



Rockwell  
International

# SWITCHING SYSTEMS DIVISION





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## *Pioneering Rockwell applies digital technology to stay telecommunications leader*

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Since the implementation of digital technology, Rockwell International Corporation has been at the forefront of its use in telecommunications. More than a decade ago, Rockwell pioneered digital voice switching techniques. In 1974, Rockwell delivered the very first commercially available digital voice switch in the U.S. This accomplishment marked the beginning of Rockwell's steady climb to the position of a major supplier of digital switching products, which now include private branch exchanges (PBXs), automatic call distributors (ACDs), tandem switches and a specialized ACD for use in telephone company operations.

Today, equipment from Rockwell's Switching Systems Division handles millions of calls each day. The telecommunications products serve a host of businesses, including airlines, newspapers, hotels, hospitals, manufacturers, retailers, service related industries, financial institutions and law firms. The U.S. government is a major user of Rockwell International switching systems. Wherever they're found, Rockwell systems provide reliable, cost-effective telephone service in today's highly competitive and demanding business environment.

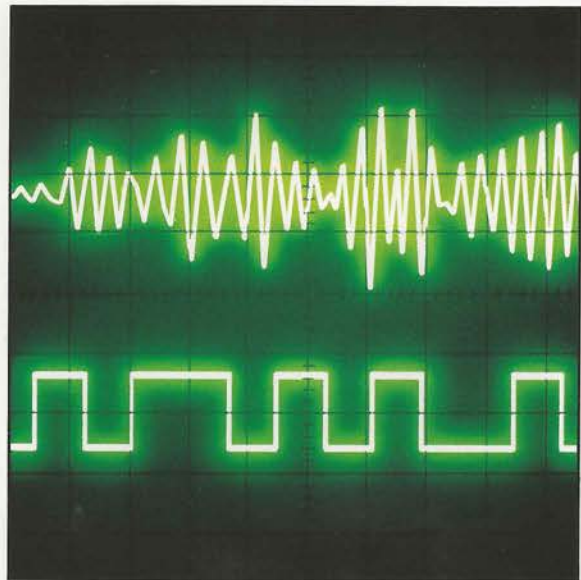
Designed for both stand-alone and network applications, Rockwell's equipment furnishes voice and data switching. The systems combine high performance with proven reliability and offer excellent means for management to control and monitor the use of the telecommunications resource. Through these management tools, many businesses are realizing significant operating economies and increased productivity.

Rockwell is firmly in step with the future, when integration of voice and data communications will make the innovative business concepts under discussion today a reality. A key element in this evolution will be the digital telephone system, long perceived by Rockwell as the core ingredient to implement future business services. Digital operation allows the simultaneous combination of data and voice switch-

ing in Rockwell's 580 product line, and this combination offers important advantages. Not only does digital operation ensure better quality communication and more efficient use of space and equipment facilities, but it makes possible the use of the same network ports for switching conversations, low speed data\* and text. Overall communication costs can be reduced as system usage is increased. The operation mode lends itself to expanded use of word processing, electronic mail and distributed data systems. In short, Rockwell digital technology helps conserve space and cost while providing increased system usage, considerations which are becoming increasingly important in corporate budget planning.

Rockwell International has positioned its Switching Systems Division to continue to play a major role in digital switching technology and its growing applications to business needs. Not only will business communication be more cost-effective, but it will expand and mature as today's office gives way to tomorrow's.

\*Low speed data is all inclusive up to 9600bps





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*PBX serves and saves today  
as performance expands to  
implement the future office*

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The trend toward integrated digital communication networks is clearly visible in the growing use of Rockwell's 580 PBX. The 580 is an all digital, non-blocking distributed microprocessor-controlled telephone switching system with an array of standard features for today's sophisticated user. The 580 forecasts new levels of telephone service to the office with its Data-Voice Switching System (DVSS) package, providing a single switching control system to connect phones, data terminals, word processors, computers and other business machines in a single integrated structure.



Just as important, the 580 achieves new levels of management visibility with the means to control telecommunications usage. Automatic tracking and reporting of telephone traffic details expedite reporting and data collection relating to costs, traffic patterns and equipment use. Computerized toll call routing and levels of service assigned to users ensure maximum economies. With Rockwell's 580 PBX, telecommunications managers can quickly and knowledgeably control the telecommunications function, one of the most valuable business resources today.

Applications of the 580 PBX range from multi-switch networks of large 2,300-line switches to smaller stand-alone systems capable of quick and simple modular growth from 100 lines upward. For businesses which must handle numerous incoming customer calls, the 580 technology is packaged as an ACD. This system offers numerous options and operates jointly as a PBX, negating the need for a business to buy two separate phone systems.

The 580's non-blocking architecture, high reliability, modular construction and simultaneous data-voice capability add up to a system that is ideally suited for a business posturing for future applications in office systems and information processing.



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*Galaxy, 580 ACDs answer  
special needs of businesses  
providing customer service*

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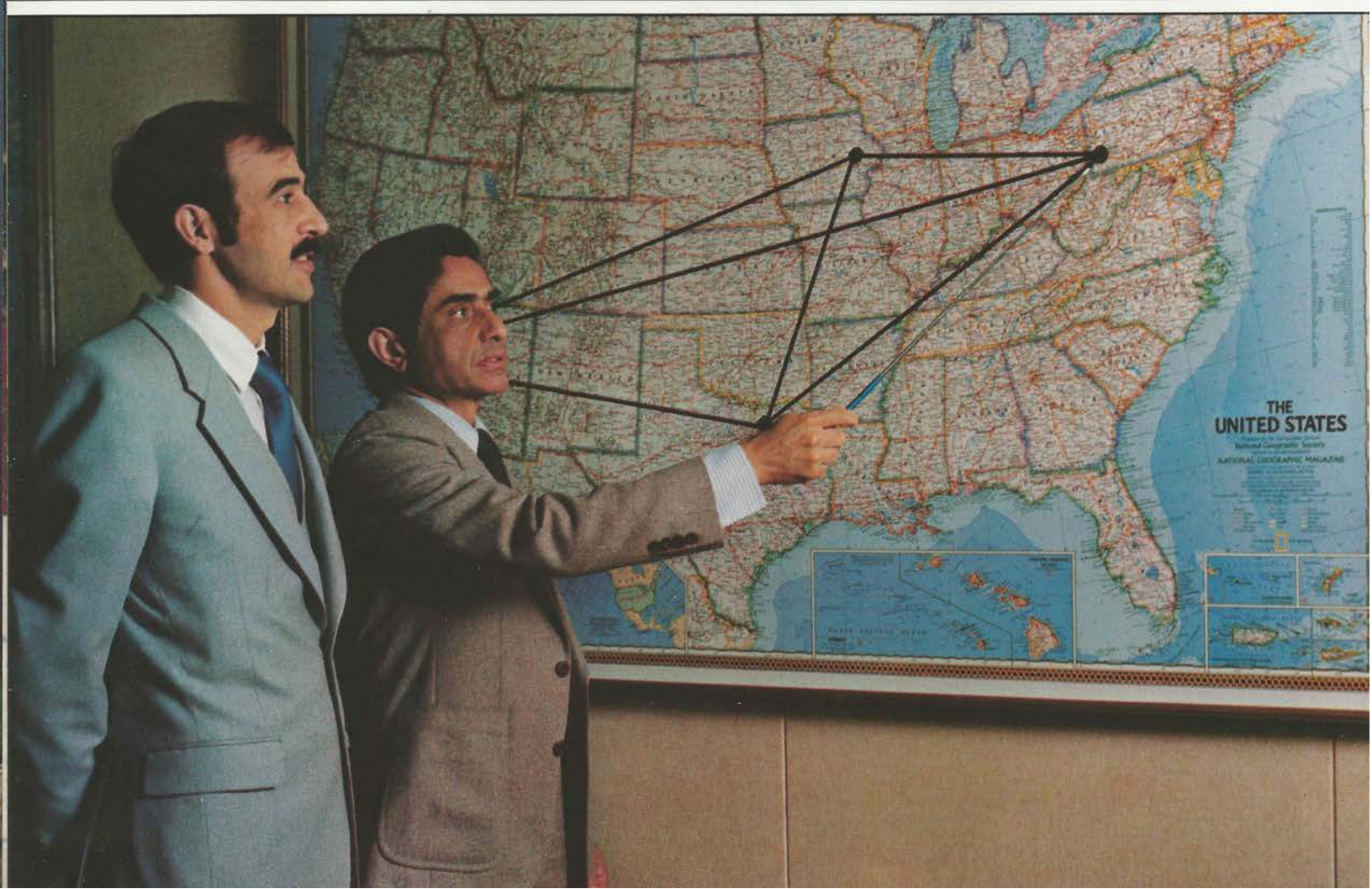
Rockwell's ACD systems are another example of successful digital switching products serving a widespread business need—telephone customer service. They are designed for applications in which business revenues are based on prompt, efficient telephone answering. Rockwell ACDs help shorten the time required to answer customer calls, prioritize incoming calls and make it easier for agents to provide professional, prompt service to customer requests.

Rockwell offers two lines of automatic call distributors to address a wide range of needs. For smaller businesses, the 580 ACDs incorporate a range of from 20 to 400 agent positions. All of the 580 ACD models can operate jointly as a PBX, allowing the smaller business to satisfy all of its telephone switching needs with the same digital switching system. The system can be configured with shared lines, trunks and ACD attendant positions in a variety of mixtures.

The Galaxy line of automatic call distribution systems offers high performance in situations presenting heavy incoming call traffic. The Galaxy ACD can be modularly expanded from 100 to 890 ACD positions. It offers numerous options which extend its capabilities. For example, networks of ACD centers are typical of the large user, and the Galaxy line of networking options provides for call overflow and diversion to other centers for overflow conditions or centralized night service. The Galaxy ACD also includes integral PBX option and/or digital tandem capabilities.

Rockwell's ACD product lines share the advantage of providing users a high level of visibility over telephone operations. Both the 580 and Galaxy ACDs supply complete statistics and report packages which automatically gather telephone traffic data. This data helps telecommunications managers identify and correct problems, spot growth trends and optimize operator performance. Significant operating economies can be realized as a result of this ability to match and adjust resources to keep pace with needs at any particular time.







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## *Rockwell tandem networks offer control and benefits to counteract rising costs*

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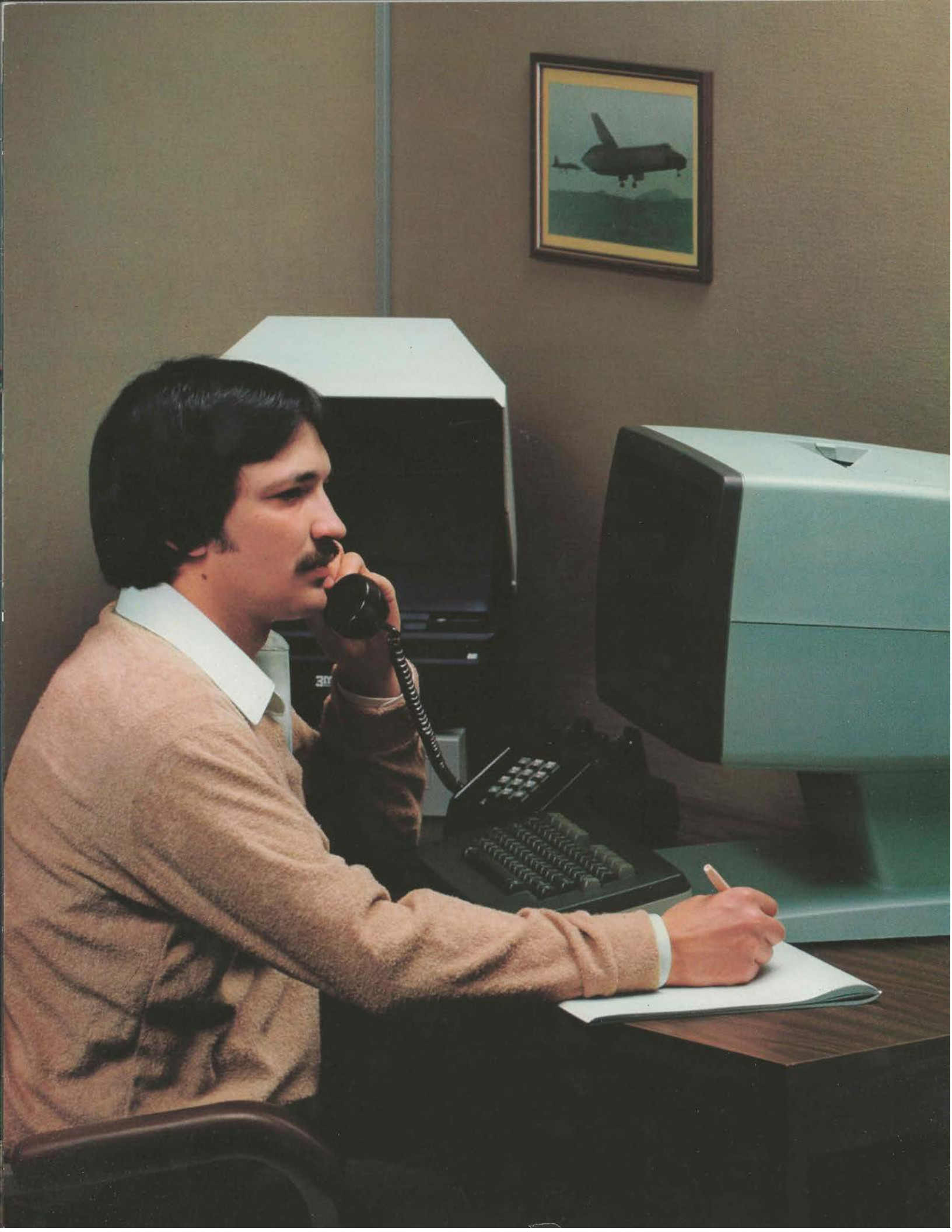
A natural outgrowth of Rockwell's long experience with digital communication networks is the Rockwell Digital Tandem Switch (DTS). In combination, these non-blocking, T-1 compatible trunk switches are used as major switching nodes in large private networks such as COMNET, Rockwell International's own private telecommunications network. Within this type of network, the DTS supports customer vehicles such as PBXs, ACDs and key systems. It provides central office interface and intermachine trunks from node to node with the capability to use leased lines, digital microwave or satellite transmission media. Although Rockwell tandem switches do not use a master/slave relationship, Rockwell's Network Management Center may be installed as an option to centralize control and network status visibility.

Driven by rapidly rising communication costs, many of today's large corporations have elected to purchase their own networks to achieve cost objectives and to tailor services to their own needs. Rockwell tandem networks offer the user a variety of benefits including improved voice quality, a uniform numbering plan, least cost routing, 100 percent call accountability and economical teleconferencing. Rockwell's DTS currently is in use in a number of corporate networks. Some of these networks also include Rockwell PBXs, ACDs and Rockwell microwave transmission links.

In addition to its broad line of digital switching products, Rockwell offers a comprehensive and complete Network Analysis and Design Service. A number of large telecommunications users have contracted these services to investigate the feasibility of modifying an in-place network or of designing an all new network keyed to specific cost objectives and grade-of-service criteria. Study methodology

and design techniques employ well known traffic engineering principles and analytical tools which include Rockwell's computerized design aids and a data base which has been built up over the past decade. One of the best capabilities available in the industry, Rockwell's comprehensive analysis and design service allows specific cost trade-off evaluation against numerous variables, a complete description of the recommended network and a 10-year return-on-investment analysis. For telecommunications users who seriously are considering the private network alternative, Rockwell's Network Analysis and Design Service is unmatched among interconnect suppliers.





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*Sales, service organizations  
are strategically placed,  
readily available and  
exceptionally trained*

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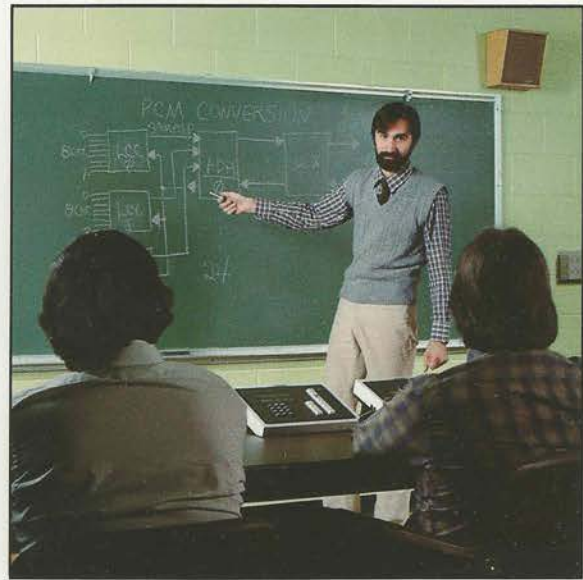
Rockwell International markets its Galaxy and 580 digital switching products through a nationwide network of distributors and field sales offices. 580 digital switching products are available from both authorized distributors and Rockwell regional sales offices to accommodate the localized and national requirements of customers. Both channels can provide quotations on turnkey system installation and follow-on support.

The Switching Systems Division offers one of the best service and maintenance capabilities available in the industry. The basis for its customer service and system support is an in-place, nationwide field service organization operating from 43 locations in the U.S. The field service base is an established coast-to-coast network of service offices, repair facilities and parts depots. Backing up the field and on-site personnel is a centralized support services organization which provides technical assistance to site engineers and distributor personnel 24 hours, 7 days per week. Technical engineering assistance and remote diagnostic service via telephone data coupler is available to help on-site personnel investigate possible system problems. A network of regional parts depots makes spare parts available on a timely basis through a centralized data system for order entry, shipping and inventory control of spares.

For customers who elect to maintain their own systems, Rockwell offers a complete maintenance

and operations training program which can be conducted either at the customer's site or at Rockwell facilities.

In addition to Rockwell's own service capability, its authorized distributors are thoroughly qualified and trained at the factory. They may take advantage of full support from Rockwell's numerous facilities.





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