



Rescue Dog Communication System

A robust, post-accident, through-the-earth communication system designed for use in underground mines and tunnels. This critical communication system connects trapped underground workers with surface rescue personnel.



MineARC®'s Rescue Dog System

The world's leading manufacturer of emergency life-saving refuge


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SYSTEMS
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Features Summary

MineARC's Rescue Dog Communication System is comprised of a Surface Controller combined with one or more Subsurface Units deployed throughout the underground environment. The Rescue Dog provides survivable two-way communication free of antennas, amplifiers, or line-of-site. A single Surface Controller can support up to 16 Subsurface Units each operating on its own unique channel.

The system provides TTE (Through-the-Earth) communication via bi-directional beacon text messaging between underground workers and surface rescue personnel. The system uses a proprietary communication protocol that allows the user to select predefined text messages, with the option to have the protocol customized to meet the specific needs of a particular site, including multiple languages.

The entire system is easy to install and quick to mobilize during an emergency. Installation consists of hand drilling and installing ground rods, connecting them in series via lightweight cable and clamps, and then fitting to the Surface Controller and Subsurface Units (see diagram below). Alternatively, the ground rods can be pre-deployed or connected to pre-existing ground installations to further speed system activation as well as provide multiple locations for communication.

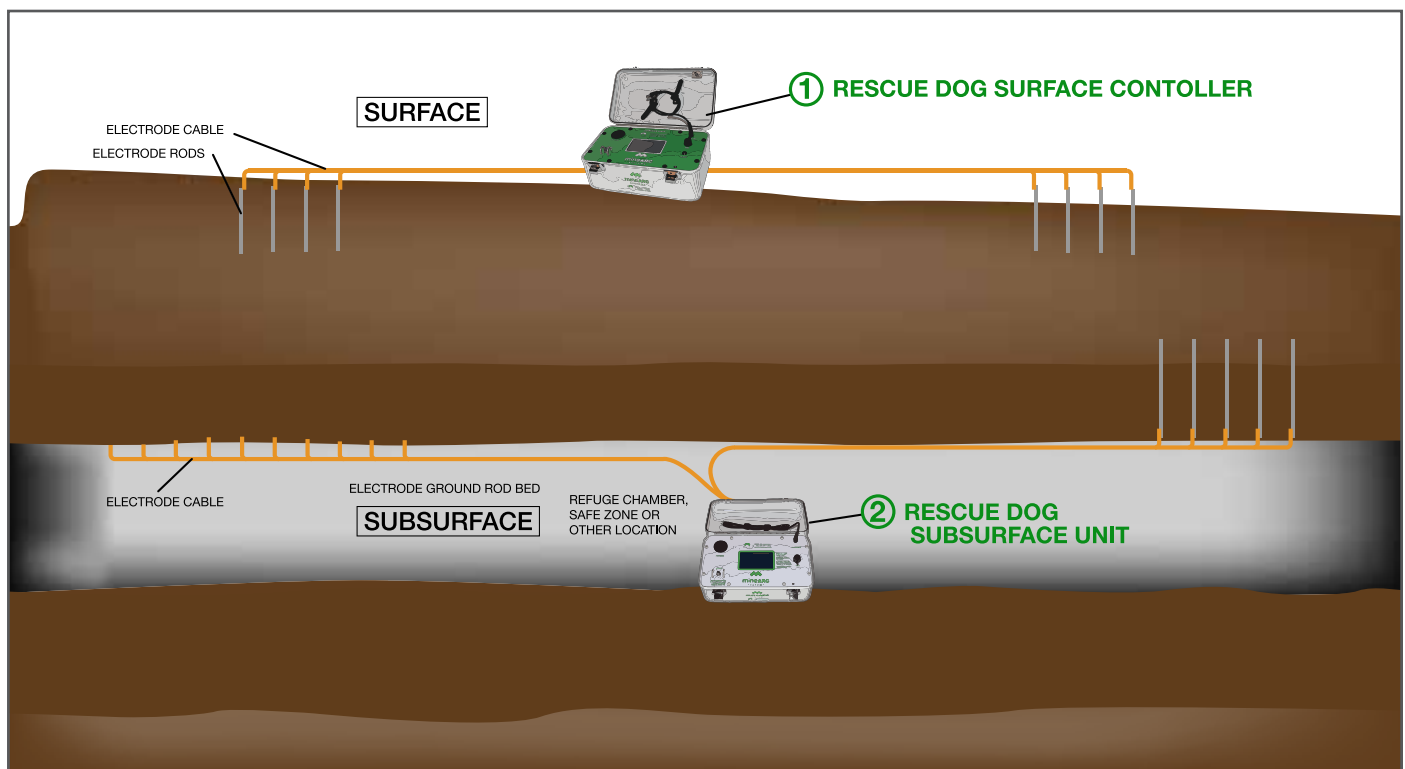
THE SYSTEM CONTAINS TWO MAJOR COMPONENTS

1

Surface Controller

2

Subsurface Unit



Features Summary

1 Surface Controller

The Surface Controller is a self-contained communication device that provides the user interface via an integrated touchscreen. It contains the receiver, signal processing, transmitter, and system control necessary to manage multi-channel-communication. Up to 16 Subsurface Units can be assigned to a single Surface Controller. The Surface Controller will communicate with any of the Subsurface Units, while continuously monitoring the emergency beacon channel for any new Subsurface Units. Its power management circuitry enables it to automatically switch between internal battery power and universal AC input.



2 Subsurface Unit

The Subsurface Unit is housed in the same type of robust portable storage case as the Surface Controller. It contains the transceiver electronics to operate on its uniquely assigned frequency and an auto beacon generator. Multiple Subsurface Units can be deployed underground. Once a Subsurface Unit is activated, it automatically sends an emergency beacon to the surface, indicating that the Subsurface Unit location has been reached. Even if no further communication is sent from underground, the last known time and location of personnel trapped is received by the surface. The Subsurface Unit uses the same touchscreen interface and intelligent power management as the as the Surface Controller.



Each Rescue Dog unit has an audible alarm and visual identification alert (LED light) that flashes to indicate that a message has been received from the surface. The alert is easy to see from a distance (without having to stay close to the unit while awaiting messages).

ADVANTAGES

- Free of conventional communication infrastructure
- Ability to communicate up to 1,500m (5,000ft) through rock
- Portable and lightweight (10kg, 22lbs)
- Robust design
- Simple and quick to mobilize
- Expandable – communicate with up to 16 Subsurface Units
- Multiple languages
- Proven and tested in the mine environment
- Intrinsically safe model pending MSHA approval



Contact MineARC Systems to arrange for an on-site demonstration of the MineARC Rescue Dog Communication System.

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