



- **Voice Communication**
- **Mobile Data Communication**
- **High Speed Data Communication**
- **Wireless Applications**
- **Video Communication**

SIAMnet

The SIAMnet Communication System by Cattron Group International offers an extremely cost effective alternative to Fiber Optic and “Leaky Feeder” technologies for voice and data communications in underground mines. Using Cable Modem technology and coaxial cable, the SIAMnet system is more versatile and provides as much band width as Fiber Optic networks at a fraction of the cost.

One SIAMnet coaxial cable can support up to 32 simultaneous voice transmissions, three 1.5 Mbps Mobile Data sub-networks, each supporting up to 64 vehicles, and twelve DOCSIS 1.1 Cable Modem channels for a total of 360 Mbps downstream and 120Mbps upstream. DOCSIS 2.0 and EURODOCSIS 2.0 are also supported when more bandwidth is required.

SIAMnet cable modems are installed anywhere a connection to the network is required. The modem, as well as the 802.11 Access Point,

draws power through the coaxial cable. There is no need to install additional power for each modem, repairs to the cable can be made quickly and easily, and the system can be expanded and maintained with minimal technical expertise. The cable modems in a SIAMnet system can also provide IP camera and VOIP transmission.

The SIAMnet system is modular and scalable, one system for both voice and data, which can be expanded as needed. For example, users can start with Voice communication only and add Data capability later without the need to change the cable infrastructure or interrupt the voice capability. The SIAMnet Voice and Data Communications system makes Fiber Optic and Leaky Feeders obsolete.

Like the SIAMnet, all Cattron products are designed with the experience of people who know mining, who have been underground and know how important it is to have reliable, high quality equipment backed by outstanding service and support. In a mine there is no place for second best and no other choice but Cattron.

General Features and Benefits

- A unique communication backbone for present and future needs.
- Multi-purpose system for voice, data and audio-video transmission, in mobile or stationary applications.
- Highly efficient, cost effective CATV technology.
- Standard, easy to install accessories designed for harsh environments.
- Efficient, powerful antennas broadcast signals over long distances inside drifts and stopes.
- Adapts to changing needs, system can be redeployed using the original equipment.
- Installing antennas at intersections provides additional coverage at no extra cost.
- Wide Band systems use SBDA amplifiers, conventional SMR Band use SBDAll amplifiers.



Voice Communication

- Up to 32 voice channels (simultaneous conversations).
- Conventional or Trunking systems, at surface or underground.
- Telephone Interconnect allows users to communicate with outside world and/or receive telephone calls.
- High audio sound quality, clear communication among users.
- 800 - 900Mhz radio signals propagate better than VHF or UHF signals in underground mines.
- Long distance communication, SIAMnet performs better than other technologies covering greater distances



Mobile Data Communication

- High speed data communication between vehicles and central computer.
- Three communication ports per unit: Ethernet (1.5 Mbps) and two Serial ports (115 Kbps).
- Single or dual antenna models: dual antenna model provides uninterrupted coverage even in dead spots.
- The dual radio model may be used to provide redundancy for mission critical applications.
- Data integrity: system uses error control protocols to insure data integrity even in the most severe environment.
- Data buffer: In the event of a loss of communication, the Slave Modem (SRM) keeps data in buffer memory until it can be transmitted to the central computer.
- Robust and watertight enclosures: 24Vdc or 110/220Vac models.
- Diagnostic LED's provide information and system status.
- Diagnostic information is kept in a log for troubleshooting.



High Speed Data Communication

- Based on Cable Modem technology, SIAMnet provides high speed networks (LAN) inside the mine.
- Up to six independent channels provide 180 Mbps data communication capacity to the end user.
- The CMTS (Head-end) equipment connects to the mine LAN while Cable Modems (CM) connect to the end user equipment inside the mine.
- 802.11x Access points allows the end user computers, Voice over IP Telephones or PDAs to communicate with each other.
- The CATV coaxial cable is easier and faster to repair than Fiber Optic cables.
- Modems and Access Points are powered from the CATV cable. No need to install AC outlets.



Video Communication

- Provides up to 9 real-time, simultaneous images at the Control Center.

*Specifications subject to change without notice. Consult the factory for verification.



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