Advanced Irrigation Management Module Overview

CENTRAL CONTROL SOFTWARE MODULE

Advanced Irrigation Management is an add-on module that can be used with either the Evolution Central or Central-Lite software programs. It operates under Windows™ NT, 2000 Professional and XP Professional operating systems.

AUTOMATION

On a daily basis, the software automatically selects, prioritizes, and assigns valve stations into special sequences that optimize irrigation performance. This optimization is accomplished by the software scheduling irrigation stations independently from their respective controller locations. These optimized irrigation schedules can be viewed graphically in advance allowing irrigation managers to confirm or modify projected irrigation events.

SYSTEM FLOW MANAGEMENT

The software precisely controls the rate of flow at pumps and at any point in a main line system. These points are designated as flow nodes and are user defined. Establishing flow nodes allows the system's flow capacity to be maximized without causing excessive water velocity or pressure loss. Maximizing flow capacity compresses total irrigation time and allows for shorter watering windows.

GLOBAL PROGRAMMING

Utilizing the power of advanced computer technology; the software allows the user to easily modify the station database with just a few keystrokes. This incredibly powerful feature eliminates the tedious work of adjusting hundreds of programs or thousands of stations one by one. The user simply selects one or more station parameters and a group of stations containing those like parameters is displayed. Then, one or more station parameters within this group can be quickly modified. Additionally, stations can be assigned special attribute parameters (plant type, microclimate, special function etc.) for even faster access of commonly adjusted stations.

EASE OF USE

Although very comprehensive, the Advanced Irrigation Management software is very easy to use. It seamlessly integrates with the Evolution Central System Programs including the Rain Master's unique Advanced-ET software module. Setting parameters, selecting options, and making global adjustments is simple and fast with the graphical point-and-click interface.

ADVANCED IRRIGATION MANAGEMENT SPECIFICATION

1. The Advanced Irrigation Management (AIM) software shall be an optional module that operates under the Evolution Central and Central-Lite software programs.

2. The software shall be for managing the distribution of water through the main line irrigation piping system and for the global programming of irrigation schedules.

3. The software shall automatically calculate and download a new hydraulically optimized irrigation schedule each day.

4. The software shall allow the user to establish groups of stations (Flow Zones) that operate within a specified water window. A maximum of 999 Flow Zones may be established. Each Flow Zone shall be capable of operating up to 10000 stations.

5. The software shall allow the user to set flow limits at any point (Flow Node) in the main line piping system. A maximum of 1000 Flow Nodes may be set in each Flow Zone.

6. The software shall allow for the selection of a normally open or normally closed master valve operation per station.

7. The software shall provide for the activation of a pump on a per station basis.

8. The software shall allow for the setting of controller electrical constraints. The software shall allow up to nine stations to be operated simultaneously per controller.

9. The software shall have independent station control programming capabilities. The software shall allow the following parameters to be set for each station:
    a. Maximum total station runtime between 1 to 99 minutes.
    b. Maximum cycle time from 1 to 99 minutes.
    c. Minimum soak time from 1 to 99 minutes.
    d. Nominal flow rate in gallons per minute.
    e. Runtime percentage from 1-300%.
    f. Irrigation mode option of No ET, Basic ET, or Advanced ET.

g. Operational Priority from 1 to 5.

h. Selectable watering days within a fourteen day calendar.

i. Station or zone plant type.

j. Two, user defined station attributes.

10. The software shall provide the option of using Evapotranspiration (ET) data to automatically adjust irrigation schedules. The Basic ET feature shall adjust station runtimes only. The Advanced ET feature shall adjust station runtimes and irrigation days.

11. The software shall allow station programming by satellite or by global selection. The global selection programming option shall allow the user to define one or more station parameters. The software shall search the database and generate a list of all stations with the defined parameters. From this list, the software shall allow the user to modify one or more of the station parameters to one or more of the selected stations.

12. The software shall provide forecasts of the upcoming irrigation schedules. The forecasts shall provide graphic displays of projected flow conditions for each Flow Zone. The forecasts shall also provide specific station event times and runtimes.

13. An automatic backup schedule shall reside indefinitely in each satellite. This backup schedule (satellite programs #10 and #11) shall consist of user-defined runtimes, irrigation days, and start times. This backup schedule remains inactive as long as an AIM schedule is downloaded every twenty-four hours. In the event that an AIM download is missed, these backup programs will become active ensuring that an irrigation event will take place.