## **Getting Ready for Summer: Lightning Alert**

by DICK GRAY

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EE TREVINO'S story of holding a 1-iron over his head for protection during a thunder and lightning storm ("Not even God can hit a 1-iron") isn't fully believed at Crestview Country Club, in Wichita, Kansas. Here the bolts ricochet regularly across the western summer sky. An alarm system for severe weather, especially lightning storms, was authorized by the board early in 1980.

Our first approach was to use the usual centrally located siren. However, this seemed impractical because of the layout of the course. We have 36 holes on one square mile. With occasional strong winds and housing along our fairways, it would be hard to achieve audio coverage over the entire area. The cost for this system was over \$6,000.

Our next thought was to section the course into areas that could be covered by a smaller type warning alarm. We selected one signaling device that has 11 tones to choose from merely by changing a circuit board. We then took a sample device to five different locations on the course and plugged it into the 110-volt service at our satellite irrigation controller. The testing program convinced us that this was the best system for coverage of our course. We selected a tone completely different from all emergency vehicles that would be in our area and would not confuse anyone.

The next problem was that of triggering the device from the golf shop to the five locations on the courses. We had power at the controller sites to operate the alarm, but we would have to run a triggering wire to each unit. This would require over three miles of wire and a considerable expense for the installation as well as the wire itself.

To get around the wiring problem, we contacted a local electrical company for alternatives. They came up with a transmitter device which, when modified, would do the job. The transmitter is capable of superimposing a signal on the existing 110-volt line going to each irrigation controller site. A decoder was installed in the circuit of each warning device and, when the signal was received, it would activate the warning

The storm warning system is activated by a special key through a timer in order to keep the warning consistent. The

alarm sounds for 71/2 seconds each time it is activated. The golf shop is in full charge of the warning system and sounds the alarm when weather warrants it. Three alarms means "clear the course." One alarm is the signal for "all clear." The total cost for our system was just under \$6,000. It beats a 1-iron.

Richard Gray and one of five siren alarms.

