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Glenayre Electronics has specialized in the design and manufacture of advanced mobile communication systems since 1969 and its status has grown from a small local equipment supplier to that of a reputable worldwide enterprise. The head office in Vancouver, B.C., covers 70,000 square feet and is staffed by over 240 employees in engineering, manufacturing, and marketing. USA sales offices are based in Seattle, Houston, and Atlanta.

Glenayre produces a wide range of standard products as well as turnkey systems engineered to meet specific customer needs. Standard products include the following:

- Mobile Radio Telephone Terminals
- Mobile Radio Telephones (control heads)
- Paging and Voice Retrieval Terminals (analog/digital)
- Telephone Answering Systems
- Base Station/Repeater systems in high power or special low-current-drain formats
- Trunked Repeater Systems
- AC/DC Converters
- Radio Modems
- Rural Radio Telephones
- Rear-of-train monitors

Glenayre's Mobile Radio Telephone Control Heads can be purchased for use on any mobile system, and are automated to perform such functions as speed dialing from memory, last number re-dial, and on-hook dialing.

The routing of mobile telephone calls is accomplished by a control terminal. Glenayre's Mobile Radio Telephone Terminal is a sophisticated switch that can handle up to 1,800 subscribers on 12 channels, covering eight separate areas. It uses a choice of software for either telco operations or RCCs. RCCs can use 15 different signalling types so that the same channels can handle mobiles (MTS or IMTS), portables, real-time pagers, dispatching, and air-to-ground. Entry and editing of subscriber files is done on an automated CRT screen, as are operator functions such as queuing or connecting to roamer mobiles. Glenayre's most advanced mobile terminal, AUTOTEL, uses state-of-the-art digitally-controlled technology to automatically forward calls, by way of the telephone exchange, to the terminal currently serving the mobile. This is an ideal system for unified wide-area rural service, and it's an economical competitor with cellular systems.

Glenayre's Digital Radio Paging and Voice Retrieval Terminals do conventional tone-alert paging and text-message paging. The paging can also be combined with

automatic voice-message storage and retrieval: a caller's voice is stored digitally (in PCM) and can then be either broadcast directly from a Glenayre high-spec paging transmitter (or other transmitter) to a voice pager, or held for retrieval at the subscriber's discretion.

Recently Glenayre has invested in the development of a computerized Telephone Answering System, which has just entered the test-site phase.

Glenayre's RF data communications are based on the GL1110 Data Link Radio Modem, designed for use on low-power VHF and UHF radio links (also available from Glenayre). The GL1110 uses audio subcarrier modulation so that digital information can be transmitted and received using virtually any standard land or mobile transceiver, by way of the existing voice audio interface. The modem can be integrated with the transceiver, keeping the existing control head, or it can replace the existing control head, using the normal 4-wire audio interface.

Operating in full duplex or half duplex, the modem's complex of processors manages voice and data transmissions together, with programmable degrees of priority given to the voice or the data.

The GL1110 can be adapted to almost any radio data communications system, for point-to-point, networking, or mobile data applications. Protocols for the Data Terminal Equipment (DTE) and for the Universal Radio Interface are performed in software and can therefore be customized to fit the particular situation.

Point-to-point applications of the GL1110 include telemetry, telecommand, and telex systems, where data is transferred between two fixed points. The DTE protocol for such applications can be full or half duplex, with synchronous or asynchronous format, and with either RTS/CTS control line or XON/XOFF character control.

The GL1110 can be configured for network applications, typified by point-to-multipoint data transfer, with a variety of possible network architectures such as star, mesh, repeater, and gateway. The ability to route data and establish communication paths within the network can be added to the GL1110. Call-setup and tear-down mechanisms differ from network to network; the GL1110 link protocol can be changed as required to add channel management, selective station calling, and contention-avoidance capabilities. The DTE protocol for network applications can be extended to add auto-originate, autoanswer, and routing.

It is also possible to use the GL1110 in mobile data applications, where the radio path is more prone to errors caused by multipath and fading characteristics. For these applications, the GL1110 link protocol must be adapted, by adding error-control capability.

Glenayre Electronics will be one of the exhibitors in the display organized by the Electronic Manufacturers Association of B.C. at the *World Business Showcase* at Canada Place during Expo 86 in Vancouver.