



Maxicom²™ Central Control System

Irrigation Management Designed to Fit Your Needs



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Central Control System



Maxicom² by Rain Bird makes irrigation management a simple, accurate, and labor-efficient task. It's a central control system that helps you achieve superior water management effectiveness – at an unlimited number of locations.

With Maxicom², one computer command center is the hub for all management activity. Yet for all its sophistication, Maxicom² requires no computer language or typing skills – it's Windows-based interface is truly user-friendly with on-screen explanations and prompting.

Put Maxicom² to work and your irrigation will be managed in the most efficient means possible, resulting in precise watering of diverse landscapes; cost savings to your organization on water, labor, and power; as well as longer system and pump life, resulting in lower system maintenance costs.

Maxicom² puts you in control of multiple site irrigation.

If you're in charge of multi-site commercial or industrial irrigation, you know the challenges of water management. And, if you're like other irrigation professionals, you've wanted a "smart" irrigation system that lets you control multiple sites to your exact specifications. Of course, user-friendliness tops your list, too.

Intelligent use of water.

While easy-to-use central control is the primary purpose of Maxicom², effective system management could ultimately result in water savings of, up to, 25-45% per year. Especially in periods of drought and water restrictions, reduced usage and waste (run-off, etc) can mean extensive savings for school districts, parks, planned communities, and corporate campus sites.

Features that allow you to achieve superior water conservation include:

- ◆ **Individual irrigation schedules** –

Schedules can be adjusted for plant types, environmental conditions, seasonality, germination, and fertilization.

- ◆ **Water Budgeting** – Station run times

can be adjusted by schedule or by a water budget macro.

- ◆ **Cycle + Soak™** – Irrigation times can be set to correspond to a site's soil conditions and soil infiltration rate, minimizing runoff.

- ◆ **Flo-Watch™** – Main line and lateral line piping is monitored for excessive and unscheduled flow. When detected, the system initiates a process to locate and eliminate the problem.

- ◆ **Flo-Manager™** – The system monitors and sequences valves scheduled to be turned on, so expected demand does not exceed hydraulic capacity. Flo-Manager facilitates multi-station operation, which may shorten the total run time and watering window.

- ◆ **Automatic ET adjustment** - Optional Weather Stations allow calculation of daily evapotranspiration (ET) values and automatically adjust station run times to replace only water used.

- ◆ **Rain Watch** – Monitor rainfall and respond by pausing irrigation at the first sign of rainfall and determines if irrigation currently scheduled should continue or be canceled.

- ◆ **The FREEDOM System™** - A remote control system designed specifically for

the Maxicom² Central Control System. This easy-to-use device can start/stop stations or schedules from a hand-held radio, cellular, or land-line telephone.

More than just water conservation.

Along with water savings, Maxicom² provides the end-user with an environmental management tool that includes many additional benefits:

- ◆ **Reduced Labor Costs** – By regulating all irrigation schedules from a single PC, the user will no longer need to make schedule adjustments at each controller.

- ◆ **Time and water savings** – System shutdowns for maintenance or emergencies can now take seconds instead of hours.

- ◆ **Reduced fertilizer and chemical usage** – Good irrigation management can reduce over-watering and run-off, resulting in good plant health while minimizing pest infestations and disease.

- ◆ **Non-irrigation systems control** – Lighting, fountains, and security gates can all be controlled through the Maxicom² system.

Personalized for your requirements

How do you find the right system components to meet your needs? Don't worry, Rain Bird makes it easy. To start, Maxicom² utilizes a Central Controller installed at a primary location. Information is transmitted from this Central Controller to a Cluster Control Unit (CCU) or ESP-Site Satellite in the field. The CCU acts as the system's "computer-in-the-field" which then communicates and manages as many as 28 satellite controllers or other field devices, allowing control of an unlimited number of sites from one Central Controller. An ESP-Site Satellite combines the capabilities of a CCU with the power of an ESP-SAT controller for single site management (up to 40 stations).

We give you a variety of Central Controller to CCU communications options, so you can choose one of the following configurations that best meets your needs.

Telephone communication

By far, one of the most reliable forms of communication available, installation can be accomplished anywhere a standard telephone line can be run to your field devices. A standard modem is all that is required at the Central Controller, which communicates with the built-in modem in the CCU/ ESP-Site Satellite device in the field.

Cellular telephone communication An analog cellular interface and power supply at the CCU/ ESP-Site Satellite allows reliable communication when a standard telephone line can not be run to field devices.

Radio communication Radio communication allows you to install Maxicom² at sites with little disruption of landscape for communications. For radio/ point-to-point communication, Maxicom² can utilize licensed radio frequencies to communicate with CCUs/ ESP-Site Satellites.

Hardwire communication For installations where the central computer is located on-site, hardwire may be the most cost-effective and secure form of communication. Direct connection between the Central Controller and CCU/ ESP-Site Satellite is accomplished using serial cables or hardwire modems.

Other methods of communications that have been successfully implemented include CDPD (Cellular Digital Packet Data), Fiber Optic Modems, and Spread Spectrum Radios.

CCU-to-field communications that fit your needs.

Selecting the type of communication between the CCU device and the field satellite controllers is simple. For new installations, using Two-Wire Path (communications cable) to directly connect the field devices can be the most cost-effective, secure, reliable form of communication. The Rain Bird Central Control Hardware can even communicate through unused twisted pair runs of your installed telephone system. MAXI-Link™ Wireless is an option for sites where landscaping already exists or where hardwire installation is impractical.



Backed by Superior Support.

With a large distribution network around the world and comprehensive support plan offerings, Rain Bird is considered by many to have the finest support in the industry. You can count on Rain Bird's Central Control Support Team for information and assistance on technical issues related to the installation, functions, and product features of Rain Bird software and central control hardware. In addition, you can depend on Rain Bird's Central Control Specialists for assistance with installation and on-going field support.

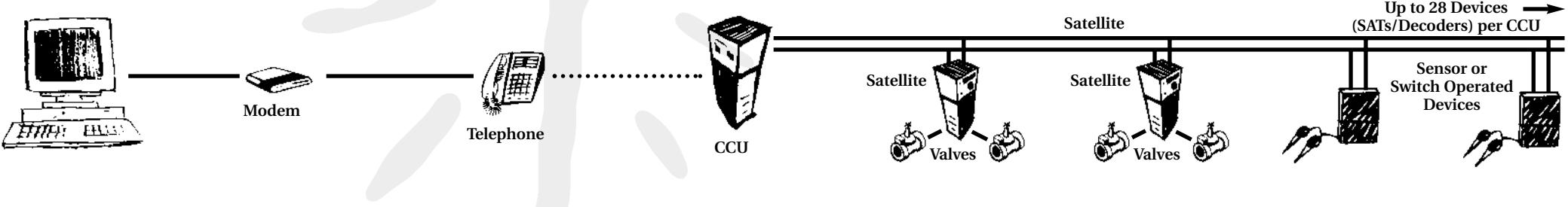
Communication Path Options

Computer-to-CCU/ESP Site Satellite

With a variety of Computer-to-CCU/ESP Site Satellite transmission options to choose from, you can choose the configuration that best meets your needs.

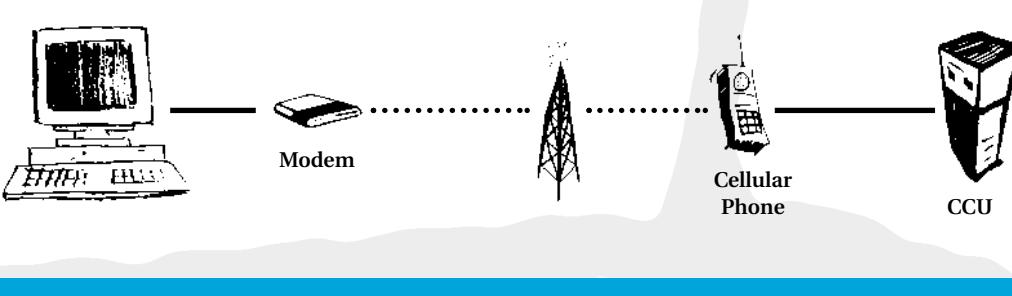
Telephone Communication

Dial-tone telephone service is used at the site to allow the central computer modem to "call" the CCUs/ESP Site Satellites. The central computer sends schedules and retrieves field operation data automatically each day. Telephone communication can operate anywhere in the world where a telephone line can be accessed.



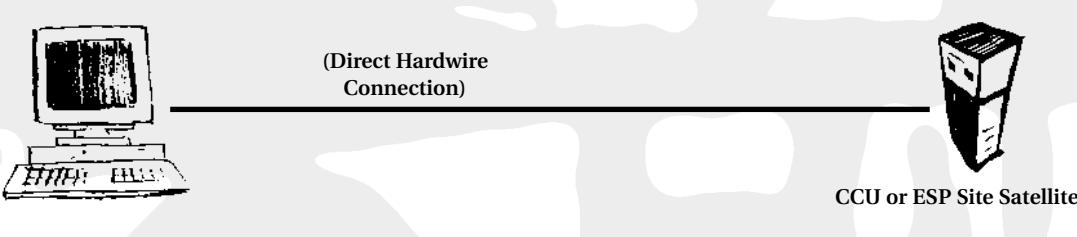
Cellular Telephone Communication

These can operate anywhere the local cellular system operates. A standard telephone modem at the central computer site contacts the CCU/ESP Site Satellite via cellular telephone and modem at each site. Ideal for remote location sites.



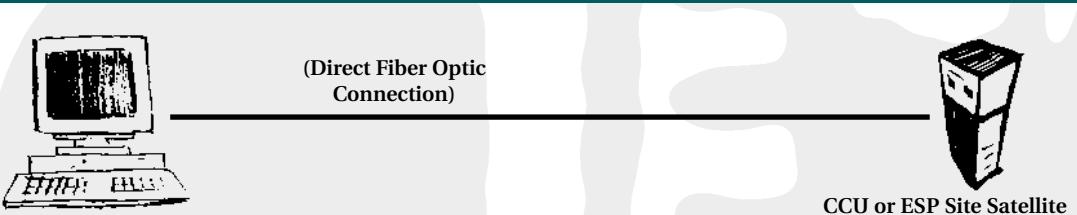
Hardwire Communication

Most practical when the central computer is installed close to the CCU/ESP Site Satellite or where secure communication lines are required. By installing new wire or using existing wire systems such as "dry-pair" leased telephone line, the central computer can communicate with the CCU/ESP Site Satellite field devices up to four miles away.



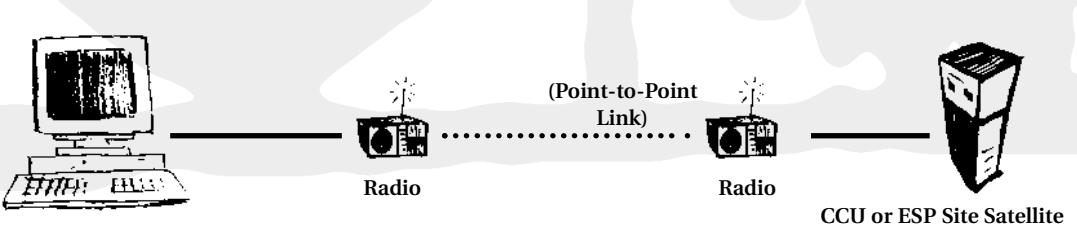
Fiber Optics

Fiber Optics provide fast, secure data communication between the central computer and field CCU/ESP Site Satellite units. Fiber optic modems transfer data and check the information for accuracy automatically.



Radio/Point-to-Point Communication

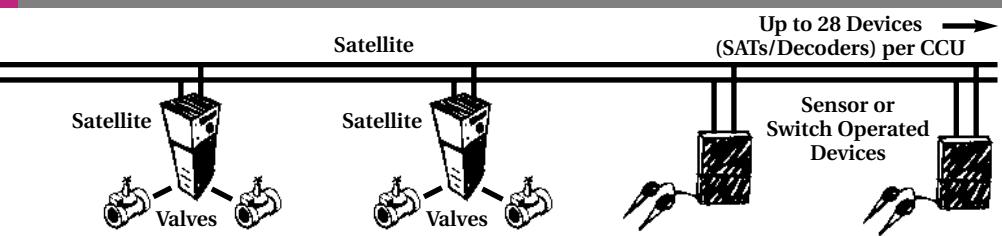
Maxicom² can use radio frequencies to communicate with CCUs/ESP Site Satellites. A radio base-station is set up at the central computer which transmits data to the mobile radio installed in the CCU/ESP Site Satellite.



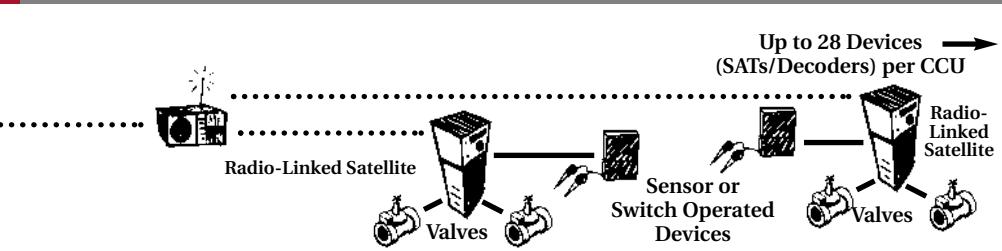
CCU-to-Field

Maxicom² utilizes two different types of communication from the CCU to the satellite controllers at each site. New systems may use Two-Wire Communication Path for added reliability. Retrofit systems may use MAXILink™ Wireless Communication for ease of installation. ESP Site Satellite controllers do not require CCU-to-field communications.

Two-Wire Communication Path



MAXILink Wireless Communication



MAXILink,™ another big advantage of the Maxicom² System.

Rain Bird's MAXILink communication system represents the cutting edge of data exchange technology. Using radio communication, Rain Bird's satellite controllers communicate constantly with the CCUs (Cluster Control Units), Maxicom²'s middle managers in the Maxicom² Central Control System. Each satellite controller has a data radio unit communicating with the CCU's data radio unit. No wires, no trenching, just clean pure communication.

To maximize reliability, Rain Bird satellite controllers with MAXILink, which include the Central Output Module (COM) unit, also have check systems built in to monitor the communication between the CCU and the controller. If any data is not received properly, the unit automatically re-sends the information and rechecks it for accuracy. This assures constant reliable communication at all times, with no strings attached.

- Simple, easy installation
- Requires no unsightly, disruptive trenching for installation, repairs or alterations
- Saves installation labor
- Allows for easy system retrofit/expansion
- Reliable data radio communication
- Increases planning options, both for seasonal and budget considerations
- Access to all Maxicom² features
- Available on any new, or existing Maxicom² system
- Remote area installation using solar power

Types of Communication

Computer-to-CCU/ESP Site Satellite

	Telephone	Cellular Telephone	Hardwire	Fiber Optics	Radio* Point-to-Point
Maxicom Software Package	●	●	●	●	●
Maxicom ² CCU Package	●	●	●	●	●
CCU-6 (6 channels)	●	●			
CCU-28 (28 channels)	●	●	●	●	●
CCU-6-SS (stainless steel pedestal)	●	●			
CCU-28-SS (stainless steel pedestal)	●	●	●	●	●
Maxicom ² ESP Site Satellite Package	Telephone	Cellular Telephone	Hardwire	Fiber Optics	Radio* Point-to-Point
ESP Site Satellite (wall mount)	●	●	●	●	●
ESP Site Satellite (stainless steel pedestal)	●	●	●	●	●
Maxicom ² Satellites	Telephone	Cellular Telephone	Hardwire	Fiber Optics	Radio* Point-to-Point
ESP-SAT-2W (two-wire - wall mount)					
ESP-SAT-2S (two-wire - stainless steel pedestal)					
ESP-SAT-LW (link radio - wall mount)					
ESP-SAT-LS (link radio - stainless steel pedestal)					
SBM-SAT-TW					
COM-TW					
COM-LINK/R					

CCU-to-Field

Two-Wire Path	MAXILink™ Wireless
●	●
●	●
●	●
●	●
N/A	N/A
N/A	N/A
Two-Wire Path	MAXILink™ Wireless
●	●
●	●
●	●
●	●

The Pros on Maxicom

Maxicom saves money.

Terry Murphy, Parks Supervisor, City of San Buenaventura, Camino Real Park, Ventura, California

Camino Real Park is a 38-acre complex containing eight tennis courts (lighted), two softball fields (lighted), a regulation softball/baseball diamond (lighted), two youth baseball fields, basketball and sand volleyball courts.

Terry Murphy solved her irrigation and lighting problems by installing a Maxicom System. "Maxicom automatically turns off the sprinklers when it rains," says Murphy. "We used to have to do it manually, which meant I had to send someone out to the park site."

"The same holds true for the athletic fields and tennis court lights," continues Murphy. "I had to hire two people a year to turn off and on lights. Now Maxicom takes care of it for me." In addition to the labor savings Maxicom allowed Ventura to successfully cut water consumption 20% in one year and 10% the following year.

Maxicom makes work easier.

David Zornes, Irrigation Tech III, Greater Orlando Aviation Authority, Orlando, Florida

The Greater Orlando Aviation Authority property has plantings on over 450 irrigated acres. From large turf areas to individual landscaped beds, raised planters to courtyards and atriums, a diversity of plants from native to tropical are showcased. They all have varying watering requirements, which makes David Zornes call Maxicom "a lifesaver".

He says, "With the ability to pick out individual zones from a single satellite and vary the watering times and number of days, Maxicom makes my life much easier.

"We have about 230,000 rotors and sprays, 1,369 irrigation valves, 60,000 drip emitters, 111 controllers, and 13 CCUs. Of the water we use, 90% is from reuse and the other 10% is water collected in lakes throughout the property. During midsummer we use over one million gallons of water per day. Maxicom helps us run a system of this magnitude precisely."

Maxicom conserves water.

Rosa Montalvo, Park Manager, El Retiro Park, Madrid, Spain

Madrid's El Retiro Park was once the private garden of Spanish royalty. Today, this 17th century park is a favorite haven for Madrid's 3.4 million inhabitants. The park's immaculate 160 acres enjoy almost constant use.

Parks like El Retiro are being challenged by the water demands of a growing population. To address these needs, Madrid incorporated Rain Bird's Maxicom system into this centuries-old setting.

According to Park Manager Rosa Montalvo, "I can now precisely adjust the operation of over 800 Rain Bird R-50 rotors and 1,500 pop-up spray heads throughout the park. It's been very easy to learn the system, and with the help of Maxicom we've reduced water usage by over 30%."

Rain Bird's newest irrigation technology has helped preserve one of Europe's oldest and most beloved parks.

*Radio/Modem available from local source only. Required for Computer-to-CCU communication path only.