RAIN BIRD AUSTRALIA
INTELLIGENT USE OF WATER ™
TECHNICAL SERVICES NEWSLETTER

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Welcome

Welcome to the Summer edition of Rain Bird Australia's Technical Services Newsletter.

The Technical Services Newsletter is intended to keep you abreast on services, product releases, up coming events and important technical information to help you get the best out of your system.

We value your feedback, so please feel free to tell us what you would like to see included, and where you think we could improve the flow of information to you. Your contributions of material that you think will help others are welcome.

IN THIS ISSUE:

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Free 60 day trial of MI Series Mobile Controller

Rain Bird is pleased to announce that the launch of the Rain Bird MI Series Mobile Controller has been a great success. After a trial at the Wembley Golf Complex in Perth which proved that the product was ideally suited for Australian conditions, Irrigation Manager Darren Wilson purchased the first MI controller.

Randy Mills, Rain Bird Golf Central Control Product Manager, recently travelled to Australia to conduct a training session for Rain Bird Australia staff. During his visit we also set up trials at Bonnie Doon Golf Club near Sydney, The Australian in Sydney, Heritage Golf & Country Club in Victoria and at the Sanctuary Lakes course at Point Cook Victoria.

The Rain Bird MI Series Mobile Controller truly puts control of your irrigation system into the palm of your hand. Using the Internet, Rain Bird MI Series Mobile Controllers offer unprecedented speed and control from wherever you are. The Rain Bird MI Series Mobile Controller was designed to work on the micro-browser of a standard cell phone, SmartPhone or PDA phone making it convenient and portable.

Free 60-Day Trial:

Rain Bird MI Series includes the option for a free 60-day trial prior to purchase so customers can try the product before they buy it, and then decide which licences they would like to purchase. This one-time only 60-day trial will include one professional level licence along with the software to be installed on the customer's central control computer. The trial version is a fully functional product offering all professional level features. The trial expires 60 days after the product is installed. Converting from a trial version to a full version in most cases requires nothing more than a software activation code emailed from Rain Bird after the order is taken.

To request a trial, please contact:

Wayne Brown (National Sales Manager- Golf) on:
mobile 041 966 9679 or email: wbrown@rainbird.com.au

Greg Smith (Area Manager- Golf) on:
mobile 043 850 3070 or email: gsmith@rainbird.com.au

Tech Talk - Decoder Diagnostics

One of the unique features of Rain Bird's decoder based software is the ability to monitor current draw right down to the solenoid level. To access the Decoder Diagnostics feature within your central control software, navigate to the third toolbox and click on the icon of a decoder with a stethoscope.

Figure 1 shows normal operation for a particular system and displays the current draw of the decoder interface and the stations that are operating at that time. The flat portions represent the at rest current draw on the system and the peaks note activity. Notice the list of all stations active at that point in time on the red box on the right side of the screen.

As you can see in Figure 2, the current draw is far higher and yet there are much fewer stations operating concurrently. This type of situation is approaching a consequence where the power output capacity of the decoder interface could be exceeded, which may in turn cause inaccurate station run time logging.

A likely cause for this problem is that one of the stations running in Figure 2 may have a shorted solenoid and by isolating each station to verify individual milliamp draw, all stations but 13F1 can be eliminated. In Figure 3, you can clearly see that Station 13F1 is drawing several hundred milliamps more than normal. To confirm this finding in the field, simply use an Ohm meter to take a reading of the green coil from the valve-in-head rotor. A normal resistance reading would be approximately 29 Ohms. By contrast, a shorted solenoid, such as in Station 13F1, will read about 4 Ohms of resistance.

Figure 0

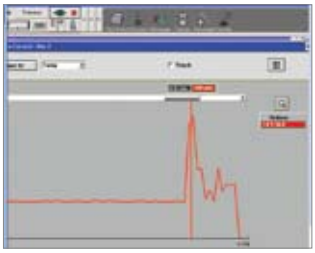

Figure 1

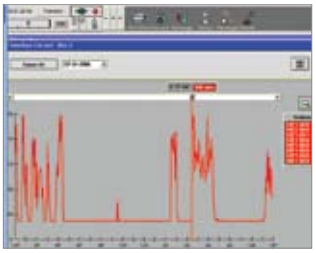

Figure 2

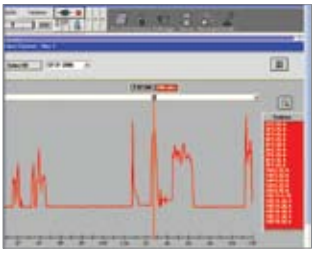

Figure 3

GSP Subscriber Action

Decoder diagnostics makes coil fault finding easy

Irrigation Supervisor Mick Todd (pictured right), of Royal Queensland Golf Club, recently breathed a sigh of relief after pinpointing some faulty solenoid coils using 'Decoder Diagnostics' in Rain Bird's golf irrigation software.

After a frustrating night or two where the irrigation cycle would not reliably complete, and a few 'hot calls' on the GSP Hotline, Mick was able to locate the faulty coils using the current graph, in this case Nimbus II, which is also available in all of Rain Bird's golf softwares.

A unique and particularly useful feature of Rain Bird's Decoder Diagnostics software is the Field Current Log. This new diagnostics tool logs field current, as measured by the decoder interface, 24 hours a day and the information is provided in a chart similar to the Flow Graph. As was the case at Royal Queensland Golf Club, the ability to analyse the decoder system was dramatically improved by being able to log before, inrush and after current measurements each time a station was activated. Every solenoid that was active at any moment of the day was visible on an easy-to-read graph and so Mick was able to pinpoint the faulty solenoids with a large degree of accuracy.

A very worthwhile diagnostic tool in a system comprising many hundreds of valve-in-head sprinklers and solenoid valves.

Otterbine Aerating Fountains & Industrial Aerators - Increase Oxygen Levels and Improve Water Quality

Otterbine has adopted disciplines from wastewater engineering and lake management experts to produce highly effective aeration systems and offer beautiful fountain-like spray patterns.

For further information on Otterbine aerators, please call **Greg Smith** - Rain Bird Australia on 0438 503 070 or email: gsmith@rainbird.com.au

5hp High Volume industrial aerator operating at Craigieburn GC, Melbourne

Energy & Water for Irrigation Systems

By Scott Johnstone

THE COST OF OWNERSHIP

A practical comparison of some key efficiency factors that impact on water and energy savings

Less water can provide better results. For most enterprises that rely on irrigation to be sustainable, reducing water usage and the cost of ownership are the common goals for improved performance and economic viability. This principle applies for most commercial irrigators including golf courses, resorts, race tracks, sports fields, councils, nurseries, horticultural & agricultural applications.

With many regions in Australia facing water restrictions and moving towards water 'needs' basis, as opposed to a water 'on-demand' system, reducing water usage is not a goal, it is often now a requirement.

The amount of water and energy consumption on a site is directly related to four key efficiency factors, including:

- Scheduling Coefficient
- Flow Management Efficiency
- Pumping Efficiency
- Scheduling Efficiency

These efficiency factors are primarily determined by a combination of influences in particular, the following areas can have a profound effect:

- Design
- Product selection
- Operator skill
- Maintenance

If compromises are made in some of the above areas, it would result in increase water use and running costs. If poor investment decisions were made and all of the above areas are neglected, the affect would be more profound with substantial input increases and compounded with substandard output performance in terms of plant quality.

The good news is that aside from reducing water consumption and running costs, good irrigation design and management practices can have a very positive flow on effect in other areas, such as improved plant growth, reduced chemical usage and positive environmental impact. Making a little water go a long way can be very rewarding.

To compare two irrigation system requirements using the same site, Table 1 demonstrates the difference of water & energy inputs by adjusting the key efficiency values. The values used in either example are not extreme or unrealistic, if you were to audit what would be considered to be a good and mediocre irrigation system in the field.

Water and Energy Requirements for Two Possible Irrigation Scenarios on the Same Site

Data	Example A *Good design & operation*	Example B *Mediocre design & operation*	Variance
Scheduling Coefficient, factor	1.2	1.5	
Flow Management efficiency	90%	80%	
Pumping efficiency	76%	60%	
Scheduling efficiency	90%	75%	
Peak Irrigation Requirement	43mm/wk	54 mm/wk	25%
Power Requirement @ design duty	61 kW	108 kW	78%
Water Usage, ML/year	**156**	**228**	**46%**
Water & Power Cost, $/year	**$22,472**	**$35,561**	**58%**

A theoretical analysis based on a 18 hole golf course in Brisbane, using exactly the same environmental factors, irrigated area, plant factors, climate data, and irrigation window. Costs for both examples are based on water supply at $100/ML, and power for irrigation pump station at $0.12kW/hr. The only fundamental difference between the two examples above is the 4 key efficiency factors shown in the data table.

Table 1: Golf Course Irrigation System - Water Use & Operating Cost Comparison

In comparison to Example A, Example B with mediocre design & operation values uses 46% more water and the running costs directly associated with the irrigation increases by 58%.

Also importantly, for example B:

- The 25% increase in the Peak Irrigation Requirement will result in a larger pump station and mainline capacity, therefore increased capital cost to service this requirement
- The 78% increase in power required at the irrigation pump station will result in a larger incoming power supply and transformer capacity, therefore increased capital cost to service this requirement

In addition, whilst it is more difficult to quantify here, it would be fair to say poor irrigation practices will have a negative impact on plant quality and increase other operational costs such as fertiliser, chemical and labour inputs.

Scheduling Coefficient

The Scheduling Coefficient (SC) factor is mainly determined by the ability of the irrigation emission device, such as a sprinkler head, to deliver water uniformly across the irrigated area. For a good result, Scheduling Coefficient target range in zero wind conditions is 1.1 to 1.3, based on critical SC window size of 10%.

The important criteria to check when evaluating a system design or audit for SC factor are:

- Optimum sprinkler spacing & pattern
- SPACE data or catch can test for SC, Coefficient of Uniformity (CU%) & Distribution Uniformity (DU%)

- Uniform Operating pressure at sprinkler heads and the use of pressure regulating devices, where required

Scheduling Coefficient can be tested on existing sites using a catch can test (pictured), and most manufacturers can supply factory test data for new systems.

Scheduling Coefficient has a huge impact on the irrigation requirement as the operator is obliged to water up the areas receiving lower precipitation rates to replenish soil moisture levels to field capacity, so the higher precipitation areas are overwatered and there is a compromise between wet spots or dry spots. It is important to get the design fundamentals right from the start as this can also be one of the more expensive areas to rectify, particularly if the spacing is inappropriate or the pipework is undersize. It is a far simpler exercise to change out the sprinkler nozzles or heads due to wear or poor performance, if the hydraulics are satisfactory.

Flow Management Efficiency

Flow management efficiency is the ability of the operator and control system to keep the pump system at maximum design capacity throughout the majority of the irrigation scheduled. The objective is to compress the irrigation window as much as possible, and at the minimum stay within the time available. For a good result, Flow Management efficiency target is >90%.

Irrigation windows are generally limited to night time operation to avoid evaporation losses caused by sun and wind, plus utilize off peak power to minimize running costs. However, there can be other site specific factors that can limit operational hours available for irrigation per week, such as public access.

For projects such as a sports field, with consistent station flows and a limited number of control valves, providing the pump selection is good, this may be a relatively simple process with limited options. For more complex projects, such as a golf course, with uneven station flows and a large number of control valves it is vital to have more sophisticated flow management tools.

Most computer based central control systems with flow management capability can automate this process to some extent, once the database is setup properly. Whilst theoretical databases are a useful guide, they may not cater for site variances such as topography, nozzle wear and data entry errors. For maximum efficiency on larger projects it is important that the pump station has the capacity to efficiently handle the range of design flows, and be integrated with the central control system. So that it can report actual system flows and make adjustments or raise alarms where required.

The important criteria to check when evaluating a system design or audit for Flow Management efficiency are:

- Available irrigation window and limitations
- Irrigation control system, accurate database, flow management capability
- Pump selection and pump control system, interface with irrigation control
- Flow meter with output signal, interface with irrigation & pump control

Good flow management is becoming more critical, as factors such as staying within offpeak power limits and trends towards recycled water which may limit public access when the irrigation cycle is completed. Operators in this situation may now require an irrigation window of say 8 to 10 hours per night, whereas the original system may have been 12 hours per night, so efficiency gains need to be sought.

Pumping efficiency

Pumping efficiency has a big impact on energy usage and is one of the easier components to fix in an existing system. For a good result, Pumping efficiency target is >75%.

Pump efficiency can vary significantly depending on the type of pump and application, typically between 55% and 85%. Also, whilst the pump may have a best efficiency of say 75% at design flow, if operating at fixed speed, the efficiency may reduce to say 55% when operating at say half the design flow. This scenario may result in even pressures which can impact on Scheduling Coefficient, and create other issues such pipe failure. A pump operating outside its peak design flow, or exceeding available NPSH (suction limits), may reduce both efficiency and the design life of the pump through cavitation. A flow meter with intelligent interface to pump station and the irrigation control system can effectively protect against excessive flows and cavitation.

Simple irrigation systems with consistent flows may allow a single pump with a flat curve and fixed speed operation, whereas a more complex system with a wide range of duty requirements may demand a multi-pump station using steep curve pumps and variable speed control. In some situations where topography is highly variable across a site or have a wide range of sprinkler pressure requirements, it may be necessary to have more than one pump station, to achieve acceptable efficiency and not exceed normal pipe pressure ratings.

The important criteria to check when evaluating a system design or audit for Pumping efficiency are:

- Range of design duties required, flow & pressure
- Suction conditions and NPSHR at range of duties
- Type, selection & number of pumps
- Pump control method, fixed speed or variable speed
- Interface between pump station, flow meter & irrigation control system

Also be aware of any site physical constraints, such as power supply capacity, shed size, hydraulic pipework capacity.

A multi-pump station (pictured) with multi-stage steep curve submersible pumps and variable speed control can handle a wide range of duties, whilst maintaining good efficiency. Note the flow meter, a vital tool in any pump station.

Scheduling efficiency

Scheduling efficiency is how accurately you can match the irrigation to the plants requirements. This has a huge impact on water usage, and is mostly dependant on the control system and operator skill. For a good result, Scheduling efficiency target is >85%.

Understanding when to irrigate and how much to apply are critical to in achieving good Scheduling efficiency. The operator needs to know accurate application rates and should be thinking in terms of millimeters applied. The aim is to keep moisture levels at an acceptable level within the effective plant root zone, and replenish soil moisture to field capacity when an allowable deficit is reached. Sites can have highly variable requirements, depending on many environmental factors, such as soil type, slope, plant type, plant performance, climate conditions. Some factors, such as climate, change on a daily basis which increases the complexity and level of skill required to manage the irrigation effectively.

A high level of operator skill is required to maintain good Scheduling efficiency. There are many tools available to assist operators including simple devices such as a open pan evaporator or rain switch, plus more sophisticated devices that can be intelligently managed or monitored through some irrigation control systems, such as weather stations and soil moisture sensors.

The aim is to maintain plant growth in optimum condition whilst minimizing losses through runoff, deep percolation, wind and evaporation. For best practice, my opinion is to monitor soil moisture to determine when to irrigate and use a pan evaporator or weather station to calculate the amount of irrigation to apply.

The important criteria to check when evaluating a system design or audit for Pumping efficiency are:

- Human resources; time, capability & training
- Irrigation control system programming features
- Sensor inputs & intelligent interface capability with irrigation control system
- Water management plan

Intelligent sensor inputs such as a weather station (pictured) can offer big savings and return on investment.

Water Management Plan

As most commercial enterprises require a plan in terms of financial operating budgets and setting performance targets similarly, a good way to manage an irrigation system is to have a plan.

An effective Water Management Plan should include:

- Set monthly water use targets for the year, based on historical climate data averages and system efficiencies
- Record actual monthly Rainfall & Evaporation
- Monitor actual monthly water use
- Action system management where trends are inconsistent with expectations*

**In other words, for:*

- *A month of below average rainfall and above average evaporation you would expect to be over target*
- *A month of above average rainfall and below average evaporation you would expect to be under target*

Whilst there is some paperwork and training required to setup a Water Management Plan initially, it is not difficult to implement and manage from this point forward.

A Water Management Plan is a great tool for irrigation managers and will highlight key performance indicators.

Conclusions

Along with water and energy conservation issues, decisions on your irrigation should be balanced over the life of the system based on value and return on investment, to produce a quality surface or product in an environmentally responsible manner. Good irrigation practices can have a significant impact on other inputs such as chemical use and fertilizer use efficiency.

In summary, when making management decisions to achieve and maintain good irrigation efficiency, consider the following:

- Understand the cost of ownership & what represents good value
- Invest in good system design & high efficiency products
- Provide appropriate skilled staff resources, training & support
- Implement a Water Management Plan
- Audit your system annually or biannually
- Track maintenance & running costs
- Budget for planned upgrades

Should you require assistance to determine your current water and energy needs, or develop a future Strategic Water Needs Management Plan for your site, please contact Scott Johnstone on 0437 078 677 or email: sjohnstone@rainbird.com.au

Poor Quality Irrigation Water – A Cause of Soil Problems

By Paul Spencer - Guest Author
Turf Agronomist - Greenway Solutions Pty Ltd

Many soil problems that arise in turf are attributed to the characteristics of the irrigation water being used. As water is the major input in turf maintenance, a soil that is irrigated with a given water over an extended period of time, will assume the characteristics of that water.

'As water is, so shall be the soil' Therefore if the water is of poor quality, the soil in time will assume its undesirable characteristics that could adversely affect soil structure, drainage, water percolation through the profile, nutrient balance, nutrient availability / fertilizer efficiency, and ultimately turfgrass health.

A new sand green that has been adversely affected by the poor quality effluent irrigation water applied to it, without any targeted amendments or secondary water treatment (dosing) on site. The breakdown in soil structure has resulted in black layer (toxin ions) near the surface.

Soil affected by poor quality irrigation water is often treated with surface applied amendments to temporarily rectify imbalances and toxicities. Although a soil amendment program is important, treating the cause of the problem, the water, will result in not only an improved soil and therefore turf quality, but will reduce time and expenditure on continually applying surface amendments.

Therefore let's look in detail at various water quality issues, their impact on soils, and possible solutions:

Most of the problems encountered with irrigation water that can adversely affect the soil, are associated with the direct and indirect effects of an excessive Total Dissolved Salt (TDS) level, which often translates into high levels of specific detrimental salts (sodium, chloride, bicrabonate) within the water.

High concentrations of sodium (and often associated chloride) are represented by a high SAR (Sodium Absorption Ratio) on the water analysis. As mentioned previously, sodium will destroy soil structure and is directly toxic to turfgrass. Management of high sodium waters usually involves surface application and / or direct injection of calcium amendments. Treatment of the water through reverse osmosis is becoming a more common method of sodium removal in irrigation water, although there are considerable setup and running costs associated with this.

Of all the mineral constituents (dissolved salts), the effect of bicarbonates is often underestimated in terms of its potential to damage turfgrass and plants. High bicarbonate in irrigation water is central to soil structure and plant nutrition problems.

This is because bicarbonates react with other minerals within the water, especially calcium, to form insoluble salts, specifically limestone. Excessive **bicarbonates** cause several problems:

1. Soluble calcium is tied-up and taken out of solution. Calcium is needed to offset sodium, and maintain open pore spaces for good long-term soil structure allowing efficient water penetration.
2. Calcium carbonate precipitates, closing pore spaces in the soil that allow water to penetrate. Controlling water infiltration is the most important factor in managing salinity, alkalinity and nutrient availability.
3. A residue can form on turf or plants and on irrigation equipment.

The indicator of pHc on the water analysis is a good guide to whether an irrigation water is likely to have these effects or not (waters high in bicarbonate often have a low pHc, which is detrimental). To resolve this situation, the injection of a 'safe' liquid acid solution, directly into the irrigation water causes a reaction with the bicarbonates and produces the harmless constituents - carbon dioxide and water. In place of the bicarbonates and lime, the water becomes a dilute solution of calcium sulphate, or gypsum, which is a well-known soil amendment.

On the other end of the scale, soil issues can also arise from waters that have a very low salt content . Waters low in total salts are normally considered suitable for irrigation on turf, but they can actually be too pure, that is, too low in dissolved salts (high pHc). Rain, some surface irrigation waters, and reverse osmosis treated waters, are often so pure that they will dissolve and remove essential salts, such as calcium, from the soil particles as they pass through the profile, creating nutrient deficiencies.

Again, the result is a breakdown in soil structure and surface sealing often occurs in these cases. This 'seal' perches water near the surface, preventing water and oxygen penetration into the root -zone which creates water efficiency and other agronomic issues (short root systems, dry patch, surface algae, anaerobic root-zone etc).

In this situation where there is a low level of dissolved salts, it is also important to look at the composition of salts* within the water to determine if it will cause long-term problems in the soil. While low in concentration (ppm), sodium can still create soil issues if dominant in the water (% of the total salts), by dissolving and leaching soil calcium and leaving behind sodium. Over time, especially on greens (as they usually have a lower

CEC and are irrigated more), the soil will mirror the characteristics of the water (low salt (= nutrient), and sodium dominant).
**Remember, not all salts are bad; there are good salts (calcium, magnesium, potassium), and bad salts (sodium, chloride, bicarbonate).*

Injecting calcium (either soluble gypsum or a liquid calcium) directly into the irrigation line is carried out to treat this type of low salt water, which increases its total dissolved salt content (of the good kind - calcium).

Summary

- A soil nutrient analysis designed for turf purposes can identify nutrient (cation) imbalances and toxicities in soils.
- Calcium is the major cation in the soil and optimum levels must be maintained.
- Calcium deficiencies commonly occur in sand profiles, high rainfall areas, and where pure irrigation waters or poor quality irrigation waters are used.
- Calcite, a pure high analysis and stable calcium source that provides a predictable release of calcium in the soil, will elevate soil calcium levels over the long-term.
- Liquid or powder (soluble) gypsum can be used in conjunction with soil applications of calcite to temporarily increase available calcium in the soil solution, correcting a plant deficiency or offsetting excessively high sodium levels.
- Many soil problems are caused by continuous irrigation with poor quality water.
- Undesirable characteristics of irrigation water used in turf that can adversely affect the soil include; waters with an excessive level of total dissolved salts (TDS), waters with excessive levels of specific mineral ions (sodium, chloride, bicarbonate etc.), and even waters that are too low in total dissolved salts (too pure).
- It is more preferable to treat the cause of the problem, the water, rather than the effects (soil / plant).
- Treating water through direct injection with an acid solution or with calcium (soluble gypsum or liquid calcium), can rectify water quality issues and alleviate soil problems.

For more information, contact Scott Johnstone on 0437 078 677 or email: sjohnstone@rainbird.com.au

Rain Bird Board Exchange Update

The Rain Bird® Board Exchange Program is designed to meet your needs for a fast and dependable supply of electronic circuit boards when a "downtime" situation demands action.

The program provides quick, easy and dependable replacement of a damaged circuit board with a Certified Rain Bird Refurbished Board.

A simple phone call to Rain Bird Australia will have the board on its way to you or your distributor to get your site operating again as soon as possible.

Storm Season is approaching – surges can occur. If a control board goes down, RBA stocks a comprehensive range of exchange boards for Golf & Landscape control products. For an economical & speedy replacement call RBA Sales on 1800 424 044.

For reference, the updated stock list is listed on the right:

Part Number	Model	
632481-01	COM	2-WIRE COMM
632481-02	COM	CLUSTER COMM
632481-04	COM	RADIO COMM
632329	COM	CPU
633643-01	COM	MOTHER BOARD
632332-01	COM	12-STA. SOC
632332-02	COM	16-STA. SOC
632056-01	PAR	MLB-16 STA.
632056-02	PAR	MLB-24 STA.
632059	PAR	2-WIRE IFB
632477	PAR	LINK IFB
631070	MSC	MLB
631073-02	MSC	24 STA. RELAY
631076	MSC	2-WIRE IFB
633234-02	PAR+	MLB-OLD
634955-02	PAR+	MLB-NEW W/ CABLE
633237-02	PAR+	PIB - NEW
633234-01	MSC+	MLB-OLD
634955-01	MSC+	MLB-NEW W/ CABLE
634474-01	MSC+	PIB-NEW
634677-02	PAR+/MSC+	OSM-S
634677-01	PAR+/MSC+	OSM
633243	PAR+/MSC+	2-WIRE IFB
633280	PAR+/MSC+	LINK IFB
635513-01	PAR+ES	PIB
634955-05	PAR+ES	MLB
634433	ALL	MODEM
630815	MIM	DISPLAY
632671	MIM	CPU
630461	MIM	2-WIRE OUTPUT
631889	MIM	LINK OUTPUT
634773	MIM	SWITCH ADAPTER
630461-02	TWI	2-GROUP OUTPUT
630461-03	TWI	4-GROUP OUTPUT
LINK RADIO	JSLM	NARROWBAND RADIO
635110-04	ESP-MC	24 Station Output Board
635110-06	ESP-MC	40 Station Output Board
633561-01	CCU	Modem Board
634405-03S	ESP SITE	Modem Kit

Professional Irrigation Training Camp 09

Rain Bird teaches The Intelligent Use of Water™

Rain Bird Australia is committed to training and improving the irrigation knowledge of contractors, system designers, distributors, irrigation technicians, landscape architects and public agencies. A wide range of courses covers everything from an introduction to irrigation through basic installation and maintenance right up to advanced training about the operation, monitoring, programming and reporting options on central control systems.

Irrigation Industry Certified Trainers also run courses on topics such as field installation techniques and troubleshooting, irrigation efficiency and system design. Courses can be tailored to meet the specific needs of golf course staff, irrigation supervisors from shire councils and indeed anyone who is responsible for large-scale turf irrigation.

Training will be available at Rain Bird Academy's 'Professional Irrigation Training Camps' to be held at Surfer's Paradise, 15th - 19th June, 2009 and in Perth, 10th - 14th August, 2009. If an organization like a golf club or council would like to host an irrigation training event, Rain Bird can help with the arrangements and provide the appropriate training personnel.

The City of Joondalup's Irrigation Supervisor, Andrew O'Farrel, attended a Rain Bird training session in Perth recently and was delighted with the result. "I didn't realise how much more a site control unit could do other than just turn the water on and off. I now know much more about our system and can implement a lot of the things I learned to make it more efficient and easier to use."

For more information, visit www.rainbird.com.au and click on irrigation training.

Dates

Queensland

Surfers Paradise 15th - 19th June, 2009,
Holiday Inn Surfers Paradise

Western Australia

10th - 14th August,2009

Holiday Inn Surfers Paradise

Discounts

Current GSP Subscribers and RBA Authorised Service Providers (ASP) are entitled to a 15% discount on course fees at PITC. Discount available for early registrations. Discount does not apply to travel and accommodation costs.

Register your interest now!

Course Enquiries: Freecall 1800 424 044

Two-day training course on Maxicom ^{2}

With such large numbers of Maxicom systems currently operating in Australia, there has been a strong demand for staff training in addition to the annual PITC training which has been held on the Gold Coast in recent times.

Level 1 Maxicom training was successfully held in Perth, Cairns, Geelong and Adelaide with many municipalities (both metropolitan and regional) sending staff. Two days of intensive training ensured that all students finished with a good working knowledge of the Maxicom software as well as a firm understanding of how the system works.

Students 'hard at it' in Adelaide during training held at the Adelaide oval.

Rain Bird's central control system, Maxicom 2 has been the world leader in controlling municipal/large turf irrigation for over 20 years. Its popularity continues to increase at a rate of knots especially in recent times due to tight water restrictions in many locations around Australia and a strong need for highly efficient irrigation control. Maxicom 2 was also awarded the prestigious 'Smart Approved Water Mark' certification, the only central control system anywhere in the world to gain such recognition.

Announcing the New Rain Bird® EAGLE™ Golf Rotors

The New EAGLE rotor internals are also compatible with previous generations of EAGLE rotors, making them easy to incorporate into existing systems and easy to manage within existing spares inventories. For more information, please visit www.rainbird.com/NewEagle/index.htm