

TECHNICAL SPECIFICATIONS

Saves Lives

PED

Saves Costs

TRANSMISSION SYSTEM

Transmission Headend

Frequency: ULF
 Output Power: 1.2kVA
 Operating temp range: 10°C - 40°C (50°F - 104°F)
 Power requirements: 110/240V AC
 Includes: Earth leakage/ground fault detection and lockout
 Dimensions: Housed in 19 inch rack cabinet (H=1200mm/48in; W=600mm/24in; D=600mm/24in)

Software

PEDCALL®
 Windows based main system software
 Individual, groups & general broadcast
 Name search
 Custom text messages
 Priority Answers
 Message log
 15 second Emergency Message Facility
 Preprogrammed messages generated at specific times can be networked on mine's LAN

MINE MONITORING

Custom interface to monitoring system for Automatic message generation
 Monitors an unlimited number of inputs
 Programmable messages to predefined personnel and devices

Smart External Modulator

Power: 110/240 WAC
 Input: RS-232 9 Pin to 9 Pin from PC
 Output: 0-30mA to PED Headend
 Features: Emergency message buttons (2)



PED® is a well proven technology with over 15 years of refinement.

RECEIVING DEVICES

Personal Receiver

Alert: Cap lamp 10 second flash, buzzer
 Display: 32 character liquid crystal dot matrix LED back light, Time display
 Message Storage (2), scroll facility
 Cap lamp battery nominal 4 or 7.5 volts
 Power: 40 mA
 Weight: 200 to 450 grams (1lb) depending on version.
 Operating temperature: -20°C - 60°C (-4°F - 120°F)
 Rating: IP67, Intrinsically Safe

AutoPED® Vehicle Mounted Receiver

Alert: Flashing light - 10 seconds
 Horn optional
 Display: 32 character liquid crystal dot matrix LED back light
 Message Storage: 2 messages
 Scroll and delete functions
 Power: 10/28 VDC vehicle supply
 Rating: Automatic power shut down facility
 Display dimensions: H=70mm W=220mm D=80mm
 H=3in W=9in D=3in
 L=170mm W=30mm D=30mm
 L=6.5in W=1.2in D=1.2in

ControlPED® For Fixed Equipment

Power: 110V AC 50 / 60Hz
 24V AC 50 / 60Hz
 Indicator LEDs: Power ON / OFF
 Transmission Status
 Switching relays: 110V AC / 5amp
 Receiver dimensions: H=70mm W=220mm D=80mm
 H=3in W=9in D=3in
 Antenna dimensions: L=170mm W=30mm D=30mm
 L=6.5in W=1.2in D=1.2in

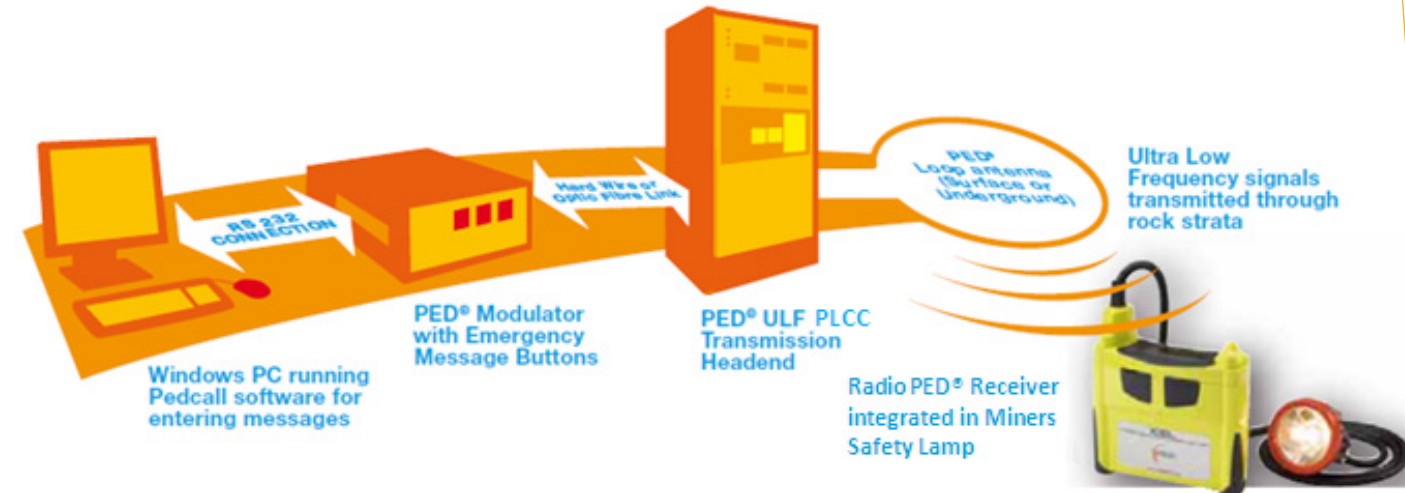
BlastPED® Remote Blasting System

Capacity: Capable of firing 160 ohm series circuit
 Security: Individually coded receivers
 System access only via floppy drive disk
 Key/Switch to Receiver
 Independent supervisory circuit
 Sequenced command string
 Battery Status, Receiver ready,
 Arm, Blasted
 Indicator LEDs: IP68
 Rating: H=480mm Diam=140mm
 Dimensions: H=19in Diam=5.5in

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PED® ULF PLCC Transmission Headend

For Reliable Mine Wide Communication

- Emergency Evacuation Warning
- Personal Paging

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WHAT PED® ULF PLCC DOES

PROVIDE MINE WIDE COVERAGE WITH NO INFRASTRUCTURE IN THE UNDERGROUND!

The PED® Communication System is based on ultra-low frequency through Power Line Carrier transmission that propagates through rock strata. The PED® System has been in use at mines for over fifteen years and remains the only proven through-the-earth (TTE) communication system in use at mines. Refinements to the system over this time have further improved its reliability and functionality. It has been installed in over one hundred & fifty coal and metalliferous mines in Australia, USA, Canada, China and Sweden.

Investment in a PED® System is justified on significant cost savings, and safety benefits.

- **Paging**, PED® can send a 32 character text message to an individual wherever they are underground.
- **Emergency Evacuation Warning**, in an emergency an evacuation instruction can be sent simultaneously to all personnel in only 15 seconds. PED® has been installed in many mines as their primary evacuation system, and has been proven reliable and effective in emergency situations.



CONTACT KEY PEOPLE WHEREVER THEY ARE

CONTACT EVERYONE IN AN EMERGENCY



PED® SYSTEM BENEFITS

- MINE WIDE PAGING
- EMERGENCY EVACUATION WARNING
- OVERALL COMMUNICATIONS
- NO COMMUNICATION INFRASTRUCTURE IN THE UNDERGROUND
- SIGNALS PASS THROUGH THE EARTH OR ROCK STRATA
- NOT SUSCEPTIBLE TO DAMAGE DUE TO UNDERGROUND FLOODING, EXPLOSION, FIRE OR CAVE-INS.

flexible solutions for underground mines

EMERGENCY SYSTEM

PED® is installed in many mines as the main emergency warning system.

- In an emergency, messages can be sent to all personnel simultaneously.
- Importantly not only does PED® provide rapid warning, it also provides specific instructions via text messaging – such as the nature of the emergency or evacuation routes to use.

PED® PERSONAL RADIO RECEIVERS

Personal Receiver:

- Beeps and flashes light on receipt of a message.
- Message can be read from the 32 character display on the top of the unit.
- Messages can be sent to individual receivers or to All Receivers at once.
- Stores last two messages in memory.
- Displays time and signal strength.

Other types of receivers are also available that operate off the PED® transmission system.

PED® can send a private text message to any individual, wherever they are underground. This simple, one-way text message can save time and money, for example:

- Groups of miners can receive information, such as the reason for a power failure or that the conveyor system is going to be stopped outbye, etc.
- A beltman can be quickly advised of a problem that requires investigation (e.g. belt slip re-set).
- A transport driver can be advised of an urgently needed part.

HOW PED® OPERATES

PED® uses ultra low frequency (ULF) signals to send signals directly through rock, so called “through-the-earth” transmissions. The main difference between PED® and other so called through-the-earth systems is that PED® is proven and is operating in many mines, 24 hours a day, 7 days a week. PED® has been installed in over 150 mines since 1990. The system has been refined and enhanced over this time, but the basic working principles remain the same. The ULF transmission system transmits to a number of receiver types to allow a range of applications. The receivers are:

- Personal Radio Receiver is integrated with a miner’s safety cap lamp. This can be the ultra light weight lithium ion battery pack, known as the Integrated Communications Cap Lamp (ICCL), or receiver versions are available to retrofit to some existing cap lamp batteries (such as Koehler-Wheat, Oldham, Northern Lights and MSA). On receipt of a message, the cap lamp flashes, a buzzer sounds, and the 32 character text message is illuminated on a liquid crystal display. The PED® receivers always indicate that they and the transmission system are operating.

