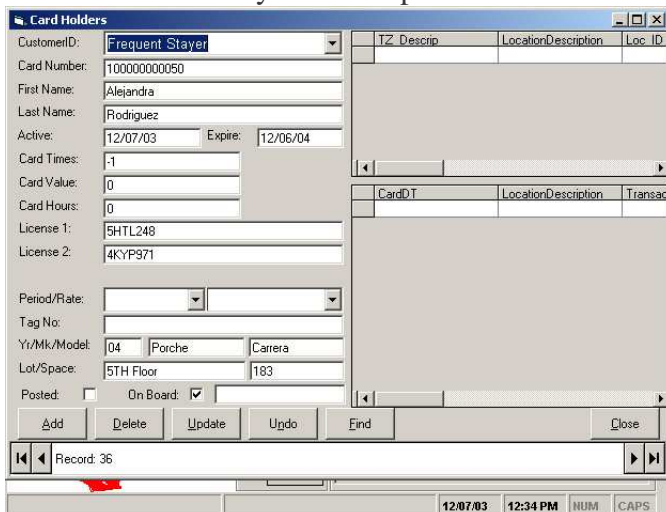
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4.0 “Frequent – Stayer” System Module:

The system’s *optional* access card module allows for the administration of standard monthly cards, limited use cards for temporary use, and single use cards for special events. The card access module allows for the upgrade to enable the production of invoices to the monthly contract holders: either as an individual or as a batch of cards assigned to a specific group or company. This system module also provides for the ability to maintain a complete record of the uses within the system by repeat clients, and will provide a comprehensive “Frequent Stayer” program data.



The card module allows for the provision of a “Frequent Stayer” program. With this program module you can issue each regular (frequent) parking client a barcode ID card. Each time the client parks their car at the facility, they will present their ID card to the cashier/valet upon receiving their Entry ticket. The cashier/valet will not only scan the Entry ticket into the system at the Metrologic “Voyager” barcode scanner, but will also scan the client’s ID card into the system at the same Entry barcode scanner. Upon the client’s return, and departure from the facility, the customer will present both their Entry ticket and their barcode ID card to the Exit cashier. The cashier will then scan the client’s ID card into the system computer via the Exit barcode scanner, and then process the



Entry ticket to generate the customer’s fee. In addition, to further encourage customer loyalty, the presentation of the “Frequent Stayer” ID card can act as a “Validation” to reduce the customer’s fee.

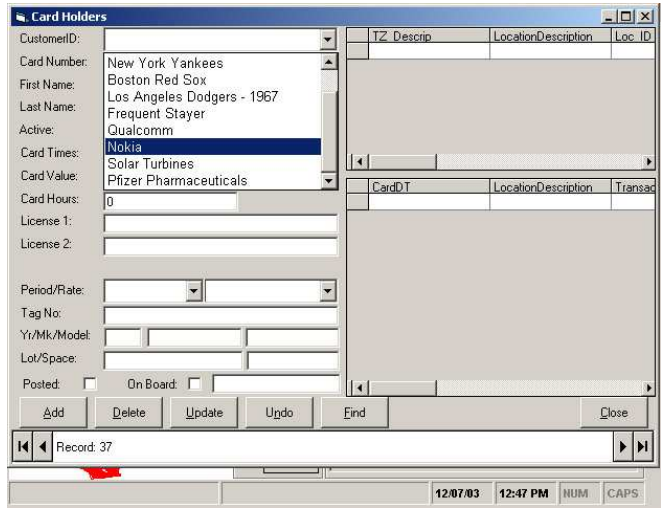
The system will allow you to also accurately track and report card holder (*Frequent Stayer*) activity; either as individuals or as groups. Armed with this information, you can determine occupancy and user trends of your cardholder base, maximize space use within the parking facility, and adjust your monthly fees commensurate with exact demands.



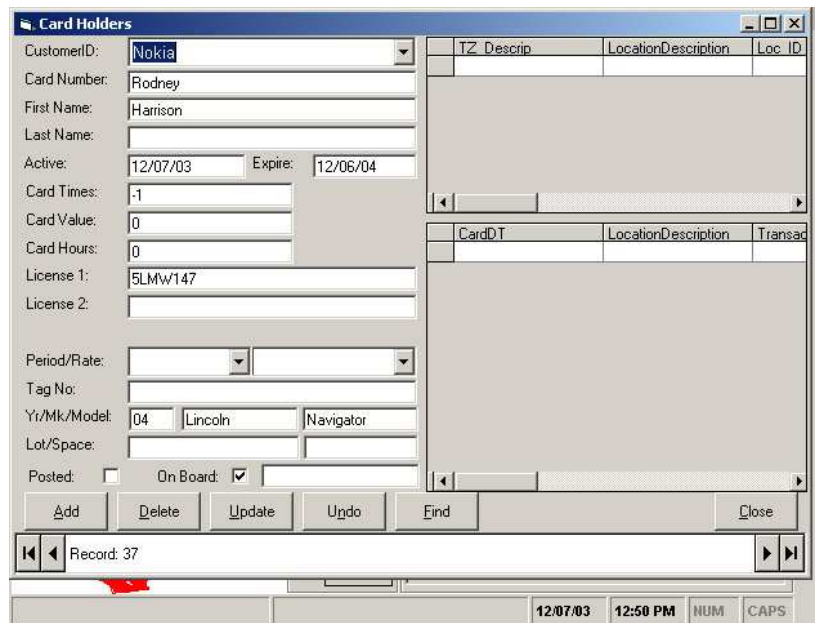
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4.1 Charge-Account Clients with Barcode ID Cards:

When a business client who has been issued a barcode Charge Account Pass enters into the facility, they must present their barcode card to the cashier/valet who will scan their card along with the patron’s Entry ticket at the Entry reader connected to the Fee Computer. The **icsi** barcode card reader can read the associated barcode access card when the card is presented to the barcode scanner. When the card number is decoded by the reader, and that card number is determined by the system to be a valid card number within the system database, that card number is recorded into the system and starts the clock ticking on fee to be charged to that card account. In the event that card number is determined not to be valid, for any reason such as account delinquency, lost/stolen card, etc., a message announcing the invalid status of the card is displayed on the computer screen.



Each charge account cardholder is assigned to a “Company” or group, such as “Frequent Stayer”, Nokia, Qualcomm, Solar Turbines, etc. Once these “Companies” are established the individual charge account cardholders are assigned by their company name.



In the event the program determines the card is not valid during one of its uses, or the card is being used outside of programmed time period, the operator/cashier will be made aware of this from a message through the computer. The client can then contact the parking staff member or site

manager to reconcile the matter.



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5. System Administration

The **icsi** software is capable of having its own operating computer. Once a transaction occurs in the lane, the information may be posted to an operating computer in that specific facility.

This system architecture prevents the loss of information in the event of a communication breakdown between the lanes and the *optionally* networked on-site Parking Office. This is crucial in maintaining revenue integrity.

This computer workstation will have the ability to access the lane devices (fee computers, and card readers) to view activity and accomplish system diagnostics. You will be able to run cashier reports, summary reports, and occupancy reports from this workstation. All system programming can take place on the computer workstation, providing the operator has the correct authorization and password.

5.1 Central Reporting (CRS) “Cirrus®” System Description

Most modern access control systems feature a dazzling array of electronic wizardry, but these features accomplish little if the system itself can be inadvertently, or intentionally compromised by cards the customer does not know about. In today’s fast paced world, that condition is the rule rather than the exception, because most manufactures don't go to the trouble of insuring customer format exclusivity. We do, and always have. For Differential Optics and Proximity systems, we use a secure encrypted format, and we register and retain a record of every end user's site code, and every card number ever issued to that site code. This involves more clerical overhead, but it's worth it because our customers can rest assured that their systems are secure, and cannot be compromised by cards that they don't know exist.



Our standard software package offers more high-end parking features than other systems dedicated to parking. They include user selectable hard or soft anti-pass-back, timed anti-pass-back, auto re-synch, and car pool enforcement.

Space counting is a standard feature that allows cumulative and differential occupancy counts with lot full sign control. A counter may be incremented or decremented by any number of entrances and exits.

Our tenant specific space allocation module lets you designate a fixed number of free spaces per tenant, and will block free entry for that tenant until an allocated space becomes available.



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We offer special report packages such as Tenant Billing that automatically generates monthly invoices to tenants, and it includes the popular Positive Posting feature that automatically voids or validates cards based on invoice payment.

5.2 Ticket Tracking System Description:

The **icsi** software includes a ticket tracking and ticket inventory capability for those **icsi** systems that include “on-line” Ticket Dispensers using pre-printed barcode tickets. This feature allows the system operator to generate a report listing all outstanding revenue tickets. That is, all tickets issued at the Entry scanner but not cashed out at the Fee Computer comprise this inventory of “*outstanding tickets*”.

The system operator will establish the date/time parameters for the report, which will include all ticket numbers of outstanding tickets, along with each ticket’s Entry Date and Entry Time. This list of outstanding tickets can then be used to check (and balance) the inventory within the parking facility.

