

# Control gets 'smart'

**Regulations and high costs are forcing many irrigators to use water more efficiently. One solution? Take advantage of 'smart' controllers**

BY TOM MENTZER

**T**he irrigation of landscapes is rapidly being changed by two forces: costs and regulations. The price of water varies from community to community, region to region, but nowhere is it falling, particularly in the Southwest where water is scarce.

Regulations arising from regional droughts are also driving landscape water users to more targeted, efficient systems. "We realized long ago that water restrictions were going to become more and more of an issue across the country," says Keith Shepersky, a product manager for Rain Bird.

## The 'brains' behind irrigation

The biggest advances in irrigation technology are taking place on irrigation system controllers. The brain of any system is its controller. It has evolved from motorized master hydraulic valves that powered a series of pressurized valves to electromechanical clocks and, most recently, to micro-computer-based clocks.

Jeff Banghart, owner of Controlled Rain, Omaha, NB, feels the newer controllers' ability to manage multiple zones and programs has been the biggest improvement in the product's evolution.

"More and more people have landscape zones around their houses. We can program the controller to water the shrubs, flowers and syringe the yard late in the day," he says. "If it gets real hot, people want to run the system for 10 minutes to cool off the grass. You can do that with an ESP clock and still water 40 minutes in the morning."

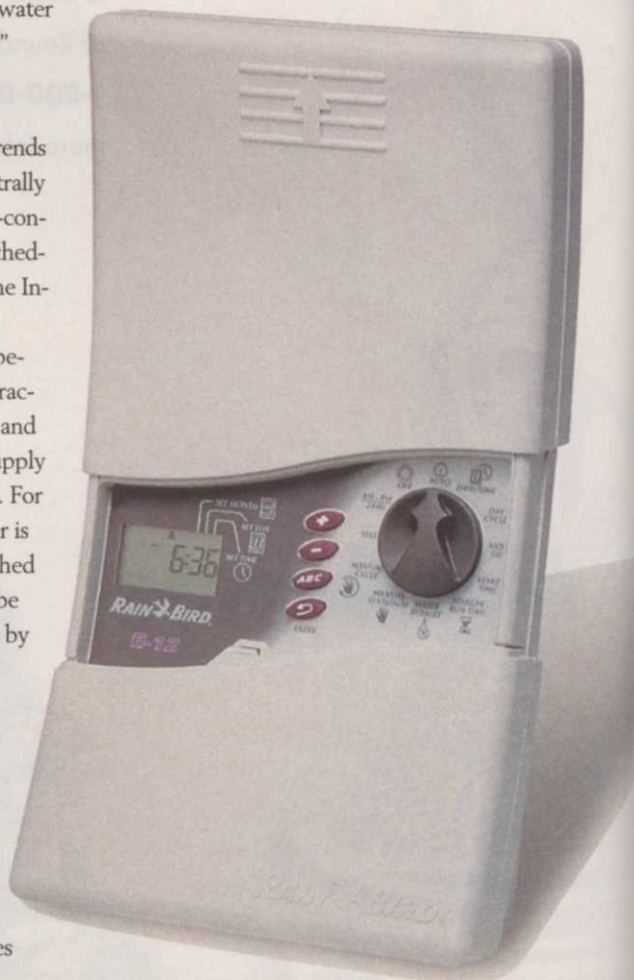
## Control trends

Look for these coming trends in irrigation controllers: centrally controlled systems, remote-controlled systems, ET-based scheduling and control through the Internet.

Remote control should become more popular as contractors look for more accurate and timely ways for clients to supply their landscapes with water. For example, even if a controller is locked in a client's storage shed or garage, a contractor will be able to access the controller by simply typing in an access code from a laptop computer or remote transmitter in his or her truck. The contractor can then perform any number of tasks: troubleshooting, winter system blowout, spring start-up or other types

of general maintenance.

The concept of on-site remote control might eventually evolve into centralized, computer-based control using a GPS satellite, fiber optics or modem. Contractors could use a computer in their office to run, test and troubleshoot as many as 200 different sites. Similar to systems already being used on golf courses, centralized controllers could be connected to a weather station to monitor natural precipitation, evapotranspiration rates, and heat





and wind to make adjustments to the irrigation programs at individual sites.

#### Pinpoint systems

How quickly these technologies become popular is anybody's guess, but they're on the way, just like drip systems were less than a generation ago. Primarily used to deliver water to plantings in landscaped areas, drip systems are now commonplace in southern California and the Southwest. They allow water to be measured in terms of "gallons per hour" instead of "gallons per minute," but can still keep plantings lush while reducing the overall amount of water used. They accomplish this by pinpoint watering at the root ball of the plant.

Battery-powered controllers will continue to rise in popularity because they are ideal for sites where AC power is restricted or unavailable. Already in use, these types of controllers use a single 9-volt battery to power one to four valves and can maintain fairly complicated systems.

#### Controller trends to watch:

- ▶ Centrally controlled systems;
- ▶ Remote-controlled systems;
- ▶ ET-based scheduling;
- ▶ Control through the Internet.

In fact, today's controllers offer many features that make irrigation more efficient and user-friendly. These include super capacitors which hold the controller's program memory for up to 30 hours in the event of a power outage and diagnostic circuit breakers to detect shorts in the wiring. The circuit breakers can sense when a solenoid, connector or valve wire short circuits. Instead of popping a fuse, which would cause the entire controller to stop, it de-

etects which zone or station has had the short. It then "jumps" over it in the irrigation program and continues to water all other operable zones.

Just as the humble typewriter was updated and eventually replaced by the personal computer, so too have controllers changed to keep up with the newest technologies, client preferences and government regulations. **LM**

*The author has written on landscape topics for several years.*

## Don't do this to your controller

Though technology has changed the irrigation controller since the first models appeared on the scene, the long-standing loyalty that contractors have for electromechanical clocks is understandable. They are rugged and fairly simple to program and service without help.

John Joseph, owner of Joseph Irrigation, Tampa Bay, FL, claims that a controller belonging to the Tampa Parks and Recreation Center continues to operate after surviving a burglary, lightning strike and run-in with a police car all in the same incident. Here's how it happened:

Joseph says that a burglar broke into the center during a storm. A surge from a lightning bolt blew the controller off the wall and into the burglar's hands. A few seconds after the alarm went off, he ran out of the building with the controller, threw it in his car and fled the scene.

The police gave chase, hitting the burglar's car and spun it out of control. As the car was spinning, the controller flew out and was hit by the police car. After the burglar was apprehended, the controller was recovered, returned to the center, given a fresh coat of paint and reinstalled. It's still in operation today.

David Raber, owner of Rainbow Irrigation, Bristol, IN, described how he and his wife watched their home get leveled by a tornado in 1980. "One of the items found in the debris was the Rain Bird automatic sprinkler controller, Model RC-7, that I installed in 1976," he said. "I installed it when our home was rebuilt and it still controls my system today."