

# Upgrades Enhance Operations

New software and controller technology helps superintendents manage irrigation more effectively

BY PETER BLAIS

**A**dvances in software and controller technology continue to benefit superintendents and make them more efficient golf course managers.

"You're never done with software, no matter how much time you spend on it or how good you think it is," says Steve

Crain, The Toro Co.'s eastern regional manager for golf of the ever-changing world of computer software.

Toro has added pump-station integration to its SitePro central control system, providing the ability to manage irrigation demand automatically to meet available pump-station capacity, according to company literature. Through partnerships with pump station manufacturers Flowtronex and Watertronics, Toro's SitePro 2.0 allows superintendents to maintain complete control of an irrigation system, even in the event of reduced pump-station capacity.

The pump station notifies SitePro of any problems, such as a lost motor. With this information, SitePro can determine changes in pump-station volume and recalculate irrigation schedules based on a predetermined set of guidelines established by the superintendent.

SitePro can also model different irrigation solutions. Users are given the information necessary to make the best irrigation choices in the event of a reduced water supply. Reporting features provide details on any problems that occurred, as well as confirmation of what areas were irrigated. By helping prevent problems before they occur, Toro says SitePro can save hours of work required to recharge an irrigation system after downtime.

The company relied heavily on  
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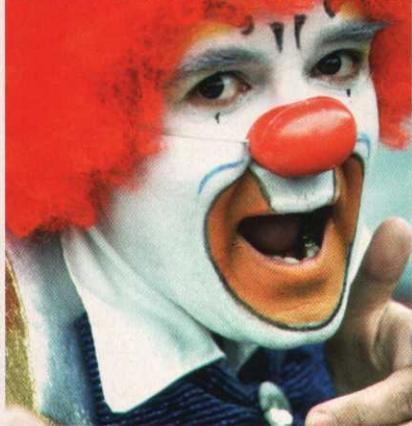


New software helps make irrigation more flexible and efficient.

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superintendents' input in developing the new system, Crain says. Toro obtained that input largely through its National Support Network (NSN), which handles the company's computer, construction and software training. The company also used internal feedback from its sales, engineering and field-service personnel who have direct communications with superintendents.

Crain likens the upgrade from the previous SitePro 1.1 to the entirely new database in SitePro 2.0 to "opening the hood of your car and dropping in a new engine and transmission." NSN subscribers will receive the new version at no charge.

Improved reliability is one of the major benefits of the new system, Crain explains. For example, the old system required 372 files to back up a course's database. The new system requires one file.

"That data is important because it represents what the superintendent knows about his golf course: infiltration rates, run times, precipitation rates, and wet and dry spots," Crain says. "Backing it up is a big deal. That [fewer back-up files] means a lot less chance of errors or corruption."

The new system includes the Sequential Multi-Manual (SMM) programming feature, formerly available only on Toro's highest-level control system. SMM gives superintendents the ability to build highly specific, high-speed watering programs. "For example, a lot of overseeding, dew and frost removal are done that way," Crain says.

**Avior, from Signature Control Systems, integrates the irrigation system with software that manages a course's maintenance-vehicle fleet.**

### Rain Bird on the watch

Rain Bird recently introduced its Version 4.0 central-control software. The product offers several new features and enhancements, including Rain Watch and Minimum ET, designed to help superintendents maximize water management and conservation practices. Version 4.0 can be installed on all Rain Bird central controls: Cirrus, Nimbus II, Stratus II and Stratus LT.

Rain Watch measures precipitation as it falls and can cancel or pause irrigation. As a result, irrigation systems take full advantage of rainfall while the sprinklers are running. Rain Watch uses as many as four standard tipping-bucket rain cans to measure rain as it falls. Sprinkler run times are adjusted based on the readings.

For example, it can determine whether a rain event is a quick cloudburst or an extended rainy period. During a quick cloudburst, Rain Watch will automatically suspend any running sprinklers while continuing to measure rain. Once the storm passes, irrigation will resume with sprinkler run times reduced by an amount equivalent to the measured rain.

Should the rain turn out to be an extended period of wet weather, Rain Watch will stop any running irrigation

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and prevent new irrigation from starting for a time period specified by the superintendent.

Minimum ET is designed to promote healthy turf and water conservation through advanced evapotranspiration (ET) management techniques. With Minimum ET and a weather station, the watering cycle is determined with specific precision, as opposed to scheduling run times in advance for alternating days.

It allows superintendents to define and set a minimum threshold before automatic irrigation takes place. For example, if the ET is .15 inches and the minimum ET is set at .30 inches, automatic irrigation will not take place until the second day.

Randy Mills, a Rain Bird Golf product manager, says Version 4.0 is the result of superintendent input gained in focus groups and meetings with super-

intendents throughout the country. The newest version is an enhancement to Rain Bird's existing software product and has been used successfully on pilot projects.

Patricia Mihok, area manager at Gaylord Palms Resort in Orlando, Fla., has overseen one of those projects. She says she's used Version 4.0 for a year and has been happy with it.

"It saves a lot of hassle," she says. "You don't have to keep running back and forth to a controller. You can call on the phone and turn different zones on and off."

Without the system, Mihok says one has to turn down zones manually before the areas get too wet.

"But with this, you can build that information right into the system and the computer does it all," she adds. "As long as you know your property, where the dry and wet areas are, you can set it once every season instead of having to reset it day after day and week after week."

It has also meant significant water savings, Mihok adds.

"Much of our rain comes [unexpectedly] in the evening after we're gone," she says. "Rain Watch took a look at what was going on and shut off the irrigation system on many of those rainy nights. I would have had to leave the irrigation system on all night if we were still watering the old-fashioned way."

As for the Minimum ET feature, she says, "It's allowed my beds to dry out that little bit extra, which can make a big difference in the floral color."

### Signature's total integration

Avior is a new software package from Signature Control Systems (SCS) that integrates the irrigation system with software that manages a course's maintenance-vehicle fleet, according to Drew Ferraro, the company's marketing manager.

"We can place a [Global Positioning

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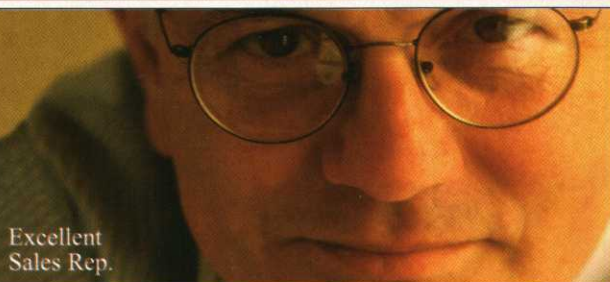
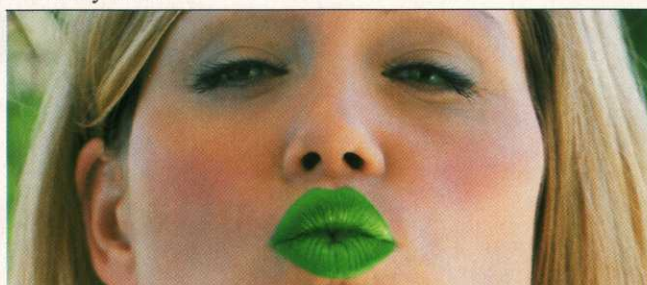


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System] transmitter on the vehicle," he says. "On the irrigation screen, you can see where the vehicle is on the map and watch it move in real time. If you want to know where your three fair-way mowers are, you can look on the screen and see them move."

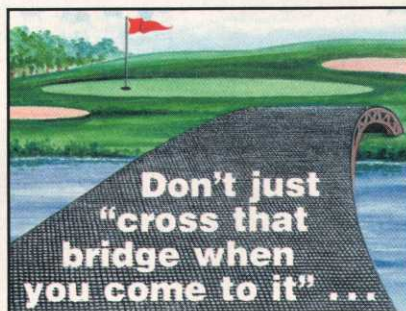
When the vehicle passes within radio range of the computer, Avior can upload information from sensors on the machine. It tabulates how long a machine has been used that day and can predict when a vehicle will need to be serviced.

"It can take water temperature, oil pressure and could [for instance] tell you that your oil temperature is running high and you might want to look at the greens mower on No. 6," he says. "It totally integrates the irrigation and vehicle maintenance packages."

Avior can also be bought separately as simply a vehicle-maintenance program if a course is running another type of irrigation control system.

"Mainly it tracks vehicle locations and pulls up historical records about where vehicles have been," Ferraro says. "That can be important for something like a spray rig, when you're spraying chemicals and want to know where the rig has been and whether it has covered the whole course." ■

*Blais is a free-lance writer from Monmouth, Maine.*



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