

App Note

128 Valve Irrigation Solution



QuickSmart Development
P.O. Box 3689
Santa Clara, CA 95055

408-777-0944
www.QuickSmart.com



WDS Access Point w/ 4 Port Switch



EtherRain™ 8

This application note demonstrates a system and a general architecture for implementing a low cost distributed 128 valve networked irrigation system that offers centralized management and control for overall low cost. The architecture of this system allows expansion of valves into the thousands and geographic distances to a city level.

The EtherRain 8 controller is a networked valve controller that accepts irrigation commands from a centralized scheduler. When combined with new wireless architectures, EtherRain provides the basis for low cost scalable irrigation solutions that are centrally managed and controlled.

Centralized irrigation management is a very new concept within Irrigation. Centralized management provides the most cost effective approach to implementing, managing, and maintaining large irrigation projects because it allows shared use of expensive sensors while allowing irrigation schedule building and changes to be administered through a central interface. Centralized management allows scheduling changes to be implemented quickly while also providing operational logs for maintenance, as well as water usage information.

The effectiveness of centralized management of a large distributed irrigation system depends on the capability of the software that controls the system. In this app note, the Internet Irrigation management system currently available from LawnCheck is used as the centralized scheduling system. The LawnCheck system provides year around seasonal irrigation control along with weather inputs. Weather information can come from a commercial or government source as well as a private weather station.

A new system of wireless connectivity called "WDS" or Wireless Distribution System allows wireless access points to form a wireless backbone which provides more flexibility and range in connecting devices.

The system shown in the diagram below can be scaled in terms of number of valves, to the thousands, and in terms of geographical coverage, to the size of a city, depending on the availability of network connections. Nodes consisting of 4 EtherRain controllers and a WDS Access point are packaged for outdoor use in a weatherproof housing.

The LawnCheck centralized scheduling and management system resides on the Internet and is accessible through a standard Internet browser. LawnCheck provides seasonal and weather dependent controls.

128 Valve Node Linked to Internet; 250,000ft² Coverage

