

cams™ Management Systems



Technology focused on conserving energy



cams™ Management Systems

Providing

- Choices to meet your needs
- Durability and reliability
- Component continuity
- Product line integration



Pro2 p.4



Bottomline

Select p.5



Time



Water



Stewardship

Crop

Future

Soil

Mechanical p.6



Basic p.6



New products to assist your resource management

cams™ Tracker p.7

- Monitor and basic control
- Compatible with Valley® and most competitive panels
- Equipment calls you with alarm message



cams™ Tracker SP p.7

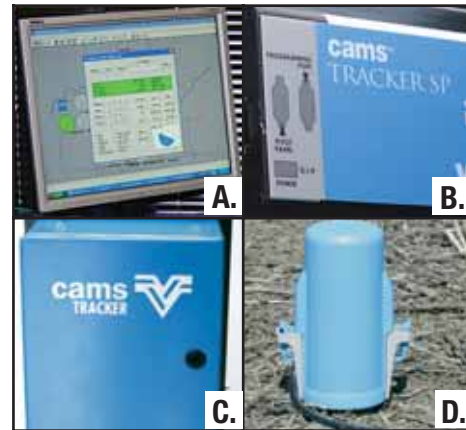
- Monitor and control
- Compatible with Valley cams Select and Pro panels
- Call with alarm
- Control from phone or internet



Water Scout™ p.10

- Soil moisture monitoring at your finger tips
- Know when to water
- No more guessing
- Know where moisture is in profile

cams™ Pro2 Control Panel



Options Available:

- A. Base Station**
- B. Tracker SP**
- C. Tracker**
- D. Water Scout**

Pro2 Panel Features	Benefits
Fully programmable	Conserve and manage available water Save time driving to the field Get precise fertilization and chemigation
Direct display information	Easy to use and understand at panel or remotely
Backlit display and keypad	Read and operate at night or with low light conditions
Field diagnostics	Reduce down time & wasted service calls with specific pivot status
5 Year Warranty	Low, long-term operating costs

Pro2 Panel Add-On Sensors	
Water Scout	View hourly soil moisture readings directly at the panel
cams™ Wind Speed	Monitor the wind to aid in your daily watering management
cams™ Pressure Transducer	Monitor your sprinkler package for maximum uniformity
cams™ Flowmeter	Track your water usage

Pro2 Remote Communication Options	
cams™ Base Station	Monitor, control, and report in your office
cams™ Tracker SP	Monitor and control through the Tracker Communications Center
cams™ Tracker	Monitor and basic control through the Tracker Communications Center

cams™ Select Control Panel



Options Available:

- A. Base Station
- B. Tracker SP
- C. Tracker

Select Panel Features

Benefits

Automation

Conserve available water
Save time driving to the field
Set endguns in the panel

Field sector control

Change application for varying soil types

Field diagnostics

Reduce down time and wasted service calls with pivot status

3 Year Warranty

Low, long-term operating costs

Select Panel Add-On Sensors

cams™ Pressure Transducer Monitor your sprinkler package for maximum uniformity

Select Remote Communication Options

cams™ Base Station

Monitor, control, and report in your office

cams™ Tracker SP

Monitor and control through the Tracker Communications Center

cams™ Tracker

Monitor and basic control through the Tracker Communications Center

cams™ Control Panels

Manual Operations



Remote communication options
Mechanical Panel

Mechanical Panel Features	Benefits
<ul style="list-style-type: none"> Mechanical switches Modular upgradeability 	<ul style="list-style-type: none"> Manual operation Grows with your operation
Mechanical Panel Add-On Sensors	
<ul style="list-style-type: none"> Mechanical Pressure Switch 	<ul style="list-style-type: none"> Monitor for low pressure
Mechanical Remote Communication Options	
<ul style="list-style-type: none"> cams™ Base Station cams™ Tracker™ 	<ul style="list-style-type: none"> Limited functions Monitor and basic control through the Tracker Communications Center



Remote communication options
Basic Panel

Basic Panel Features	Benefits
<ul style="list-style-type: none"> Minimal display information 	<ul style="list-style-type: none"> Lowest initial investment
Basic Panel Add-On Sensors	
<ul style="list-style-type: none"> Mechanical Pressure Switch 	<ul style="list-style-type: none"> Monitor for low pressure
Basic Remote Communication Options	
<ul style="list-style-type: none"> cams™ Tracker™ 	<ul style="list-style-type: none"> Monitor and basic control through the Tracker Communications Center

Easy Remote Management

Tracker™ SP

- Use with Valley cams Select and Pro panels
- Monitor and control by calling the **cams™** Tracker communications center
- Analog service
- Get current status and control from a Web browser



Tracker™

- Use with all new Valley panels, most competitive panels, and some older Valley panels
- To monitor and control anytime call toll free to the **cams™** Tracker communications center
- Analog service
- Get current status from a Web browser



Example phone command

You would hear the following:

Please enter your 5 digit pin number.

Welcome to the cams™ Tracker communications center.

To select device (your device name here), press 1, to skip to the next device, press 2, to enter a device ID, press 3.

After you have selected your device, you will hear: Connecting to device circle 4.

To hear a status summary, press 4

To control Pivot Stop command, press 1

After you press 1, you will hear:

To set the Pivot Stop command to STOP, press 2

- Example Web page

Name	Pivot Alarm	Pivot Forward	Pivot Reverse	Auxiliary Input 1	Auxiliary Input 2	Auxiliary Output 1	Auxiliary Output 2	Current Pressure	Percent Speed	Pivot Status	Alarms	Duration of Current Status	Last Report
Johnson's	On	Stopped	Off	Off	Off	Off	Off	44"	50%	●	Safety	1 day	8/5/2004 10:37:48 AM

Name	Pivot Alarm	Pivot Forward	Pivot Reverse	Water Pressure Switch	Auxiliary 1	Auxiliary 2	Pivot Status	Last Report
Paul's HD	On	Stand	Forward	On	On	On	Normal	8/5/2004 8:58:55 AM
Lyleworth	Off	Safety Off	Revised	Off	Off	Off	Alarm	8/12/2004 1:29:20 PM

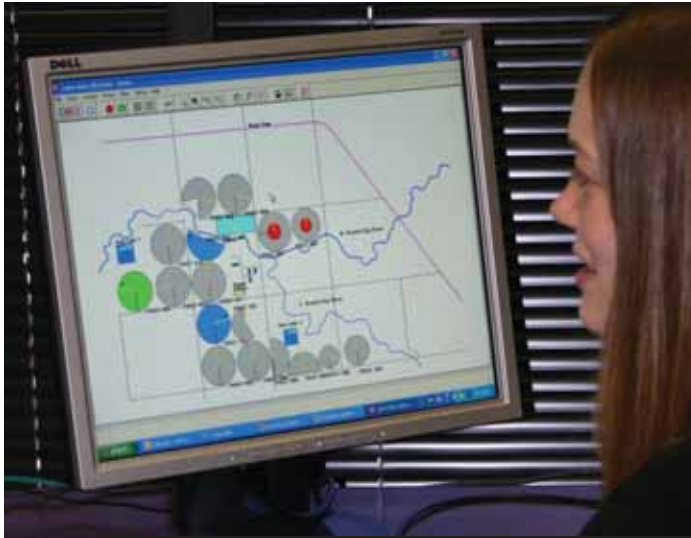
Device Name	Profile	Model	Status	Last Call Type	Last Report
Bill D	User Defined	Tracker	● Alarm	Digital Input Status Change	8/12/2004 8:28:41 AM
Holmesdale	User Defined	Tracker	● Alarm	Registration call	8/14/2004 1:48:50 PM

- Example Web page

#	Description	Status	Last Change
1	Input1	● On	8/14/2004 9:45:29 AM
2	Input2	● On	8/16/2004 9:45:29 AM
3	Input3	● On	8/16/2004 10:30:51 AM
4	Pivot Power	● On	8/12/2004 10:53:38 AM
5	Pivot Safety	● Good	8/12/2004 10:53:38 AM
6	Pivot Forward	● Forward	8/12/2004 8:52:07 AM
7	Pivot Reverse	● Reverse	8/12/2004 8:52:07 AM
8	Water Pressure Switch	● On	8/12/2004 10:53:38 AM
9	Auxiliary 1	● On	8/12/2004 10:53:38 AM
10	Auxiliary 2	● On	8/12/2004 10:53:38 AM

Centralized Communication with Your Equipment

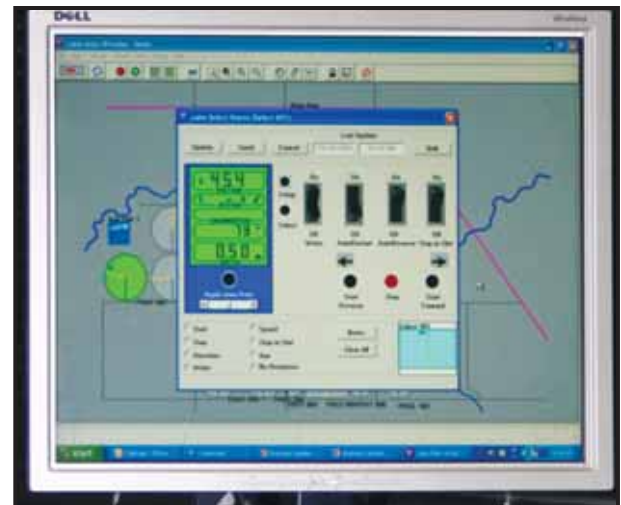
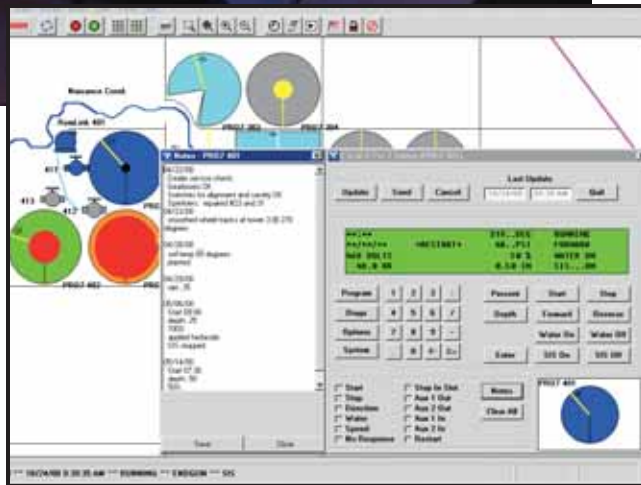
cams™ Base Station



Monitor and control your irrigation equipment—from one to hundreds—from your home or farm office with the Valley® **cams™** Base Station. Use a PC to run the **cams™** software package, which graphically displays your fields on-screen. No need to go on-site to check your equipment's running status or make irrigation schedule changes.

Hardware options

- Dedicated computer
- Phone Link – analog or digital
- Radio Link – voice or data
- Repeater packages
- Antenna packages



Features

- Graphic representation of control panel
- Overall farm map on screen
- Easy report generation
- Functions monitored
- Functions controlled
- Alarm call out
- Auxiliary Link option
- Engineered Package

Benefits

- Easy to use / same as in the field
- Quick view of irrigation equipment status
- Provides a tool for year to year comparisons
- 15 – provides maximum information (depends on panel)
- 9 – saves water and trips to the field (depends on panel)
- Alert you when not near the computer
- Monitor pumps, valves and other devices
- Package to meet needs and customer requirements

cams™ Management Systems

Match functionality with your panel and communication options

	Direct Control Control Panels				Remote Control Communication		
	Basic	Mechanical	Select	Pro2	Tracker	Tracker sp	cams™ Base Station
MONITORING							
Pivot on/off	N	Y	Y	Y	Y	Y	Y
Voltage	N	Y	Y	Y	Y*	Y	Y
Direction	N	Y	Y	Y	Y	Y	Y
Safety	N	Y	Y	Y	Y	Y	Y
Diagnostics	N	N	Y	Y	N	Y	Y*
Application depth	N	N	Y	Y	N	Y	Y*
Water on/off	N	N	Y	Y	Y	Y	Y*
S I S on/off	N	N	Y	Y	N	Y	Y*
Pressure	N	N	Y	Y	Y*	Y	Y*
Field Position	N	N	Y	Y	N	Y	Y*
Date	N	N	N	Y	N	N	Y*
Time	N	N	N	Y	N	N	Y*
Hours per revolution	N	N	N	Y	N	N	Y*
Auxiliary control status	N	N	N	Y	Y	Y*	Y*
Alarm feature	N	N	N	N	Y	Y	Y
Internet connectivity	N	N	N	N	Y	Y	N
CONTROL							
Start / stop	Y	Y	Y	Y	Y	Y	Y
Water on/off	Y	Y	Y	Y	N	Y	Y
Application depth	Y	Y	Y	Y	N	Y	Y
Direction	Y	Y	Y	Y	N	Y	Y
S I S on/off	N	Y	Y	Y	N	N	Y*
Endgun settings	N	N	Y	Y	N	N	Y*
Auto reverse / auto stop	N	N	Y	Y	N	N	Y*
Auto restart	N	N	Y	Y	N	N	Y*
Write / edit programs	N	N	N	Y	N	N	Y*
Auxiliary control	N	N	N	Y	Y	Y*	Y*
Field sector control	N	N	Y	Y	N	N	Y*
DESIGN							
Modular	N	Y	Y	Y	N	N	Y
Warranty	2	2	3	5	2	2	2
Transient and induced voltage protection	N	N	Y	Y	Y	Y	Y
Industrial standards applied	N	Y	Y	Y	Y	Y	Y

Y = included N = not available Y* = yes if control panel has functional capabilities

cams™ Component Details

Span Cable Features

- 8, 10 and 12 gauge for power
- Shielded cable standard
- Eleven conductor standard
- Twelve conductor option

Benefits

- Options to fit your needs
- Safety and reliability
- Provides for easier troubleshooting
- Second End gun or sector control



Collector Ring Features

- Located above the pivot swivel
- Choice of Insul-8 or Aeromotive
- High accuracy resolver

Benefits

- Keep away from dirt and water
- Option to fit your needs
- Provide position information for Select and Pro2



Tower Box Features

- Galvanized steel construction
- Steel cam
- Suppressor circuits

Benefits

- Reliability and low maintenance
- Dependable operation
- Extend life of contactor by minimizing arcing



Control Panel Features

- NEMA 3R steel enclosure
- Lockable inner door
- Heavy duty disconnect
- Modular design
- Large enclosure

Benefits

- Solid for long life
- Safety
- Reliability
- Easy to upgrade
- Space for options



cams™ Water Scout

See soil moisture data in the field where decisions are made.



With the Water Scout and the cams™ Pro2 panel you can read your soil moisture levels, and then do something about them.

- Make best use of your water allocation.
- Water for best crop production.
- Make decisions for load management.



Product Features

- Four models available: 3 and 5 sensor
20" and 40" probe length
- Real-time soil moisture monitoring
- Minimal soil disturbance during installation
- Field proven capacitance technology
- Hard wired to simplify operation - no radios

Installation

- Select the area you want to manage
- May be installed anywhere within 1,000 feet of the Control Panel
- Not limited by soil types
- Easy installation

Additional cams™ Management Solutions

- **cams™ Flow Meter** - Measure how much water you're really using.
- **cams™ Pressure Transducer** - Measures pressure for uniformity.
- **cams™ Resolver Technology** - Provides precise field positioning which is key to working with varying soil types or multiple crops under one pivot.

Pro2 Panel Reading from the Water Scout

Sensor location	SOIL DEPTH(IN)	4	8	12	16	20
Current relative soil moisture	CURRENT	14	12	13	03	11
Soil change reading	PRIOR READING	-02	-02	-02	-01	-01
('-' shows moisture loss; '+' shows moisture gain)	ACTION (1 GET PRIOR READING, 0 EXIT)					
Gives panel directions						

*Available only through selected Valley Dealers.

Irrigating more than 14 million acres!

Valmont® Irrigation is the acknowledged world leader in the development and manufacture of mechanized irrigation equipment and technology.

As the innovative source for irrigation ideas, Valmont is recognized for a number of industry firsts:

- **1983** First remote monitor and control package
- **1990** First computer control panel offered in the industry
- **1991** First C:A:M:S Base Station
- **1992** The Valley® Base Station was named to the prestigious Agricultural Engineering 50 List by a nationwide panel of engineers. This honor recognizes leaders who successfully transfer agricultural and food technology to the marketplace
- **1994** Valmont introduces the Select panel - the industry's only entry level automatic control panel
- **1996** Windows® C:A:M:S Base Station
- **2002** Pro2
- **2003** Pocket Pro
- **2004** Water Scout™
- **2004** Tracker
- **2005** Tracker SP



Valley® Dealers #1 in product support

Valley Dealers combine their knowledge of local agricultural practices and conditions with Valmont's extensive irrigation experience and training...to design specific applications of Valley equipment that will best meet your needs.

Backing every Valley irrigation unit in the field are your Valley Dealer's service and parts resources. Valmont provides rigorous, ongoing training to dealer personnel. Service Seminars, held throughout the year, provide local service technicians with up-to-the-minute parts and service manuals, plus extensive hands-on training.

These programs demonstrate Valmont's continuing commitment to service and parts support at the local level for your Valley equipment:

Valley RealParts®: Valmont's guarantee of the best quality and value for all of your parts needs.

RealParts Conversion: Drive train, electrical control, structural and sprinkler conversion packages are available for virtually any brand, whether currently manufactured or not.

RealParts Availability: Valmont maintains four parts distribution centers, plus four regional parts outlets to support local Valley Dealers' inventory requirements.

RealService®: Valley service technicians are factory trained and their service vehicles are well stocked with the necessary parts, tools and equipment to quickly service your irrigation equipment.



Conserving Resources. Improving Life.

P.O. Box 358
Valley, Nebraska 68064-0358 USA
Phone: 402-359-2201 (Ext. 3415)
Fax: 402-359-4429
E-mail: irrigation@valmont.com

International Fax: 402-359-4948
E-mail: vintl@valmont.com

www.valmont.com/irrigation

See your local authorized Valley Dealer:

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