

# VenTek Pay Stations

VenTek Corp. manufactures the second type of electronic fee-collection machine evaluated (the System 5 and the Model 400). The Oregon Dunes National Recreation Area in the Siuslaw National Forest uses VenTek Pay Stations as do other private and public installations in the Seattle area.

The VenTek System 5 Pay Station is powered by 120 volts AC. An internal battery backup will power the machine for at least 24 hours if the primary power is interrupted. The battery does not have to be monitored. Optional solar power is available. The exterior housing is reinforced to prevent vandalism. The case is insulated and equipped with a thermostatically controlled heater that keeps the interior temperature above 35° F. When the interior temperature exceeds 90° F, a cooling fan expels air.

The VenTek System 5 Pay Station offers 60 different tickets for multiple-choice ticket dispensing. VenTek developed this quick-pick feature about 4 years ago to give customers more choices. An MS-DOS based personal computer can be used in the field to adjust the program that controls the rates, or the changes can be programmed remotely over a phone connection. The machine is available with or without a keypad that can be used for computer applications and campground data entry, such as issuing multiple-day passes or Golden Age and Golden Access permits. The printer issues a ticket on moisture-resistant paper stock.

## Installations at the Oregon Dunes National Recreation Area

In October 1996, the Oregon Dunes National Recreation Area began planning to implement day-use fees. The desired system had to be simple to use, offer visitors a wide choice of payment methods, and be located as near as possible to the recreation area (Figure 8).

The system implemented at Oregon Dunes included 10 steel fee tubes, 6 electronic fee-collection machines, and 3 staffed collection booths. The collection booths are generally near electronic fee-collection machines and replace the machines when visitation is heavy.

Northwest Parking Equipment, a distributor for VenTek Corp., was awarded the contract to supply electronic fee-collection machines. At that time, the VenTek System 5 Pay Station was the only one that could meet the contract specifications.

Advance site work for the machines (installation of power and telephone lines, shelters, and machine pedestals) was completed in June 1997. Forest Service employees finished installing the machines by mid-August. Roy Whipple, of Northwest Parking Equipment, activated the electronic modules and provided routine maintenance and operational training.

Routine maintenance involves keeping bill acceptors and printers dust free, adding paper, and adding change. The bill acceptors need to be removed and cleaned when bills are not accepted consistently. Cleaning is a 5-minute process most easily performed in the office. Occasionally the acceptor needs to be sent back to the distributor for tuning or new parts. This procedure has been infrequent and inexpensive. Turnaround is prompt because most servicing is handled by the distributor rather than the factory. Spare bill acceptors were purchased to ensure that machines would continue operating even when bill acceptors were being serviced.

Other spare modules were purchased, including the processor, power supply, printer, and coin changer. Having spare modules is the key to repairing vandalized machines and troubleshooting problems. Suspect modules can be swapped out to isolate problems.



Figure 8—Visitors at the Oregon Dunes National Recreation Area are sheltered from the weather while using a conveniently located VenTek Pay Station.

Software programming is based on MS-DOS, so it is helpful to have an employee proficient with MS-DOS instructions. Programming fee-collection machines can be complicated. In this situation, the software for transmitting credit card transactions is controlled by a credit card processing firm, not by the equipment manufacturer. It took about 4 months to get the software updates that made the two offline machines Year 2000 compliant. Loading new processors can be particularly complicated.

The VenTek System 5 Pay Stations are programmed to dispense nine different tickets at the Oregon Dunes National Recreation Area. Tickets dispensed in 1999 included a \$3 day-use pass, two types of \$1.50 discount day-use passes, 2-, 3-, 4-, and 5-day passes, and two types of annual passes.

Tickets being dispensed in 2000 include a Regional annual pass and coupons for overnight camping in nearby campgrounds. Oregon Dunes would like to be able to accept credit cards, eliminating the need for campers to write checks or to pay in cash. Banks do not charge for electronic deposits, but they do charge for the time bank employees spend counting deposits in fee envelopes.

Vandals have made several attempts to break into the machines and two attempts to disable them. Vandals have tried hammering and prying the machines, building a fire on them, and pouring unknown liquids into them. Repair costs were minimal.

Maintenance costs have included refinishing equipment casings. The factory finish was not adequate for a coastal environment. Some corrosion has occurred on the outside of the machines, possibly because of poor application of the primer coat. No corrosion has been found inside the machines or on the interior components even though the machines are not totally sealed. The internal components have held up well through the mild, wet winters on the Oregon coast. Three-sided shelters protect all the machines. The casings are somewhat insulated, allowing heat from the electronic modules to keep the interior from getting too cold. The pedestals were ordered with a hot-dipped galvanized finish that has protected them.

Machine placement is a critical consideration. The machine should not face the direct sun unprotected because visitors will have a hard time reading the LCD (liquid crystal display) screen.

After three seasons, the VenTek System 5 Pay Stations' capabilities have been flexible enough to meet new and changing needs. Plans are underway to include another machine in a high-use campground.

## Seattle Area Installations

Roy Whipple, founder of Northwest Parking Equipment Company in Seattle, has been a dealer for VenTek Pay Stations since 1989. Northwest Parking and other VenTek distributorships can provide training, install fee-collection machines, and maintain them.

VenTek has sold more than 60 fee-collection machines to the National Park Service, including the first fee-collection machine purchased by Mt. Rainier National Park in 1996. Various models of VenTek Pay Stations are available. Whipple showed me a Model 400 Pay Station and a System 5 Pay Station in use at La Conner, WA.

La Conner is busy during the summer's annual Marine Tulip Festival. It is also the departure point for whale-viewing excursions, as well as other tourist activities. Because parking is often a problem, the town built an 89-spot parking lot. A Model 400 Pay Station was installed at the lot 4 years ago. It is a simple, low-maintenance machine, designed for an area where parking revenue is low (Figure 9).



Figure 9—The VenTek Model 400 Pay Station is suited for seasonal parking lot applications.

## VenTek Pay Stations

The VenTek Model 400 Pay Station processes credit cards offline and is set at a \$2 flat rate. The machine does not provide change to the customer. Because this style of machine cannot be hooked into telephone lines, an audit ticket is printed when the front of the machine is opened. For employee safety and security purposes, fees are collected by two people.

The Model 400 Pay Station has a large backlit LCD display and an ATM-style, menu-driven interface that prompts customers to choose from several predefined rates. If use increases, the Model 400 Pay Station can be upgraded to include more selections using the quick-pick feature and a larger coin hopper.

A VenTek System 5 Pay Station is used at a nearby lot where boat trailers are parked (Figure 10). A simple shelter at Anacortes Park in Washington protects a

VenTek Pay Station in a campground (Figure 11). VenTek Pay Stations are also used in various State and city parks, hospitals, and universities.

Purchase prices and specifications for VenTek Pay Stations can be obtained directly from VenTek or from an authorized distributor.



Figure 10—A tall sign allows boaters to spot the VenTek System 5 Pay Station in the parking lot even when the lot is full. Metal pipe protects the shelter and machine from vehicles.



Figure 11—A simple shelter protects a VenTek Pay Station at a campground in Anacortes Park, WA.

# QBS Pay Stations

After MTDC had conducted its field evaluations, the Center learned about a third type of electronic fee-collection machine, the QBS Pay Station. The machine is manufactured in South Korea by QBS Electronic Co., Ltd. MTDC staff did not review any field installations of QBS equipment. Dominion Self-Park Systems, Ltd., in North Vancouver, BC, distributes the Accord, the Apex, and Concord models of the QBS Pay Stations. Dominion, which was founded 8 years ago, is owned and operated by Tom Lucas. He cites the following advantages for the QBS Pay Stations:

❑ **Ease of Maintenance**—A few tools and basic technical aptitude are all that are needed to maintain these machines. Dominion provides initial and ongoing training and supplies a complete service manual for software and hardware. Telephone assistance is available 7 days a week.

❑ **Security**—The machines have a secure locking system, heavy-duty construction, onsite alarm, and can have a remote alarm.

❑ **Bilingual**—The machines can communicate in any two Romance languages, such as English, French, and Spanish. A third language, using any script, can be added for an additional cost.

❑ **Easy-to-Use**—Three-color, easy-to-follow instructions show users how to operate the machines.

❑ **Rate Choices**—The machines supply as many as 30 rate choices. Different kinds of ticket stock can be used as an alternative to the standard thermal paper. For example, a thermoplastic permit with a preprinted liability waiver (similar to those issued at ski areas) could be used at snowmobile parks and boat launches.

❑ **Remote Access**—Sales records and audit information can be downloaded onsite, or a network computer and software can be supplied for \$13,700 that will allow the machine's owner to access the machine from a remote location. Internet and telephone reservations for campgrounds can be uploaded to ensure that the same campsite is not sold twice on the same day. As many as 15 components, such as the printer, credit card reader, and bill acceptor, can be checked with diagnostic software to see if they are working properly. Screen messages and choices can be edited from an office computer. A telephone line provides credit card authorization and the ability to use debit cards. Wireless point-of-sale authorization will be available with the new Concord Pay Station in the fall of 2000. Designed as a combination of the Accord and Apex models, this machine will feature an audible help system that can access information by radio waves, telephone lines, and cell or satellite links (Figure 12).

❑ **Number/PIN Pad**—The Apex Pay Station has a PIN pad feature that allows campsite numbers to be entered as they are purchased to prevent duplicate sales. A printout of sites that are paid or unpaid can help campground hosts check whether campers have paid or not.

The Accord, Apex, and Concord Pay Stations accept all forms of payment: coins, bills, tokens, smart card, or credit cards; they make change; and they stack bills. These machines feature components that can be swapped in the field and the machines can be networked. They come complete with battery backup, a pedestal, a 1-year supply of tickets, a comprehensive warranty, and a parts replacement policy.

Installations of QBS Pay Stations can be found at the Pacific Rim National Park in Canada and many other National Parks in the Canadian Park System. Machines may be purchased or leased. A turnkey option is available.



Figure 12—The QBS Concord Pay Station, a combination of the Accord and Apex models, has a motion sensor that triggers a recording when customers approach. Customers can push the *Help* button to repeat the instructions.



## About the Author

**Jerry Taylor Wolf** received a bachelor's degree in education from Indiana State University. She began her Forest Service career as a civil engineering technician on the Flathead National Forest. She served as a Survey Party Chief on the

Beaverhead and Lolo National Forests. In 1994 she came to the Missoula Technology and Development Center to work as a mechanical engineering technician.



# Appendix A—Contact Information

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## Forest Service Contacts

Mt. Baker-Snoqualmie National Forest  
Debra Paul, Public Services  
Phone: 360-856-5700 ext. 220  
E-mail: dcpaul@fs.fed.us

Tonto National Forest  
Dave Killebrew, Recreation Planner  
Phone: 602-225-5200

Cave Creek Ranger District  
Nancy Myers, Fee Demo Coordinator  
Phone: 408-595-3300

Oregon Dunes National Recreation Area  
Siuslaw National Forest  
Theo Theobalt, Recreation Planner  
Phone: 541-271-3611

## Lexis Systems, Inc.

1682 West 75th Avenue  
Vancouver, BC Canada V6P 6G2  
Phone: 604-224-4444 or 888-755-3947  
Fax: 604-267-7275  
Web site: www.parking.bc.ca

### Company Representatives

General Information: John Hollo  
Sales: Robert Ziola  
Operations: Justin Powell  
Customer Support: Rigi-Ladez

## VenTek International, Inc.

975 Transport Way  
Petaluma, CA 94954  
Phone: 707-773-3373 or 800-748-6267  
Fax: 707-773-3381  
Web site: www.ventek-intl.com

### Distributor

Northwest Parking Equipment Co.  
15029 Bothell Way NE, Suite 200  
Seattle, WA 98155

### Company Representative

Roy Whipple  
Phone: 206-363-5265  
Fax: 206-367-6578

## Dominion Self-Park Systems, Ltd.

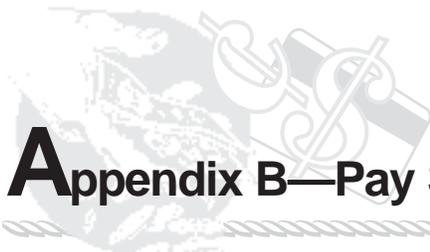
239 East 1st Street  
North Vancouver, BC, Canada V7L 1B4  
Phone: 604-988-6042 (Toll free, Canada and USA:  
888-424-2677)  
Fax: 604-988-6624  
Web site: www.parkingmeter.com  
E-mail: champs@portal.ca

### Company Representative

Hayward Kirsh  
Phone: 250-352-6021  
E-mail: haywardk@uniserve.com

### Customer Contact

Scott Aitken, Finance and Administration Manager  
Pacific Rim National Reserve  
2185 Ocean Terrace, Box 280  
Ucluelet, BC, Canada V0R 3A0  
Phone: 250-726-4704  
Fax: 250-726-4720  
E-mail: scottaitken@pch.gc.ca



# Appendix B—Pay Station Specifications

## Lexis Systems, Inc. 901 Model

**General Specifications:** Height: 37 inches; width: 25 inches; depth: 15 inches; and weight: 220 pounds.

**Warranty:** One year parts and labor.

**Rates:** Progressive, regressive, holiday, special, flat, and early bird. Rates are variable according to the time of the day, and day of the week. There is no charge on special days. There are minimum and maximum time periods.

### Operating Environment:

Temperature range: 32° F to 140° F (0° C to 60° C).

Temperature range with a heater: -40° F to 140° F (-40° C to 60° C).

**Time Clock:** The clock is accurate to within a few seconds per week. Adjusting time is a simple procedure using a portable computer. The clock operates continuously and tracks: year/month/day and day of the week. The meter automatically adjusts for daylight saving time.

**Paint:** Powder-coated for strong protection and quality appearance. Standard colors are dark blue, forest green, powder white. Other colors are available on request.

**Service Door:** Reinforced 12-gauge stainless steel, anti-crowbar door protection, vandal-resistant piano hinge, Swiss-engineered three-point locking mechanism, and protective stainless-steel cross bar.

**Locks:** Door—drill- and pick-resistant Medico plug lock. Cross bar—high-security stainless-steel disc lock. Cash vault—stainless-steel pin lock.

**Display:** Dimensions are 5 inches wide by 3 inches high. There are four lines of text, each line having a capacity of 20 characters. The display is protected by a Lexan cover and has backlighting for easy reading at all times of the day.

**Coin Acceptor:** Self-calibrating, self-cleaning, high coin discrepancy (optoelectronic and magnetic measurements), four coin tubes for change, and modular design for easy maintenance.

**Printer:** Thermal printer (1,500 tickets per roll), programmable messages, receipt portion, and self-cleaning (low maintenance).

**Electrical and Electronic Components:** All components are modular and replaceable onsite and are upgradeable.

### Power Supply:

- Rechargeable battery, standard (battery life 4 weeks).
- AC power, 110 volts (optional).
- Solar power recharge of battery (optional).
- Trickle battery charge (optional).

**Future Options:** Wireless communications, Fall 1999.

The Lexis 901 is currently being upgraded to allow wireless communication with an offsite computer. The computer will be able to provide the following information upon request.

- Meters out of service.
- Meters to cash collect (dollar value in coin box).
- Meters that need new batteries.
- Meters that are being vandalized (police contact).
- Report retrieval.
- Credit card authorization.

## VenTek International, Inc. Model 400

**General Specifications:** The unit is about 16 inches wide by 22 inches high by 18 inches deep. Shipping weight is about 175 pounds. It is made with an 8-inch-square pedestal for mounting in the ground or on the surface (optional). Choice of Pay-by-Space or Pay-and-Display units.

**Rates:** Hourly, daily, and long-term rates as well as rates that vary by time of day. It is field programmable with multirate tables (“Quick Pick” rate structure). Special event tables may be programmed up to 1 year in advance (optional).

**Operating Environment:** Fully insulated case. A thermostatically controlled heating system is optional.

**Time Clock:** Microprocessor-controlled date and time.

**Paint:** High-visibility yellow is used with black-and-white graphics. A customized case color and graphics are options.

**Case Construction:** Ten-gauge steel with <sup>1</sup>/<sub>4</sub>-inch-thick steel reinforcements.

**Locks:** There is one locking cash bag with a capacity of 600 bills. A master series lock program is optional.

**Display:** Large backlit four-line by 40-character LCD display.

**Coin Acceptor:** Accepts nickels, dimes, quarters, and \$1 coins. A multidenomination bill acceptor is available. Credit card acceptance is optional.

**Printer:** Low-maintenance, high-speed thermal printer with more than 5,000 tickets per roll. It prints the location name, transaction number, machine number and code, date and time of purchase, date and time of expiration in large bold print, with additional space for special instructions or messages.

**Electrical and Electronic Components:** PC programmable with software included.

**Power Supply:** 120-volt power or battery operated, with battery backup included. Solar power is optional.

**Security:** Generates audit and revenue reports automatically when cash is removed from the system or when credit card data are collected. Collection reports detail denominations and totals of all coins, all bills, and credit card purchases.

## VenTek International, Inc. System V

**General Specifications:** About 24<sup>1</sup>/<sub>2</sub> inches wide by 35 inches high by 17 inches deep, shipping weight is about 300 pounds, 12-inch-square pedestal for mounting in the ground or on the surface (optional). Pay-by-Space version optional.

**Rates:** Hourly, daily, and long-term rates as well as rates that vary by time of day. Rate changes of up to 1 year can be programmed onsite or from a remote location. Quick-Pick rate structure. Special-event tables may be programmed up to 1 year in advance.

**Operating Environment:** Fully insulated case, thermostatically controlled heater and cooling fan.

**Time Clock:** Microprocessor-controlled date and time.

**Paint:** High-visibility yellow or blue with black-and-white graphics. Customized case color and graphics are optional.

**Case Construction:** Ten-gauge steel with 1<sup>1</sup>/<sub>2</sub>-inch steel reinforcements.

**Locks:** The bill acceptor can hold 1,000 bills and can be locked for a sealed cash system. There is one locking cash bag with a capacity of approximately 600 bills. A second locking cash bag and bill acceptor is optional. It has a high-security Medico lock and locking bar. A master series lock program is optional.

**Display:** Large backlit four-line by 40-character LCD display.

**Coin and Bill Acceptor:** Accepts nickels, dimes, quarters and \$1, \$5, \$10, and \$20 bills. The acceptor can give full change, partial change, no change, any combination, or refund tickets, and has a \$30 self-replenishing change supply. The high-capacity, 500-quarter change feature, high-capacity (600) Susan B. Anthony \$1 coin change feature, and credit, debit, and smart-card acceptance are all options.

**Printer:** Low-maintenance, high-speed thermal printer with more than 5,000 tickets per roll that prints location name, transaction number, machine number and code, date and time of purchase, date and time of expiration in large bold print, with additional space for special instructions or messages.

**Electrical and Electronic Components:** PC programming software included, but remote support software is optional.

**Power Supply:** 120-volt power or battery operated; battery backup is standard. Battery backup that will function for 48 hours or 1,000 transactions is optional, as well as solar power.

**Security:** Detailed audit and revenue reports are generated for total coins, bills, and tickets sold, and for each transaction. Detailed service procedures are included. It also has an audible alarm system.

## Dominion Self-Park Systems, Ltd. QBS Pay Stations

United States price list of QBS Products, June 2000

| Dispenser   | COMPONENT PRICES (U.S. dollars) |                       |                             |
|---|---------------------------------|-----------------------|-----------------------------|
|   | Simplex coin                    | Phoenix coin/card     | Accord/Apex coin/card/bills |
| Base unit   | \$4,865                         | \$9,075               | \$12,000                    |
| Pedestal  | 210                             | 225                   | 300                         |
| External locking bar                                    | 170                             | 170                   | 170                         |
| Cash vault  | 330                             | —                     | —                           |
| After-hours security cover                              | 500                             | 500                   | 500                         |
| Additional coin hopper                                  | —                               | —                     | 300                         |
| Heater  | 170                             | 170                   | 170                         |
| Solar panel, each (number required depends on location) | 350                             | 350                   | 350                         |
| Networking software                                     | —                               | 6,700                 | 6,700                       |
| Network server  | —                               | 7,000                 | 7,000                       |
| Handheld unit for Simplex                               | Included                        | —                     | —                           |
| Software requirements                                   | —                               | Windows 95/98, NT 4.0 | Windows 95/98, NT 4.0       |
| Banking software  | —                               | 600                   | 600                         |
| Point of sale authorization (credit/debit card)         | —                               | 2,500                 | 2,500                       |
| Install and train, 2 days* (travel expenses extra)      | 2,000                           | 2,000                 | 2,000                       |
| Install and train, 3 days* (travel expenses extra)      | 3,000                           | 3,000                 | 3,000                       |

**Notes:** Prices are for single dispensers. Price may vary due to current exchange rate. Discount will vary depending on number of the first machines ordered. Banking software is required to send credit card transactions electronically to bank, but only needs to be purchased for the first machine. If Point-of-Sale Authorization is used, banking software is not required. One-year warranty on all components. Loaner components are provided free of charge if repairs are necessary.

**\*Installation and Training:** Will vary depending on number of dispensers to be installed and number of staff to be trained. We will supply specifications and diagrams for installing the pedestal, electrical and telephone hookups. It is the purchaser's responsibility to ensure that these items are in place and connected, prior to final assembly and installation. On orders of six or more dispensers, installation and training are included in the purchase price.



## Dominion Self-Park Systems, Ltd. QBS Pay Stations

United States price list of QBS Products, June 2000

| REPLACEMENT COMPONENT PRICES (U.S. dollars) |         |         |         |         |
|---|---------|---------|---------|---------|
| Dispenser                                   | Simplex | Phoenix | Accord  | Apex    |
| Printer                                     | \$1,600 | \$1,600 | \$1,600 | \$1,600 |
| LCD   | 200     | 400     | 400     | 400     |
| Coin acceptor/selector<br>(one piece)       | 330     | 330     | —       | —       |
| Coin changer/selector<br>(two pieces)       | —       | —       | 700     | 700     |
| Bill acceptor with stacker                  | —       | —       | 3,000   | 3,000   |
| Card reader                                 | —       | 310     | 310     | 310     |
| Coin box                                    | —       | 150     | 150     | 150     |
| Cash vault                                  | 330     | —       | —       | —       |
| Controller                                  | 700     | 3,500   | 3,500   | 3,500   |
| Battery                                     | 125     | 150     | 150     | 150     |
| Handheld unit for Simplex                   | 500     | —       | —       | —       |
| AC power                                    | 150     | 150     | 150     | 150     |
| Cables, per set                             | 300     | 400     | 500     | 500     |
| Button                                      | 86      | 86      | 86      | 86      |
| Decal package                               | 75      | 150     | 200     | 200     |
| PIN pad                                     | —       | 100     | —       | 100     |
| Roll of tickets                             | 60      | 60      | 60      | 60      |

**Notes:** Any items on this list, excluding custom tickets, can be shipped overnight or 2-day delivery. If repairs to dispenser components are required, loaner components can be shipped overnight or 2-day delivery to keep the permit dispenser operational.

## Library Card

Wolf, Jerry Taylor. 2000. Field evaluation of electronic fee-collection machines for Forest Service recreation sites. Tech. Rep. 0023-2844-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 16 p.

Describes electronic fee-collection systems used at Forest Service recreation sites. These systems have not been used long enough for a thorough assessment of their strengths and weaknesses. Factors to be considered when deciding whether to use electronic fee-collection equipment include: amount of revenue to be generated, risk of vandalism, availability of power, climate, fee-collection plan, and operating personnel. Contact information and specifications for three electronic fee collection machines (Lexis, VenTek, and QBS) are included.

Keywords: compliance, fee demo, pay stations, recreation management, revenue, signs

### **Additional single copies of this document may be ordered from:**

USDA FS, Missoula Technology & Development Center  
5785 Hwy. 10 West  
Missoula, MT 59808-9361  
Phone: 406-329-3978  
Fax: 406-329-3719  
Internet: wo\_mtdc\_pubs@fs.fed.us

### **An electronic copy of this document is available on the Forest Service's FSWeb intranet at:**

<http://fsweb.mtdc.wo.fs.fed.us>

### **For further technical information, contact Jerry Taylor Wolf at the address above.**

Phone: 406-329-3978  
Fax: 406-329-3719  
Internet: jt wolf@fs.fed.us  
Lotus Notes: Jerry T Wolf/WO/USDAFS