



# TunnelWatch<sup>®</sup>

CARWASH TUNNEL CONTROL SYSTEM



DRB Systems, Inc.

## A Product Rich With Features

**T***unnelWatch*® is a software-based tunnel controller written in a high-level programming language. There are three important advantages to this platform: First, it eliminates hard-to-understand codes and replaces them with normal, easy-to-use, English commands. Second, upgrading your system is as easy as loading a new disk (just ask our POS customers.) Finally, this approach makes *TunnelWatch* capable of many features new to the carwash industry. These important features include:

- Overrides are easily controlled from three different places: The Master Computer (protected in the car wash office), at the *TunnelWatch* Tunnel Control Station, (located in the equipment room,) or at any Keypad Terminal.
- Eliminates employee tampering by use of unique security passwords on overrides or any controller function. *TunnelWatch* also tracks the length of time any override was used.
- Decreases chemical/energy costs and wear on your equipment by measuring vehicles to-the-inch rather than the less accurate pulse driven method.
- *Simulated Enter, Pulse* and *Tire Switches* auto-adjust for intermittent switch problems.
- Regular equipment maintenance becomes easier as *TunnelWatch* tracks the number of hours each piece has been used. This number can then be compared to a budgeted figure in the *Scheduled Maintenance Report*.
- Motors will last longer when using the “look ahead” feature to keep equipment running if a car is within a pre-determined distance.
- Constant, precise tracking of average car length and conveyor speed.
- Anti-collision features protect your customer’s vehicles by shutting down the conveyor if the cars are too close together.
- Space-efficient Tunnel Control Stations allow for up to 255 inputs and outputs per system. Relays can be added in banks of 4, rather than 16.
- Reduce electricity costs by using the “staggered starting” feature in *TunnelWatch*, which reduces peak loads and thus your energy bill.
- Advanced roller control handles front wheel pull, rear wheel push and anti-jam roller control.
- Tighter control on productivity using on-screen statistics. The *Tunnel Utilization Percentage* provides an exact fix on how efficiently your staff is putting cars into the wash. If rollers are routinely missed, or cars aren’t reaching the entrance fast enough, you’ll note a lower percentage.
- Security protected, changeable service and cycle counts. These software-based counters are able to track by hours, shifts, days, weeks, months, or years.
- Timed switches that are configurable by the day of the week for automatic control of devices such as water heaters, sprinkler systems, outdoor lights, etc.
- Control any non-tunnel device, such as prep-guns and vacuums, from any external output.
- Eliminate extra switches by using a single tire input to measure the exact position of each wheel. *TunnelWatch* can then activate any wheel-based device without additional switches.
- Decrease chemical/solution costs. The “priming” feature in *TunnelWatch* calculates a variable amount of time needed for an arch to warm up, or prime, rather than using a fixed amount of time and wasting chemicals.
- Expanded Auto Cashier Interface allows for the use of up to 20 alternate, hard wired inputs for programming vehicles instead of/or in combination with the *TunnelWatch* Keypad.
- Pacing Feature allows operators to specify how quickly rollers can be called up. By limiting the number of rollers, you’ll keep the prepping crew from getting too far ahead of the tunnel exit employees and help to avoid collisions.





## Master Computer

- PC-based system designed for speed and to-the-inch precision.
- All management reports available on screen or printed (with proper password access).
- Stored in the owner/operator's office away from harmful tunnel elements.

## Tunnel Control Station



- Up to 32 controllable inputs and 64 controllable outputs available in each Tunnel Control Station; A total of 255 inputs and outputs per TunnelWatch System.
- Reduce wiring with "daisy chain" connection between Tunnel Control Stations (rather than back to the master computer).
- Relays are available in banks of 4, ensuring the number of relays you purchase more closely matches the number of relays actually needed.
- Individually fused outputs reduce downtime and protect the system in case of power surges and shorts.
- Roomy wire channels for easy maneuvering within the station.
- Individual hardware overrides for each output.
- LED lights for immediate feedback of equipment status.
- Built-in Conveyor Enable ("stop/start" circuit).
- 24 volt AC power supply for input sensors.
- Mechanical counter on keyswitch. Used to control access to overrides within the Tunnel Control Station.

## Entrance Keypad



- 20-character liquid crystal display with backlighting.
- 96 separate configurable keys. These can be changed at any time.
- Printed keyboard overlay with molded weatherproof cover.
- Water-resistant design for damp and wet applications.
- Works with *TunnelWatch*, the *CarWatch*® Cash Register and the *SiteWatch*® Cash Register.

# TunnelWatch System Reports

## SERVICE COUNTS REPORT

North Coast Auto Wash (Report Printed by: Curtis May)

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Report as of 3-20-03 at 3:05 pm

Service Name	This Day	Last Day	This Month	Last Month	This Year	Last Year
Start Date:	3-20-03	3-19-03	3-01-03	2-01-03	1-01-03	1-01-02
Start Time:	7:00 am	7:00 am	7:00 am	7:00 am	7:00 am	7:00 am
Car Wash	158	383	4080	6549	15093	60373
Van Wash	60	127	1005	1708	4233	16934
Polish Wax	13	35	252	419	983	3933
Poly Foam	10	31	1388	208	488	1802
Sealer Wax	40	131	946	1683	3581	11649
White Walls	13	39	292	396	929	3718
Chassis Bath	38	117	638	1069	2506	10023
Rust Inhibit	27	85	743	887	2289	8319
Super Package	10	31	167	421	888	2451
Works Package	30	100	779	1262	2693	9198
Extra Roller	5	10	47	86	199	796
Total Washes	218	510	5085	8257	19326	77207
Total with Extras	74	168	1577	2807	5991	22390
Extra Service %	34%	33%	31%	34%	32%	29%

## Service Counts

Multiple counters can be assigned to each piece of equipment, allowing you to track by year, month, week, day or shift.

## Scheduled Maintenance

To help ensure regular maintenance on your investment, utilize the Scheduled Maintenance Report.

## SCHEDULED MAINTENANCE REPORT

North Coast Auto Wash (Using: First Counter)

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Report as of 3-20-03 at 3:05 pm

Device Name	Last Maint Day (Reset)	Elpsd Hours	Sched Hours	% of Sched	Hours Left	Days Left	Projected Nxt Maint
Conveyor	1-01-03	477.6	500.0	95.5%	22.4	4	3-23-03
Roller Up	1-01-03	19.1	50.0	38.2%	30.9	126	7-24-03
Tire Retract	1-01-03	4.5	20.0	22.4%	15.5	269	12-14-03
White Walls	1-01-03	21.0	75.0	28.0%	54.0	200	10-06-03
Presoak #1	1-01-03	143.3	250.0	57.3%	106.7	58	5-17-03
Presoak #2	1-01-03	127.5	250.0	51.0%	122.5	75	6-02-03
Soap Foamer	1-01-03	86.0	150.0	57.3%	64.0	58	5-17-03
Front Blast	1-01-03	23.4	75.0	31.2%	51.6	172	9-07-03
Rear Blast	1-01-03	23.9	75.0	31.8%	51.1	167	9-02-03
Polish Wax	1-01-03	22	75.0	29.3%	53.0	188	9-24-03
Polish Light	1-01-03	22.4	75.0	29.9%	52.6	183	9-18-03
Wrap Water	1-01-03	214.9	300.0	71.6%	85.1	31	4-19-03
Side Brushes	1-01-03	250.7	300.0	83.6%	49.3	15	4-04-03
Chassis Bath	1-01-03	37.3	125.0	29.8%	87.7	184	9-19-03
Flip Hi-Pres	1-01-03	56.4	125.0	45.1%	68.6	95	6-23-03
Hi-Pressure	1-01-03	129.0	250.0	51.6%	121.0	73	6-01-03
Rocker Panel	1-01-03	76.4	250.0	30.6%	173.6	177	9-13-03
Mitter	1-01-03	133.7	250.0	53.5%	116.33	68	5-26-03
Sealer Wax	1-01-03	36.8	75.0	49.0%	38.2	81	6-09-03
Sealer Light	1-01-03	37.7	75.0	50.3%	37.3	77	3-23-03
Rust Inhibit	1-01-03	23.4	75.0	31.2%	51.6	172	9-07-03
Final Rinse	1-01-03	185.3	250.0	74.1%	64.7	27	4-16-03
Spotfree Rin	1-01-03	71.6	125.0	57.3%	53.4	58	5-17-03
Blower Dry	1-01-03	291.3	250.0	116.5%	*** *	***	3-08-03
Blower Up	1-01-03	18.6	50.0	37.3%	31.4	131	7-29-03
Exit Door	1-01-03	164.8	125.0	65.9%	85.2	40	4-29-03
Thanks Sign	1-01-03	32.5	125.0	26.0%	92.5	222	10-28-03
Water Heater	1-01-03	525.4	750.0	70.0%	224.6	33	4-22-03



# OVERRIDE DETAIL REPORT

North Coast Auto Wash (For 1-01-03 thru 1-20-03)

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Report as of 1-20-03 at 3:05 pm

Device Name	Date	Time	Status Changed To	Duration		Status Changed By
				Hrs	Min	
Polish Wax	1-01-03	11:01 am	I-Lock ON	699	59	Emp: Joe Cheatum
Polish Wax	1-03-03	2:55 pm	Auto ON	161	55	Emp: Mike Honesty
Polish Wax	1-10-03	8:00 am	Forced OFF		14	Emp: Sam Repair
Polish Wax	1-10-03	8:14 am	Auto ON	122	21	Emp: Sam Repair
Polish Wax	1-15-03	10:35 am	I-Lock ON		2	Grp: Extra Serves
Polish Wax	1-15-03	10:37 am	Auto ON	124	28	Grp: Extra Serves

## Override Detail

Gives you tighter control by tracking when, by whom, and how each override was used.

## Daily Summary

Available for any day since TunnelWatch went online.

# TUNNELWATCH DAILY SUMMARY REPORT

Report as of 1-20-03 at 5:20 pm

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### Summary Statistics

Total Cars Washed	218	Conveyor Speed	0.73 Ft/Sec
Total Cars w/Extras	74	Tunnel Utilization	52.4%
Percentage w/Extras	34%	Average Car Length	17'2"
Extra rollers issued	0	Time of first car	7:03 am
		Time of last car	5:20 pm

### Service Counts

Service	Qty	% Cars	Service	Qty	% Cars
Car Wash	158	72.5%	Chassis Bath	38	24.1%
Van Wash	60	27.5%	Rust Inhibit	27	17.1%
Polish Wax	13	6%	Super Pkg	10	6.3%
Poly Foam	10	6.3%	Works Pkg	30	19.0%
Sealer Wax	40	25.3%	Blower Raise	3	1.9%
White Walls	13	8.2%			

### Restricted Overrides

Device or Group	Cnt	Total Duration	Last O/R by	Time	Final Status
Grp: Wet Down	1	5 mins	Sam Longname	7:00 am	AUTO ON
Dev: Polish Wax	5	10 Hrs 36 mins	Fred Cheatalot	5:02 pm	I-LOCK ON
Grp: Wet Down	2	1 Hrs 4 mins	Jim Forgetful	10:00 am	AUTO ON
Grp: Wet Down	1	7 Hrs 29 mins	Sam Longname	4:31 pm	FORCED OFF

### Exception Counts

Exception Description	Count	Exception Description	Count
Power loss or Reboot	1	Vehicle Length Error	2
Used Simulated Pulse	1	Progress Alarms	14
Pulse Errors	4	Modem Communications	1
Tire Switch Errors	1		

### Current Status

Device: Blower Up is now FORCED ON



## System Specifications

### System Capabilities

- Conveyor length up to 1000 feet
- Controls up to 255 devices
- All devices programmable, de-programmable, and sequential
- Functions recognize front, middle, and rear of car and both tires
- Tire Switch supported for wheel-related services
- Conveyor start-up control
- System “cleans up files” automatically each day at midnight without interrupting site operations
- Automatic conveyor shutdown (after a predetermined amount of time)
- Conveyor “idle” option (stopping conveyor but not equipment)
- Horn signal control/entrance lights control
- Twenty car queue or “stack”
- System security for 32 users with individual password access
- Input sensors can control non-conveyor devices such as vacuums and prep guns
- Adjustable de-bouncing for enter and pulse switch
- Fail-safe hardware overrides with door access counter
- All service and cycle counters able to be tracked by hour, shift, day, week, month, and year
- All counters can be kept by units and duration of in-use time (hours)

### Standard Hardware Features

#### *Tunnel Control Station*

- 32 single-pole, single-throw and 32 single-pole, double throw industrial relay capability in each station.
- Relays are available in banks of 4. No need to buy a board of 16 relays each time you want to add a function.
- Built-in conveyor enable (start/stop circuit).
- A separate, isolated 24-volt power supply is provided for the input sensors.
- Individually fused outputs reduce downtime and protect the system from damage.
- Highly reliable, two-way communications with master computer, providing interference-free error checking.
- Wire-ducting for ease of wiring.
- Key-lock access control and safeguard door counter.
- Convenient 4-wire installation.

#### *Master Computer*

- PC-based system.
- Industrially-hardened, high mean-time between failure computer.
- Separately-fused power supply.
- Color video display.
- Stored safely in carwash office, avoiding harmful tunnel elements.

#### *Entrance Terminal*

- 96 button keypad terminal.
- 20 character display with back-lighting.
- Controllable beep sound.
- Mounting bracket.
- Changeable keypad overlay.
- Additional serial port for future expansion.

*\* specifications subject to change*



DRB Systems, Inc.

To find out how **TunnelWatch** can improve your business

**Call: 1-800-336-6338**

*Phones answered personally from 8:30 am to 5:30 pm, EST – Monday through Friday*