

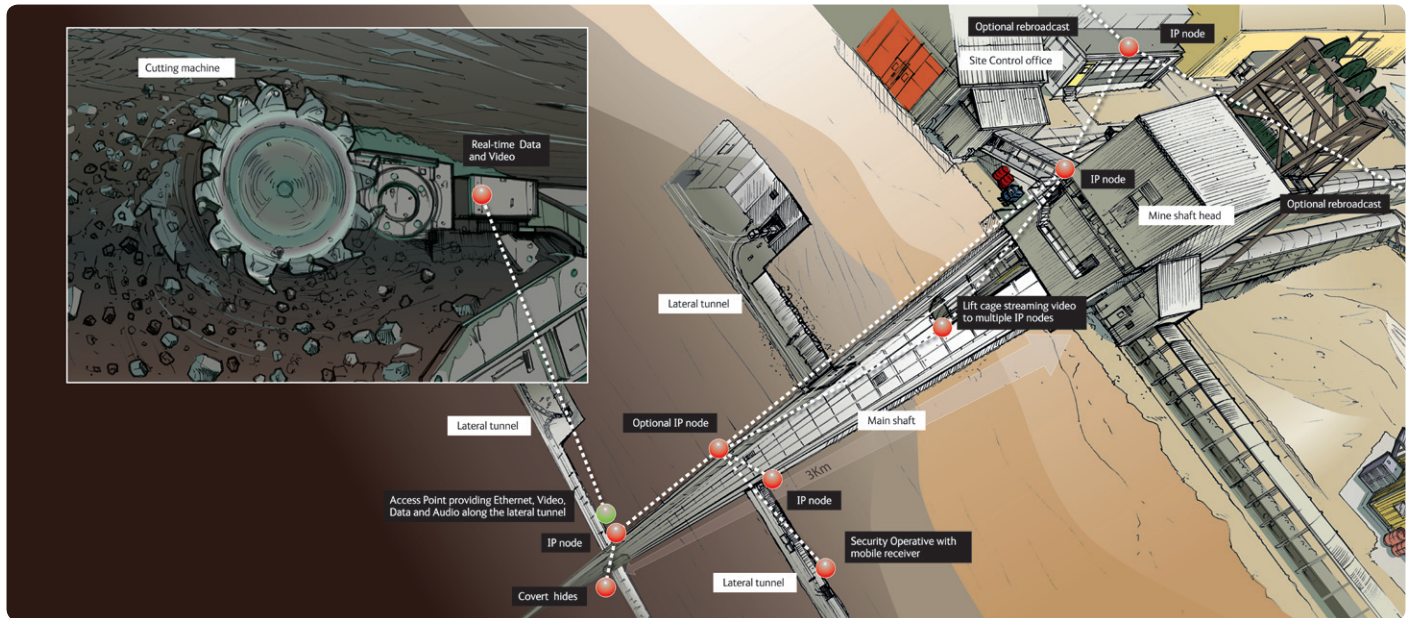
Mine Shaft Communication System

COFDM - Video, Audio Telemetry and IP Products

COBHAM

December 2009 Data Sheet

The most important thing we build is trust



Cobham Surveillance's Mine Shaft Communication System provides a revolutionary robust, wireless communications network within a subterranean environment.

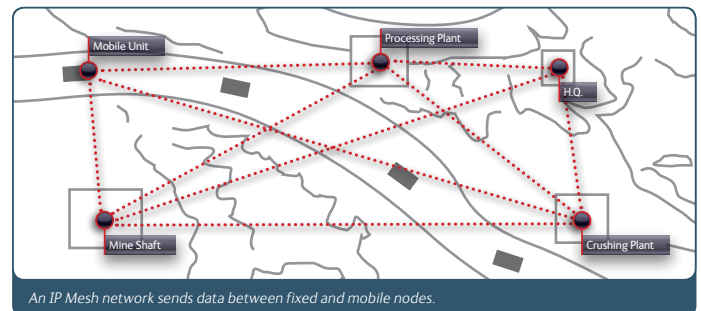
The unique performance capabilities of Cobham's wireless COFDM technology allows mining organisations to extend their existing operational infrastructure from above ground directly to the mining face.

Limitations in range and robustness of traditional below ground communications can be significantly improved by use of this new Cobham technology. The Cobham wireless system allows the rapid deployment of an IP based communications system, either integrated with existing infrastructure or supplied as a stand alone solution.

Cobham's COFDM digital, microwave technology enables mine operators to create a secure, robust, resilient, wireless link, transporting IP data, video, audio, sensor and tracking information from below ground to the surface.

An IP backbone is formed using Cobham's IP Mesh nodes, running the length of the main mine shaft. Strategically placed access points, positioned at the entrance to the lateral tunnels, link into the IP backbone, providing Ethernet, data, video and audio connectivity to the mine head and to local or remote monitoring stations.

This technology lends itself not only to mine shaft and tunnel security, but also to mine safety, lift shaft communications and bell control. Additionally the streaming of real time data from machinery at the mine face to the surface, can add significantly to productivity.



COFDM IP Mesh

COFDM IP Mesh radios are the latest innovations in the expanding range of Cobham Surveillance solutions. Up to 8 Mesh radios can be combined to form an IP mesh network; Cobham's first fluid, self-forming, self-healing mesh. Offering genuine non-line of sight coverage, the system is truly mobile and provides a network with extended range, delivering in environments too tough for other radio solutions to cope with.

Unlike other wireless options, the Cobham IP Mesh networks constantly readjust as nodes move, working out which are in range and finding the best route to send data between them. When one node can no longer operate, the rest of the nodes can still communicate with each other directly or through one or more intermediate nodes. Data is exchanged between moving nodes, either point to point or point to multipoint. Range can be extended by using nodes as repeaters.

Mine Shaft Communication System

COFDM - Video, Audio Telemetry and IP Products
December 2009 Data Sheet

COBHAM



SOLO4 MicroVue Receiver



SOLO4 Body Wire Transmitter



SOLO4 Telemetry Transmitter

COFDM Video

Cobham Surveillance has a family of SOLO4 COFDM transmitters and receivers. These products support narrowband (1.25MHz and 2.5MHz) and fully DVB-T compliant (6, 7, or 8MHz) channelisation. The Solo4 range has been specifically developed for customers in the law enforcement, security and military markets.

Digital technology has made rapid advancements in key areas over the past few years; notably size, weight, power consumption and cost have dropped by about 30% per year. Cobham can now offer digital systems that represent excellent value, with superior capabilities to analogue systems. The SOLO4 range is ideal for establishing rugged wireless video, audio and data links in all environments including underground mine shaft and urban environments.

Able to transmit images in a non-line of sight environment up to 2km, depending on mode and frequency, the SOLO4 range can achieve further range with the clip-on booster PA.

COFDM Telemetry

SOLO4 Audio and Telemetry links can be configured into different user selectable bandwidths, to satisfy a variety of requirements. Bandwidths from 25KHz to 125KHz are available, offering capacity from 14 to 146kb/s. This capacity can be shared between audio and telemetry data, in any combination. Wider bandwidths are available on request.

SOLO4 Audio and Telemetry transmitters and receivers employ a unique, narrowband COFDM modulation capable of transmitting non-line of sight up to 5km, depending on mode and frequency.

SOLO4 Audio and Telemetry systems are typically employed to provide lift shaft communications, telemetry data transmission from mining machinery and environmental monitoring.

For further information please contact:

Cobham Surveillance

Domo Products
11 Manor Court, Barnes Wallis Road,
Segensworth, Hampshire, PO15 5TH, England

T: +44 (0)1489 566 750

F: +44 (0)1489 880 538

domo.sales@cobham.com

All product specifications are subject to change without notice. Cobham Surveillance will not be liable for technical or editorial errors or omissions.

