



PROVIX provides both analogue and digital and both wired and wireless video camera solutions for almost every aspect of mining. Customer driven, with the ability to respond quickly to user specific designs and requirements, PROVIX has built a reputation based on systems that offer increased productivity while enhancing safety.



PROVIX Bucket Cam System

PROVIX mobile equipment cameras effectively serve as both safety camera systems for manned operation and remote operation video systems for remote mucking and inspection. The PROVIX Remote Mucking Camera system is also available as a portable System that can easily be moved from scoop to LHD, using quick disconnect power harnesses. Integrated battery packs are also available for cameras and transmitters, allowing for the remote video system to be used without connected machine power.

The portable system transmits video from two rugged HD quality cameras to a 12" monitor for full or split screen viewing. User

feedback indicates that the 2.4 GHz transmitter receiver combination is capable of providing wireless video around corners and up to 300 m away in line of sight applications. Cameras can be mounted on vertically adjustable pedestal mounts to allow for rapid changes in the cameras' field of view to suit operator preference and the layout and approach to the work area. The PROVIX Loading Process Monitoring Video System is a user defined modular system that can support visual monitoring of loading pockets, chutes, bins or breakers with camera images being transmitted to haul trucks, loaders, operator towers and network nodes for surface or control room viewing. The multi camera system is able to transmit real time video to multiple vehicles equipped with wireless monitors; therefore the camera system ensures that all relevant personnel are apprised of the current status of both transport and processing equipment. The result is maximum uptime for production and processing equipment, as well as optimal use of haul trucks, rail depots, shuttles and other related equipment.

The PROVIX Portable Drill positioning system (aka the Bucket Cam) is a multi-function HD camera system that packs down neatly into a 5 gallon pail that houses the mag mounted camera with its 61 m retractable camera cable. The IR LED HD video camera quickly connects to a 12" AC/DC powered monitor with an integrated battery in a waterproof Pelican style case. In Sudbury, Vale's Creighton Mine uses them for drill positioning in no go areas. The close up focus of the rugged camera lens allows for quick determination of patterning when drilling blast holes. Rapid relocation of the drill rig, consistent blasthole configuration and safer drilling are side benefits. Other mines use the same camera in other configurations for breaker monitoring; ore pass and stope inspection and even remote operation.

Visit: www.PROVIX.net

PROVIX IN YOUR OPERATION?

PROVIX.NET
Now I CAN SEE!

Implemented By Mine Sites, OEMs and Mining Contractors



VALE



BARRICK

RioTinto



PotashCorp



GlencoreXstrata

GOLDCORP



Cameco



KGHM
INTERNATIONAL



Teck



DIAVIK
DIAMOND MINES INC.

TOROMONT



CATERPILLAR®

Hewitt



MINING TECHNOLOGIES
INTERNATIONAL INC.



SANDVIK



Kiewit

SANGOLD



AuRico Gold

KIRKLAND LAKE
GOLD INC.

DUMAS

DMC
MINING SERVICES
Fueled by Safety, Driven by Success

YukonZinc CORP



Procon



tembec
Rooted in tomorrow.



LAFARGE

MILLER TECHNOLOGY
Mobile equipment for safety and productivity

MPI MOBILE
PARTS INC
Mining & Equipment Parts

FOREMOST

Cementation
WE BUILD MINES

labrie
environmental group
equipment for the solid waste industry



RDH
MINING EQUIPMENT



THE MINE SUPPLY
CO.



COLOSSUS
MINERALS INC.

TAURUS
DRILLING

PROVIX.NET
Now I CAN SEE!

PORTABLE REMOTE VIDEO SYSTEM



x KEE dls/ t hW dK &KhZ D Z ^
x Z DKd s/ K ZKhE KZE Z^
x D ,/E îðs KZ dd Zz KW Z d
x KWd/KE > t/Z > ^^ Z KZ /E'
x t/ U E ZZKt KZ >K^ hW D Z E'>
x W ZD E Ed KZ D 'E d DKhEd/E'
x KWd/KE > ñìì >hD E > >/',d
x h^dKD/• > dK zKhZ Z Yh/Z D Ed^
x /DW> D Ed /E D/E/E' KW Z d/KE^ /E

tttXWZKs/yXE d

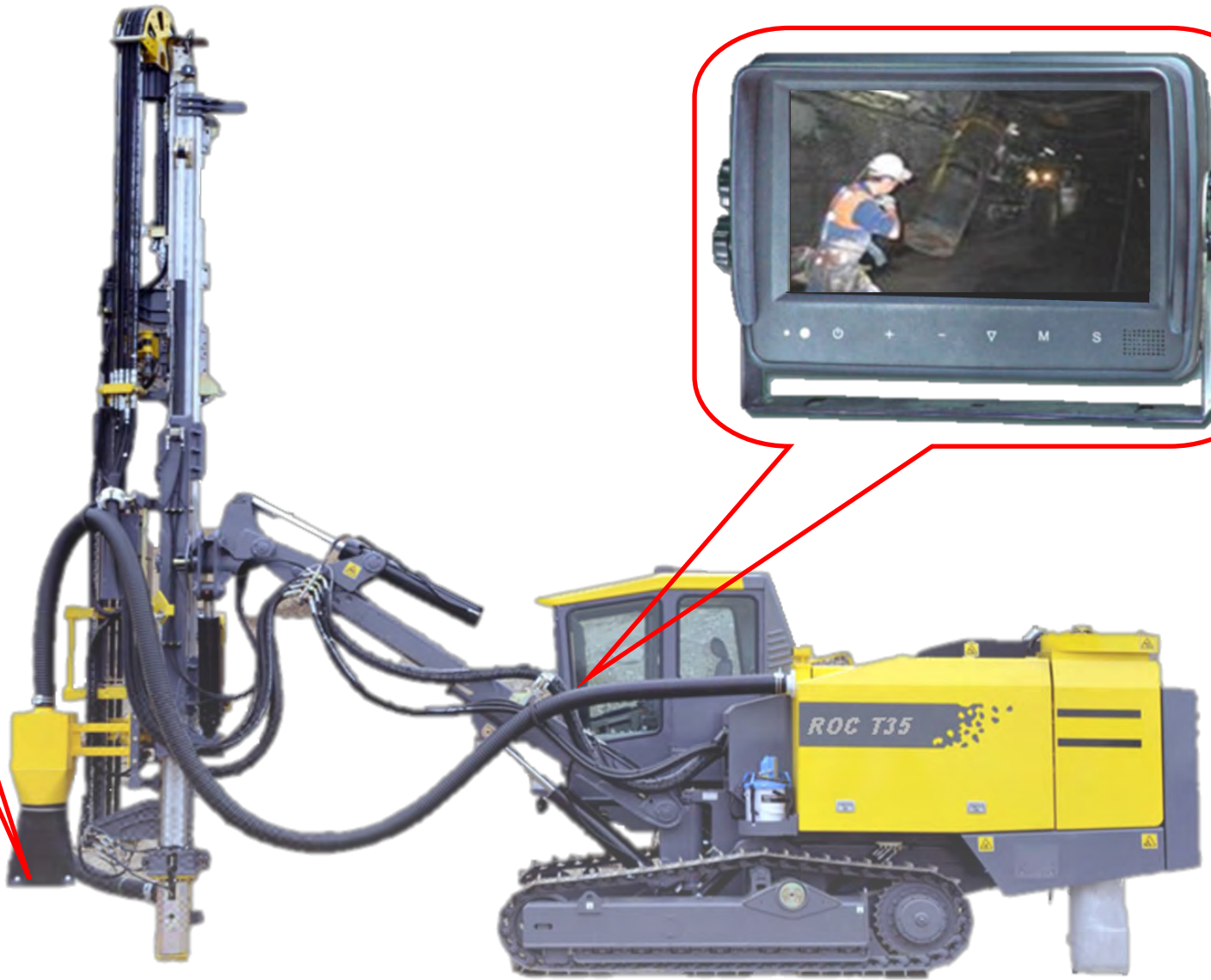
^ > ^\WZKs/yXE d -ôôô• ðïð ìîñï

PROVIX.NET
Now I CAN SEE!

PTZ Rugged Robotic Camera



Drill Camera Air/Wash System



System Includes:

- μ : DWHUSURRI FRORU PRQLWRU displays cam in cab

-Rugged 50 degree camera with Air & Wash System ensures the operator is drilling accurately

-Camera housed in rugged steel camera guard



1PSUBCMF *OTQFDU





CAMERA SPECIFICATIONS

- Camera Diameter:
- Overall Camera Length:
- Housing:
- Lens:
- Total Camera Weight:
- Pressure Rating:
- Camera Resolution:

- Operating Temperature:
- LED Lighting:

WINCH SPECIFICATIONS

- Cable:
- Cable Head:
- Drive:
- Power Supply:
- Brake:
- Dimensions:
- Weight:
- Monitor:
- Depth Counter:
- Tripod:

- Video Output:

Sizes Available from 1000ft - 5000ft

Downhole and side-view color video inspection system for water well, boreholes and monitor wells



Full-function joystick operates camera view, controls, lights & rotation.

The PROVIX BOREHOLE DUAL CAM provides a comprehensive, detailed survey of water wells, boreholes, underground storage tanks and mine shafts measuring 3"-30" in diameter to depths of 5,000 feet. In addition to the standard downhole view, it offers a side-view perspective with continuous 360° rotation (and no external moving parts).

- Provides sharp color images with two lenses
- Specially designed long-life L.E.D. lighting
- Easily retrofit to single conductor video inspection systems
- Standardized cablehead allows interchangeable use of PROVIX cameras
- Slimmer design, lightweight and easy to handle
- Suitable for high temperature environments
- Sealed housing prevents condensation and water intrusion
- Joystick control (see photo above) for easy operation and full-function, one-hand operator control.

APPLICATIONS

Suited for the groundwater industry, gas, oil and mining companies, public works officials, miners, environmentalists and remediation sites, helping pinpoint problems in:

Water Wells

- Locate corroded casings, infiltration, obstructions, offset casings and encrustations
- Find lost tools and pump parts
- Verify success of repairs and cleanings
- Analyze gravel packs and casing damages
- Determine if wells can be rehabilitated

Boreholes/Monitor Wells

- Determine chemical/mineral content from soil coloration
- Analyze geologic strata/ground formations
- Detect damage in underground petroleum storage tanks and piping, drilling fluid disposal pits, injection wells, brine evaporation pits and retired gas and oil production wells
- Provide visual proof of compliance with government regulations

CAMERA SPECIFICATIONS

Camera diameter: 2.35 inches (60mm) O.D.

Overall camera length: 24.25 inches (660mm)

Housing: Stainless steel

Lens: Scratch-proof sapphire glass viewing port

Power requirements: 100-200 volts DC at 50 watts (at maximum brightness)

Total camera weight: under 14 lbs. (6.5kg)

Pressure rating: Pressure tested and waterproof to 2,500 psi

Camera connector: Water-blocked; LUS cablehead with UHF coaxial connector

Scanning system: 525 line, 60 Hz NTSC or 625 line, 50 Hz PAL standard

Operating temperature: 0° to 65° C (32° to 150°F)

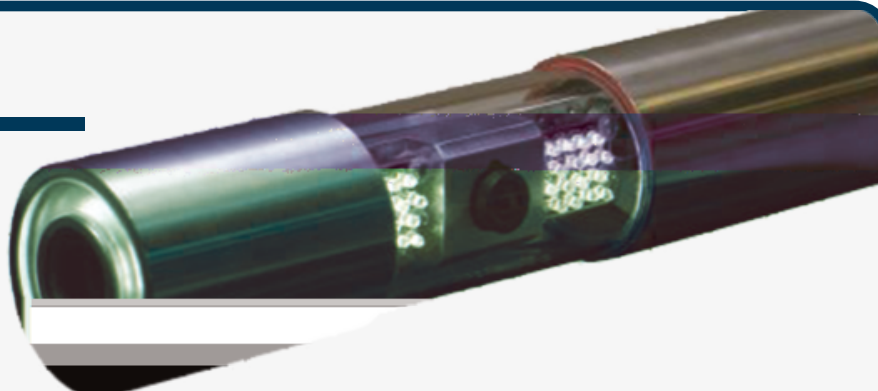
Remote functions: Camera view (select downhole or side-view); Rotation (clockwise or counter-clockwise); Fully adjustable lighting

Note: Specifications subject to change. Confirm when ordering.

BSMFSIPMFDTERONFS

13

Portable, dual-view camera for water wells and boreholes.



The 13 is a portable dual-view, borehole camera system with automated control for either downhole or side-view video profile. Side-view lens includes 360 degree rotation to the right and left with no external moving parts. This camera has effective survey capabilities for 3-inch to 12-inch well diameters. The 13 camera system comes equipped with a protective case provided for storage, lighting system, camera, control unit, cable, video monitor, centering bands, DVD recorder, power supply and transport cart for easy maneuvering.



CAMERA SPECIFICATIONS

- Camera Diameter:** 2 inches (5.1 cm) O.D.
- Overall Camera Length:** 20 inches (50.8 cm)
- Housing:** Stainless steel
- Lens:** BK-7 glass
- Cable:** 1,000 feet (304.8 m) Kevlar-reinforced, small diameter, single-conductor coaxial cable.
- Power Supply:** Portable 12VDC battery pack and charger. Rechargeable by local current (please specify at time of order).
- Total Camera Weight:** 18 lbs (8.2 kg)
- Pressure Rating:** Pressure tested and waterproof to 500 psi
- Scanning System:** Downhole greater than or equal to 330 TVL, side view greater than or equal to 460 TVL (both NTSC and PAL)
- Operating Temperature:** 0° to 50° C (32° to 122° F)
- Recorder:** Records onto a 12 VDC DVDR (please specify NTSC or PAL at time of order)
- LED Lighting:** High intensity, long life, shock proof LED lighting
- Depth Counter:** On-screen depth display measured in feet and tenths, or meters.
 - Monitor:** 7-inch LCD color monitor with sunscreen viewing hood
 - Winch, Reel, Motor and Cart:** 12VDC electric powered, variable speed reel for raising and lowering camera in well. All parts are mounted on a small, two-wheeled cart with extendable 36-inch boom.

PROVIX.NET
Now I CAN SEE!



R-1000 Remote Control System

Provix R-1000 radio remote control systems are engineered and manufactured in close co-operation with our worldwide based customers. These radio remote control systems are engineered to ensure safe and efficient remote operations. Our systems have been designed based on the most advanced technology and components.

R-1000

Digital functions up to 64 and analog functions up to 19
Uses two Li-ion batteries with smart discharge and hot swap
which is essential for battery optimization and continuous operation
Perfect use for applications with many interconnected processes with
guarantee of non-interrupted operation
Suitable for harsh environment mining and maritime conditions
High mechanical and chemical resistance due to the specific moulded housin

TYPICAL APPLICATIONS

LHD Equipment, Blockholers, Jumbo's, Long Hole Drills, Rockbreakers, Shotcrete Sprayers
Off Shore: Oil Skimmers, Drilling Rigs, Catwalks, Raiser Chutes, Roughnecks, BOP, ROV
systems, Pipe Handlers, A-frames
General Industry: Forestry slashers, Dozers, Excavators, Recovery vehicles, Concrete pumps,
Conveyance, Fire fighting systems, fueling systems
Railway: Surface locomotives, Underground locomotives

FUNCTIONS

The R-1000 can be fitted with analog or digital joysticks, pushbuttons, toggle switches
and rotary switches to meet the exact customer requirement
Safety features with E-stop, tilt switch, PTO deadman, on/off switch, horn, start warning
Operator terminal layouts are configured according to the application and customer requirements
Optional: LEDs and displays for feedback information
Optional: Shoulder Harness or CAT 500Hz throttle available upon request

R-1000 PRODUCT OVERVIEW

TECHNICAL CHARACTERISTICS & OPTIONS

Operating Terminal R-1000

- Operations 100% under control with unique signal encoding preventing any unintended handling
- Activity check on start up to guarantee safe operations
- Stop relay activation in only 50 msec
- Digital and analog feedback
- Redundant radio solution
- License free frequency with low power outputs; European ISM band width 458.5250 MHz - 459.1750 MHz (other frequencies available on request)
- PLC functionality for interlocking, sequencing and timing functions programmed directly without additional hardware

Base Unit/Receiver Unit R-1000

- The R-1000 base unit is very flexible as it can have multiple digital and analogue inputs and outputs
- Easy use with direct connections to most available fieldbus systems: ProfiBus, ModBus RTU, CANopen, J1939, Device Net, Modbus Plus, Modbus TCP, ControlNet, Ethernet IP, HostLink
- Back up solution with cable connection for programming and control
 - Twin battery connection (Hot Swap) for continuous operation

TECHNICAL DATA R-1000

GENERAL	DATA
Digital Functions:	Up to 64
Analogue Functions:	Up to 19
LED:	Red, Green, Yellow
Display:	Graphical or Character Display (optional)
Battery:	Rechargeable 7.2 V 1700 mAh Li-ion
Battery Charger:	12-24 VDC, 110-230 VAC
Operating Time:	Typical 20 hours, depending on configuration & temperature
Dimensions:	330 x 220 x 200 mm (12,99 x 8,66 x 7,87 inch)
Weight:	1.5 kg - 3.5 kg (depending on configuration)
IP:	Ip65 standard, IP66/67 optional
Temperature:	-25 to +50 Celsius, -13 to 122 Fahrenheit
Operating Distance:	Approx 200 m line of sight
Frequency:	458.5250 MHz - 459.1750 MHz (other frequencies available on request)

R-1000 MC-IRX LITE

Supply Voltage Receiver

- 12 / 24 VDC

Receiver Size:

- IRX: 255 x 180 x 115 mm
- 10 x 7.1 x 4.5 in

Components:

- Safe Zone Base Unit to be mounted internally in customer's explosion proof enclosure.
- Standard I/O connections
- Base Unit to be supplied 12/24 VDC
- 20 Solid State Relay Outputs
- Proportional Control Module
- Duplicated Monitored Emergency Stop
- Pre-wired Connector to meet the needs of the machine
- BNC Magnet Mount Helical Antenna
- 12 onboard programs to accommodate various types of machines (joystick orientation, service brake type, engine type)