

Highest of technology coming to irrigation systems

By LARRY RODGERS

Many of us remember Hal 2000 from the film "2001: A Space Odyssey." In the end the computer takes over. In the golf irrigation business many people have turned over critical data processing to the central controller, but far more can be expected.

Today we have many interactive tools we use daily, and have used for many years. One is the alarm clock: This electronic device keeps the time of day and, at a pre-set time, activates an alarm that alerts you.

Tomorrow's tools are in use today in many other industries and will make their way to our industry soon. One term we will need to understand is "Real Time." Real Time is about exceptional responsiveness. As Real Time managers we must respond to changing circumstances in the smallest timeframe.

In today's competitive golf environment, superintendents' time is being consumed by many other management activities and the time spent on the course is diminishing. Real Time technology will

help the entire organization monitor, adapt, initiate, verify, and react to changing environmental conditions.

One type of Real Time/Interactive world we can look forward to comes from space. This technology is called "Space Imaging" or "Remote Sensing." There are companies developing a private satellite network that will offer "pictures" that were once reserved for spy agencies, to anyone with a desktop PC and a checkbook.

Soon it will be possible to call up the satellite vendor and order a high-resolution image and spectrum image of the golf course. This data is downloaded to the central controller. The image will show the turf stress. If this image is in "Real Time" you will have access to data never available before.

Today's central computer manufacturing companies have been promising interactive control for two years and are very close to having it available. The systems available today have a way to go before they are fully up to "Industrial Standards."

In a typical industrial manufacturing plant, many of the processes are automated and controlled in Real Time by an interactive central computer.



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Imagine having the irrigation control system in Real Time communication with the pump station. In this environment, the central computer would be monitoring the pump station and field pressure transducers. As the pump station tops out with performance, the central computer turns on or off the proper number of sprinklers to match the pump performance all night.

In the real world, a Real Time interactive control system would sense a loss of pump performance such as a clogged filter, or motor failure, and reset the irrigation immediately to match the revised pump performance.

Soon it will become commonplace to see the irrigation technician with a Real Time, GPS-based, virtual map on a portable computer in the vehicle. With this type of computing power the irrigator can send any programming changes from the field computer image to the central computer via wireless communication.

Please keep in mind that this is my look at a few of the potential items that could affect our business and very few, if any, are currently being used. If someone can imagine it, someone can build it.

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So, here's my advice to you manufacturer types: Name your own week-month-year, declare it is "to raise consumer awareness about the importance of (your product name here)," and try to hide the smirk.

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Presidential candidates are heating up their campaigns (or dropping out) and it's interesting to probe the mind of the one man I know (and probably the only one in history) who has destroyed a putting green in his backyard — Vice President Al Gore. His book, *Earth in the Balance*, which we reviewed here when it was published several years ago, reveals some of the oddities filling this man's brain. Just to confound those who might support Mr. Gore, here is one quote from page 260:

"... the prevailing ideology of belief in prehistoric Europe and much of the world was based on the worship of a single earth goddess, who was assumed to be the fount of all life and who radiated harmony among all living things.... the last vestige of organized goddess worship was eliminated by Christianity as late as the fifteenth century.... it seems obvious that a better understanding of [goddess worship] could offer us new insights into the nature of the human experience."

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